

APPENDIX C3
LABORATORY ANALYTICAL RESULTS – YEAR 2016
(PDF ONLY)

Type I Data Package

Prepared for:

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

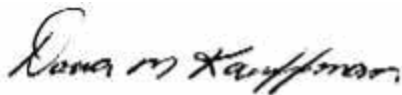
Project: RAAP - Radford, VA - HWMU-5
Groundwater and Water Samples
Collected on 10/19/16-10/20/16

SDG# RAE73

GROUP	SAMPLE NUMBERS
1723781	8656001-8656012

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by:



Date: 11/28/2016

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Barbara Weyandt at (717) 556-7264.

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**Sample Reference List for SDG Number RAE73
with a Data Package Type of I**

11200 - Draper Aden Associates, Inc.

Project: RAAP - Radford, VA - HWMU-5

Lab Sample Number	Client Sample ID	Collection Date	Date Received
8656001	5W8B	10/19/2016 09:30	10/21/2016 09:30
8656002	5W5B	10/19/2016 12:05	10/21/2016 09:30
8656003	5W7B	10/19/2016 11:15	10/21/2016 09:30
8656004	5W7B Matrix Spike	10/19/2016 11:15	10/21/2016 09:30
8656005	5W7B Matrix Spike Dup	10/19/2016 11:15	10/21/2016 09:30
8656006	5WC21	10/20/2016 11:45	10/21/2016 09:30
8656007	5WDUP	10/20/2016 11:50	10/21/2016 09:30
8656008	5WC22	10/20/2016 10:15	10/21/2016 09:30
8656009	5WC23	10/20/2016 11:00	10/21/2016 09:30
8656010	5W12A	10/19/2016 10:25	10/21/2016 09:30
8656011	Trip Blank 1	10/19/2016 00:00	10/21/2016 09:30
8656012	Trip Blank 2	10/19/2016 00:00	10/21/2016 09:30

Sample pH Log

SDG: RAE73

<u>LLI Sample Number</u>	<u>Bottle Code</u>	<u>Actual pH</u>	<u>Exp. pH</u>	<u>pH Check Code</u>	<u>Adj. pH</u>	<u>Adjusted Date</u>	<u>Adjusted Time</u>	<u>Preservative Added</u>	<u>Preservative Lot #</u>	<u>LLI Supplied Bottle?</u>	<u>Sulfide Present?</u>	<u>Corrective Substance</u>	<u>CS Lot #</u>	<u>Res. Cl. Present?</u>	<u>Corrective Substance</u>	<u>CS Lot #</u>	<u>Record Date</u>	<u>Employee</u>
8656001	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	10/31/2016 3:53:04PM	7970
8656002	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	10/31/2016 3:53:01PM	7970
8656003	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	10/31/2016 3:53:01PM	7970
8656003	038B	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	10/31/2016 3:53:01PM	7970
8656004	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	10/31/2016 3:53:01PM	7970
8656005	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	10/31/2016 3:53:01PM	7970
8656006	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	10/31/2016 3:53:01PM	7970
8656007	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	10/31/2016 3:53:01PM	7970
8656007	038B	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	10/31/2016 3:53:01PM	7970
8656008	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	10/31/2016 3:53:01PM	7970
8656009	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	10/31/2016 3:53:01PM	7970
8656010	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	10/31/2016 3:53:01PM	7970
8656011	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	10/31/2016 3:53:01PM	7970
8656012	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	10/31/2016 3:53:01PM	7970

Check Code Key

PK = Original container checked - pH is within the correct range. (No preservative was added)
PA = Original container checked - pH adjusted to correct range. (Preservative was added)
PV = Volatile container checked
PC = pH checked (unpreserved container)
SPK = Subsampled from an original container. Original container checked - pH is within correct range
SPA = Subsampled from an original container. Subsample container checked - pH adjusted to correct range.
SPC = Subsampled from an original container. pH checked (unpreserved container).
SUP = Subsampled from original container. Unable to be preserved due to the matrix of the sample.
UP = Unable to preserve due to matrix of the sample.
NA = Not applicable

01163 GC/MS VOA Water Prep

An undiluted aliquot of the water sample or a dilution of the sample is purged with an inert gas and the volatiles are collected on an adsorbent trap that is subsequently desorbed onto a gas chromatographic column.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5030C, May 2003.

11996 VOCs- 25ml Water by 8260C

The water sample is purged and the volatile compounds are collected on a sorbent trap that is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Volatile Organic Compounds by Gas Chromatography/ Mass Spectrometry (GC/MS), SW-846 Method 8260C, August 2006.

Analysis Reports / Field Chain of Custody

ANALYTICAL RESULTS

Prepared by:

Prepared for:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

Report Date: October 31, 2016

Project: RAAP - Radford, VA - HWMU-5

Submittal Date: 10/21/2016

Group Number: 1723781

SDG: RAE73

State of Sample Origin: VA

Client Sample Description

5W8B Grab Groundwater
5W5B Grab Groundwater
5W7B Grab Groundwater
5W7B Matrix Spike Grab Groundwater
5W7B Matrix Spike Dup Grab Groundwater
5WC21 Grab Groundwater
5WDUP Grab Groundwater
5WC22 Grab Groundwater
5WC23 Grab Groundwater
5W12A Grab Groundwater
Trip Blank 1 Water
Trip Blank 2 Water

Lancaster Labs

(LL)

8656001
8656002
8656003
8656004
8656005
8656006
8656007
8656008
8656009
8656010
8656011
8656012

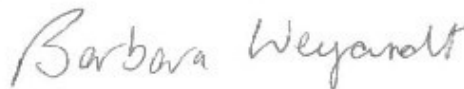
The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To Draper Aden Associates, Inc.
Electronic Copy To Draper Aden Associates, Inc.

Attn: Kathy Olsen
Attn: Janet Frazier

Respectfully Submitted,



Barbara A. Weyandt
Specialist

(717) 556-7264

Project Name: RAAP - Radford, VA - HWMU-5
LL Group #: 1723781

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

No additional comments are necessary.

Sample Description: 5W8B Grab Groundwater
2016 - 2nd Semiannual Groundwater Corrective
RAAP - Radford, VA - HWMU-5

LL Sample # WW 8656001
LL Group # 1723781
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 10/19/2016 09:30 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/21/2016 09:30

Reported: 10/31/2016 22:18

R7301 SDG#: RAE73-01

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	ug/l	
11996	1,1-Dichloroethene	75-35-4	N.D.	0.4	1.0	1
11996	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.	0.8	1.0	1
11996	Trichloroethene	79-01-6	N.D.	0.2	1.0	1
11996	Vinyl Chloride	75-01-4	N.D.	0.1	1.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	RAAP Unit 5 "J" list	SW-846 8260C	1	H163052AA	10/31/2016 13:01	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163052AA	10/31/2016 13:01	Kevin A Sposito	1

*=This limit was used in the evaluation of the final result

Sample Description: 5W5B Grab Groundwater
2016 - 2nd Semiannual Groundwater Corrective
RAAP - Radford, VA - HWMU-5

LL Sample # WW 8656002
LL Group # 1723781
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 10/19/2016 12:05 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/21/2016 09:30

Reported: 10/31/2016 22:18

R7302 SDG#: RAE73-02

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	ug/l	
11996	1,1-Dichloroethene	75-35-4	N.D.	0.4	1.0	1
11996	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.	0.8	1.0	1
11996	Trichloroethene	79-01-6	0.3 J	0.2	1.0	1
11996	Vinyl Chloride	75-01-4	N.D.	0.1	1.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	RAAP Unit 5 "J" list	SW-846 8260C	1	H163052AA	10/31/2016 13:21	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163052AA	10/31/2016 13:21	Kevin A Sposito	1

*=This limit was used in the evaluation of the final result

Sample Description: 5W7B Grab Groundwater
2016 - 2nd Semiannual Groundwater Corrective
RAAP - Radford, VA - HWMU-5

LL Sample # WW 8656003
LL Group # 1723781
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 10/19/2016 11:15 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/21/2016 09:30

Reported: 10/31/2016 22:18

R7303 SDG#: RAE73-03BKG

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	ug/l	
11996	1,1-Dichloroethene	75-35-4	N.D.	0.4	1.0	1
11996	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.	0.8	1.0	1
11996	Trichloroethene	79-01-6	N.D.	0.2	1.0	1
11996	Vinyl Chloride	75-01-4	N.D.	0.1	1.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	RAAP Unit 5 "J" list	SW-846 8260C	1	H163052AA	10/31/2016 11:40	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163052AA	10/31/2016 11:40	Kevin A Sposito	1

*=This limit was used in the evaluation of the final result

Sample Description: 5W7B Matrix Spike Grab Groundwater
2016 - 2nd Semiannual Groundwater Corrective
RAAP - Radford, VA - HWMU-5

LL Sample # WW 8656004
LL Group # 1723781
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 10/19/2016 11:15 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/21/2016 09:30

Reported: 10/31/2016 22:18

R7303 SDG#: RAE73-03MS

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	ug/l	
11996	1,1-Dichloroethene	75-35-4	5.9	0.4	1.0	1
11996	cis-1,2-Dichloroethene	156-59-2	5.4	0.1	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	5.8	0.8	1.0	1
11996	Trichloroethene	79-01-6	5.6	0.2	1.0	1
11996	Vinyl Chloride	75-01-4	3.9	0.1	1.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	RAAP Unit 5 "J" list	SW-846 8260C	1	H163052AA	10/31/2016 12:00	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163052AA	10/31/2016 12:00	Kevin A Sposito	1

*=This limit was used in the evaluation of the final result

Sample Description: 5W7B Matrix Spike Dup Grab Groundwater
2016 - 2nd Semiannual Groundwater Corrective
RAAP - Radford, VA - HWMU-5

LL Sample # WW 8656005
LL Group # 1723781
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 10/19/2016 11:15 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/21/2016 09:30

Reported: 10/31/2016 22:18

R7303 SDG#: RAE73-03MSD

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	ug/l	
11996	1,1-Dichloroethene	75-35-4	5.9	0.4	1.0	1
11996	cis-1,2-Dichloroethene	156-59-2	5.5	0.1	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	5.7	0.8	1.0	1
11996	Trichloroethene	79-01-6	5.7	0.2	1.0	1
11996	Vinyl Chloride	75-01-4	3.9	0.1	1.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	RAAP Unit 5 "J" list	SW-846 8260C	1	H163052AA	10/31/2016 12:20	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163052AA	10/31/2016 12:20	Kevin A Sposito	1

*=This limit was used in the evaluation of the final result

Sample Description: 5WC21 Grab Groundwater
2016 - 2nd Semiannual Groundwater Corrective
RAAP - Radford, VA - HWMU-5

LL Sample # WW 8656006
LL Group # 1723781
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 10/20/2016 11:45 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/21/2016 09:30

Reported: 10/31/2016 22:18

R7304 SDG#: RAE73-04

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	ug/l	
11996	1,1-Dichloroethene	75-35-4	N.D.	0.4	1.0	1
11996	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.	0.8	1.0	1
11996	Trichloroethene	79-01-6	2.6	0.2	1.0	1
11996	Vinyl Chloride	75-01-4	N.D.	0.1	1.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	RAAP Unit 5 "J" list	SW-846 8260C	1	H163052AA	10/31/2016 13:42	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163052AA	10/31/2016 13:42	Kevin A Sposito	1

*=This limit was used in the evaluation of the final result

Sample Description: 5WDUP Grab Groundwater
2016 - 2nd Semiannual Groundwater Corrective
RAAP - Radford, VA - HWMU-5

LL Sample # WW 8656007
LL Group # 1723781
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 10/20/2016 11:50 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/21/2016 09:30

Reported: 10/31/2016 22:18

R7305 SDG#: RAE73-05FD

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	ug/l	
11996	1,1-Dichloroethene	75-35-4	N.D.	0.4	1.0	1
11996	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.	0.8	1.0	1
11996	Trichloroethene	79-01-6	2.6	0.2	1.0	1
11996	Vinyl Chloride	75-01-4	N.D.	0.1	1.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	RAAP Unit 5 "J" list	SW-846 8260C	1	H163052AA	10/31/2016 15:03	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163052AA	10/31/2016 15:03	Kevin A Sposito	1

*=This limit was used in the evaluation of the final result

Sample Description: 5WC22 Grab Groundwater
2016 - 2nd Semiannual Groundwater Corrective
RAAP - Radford, VA - HWMU-5

LL Sample # WW 8656008
LL Group # 1723781
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 10/20/2016 10:15 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/21/2016 09:30

Reported: 10/31/2016 22:18

R7306 SDG#: RAE73-06

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	ug/l	
11996	1,1-Dichloroethene	75-35-4	N.D.	0.4	1.0	1
11996	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.	0.8	1.0	1
11996	Trichloroethene	79-01-6	2.9	0.2	1.0	1
11996	Vinyl Chloride	75-01-4	N.D.	0.1	1.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	RAAP Unit 5 "J" list	SW-846 8260C	1	H163052AA	10/31/2016 14:02	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163052AA	10/31/2016 14:02	Kevin A Sposito	1

*=This limit was used in the evaluation of the final result

Sample Description: 5WC23 Grab Groundwater
2016 - 2nd Semiannual Groundwater Corrective
RAAP - Radford, VA - HWMU-5

LL Sample # WW 8656009
LL Group # 1723781
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 10/20/2016 11:00 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/21/2016 09:30

Reported: 10/31/2016 22:18

R7307 SDG#: RAE73-07

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	ug/l	
11996	1,1-Dichloroethene	75-35-4	N.D.	0.4	1.0	1
11996	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.	0.8	1.0	1
11996	Trichloroethene	79-01-6	3.1	0.2	1.0	1
11996	Vinyl Chloride	75-01-4	N.D.	0.1	1.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	RAAP Unit 5 "J" list	SW-846 8260C	1	H163052AA	10/31/2016 14:22	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163052AA	10/31/2016 14:22	Kevin A Sposito	1

*=This limit was used in the evaluation of the final result

Sample Description: 5W12A Grab Groundwater
2016 - 2nd Semiannual Groundwater Corrective
RAAP - Radford, VA - HWMU-5

LL Sample # WW 8656010
LL Group # 1723781
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 10/19/2016 10:25 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/21/2016 09:30

Reported: 10/31/2016 22:18

R7308 SDG#: RAE73-08

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	ug/l	
11996	1,1-Dichloroethene	75-35-4	N.D.	0.4	1.0	1
11996	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.	0.8	1.0	1
11996	Trichloroethene	79-01-6	N.D.	0.2	1.0	1
11996	Vinyl Chloride	75-01-4	N.D.	0.1	1.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	RAAP Unit 5 "J" list	SW-846 8260C	1	H163052AA	10/31/2016 14:43	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163052AA	10/31/2016 14:43	Kevin A Sposito	1

*=This limit was used in the evaluation of the final result

Sample Description: Trip Blank 1 Water
2016 - 2nd Semiannual Groundwater Corrective
RAAP - Radford, VA - HWMU-5

LL Sample # WW 8656011
LL Group # 1723781
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 10/19/2016

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/21/2016 09:30

Reported: 10/31/2016 22:18

R7309 SDG#: RAE73-09TB

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	ug/l	
11996	1,1-Dichloroethene	75-35-4	N.D.	0.4	1.0	1
11996	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.	0.8	1.0	1
11996	Trichloroethene	79-01-6	N.D.	0.2	1.0	1
11996	Vinyl Chloride	75-01-4	N.D.	0.1	1.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	RAAP Unit 5 "J" list	SW-846 8260C	1	H163052AA	10/31/2016 10:59	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163052AA	10/31/2016 10:59	Kevin A Sposito	1

*=This limit was used in the evaluation of the final result

Sample Description: Trip Blank 2 Water
2016 - 2nd Semiannual Groundwater Corrective
RAAP - Radford, VA - HWMU-5

LL Sample # WW 8656012
LL Group # 1723781
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 10/19/2016

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/21/2016 09:30

Reported: 10/31/2016 22:18

R7310 SDG#: RAE73-10TB

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	ug/l	
11996	1,1-Dichloroethene	75-35-4	N.D.	0.4	1.0	1
11996	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.	0.8	1.0	1
11996	Trichloroethene	79-01-6	N.D.	0.2	1.0	1
11996	Vinyl Chloride	75-01-4	N.D.	0.1	1.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	RAAP Unit 5 "J" list	SW-846 8260C	1	H163052AA	10/31/2016 11:19	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163052AA	10/31/2016 11:19	Kevin A Sposito	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Draper Aden Associates, Inc.
Reported: 10/31/2016 22:18

Group Number: 1723781

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Batch number: H163052AA	Sample number(s): 8656001-8656012		
1,1-Dichloroethene	N.D.	0.4	1.0
cis-1,2-Dichloroethene	N.D.	0.1	1.0
trans-1,2-Dichloroethene	N.D.	0.8	1.0
Trichloroethene	N.D.	0.2	1.0
Vinyl Chloride	N.D.	0.1	1.0

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l					
Batch number: H163052AA	Sample number(s): 8656001-8656012								
1,1-Dichloroethene	5.00	5.13			103		76-120		
cis-1,2-Dichloroethene	5.00	4.95			99		80-120		
trans-1,2-Dichloroethene	5.00	5.05			101		80-120		
Trichloroethene	5.00	4.94			99		80-120		
Vinyl Chloride	5.00	3.45			69		62-128		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc	MS Spike Added	MS Conc	MSD Spike Added	MSD Conc	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: H163052AA	Sample number(s): 8656001-8656012				UNSPK: 8656003					
1,1-Dichloroethene	N.D.	5.00	5.88	5.00	5.86	118	117	76-120	0	30
cis-1,2-Dichloroethene	N.D.	5.00	5.39	5.00	5.45	108	109	80-120	1	30
trans-1,2-Dichloroethene	N.D.	5.00	5.79	5.00	5.73	116	115	80-120	1	30
Trichloroethene	N.D.	5.00	5.62	5.00	5.65	112	113	80-120	1	30
Vinyl Chloride	N.D.	5.00	3.86	5.00	3.86	77	77	62-128	0	30

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Draper Aden Associates, Inc.
Reported: 10/31/2016 22:18

Group Number: 1723781

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: RAAP Unit 5 "J" list

Batch number: H163052AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8656001	100	103	95	95
8656002	98	105	95	93
8656003	103	106	94	94
8656004	96	104	96	99
8656005	96	103	96	99
8656006	101	103	95	94
8656007	99	104	96	93
8656008	100	105	95	93
8656009	100	101	96	93
8656010	99	103	96	94
8656011	100	103	94	94
8656012	101	106	94	93
Blank	100	104	95	95
LCS	101	107	93	100
MS	96	104	96	99
MSD	96	103	96	99
Limits:	77-114	74-113	77-110	78-110

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

11200/1723781/8656001-12

CHAIN OF CUSTODY RECORD

Laboratory: Eurofins Lancaster Laboratories Environmental LLC, 2425 New Holland Pike, Lancaster, PA, 17605-2425/ Barb Weyandt, Manager

Client: Draper Aden Associates
 Attn: 0
 Address: 0
 Phone: 0
 Fax: 0
 Fax: 0

Consultant: Draper Aden Associates
 Attn: Janet C. Frazier
 Address: 2206 South Main Street
 Blacksburg, Virginia 24060
 Phone: (540) 552-0444
 Fax: (540) 552-0291

Sample Site: RFAAP, Radford, Virginia
 Location: HWMU5
 2015 - 2nd Semiannual Groundwater Corrective Action
 Event: Monitoring Event
 DAA JN: B03204-16A
 Lab JN:

Project Specific (PS) or Batch (B) QC:
 Sample Collection for Project Complete? YES
 UPS: 12.754-02X-40-4117-362
 Carrier: 12.754-02X-40-4117-362
 Tracking Number:

Box 1: Matrix
 SW Surface Water T Trip Blank
 GW Groundwater E Equipment Blank
 L Leachate P Product
 S Soil O Other

Box 2: Preservative
 A HCL E NaOH
 B HNO₃ F ZnAc
 C H₂SO₄ G Other (Specify)
 D Na₂S₂O₃ H None

Box 3: Filtered/Unfiltered
 F Filtered
 U Unfiltered
 Box 5: Sample Container Type
 P Plastic V VOA
 AG Amber Glass CG Clear Glass

Box 4: Sample Type
 G Grab
 C Composite

Invoice
 Copy to Consultant: YES
 Bill: CLIENT OTHER
 Preserved and shipped on ice: YES

Box 4 - Sample Type G
 Box 3 - Filtered/Unfiltered U
 Required pH of Sample <2
 Box 2 - Preservative A B
 Box 5 - Sample Container Type 3-40ml V 1-500ml P

GENERAL NOTES:

- See attached analyte list.
- Report Results to MDL with "J" Flags. 3. 1 trip blank per day of sampling.
Delete Trip blank 2 if not required.

3. Cobalt QL / DL
 5 ug/l 1 ug/l

USE FOR QC

Client's Special Instructions: level 1 with edd.

Received by lab in Good Condition Yes No Custody Seal Intact Yes No Temperature upon arrival Received on Ice Yes No
 Describe problems, if any:

Sampler Name (Print): Ken Coddington	Date: 10/19/16	#1 Relinquished by (Signature): [Signature]	Date: 10/20/16	#2 Relinquished by (Signature): [Signature]	Date:	Sample Storage Time Requested:
Sampler Signature: [Signature]	Time: 0700	Company Name: DAA	Time: 1700	Company Name:	Time:	
Sampler Name (Print): Will Mason-Deese	Date: 10-19-16	#1 Received by (Signature): [Signature]	Date:	#2 Received by (Signature): [Signature]	Date: 10/20/16	30 DYS ORG/6 MTHS INORG
Sampler Signature: [Signature]	Time: 0700	Company Name:	Time:	Company Name: ELLE	Time: 0930	

1/2 10/21/16
 J. [Signature]

1723781

HWMU5 Appendix - J
Radford Army Ammunition Plant
Groundwater Corrective Action Semiannual Monitoring Event
DAA JN: B03204-16A

ANALYTICAL METHOD: 8260C/5030C
TYPE METHOD: GCMS
CLASS: VOLATILE

Appendix – J Target Analyte List

No.	ANALYTE	CAS RN	Required QL (µg/l)	Required MDL*
1.	Trichloroethene	79-01-6	1	0.177
2.	1,1-Dichloroethene	75-35-4	1	0.44
3.	Cis-1,2-Dichloroethene	156-59-2	1	0.1
4.	Trans-1,2-Dichloroethene	156-60-5	1	0.8
5.	Vinyl Chloride	75-01-4	1	0.1

Note: *Report current lab MDL if higher.

25 ml purge volume

Client: Draper**Delivery and Receipt Information**

Delivery Method: UPS Arrival Timestamp: 10/21/2016 9:30
 Number of Packages: 3 Number of Projects: 1

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	No
Custody Seal Intact:	Yes	VOA Vial Headspace $\geq$ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	8
Paperwork Enclosed:	Yes	Trip Blank Type:	HCL
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	Yes		

Unpacked by Krista Abel (3058) at 13:48 on 10/21/2016

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	1.9	DT	Wet	Y	Bagged	N
2	DT146	0.9	DT	Wet	Y	Bagged	N
3	DT146	2.2	DT	Wet	Y	Bagged	N

Container Quantity Discrepancy Details

Sample ID on COC	Container Qty. Received	Container Qty. on COC	Comments
SW7B	12	7	

Sample Date/Time Discrepancy Details

Sample ID on COC	Date/Time on Label	Comments
SW8B	10/19/2016 09:30	
SW8B	10/19/2016 12:05	
SW7B	10/19/2016 12:05	

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	none detected
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m3	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Laboratory Data Qualifiers:

- B - Analyte detected in the blank
- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value $\geq$ the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...
- W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Volatiles by GC/MS Data

Case Narrative/Conformance Summary

Volatiles by GC/MS

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE73

GC/MS Volatiles

Fraction: Volatiles by GC/MS

Sample #	Client ID	Matrix		DF	Comments
		Liquid	Solid		
8656001	5W8B	X		1	
8656002	5W5B	X		1	
8656003	5W7B	X		1	Unspiked
8656004	5W7B Matrix Spike	X		1	Matrix Spike
8656005	5W7B Matrix Spike Dup	X		1	Matrix Spike Duplicate
8656006	5WC21	X		1	
8656007	5WDUP	X		1	Field Duplicate Sample
8656008	5WC22	X		1	
8656009	5WC23	X		1	
8656010	5W12A	X		1	
8656011	Trip Blank 1	X		1	Trip Blank
8656012	Trip Blank 2	X		1	Trip Blank

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

All QC is within specification.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE73

GC/MS Volatiles

Fraction: Volatiles by GC/MS

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
+MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Quality Control and Calibration Summary Forms

Volatiles by GC/MS

Quality Control Reference List
GC/MS Volatiles**CLIENT: Draper Aden Associates, Inc.**
SDG: RAE73**Fraction: Volatiles by GC/MS**

Analysis	Batch Number	Sample Number	Analysis Date
RAAP Unit 5 "J" list	H163052AA	VBLKH57	10/31/2016 09:54:00
		LCSH57	10/31/2016 08:53:00
		8656001	10/31/2016 13:01:00
		8656002	10/31/2016 13:21:00
		8656003 UNSPK	10/31/2016 11:40:00
		8656004 MS	10/31/2016 12:00:00
		8656005 MSD	10/31/2016 12:20:00
		8656006	10/31/2016 13:42:00
		8656007	10/31/2016 15:03:00
		8656008	10/31/2016 14:02:00
		8656009	10/31/2016 14:22:00
		8656010	10/31/2016 14:43:00
		8656011	10/31/2016 10:59:00
		8656012	10/31/2016 11:19:00

Fraction: Volatiles by GC/MS

H163052AA / VBLKH57 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Vinyl Chloride	10/31/16	N.D.	ug/l	0.1	1.0
1,1-Dichloroethene	10/31/16	N.D.	ug/l	0.4	1.0
trans-1,2-Dichloroethene	10/31/16	N.D.	ug/l	0.8	1.0
cis-1,2-Dichloroethene	10/31/16	N.D.	ug/l	0.1	1.0
Trichloroethene	10/31/16	N.D.	ug/l	0.2	1.0

Fraction: Volatiles by GC/MS

H163052AA Sample	1,2-Dichloroethane-d4		4-Bromofluorobenzene		Dibromofluoromethane		Toluene-d8	
	Spike Added	10 ug/l	Spike Added	10 ug/l	Spike Added	10 ug/l	Spike Added	10 ug/l
	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
VBLKH57	104	74 - 113	95	78 - 110	100	77 - 114	95	77 - 110
LCSH57	107	74 - 113	100	78 - 110	101	77 - 114	93	77 - 110
8656001	103	74 - 113	95	78 - 110	100	77 - 114	95	77 - 110
8656002	105	74 - 113	93	78 - 110	98	77 - 114	95	77 - 110
8656003 UNSPK	106	74 - 113	94	78 - 110	103	77 - 114	94	77 - 110
8656004 MS	104	74 - 113	99	78 - 110	96	77 - 114	96	77 - 110
8656005 MSD	103	74 - 113	99	78 - 110	96	77 - 114	96	77 - 110
8656006	103	74 - 113	94	78 - 110	101	77 - 114	95	77 - 110
8656007	104	74 - 113	93	78 - 110	99	77 - 114	96	77 - 110
8656008	105	74 - 113	93	78 - 110	100	77 - 114	95	77 - 110
8656009	101	74 - 113	93	78 - 110	100	77 - 114	96	77 - 110
8656010	103	74 - 113	94	78 - 110	99	77 - 114	96	77 - 110
8656011	103	74 - 113	94	78 - 110	100	77 - 114	94	77 - 110
8656012	106	74 - 113	93	78 - 110	101	77 - 114	94	77 - 110

GC/MS Volatiles

Fraction: Volatiles by GC/MS

UNSPK: 8656003 MS: 8656004 MSD: 8656005 Analyte	Batch: H163052AA (Sample number(s): 8656001-8656012)								
	Spike Added ug/l	Unspiked Conc ug/l	MS Conc ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	%Rec Limits	%RPD	%RPD Limits
Vinyl Chloride	5.00	N.D.	3.86	3.86	77	77	62-128	0	30
1,1-Dichloroethene	5.00	N.D.	5.88	5.86	118	117	76-120	0	30
trans-1,2-Dichloroethene	5.00	N.D.	5.79	5.73	116	115	80-120	1	30
cis-1,2-Dichloroethene	5.00	N.D.	5.39	5.45	108	109	80-120	1	30
Trichloroethene	5.00	N.D.	5.62	5.65	112	113	80-120	1	30

Comments:

(2) The unspiked sample result is greater than four times the spike added.

* = Out of Specification

Results are being reported on an as received basis.

SDG: RAE73
Matrix: LIQUID

GC/MS Volatiles

Fraction: Volatiles by GC/MS

LCS: LCSH57	Batch: H163052AA (Sample number(s): 8656001-8656012)							
Analyte	Spike Added ug/l	LCS Conc ug/l	LCSD Conc ug/l	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Vinyl Chloride	5.00	3.45	NA	69	NA	62-128	NA	NA
1,1-Dichloroethene	5.00	5.13	NA	103	NA	76-120	NA	NA
trans-1,2-Dichloroethene	5.00	5.05	NA	101	NA	80-120	NA	NA
cis-1,2-Dichloroethene	5.00	4.95	NA	99	NA	80-120	NA	NA
Trichloroethene	5.00	4.94	NA	99	NA	80-120	NA	NA

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE73____

Lab File ID: hc04t02.d BFB Injection Date: 10/04/16

Instrument ID: HP19094 BFB Injection Time: 09:29

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	22.33
75	30.0 - 60.0% of mass 95	53.14
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.99
173	Less than 2.0% of mass 174	1.00 (1.13)1
174	Greater than 50.0% of mass 95	88.41
175	5.0 - 9.0% of mass 174	6.21 (7.03)1
176	Greater than 95.0%, but less than 101.0% of mass 174	84.86 (95.98)1
177	5.0 - 9.0% of mass 176	5.09 (6.00)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD25	hc04i01.d	10/04/16	10:34
02	VSTD10	hc04i02.d	10/04/16	10:54
03	VSTD5	hc04i03.d	10/04/16	11:14
04	VSTD2	hc04i04.d	10/04/16	11:35
05	VSTD1	hc04i05.d	10/04/16	11:55
06	VSTD.5	hc04i06.d	10/04/16	12:15
07	VSTD.2	hc04i07.d	10/04/16	12:36
08	MDL0.1 - MDL0.1	hc04m01.d	10/04/16	12:56
09	MDL0.4 - MDL0.4	hc04m02.d	10/04/16	13:17
10	VSTD10	hc04c02.d	10/04/16	13:45
11	LCSH73	hc04l01.d	10/04/16	14:05
12	LCDH73	hc04l02.d	10/04/16	14:26
13	LCSHLG	hc04l02a.d	10/04/16	14:26
14	LCSH74	hc04l03.d	10/04/16	14:46
15	LCDH74	hc04l04.d	10/04/16	15:06
16	VBLKH73	hc04b01.d	10/04/16	15:47
17	8608538	hc04s03.d	10/04/16	16:07
18	8608485	hc04s04.d	10/04/16	16:28
19	8608485DL	hc04s05.d	10/04/16	16:48
20	8608535	hc04s06.d	10/04/16	17:09
21	8608535DL	hc04s07.d	10/04/16	17:29
22	8608534	hc04s08.d	10/04/16	17:49

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE73____

Lab File ID: hc04t02.d BFB Injection Date: 10/04/16

Instrument ID: HP19094 BFB Injection Time: 09:29

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	22.33
75	30.0 - 60.0% of mass 95	53.14
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.99
173	Less than 2.0% of mass 174	1.00 (1.13)1
174	Greater than 50.0% of mass 95	88.41
175	5.0 - 9.0% of mass 174	6.21 (7.03)1
176	Greater than 95.0%, but less than 101.0% of mass 174	84.86 (95.98)1
177	5.0 - 9.0% of mass 176	5.09 (6.00)2
1-Value is % mass 174		2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	8608534DL	hc04s09.d	10/04/16	18:09
24	8612710	hc04s01.d	10/04/16	18:30
25	8612718	hc04s02.d	10/04/16	18:50
26	8608536	hc04s10.d	10/04/16	19:11
27	8608536DL	hc04s11.d	10/04/16	19:31
28	8608537	hc04s12.d	10/04/16	19:51
29	8608542	hc04s13.d	10/04/16	20:12
30	8608543	hc04s14.d	10/04/16	20:32

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE73_

Lab File ID: hc31t01.d BFB Injection Date: 10/31/16

Instrument ID: HP19094 BFB Injection Time: 07:58

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.98
75	30.0 - 60.0% of mass 95	49.59
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.70
173	Less than 2.0% of mass 174	1.58 (1.77)1
174	Greater than 50.0% of mass 95	89.54
175	5.0 - 9.0% of mass 174	6.92 (7.73)1
176	Greater than 95.0%, but less than 101.0% of mass 174	85.69 (95.69)1
177	5.0 - 9.0% of mass 176	4.90 (5.72)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD10	hc31c01.d	10/31/16	08:33
02	LCSH56	hc31s01.d	10/31/16	08:53
03	LCSH57	hc31s21.d	10/31/16	08:53
04	LCSH58	hc31s41.d	10/31/16	08:53
05	LCDH56	hc31s02.d	10/31/16	09:14
06	VBLKH56	hc31b01.d	10/31/16	09:54
07	VBLKH57	hc31b21.d	10/31/16	09:54
08	VBLKH58	hc31b41.d	10/31/16	09:54
09	8653038	hc31s03.d	10/31/16	10:18
10	8653038DL	hc31s04.d	10/31/16	10:38
11	8656011	hc31s22.d	10/31/16	10:59
12	8656012	hc31s23.d	10/31/16	11:19
13	8656003	hc31s24.d	10/31/16	11:40
14	8656004MS	hc31s25.d	10/31/16	12:00
15	8656005MSD	hc31s26.d	10/31/16	12:20
16	8656001	hc31s28.d	10/31/16	13:01
17	8656002	hc31s29.d	10/31/16	13:21
18	8656006	hc31s30.d	10/31/16	13:42
19	8656008	hc31s31.d	10/31/16	14:02
20	8656009	hc31s32.d	10/31/16	14:22
21	8656010	hc31s33.d	10/31/16	14:43
22	8656007	hc31s34.d	10/31/16	15:03

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE73__

Lab File ID: hc31t01.d BFB Injection Date: 10/31/16

Instrument ID: HP19094 BFB Injection Time: 07:58

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.98
75	30.0 - 60.0% of mass 95	49.59
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.70
173	Less than 2.0% of mass 174	1.58 (1.77)1
174	Greater than 50.0% of mass 95	89.54
175	5.0 - 9.0% of mass 174	6.92 (7.73)1
176	Greater than 95.0%, but less than 101.0% of mass 174	85.69 (95.69)1
177	5.0 - 9.0% of mass 176	4.90 (5.72)2
1-Value is % mass 174		2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	8656035	hc31s42.d	10/31/16	15:24
24	8656029	hc31s43.d	10/31/16	15:44
25	8656030MS	hc31s44.d	10/31/16	16:04
26	8656031MSD	hc31s45.d	10/31/16	16:24
27	8656024	hc31s46.d	10/31/16	16:45
28	8656025	hc31s47.d	10/31/16	17:05
29	8656026	hc31s48.d	10/31/16	17:25
30	8656027	hc31s49.d	10/31/16	17:46
31	8656032	hc31s50.d	10/31/16	18:06
32	8656033	hc31s51.d	10/31/16	18:27
33	8656034	hc31s52.d	10/31/16	18:47

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP19094 Calibration Date(s): 10/04/16 10/04/16
Heated Purge: (Y/N) Y Calibration Times: 10:34 12:36
Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

LAB FILE ID:	RRF0.2= hc04i07.d	RRF0.5= hc04i06.d	RRF 1 = hc04i05.d	RRF 2 = hc04i04.d	RRF 5 = hc04i03.d	RRF 10= hc04i02.d	RRF 25= hc04i01.d			
COMPOUND	RRF0.2	RRF0.5	RRF 1	RRF 2	RRF 5	RRF 10	RRF 25	RRF	% RSD	CAL. METHOD
Dichlorodifluoromethane	#0.4112	0.4641	0.4464	0.3954	0.3959	0.4284	0.4338	0.4250	6	AVG #
Chloromethane	#0.5232	0.5200	0.4832	0.4111	0.3979	0.4237	0.4254	0.4549	12	AVG #
Vinyl Chloride	#0.4347	0.4523	0.4348	0.3734	0.3632	0.3884	0.3921	0.4055	9	AVG #
1,3-Butadiene	#0.6591	0.7126	0.6401	0.6247	0.5873	0.5676	0.5597	0.6216	9	AVG #
Bromomethane	#0.2803	0.3039	0.2775	0.2411	0.2315	0.2437	0.2431	0.2602	10	AVG #
Chloroethane	#0.2507	0.2623	0.2427	0.2146	0.2045	0.2139	0.2163	0.2293	10	AVG #
Dichlorofluoromethane	#0.5801	0.6200	0.5830	0.5051	0.4985	0.5217	0.5227	0.5473	9	AVG #
Trichlorofluoromethane	#0.4989	0.5464	0.5214	0.4543	0.4580	0.4846	0.4816	0.4922	7	AVG #
Ethyl ether	#0.1730	0.1913	0.1909	0.1866	0.1789	0.1782	0.1724	0.1816	4	AVG #
Freon 123a	#0.3451	0.3879	0.3673	0.3177	0.3114	0.3351	0.3272	0.3417	8	AVG #
Acrolein	#3.8707	3.8724	3.3185	3.4261	3.2187	4.0018	3.4625	3.5958	9	AVG #
1,1-Dichloroethene	#0.2284	0.2509	0.2315	0.2332	0.2236	0.2222	0.2157	0.2293	5	AVG #
Freon 113	#0.2496	0.2565	0.2507	0.2594	0.2478	0.2488	0.2419	0.2507	2	AVG #
Acetone	#5.6547	4.9525	4.5436	5.0697	4.6995	4.7015	4.0763	4.8140	10	AVG #
Methyl Iodide	#0.4482	0.4638	0.4411	0.4513	0.4290	0.4223	0.4126	0.4383	4	AVG #
Carbon Disulfide	#0.7824	0.7451	0.7036	0.6882	0.6580	0.6504	0.6402	0.6954	8	AVG #
Allyl Chloride	#0.5135	0.5434	0.5015	0.5063	0.4842	0.4739	0.4699	0.4990	5	AVG #
Methyl Acetate	#21.270	21.268	12.952	13.404	11.959	15.505	12.792	15.592	26	2NDDEG #
Methylene Chloride	#0.2571	0.2703	0.2505	0.2503	0.2369	0.2311	0.2263	0.2461	6	AVG #
t-Butyl Alcohol	#1.1336	1.2089	1.2297	1.6093	1.5226	1.2463	1.1526	1.3004	14	AVG #
Acrylonitrile	#5.5069	5.0326	5.3023	5.8247	5.5163	6.7959	5.6717	5.6644	10	AVG #
trans-1,2-Dichloroethene	#0.2822	0.2723	0.2648	0.2630	0.2505	0.2463	0.2406	0.2600	6	AVG #
Methyl Tertiary Butyl Ether	#0.5310	0.5628	0.5407	0.5510	0.5330	0.5189	0.5078	0.5350	3	AVG #
n-Hexane	#0.3596	0.4010	0.4020	0.4133	0.4042	0.4003	0.3936	0.3963	4	AVG #
1,1-Dichloroethane	#0.5175	0.5530	0.5288	0.5092	0.5003	0.4930	0.4812	0.5119	5	AVG #
di-Isopropyl Ether	#0.8835	0.9716	0.9349	0.9459	0.9126	0.8964	0.8798	0.9178	4	AVG #
2-Chloro-1,3-Butadiene	#0.4581	0.5032	0.4858	0.4790	0.4669	0.4665	0.4579	0.4739	3	AVG #
Ethyl t-butyl ether	#0.7338	0.7728	0.7642	0.7602	0.7383	0.7298	0.7132	0.7446	3	AVG #
cis-1,2-Dichloroethene	#0.2911	0.2968	0.2958	0.2899	0.2779	0.2742	0.2692	0.2850	4	AVG #
2,2-Dichloropropane	#0.4166	0.4312	0.4322	0.4222	0.4046	0.4047	0.3963	0.4154	3	AVG #
2-Butanone	#9.0499	8.9765	8.1427	8.1142	7.7596	9.5854	8.0001	8.5183	8	AVG #
Propionitrile	#1.8647	1.7248	1.7570	2.0509	1.9772	1.9798	1.7972	1.8788	7	AVG #
Methacrylonitrile	#8.3871	9.2349	7.2113	7.3037	7.0158	9.2485	7.7496	8.0216	12	AVG #
Bromochloromethane	#0.1122	0.1169	0.1140	0.1173	0.1167	0.1125	0.1104	0.1143	2	AVG #
Tetrahydrofuran	#2.3464	2.3287	2.0893	2.0657	1.9633	2.4865	2.0897	2.1957	9	AVG #
Chloroform	#0.5029	0.5274	0.5049	0.5043	0.4832	0.4746	0.4639	0.4944	4	AVG #
1,1,1-Trichloroethane	#0.4439	0.4837	0.4564	0.4576	0.4289	0.4273	0.4182	0.4451	5	AVG #
Cyclohexane	#0.5116	0.6038	0.5162	0.5178	0.5123	0.5025	0.4924	0.5224	7	AVG #
Cyclohexane (2)	#0.4509	0.4892	0.4819	0.4144	0.3975	0.3963	0.3875	0.4311	10	AVG #
Cyclohexane (3)	#0.1439	0.1539	0.1486	0.1485	0.1469	0.1460	0.1435	0.1473	2	AVG #
1,1-Dichloropropene	#0.3994	0.4202	0.4177	0.4006	0.3977	0.3963	0.3849	0.4024	3	AVG #
Carbon Tetrachloride	#0.3788	0.4004	0.3897	0.3925	0.3797	0.3792	0.3713	0.3845	3	AVG #
Isobutyl Alcohol	#0.5728	0.5162	0.4372	0.5432	0.5483	0.5294	0.4536	0.5144	10	AVG #
Benzene	#1.0957	1.1234	1.1074	1.0907	1.0408	1.0364	1.0154	1.0728	4	AVG #
1,2-Dichloroethane	#0.3309	0.3175	0.3122	0.2995	0.2837	0.2753	0.2716	0.2987	8	AVG #
t-Amyl methyl ether	#0.6014	0.6012	0.6137	0.6309	0.6048	0.5937	0.5821	0.6040	3	AVG #
n-Heptane	#0.4667	0.4901	0.4861	0.4915	0.4811	0.4613	0.4627	0.4771	3	AVG #
n-Butanol	#0.2956	0.3865	0.3215	0.4513	0.4504	0.4019	0.3227	0.3757	17	AVG #
Trichloroethene	#0.2982	0.3102	0.2995	0.2978	0.2879	0.2853	0.2787	0.2939	4	AVG #
Methylcyclohexane	#0.4655	0.5038	0.5237	0.5332	0.5364	0.5157	0.5145	0.5132	5	AVG #
1,2-Dichloropropane	#0.2660	0.2871	0.2795	0.2810	0.2679	0.2659	0.2640	0.2731	3	AVG #
Methyl Methacrylate	#10.993	16.037	13.645	14.210	13.142	19.162	16.191	14.768	18	AVG #

Compounds with required minimum RRF.
All compounds must meet a maximum %RSD of 20.

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: HP19094 Calibration Date(s): 10/04/16 10/04/16

Heated Purge: (Y/N) Y Calibration Times: 10:34 12:36

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

```
# Compounds with required minimum RRF.
All compounds must meet a maximum %RSD of 20.
```


6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP19094 Calibration Date(s): 10/04/16 10/04/16
 Heated Purge: (Y/N) Y Calibration Times: 10:34 12:36
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

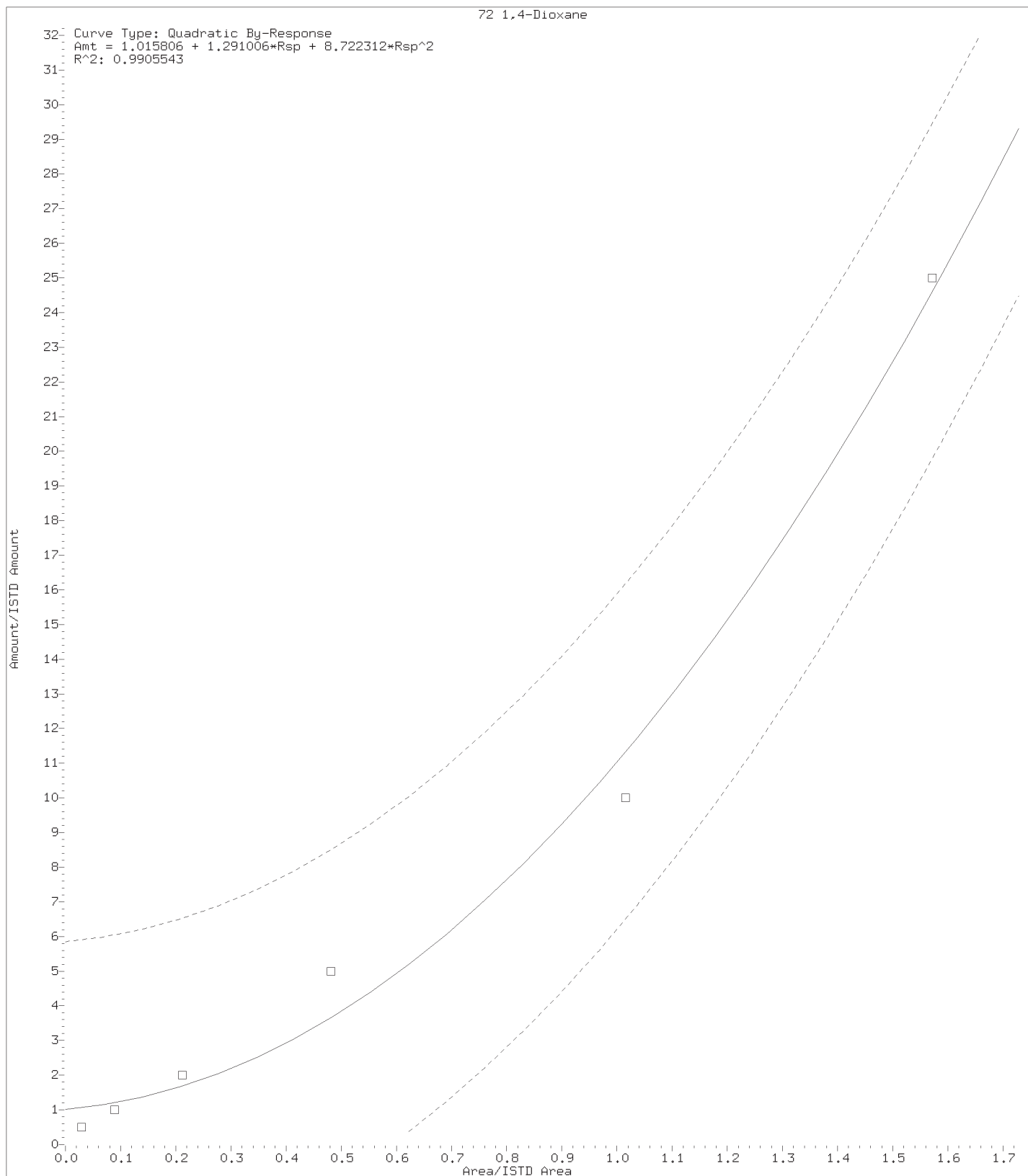
LAB FILE ID:		RRF0.2= hc04i07.d		RRF0.5= hc04i06.d		RRF 1 = hc04i05.d					
RRF 2 = hc04i04.d		RRF 5 = hc04i03.d		RRF 10= hc04i02.d		RRF 25= hc04i01.d					
									%	CAL.	
COMPOUND		RRF0.2	RRF0.5	RRF 1	RRF 2	RRF 5	RRF 10	RRF 25	RRF	RSD	METHOD
=====		=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
1,2-Dichloroethane-d4 (3)		0.0240	0.0245	0.0232	0.0233	0.0232	0.0229	0.0240	0.0236	2	AVG
Toluene-d8		1.5139	1.5397	1.5142	1.5106	1.5147	1.5073	1.4734	1.5105	1	AVG
Toluene-d8 (2)		0.9721	0.9809	0.9623	0.9758	0.9825	0.9645	0.9611	0.9713	1	AVG
4-Bromofluorobenzene		0.4464	0.4410	0.4505	0.4389	0.4484	0.4409	0.4425	0.4441	1	AVG
4-Bromofluorobenzene (2)		0.3960	0.3966	0.4005	0.3939	0.4000	0.3985	0.3964	0.3974	1	AVG

Average %RSD 6

Compounds with required minimum RRF.
 All compounds must meet a maximum %RSD of 20.



Digitally signed by Kerri E. Koch Legerlotz on 10/04/2016 at 15:53.
Target 3.5 esignature user ID: kel01973



Digitally signed by Kerri E. Koch Legerlotz on 10/04/2016 at 15:53.
Target 3.5 esignature user ID: kel01973

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem2/HP19094.i/16oct04a.b/hc04i01.d	VSTD025
/chem2/HP19094.i/16oct04a.b/hc04i02.d	VSTD010
/chem2/HP19094.i/16oct04a.b/hc04i03.d	VSTD005
/chem2/HP19094.i/16oct04a.b/hc04i04.d	VSTD002
/chem2/HP19094.i/16oct04a.b/hc04i05.d	VSTD001
/chem2/HP19094.i/16oct04a.b/hc04i06.d	VSTD0.5
/chem2/HP19094.i/16oct04a.b/hc04i07.d	VSTD0.2

Area Summary

File ID:

=====

Internal Standard Name	hc04i01.d	hc04i02.d	hc04i03.d	hc04i04.d	hc04i05.d	hc04i06.d	hc04i07.d	Avg. Area	%RSD	In Spec
t-Butyl Alcohol-d10	71956	60829	85386	84598	83869	59277	65291	73029	16	Yes
Fluorobenzene	2273569	2235292	2240146	2270009	2267516	2092367	2200643	2225649	3	Yes
Chlorobenzene-d5	1542326	1455786	1450338	1467187	1470132	1334284	1416303	1448051	4	Yes
1,4-Dichlorobenzene-d4	719928	661919	665336	653236	676960	602014	636044	659348	5	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

=====

Internal Standard Name	hc04i01.d	hc04i02.d	hc04i03.d	hc04i04.d	hc04i05.d	hc04i06.d	hc04i07.d	Avg. RT
t-Butyl Alcohol-d10	4.269	4.287	4.275	4.269	4.293	4.294	4.312	4.286
Fluorobenzene	7.787	7.787	7.787	7.787	7.787	7.781	7.787	7.786
Chlorobenzene-d5	11.243	11.243	11.243	11.250	11.243	11.243	11.244	11.244
1,4-Dichlorobenzene-d4	13.127	13.127	13.127	13.127	13.127	13.127	13.127	13.127

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 10/04/2016 at 15:31.

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP19094 ICV Date: 10/04/16 Time: 14:26
 Lab File ID: hc04102a.d Init. Calib. Date(s): 10/04/16 10/04/16
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
# Dichlorodifluoromethane	0.4250	0.4503	5.30	5	6 #
# Chloromethane	0.4549	0.4469	4.91	5	-2 #
# Vinyl Chloride	0.4055	0.4053	5.00	5	0 #
# 1,3-Butadiene	0.6216	0.4437	3.57	5	-29 #
# Bromomethane	0.2602	0.2540	4.88	5	-2 #
# Chloroethane	0.2293	0.2266	4.94	5	-1 #
# Dichlorofluoromethane	0.5473	0.5585	5.10	5	2 #
# Trichlorofluoromethane	0.4922	0.4886	4.96	5	-1 #
# Ethyl ether	0.1816	0.1648	4.54	5	-9 #
# Freon 123a	0.3417	0.3366	4.93	5	-1 #
# Acrolein	3.5958	3.6561	38.13	37.5	2 #
# 1,1-Dichloroethene	0.2293	0.2291	5.00	5	0 #
# Freon 113	0.2507	0.2498	4.98	5	0 #
# Acetone	4.8140	4.3174	33.63	37.5	-10 #
# Methyl Iodide	0.4383	0.4158	4.74	5	-5 #
# Carbon Disulfide	0.6954	0.6696	4.81	5	-4 #
# Allyl Chloride	0.4990	0.4440	4.45	5	-11 #
# Methyl Acetate	15.5920	15.1589	4.97	5	-1 #
# Methylene Chloride	0.2461	0.2368	4.81	5	-4 #
# t-Butyl Alcohol	1.3004	1.1049	42.48	50	-15 #
# Acrylonitrile	5.6644	6.4373	28.41	25	14 #
# trans-1,2-Dichloroethene	0.2600	0.2593	4.99	5	0 #
# Methyl Tertiary Butyl Ether	0.5350	0.5173	4.83	5	-3 #
# n-Hexane	0.3963	0.4203	5.30	5	6 #
# 1,1-Dichloroethane	0.5119	0.5044	4.93	5	-1 #
# di-Isopropyl Ether	0.9178	0.8922	4.86	5	-3 #
# 2-Chloro-1,3-Butadiene	0.4739	0.4630	4.89	5	-2 #
# Ethyl t-butyl ether	0.7446	0.7136	4.79	5	-4 #
# cis-1,2-Dichloroethene	0.2850	0.2784	4.88	5	-2 #
# 2,2-Dichloropropane	0.4154	0.3988	4.80	5	-4 #
# 2-Butanone	8.5183	9.0469	39.83	37.5	6 #
# Propionitrile	1.8788	2.0091	40.10	37.5	7 #
# Methacrylonitrile	8.0216	8.5611	40.02	37.5	7 #
# Bromochloromethane	0.1143	0.1098	4.80	5	-4 #
# Tetrahydrofuran	2.1957	2.2213	25.29	25	1 #
# Chloroform	0.4944	0.4749	4.80	5	-4 #

Compounds with required minimum RRF.
 Maximum % Drift = 30 %

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP19094 ICV Date: 10/04/16 Time: 14:26
 Lab File ID: hc04102a.d Init. Calib. Date(s): 10/04/16 10/04/16
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
# 1,1,1-Trichloroethane	0.4451	0.4231	4.75	5	-5 #
# Cyclohexane	0.5224	0.5008	4.79	5	-4 #
# 1,1-Dichloropropene	0.4024	0.3669	4.56	5	-9 #
# Carbon Tetrachloride	0.3845	0.3783	4.92	5	-2 #
# Isobutyl Alcohol	0.5144	0.5133	124.75	125	0 #
# Benzene	1.0728	1.0412	4.85	5	-3 #
# 1,2-Dichloroethane	0.2987	0.2867	4.80	5	-4 #
# t-Amyl methyl ether	0.6040	0.5719	4.73	5	-5 #
# n-Heptane	0.4771	0.4715	4.94	5	-1 #
# n-Butanol	0.3757	0.2963	197.16	250	-21 #
# Trichloroethene	0.2939	0.2882	4.90	5	-2 #
# Methylcyclohexane	0.5132	0.4813	4.69	5	-6 #
# 1,2-Dichloropropane	0.2731	0.2700	4.94	5	-1 #
# Methyl Methacrylate	14.7680	16.4850	5.58	5	12 #
# Dibromomethane	0.1143	0.1121	4.90	5	-2 #
# 1,4-Dioxane	0.0856	0.0850	84.21	125	-33 # <-
# Bromodichloromethane	0.3128	0.3069	4.91	5	-2 #
# 2-Nitropropane	5.4634	5.7957	5.30	5	6 #
# cis-1,3-Dichloropropene	0.3550	0.3468	4.88	5	-2 #
# 4-Methyl-2-Pentanone	22.7690	24.0385	26.39	25	6 #
# Toluene	1.0380	0.9927	4.78	5	-4 #
# trans-1,3-Dichloropropene	0.4212	0.4192	4.98	5	0 #
# Ethyl Methacrylate	0.3248	0.3255	5.01	5	0 #
# 1,1,2-Trichloroethane	0.2389	0.2306	4.82	5	-4 #
# Tetrachloroethene	0.4968	0.4749	4.78	5	-4 #
# 1,3-Dichloropropane	0.4343	0.4089	4.71	5	-6 #
# 2-Hexanone	15.7600	16.7994	26.65	25	7 #
# Dibromochloromethane	0.2963	0.2857	4.82	5	-4 #
# 1,2-Dibromoethane	0.2260	0.2231	4.94	5	-1 #
# Chlorobenzene	1.1060	1.0487	4.74	5	-5 #
# 1,1,1,2-Tetrachloroethane	0.3801	0.3626	4.77	5	-5 #
# Ethylbenzene	2.0426	1.9420	4.75	5	-5 #
# m+p-Xylene	0.7675	0.7432	9.68	10	-3 #
# o-Xylene	0.7486	0.7109	4.75	5	-5 #
# Styrene	1.1454	1.1400	4.98	5	0 #
# Bromoform	0.1622	0.1525	4.70	5	-6 #

Compounds with required minimum RRF.
 Maximum % Drift = 30 %

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP19094 ICV Date: 10/04/16 Time: 14:26
 Lab File ID: hc04102a.d Init. Calib. Date(s): 10/04/16 10/04/16
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
# Isopropylbenzene	2.0182	1.9599	4.86	5	-3 #
# 1,1,2,2-Tetrachloroethane	0.6185	0.5773	4.67	5	-7 #
Bromobenzene	0.9974	0.9589	4.81	5	-4
trans-1,4-Dichloro-2-butene	6.7472	7.2085	26.71	25	7
1,2,3-Trichloropropane	0.1651	0.1665	5.04	5	1
n-Propylbenzene	5.2878	5.1860	4.90	5	-2
2-Chlorotoluene	0.9996	0.9597	4.80	5	-4
1,3,5-Trimethylbenzene	3.6372	3.5543	4.89	5	-2
4-Chlorotoluene	1.0221	0.9840	4.81	5	-4
tert-Butylbenzene	0.7935	0.7475	4.71	5	-6
Pentachloroethane	0.6140	0.5691	4.63	5	-7
1,2,4-Trimethylbenzene	3.6721	3.5522	4.84	5	-3
sec-Butylbenzene	4.7734	4.6604	4.88	5	-2
# 1,3-Dichlorobenzene	1.9397	1.8633	4.80	5	-4 #
p-Isopropyltoluene	3.9827	3.8335	4.81	5	-4
# 1,4-Dichlorobenzene	2.0175	1.8589	4.61	5	-8 #
1,2,3-Trimethylbenzene	1.5893	1.4910	4.69	5	-6
Benzyl Chloride	0.2104	0.2134	5.07	5	1
n-Butylbenzene	1.9119	1.9104	5.00	5	0
# 1,2-Dichlorobenzene	1.7256	1.6634	4.82	5	-4 #
# 1,2-Dibromo-3-chloropropane	3.3157	3.6057	5.44	5	9 #
# 1,2,4-Trichlorobenzene	1.2290	1.0938	4.45	5	-11 #
Hexachlorobutadiene	0.5847	0.5670	4.85	5	-3
Naphthalene	1.8659	1.6509	4.42	5	-12
1,2,3-Trichlorobenzene	1.0346	0.8603	4.16	5	-17

Average %Drift 5

Compounds with required minimum RRF.
 Maximum % Drift = 30 %

Lancaster Laboratories

Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem2/HP19094.i/16oct04a.b/hc04i07.d
/chem2/HP19094.i/16oct04a.b/hc04i06.d
/chem2/HP19094.i/16oct04a.b/hc04i05.d
/chem2/HP19094.i/16oct04a.b/hc04i04.d
/chem2/HP19094.i/16oct04a.b/hc04i03.d
/chem2/HP19094.i/16oct04a.b/hc04i02.d
/chem2/HP19094.i/16oct04a.b/hc04i01.d

File /chem2/HP19094.i/16oct04a.b/hc04i02.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP19094.i/16oct31a.b/hc31c01.d

RT Summary

File ID:

=====

Internal Standard Name	hc31c01.d	ICAL RT	In Spec
=====	=====	=====	=====
t-Butyl Alcohol-d10	4.263	4.287	Yes
Fluorobenzene	7.787	7.787	Yes
Chlorobenzene-d5	11.243	11.243	Yes
1,4-Dichlorobenzene-d4	13.127	13.127	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

File ID:

=====

Internal Standard Name	hc31c01.d	ICAL Area	Low Limit	High Limit	In Spec
=====	=====	=====	=====	=====	=====
t-Butyl Alcohol-d10	119176	60829	30414	121658	Yes
Fluorobenzene	2394060	2235292	1117646	4470584	Yes
Chlorobenzene-d5	1729291	1455786	727893	2911572	Yes
1,4-Dichlorobenzene-d4	786644	661919	330960	1323838	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

Comments:

report generated on 10/31/2016 at 09:05

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories

Contract: _____

Lab Code: LANCAS

Case No.: _____

SAS No.: _____

SDG No.: _____

Instrument ID: HP19094

Calibration Date: 10/31/16

Time: 08:33

Lab File ID: hc31c01.d

Init. Calib. Date(s): 10/04/16

10/04/16

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF10	ACTUAL CONC.	TRUE CONC.	% DRIFT
# Dichlorodifluoromethane	0.4250	0.4647	10.93	10	9 #
# Chloromethane	0.4549	0.3957	8.70	10	-13 #
# Vinyl Chloride	0.4055	0.3697	9.12	10	-9 #
1,3-Butadiene	0.6216	0.4775	7.68	10	-23 <-
# Bromomethane	0.2602	0.2299	8.84	10	-12 #
# Chloroethane	0.2293	0.1981	8.64	10	-14 #
Dichlorofluoromethane	0.5473	0.4490	8.20	10	-18
# Trichlorofluoromethane	0.4922	0.4548	9.24	10	-8 #
Ethyl ether	0.1816	0.1723	9.49	10	-5
Freon 123a	0.3417	0.3243	9.49	10	-5
Acrolein	3.5958	2.5263	351.28	500	-30 <-
# 1,1-Dichloroethene	0.2293	0.2237	9.75	10	-2 #
# Freon 113	0.2507	0.2494	9.95	10	-1 #
# Acetone	4.8140	3.6710	76.26	100	-24 # <-
Methyl Iodide	0.4383	0.4222	9.63	10	-4
# Carbon Disulfide	0.6954	0.6537	9.40	10	-6 #
Allyl Chloride	0.4990	0.4062	8.14	10	-19
# Methyl Acetate	15.5920	9.2215	6.08	10	-39 # <-
# Methylene Chloride	0.2461	0.2440	9.92	10	-1 #
t-Butyl Alcohol	1.3004	1.2215	187.86	200	-6
Acrylonitrile	5.6644	4.5122	39.83	50	-20
# trans-1,2-Dichloroethene	0.2600	0.2516	9.68	10	-3 #
# Methyl Tertiary Butyl Ether	0.5350	0.5146	9.62	10	-4 #
n-Hexane	0.3963	0.4075	10.28	10	3
# 1,1-Dichloroethane	0.5119	0.4883	9.54	10	-5 #
di-Isopropyl Ether	0.9178	0.8776	9.56	10	-4
2-Chloro-1,3-Butadiene	0.4739	0.4493	9.48	10	-5
Ethyl t-butyl ether	0.7446	0.7012	9.42	10	-6
# cis-1,2-Dichloroethene	0.2850	0.2837	9.95	10	0 #
2,2-Dichloropropane	0.4154	0.3885	9.35	10	-6
# 2-Butanone	8.5183	6.2765	73.68	100	-26 # <-
Propionitrile	1.8788	1.7613	187.49	200	-6
Methacrylonitrile	8.0216	5.7688	71.92	100	-28 <-
Bromochloromethane	0.1143	0.1083	9.48	10	-5
Tetrahydrofuran	2.1957	1.5894	72.39	100	-28 <-
# Chloroform	0.4944	0.4833	9.78	10	-2 #

Compounds with required minimum RRF.

All compounds must meet a maximum % Drift of 20.

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories

Contract: _____

Lab Code: LANCAS

Case No.: _____

SAS No.: _____

SDG No.: _____

Instrument ID: HP19094

Calibration Date: 10/31/16

Time: 08:33

Lab File ID: hc31c01.d

Init. Calib. Date(s): 10/04/16

10/04/16

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF10	ACTUAL CONC.	TRUE CONC.	% DRIFT
# 1,1,1-Trichloroethane	0.4451	0.4128	9.27	10	-7 #
# Cyclohexane	0.5224	0.4933	9.44	10	-6 #
# Cyclohexane(2)	0.4311	0.3869	8.98	10	-10 #
# Cyclohexane(3)	0.1473	0.1438	9.76	10	-2 #
1,1-Dichloropropene	0.4024	0.3907	9.71	10	-3
# Carbon Tetrachloride	0.3845	0.3653	9.50	10	-5 #
Isobutyl Alcohol	0.5144	0.4825	469.01	500	-6
# Benzene	1.0728	1.0879	10.14	10	1 #
# 1,2-Dichloroethane	0.2987	0.2856	9.56	10	-4 #
t-Amyl methyl ether	0.6040	0.5917	9.80	10	-2
n-Heptane	0.4771	0.4800	10.06	10	1
n-Butanol	0.3757	0.3663	975.00	1000	-2
# Trichloroethene	0.2939	0.2941	10.00	10	0 #
# Methylcyclohexane	0.5132	0.4718	9.19	10	-8 #
# 1,2-Dichloropropane	0.2731	0.2794	10.23	10	2 #
Methyl Methacrylate	14.7680	10.9563	7.42	10	-26 <-
Dibromomethane	0.1143	0.1199	10.49	10	5
1,4-Dioxane	0.0856	0.0990	542.20	500	8
# Bromodichloromethane	0.3128	0.3240	10.36	10	4 #
2-Nitropropane	5.4634	3.5853	65.62	100	-34 <-
# cis-1,3-Dichloropropene	0.3550	0.3750	10.56	10	6 #
# 4-Methyl-2-Pentanone	22.7690	15.4876	68.02	100	-32 # <-
# Toluene	1.0380	0.9527	9.18	10	-8 #
# trans-1,3-Dichloropropene	0.4212	0.4038	9.59	10	-4 #
Ethyl Methacrylate	0.3248	0.3143	9.68	10	-3
# 1,1,2-Trichloroethane	0.2389	0.2326	9.73	10	-3 #
# Tetrachloroethene	0.4968	0.4511	9.08	10	-9 #
1,3-Dichloropropane	0.4343	0.4139	9.53	10	-5
# 2-Hexanone	15.7600	10.8115	68.60	100	-31 # <-
# Dibromochloromethane	0.2963	0.2837	9.57	10	-4 #
# 1,2-Dibromoethane	0.2260	0.2231	9.87	10	-1 #
# Chlorobenzene	1.1060	1.0315	9.33	10	-7 #
1,1,1,2-Tetrachloroethane	0.3801	0.3576	9.41	10	-6
# Ethylbenzene	2.0426	1.9019	9.31	10	-7 #
# m+p-Xylene	0.7675	0.7265	18.93	20	-5 #
# o-Xylene	0.7486	0.6980	9.32	10	-7 #

Compounds with required minimum RRF.

All compounds must meet a maximum % Drift of 20.

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories

Contract: _____

Lab Code: LANCAS

Case No.: _____

SAS No.: _____

SDG No.: _____

Instrument ID: HP19094

Calibration Date: 10/31/16

Time: 08:33

Lab File ID: hc31c01.d

Init. Calib. Date(s): 10/04/16

10/04/16

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF10	ACTUAL CONC.	TRUE CONC.	% DRIFT	
=====						
# Styrene	1.1454	1.1305	9.87	10	-1	#
# Bromoform	0.1622	0.1559	9.61	10	-4	#
# Isopropylbenzene	2.0182	1.8552	9.19	10	-8	#
# 1,1,2,2-Tetrachloroethane	0.6185	0.6096	9.86	10	-1	#
Bromobenzene	0.9974	0.9444	9.47	10	-5	
trans-1,4-Dichloro-2-butene	6.7472	4.3080	63.85	100	-36	<-
1,2,3-Trichloropropane	0.1651	0.1599	9.68	10	-3	
n-Propylbenzene	5.2878	5.0434	9.54	10	-5	
2-Chlorotoluene	0.9996	0.9591	9.60	10	-4	
1,3,5-Trimethylbenzene	3.6372	3.4549	9.50	10	-5	
4-Chlorotoluene	1.0221	0.9810	9.60	10	-4	
tert-Butylbenzene	0.7935	0.7258	9.15	10	-9	
Pentachloroethane	0.6140	0.5542	9.02	10	-10	
1,2,4-Trimethylbenzene	3.6721	3.4767	9.47	10	-5	
sec-Butylbenzene	4.7734	4.5454	9.52	10	-5	
# 1,3-Dichlorobenzene	1.9397	1.8364	9.47	10	-5	#
p-Isopropyltoluene	3.9827	3.8476	9.66	10	-3	
# 1,4-Dichlorobenzene	2.0175	1.8310	9.08	10	-9	#
1,2,3-Trimethylbenzene	1.5893	1.3966	8.79	10	-12	
Benzyl Chloride	0.2104	0.2331	11.08	10	11	
n-Butylbenzene	1.9119	1.9560	10.23	10	2	
# 1,2-Dichlorobenzene	1.7256	1.6117	9.34	10	-7	#
# 1,2-Dibromo-3-chloropropane	3.3157	2.5866	7.80	10	-22	#<-
# 1,2,4-Trichlorobenzene	1.2290	1.1390	9.27	10	-7	#
Hexachlorobutadiene	0.5847	0.5940	10.16	10	2	
Naphthalene	1.8659	1.7137	9.18	10	-8	
1,2,3-Trichlorobenzene	1.0346	0.9116	8.81	10	-12	
=====						
Dibromofluoromethane	0.2294	0.2350	10.25	10	2	
Dibromofluoromethane (2)	0.2345	0.2394	10.21	10	2	
1,2-Dichloroethane-d4	0.0368	0.0387	10.50	10	5	
1,2-Dichloroethane-d4 (2)	0.2028	0.1926	9.50	10	-5	
1,2-Dichloroethane-d4 (3)	0.0236	0.0252	10.67	10	7	
Toluene-d8	1.5105	1.3815	9.15	10	-9	
Toluene-d8 (2)	0.9713	0.8921	9.18	10	-8	
4-Bromofluorobenzene	0.4441	0.4442	10.00	10	0	

Compounds with required minimum RRF.

All compounds must meet a maximum % Drift of 20.

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP19094 Calibration Date: 10/31/16 Time: 08:33
Lab File ID: hc31c01.d Init. Calib. Date(s): 10/04/16 10/04/16
Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF10	ACTUAL CONC.	TRUE CONC.	% DRIFT
=====	=====	=====	=====	=====	=====
4-Bromofluorobenzene (2)	0.3974	0.3945	9.93	10	-1

Average %Drift 8

Compounds with required minimum RRF.
All compounds must meet a maximum % Drift of 20.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _RAE73_
 Lab File ID (Standard): hc31c01.d Date Analyzed: 10/31/16
 Instrument ID: HP19094 Time Analyzed: 08:33
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	119176	4.263	2394060	7.787	1729291	11.243	786644	13.127
UPPER LIMIT	238352	4.763	4788120	8.287	3458582	11.743	1573288	13.627
LOWER LIMIT	59588	3.763	1197030	7.287	864646	10.743	393322	12.627
=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE								
ID								
=====	=====	=====	=====	=====	=====	=====	=====	=====
01 LCSH56	127618	4.257	2399572	7.787	1717658	11.243	770129	13.127
02 LCSH57	127618	4.257	2399572	7.787	1717658	11.243	770129	13.127
03 LCSH58	127618	4.257	2399572	7.787	1717658	11.243	770129	13.127
04 LCDH56	85492	4.245	2289653	7.781	1582653	11.243	683079	13.127
05 VBLKH56	95229	4.251	2277577	7.781	1576492	11.243	654608	13.127
06 VBLKH57	95229	4.251	2277577	7.781	1576492	11.243	654608	13.127
07 VBLKH58	95229	4.251	2277577	7.781	1576492	11.243	654608	13.127
08 8653038	106628	4.263	2290506	7.787	1584427	11.250	657283	13.127
09 8653038DL	91068	4.251	2261821	7.787	1569461	11.244	657548	13.127
10 8656011	92942	4.263	2317941	7.781	1606745	11.243	666835	13.127
11 8656012	88322	4.275	2301294	7.787	1603795	11.249	673854	13.127
12 8656003	85012	4.257	2277489	7.787	1592718	11.244	661201	13.127
13 8656004MS	86523	4.257	2292493	7.781	1550540	11.243	693949	13.127
14 8656005MSD	73375	4.263	2284807	7.787	1557575	11.243	698942	13.127
15 8656001	94495	4.263	2290295	7.781	1589495	11.243	663480	13.127
16 8656002	79130	4.257	2193610	7.781	1492241	11.243	614771	13.127
17 8656006	73720	4.263	2257493	7.781	1566059	11.243	651658	13.127
18 8656008	71211	4.287	2245067	7.781	1551894	11.250	635518	13.127
19 8656009	77636	4.251	2226635	7.781	1517027	11.244	629801	13.127
20 8656010	92027	4.257	2285066	7.787	1557744	11.249	651627	13.127
21 8656007	81003	4.257	2214292	7.781	1523039	11.243	634159	13.127
22 8656035	98508	4.281	2208696	7.787	1523940	11.244	619272	13.127

IS1 (TBA)=t-Butyl Alcohol-d10
 IS2 (FBZ)=Fluorobenzene
 IS3 (CBZ)=Chlorobenzene-d5
 IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _RAE73_

Lab File ID (Standard): hc31c01.d Date Analyzed: 10/31/16

Instrument ID: HP19094 Time Analyzed: 08:33

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

		IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD		119176	4.263	2394060	7.787	1729291	11.243	786644	13.127
UPPER LIMIT		238352	4.763	4788120	8.287	3458582	11.743	1573288	13.627
LOWER LIMIT		59588	3.763	1197030	7.287	864646	10.743	393322	12.627
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE									
ID									
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
23 8656029		85481	4.275	2267693	7.781	1551592	11.243	641417	13.127
24 8656030MS		97051	4.257	2235001	7.787	1540052	11.244	676618	13.127
25 8656031MSD		103070	4.257	2298377	7.781	1580781	11.243	688702	13.127
26 8656024		98534	4.257	2234304	7.781	1523951	11.244	644718	13.127
27 8656025		99153	4.263	2216399	7.787	1500089	11.250	630679	13.127
28 8656026		75980	4.257	2249918	7.781	1553911	11.244	641524	13.127
29 8656027		85390	4.251	2186589	7.781	1496402	11.243	620073	13.127
30 8656032		98459	4.257	2185040	7.781	1479726	11.243	616850	13.127
31 8656033		87210	4.275	2230403	7.787	1550550	11.250	642557	13.127
32 8656034		89949	4.263	2251690	7.787	1560537	11.243	651323	13.127

IS1 (TBA)=t-Butyl Alcohol-d10
 IS2 (FBZ)=Fluorobenzene
 IS3 (CBZ)=Chlorobenzene-d5
 IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.

Sample Data

Volatiles by GC/MS

Fraction: Volatiles by GC/MS

11996: RAAP Unit 5 "J" list Analyte Name	Default MDL	Default LOQ	Units
Vinyl Chloride	0.1	1.0	ug/l
1,1-Dichloroethene	0.4	1.0	ug/l
trans-1,2-Dichloroethene	0.8	1.0	ug/l
cis-1,2-Dichloroethene	0.1	1.0	ug/l
Trichloroethene	0.2	1.0	ug/l

R7301

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8656001

Data file: /chem2/HP19094.i/16oct31a.b/hc31s28.d

Injection date and time: 31-OCT-2016 13:01

Data file Sample Info. Line: R7301;8656001;1;0;;RAE73;DAA3178;;hc31b21; Instrument ID: HP19094.i Batch: H163052AA

Date, time and analyst ID of latest file update: 31-Oct-2016 13:20 Automation

Blank Data file reference: /chem2/HP19094.i/16oct31a.b/hc31b21.d

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025

Calibration date and time (Last Method Edit): 31-OCT-2016 09:07

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16oct31a.b/hc31c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.263(0.000)	439	65	94495 (-21)	50.00	
63) Fluorobenzene	7.781(0.006)	1016	96	2290295 (-4)	10.00	
97) Chlorobenzene-d5	11.243(0.000)	1584	117	1589495 (-8)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(0.000)	1893	152	663480 (-16)	10.00	

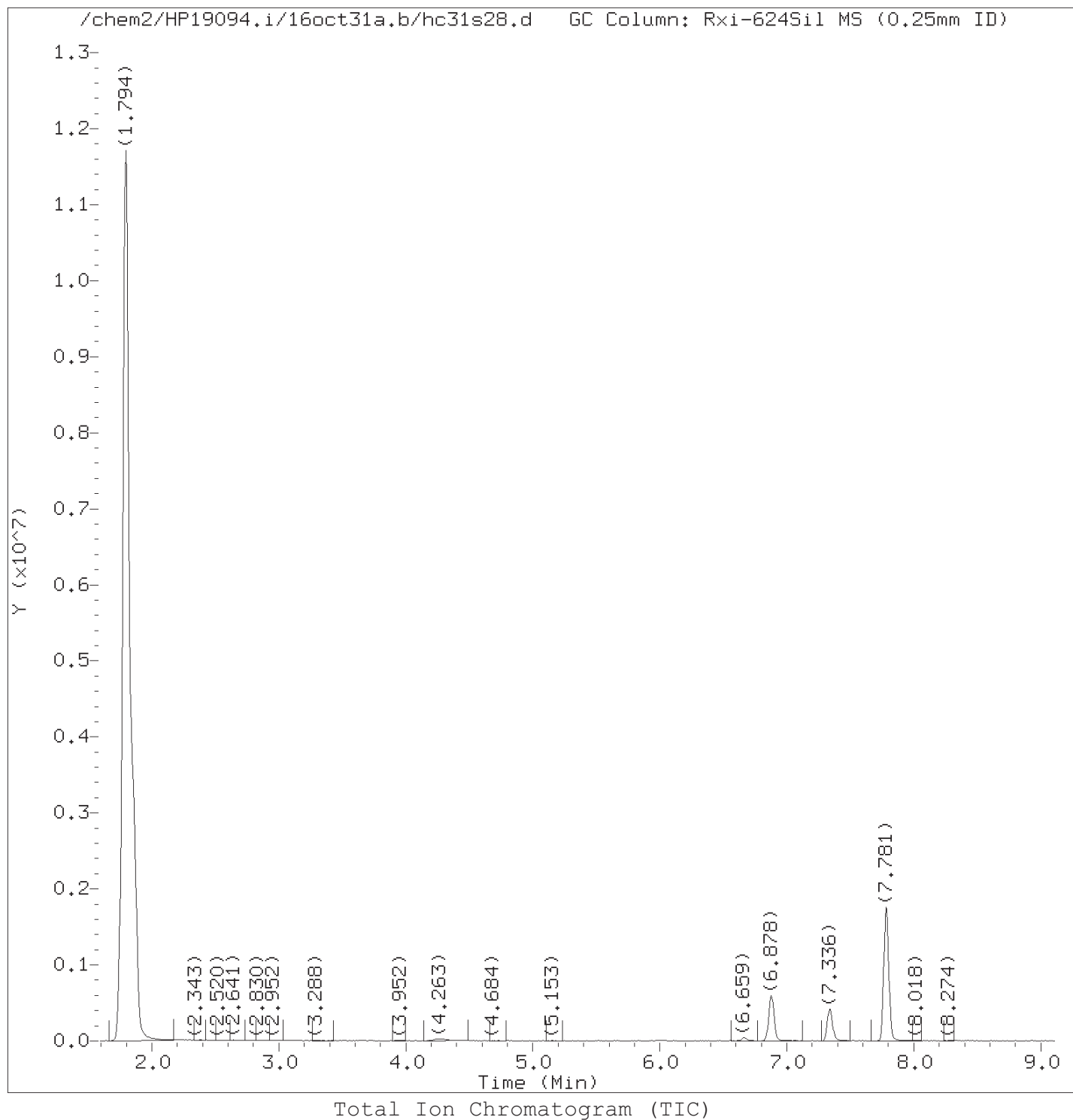
Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.878(-0.001)	113	525455	10.003	100%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.336(0.000)	102	86709	10.275	103%		74 - 113
82) Toluene-d8	(3)	9.799(-0.001)	98	2271710	9.462	95%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249(-0.001)	95	667254	9.453	95%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Reporting Limit LOQ (in sample)
5) Vinyl Chloride	(2)			Not Detected				0.1 1
15) 1,1-Dichloroethene	(2)			Not Detected				0.4 1
31) trans-1,2-Dichloroethene	(2)			Not Detected				0.8 1
39) cis-1,2-Dichloroethene	(2)			Not Detected				0.1 1
67) Trichloroethene	(2)			Not Detected				0.2 1

Total number of targets = 5

Digitally signed by Kevin A. Sposito on 10/31/2016 at 13:26. Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Neil A. Kohler on 10/31/2016 at 21:52. PARALLAX ID: nak10185



Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s28.d
Injection date and time: 31-OCT-2016 13:01

Instrument ID: HP19094.i
Analyst ID: KAS02648

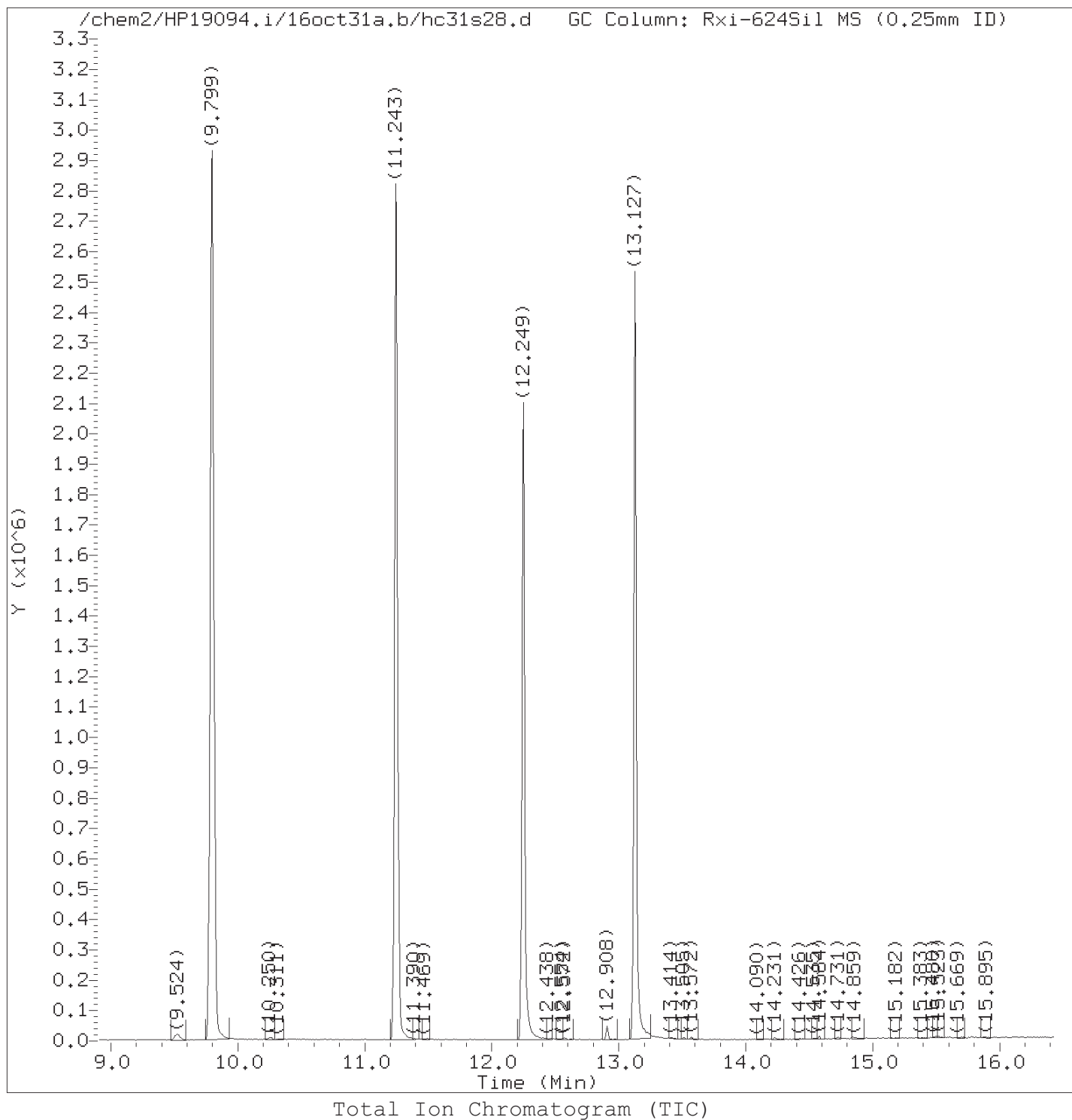
Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 13:20 Automation

Sample Name: R7301

Lab Sample ID: 8656001

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 13:26.

Target 3.5 esignature user ID: kas02648
RAE73 Page 62 of 346



Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s28.d Instrument ID: HP19094.i
Injection date and time: 31-OCT-2016 13:01 Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 13:20 Automation

Sample Name: R7301 Lab Sample ID: 8656001

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 13:26.

Target 3.5 esignature user ID: kas02648
RAE73 Page 63 of 346

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s28.d

Instrument ID: HP19094.i

Injection date and time: 31-OCT-2016 13:01

Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m

Sublist used: 12025

Calibration date and time: 31-OCT-2016 09:07

Date, time and analyst ID of latest file update: 31-Oct-2016 13:20 Automation

Sample Name: R7301

Lab Sample ID: 8656001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26) *t-Butyl Alcohol-d10	(1)	4.263	65	94495	50.000
50) \$Dibromofluoromethane	(2)	6.878	113	525455	10.003
57) \$1,2-Dichloroethane-d4	(2)	7.336	102	86709	10.275
63) *Fluorobenzene	(2)	7.781	96	2290295	10.000
82) \$Toluene-d8	(3)	9.799	98	2271710	9.462
97) *Chlorobenzene-d5	(3)	11.243	117	1589495	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	667254	9.453
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	663480	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

page 1 of 1

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 13:26.

Target 3.5 esignature user ID: kas02648

RAE73 Page 64 of 346

R7302

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8656002

Data file: /chem2/HP19094.i/16oct31a.b/hc31s29.d

Injection date and time: 31-OCT-2016 13:21

Data file Sample Info. Line: R7302;8656002;1;0;;RAE73;DAA3178;;hc31b21; Instrument ID: HP19094.i Batch: H163052AA

Date, time and analyst ID of latest file update: 31-Oct-2016 13:40 Automation

Blank Data file reference: /chem2/HP19094.i/16oct31a.b/hc31b21.d

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025

Calibration date and time (Last Method Edit): 31-OCT-2016 09:07

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16oct31a.b/hc31c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.257 (0.006)	438	65	79130 (-34)	50.00	
63) Fluorobenzene	7.781 (0.006)	1016	96	2193610 (-8)	10.00	
97) Chlorobenzene-d5	11.243 (0.000)	1584	117	1492241 (-14)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127 (0.000)	1893	152	614771 (-22)	10.00	

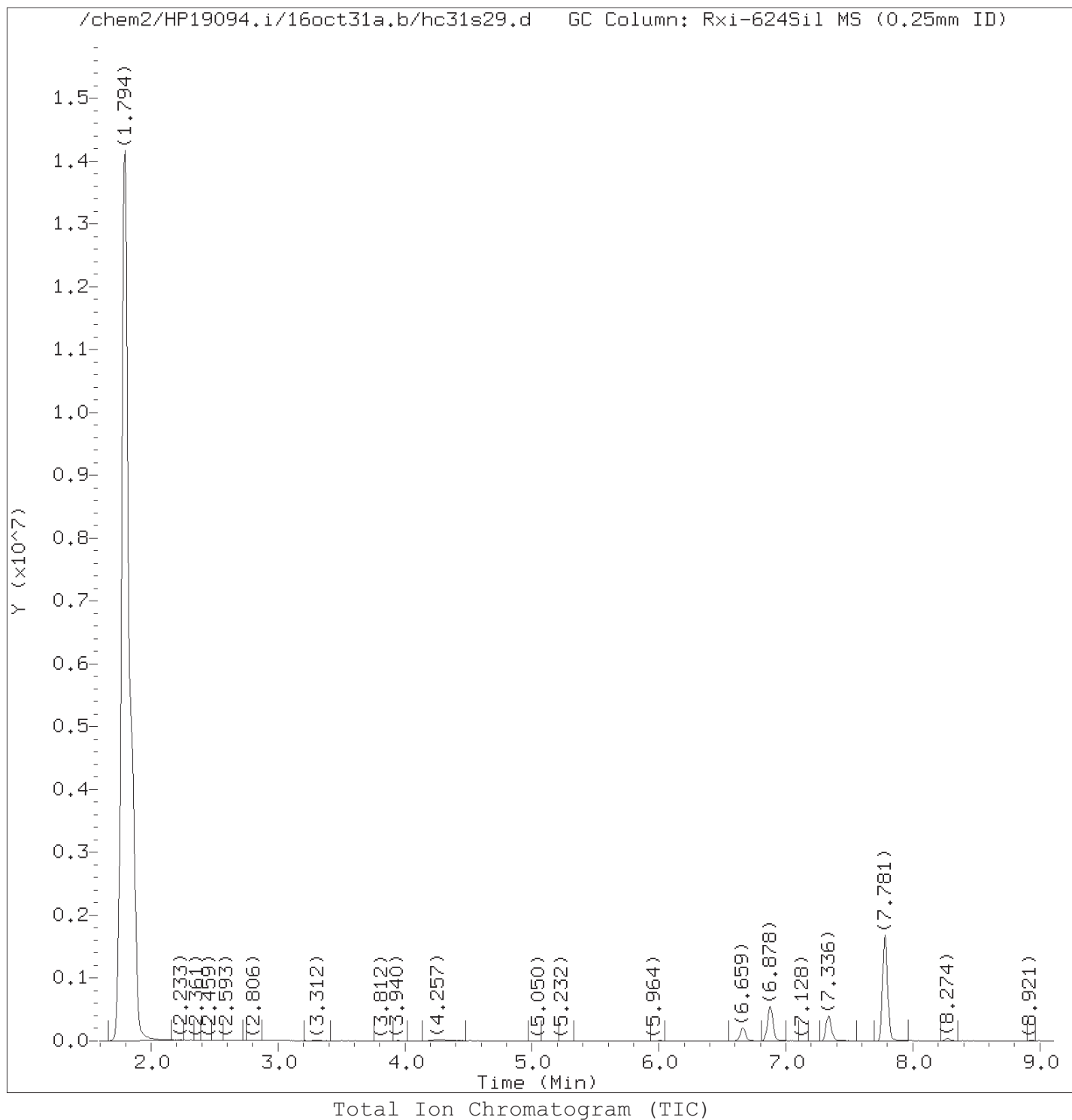
Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.878 (-0.001)	113	494419	9.827	98%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.342 (-0.001)	102	85127	10.532	105%		74 - 113
82) Toluene-d8	(3)	9.793 (0.000)	98	2151534	9.545	95%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249 (-0.001)	95	615541	9.289	93%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
5) Vinyl Chloride	(2)			Not Detected					0.1	1
15) 1,1-Dichloroethene	(2)			Not Detected					0.4	1
31) trans-1,2-Dichloroethene	(2)			Not Detected					0.8	1
39) cis-1,2-Dichloroethene	(2)			Not Detected					0.1	1
67) Trichloroethene	(2)	8.268 (-0.000)	95	19430	0.301	0.30		J	0.2	1

Total number of targets = 5

Digitally signed by Kevin A. Sposito on 10/31/2016 at 14:36. Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Neil A. Kohler on 10/31/2016 at 21:52. PARALLAX ID: nak10185



Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s29.d
Injection date and time: 31-OCT-2016 13:21

Instrument ID: HP19094.i
Analyst ID: KAS02648

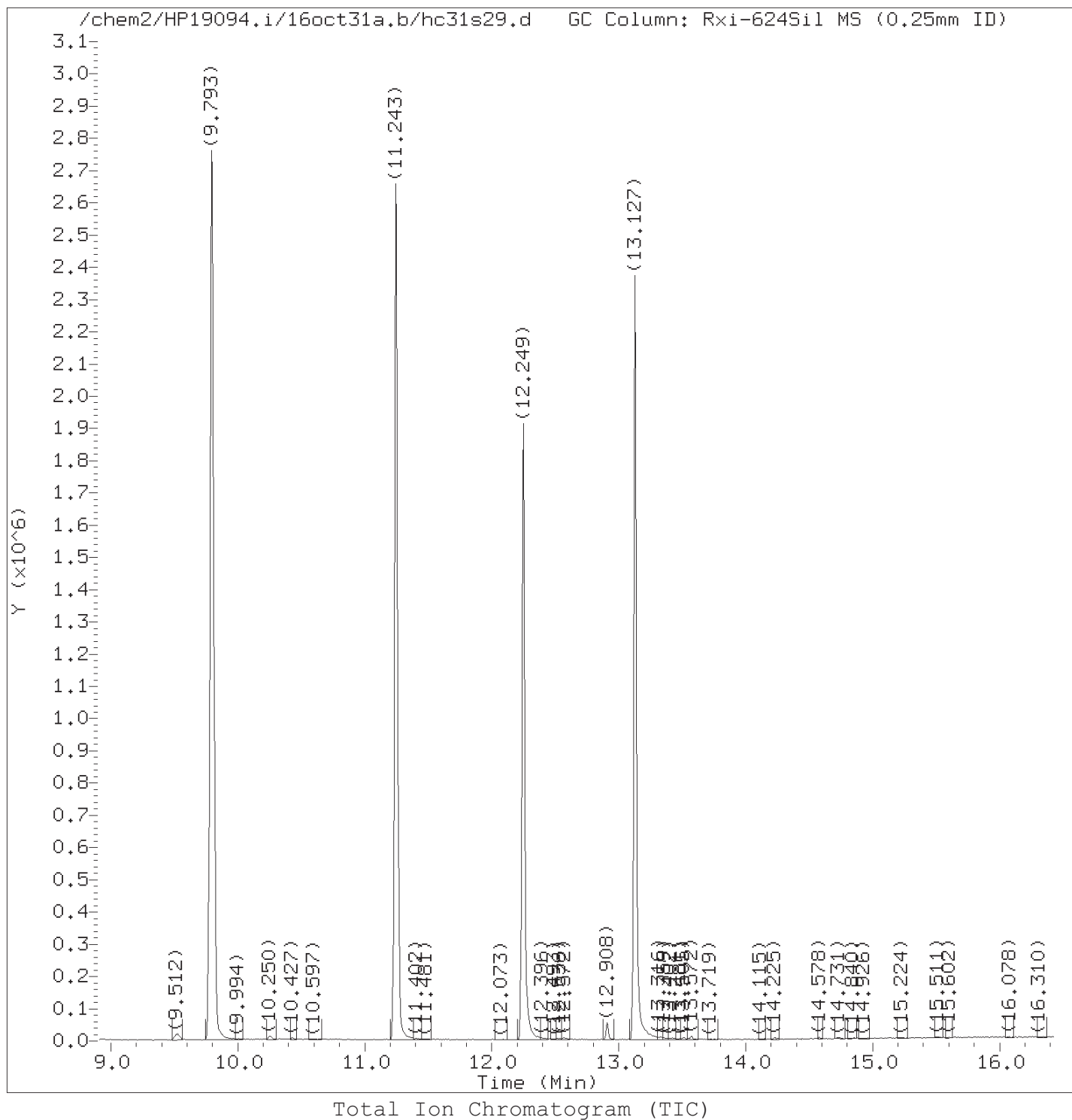
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Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 13:40 Automation

Sample Name: R7302

Lab Sample ID: 8656002

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 14:36.

Target 3.5 esignature user ID: kas02648
RAE73 Page 66 of 346



Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s29.d Instrument ID: HP19094.i
Injection date and time: 31-OCT-2016 13:21 Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 13:40 Automation

Sample Name: R7302

Lab Sample ID: 8656002

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 14:36.

Target 3.5 esignature user ID: kas02648
RAE73 Page 67 of 346

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s29.d

Instrument ID: HP19094.i

Injection date and time: 31-OCT-2016 13:21

Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m

Sublist used: 12025

Calibration date and time: 31-OCT-2016 09:07

Date, time and analyst ID of latest file update: 31-Oct-2016 13:40 Automation

Sample Name: R7302

Lab Sample ID: 8656002

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26) *t-Butyl Alcohol-d10	(1)	4.257	65	79130	50.000
50) \$Dibromofluoromethane	(2)	6.878	113	494419	9.827
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	85127	10.532
63) *Fluorobenzene	(2)	7.781	96	2193610	10.000
67) Trichloroethene	(2)	8.268	95	19430	0.301
82) \$Toluene-d8	(3)	9.793	98	2151534	9.545
97) *Chlorobenzene-d5	(3)	11.243	117	1492241	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	615541	9.289
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	614771	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

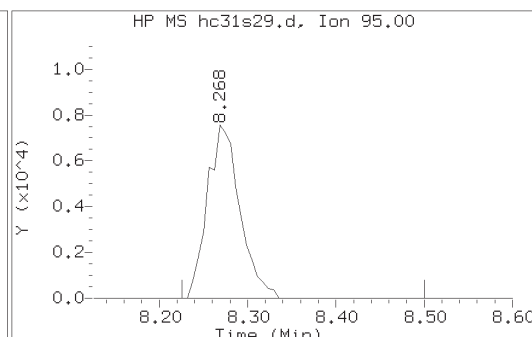
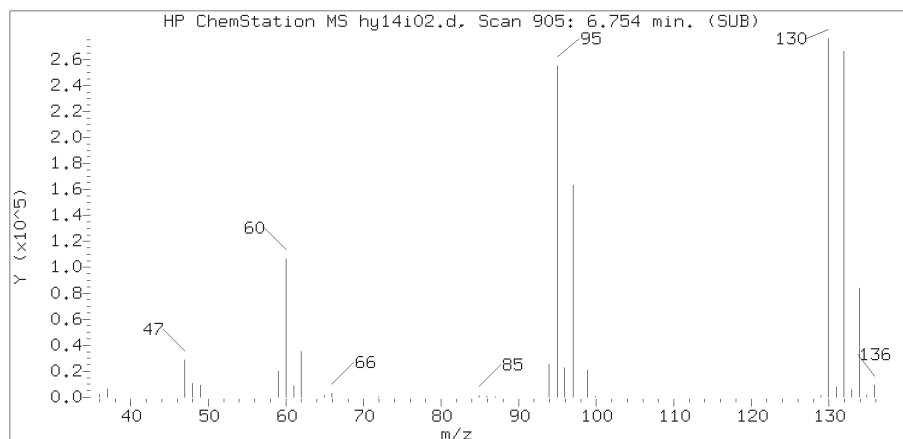
page 1 of 1

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 14:36.

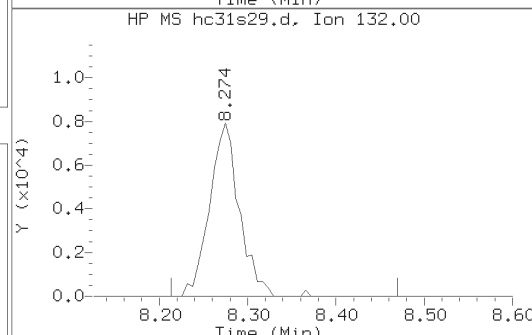
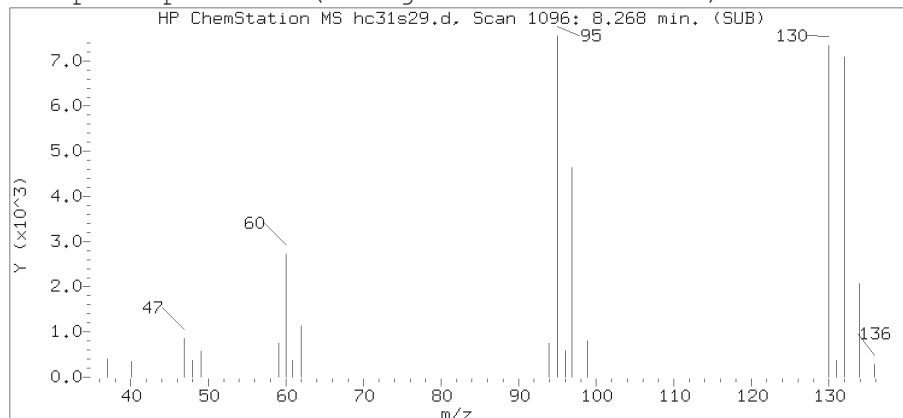
Target 3.5 esignature user ID: kas02648

RAE73 Page 68 of 346

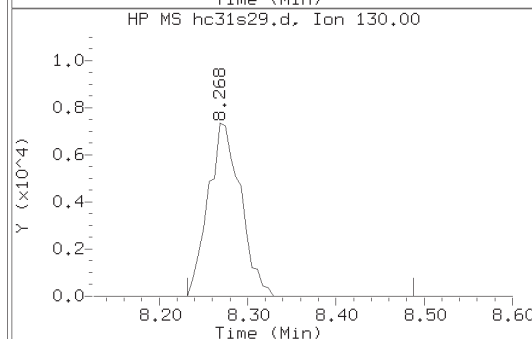
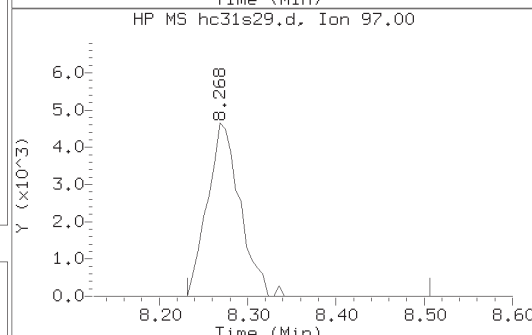
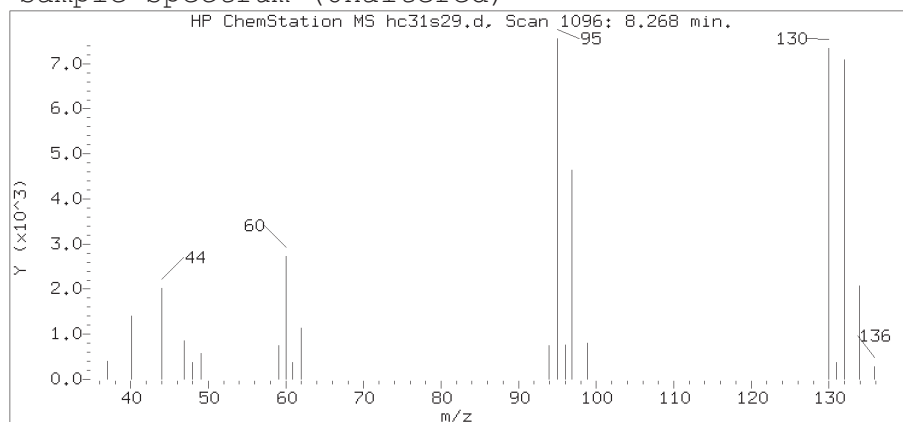
Reference Standard Spectrum for Trichloroethene



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16oct31a.b/hc31s29.d
Injection date and time: 31-OCT-2016 13:21

Instrument ID: HP19094.i
Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 13:40 Automation

Sample Name: R7302

Lab Sample ID: 8656002

Compound Number : 67
Compound Name : Trichloroethene
Scan Number : 1096
Retention Time (minutes): 8.268
Relative Retention Time :-0.00083
Quant Ion : 95.00
Area (flag) : 19430
On-Column Amount (ng) : 0.3014

R7303

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8656003

Data file: /chem2/HP19094.i/16oct31a.b/hc31s24.d Injection date and time: 31-OCT-2016 11:40
 Data file Sample Info. Line: R7303;8656003;1;0;;RAE73;DAA3178;;hc31b21; Instrument ID: HP19094.i Batch: H163052AA
 Date, time and analyst ID of latest file update: 31-Oct-2016 11:59 Automation

Blank Data file reference: /chem2/HP19094.i/16oct31a.b/hc31b21.d

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
 Calibration date and time (Last Method Edit): 31-OCT-2016 09:07
 Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16oct31a.b/hc31c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.257(0.006)	438	65	85012 (-29)	50.00	
63) Fluorobenzene	7.787(0.000)	1017	96	2277489 (-5)	10.00	
97) Chlorobenzene-d5	11.244(0.000)	1584	117	1592718 (-8)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(0.000)	1893	152	661201 (-16)	10.00	

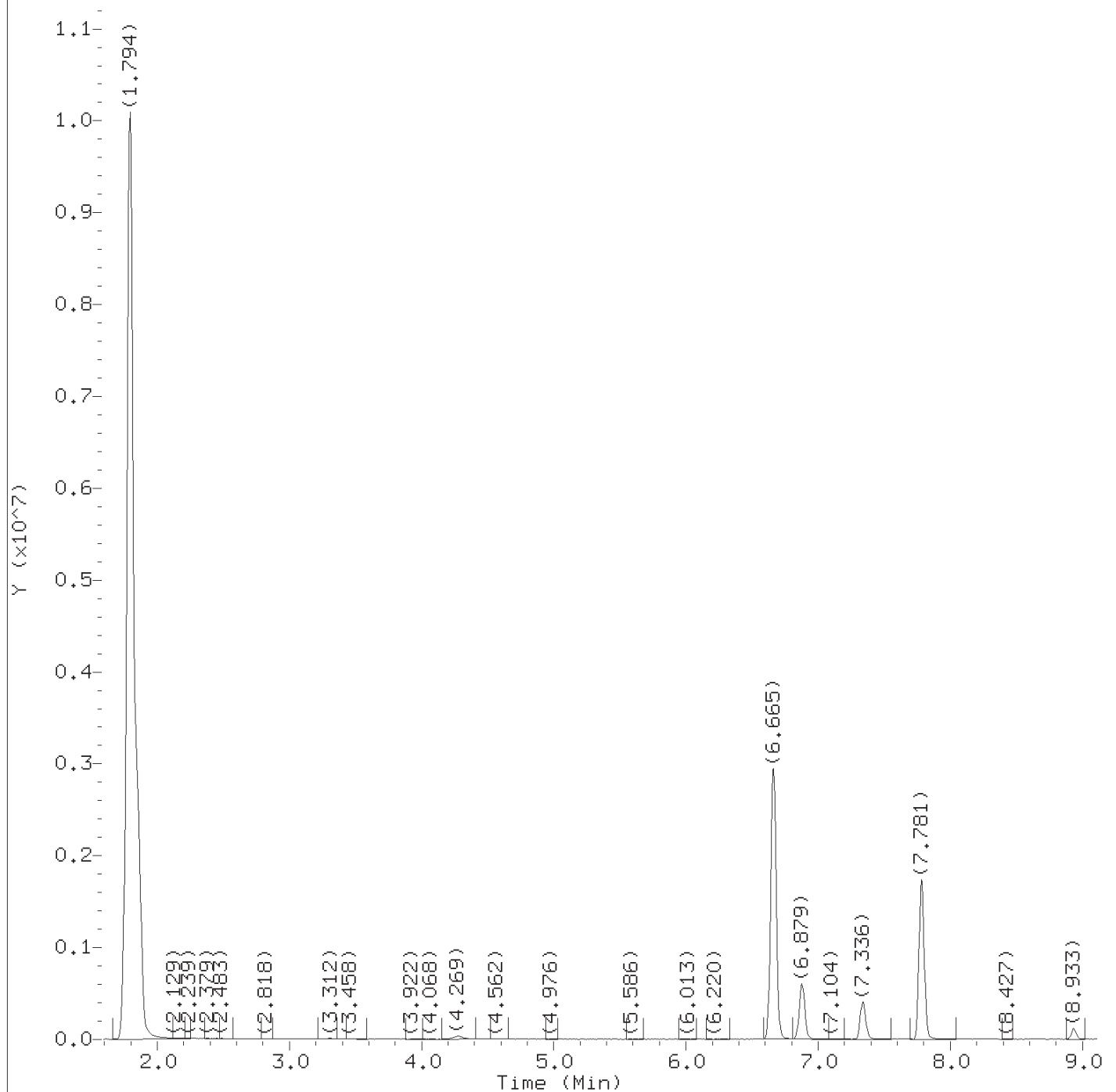
Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.879(0.000)	113	539208	10.323	103%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.336(0.001)	102	89311	10.643	106%		74 - 113
82) Toluene-d8	(3)	9.799(-0.001)	98	2261975	9.402	94%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249(-0.001)	95	665148	9.404	94%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Reporting Limit LOQ (in sample)
5) Vinyl Chloride	(2)			Not Detected				0.1 1
15) 1,1-Dichloroethene	(2)			Not Detected				0.4 1
31) trans-1,2-Dichloroethene	(2)			Not Detected				0.8 1
39) cis-1,2-Dichloroethene	(2)			Not Detected				0.1 1
67) Trichloroethene	(2)			Not Detected				0.2 1

Total number of targets = 5

Digitally signed by Kevin A. Sposito on 10/31/2016 at 12:25. Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Neil A. Kohler on 10/31/2016 at 21:52. PARALLAX ID: nak10185



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s24.d
Injection date and time: 31-OCT-2016 11:40

Instrument ID: HP19094.i
Analyst ID: KAS02648

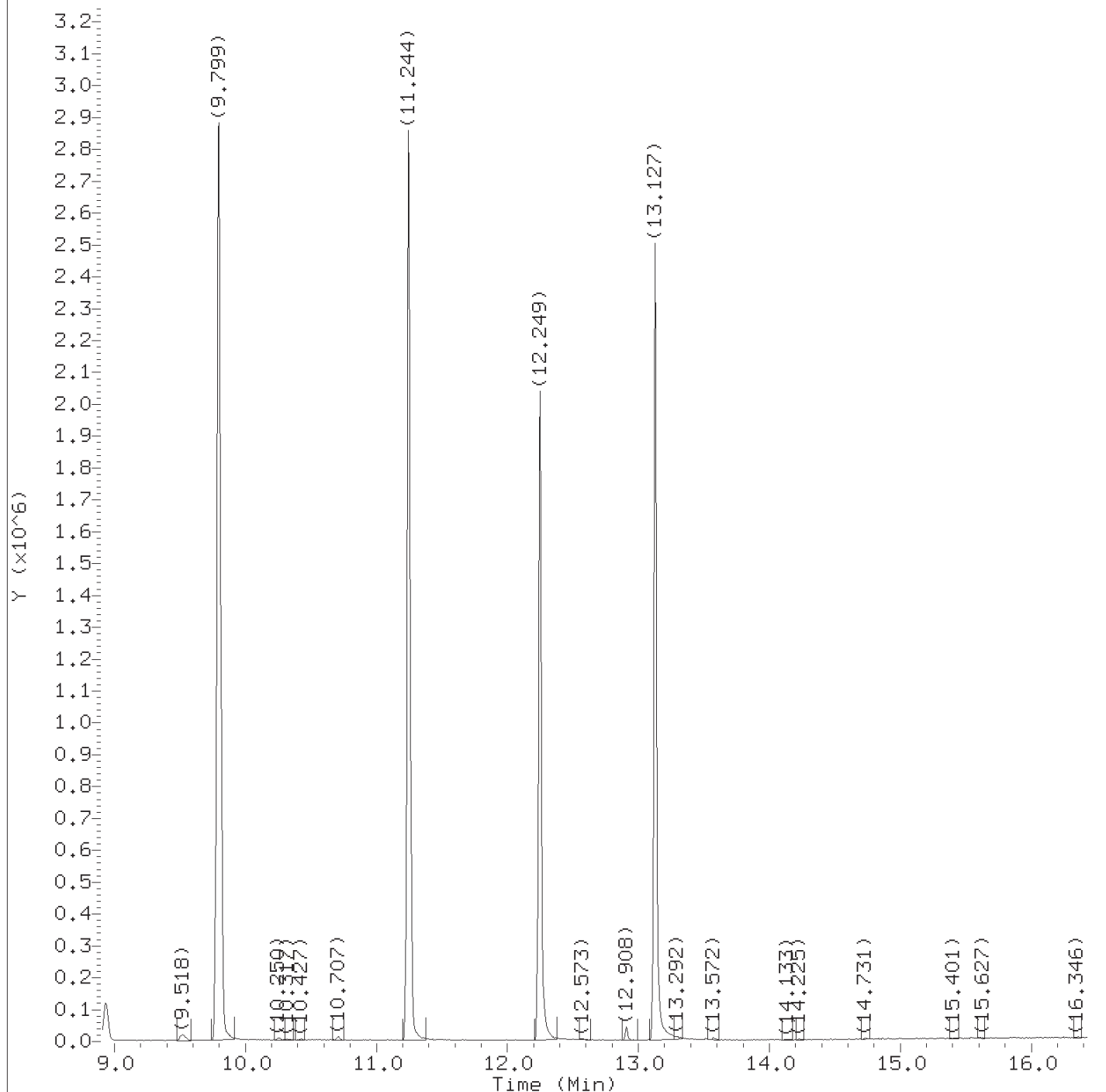
Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 11:59 Automation

Sample Name: R7303

Lab Sample ID: 8656003

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 12:25.

Target 3.5 esignature user ID: kas02648
RAE73 Page 71 of 346



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s24.d
Injection date and time: 31-OCT-2016 11:40

Instrument ID: HP19094.i
Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m
Calibration date and time: 31-OCT-2016 09:07

Sublist used: 12025

Date, time and analyst ID of latest file update: 31-Oct-2016 11:59 Automation

Sample Name: R7303

Lab Sample ID: 8656003

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 12:25.

Target 3.5 esignature user ID: kas02648
RAE73 Page 72 of 346

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s24.d
Injection date and time: 31-OCT-2016 11:40

Instrument ID: HP19094.i
Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 11:59 Automation

Sample Name: R7303

Lab Sample ID: 8656003

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26) *t-Butyl Alcohol-d10	(1)	4.257	65	85012	50.000
50) \$Dibromofluoromethane	(2)	6.879	113	539208	10.323
57) \$1,2-Dichloroethane-d4	(2)	7.336	102	89311	10.643
63) *Fluorobenzene	(2)	7.787	96	2277489	10.000
82) \$Toluene-d8	(3)	9.799	98	2261975	9.402
97) *Chlorobenzene-d5	(3)	11.244	117	1592718	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	665148	9.404
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	661201	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

page 1 of 1

R7304

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8656006

Data file: /chem2/HP19094.i/16oct31a.b/hc31s30.d Injection date and time: 31-OCT-2016 13:42
Data file Sample Info. Line: R7304;8656006;1;0;;RAE73;DAA3178;;hc31b21; Instrument ID: HP19094.i Batch: H163052AA
Date, time and analyst ID of latest file update: 31-Oct-2016 14:01 Automation

Blank Data file reference: /chem2/HP19094.i/16oct31a.b/hc31b21.d

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time (Last Method Edit): 31-OCT-2016 09:07
Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16oct31a.b/hc31c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.263 (0.000)	439	65	73720 (-38)	50.00	
63) Fluorobenzene	7.781 (0.006)	1016	96	2257493 (-6)	10.00	
97) Chlorobenzene-d5	11.243 (0.000)	1584	117	1566059 (-9)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127 (0.000)	1893	152	651658 (-17)	10.00	

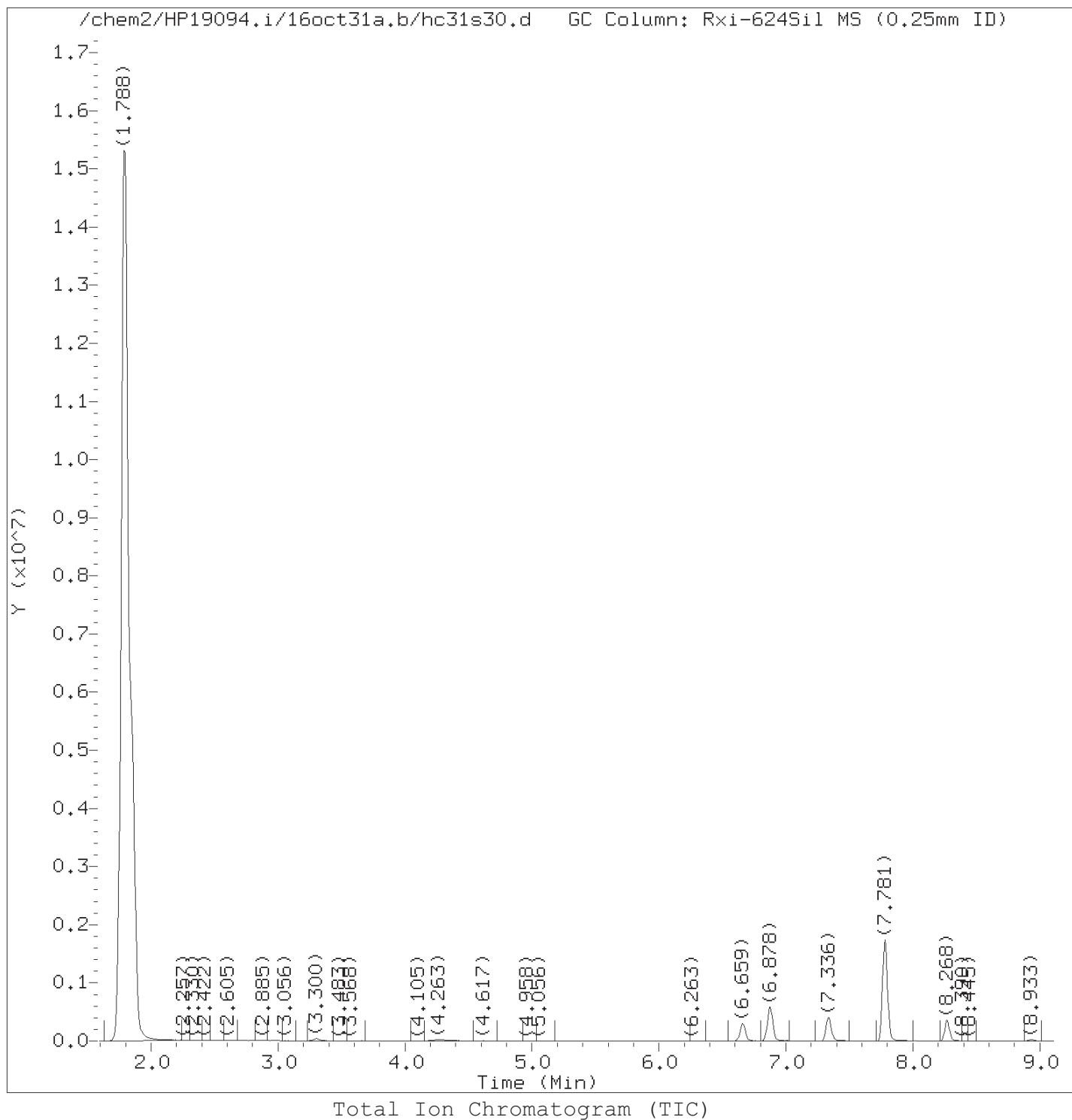
Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.878 (-0.001)	113	524231	10.125	101%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.336 (0.000)	102	85909	10.328	103%		74 - 113
82) Toluene-d8	(3)	9.792 (0.000)	98	2253584	9.527	95%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249 (-0.001)	95	653090	9.391	94%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Reporting Limit (in sample)	LOQ
5) Vinyl Chloride	(2)			Not Detected				0.1	1
15) 1,1-Dichloroethene	(2)			Not Detected				0.4	1
31) trans-1,2-Dichloroethene	(2)			Not Detected				0.8	1
39) cis-1,2-Dichloroethene	(2)			Not Detected				0.1	1
67) Trichloroethene	(2)	8.268 (-0.000)	95	169876	2.560	2.56		0.2	1

Total number of targets = 5

Digitally signed by Kevin A. Sposito on 10/31/2016 at 14:36. Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Neil A. Kohler on 10/31/2016 at 21:52. PARALLAX ID: nak10185



Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s30.d
Injection date and time: 31-OCT-2016 13:42

Instrument ID: HP19094.i
Analyst ID: KAS02648

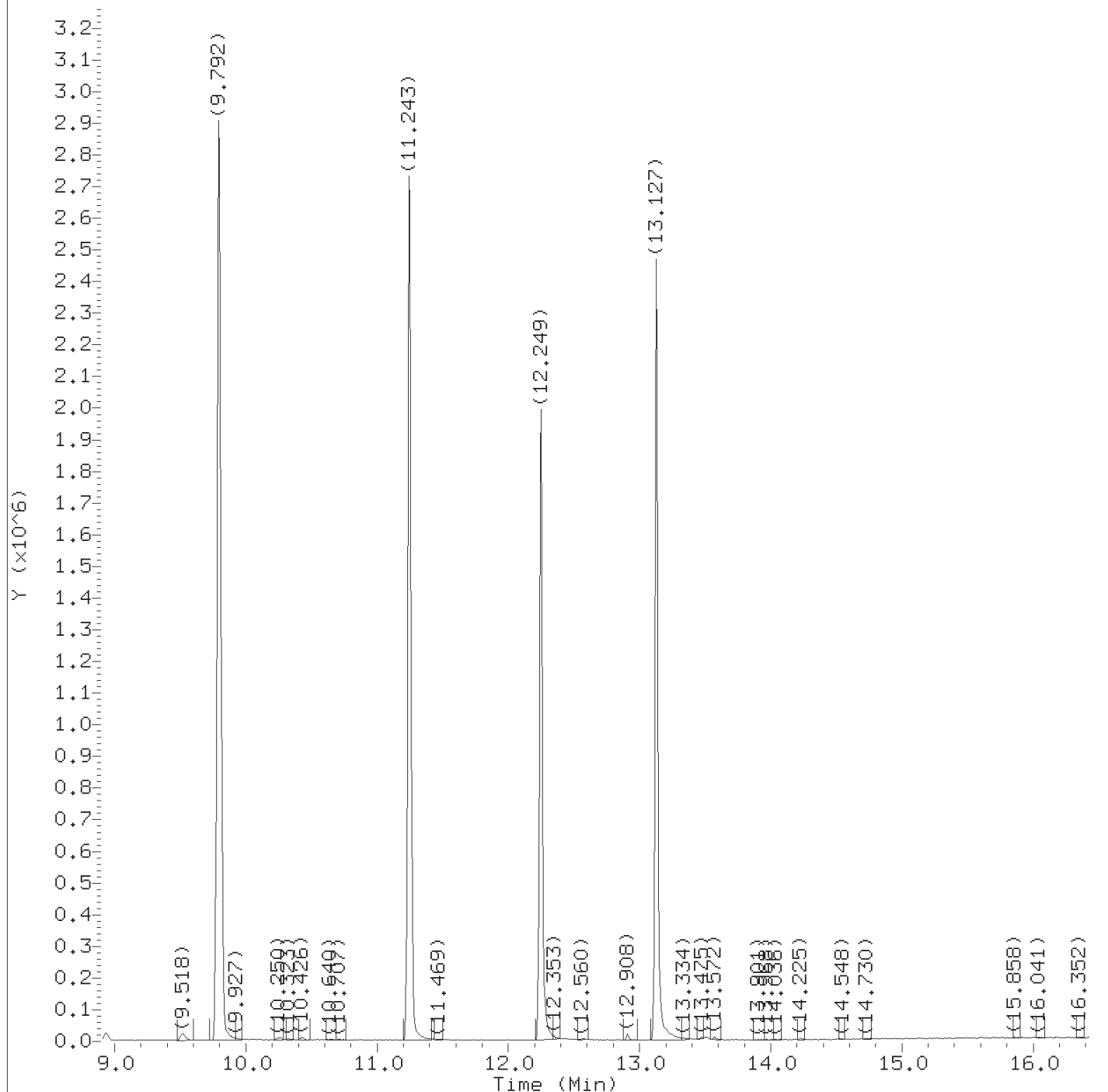
Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 14:01 Automation

Sample Name: R7304

Lab Sample ID: 8656006

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 14:36.

Target 3.5 esignature user ID: kas02648
RAE73 Page 75 of 346



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s30.d
Injection date and time: 31-OCT-2016 13:42

Instrument ID: HP19094.i
Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m
Calibration date and time: 31-OCT-2016 09:07

Sublist used: 12025

Date, time and analyst ID of latest file update: 31-Oct-2016 14:01 Automation

Sample Name: R7304

Lab Sample ID: 8656006

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 14:36.

Target 3.5 esignature user ID: kas02648
RAE73 Page 76 of 346

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s30.d

Instrument ID: HP19094.i

Injection date and time: 31-OCT-2016 13:42

Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m

Sublist used: 12025

Calibration date and time: 31-OCT-2016 09:07

Date, time and analyst ID of latest file update: 31-Oct-2016 14:01 Automation

Sample Name: R7304

Lab Sample ID: 8656006

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26) *t-Butyl Alcohol-d10	(1)	4.263	65	73720	50.000
50) \$Dibromofluoromethane	(2)	6.878	113	524231	10.125
57) \$1,2-Dichloroethane-d4	(2)	7.336	102	85909	10.328
63) *Fluorobenzene	(2)	7.781	96	2257493	10.000
67) Trichloroethene	(2)	8.268	95	169876	2.560
82) \$Toluene-d8	(3)	9.792	98	2253584	9.527
97) *Chlorobenzene-d5	(3)	11.243	117	1566059	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	653090	9.391
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	651658	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

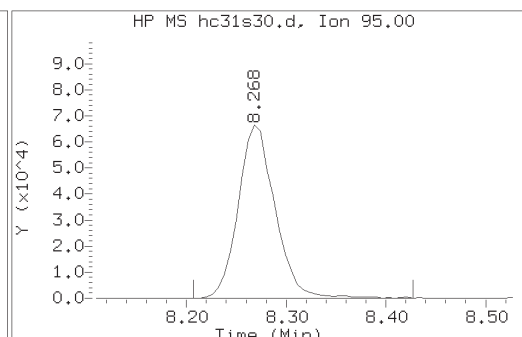
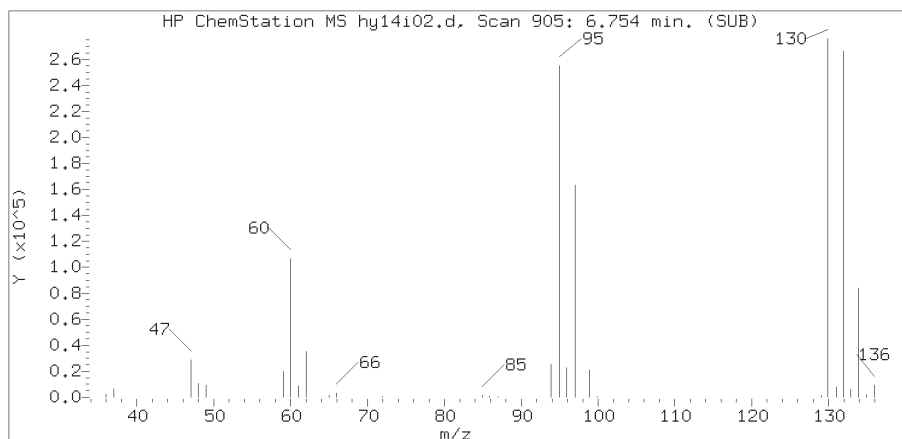
page 1 of 1

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 14:36.

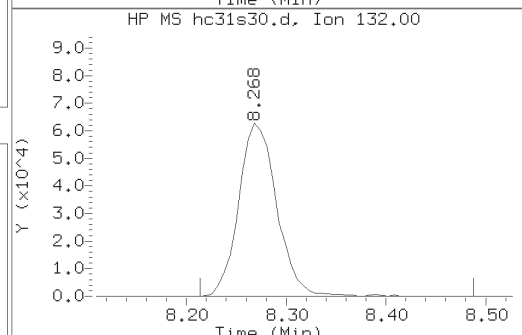
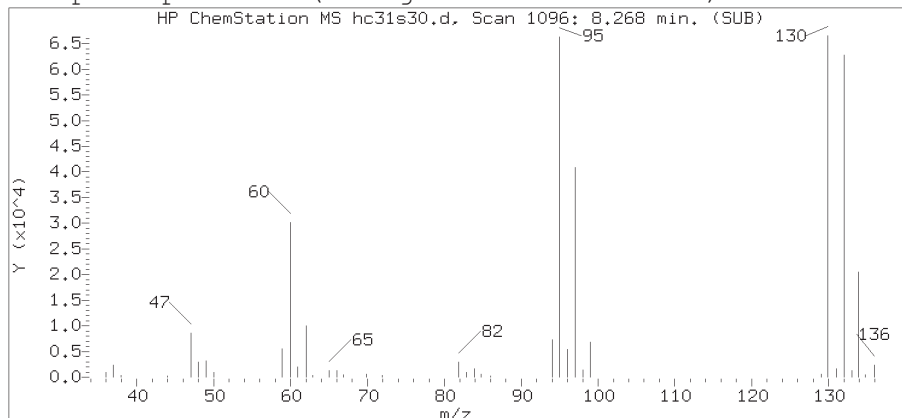
Target 3.5 esignature user ID: kas02648

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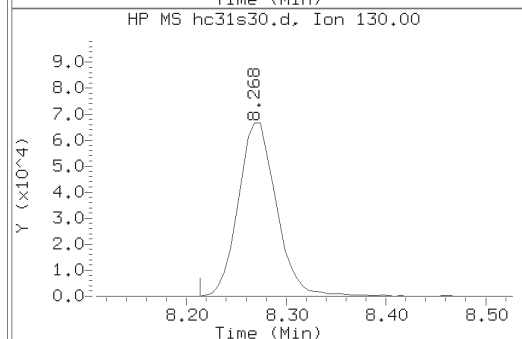
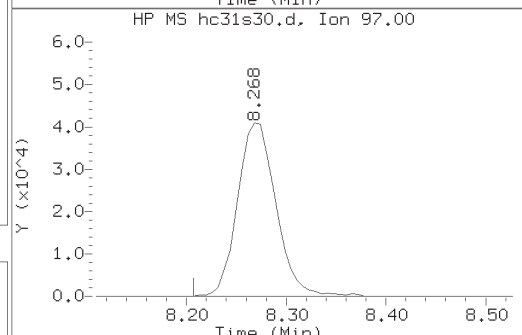
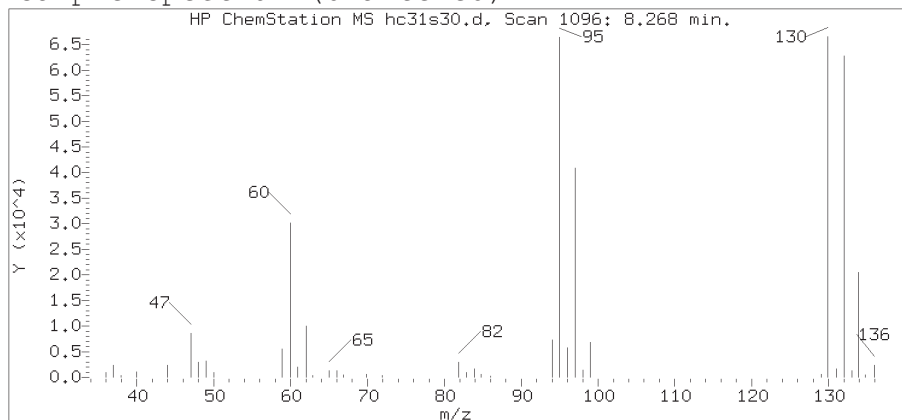
Reference Standard Spectrum for Trichloroethene



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16oct31a.b/hc31s30.d
Injection date and time: 31-OCT-2016 13:42

Instrument ID: HP19094.i
Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 14:01 Automation

Sample Name: R7304

Lab Sample ID: 8656006

Compound Number : 67
Compound Name : Trichloroethene
Scan Number : 1096
Retention Time (minutes): 8.268
Relative Retention Time :-0.00083
Quant Ion : 95.00
Area (flag) : 169876
On-Column Amount (ng) : 2.5601

Digitally signed by Kevin A. Sposito on 10/31/2016 at 14:36.

Target 3.5 esignature RAE73 Page 78 of 346

R7305

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8656007

Data file: /chem2/HP19094.i/16oct31a.b/hc31s34.d

Injection date and time: 31-OCT-2016 15:03

Data file Sample Info. Line: R7305;8656007;1;0;;RAE73;DAA3178;;hc31b21; Instrument ID: HP19094.i Batch: H163052AA

Date, time and analyst ID of latest file update: 31-Oct-2016 15:22 Automation

Blank Data file reference: /chem2/HP19094.i/16oct31a.b/hc31b21.d

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025

Calibration date and time (Last Method Edit): 31-OCT-2016 09:07

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16oct31a.b/hc31c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.257 (0.006)	438	65	81003 (-32)	50.00	
63) Fluorobenzene	7.781 (0.006)	1016	96	2214292 (-8)	10.00	
97) Chlorobenzene-d5	11.243 (0.000)	1584	117	1523039 (-12)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127 (0.000)	1893	152	634159 (-19)	10.00	

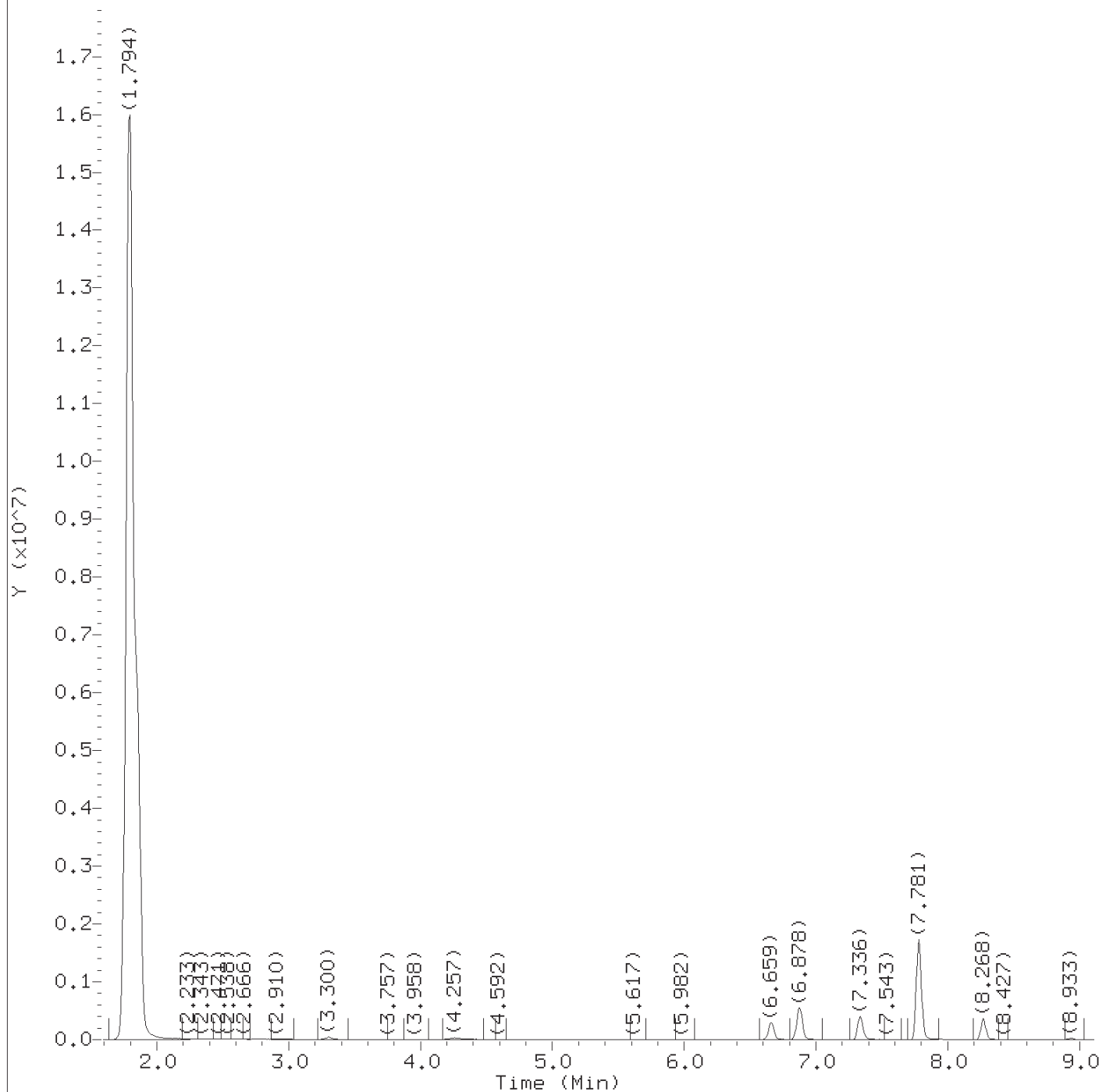
Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.872 (0.000)	113	504943	9.943	99%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.336 (0.000)	102	85018	10.421	104%		74 - 113
82) Toluene-d8	(3)	9.793 (0.000)	98	2199238	9.559	96%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249 (-0.001)	95	628816	9.297	93%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Reporting Limit (in sample)	LOQ
5) Vinyl Chloride	(2)			Not Detected				0.1	1
15) 1,1-Dichloroethene	(2)			Not Detected				0.4	1
31) trans-1,2-Dichloroethene	(2)			Not Detected				0.8	1
39) cis-1,2-Dichloroethene	(2)			Not Detected				0.1	1
67) Trichloroethene	(2)	8.268 (-0.000)	95	168967	2.596	2.60		0.2	1

Total number of targets = 5

Digitally signed by Matthew S. Krause on 10/31/2016 at 15:53. Target 3.5 esignature user ID: msk07970

Secondary review performed and digitally signed by Neil A. Kohler on 10/31/2016 at 21:53. PARALLAX ID: nak10185



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s34.d
Injection date and time: 31-OCT-2016 15:03

Instrument ID: HP19094.i
Analyst ID: KAS02648

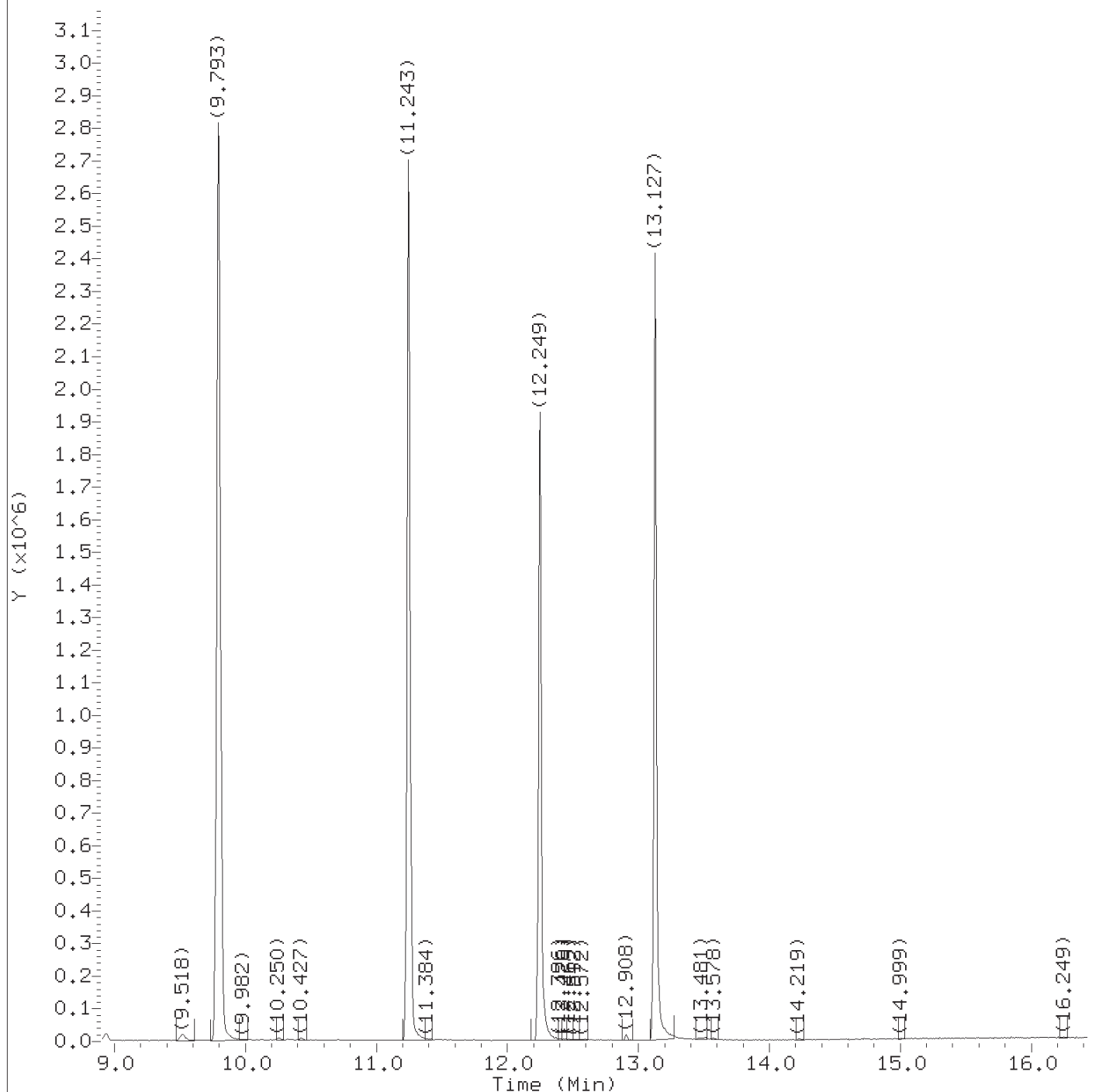
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Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 15:22 Automation

Sample Name: R7305

Lab Sample ID: 8656007

Digitally signed by Matthew S. Krause
on 10/31/2016 at 15:53.

Target 3.5 esignature user ID: msk07970
RAE73 Page 80 of 346



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s34.d
Injection date and time: 31-OCT-2016 15:03

Instrument ID: HP19094.i
Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m
Calibration date and time: 31-OCT-2016 09:07

Sublist used: 12025

Date, time and analyst ID of latest file update: 31-Oct-2016 15:22 Automation

Sample Name: R7305

Lab Sample ID: 8656007

Digitally signed by Matthew S. Krause
on 10/31/2016 at 15:53.

Target 3.5 esignature user ID: msk07970
RAE73 Page 81 of 346

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s34.d
Injection date and time: 31-OCT-2016 15:03

Instrument ID: HP19094.i
Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 15:22 Automation

Sample Name: R7305

Lab Sample ID: 8656007

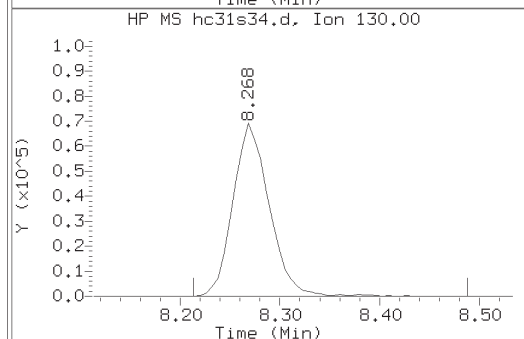
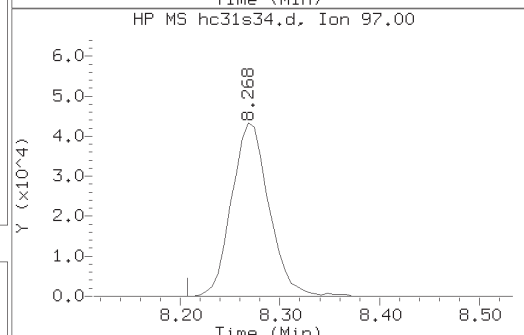
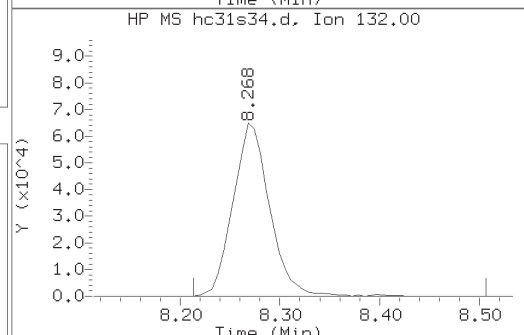
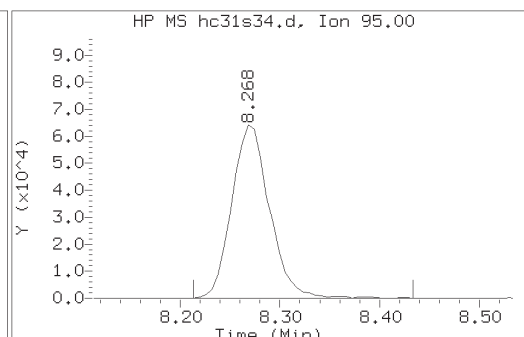
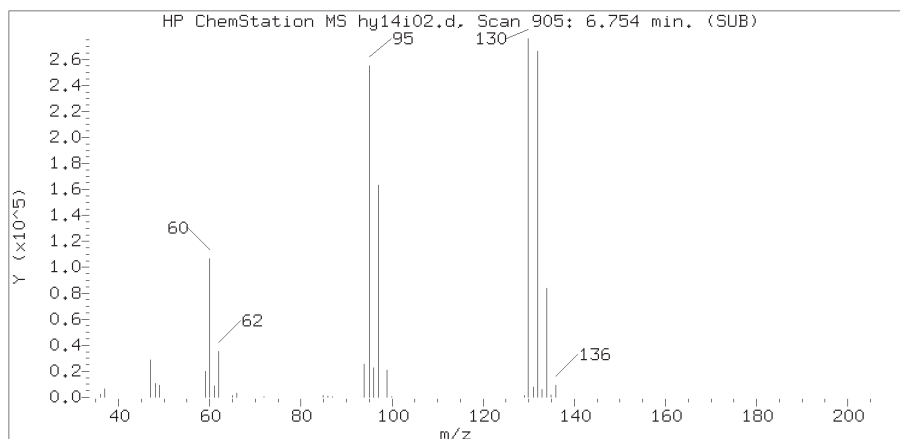
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26) *t-Butyl Alcohol-d10	(1)	4.257	65	81003	50.000
50) \$Dibromofluoromethane	(2)	6.872	113	504943	9.943
57) \$1,2-Dichloroethane-d4	(2)	7.336	102	85018	10.421
63) *Fluorobenzene	(2)	7.781	96	2214292	10.000
67) Trichloroethene	(2)	8.268	95	168967	2.596
82) \$Toluene-d8	(3)	9.793	98	2199238	9.559
97) *Chlorobenzene-d5	(3)	11.243	117	1523039	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	628816	9.297
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	634159	10.000

* = Compound is an internal standard.

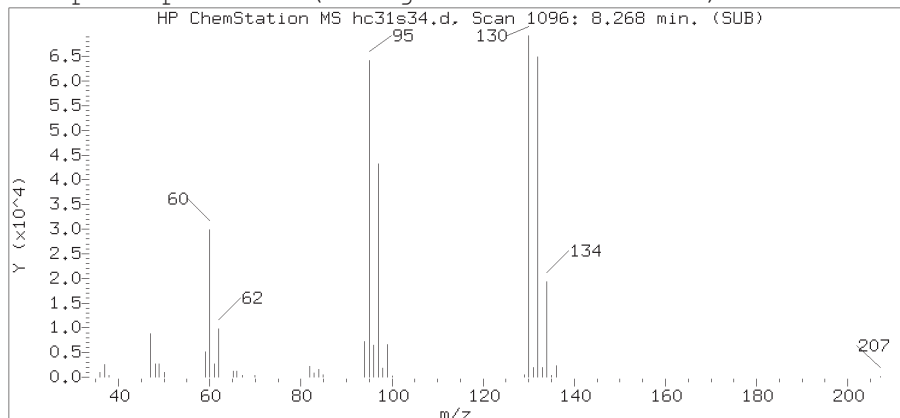
\$ = Compound is a surrogate standard.

page 1 of 1

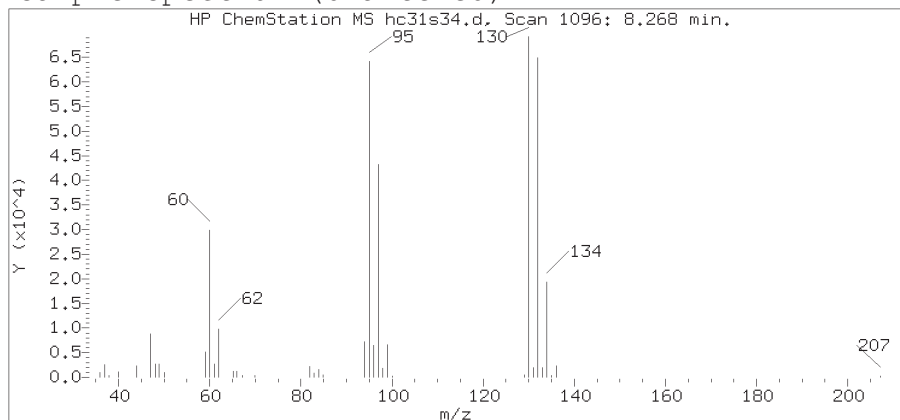
Reference Standard Spectrum for Trichloroethene



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16oct31a.b/hc31s34.d
Injection date and time: 31-OCT-2016 15:03

Instrument ID: HP19094.i
Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 15:22 Automation

Sample Name: R7305

Lab Sample ID: 8656007

Compound Number : 67
Compound Name : Trichloroethene
Scan Number : 1096
Retention Time (minutes): 8.268
Relative Retention Time :-0.00083
Quant Ion : 95.00
Area (flag) : 168967
On-Column Amount (ng) : 2.5961

Digitally signed by Matthew S. Krause on 10/31/2016 at 15:53.

Target 3.5 esignature RAE73 Page 83 of 346

R7306

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8656008

Data file: /chem2/HP19094.i/16oct31a.b/hc31s31.d Injection date and time: 31-OCT-2016 14:02
 Data file Sample Info. Line: R7306;8656008;1;0;;RAE73;DAA3178;;hc31b21; Instrument ID: HP19094.i Batch: H163052AA
 Date, time and analyst ID of latest file update: 31-Oct-2016 14:21 Automation

Blank Data file reference: /chem2/HP19094.i/16oct31a.b/hc31b21.d

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
 Calibration date and time (Last Method Edit): 31-OCT-2016 09:07
 Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16oct31a.b/hc31c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.287 (-0.025)	443	65	71211 (-40)	50.00	
63) Fluorobenzene	7.781 (0.006)	1016	96	2245067 (-6)	10.00	
97) Chlorobenzene-d5	11.250 (-0.006)	1585	117	1551894 (-10)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127 (0.000)	1893	152	635518 (-19)	10.00	

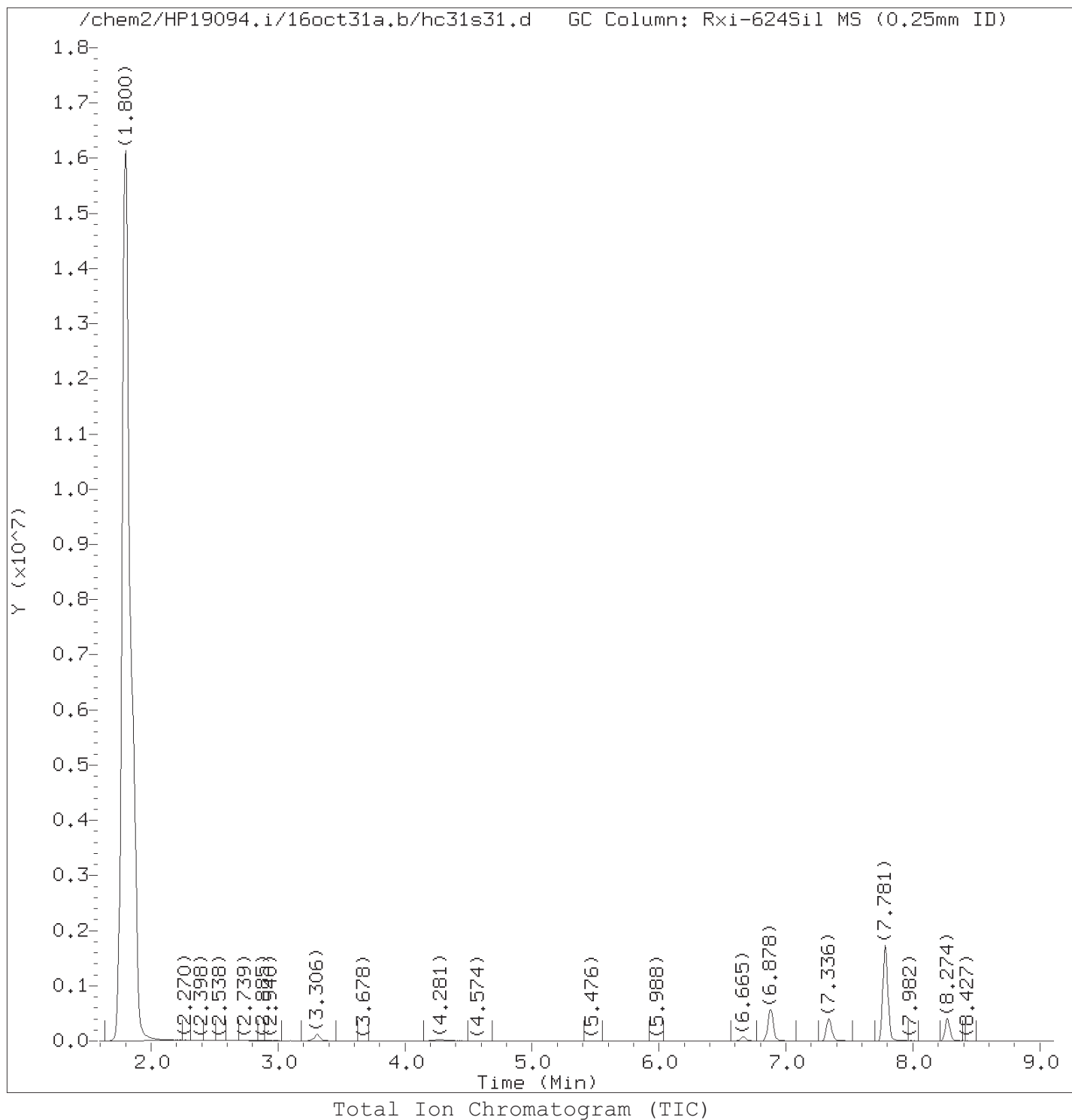
Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.878 (-0.001)	113	515046	10.002	100%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.342 (-0.001)	102	86458	10.452	105%		74 - 113
82) Toluene-d8	(3)	9.799 (0.000)	98	2236316	9.540	95%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249 (0.000)	95	639827	9.284	93%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Reporting Limit (in sample)	LOQ
5) Vinyl Chloride	(2)			Not Detected				0.1	1
15) 1,1-Dichloroethene	(2)			Not Detected				0.4	1
31) trans-1,2-Dichloroethene	(2)			Not Detected				0.8	1
39) cis-1,2-Dichloroethene	(2)			Not Detected				0.1	1
67) Trichloroethene	(2)	8.268 (-0.000)	95	189812	2.876	2.88		0.2	1

Total number of targets = 5

Digitally signed by Kevin A. Sposito on 10/31/2016 at 14:36. Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Neil A. Kohler on 10/31/2016 at 21:53. PARALLAX ID: nak10185



Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s31.d Instrument ID: HP19094.i
Injection date and time: 31-OCT-2016 14:02 Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 14:21 Automation

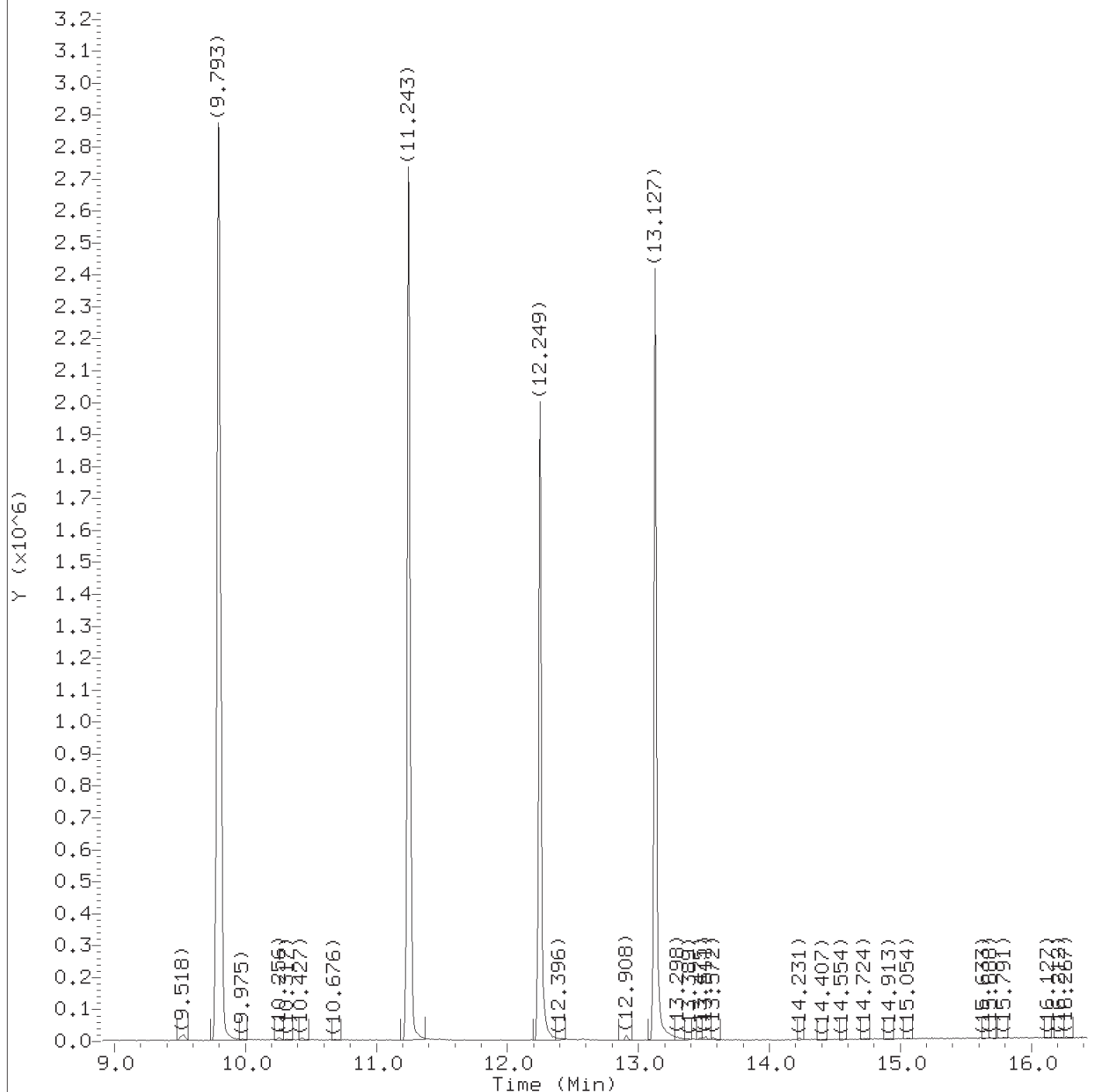
Sample Name: R7306

Lab Sample ID: 8656008

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 14:36.

Target 3.5 esignature user ID: kas02648
RAE73 Page 85 of 346

page 1 of 2



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s31.d Instrument ID: HP19094.i
Injection date and time: 31-OCT-2016 14:02 Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 14:21 Automation

Sample Name: R7306 Lab Sample ID: 8656008

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 14:36.

Target 3.5 esignature user ID: kas02648
RAE73 Page 86 of 346

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s31.d
Injection date and time: 31-OCT-2016 14:02

Instrument ID: HP19094.i
Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 14:21 Automation

Sample Name: R7306

Lab Sample ID: 8656008

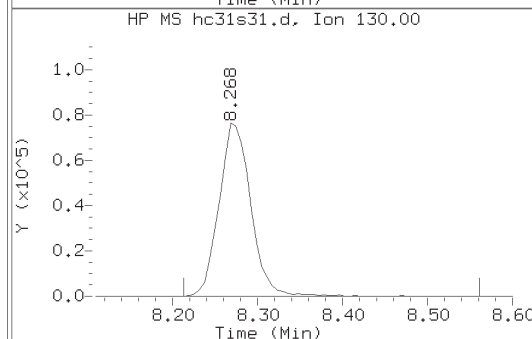
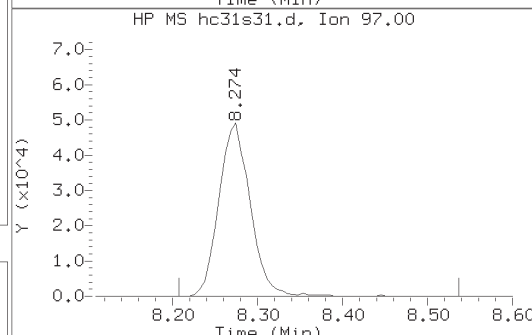
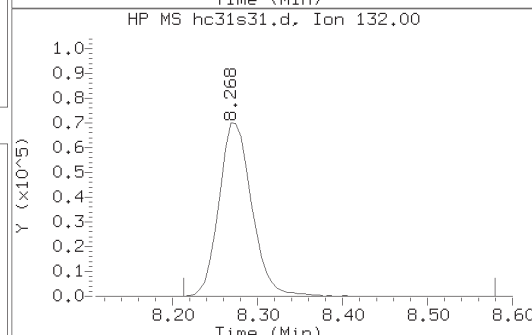
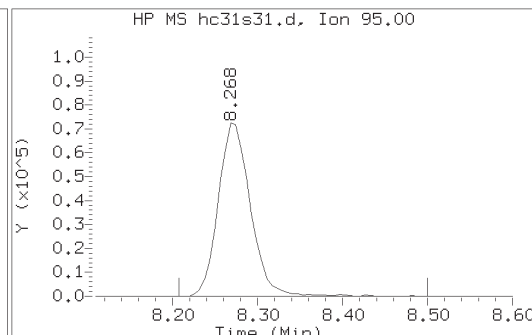
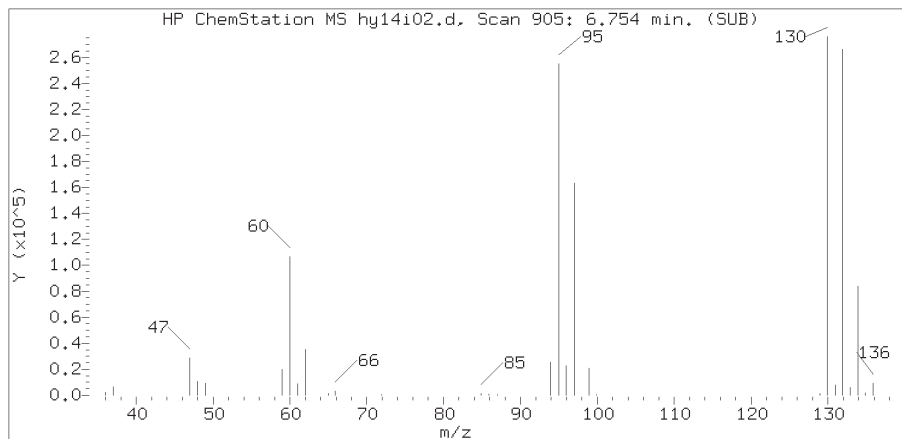
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26) *t-Butyl Alcohol-d10	(1)	4.287	65	71211	50.000
50) \$Dibromofluoromethane	(2)	6.878	113	515046	10.002
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	86458	10.452
63) *Fluorobenzene	(2)	7.781	96	2245067	10.000
67) Trichloroethene	(2)	8.268	95	189812	2.876
82) \$Toluene-d8	(3)	9.799	98	2236316	9.540
97) *Chlorobenzene-d5	(3)	11.250	117	1551894	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	639827	9.284
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	635518	10.000

* = Compound is an internal standard.

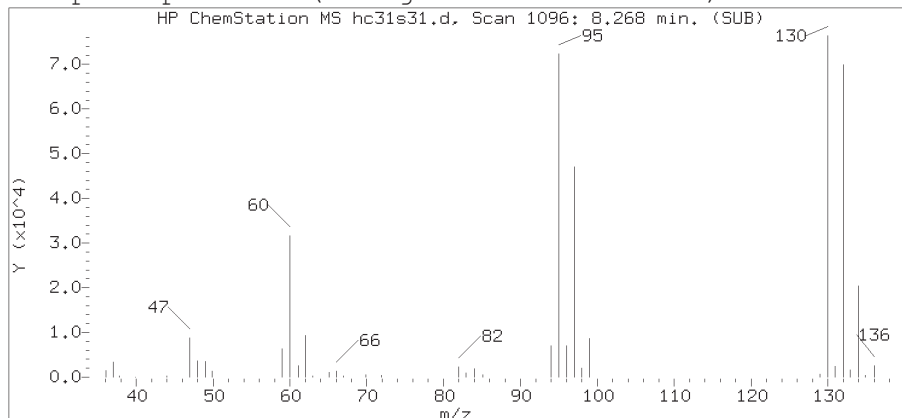
\$ = Compound is a surrogate standard.

page 1 of 1

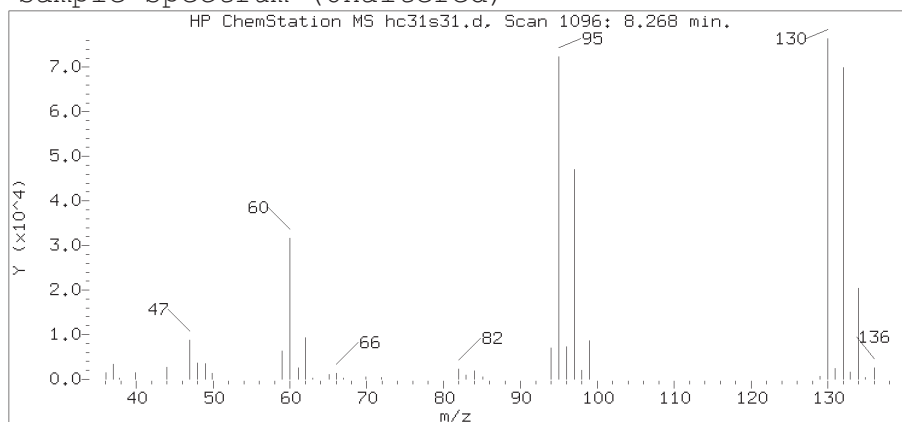
Reference Standard Spectrum for Trichloroethene



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16oct31a.b/hc31s31.d
Injection date and time: 31-OCT-2016 14:02

Instrument ID: HP19094.i
Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 14:21 Automation

Sample Name: R7306

Lab Sample ID: 8656008

Compound Number : 67
Compound Name : Trichloroethene
Scan Number : 1096
Retention Time (minutes): 8.268
Relative Retention Time :-0.00083
Quant Ion : 95.00
Area (flag) : 189812
On-Column Amount (ng) : 2.8764

Digitally signed by Kevin A. Sposito on 10/31/2016 at 14:36.

Target 3.5 esignature RAE73 Page 88 of 346

R7307

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8656009

Data file: /chem2/HP19094.i/16oct31a.b/hc31s32.d

Injection date and time: 31-OCT-2016 14:22

Data file Sample Info. Line: R7307;8656009;1;0;;RAE73;DAA3178;;hc31b21; Instrument ID: HP19094.i Batch: H163052AA

Date, time and analyst ID of latest file update: 31-Oct-2016 14:42 Automation

Blank Data file reference: /chem2/HP19094.i/16oct31a.b/hc31b21.d

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025

Calibration date and time (Last Method Edit): 31-OCT-2016 09:07

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16oct31a.b/hc31c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.251(0.012)	437	65	77636 (-35)	50.00	
63) Fluorobenzene	7.781(0.006)	1016	96	2226635 (-7)	10.00	
97) Chlorobenzene-d5	11.244(0.000)	1584	117	1517027 (-12)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(0.000)	1893	152	629801 (-20)	10.00	

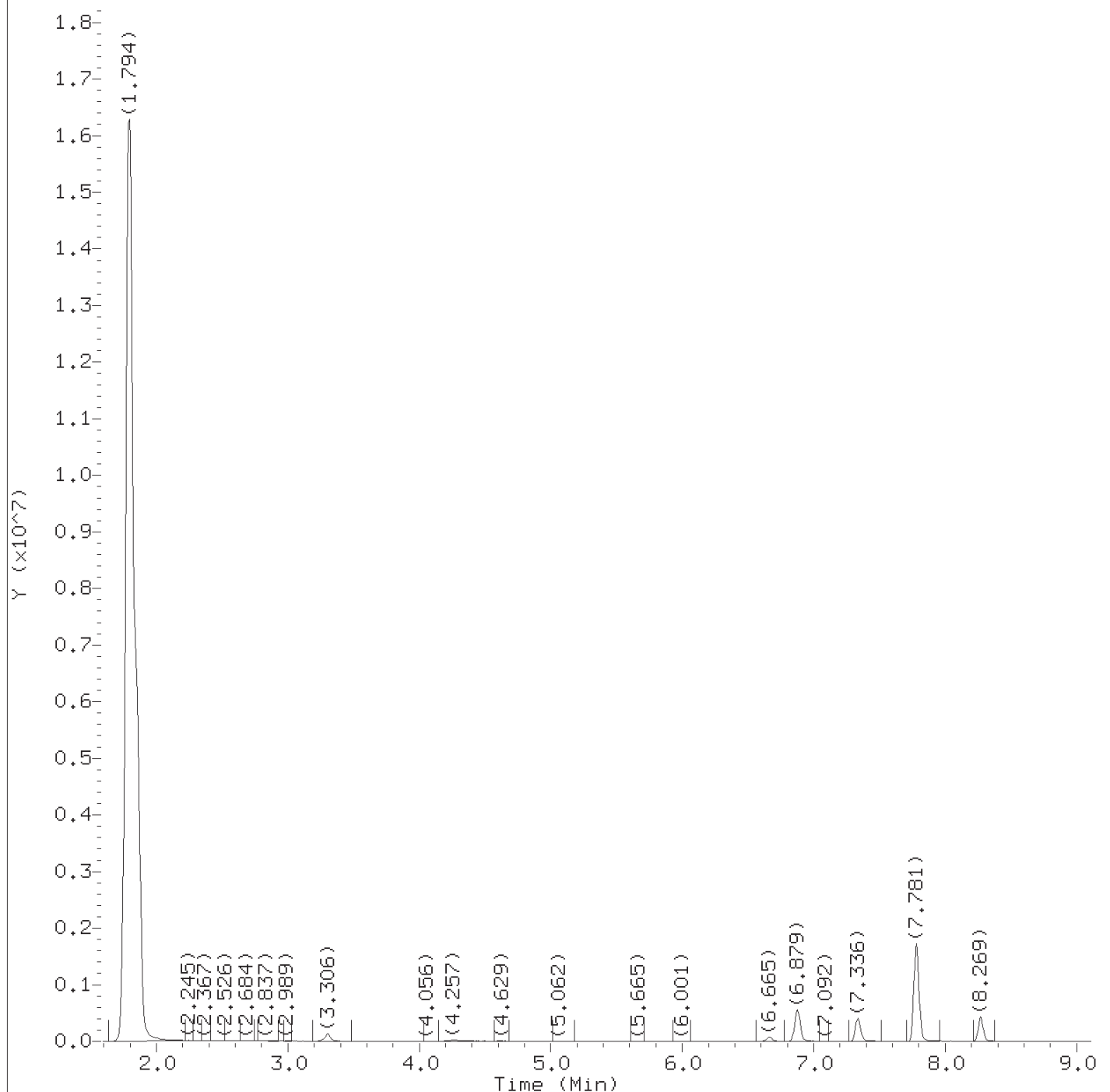
Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.879(-0.001)	113	510142	9.989	100%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.336(0.000)	102	83136	10.133	101%		74 - 113
82) Toluene-d8	(3)	9.793(0.000)	98	2193290	9.571	96%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249(-0.001)	95	623393	9.253	93%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Reporting Limit (in sample)	LOQ
5) Vinyl Chloride	(2)			Not Detected				0.1	1
15) 1,1-Dichloroethene	(2)			Not Detected				0.4	1
31) trans-1,2-Dichloroethene	(2)			Not Detected				0.8	1
39) cis-1,2-Dichloroethene	(2)			Not Detected				0.1	1
67) Trichloroethene	(2)	8.268(-0.000)	95	201811	3.084	3.08		0.2	1

Total number of targets = 5

Digitally signed by Matthew S. Krause on 10/31/2016 at 14:45. Target 3.5 esignature user ID: msk07970

Secondary review performed and digitally signed by Neil A. Kohler on 10/31/2016 at 21:53. PARALLAX ID: nak10185



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s32.d
Injection date and time: 31-OCT-2016 14:22

Instrument ID: HP19094.i
Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m
Calibration date and time: 31-OCT-2016 09:07

Sublist used: 12025

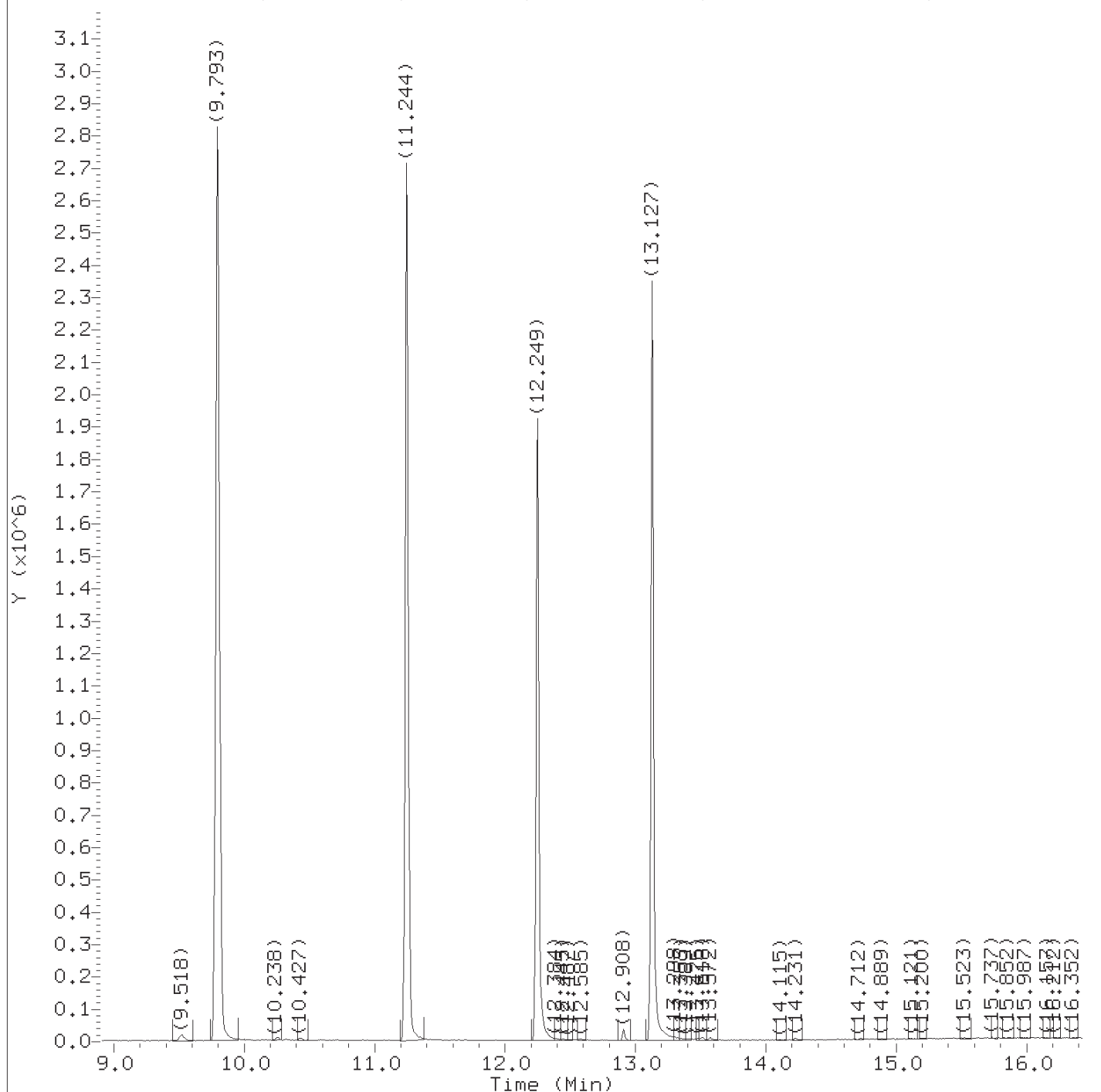
Date, time and analyst ID of latest file update: 31-Oct-2016 14:42 Automation

Sample Name: R7307

Lab Sample ID: 8656009

Digitally signed by Matthew S. Krause
on 10/31/2016 at 14:45.

Target 3.5 esignature user ID: msk07970
RAE73 Page 90 of 346



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s32.d Instrument ID: HP19094.i
Injection date and time: 31-OCT-2016 14:22 Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 14:42 Automation

Sample Name: R7307 Lab Sample ID: 8656009

Digitally signed by Matthew S. Krause
on 10/31/2016 at 14:45.

Target 3.5 esignature user ID: msk07970
RAE73 Page 91 of 346

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s32.d

Instrument ID: HP19094.i

Injection date and time: 31-OCT-2016 14:22

Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m

Sublist used: 12025

Calibration date and time: 31-OCT-2016 09:07

Date, time and analyst ID of latest file update: 31-Oct-2016 14:42 Automation

Sample Name: R7307

Lab Sample ID: 8656009

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26) *t-Butyl Alcohol-d10	(1)	4.251	65	77636	50.000
50) \$Dibromofluoromethane	(2)	6.879	113	510142	9.989
57) \$1,2-Dichloroethane-d4	(2)	7.336	102	83136	10.133
63) *Fluorobenzene	(2)	7.781	96	2226635	10.000
67) Trichloroethene	(2)	8.269	95	201811	3.084
82) \$Toluene-d8	(3)	9.793	98	2193290	9.571
97) *Chlorobenzene-d5	(3)	11.244	117	1517027	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	623393	9.253
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	629801	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

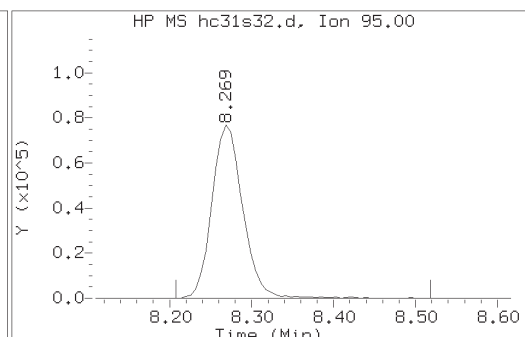
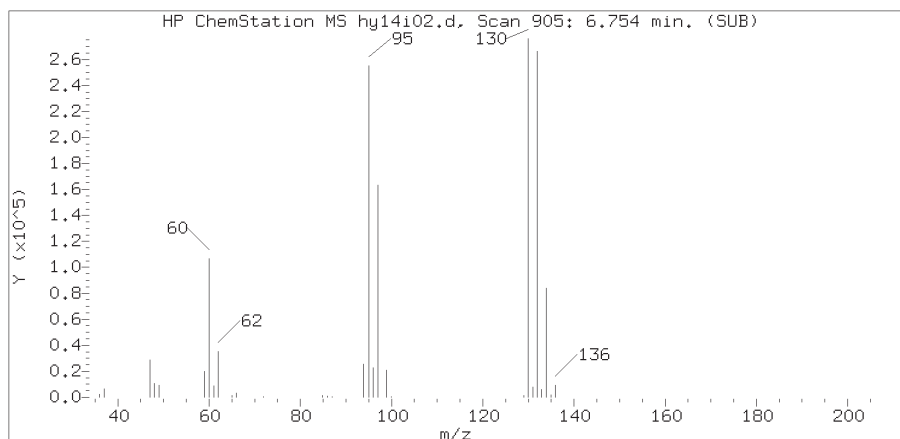
page 1 of 1

Digitally signed by Matthew S. Krause
on 10/31/2016 at 14:45.

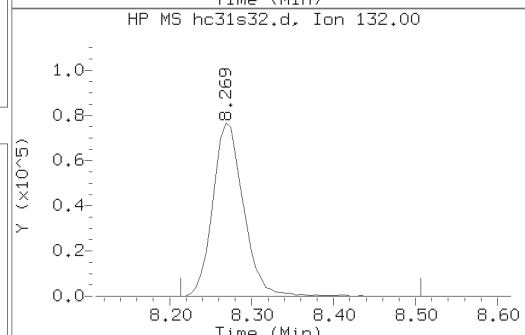
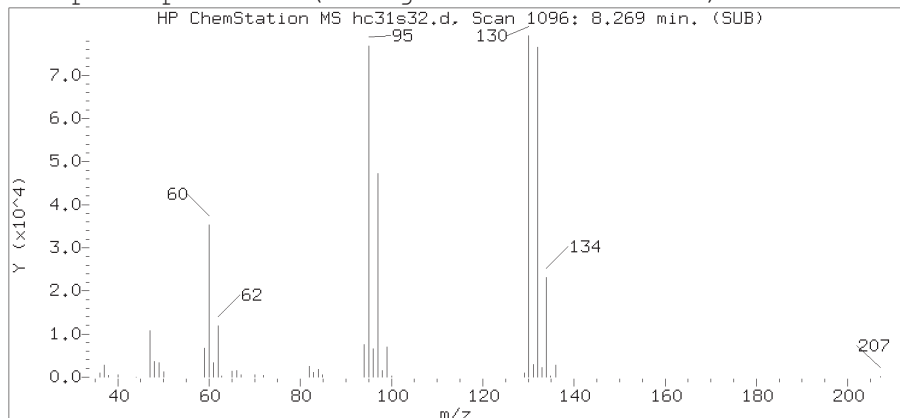
Target 3.5 esignature user ID: msk07970

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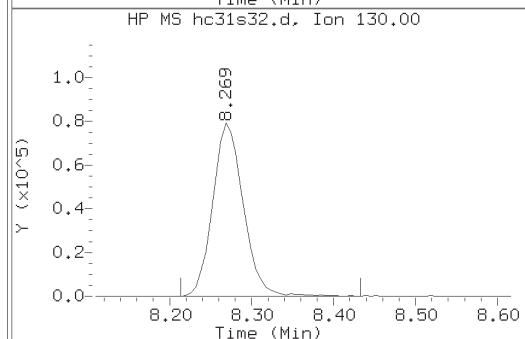
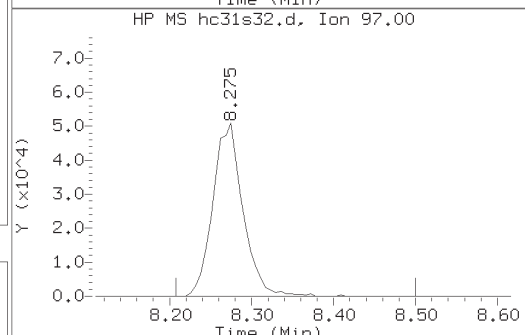
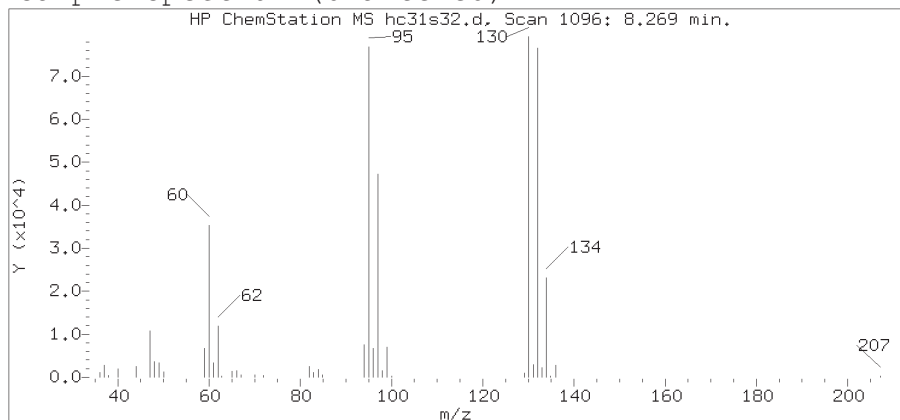
Reference Standard Spectrum for Trichloroethene



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16oct31a.b/hc31s32.d
Injection date and time: 31-OCT-2016 14:22

Instrument ID: HP19094.i
Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 14:42 Automation

Sample Name: R7307

Lab Sample ID: 8656009

Compound Number : 67
Compound Name : Trichloroethene
Scan Number : 1096
Retention Time (minutes): 8.269
Relative Retention Time :-0.00083
Quant Ion : 95.00
Area (flag) : 201811
On-Column Amount (ng) : 3.0835

Digitally signed by Matthew S. Krause on 10/31/2016 at 14:45.

Target 3.5 esignature RAE73 Page 93 of 346

R7308

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8656010

Data file: /chem2/HP19094.i/16oct31a.b/hc31s33.d

Injection date and time: 31-OCT-2016 14:43

Data file Sample Info. Line: R7308;8656010;1;0;;RAE73;DAA3178;;hc31b21; Instrument ID: HP19094.i Batch: H163052AA

Date, time and analyst ID of latest file update: 31-Oct-2016 15:02 Automation

Blank Data file reference: /chem2/HP19094.i/16oct31a.b/hc31b21.d

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025

Calibration date and time (Last Method Edit): 31-OCT-2016 09:07

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16oct31a.b/hc31c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.257(0.006)	438	65	92027 (-23)	50.00	
63) Fluorobenzene	7.787(0.000)	1017	96	2285066 (-5)	10.00	
97) Chlorobenzene-d5	11.249(-0.006)	1585	117	1557744 (-10)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(0.000)	1893	152	651627 (-17)	10.00	

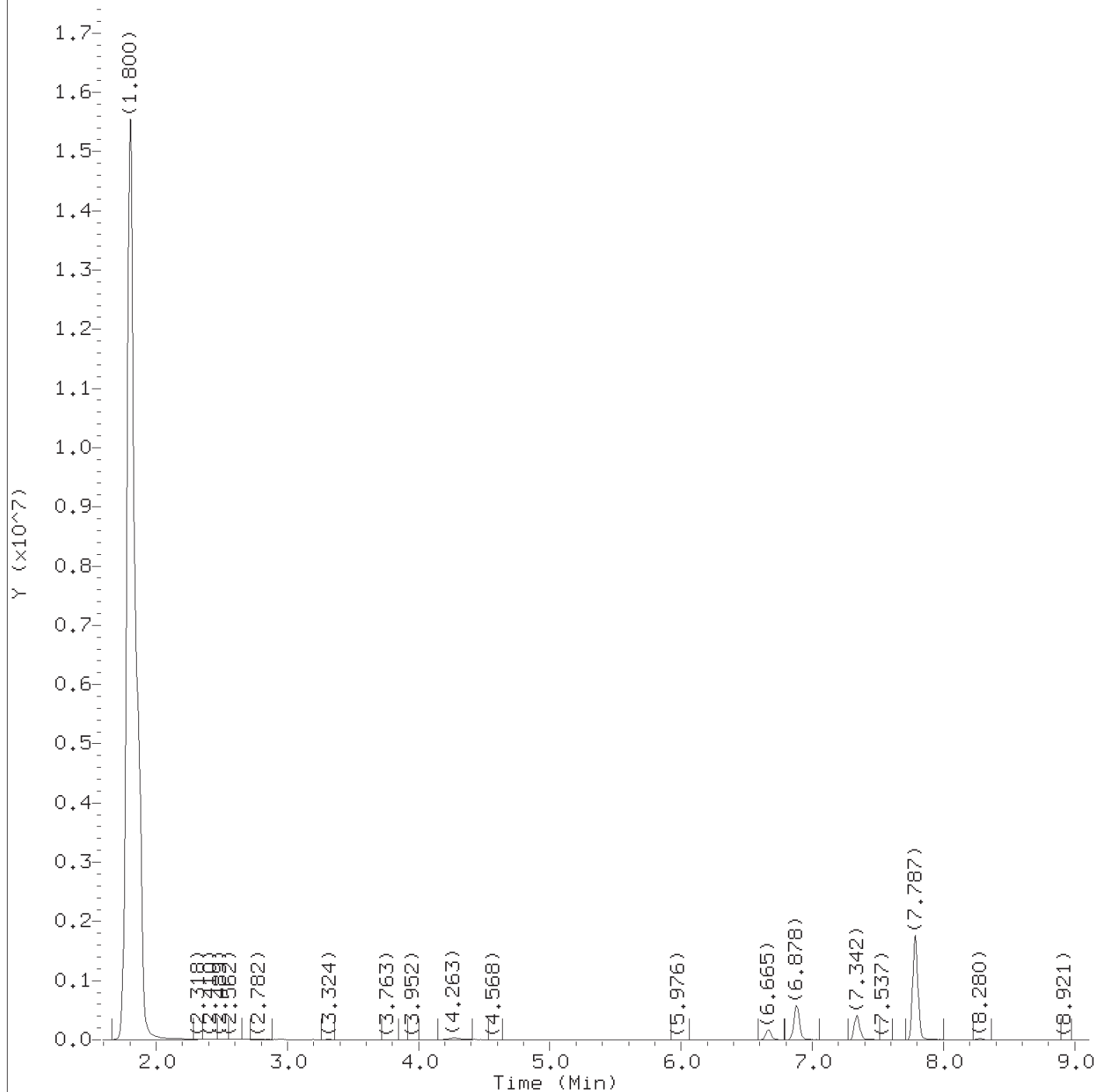
Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.878(0.000)	113	520971	9.940	99%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.342(0.000)	102	87084	10.343	103%		74 - 113
82) Toluene-d8	(3)	9.799(0.000)	98	2250299	9.563	96%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249(0.000)	95	650811	9.408	94%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Reporting Limit LOQ (in sample)
5) Vinyl Chloride	(2)			Not Detected				0.1 1
15) 1,1-Dichloroethene	(2)			Not Detected				0.4 1
31) trans-1,2-Dichloroethene	(2)			Not Detected				0.8 1
39) cis-1,2-Dichloroethene	(2)			Not Detected				0.1 1
67) Trichloroethene	(2)			Not Detected				0.2 1

Total number of targets = 5

Digitally signed by Matthew S. Krause on 10/31/2016 at 15:04. Target 3.5 esignature user ID: msk07970

Secondary review performed and digitally signed by Neil A. Kohler on 10/31/2016 at 21:53. PARALLAX ID: nak10185



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s33.d
Injection date and time: 31-OCT-2016 14:43

Instrument ID: HP19094.i
Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m
Calibration date and time: 31-OCT-2016 09:07

Sublist used: 12025

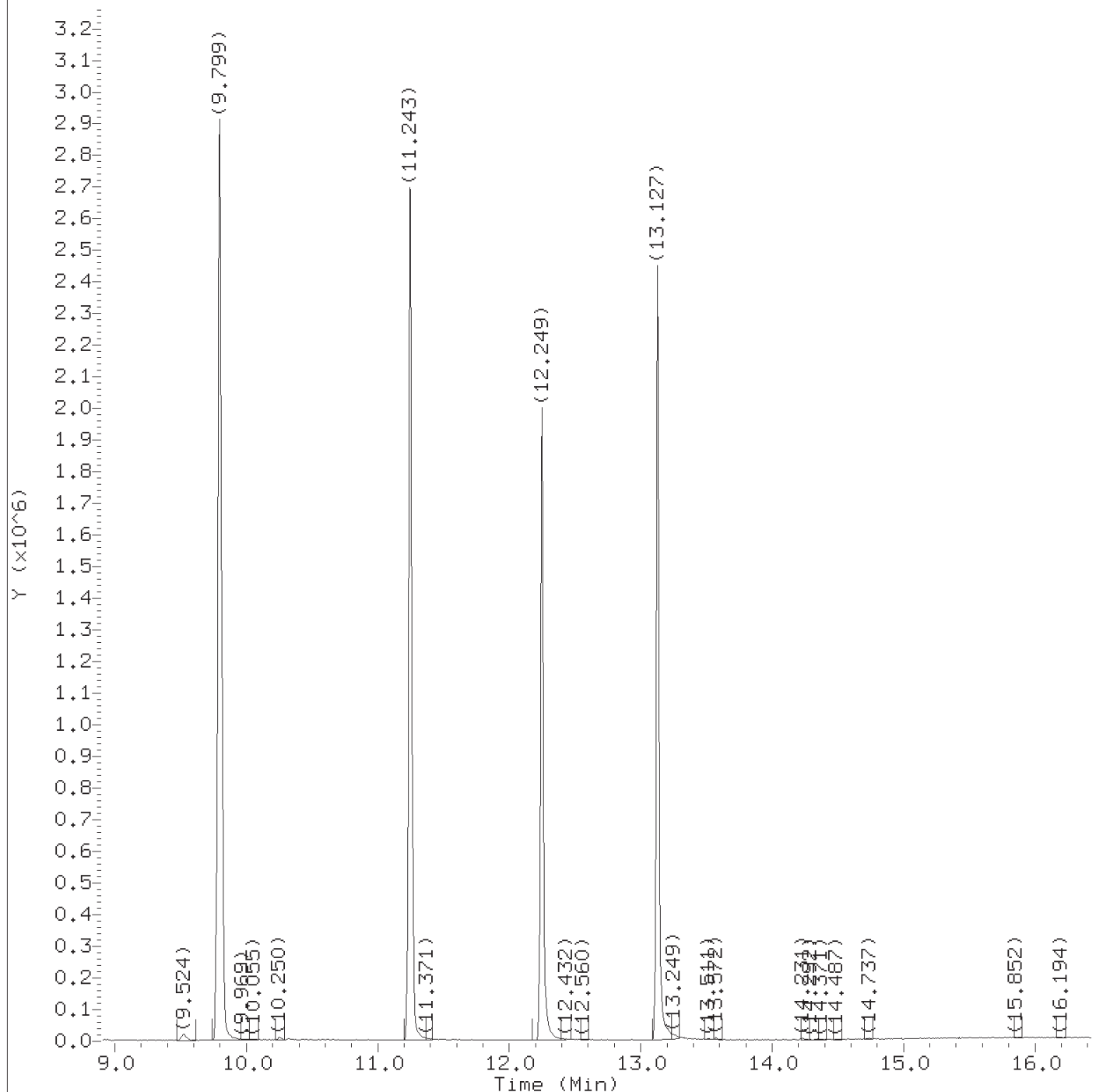
Date, time and analyst ID of latest file update: 31-Oct-2016 15:02 Automation

Sample Name: R7308

Lab Sample ID: 8656010

Digitally signed by Matthew S. Krause
on 10/31/2016 at 15:04.

Target 3.5 esignature user ID: msk07970
RAE73 Page 95 of 346



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s33.d
Injection date and time: 31-OCT-2016 14:43

Instrument ID: HP19094.i
Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m
Calibration date and time: 31-OCT-2016 09:07

Sublist used: 12025

Date, time and analyst ID of latest file update: 31-Oct-2016 15:02 Automation

Sample Name: R7308

Lab Sample ID: 8656010

Digitally signed by Matthew S. Krause
on 10/31/2016 at 15:04.

Target 3.5 esignature user ID: msk07970
RAE73 Page 96 of 346

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s33.d Instrument ID: HP19094.i
Injection date and time: 31-OCT-2016 14:43 Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 15:02 Automation

Sample Name: R7308

Lab Sample ID: 8656010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
26) *t-Butyl Alcohol-d10	(1)	4.257	65	92027	50.000
50) \$Dibromofluoromethane	(2)	6.878	113	520971	9.940
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	87084	10.343
63) *Fluorobenzene	(2)	7.787	96	2285066	10.000
82) \$Toluene-d8	(3)	9.799	98	2250299	9.563
97) *Chlorobenzene-d5	(3)	11.249	117	1557744	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	650811	9.408
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	651627	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

page 1 of 1

Digitally signed by Matthew S. Krause
on 10/31/2016 at 15:04.

Target 3.5 esignature user ID: msk07970

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R7309

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8656011

Data file: /chem2/HP19094.i/16oct31a.b/hc31s22.d Injection date and time: 31-OCT-2016 10:59
Data file Sample Info. Line: R7309;8656011;1;0;;RAE73;DAA3178;;hc31b21; Instrument ID: HP19094.i Batch: H163052AA
Date, time and analyst ID of latest file update: 31-Oct-2016 11:18 Automation

Blank Data file reference: /chem2/HP19094.i/16oct31a.b/hc31b21.d

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time (Last Method Edit): 31-OCT-2016 09:07
Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16oct31a.b/hc31c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.263 (0.000)	439	65	92942 (-22)	50.00	
63) Fluorobenzene	7.781 (0.006)	1016	96	2317941 (-3)	10.00	
97) Chlorobenzene-d5	11.243 (0.000)	1584	117	1606745 (-7)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127 (0.000)	1893	152	666835 (-15)	10.00	

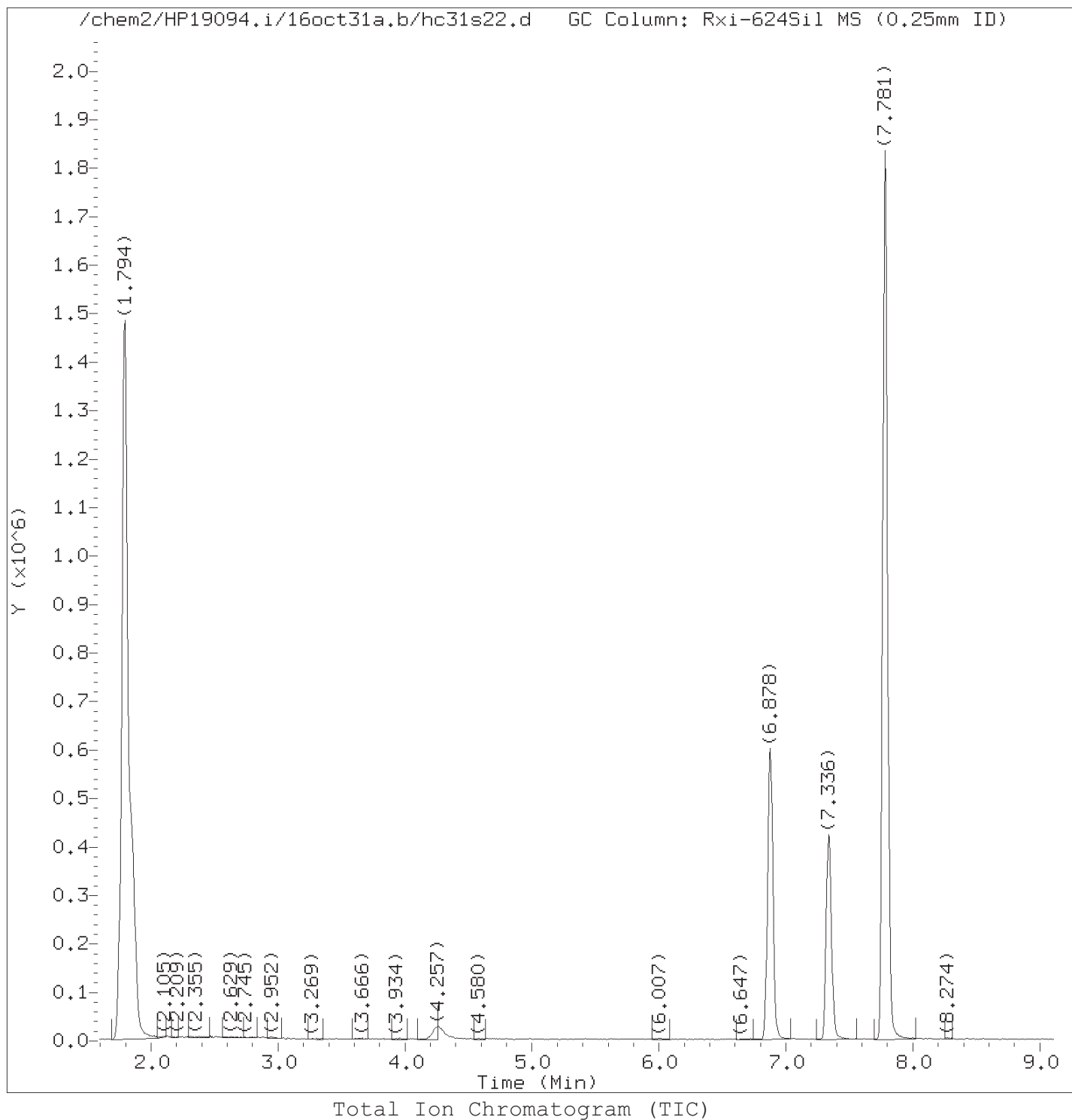
Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.878 (-0.001)	113	532813	10.022	100%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.336 (0.000)	102	87591	10.256	103%		74 - 113
82) Toluene-d8	(3)	9.792 (0.000)	98	2289909	9.435	94%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249 (-0.001)	95	669424	9.382	94%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Reporting Limit LOQ (in sample)
5) Vinyl Chloride	(2)			Not Detected				0.1 1
15) 1,1-Dichloroethene	(2)			Not Detected				0.4 1
31) trans-1,2-Dichloroethene	(2)			Not Detected				0.8 1
39) cis-1,2-Dichloroethene	(2)			Not Detected				0.1 1
67) Trichloroethene	(2)			Not Detected				0.2 1

Total number of targets = 5

Digitally signed by Kevin A. Sposito on 10/31/2016 at 11:35. Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Neil A. Kohler on 10/31/2016 at 21:52. PARALLAX ID: nak10185



Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s22.d
Injection date and time: 31-OCT-2016 10:59

Instrument ID: HP19094.i
Analyst ID: KAS02648

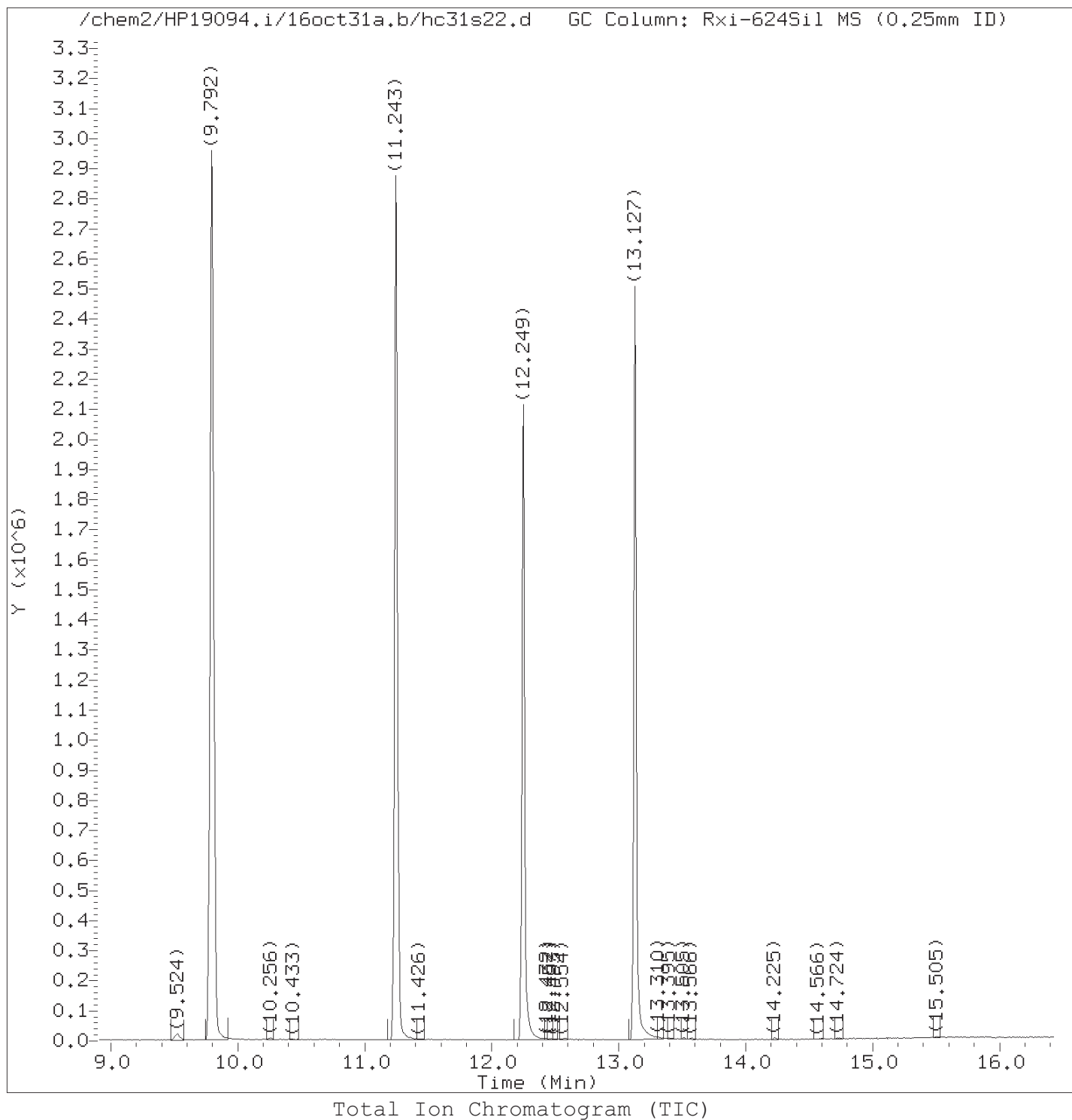
Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 11:18 Automation

Sample Name: R7309

Lab Sample ID: 8656011

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 11:35.

Target 3.5 esignature user ID: kas02648
RAE73 Page 99 of 346



Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s22.d Instrument ID: HP19094.i
Injection date and time: 31-OCT-2016 10:59 Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 11:18 Automation

Sample Name: R7309 Lab Sample ID: 8656011

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 11:35.

Target 3.5 esignature User ID: kas02648
RAE73 Page 100 of 346

page 2 of 2

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s22.d
Injection date and time: 31-OCT-2016 10:59

Instrument ID: HP19094.i
Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 11:18 Automation

Sample Name: R7309

Lab Sample ID: 8656011

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26) *t-Butyl Alcohol-d10	(1)	4.263	65	92942	50.000
50) \$Dibromofluoromethane	(2)	6.878	113	532813	10.022
57) \$1,2-Dichloroethane-d4	(2)	7.336	102	87591	10.256
63) *Fluorobenzene	(2)	7.781	96	2317941	10.000
82) \$Toluene-d8	(3)	9.792	98	2289909	9.435
97) *Chlorobenzene-d5	(3)	11.243	117	1606745	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	669424	9.382
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	666835	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

page 1 of 1

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 11:35.

Target 3.5 esignature user ID: kas02648

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R7310

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8656012

Data file: /chem2/HP19094.i/16oct31a.b/hc31s23.d

Injection date and time: 31-OCT-2016 11:19

Data file Sample Info. Line: R7310;8656012;1;0;;RAE73;DAA3178;;hc31b21; Instrument ID: HP19094.i Batch: H163052AA

Date, time and analyst ID of latest file update: 31-Oct-2016 11:39 Automation

Blank Data file reference: /chem2/HP19094.i/16oct31a.b/hc31b21.d

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025

Calibration date and time (Last Method Edit): 31-OCT-2016 09:07

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16oct31a.b/hc31c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.275(-0.012)	441	65	88322 (-26)	50.00	
63) Fluorobenzene	7.787(0.000)	1017	96	2301294 (-4)	10.00	
97) Chlorobenzene-d5	11.249(-0.006)	1585	117	1603795 (-7)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(0.000)	1893	152	673854 (-14)	10.00	

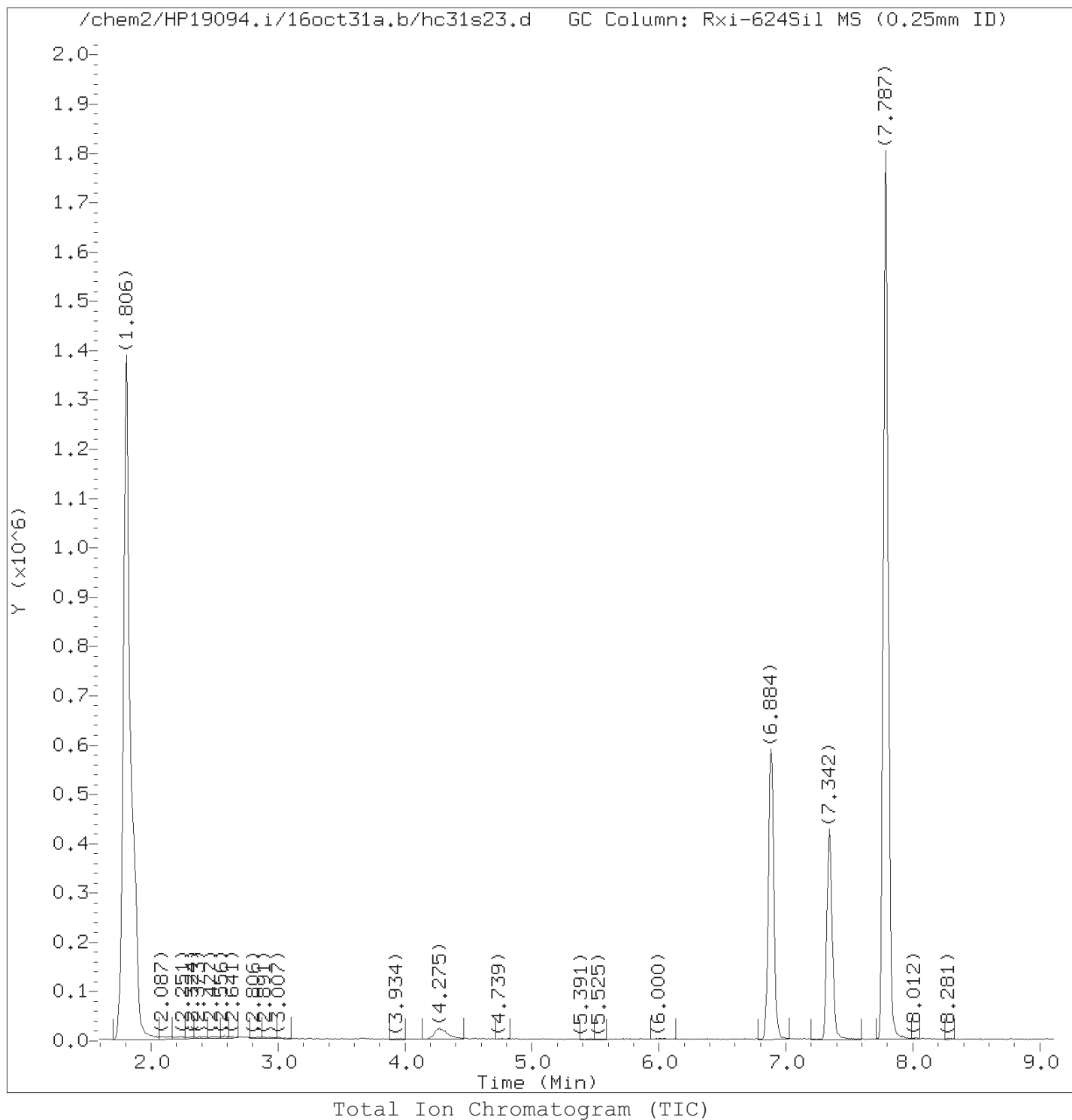
Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.884(-0.001)	113	530472	10.050	101%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.342(0.000)	102	89824	10.593	106%		74 - 113
82) Toluene-d8	(3)	9.799(0.000)	98	2288550	9.447	94%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249(0.000)	95	660612	9.275	93%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Reporting Limit LOQ (in sample)
5) Vinyl Chloride	(2)			Not Detected				0.1 1
15) 1,1-Dichloroethene	(2)			Not Detected				0.4 1
31) trans-1,2-Dichloroethene	(2)			Not Detected				0.8 1
39) cis-1,2-Dichloroethene	(2)			Not Detected				0.1 1
67) Trichloroethene	(2)			Not Detected				0.2 1

Total number of targets = 5

Digitally signed by Kevin A. Sposito on 10/31/2016 at 12:25. Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Neil A. Kohler on 10/31/2016 at 21:52. PARALLAX ID: nak10185



Target Revision 3.5

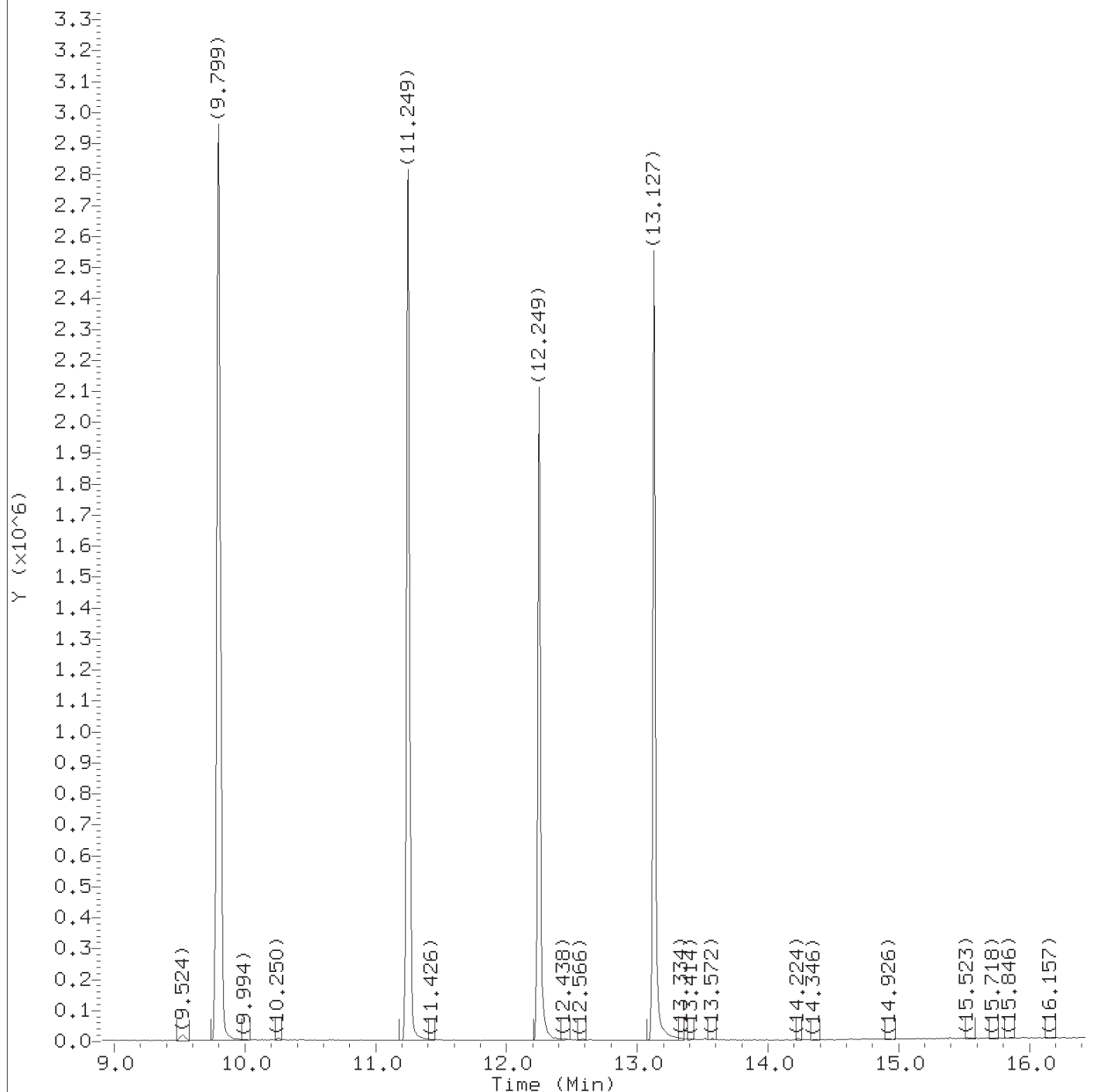
Data File: /chem2/HP19094.i/16oct31a.b/hc31s23.d Instrument ID: HP19094.i
Injection date and time: 31-OCT-2016 11:19 Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 11:39 Automation

Sample Name: R7310 Lab Sample ID: 8656012

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 12:25.

Target 3.5 esignature User ID: kas02648
RAE73 Page 103 of 346



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s23.d Instrument ID: HP19094.i
Injection date and time: 31-OCT-2016 11:19 Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 11:39 Automation

Sample Name: R7310 Lab Sample ID: 8656012

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 12:25.

Target 3.5 esignature User ID: kas02648
RAE73 Page 104 of 346

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s23.d

Instrument ID: HP19094.i

Injection date and time: 31-OCT-2016 11:19

Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m

Sublist used: 12025

Calibration date and time: 31-OCT-2016 09:07

Date, time and analyst ID of latest file update: 31-Oct-2016 11:39 Automation

Sample Name: R7310

Lab Sample ID: 8656012

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26) *t-Butyl Alcohol-d10	(1)	4.275	65	88322	50.000
50) \$Dibromofluoromethane	(2)	6.884	113	530472	10.050
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	89824	10.593
63) *Fluorobenzene	(2)	7.787	96	2301294	10.000
82) \$Toluene-d8	(3)	9.799	98	2288550	9.447
97) *Chlorobenzene-d5	(3)	11.249	117	1603795	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	660612	9.275
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	673854	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

page 1 of 1

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 12:25.

Target 3.5 esignature user ID: kas02648

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Standards Data

Volatiles by GC/MS

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP19094 **HP #30**

Data Directory Path is - d:\DATA\16OCT04A\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
kel01973	HC04X01.D	BLK	10/04/2016	06:39		
kel01973	HC04X02.D	BLK	10/04/2016	07:02		
kel01973	HC04X03.D	BLK	10/04/2016	07:48		
kel01973	HC04X04.D	BLK	10/04/2016	08:41		
KEL01973	hc04t01.D	bfb AUG22-16	10/04/2016	09:20		
KEL01973	hc04t02.D	bfb AUG22-16	10/04/2016	09:29		
kel01973	HC04X10.D	blk	10/04/2016	09:53		
kel01973	HC04X11.D	blk	10/04/2016	10:13		
kel01973	HC04i01.D	VSTD025	10/04/2016	10:34		
kel01973	HC04i02.D	VSTD010	10/04/2016	10:54		
kel01973	HC04i03.D	VSTD005	10/04/2016	11:14		
kel01973	HC04i04.D	VSTD002	10/04/2016	11:35		
kel01973	HC04i05.D	VSTD001	10/04/2016	11:55		
kel01973	HC04i06.D	VSTD0.5	10/04/2016	12:15		
kel01973	HC04i07.D	VSTD0.2	10/04/2016	12:36		
kel01973	HC04m01.D	MDL0.1	10/04/2016	12:56		
kel01973	HC04m02.D	MDL0.4	10/04/2016	13:17		
KEL01973	HC04C02.D	VSTD010	10/04/2016	13:45	H162781AA	
KEL01973	HC04L01.D	LCSH73	10/04/2016	14:05	H162781AA	
KEL01973	HC04L02.D	LCDH73	10/04/2016	14:26	H162781AA	
KEL01973	HC04L03.D	LCSH74	10/04/2016	14:46	H162781AA	
KEL01973	HC04L04.D	LCDH74	10/04/2016	15:06	H162781AA	
KEL01973	HC04B00.D	VBLKH73	10/04/2016	15:27	H162781AA	
KEL01973	HC04B01.D	VBLKH73	10/04/2016	15:47	H162781AA	
KEL01973	HC04S03.D	8608538	10/04/2016	16:07	H162781AA	
KEL01973	HC04S04.D	8608485	10/04/2016	16:28	H162781AA	50
KEL01973	HC04S05.D	8608485DL	10/04/2016	16:48	H162781AA	500
KEL01973	HC04S06.D	8608535	10/04/2016	17:09	H162781AA	100
KEL01973	HC04S07.D	8608535DL	10/04/2016	17:29	H162781AA	1000
KEL01973	HC04S08.D	8608534	10/04/2016	17:49	H162781AA	2
KEL01973	HC04S09.D	8608534DL	10/04/2016	18:09	H162781AA	20
KEL01973	HC04S01.D	8612710	10/04/2016	18:30	H162781AA	
KEL01973	HC04S02.D	8612718	10/04/2016	18:50	H162781AA	
KEL01973	HC04S10.D	8608536	10/04/2016	19:11	H162781AA	5
KEL01973	HC04S11.D	8608536DL	10/04/2016	19:31	H162781AA	50
KEL01973	HC04S12.D	8608537	10/04/2016	19:51	H162781AA	
KEL01973	HC04S13.D	8608542	10/04/2016	20:12	H162781AA	
KEL01973	HC04S14.D	8608543	10/04/2016	20:32	H162781AA	

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP19094 **HP #30**

Data Directory Path is - d:\data\16oct31A\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
KAS02648	HC31T01.D	50NGBFB	10/31/2016	07:58	H163051AA	
KAS02648	HC31X01.D	BLANK	10/31/2016	08:13		
KAS02648	HC31C01.D	VSTD010	10/31/2016	08:33	H163051AA	
KAS02648	HC31S01.D	LCSH56	10/31/2016	08:53	H163051AA	
KAS02648	HC31S02.D	LCDH56	10/31/2016	09:14	H163051AA	
KAS02648	HC31B00.D	VBLKH56	10/31/2016	09:34	H163051AA	
KAS02648	HC31B01.D	VBLKH56	10/31/2016	09:54	H163051AA	
KAS02648	HC31S03.D	8653038	10/31/2016	10:18	H163051AA	
KAS02648	HC31S04.D	8653038DL	10/31/2016	10:38	H163051AA	10
KAS02648	HC31S22.D	8656011	10/31/2016	10:59	H163052AA	
KAS02648	HC31S23.D	8656012	10/31/2016	11:19	H163052AA	
KAS02648	HC31S24.D	8656003	10/31/2016	11:40	H163052AA	
KAS02648	HC31S25.D	8656004MS	10/31/2016	12:00	H163052AA	
KAS02648	HC31S26.D	8656005MSD	10/31/2016	12:20	H163052AA	
KAS02648	HC31S27.D	8656003DL	10/31/2016	12:41	H163052AA	10
KAS02648	HC31S28.D	8656001	10/31/2016	13:01	H163052AA	
KAS02648	HC31S29.D	8656002	10/31/2016	13:21	H163052AA	
KAS02648	HC31S30.D	8656006	10/31/2016	13:42	H163052AA	
KAS02648	HC31S31.D	8656008	10/31/2016	14:02	H163052AA	
KAS02648	HC31S32.D	8656009	10/31/2016	14:22	H163052AA	
KAS02648	HC31S33.D	8656010	10/31/2016	14:43	H163052AA	
KAS02648	HC31S34.D	8656007	10/31/2016	15:03	H163052AA	
KAS02648	HC31S42.D	8656035	10/31/2016	15:24	H163053AA	
KAS02648	HC31S43.D	8656029	10/31/2016	15:44	H163053AA	
KAS02648	HC31S44.D	8656030MS	10/31/2016	16:04	H163053AA	
KAS02648	HC31S45.D	8656031MSD	10/31/2016	16:24	H163053AA	
KAS02648	HC31S46.D	8656024	10/31/2016	16:45	H163053AA	
KAS02648	HC31S47.D	8656025	10/31/2016	17:05	H163053AA	
KAS02648	HC31S48.D	8656026	10/31/2016	17:25	H163053AA	
KAS02648	HC31S49.D	8656027	10/31/2016	17:46	H163053AA	
KAS02648	HC31S50.D	8656032	10/31/2016	18:06	H163053AA	
KAS02648	HC31S51.D	8656033	10/31/2016	18:27	H163053AA	
KAS02648	HC31S52.D	8656034	10/31/2016	18:47	H163053AA	

Page 1

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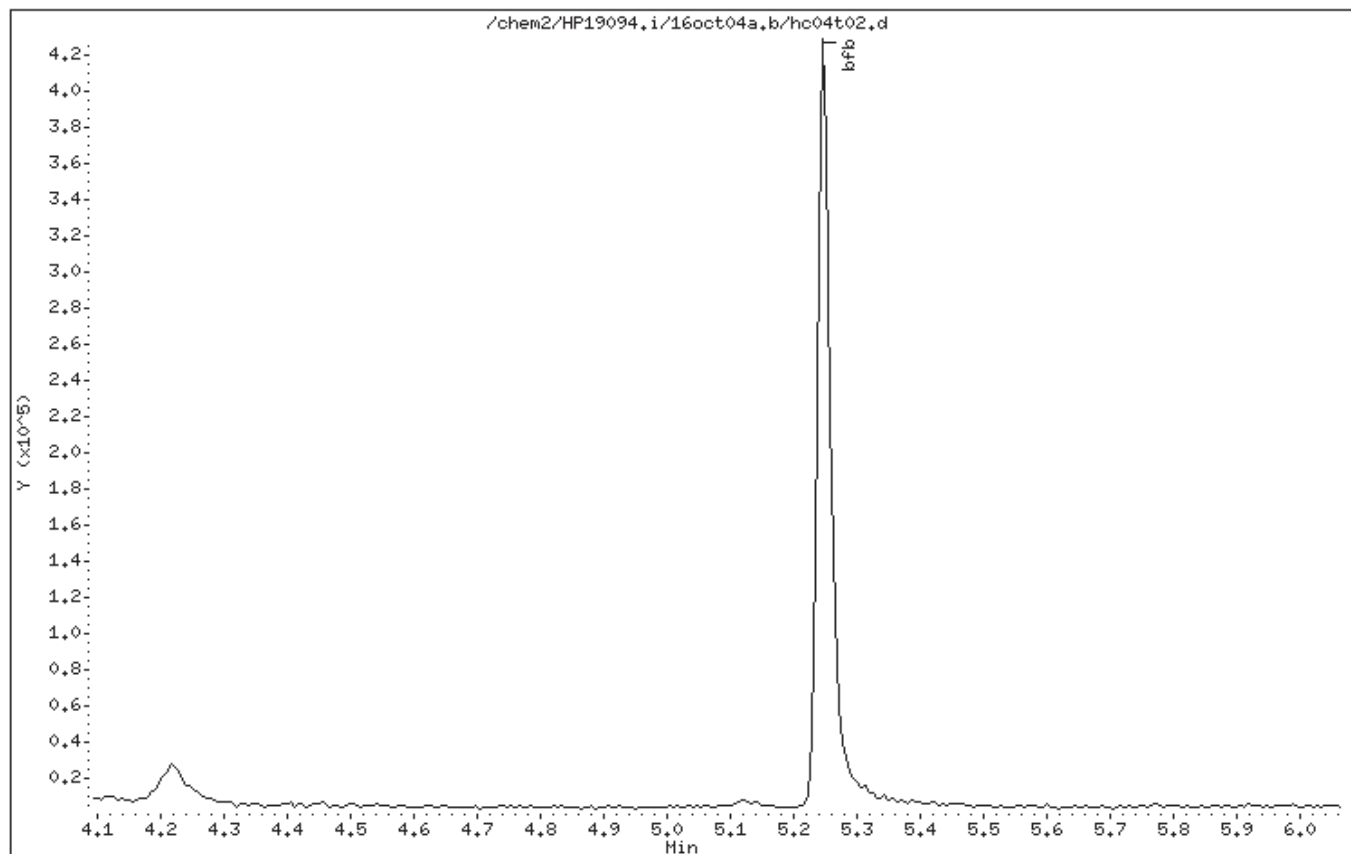
Instrument: HP19094.i

Sample Info: bfb 50ng;bfb AUG22-16;1;3; ; ; ;

Operator: KEL01973

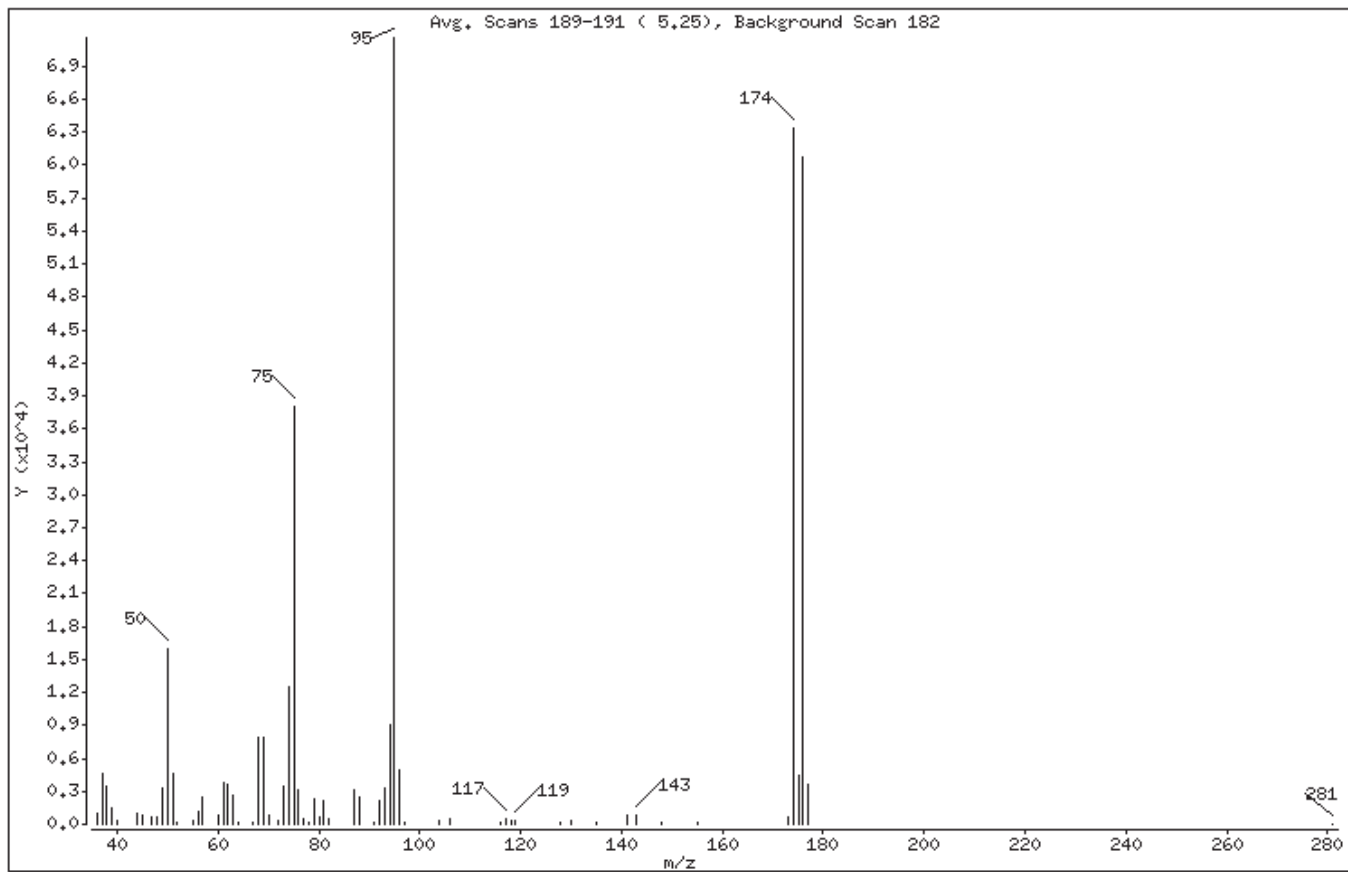
Column phase: Rxi-624Sil MS

Column diameter: 0.25



Digitally signed by Kerri E. Koch Legerlotz on 10/04/2016 at 09:36.
Target 3.5 esignature user ID: kel01973

1 bfb



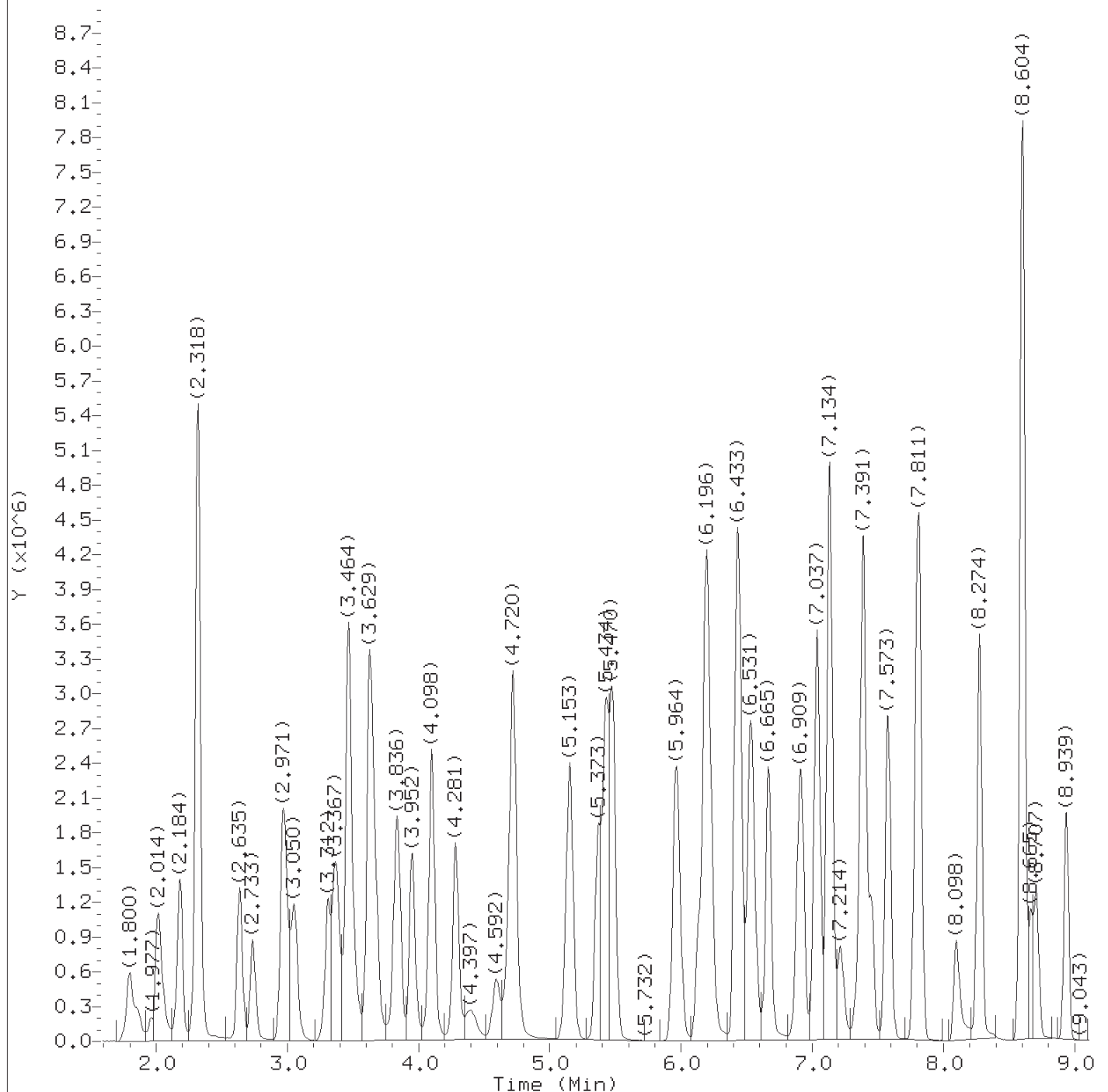
m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	22.33
75	30.00 - 60.00% of mass 95	53.14
96	5.00 - 9.00% of mass 95	6.99
173	Less than 2.00% of mass 174	1.00 (1.13)
174	50.00 - 100.00% of mass 95	88.41
175	5.00 - 9.00% of mass 174	6.21 (7.03)
176	95.00 - 101.00% of mass 174	84.86 (95.98)
177	5.00 - 9.00% of mass 176	5.09 (6.00)

Digitally signed by Kerri E. Koch Legerlotz on 10/04/2016 at 09:36.
Target 3.5 esignature user ID: kel01973

Page 3

Column diameter: 0.25

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36,00	1007	61,00	3772	81,00	2173	128,00	134
37,00	4567	62,00	3639	82,00	525	130,00	268
38,00	3450	63,00	2623	87,00	3146	135,00	93
39,00	1491	64,00	100	88,00	2490	141,00	849
40,00	352	67,00	118	91,00	139	143,00	886
44,00	937	68,00	7916	92,00	2122	148,00	130
45,00	833	69,00	7924	93,00	3352	155,00	97
47,00	734	70,00	784	94,00	9007	173,00	713
48,00	604	72,00	335	95,00	71600	174,00	63304
49,00	3275	73,00	3379	96,00	5008	175,00	4449
50,00	15989	74,00	12567	97,00	210	176,00	60760
51,00	4674	75,00	38040	104,00	336	177,00	3647
52,00	187	76,00	3124	106,00	420	281,00	69
55,00	259	77,00	429	116,00	221		
56,00	1221	78,00	104	117,00	423		
57,00	2486	79,00	2278	118,00	266		
60,00	749	80,00	635	119,00	392		



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d
Injection date and time: 04-OCT-2016 10:34

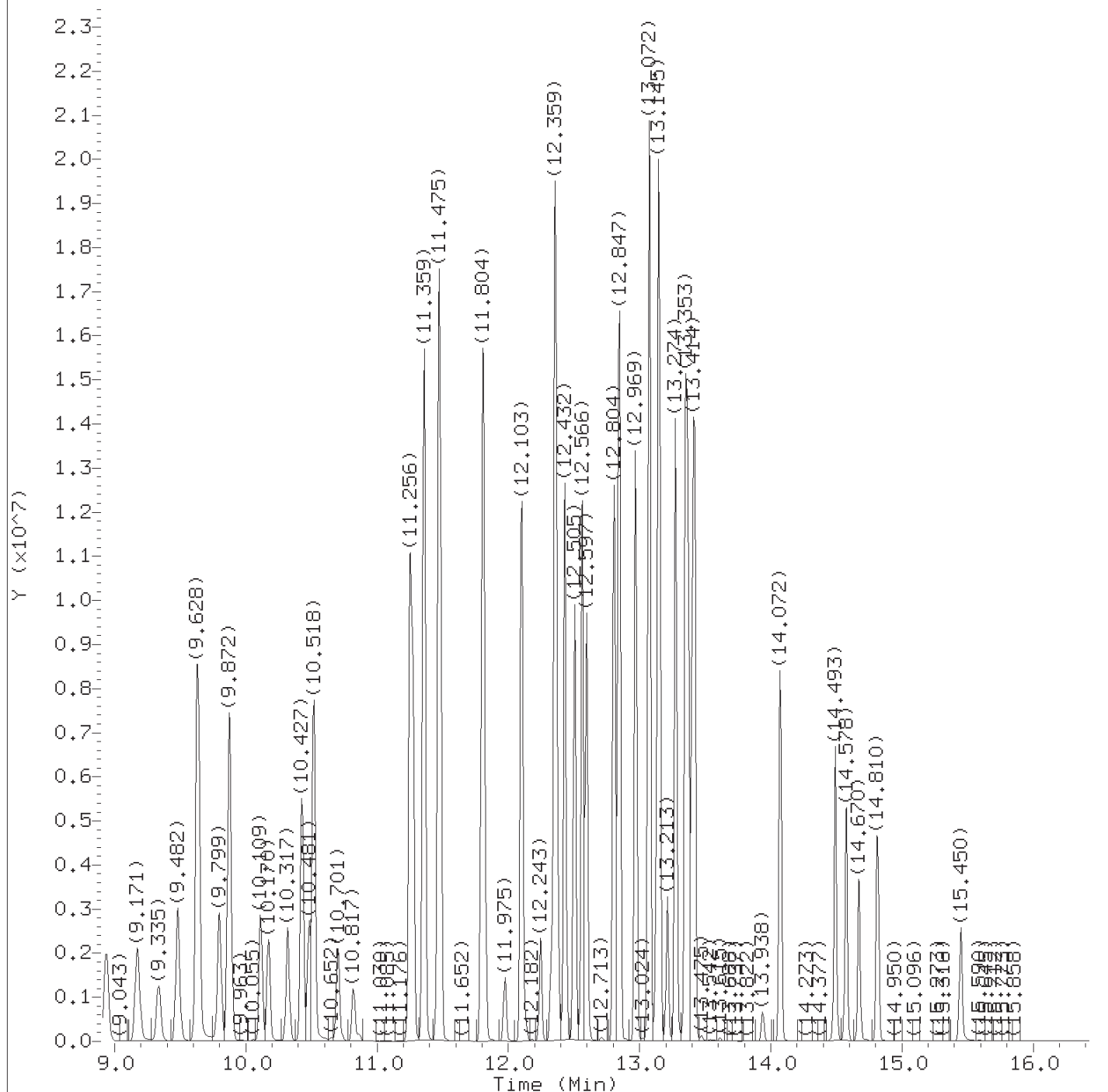
Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 10:34 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d
 Injection date and time: 04-OCT-2016 10:34

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:28
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.014	85	2465429	25.513
2) Chloromethane	(2)	2.184	50	2417848	23.377
5) Vinyl Chloride	(2)	2.312	62	2228754	24.173
6) 1,3-Butadiene	(2)	2.318	39	3181064	22.510
7) Bromomethane	(2)	2.635	94	1381691	23.358
8) Chloroethane	(2)	2.733	64	1229458	23.586
9) Dichlorofluoromethane	(2)	2.965	67	2971146	23.878
10) Trichlorofluoromethane	(2)	3.050	101	2737631	24.465
11) Ethyl ether	(2)	3.306	59	979713	23.727
12) Freon 123a	(2)	3.367	67	1859553	23.939
13) Acrolein	(1)	3.464	56	6228763	1203.675
15) 1,1-Dichloroethene	(2)	3.623	96	1225772	23.507
14) Acetone	(1)	3.629	43	1466573	211.692
16) Freon 113	(2)	3.660	101	1375161	24.129
17) Methyl Iodide	(2)	3.824	142	2345342	23.535
18) Carbon Disulfide	(2)	3.952	76	3638674	23.014
21) Methyl Acetate	(1)	4.062	43	460213M	20.509
22) Allyl Chloride	(2)	4.098	41	2670800	23.543
26) *t-Butyl Alcohol-d10	(1)	4.269	65	71956	50.000
23) Methylene Chloride	(2)	4.281	84	1286277	22.992
28) t-Butyl Alcohol	(1)	4.397	59	829366	433.891
29) Acrylonitrile	(1)	4.598	53	1020289	125.163
30) Methyl Tertiary Butyl Ether	(2)	4.708	73	2886280	23.728
31) trans-1,2-Dichloroethene	(2)	4.720	96	1367766	23.142
32) n-Hexane	(2)	5.153	57	2237091	24.830
33) 1,1-Dichloroethane	(2)	5.367	63	2734876	23.501
34) di-Isopropyl Ether	(2)	5.427	45	5000469	23.963
35) 2-Chloro-1,3-Butadiene	(2)	5.482	53	2602578	24.155
37) Ethyl t-butyl ether	(2)	5.964	59	4053574	23.944
40) 1,2-Dichloroethene (Total)	(2)		96	2897631	46.753
38) 2-Butanone	(1)	6.135	43	2878259	234.789
39) cis-1,2-Dichloroethene	(2)	6.190	96	1529865	23.611
42) Propionitrile	(1)	6.214	54	1293179	478.275
41) 2,2-Dichloropropane	(2)	6.214	77	2252779	23.852
45) Methacrylonitrile	(1)	6.433	67	2788158	241.524
47) Bromochloromethane	(2)	6.525	128	627311	24.144
48) Tetrahydrofuran	(1)	6.549	71	751832	237.934
49) Chloroform	(2)	6.665	83	2636547	23.454

M = Compound was manually integrated.

* = Compound is an internal standard.

page 1 of 4

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 on 10/04/2016 at 15:33.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d
 Injection date and time: 04-OCT-2016 10:34

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:28
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
50) \$Dibromofluoromethane	(2)	6.885	113	527898	10.124
50) \$Dibromofluoromethane	(2)	6.885	111	538007	10.090
51) 1,1,1-Trichloroethane	(2)	6.915	97	2377012	23.487
52) Cyclohexane	(2)	7.037	56	2798999	23.568
52) Cyclohexane	(2)	7.037	84	2202234	22.469
52) Cyclohexane	(2)	7.037	69	815540	24.347
55) 1,1-Dichloropropene	(2)	7.128	75	2187921	23.915
54) Carbon Tetrachloride	(2)	7.141	117	2110226	24.139
56) Isobutyl Alcohol	(1)	7.214	41	816037	1102.396
57) \$1,2-Dichloroethane-d4	(2)	7.348	102	82975	9.905
57) \$1,2-Dichloroethane-d4	(2)	7.348	65	448738	9.730
57) \$1,2-Dichloroethane-d4	(2)	7.348	104	54541	10.175
58) Benzene	(2)	7.391	78	5771563	23.662
59) 1,2-Dichloroethane	(2)	7.451	62	1543976M	22.737
60) t-Amyl methyl ether	(2)	7.573	73	3308766	24.095
63) *Fluorobenzene	(2)	7.787	96	2273569	10.000
62) n-Heptane	(2)	7.817	43	2629981	24.247
65) n-Butanol	(1)	8.098	56	1161185M	2147.696
67) Trichloroethene	(2)	8.274	95	1584002	23.703
70) 1,2-Dichloropropane	(2)	8.598	63	1500407	24.167
69) Methylcyclohexane	(2)	8.604	83	2924266	25.060
71) Methyl Methacrylate	(1)	8.665	69	582508	27.407
73) Dibromomethane	(2)	8.707	93	622373	23.939
72) 1,4-Dioxane	(1)	8.707	88	113069	917.719
74) Bromodichloromethane	(2)	8.939	83	1749116	24.597
76) 2-Nitropropane	(1)	9.171	41	1910494	242.990
80) cis-1,3-Dichloropropene	(2)	9.482	75	2065099	25.584
81) 4-Methyl-2-Pentanone	(1)	9.628	43	7988613	243.827
82) \$Toluene-d8	(3)	9.799	98	2272388	9.754
82) \$Toluene-d8	(3)	9.799	100	1482325	9.895
83) Toluene	(3)	9.872	92	3662362	22.876
84) trans-1,3-Dichloropropene	(3)	10.109	75	1643590	25.298
85) 1,3-Dichloropropene (total)	(3)		75	3708689	50.882
86) Ethyl Methacrylate	(3)	10.170	69	1232363	24.601
88) 1,1,2-Trichloroethane	(3)	10.317	97	855516	23.213
89) Tetrachloroethene	(3)	10.427	166	1760324	22.972
90) 1,3-Dichloropropane	(3)	10.481	76	1540095	22.991
91) 2-Hexanone	(1)	10.518	43	5474394M	241.370

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/04/2016 at 15:33.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d
 Injection date and time: 04-OCT-2016 10:34

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:28
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
93) Dibromochloromethane	(3)	10.701	129	1137478	24.890
95) 1,2-Dibromoethane	(3)	10.817	107	830768	23.838
97) *Chlorobenzene-d5	(3)	11.243	117	1542326	10.000
98) Chlorobenzene	(3)	11.274	112	3915845	22.955
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	1399828	23.879
100) Ethylbenzene	(3)	11.359	91	7368738	23.391
101) m+p-Xylene	(3)	11.475	106	5594279	47.262
105) Xylene (Total)	(3)		106	8322895	70.895
104) o-Xylene	(3)	11.798	106	2728616	23.634
106) Styrene	(3)	11.816	104	4327272	24.495
107) Bromoform	(3)	11.975	173	627660	25.085
108) Isopropylbenzene	(3)	12.103	105	7326444	23.537
111) \$4-Bromofluorobenzene	(3)	12.243	95	682453	9.964
111) \$4-Bromofluorobenzene	(3)	12.249	174	611402	9.975
113) 1,1,2,2-Tetrachloroethane	(4)	12.329	83	991627M	22.270
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	2654196A	273.346
114) Bromobenzene	(4)	12.365	156	1623563	22.611
116) 1,2,3-Trichloropropane	(4)	12.383	110	260028	21.873
117) n-Propylbenzene	(4)	12.432	91	8750324	22.986
119) 2-Chlorotoluene	(4)	12.505	126	1638488	22.769
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	6100303	23.297
122) 4-Chlorotoluene	(4)	12.597	126	1656682	22.514
125) tert-Butylbenzene	(4)	12.804	134	1323911M	23.174
126) Pentachloroethane	(4)	12.841	167	1056298	23.895
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	6109504	23.110
128) sec-Butylbenzene	(4)	12.969	105	7893283	22.969
131) 1,3-Dichlorobenzene	(4)	13.072	146	3226736	23.107
132) p-Isopropyltoluene	(4)	13.078	119	6723147	23.448
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	719928	10.000
134) 1,4-Dichlorobenzene	(4)	13.145	146	3175965	21.866
135) 1,2,3-Trimethylbenzene	(4)	13.152	120	2544727	22.241
136) Benzyl Chloride	(4)	13.213	126	400811	26.459
138) n-Butylbenzene	(4)	13.365	92	3370040	24.484
139) 1,2-Dichlorobenzene	(4)	13.402	146	2738453	22.044
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	124084A	26.004
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	1854073	20.954
146) Hexachlorobutadiene	(4)	14.578	225	934410	22.197
147) Naphthalene	(4)	14.676	128	2624331	19.536

M = Compound was manually integrated.

A = User selected an alternate hit.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/04/2016 at 15:33.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 10:34 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025

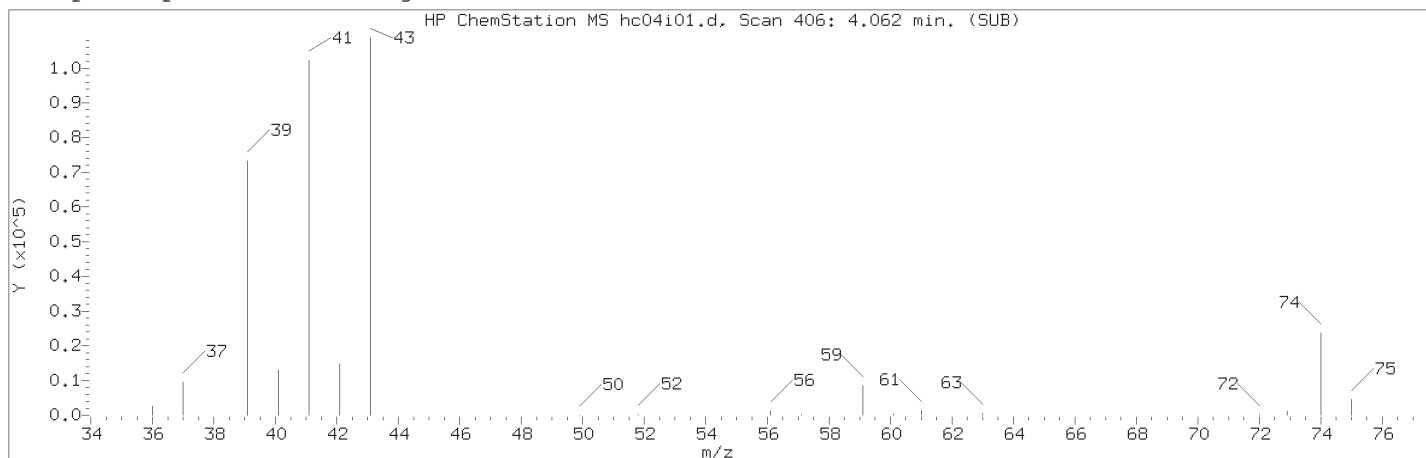
Lab Sample ID: VSTD025

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
148) 1,2,3-Trichlorobenzene	(4)	14.816	180	1394838	18.726

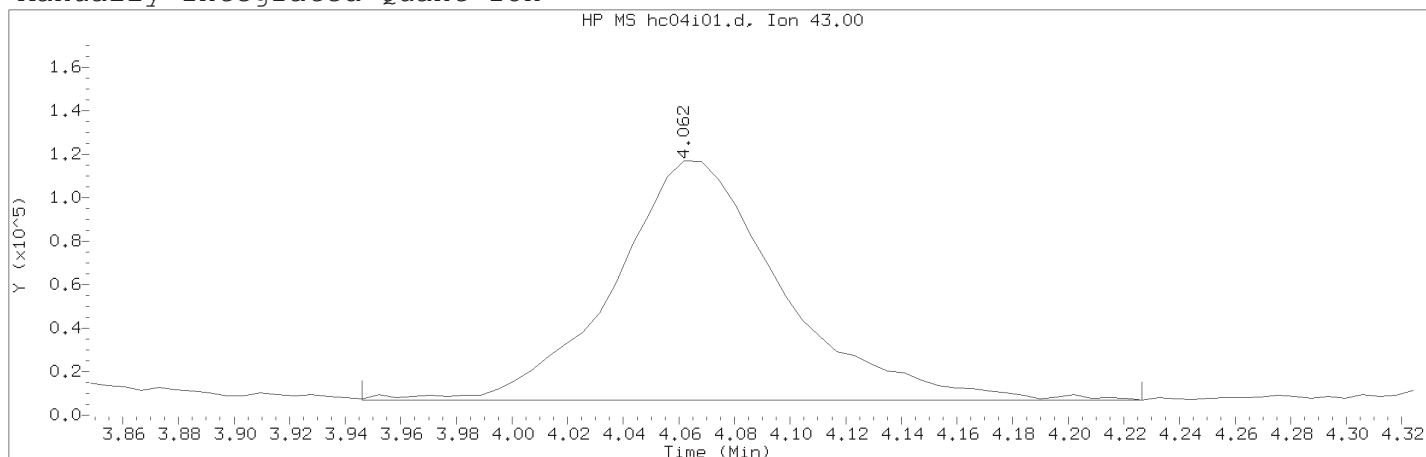
page 4 of 4

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on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compound Number	: 21	
Compound Name	: Methyl Acetate	
Scan Number	: 406	
Retention Time (minutes)	: 4.062	
Quant Ion	: 43.00	
Area (flag)	: 460213M	
On-Column Amount (ng)	: 20.5087	
Integration start scan	: 386	Integration stop scan: 432
Y at integration start	: 7051	Y at integration end: 7051

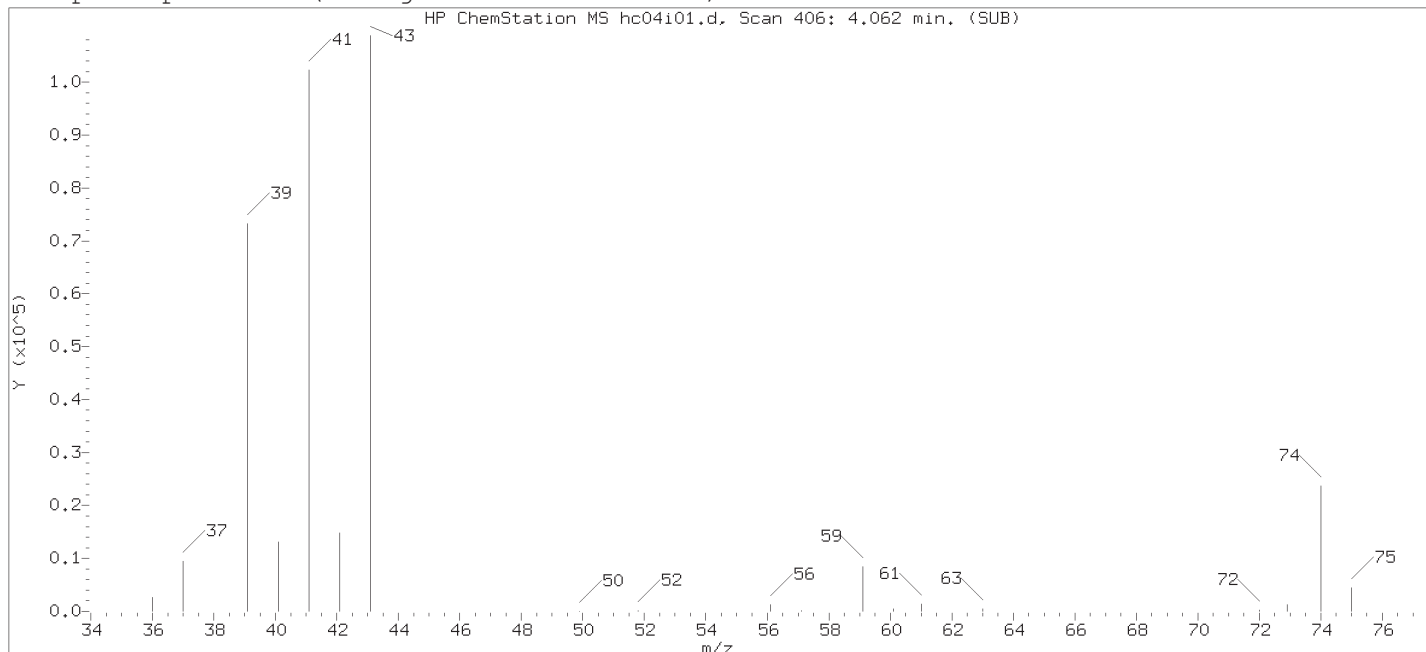
Reason for manual integration: improper integration

Analyst responsible for change:

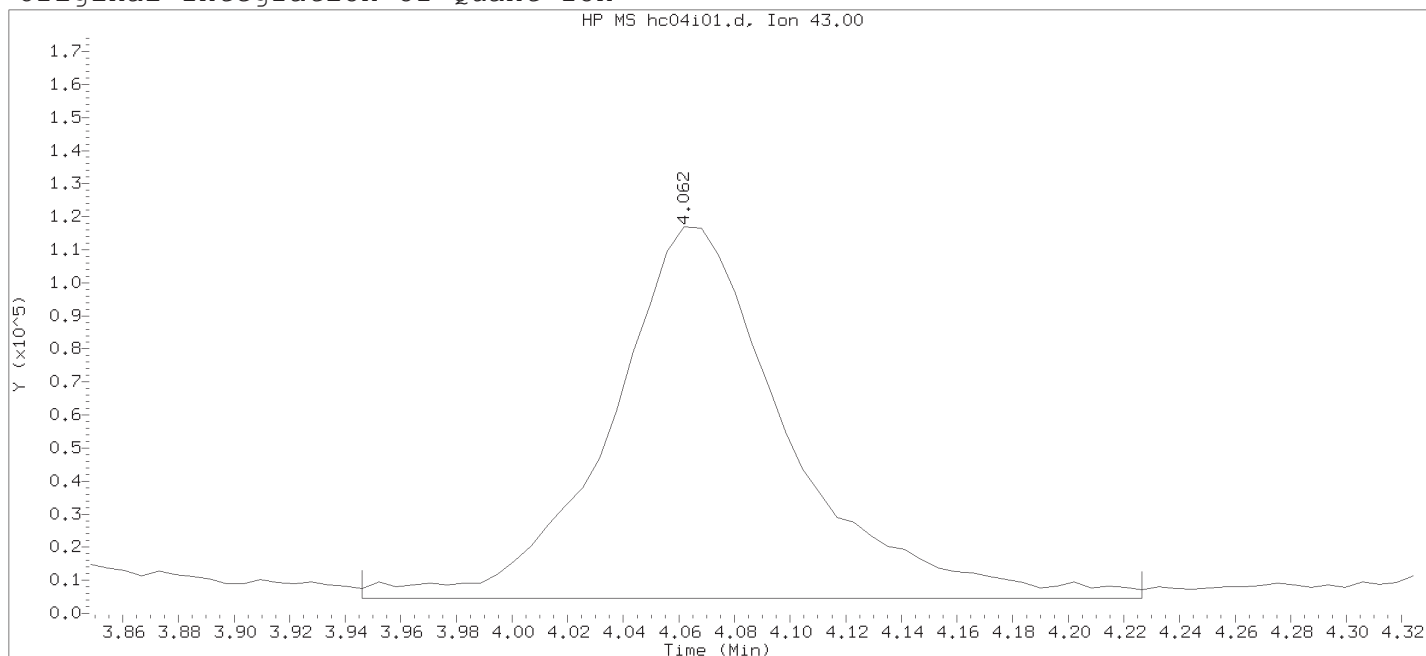
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:49.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 10:53

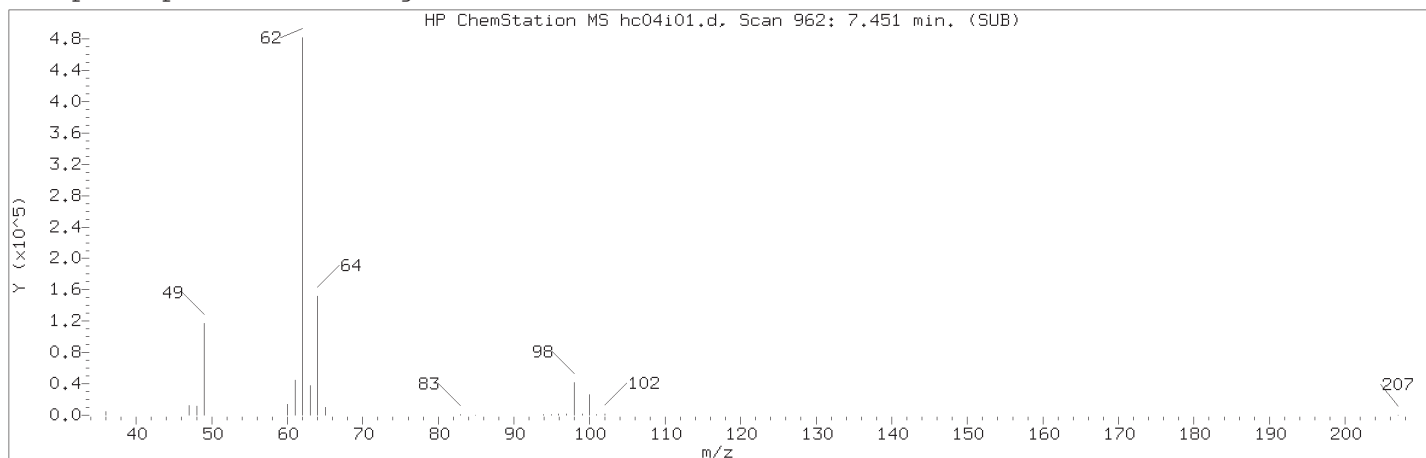
Date, time and analyst ID of latest file update: 04-Oct-2016 10:53 Automation

Sample Name: VSTD025

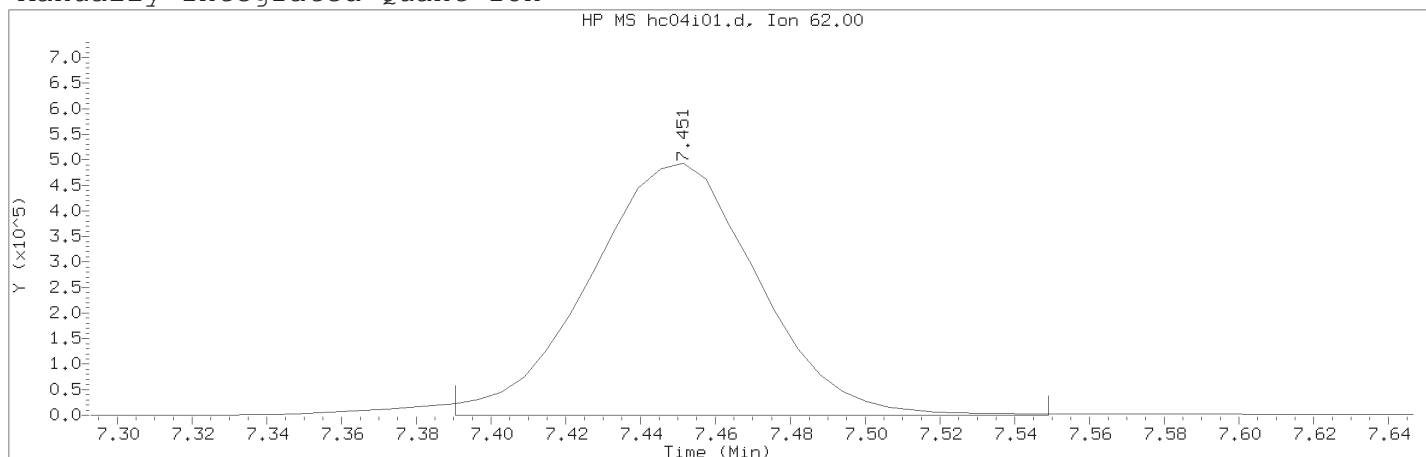
Lab Sample ID: VSTD025

Compound Number	: 21	
Compound Name	: Methyl Acetate	
Scan Number	: 406	
Retention Time (minutes)	: 4.062	
Quant Ion	: 43.00	
Area	: 502784	
On-column Amount (ng)	: 27.9419	
Integration start scan	: 386	Integration stop scan: 432
Y at integration start	: 4516	Y at integration end: 4516

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 10:34 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

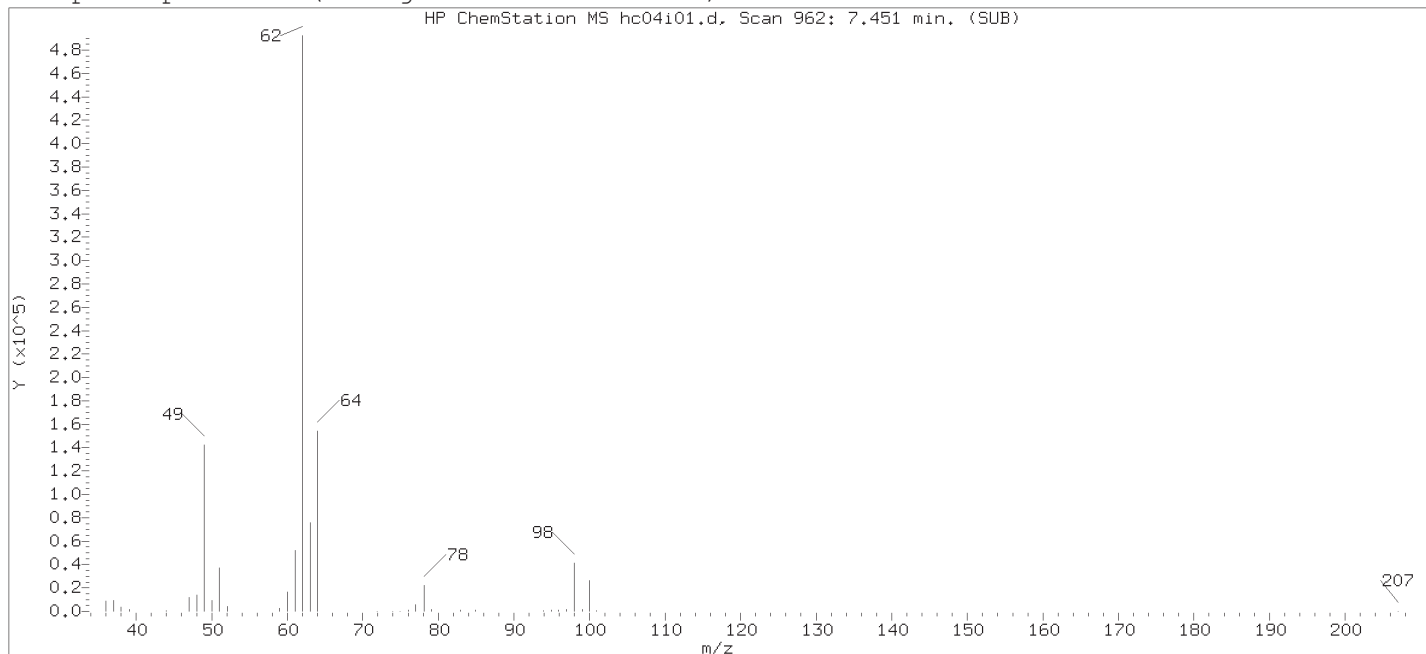
Compound Number	: 59	
Compound Name	: 1,2-Dichloroethane	
Scan Number	: 962	
Retention Time (minutes)	: 7.451	
Quant Ion	: 62.00	
Area (flag)	: 1543976M	
On-Column Amount (ng)	: 22.7368	
Integration start scan	: 951	Integration stop scan: 977
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

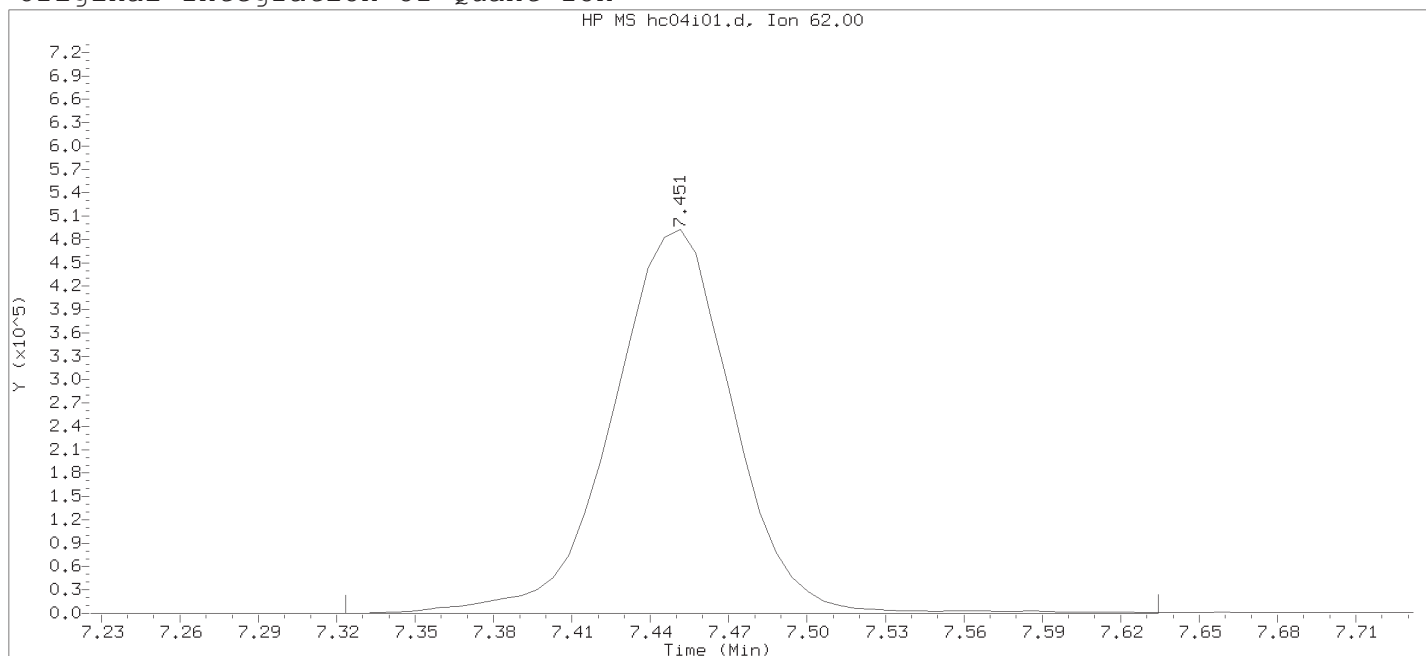
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:49.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 10:53

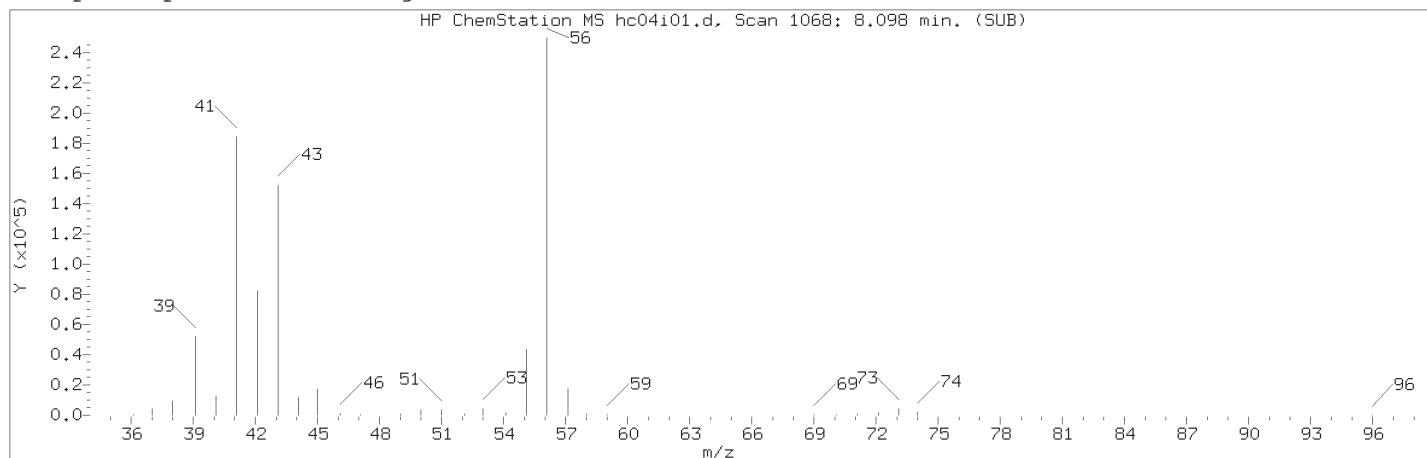
Date, time and analyst ID of latest file update: 04-Oct-2016 10:53 Automation

Sample Name: VSTD025

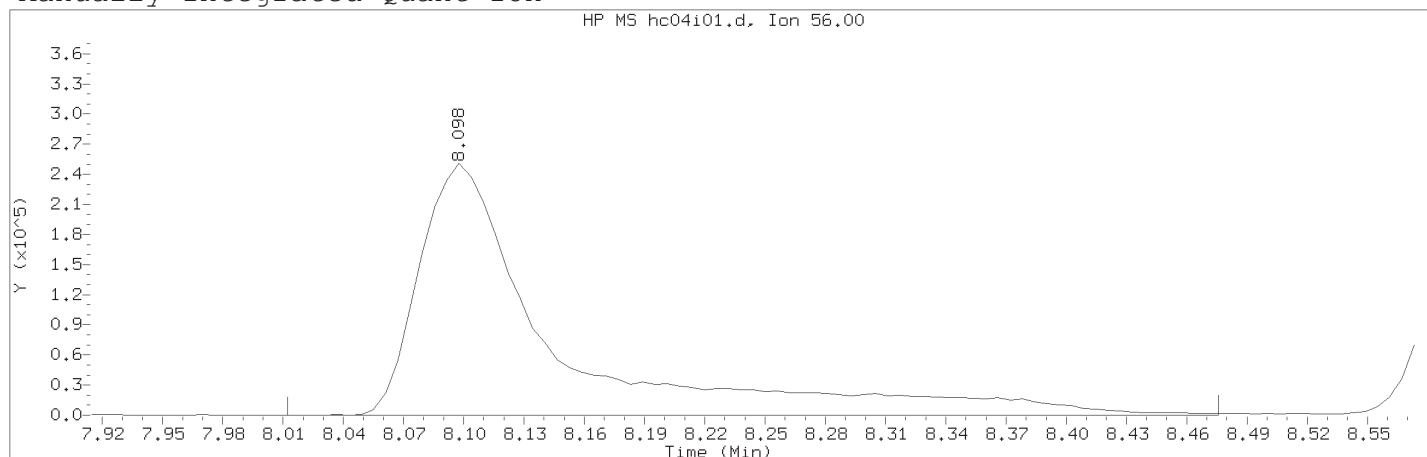
Lab Sample ID: VSTD025

Compound Number	: 59	
Compound Name	: 1,2-Dichloroethane	
Scan Number	: 962	
Retention Time (minutes)	: 7.451	
Quant Ion	: 62.00	
Area	: 1578065	
On-column Amount (ng)	: 26.3976	
Integration start scan	: 940	Integration stop scan: 991
Y at integration start	: 0	Y at integration end: 285

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compound Number	: 65	
Compound Name	: n-Butanol	
Scan Number	: 1068	
Retention Time (minutes)	: 8.098	
Quant Ion	: 56.00	
Area (flag)	: 1161185M	
On-Column Amount (ng)	: 2147.6962	
Integration start scan	: 1053	Integration stop scan: 1129
Y at integration start	: 0	Y at integration end: 0

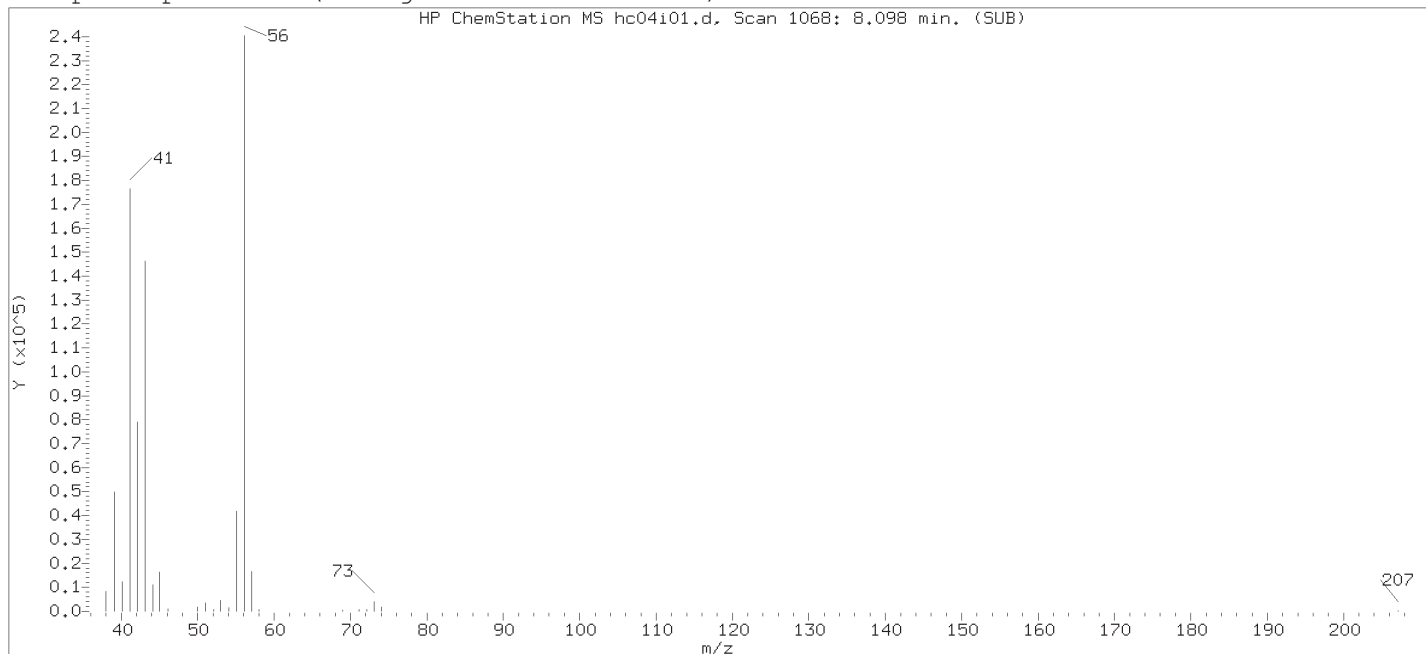
Reason for manual integration: improper integration

Analyst responsible for change:

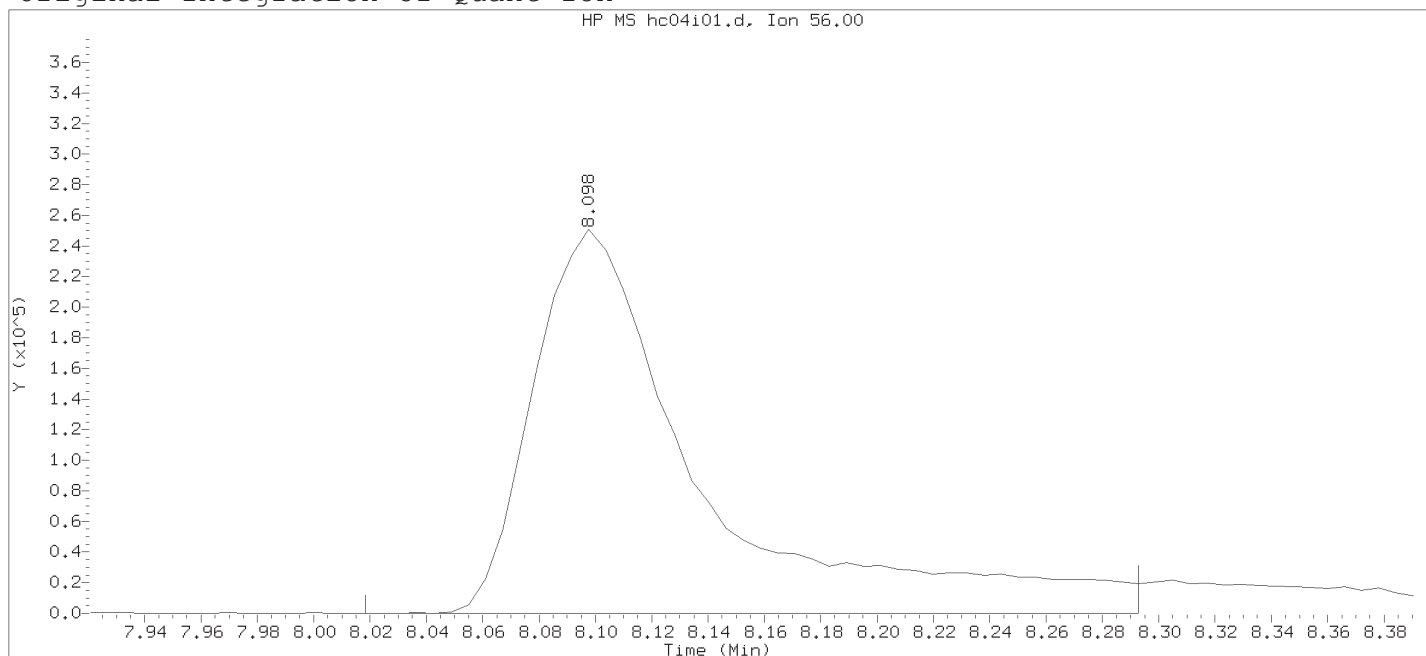
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:49.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 10:53

Date, time and analyst ID of latest file update: 04-Oct-2016 10:53 Automation

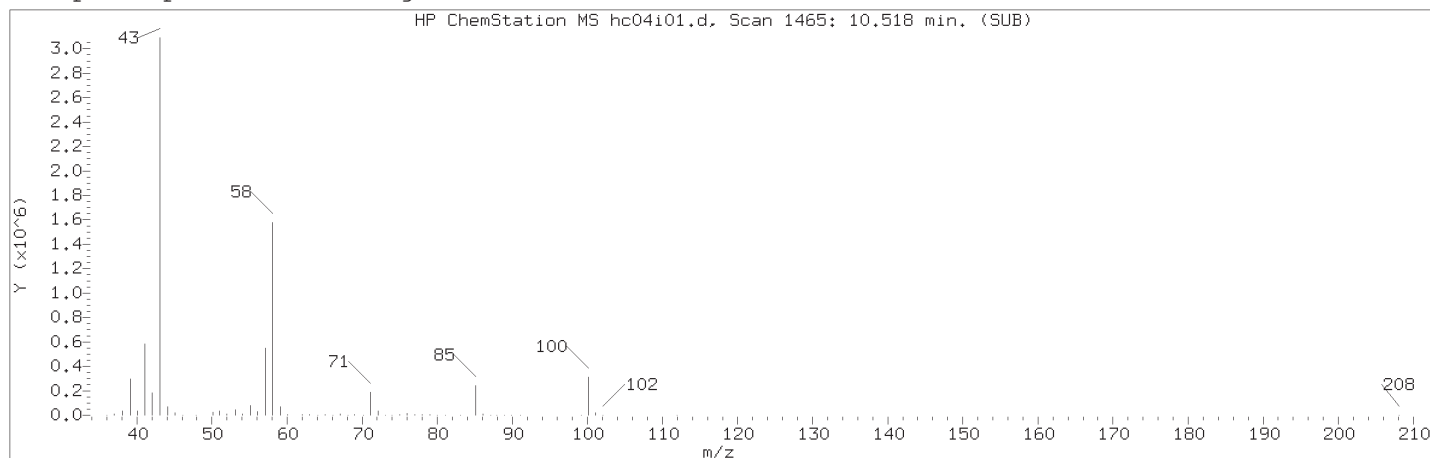
Sample Name: VSTD025

Lab Sample ID: VSTD025

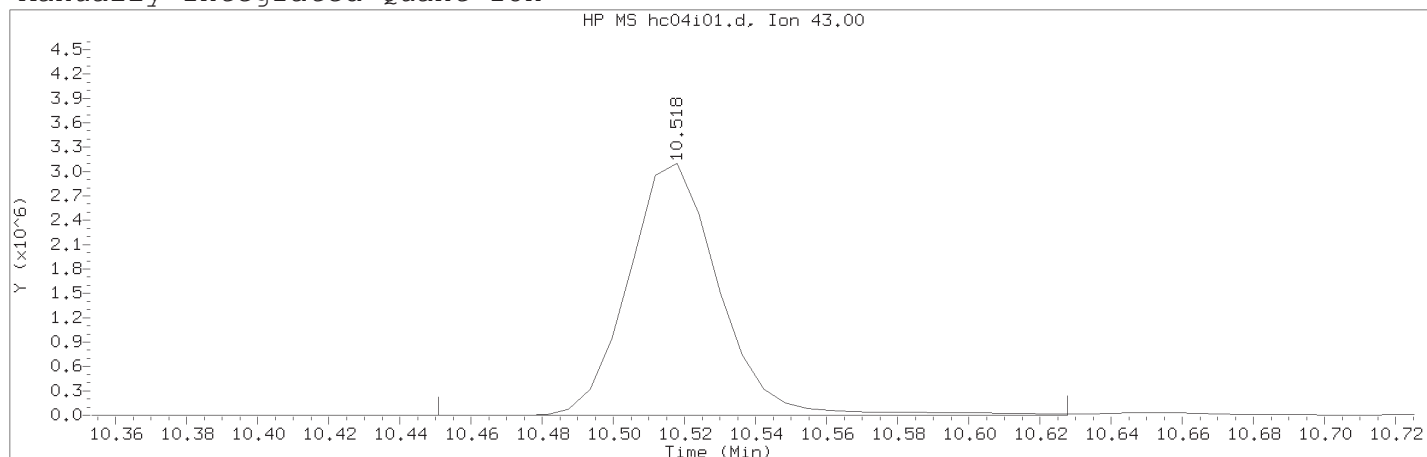
Compound Number : 65
 Compound Name : n-Butanol
 Scan Number : 1068
 Retention Time (minutes): 8.098
 Quant Ion : 56.00
 Area : 1034038
 On-column Amount (ng) : 1994.5911
 Integration start scan : 1054
 Y at integration start : 0

Integration stop scan: 1099
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compound Number	: 91	
Compound Name	: 2-Hexanone	
Scan Number	: 1465	
Retention Time (minutes)	: 10.518	
Quant Ion	: 43.00	
Area (flag)	: 5474394M	
On-Column Amount (ng)	: 241.3697	
Integration start scan	: 1453	Integration stop scan: 1482
Y at integration start	: 278	Y at integration end: 278

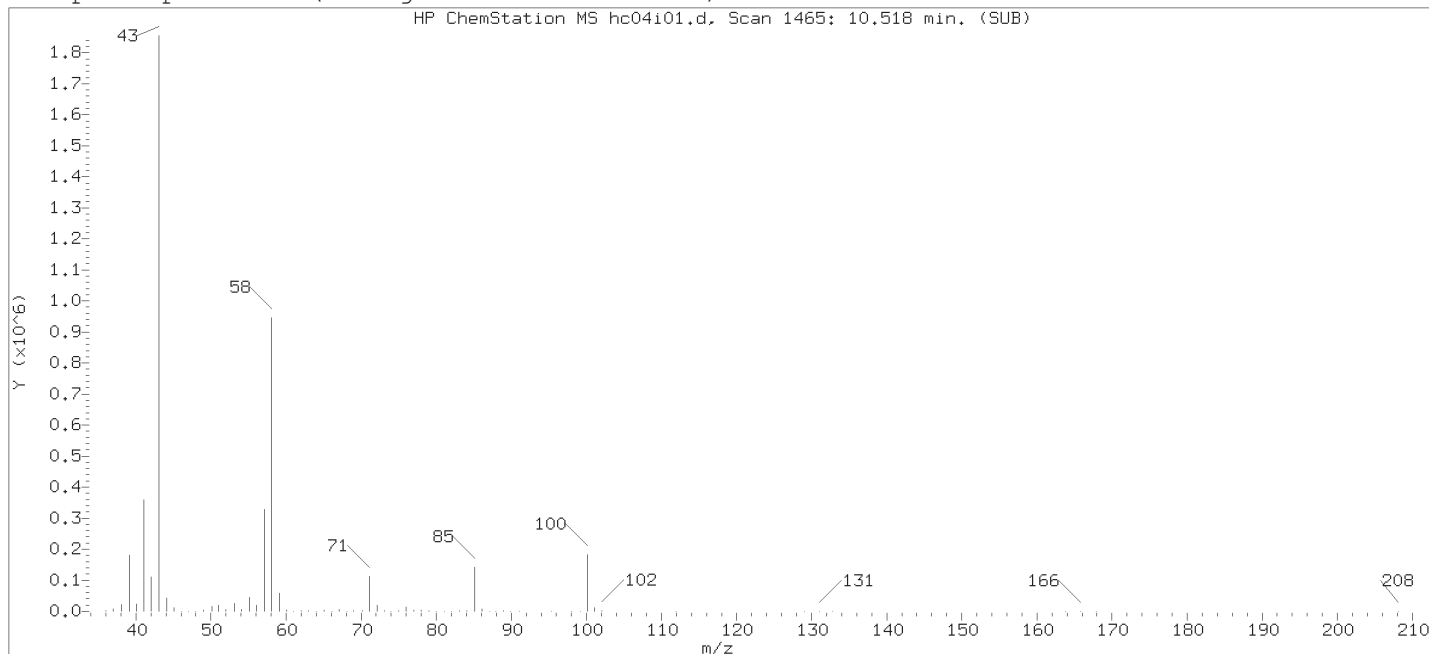
Reason for manual integration: improper integration

Analyst responsible for change:

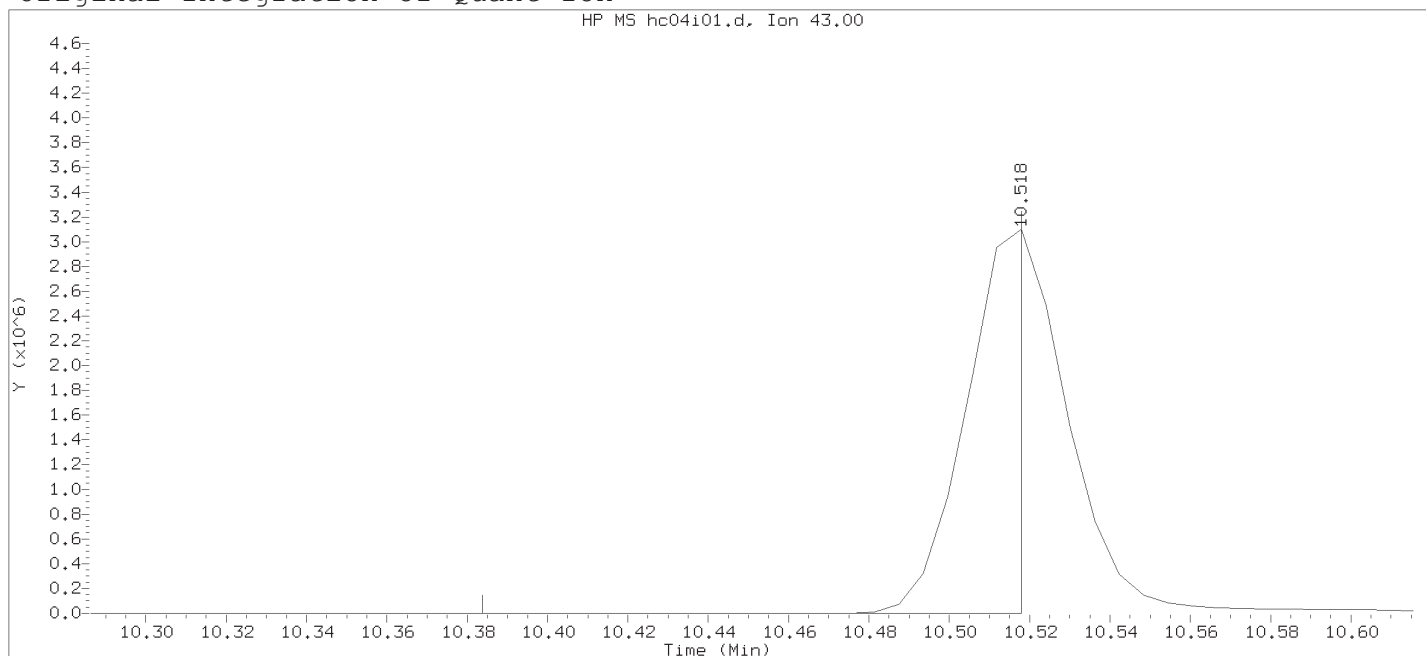
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:49.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 10:53

Date, time and analyst ID of latest file update: 04-Oct-2016 10:53 Automation

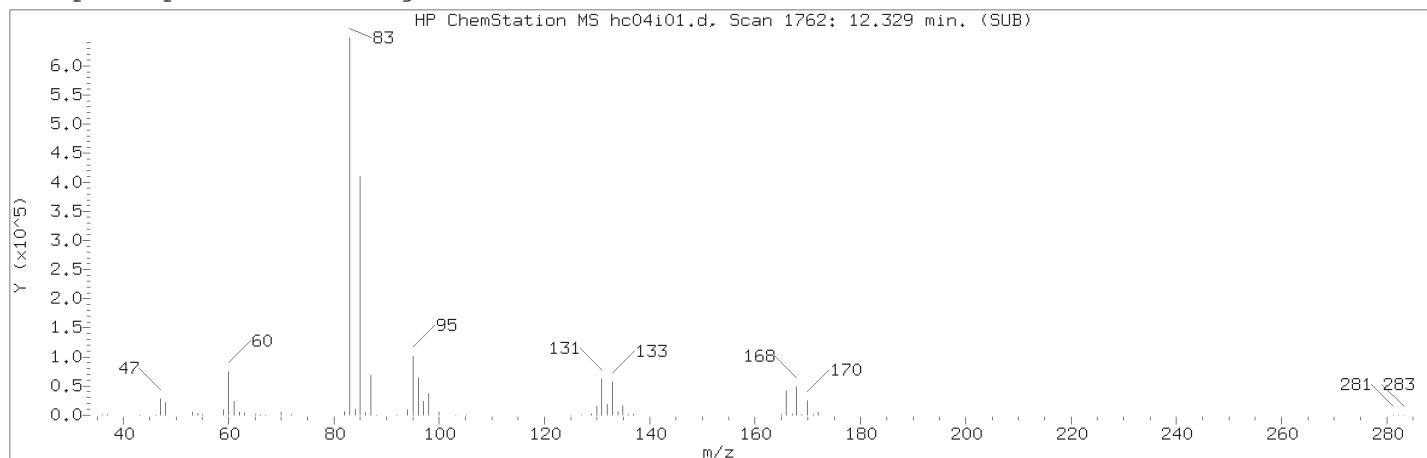
Sample Name: VSTD025

Lab Sample ID: VSTD025

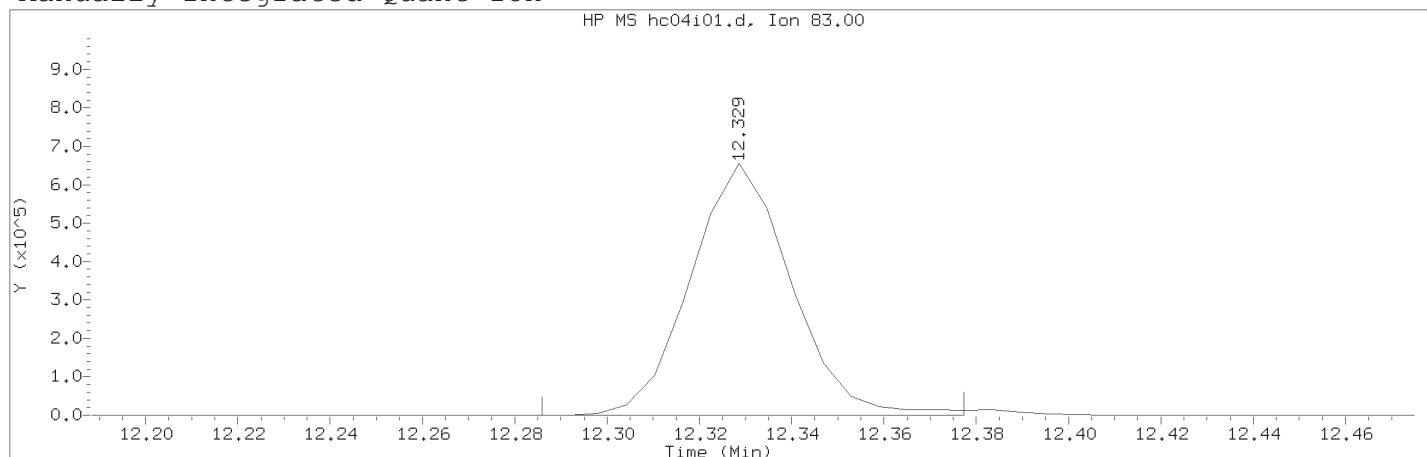
Compound Number : 91
 Compound Name : 2-Hexanone
 Scan Number : 1465
 Retention Time (minutes) : 10.518
 Quant Ion : 43.00
 Area : 2844218
 On-column Amount (ng) : 169.7472
 Integration start scan : 1442
 Y at integration start : 406

Integration stop scan: 1464
 Y at integration end: 406

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 10:34 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

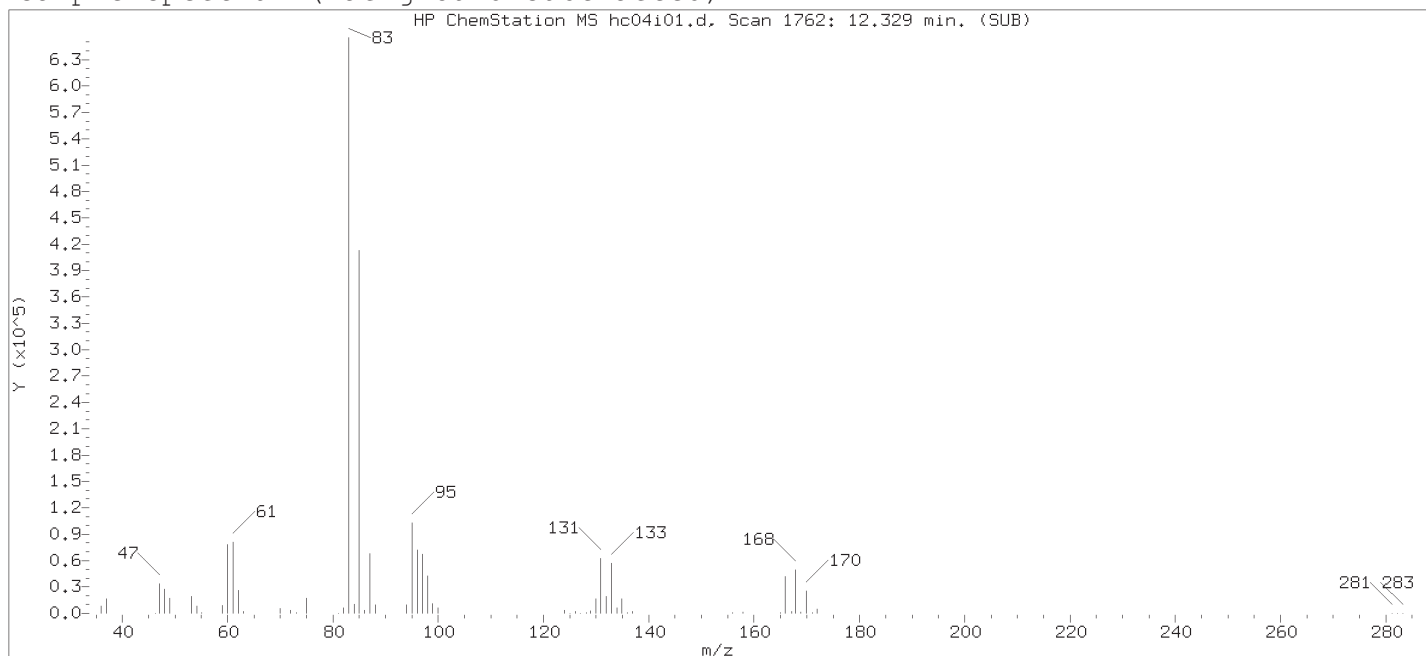
Compound Number	: 113	
Compound Name	: 1,1,2,2-Tetrachloroethane	
Scan Number	: 1762	
Retention Time (minutes)	: 12.329	
Quant Ion	: 83.00	
Area (flag)	: 991627M	
On-Column Amount (ng)	: 22.2697	
Integration start scan	: 1754	Integration stop scan: 1769
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

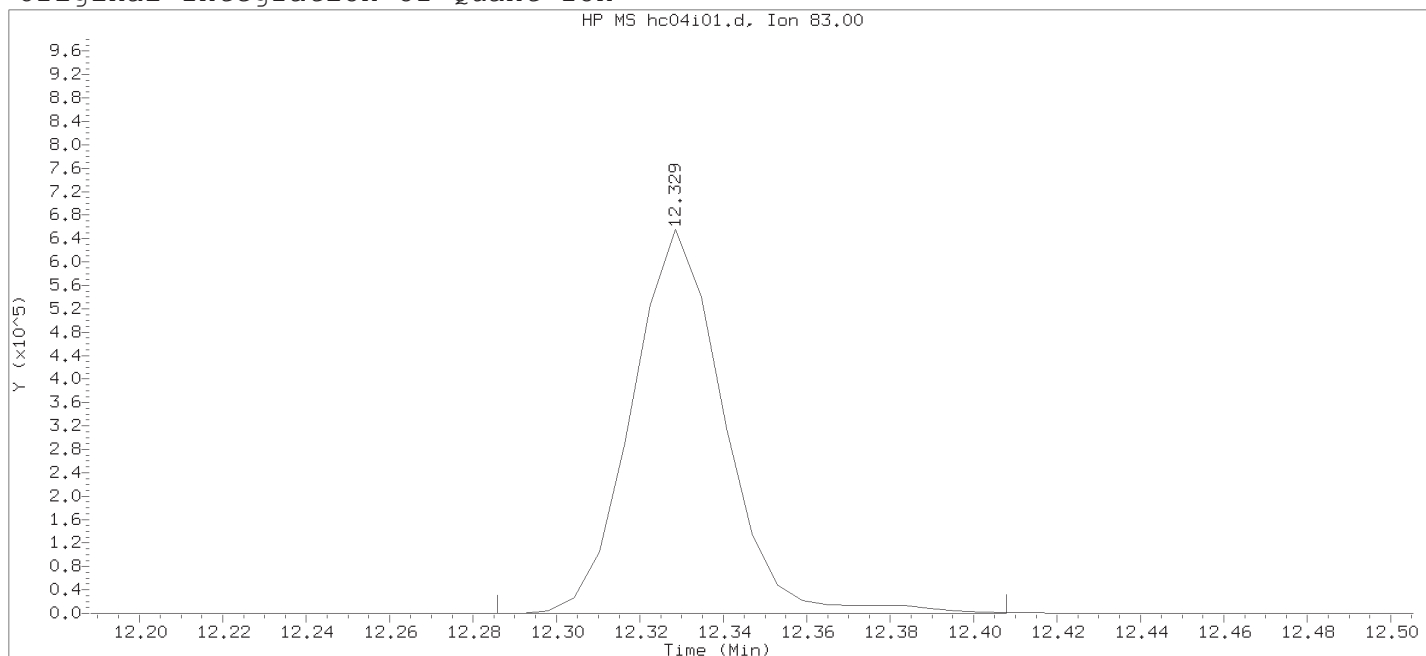
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:49.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 10:53

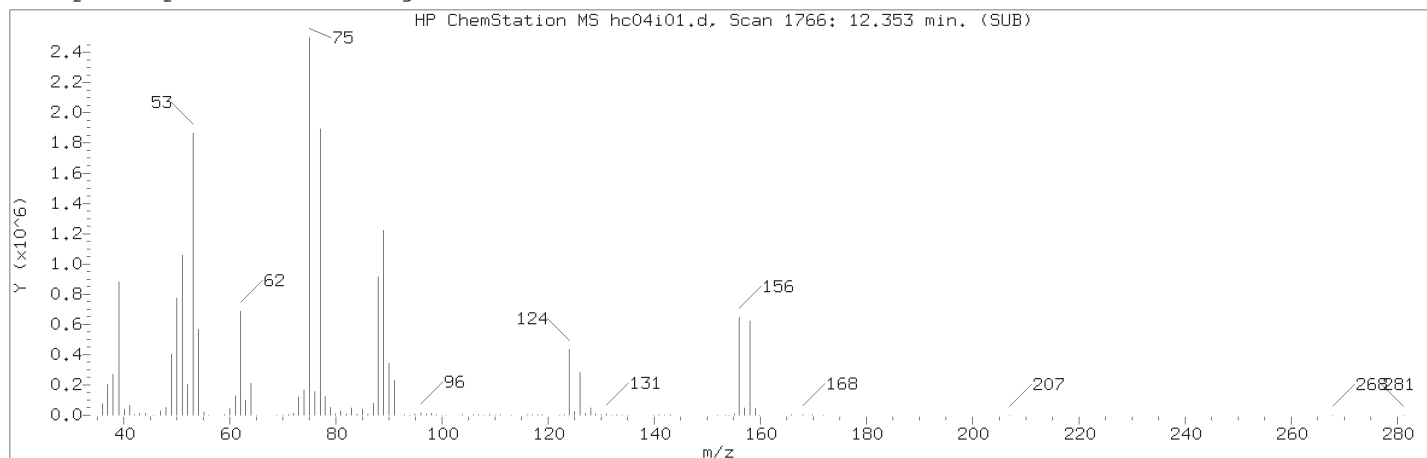
Date, time and analyst ID of latest file update: 04-Oct-2016 10:53 Automation

Sample Name: VSTD025

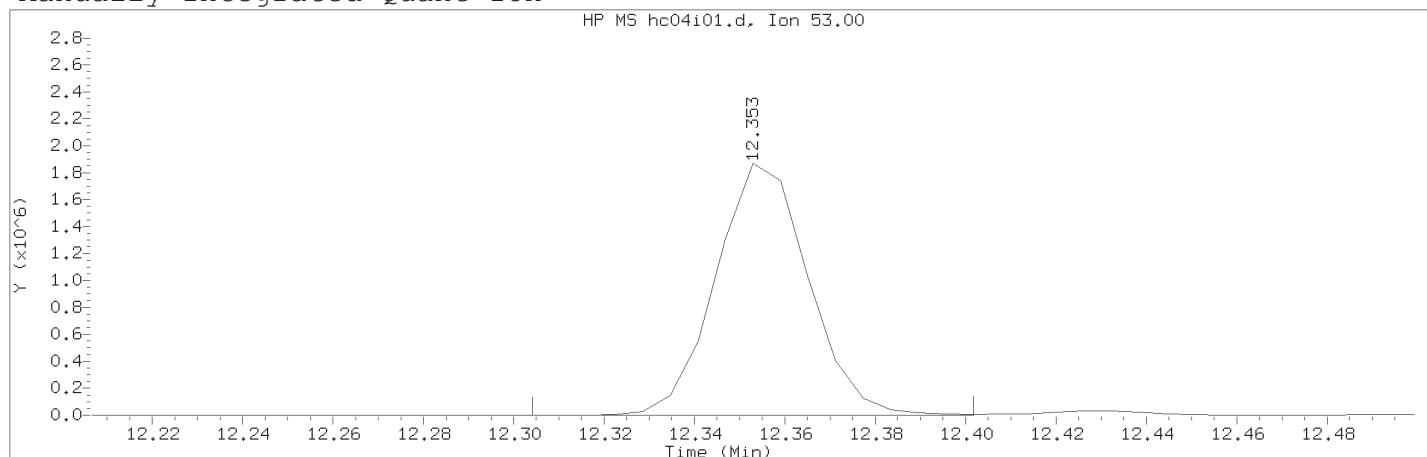
Lab Sample ID: VSTD025

Compound Number	: 113	
Compound Name	: 1,1,2,2-Tetrachloroethane	
Scan Number	: 1762	
Retention Time (minutes)	: 12.329	
Quant Ion	: 83.00	
Area	: 1001525	
On-column Amount (ng)	: 21.3307	
Integration start scan	: 1754	Integration stop scan: 1774
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compound Number	: 115	
Compound Name	: trans-1,4-Dichloro-2-butene	
Scan Number	: 1766	
Retention Time (minutes)	: 12.353	
Quant Ion	: 53.00	
Area (flag)	: 2654196A	
On-Column Amount (ng)	: 273.3461	
Integration start scan	: 1757	Integration stop scan: 1773
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

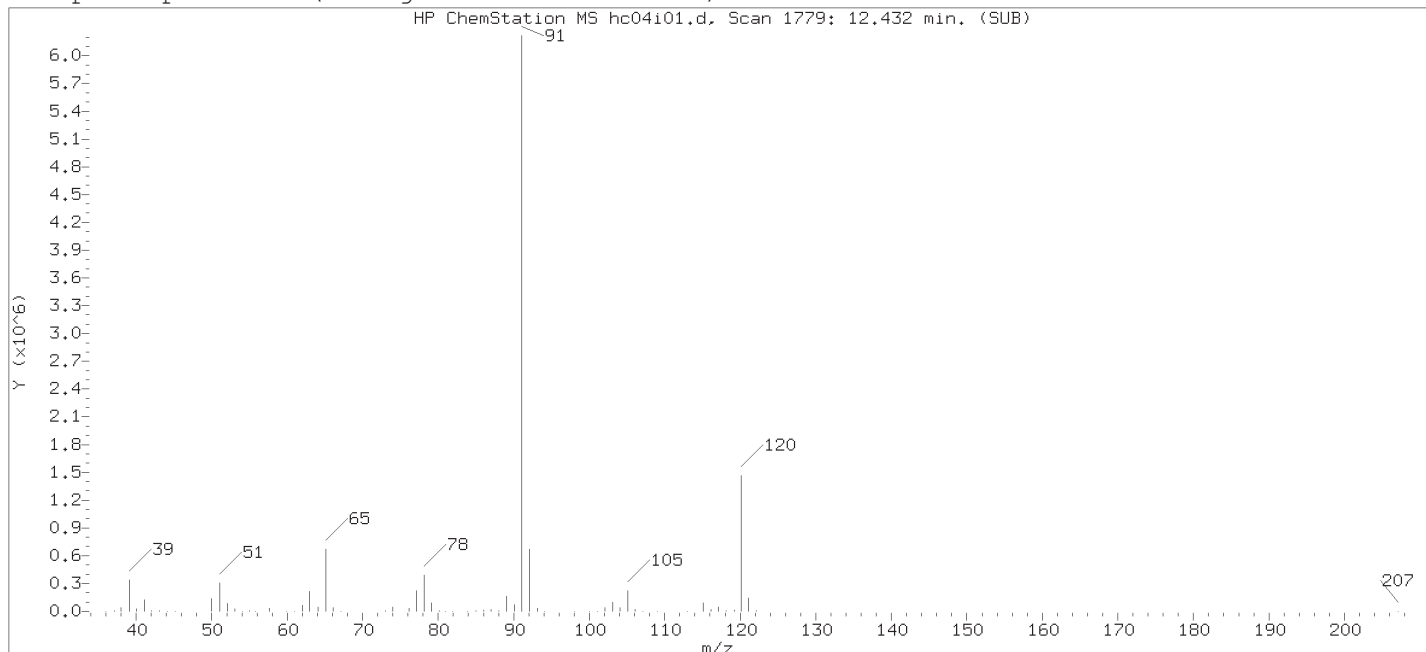
Analyst responsible for change:

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

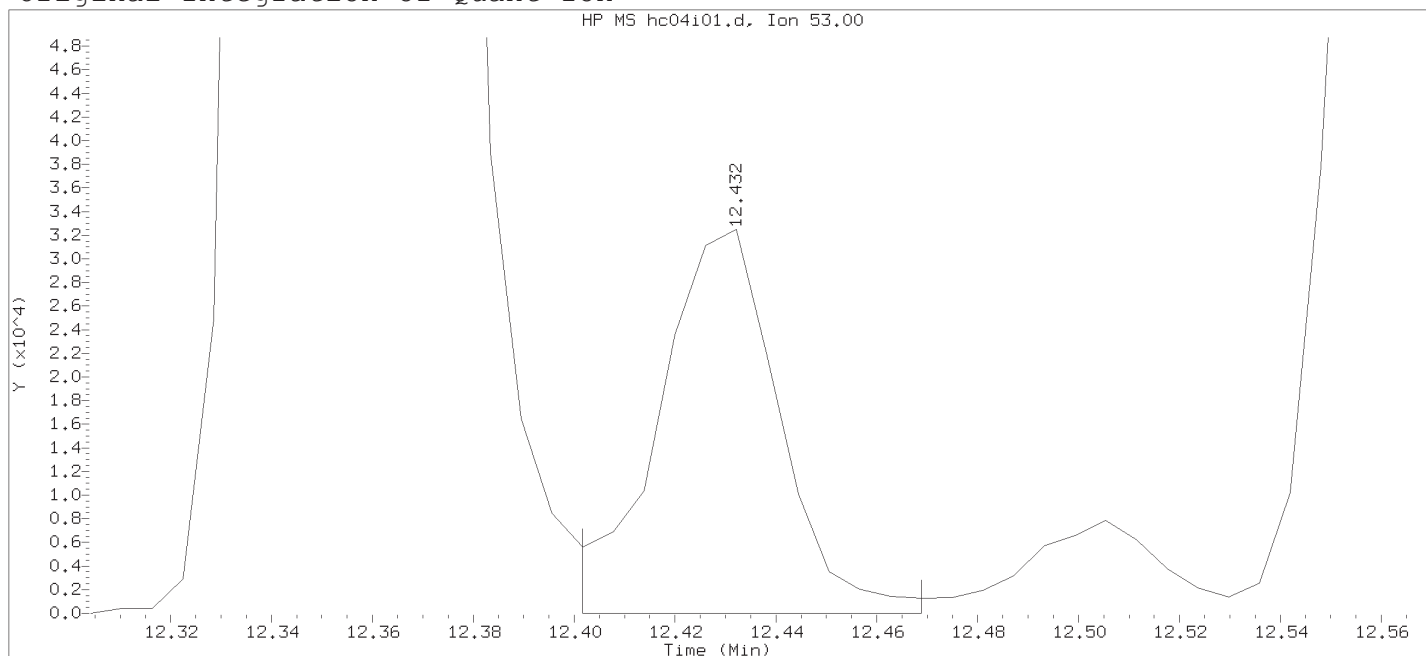
Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:49.

PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 10:53

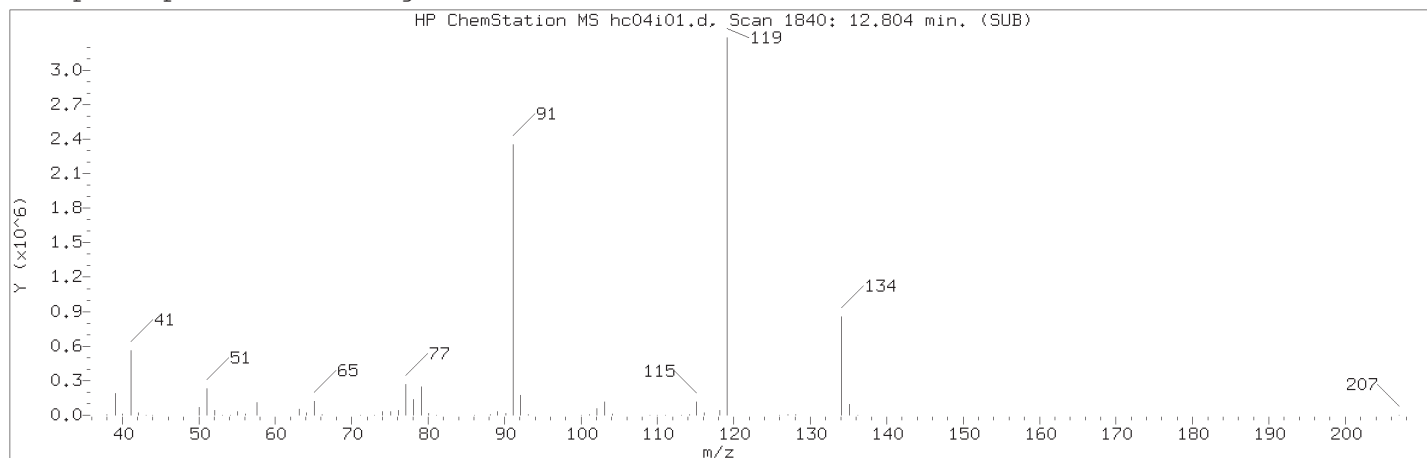
Date, time and analyst ID of latest file update: 04-Oct-2016 10:53 Automation

Sample Name: VSTD025

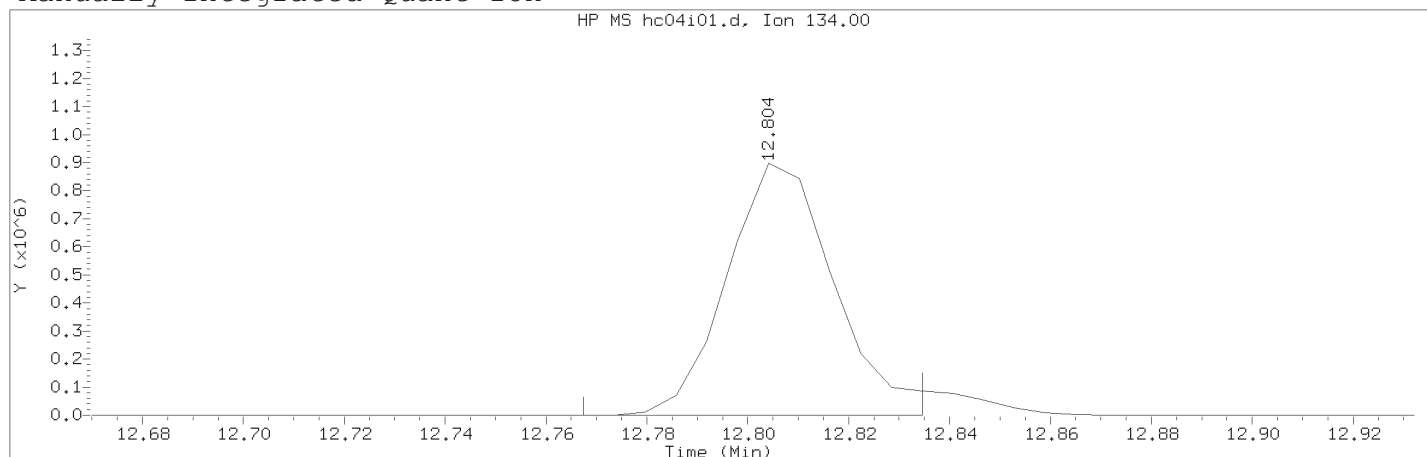
Lab Sample ID: VSTD025

Compound Number	: 115	
Compound Name	: trans-1,4-Dichloro-2-butene	
Scan Number	: 1779	
Retention Time (minutes)	: 12.432	
Quant Ion	: 53.00	
Area	: 53667	
On-column Amount (ng)	: 8.7933	
Integration start scan	: 1773	Integration stop scan: 1784
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compound Number	: 125	
Compound Name	: tert-Butylbenzene	
Scan Number	: 1840	
Retention Time (minutes)	: 12.804	
Quant Ion	: 134.00	
Area (flag)	: 1323911M	
On-Column Amount (ng)	: 23.1740	
Integration start scan	: 1833	Integration stop scan: 1844
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

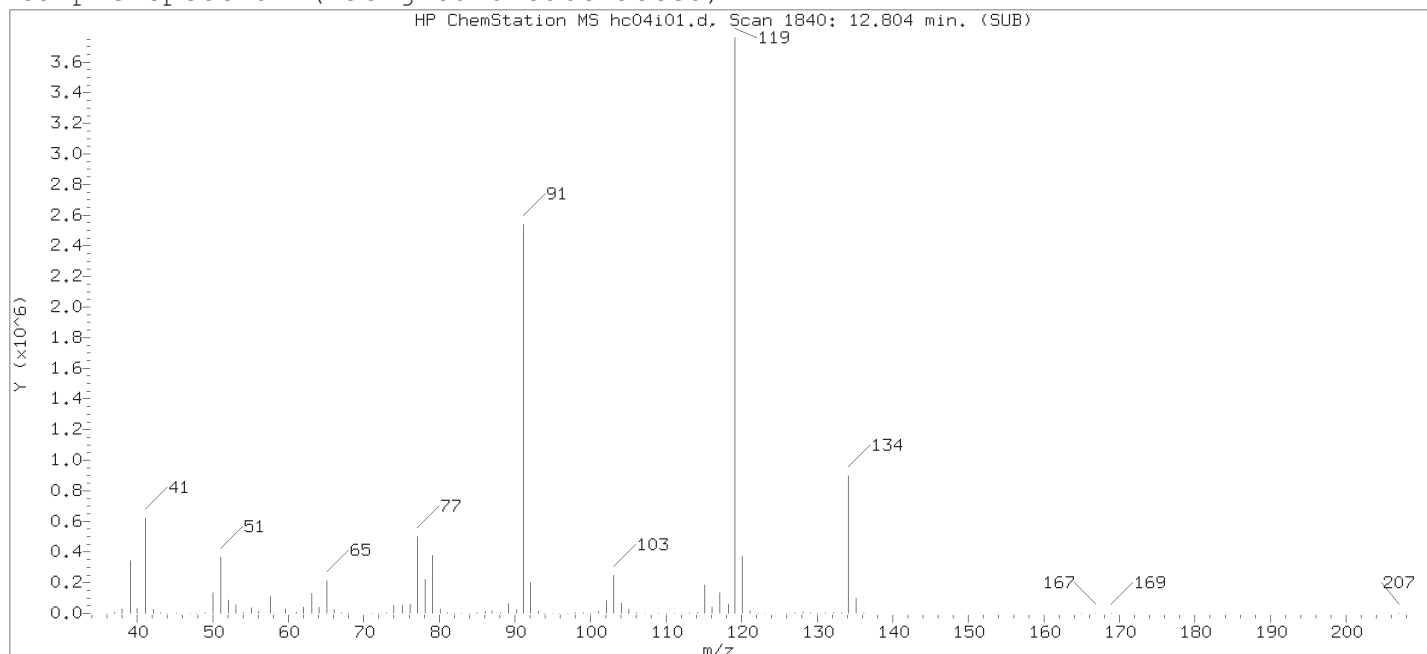
Analyst responsible for change:

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

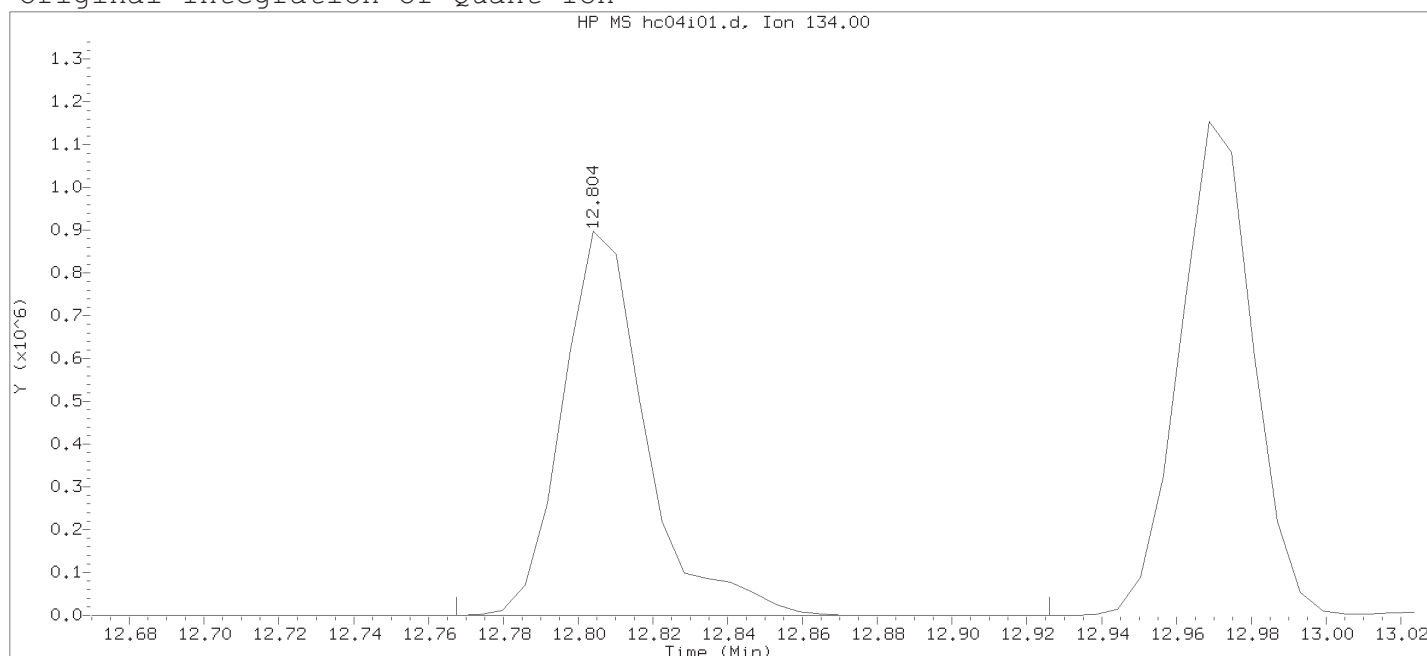
Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:49.

PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 10:53

Date, time and analyst ID of latest file update: 04-Oct-2016 10:53 Automation

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compound Number : 125

Compound Name : tert-Butylbenzene

Scan Number : 1840

Retention Time (minutes) : 12.804

Quant Ion : 134.00

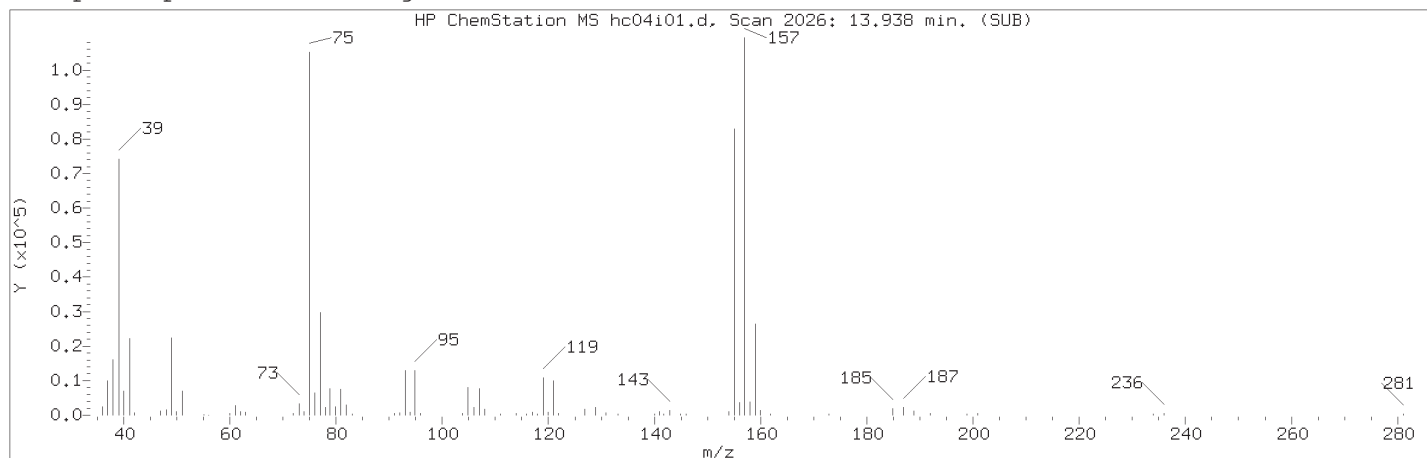
Area : 1385233

On-column Amount (ng) : 22.3782

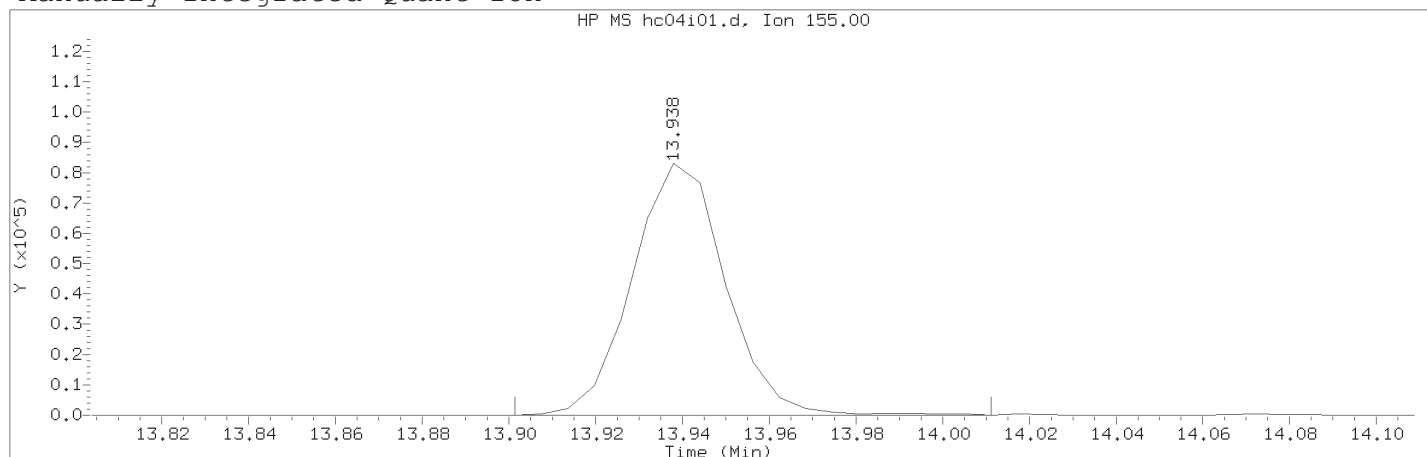
Integration start scan : 1833 Integration stop scan: 1859

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compound Number	: 143	
Compound Name	: 1,2-Dibromo-3-chloropropane	
Scan Number	: 2026	
Retention Time (minutes)	: 13.938	
Quant Ion	: 155.00	
Area (flag)	: 124084A	
On-Column Amount (ng)	: 26.0041	
Integration start scan	: 2019	Integration stop scan: 2037
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

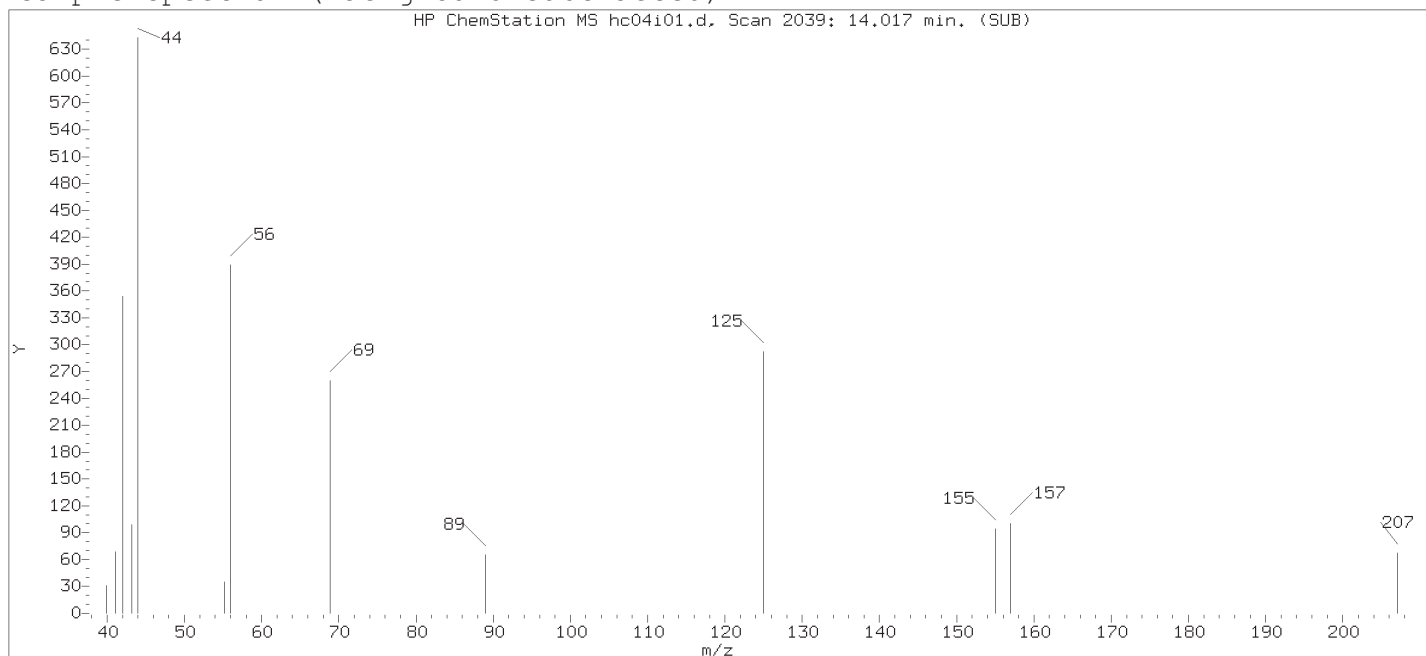
Analyst responsible for change:

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

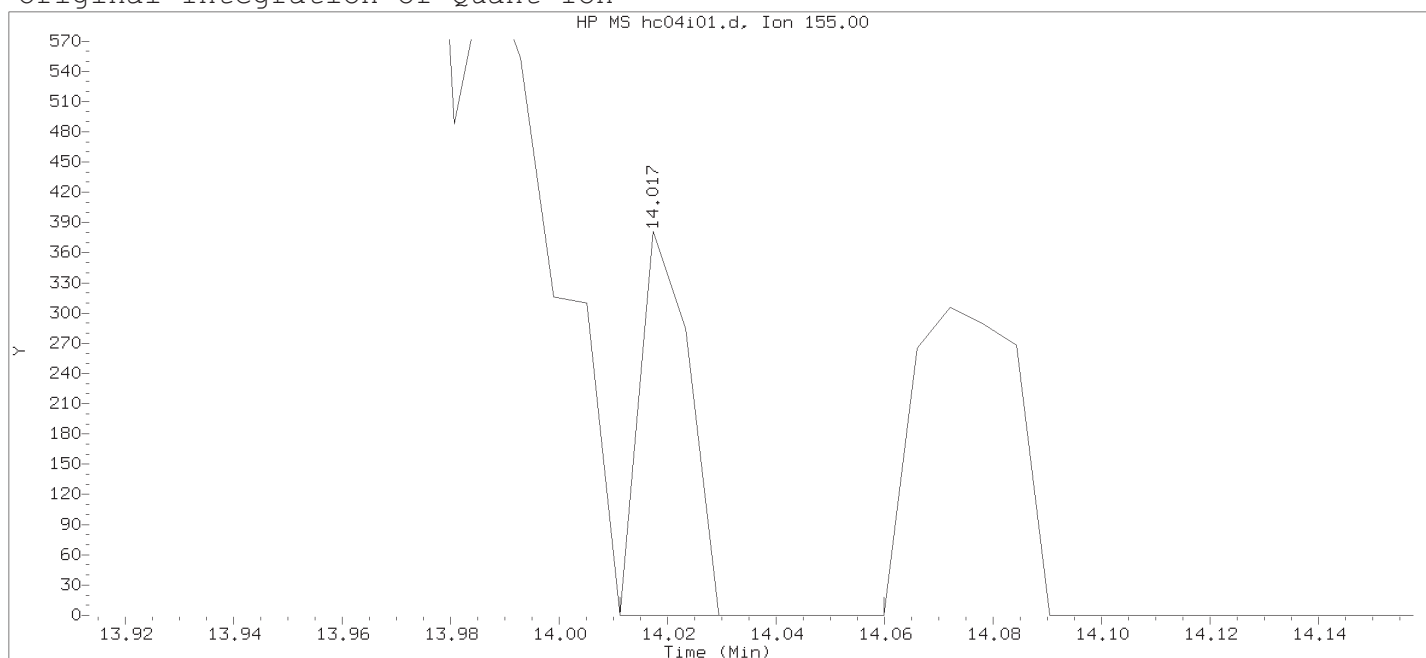
Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:49.

PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 10:53

Date, time and analyst ID of latest file update: 04-Oct-2016 10:53 Automation

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compound Number : 143

Compound Name : 1,2-Dibromo-3-chloropropane

Scan Number : 2039

Retention Time (minutes): 14.017

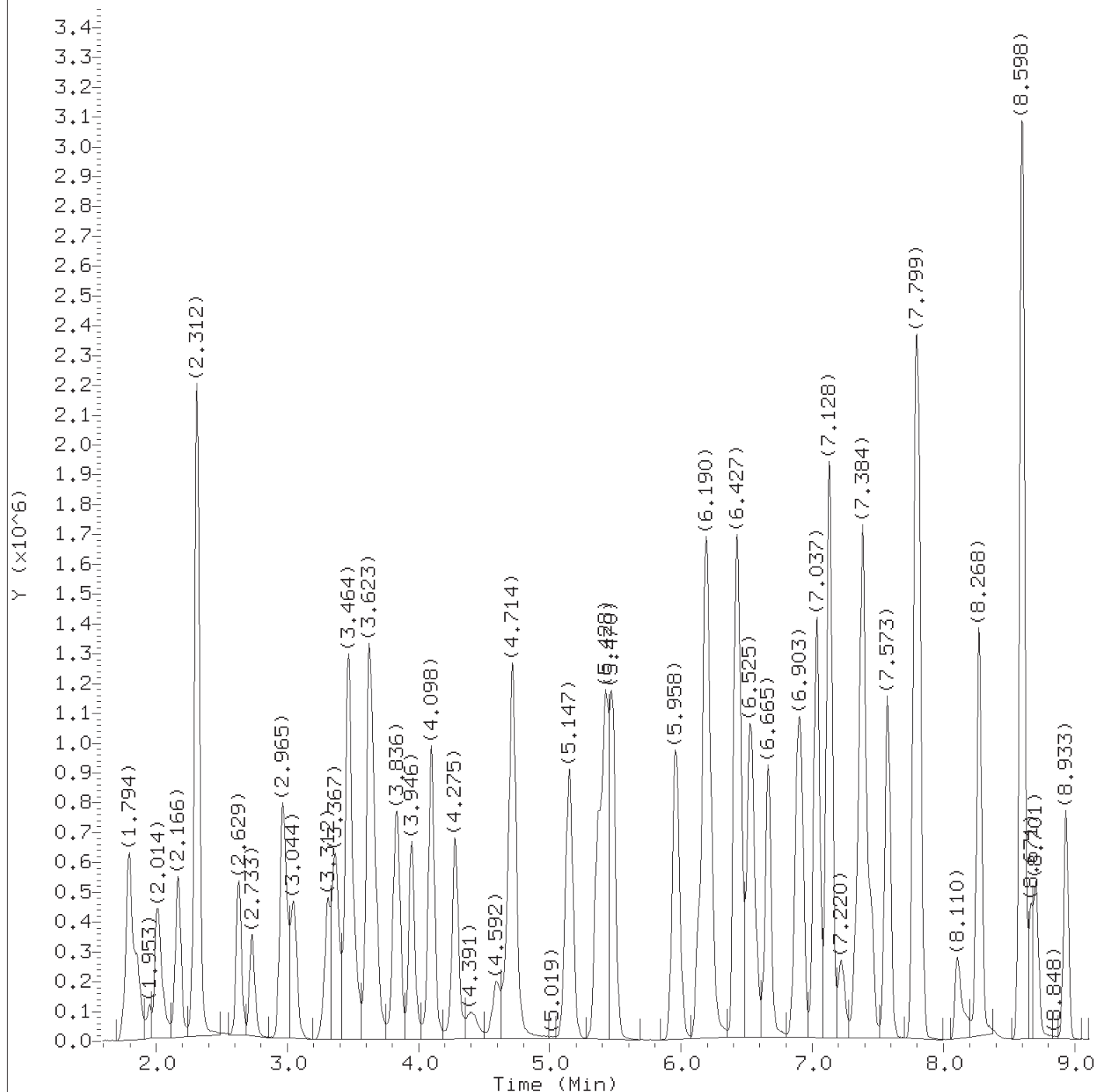
Quant Ion : 155.00

Area : 243

On-column Amount (ng) : 0.0670

Integration start scan : 2037 Integration stop scan: 2045

Y at integration start : 0 Y at integration end: 0



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d
Injection date and time: 04-OCT-2016 10:54

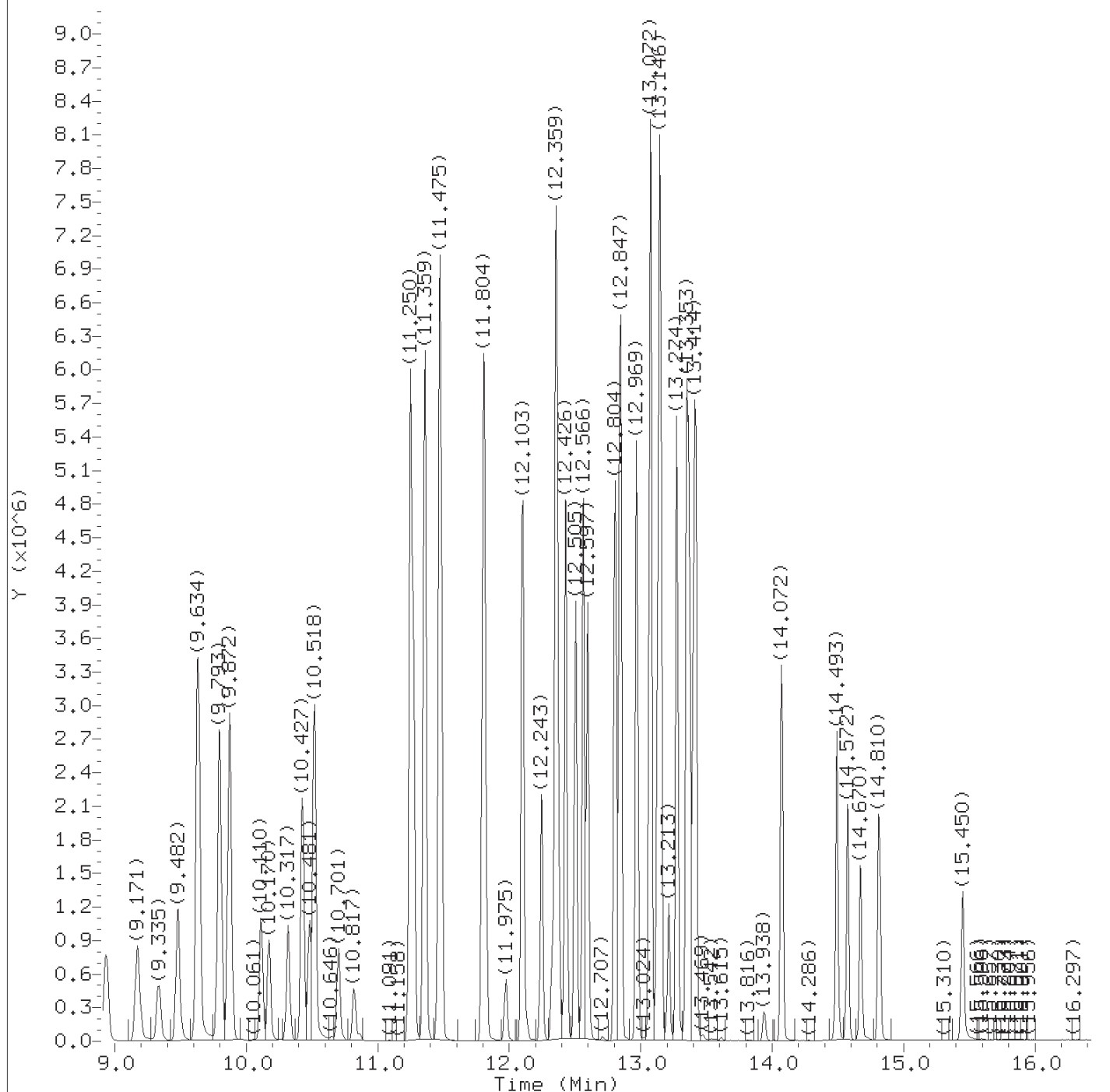
Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

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on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d
Injection date and time: 04-OCT-2016 10:54

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature User ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d
 Injection date and time: 04-OCT-2016 10:54

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:28
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.014	85	957588	10.079
2) Chloromethane	(2)	2.172	50	946986	9.313
5) Vinyl Chloride	(2)	2.306	62	868075	9.576
6) 1,3-Butadiene	(2)	2.312	39	1268667	9.131
7) Bromomethane	(2)	2.629	94	544767	9.367
8) Chloroethane	(2)	2.733	64	478057	9.328
9) Dichlorofluoromethane	(2)	2.958	67	1166159	9.532
10) Trichlorofluoromethane	(2)	3.044	101	1083198	9.846
11) Ethyl ether	(2)	3.300	59	398322	9.812
12) Freon 123a	(2)	3.367	67	749009	9.807
13) Acrolein	(1)	3.464	56	2434234	556.450
15) 1,1-Dichloroethene	(2)	3.617	96	496715	9.689
14) Acetone	(1)	3.635	43	571971	97.663
16) Freon 113	(2)	3.653	101	556218	9.927
17) Methyl Iodide	(2)	3.824	142	943870	9.634
18) Carbon Disulfide	(2)	3.946	76	1453886	9.353
21) Methyl Acetate	(1)	4.068	43	188632M	9.944
22) Allyl Chloride	(2)	4.098	41	1059300	9.498
23) Methylene Chloride	(2)	4.281	84	516557	9.391
26)*t-Butyl Alcohol-d10	(1)	4.287	65	60829M	50.000
28) t-Butyl Alcohol	(1)	4.409	59	303245	187.665
29) Acrylonitrile	(1)	4.592	53	413390	59.989
30) Methyl Tertiary Butyl Ether	(2)	4.702	73	1159973	9.699
31) trans-1,2-Dichloroethene	(2)	4.720	96	550494	9.474
32) n-Hexane	(2)	5.147	57	894865	10.103
33) 1,1-Dichloroethane	(2)	5.367	63	1101926	9.631
34) di-Isopropyl Ether	(2)	5.428	45	2003778	9.767
35) 2-Chloro-1,3-Butadiene	(2)	5.482	53	1042674	9.843
37) Ethyl t-butyl ether	(2)	5.958	59	1631417	9.802
40) 1,2-Dichloroethene (Total)	(2)		96	1163381	19.095
38) 2-Butanone	(1)	6.141	43	1166145	112.527
39) cis-1,2-Dichloroethene	(2)	6.190	96	612887	9.621
41) 2,2-Dichloropropane	(2)	6.208	77	904694	9.743
42) Propionitrile	(1)	6.214	54	481718	210.750
45) Methacrylonitrile	(1)	6.427	67	1125157	115.296
47) Bromochloromethane	(2)	6.519	128	251363	9.840
48) Tetrahydrofuran	(1)	6.549	71	302506	113.247
49) Chloroform	(2)	6.665	83	1060886	9.599

M = Compound was manually integrated.

* = Compound is an internal standard.

page 1 of 4

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 on 10/04/2016 at 15:33.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d
 Injection date and time: 04-OCT-2016 10:54

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:28
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
50) \$Dibromofluoromethane	(2)	6.878	113	507171	9.893
50) \$Dibromofluoromethane	(2)	6.885	111	516377	9.851
51) 1,1,1-Trichloroethane	(2)	6.915	97	955241	9.600
52) Cyclohexane	(2)	7.031	56	1123269	9.620
52) Cyclohexane	(2)	7.037	84	885828	9.193
52) Cyclohexane	(2)	7.037	69	326411	9.911
55) 1,1-Dichloropropene	(2)	7.128	75	885794	9.848
54) Carbon Tetrachloride	(2)	7.141	117	847544	9.861
56) Isobutyl Alcohol	(1)	7.226	41	322002	514.568
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	80269	9.746
57) \$1,2-Dichloroethane-d4	(2)	7.342	65	436260	9.622
57) \$1,2-Dichloroethane-d4	(2)	7.342	104	51299	9.734
58) Benzene	(2)	7.384	78	2316767	9.661
59) 1,2-Dichloroethane	(2)	7.445	62	615485M	9.219
60) t-Amyl methyl ether	(2)	7.573	73	1327047	9.829
63) *Fluorobenzene	(2)	7.787	96	2235292	10.000
62) n-Heptane	(2)	7.811	43	1031212	9.670
65) n-Butanol	(1)	8.110	56	488953	1069.781
67) Trichloroethene	(2)	8.268	95	637769	9.707
70) 1,2-Dichloropropane	(2)	8.598	63	594413	9.738
69) Methylcyclohexane	(2)	8.604	83	1152688	10.047
71) Methyl Methacrylate	(1)	8.665	69	233126M	12.975
73) Dibromomethane	(2)	8.707	93	247040	9.665
72) 1,4-Dioxane	(1)	8.720	88	61754	592.908
74) Bromodichloromethane	(2)	8.933	83	692458	9.904
76) 2-Nitropropane	(1)	9.171	41	782825	117.778
80) cis-1,3-Dichloropropene	(2)	9.482	75	810380	10.211
81) 4-Methyl-2-Pentanone	(1)	9.634	43	3242569	117.073
82) \$Toluene-d8	(3)	9.799	98	2194312	9.979
82) \$Toluene-d8	(3)	9.793	100	1404174	9.930
83) Toluene	(3)	9.872	92	1456561	9.639
84) trans-1,3-Dichloropropene	(3)	10.110	75	630011	10.274
85) 1,3-Dichloropropene (total)	(3)		75	1440391	20.485
86) Ethyl Methacrylate	(3)	10.170	69	483838	10.233
88) 1,1,2-Trichloroethane	(3)	10.317	97	340285	9.782
89) Tetrachloroethene	(3)	10.427	166	705580	9.755
90) 1,3-Dichloropropane	(3)	10.481	76	612116	9.681
91) 2-Hexanone	(1)	10.518	43	2255562	117.641

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/04/2016 at 15:33.
 Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d
 Injection date and time: 04-OCT-2016 10:54

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:28
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
93) Dibromochloromethane	(3)	10.701	129	439129	10.180
95) 1,2-Dibromoethane	(3)	10.817	107	331985	10.092
97) *Chlorobenzene-d5	(3)	11.243	117	1455786	10.000
98) Chlorobenzene	(3)	11.274	112	1557505	9.673
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	548554	9.914
100) Ethylbenzene	(3)	11.359	91	2928719	9.849
101) m+p-Xylene	(3)	11.475	106	2215102	19.826
105) Xylene (Total)	(3)		106	3295714	29.742
104) o-Xylene	(3)	11.798	106	1080612	9.916
106) Styrene	(3)	11.816	104	1703294	10.215
107) Bromoform	(3)	11.975	173	239807	10.154
108) Isopropylbenzene	(3)	12.103	105	2909070	9.901
111) \$4-Bromofluorobenzene	(3)	12.243	95	641922	9.929
111) \$4-Bromofluorobenzene	(3)	12.249	174	580066	10.026
113) 1,1,2,2-Tetrachloroethane	(4)	12.329	83	398091	9.724
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	1029351A	125.401
114) Bromobenzene	(4)	12.365	156	642863	9.737
116) 1,2,3-Trichloropropane	(4)	12.383	110	104458	9.557
117) n-Propylbenzene	(4)	12.432	91	3489983	9.971
119) 2-Chlorotoluene	(4)	12.505	126	647184	9.782
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	2403474	9.983
122) 4-Chlorotoluene	(4)	12.597	126	661621	9.779
125) tert-Butylbenzene	(4)	12.804	134	511972M	9.747
126) Pentachloroethane	(4)	12.841	167	414102	10.189
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	2417260	9.945
128) sec-Butylbenzene	(4)	12.969	105	3112372	9.851
131) 1,3-Dichlorobenzene	(4)	13.072	146	1270936	9.899
132) p-Isopropyltoluene	(4)	13.078	119	2637708	10.006
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	661919	10.000
134) 1,4-Dichlorobenzene	(4)	13.146	146	1256859	9.411
135) 1,2,3-Trimethylbenzene	(4)	13.152	120	1021868	9.714
136) Benzyl Chloride	(4)	13.213	126	153743M	11.039
138) n-Butylbenzene	(4)	13.365	92	1292795	10.215
139) 1,2-Dichlorobenzene	(4)	13.402	146	1104249	9.668
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	49618	12.300
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	767483	9.434
146) Hexachlorobutadiene	(4)	14.578	225	366521	9.470
147) Naphthalene	(4)	14.676	128	1139794	9.229

M = Compound was manually integrated.

A = User selected an alternate hit.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
 on 10/04/2016 at 15:33.

Target 3.5 esignature user ID: kel01973

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page 3 of 4

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 10:54 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010

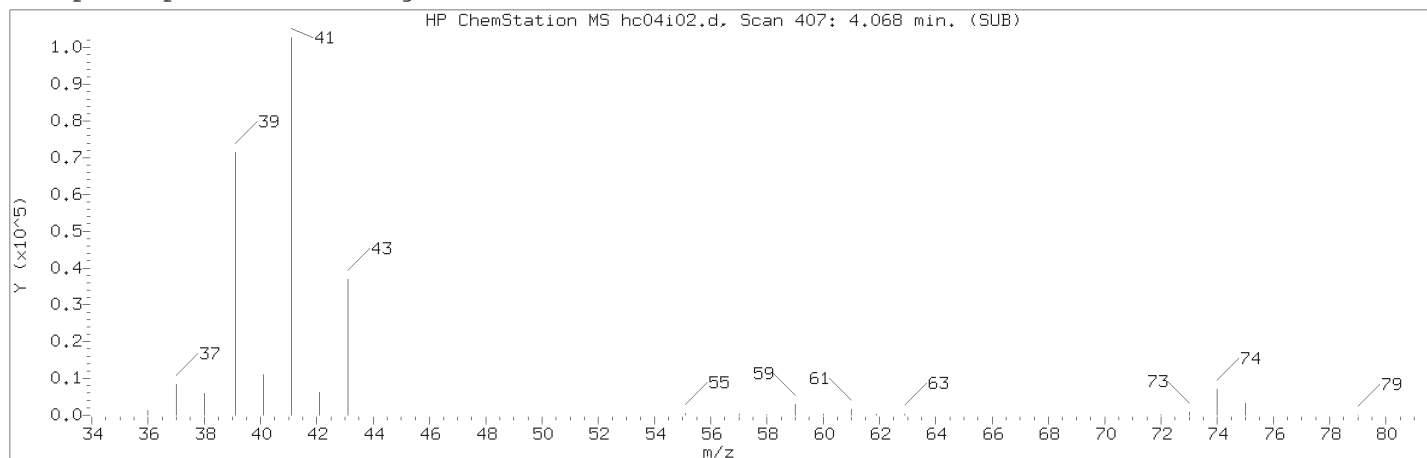
Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.816	180	615039	8.981

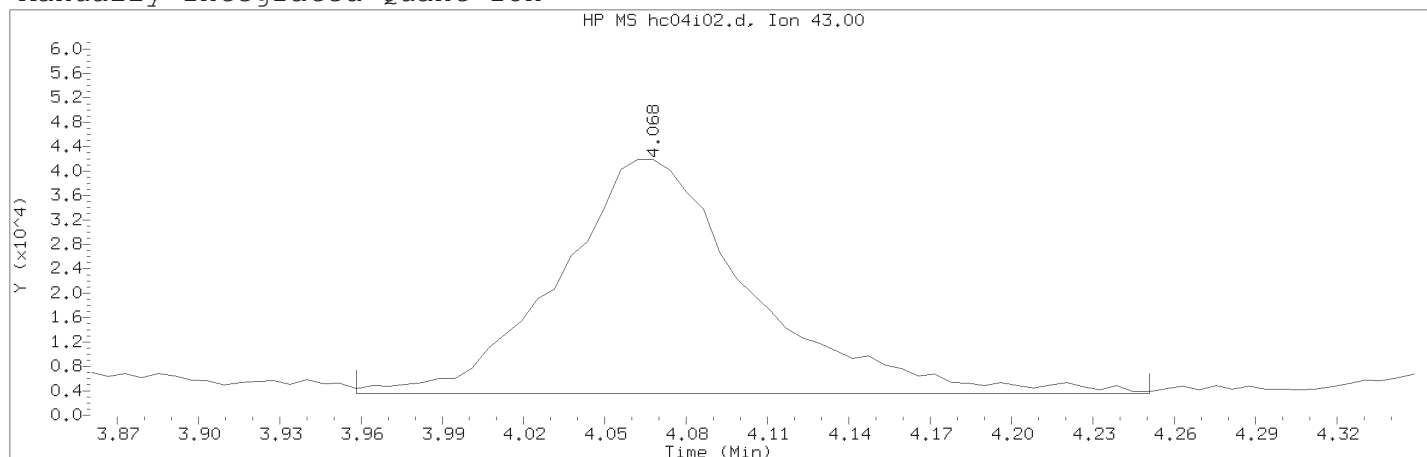
page 4 of 4

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 21	
Compound Name	: Methyl Acetate	
Scan Number	: 407	
Retention Time (minutes)	: 4.068	
Quant Ion	: 43.00	
Area (flag)	: 188632M	
On-Column Amount (ng)	: 9.9437	
Integration start scan	: 388	Integration stop scan: 436
Y at integration start	: 3580	Y at integration end: 3580

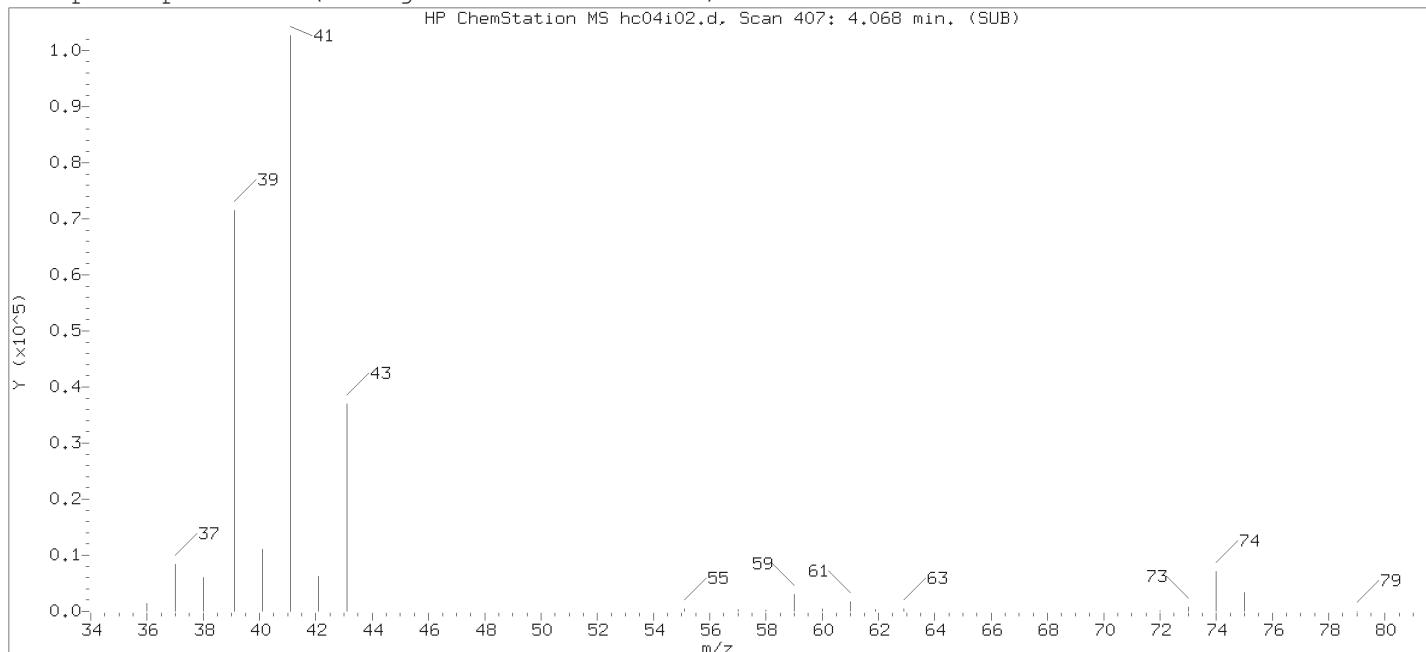
Reason for manual integration: improper integration

Analyst responsible for change:

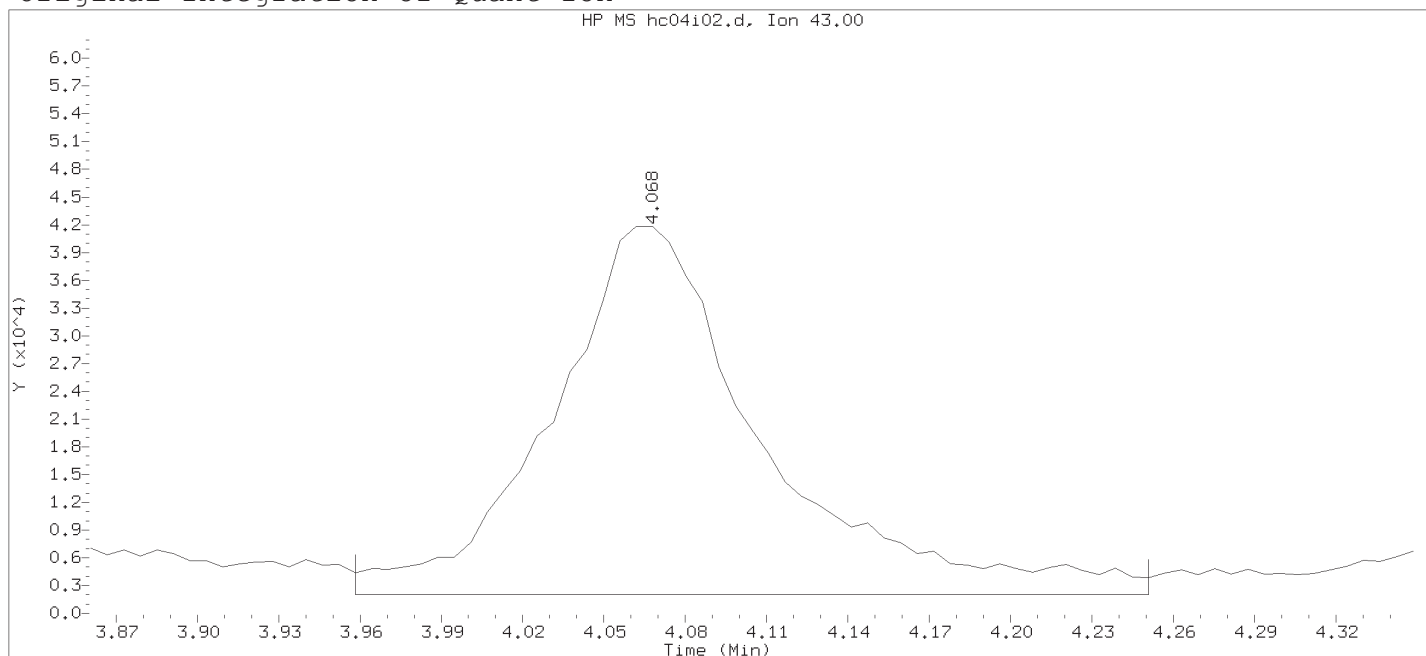
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:13

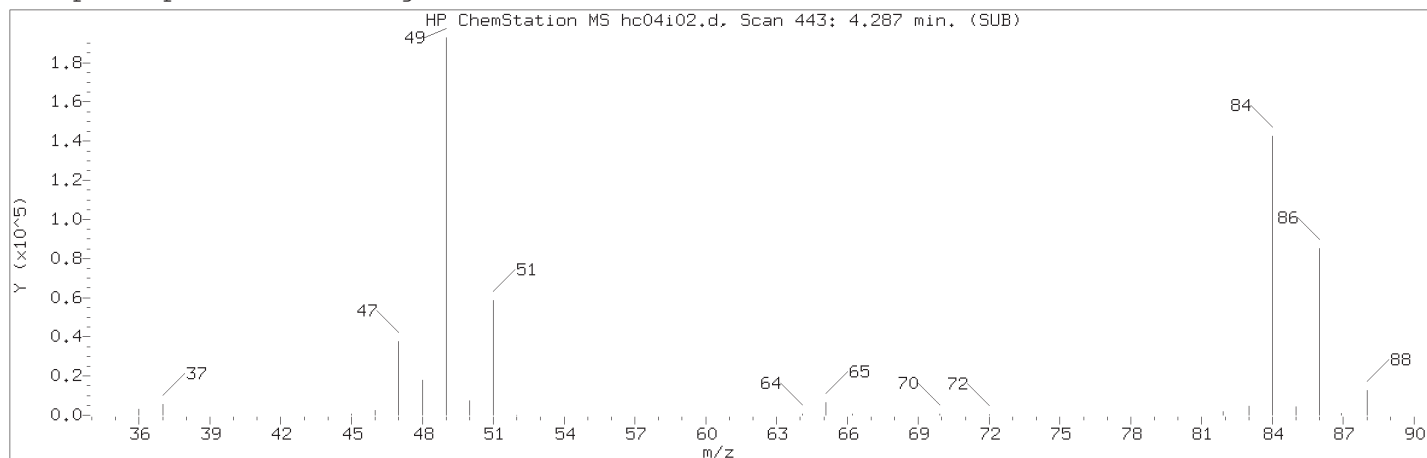
Date, time and analyst ID of latest file update: 04-Oct-2016 11:13 Automation

Sample Name: VSTD010

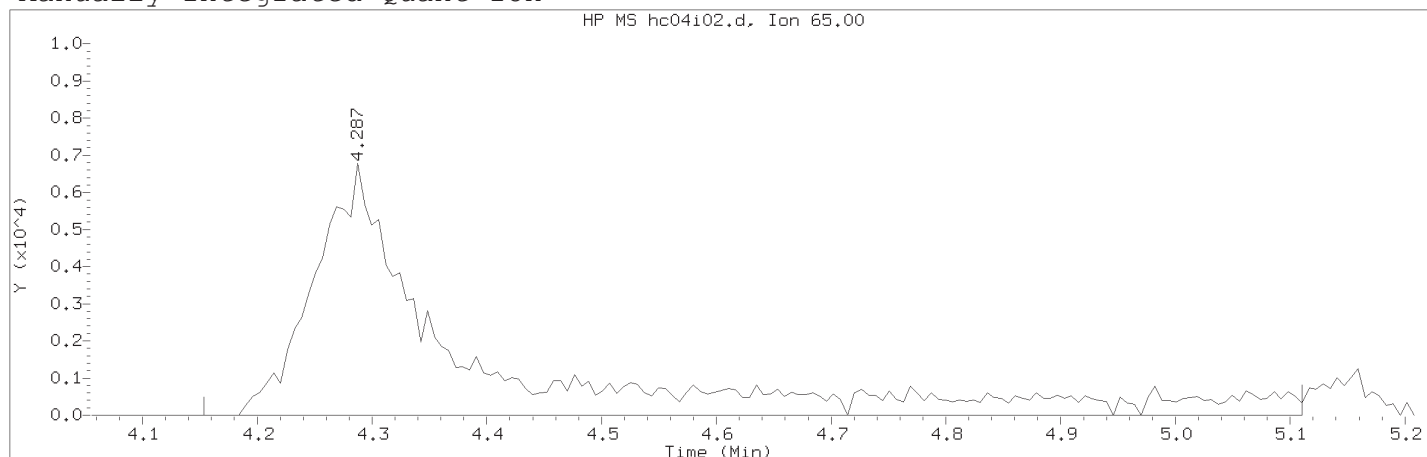
Lab Sample ID: VSTD010

Compound Number	: 21	
Compound Name	: Methyl Acetate	
Scan Number	: 407	
Retention Time (minutes)	: 4.068	
Quant Ion	: 43.00	
Area	: 216318	
On-column Amount (ng)	: 14.2722	
Integration start scan	: 388	Integration stop scan: 436
Y at integration start	: 1992	Y at integration end: 1992

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 26	
Compound Name	: t-Butyl Alcohol-d10	
Scan Number	: 443	
Retention Time (minutes)	: 4.287	
Quant Ion	: 65.00	
Area (flag)	: 60829M	
On-Column Amount (ng)	: 50.0000	
Integration start scan	: 420	Integration stop scan: 577
Y at integration start	: 0	Y at integration end: 0

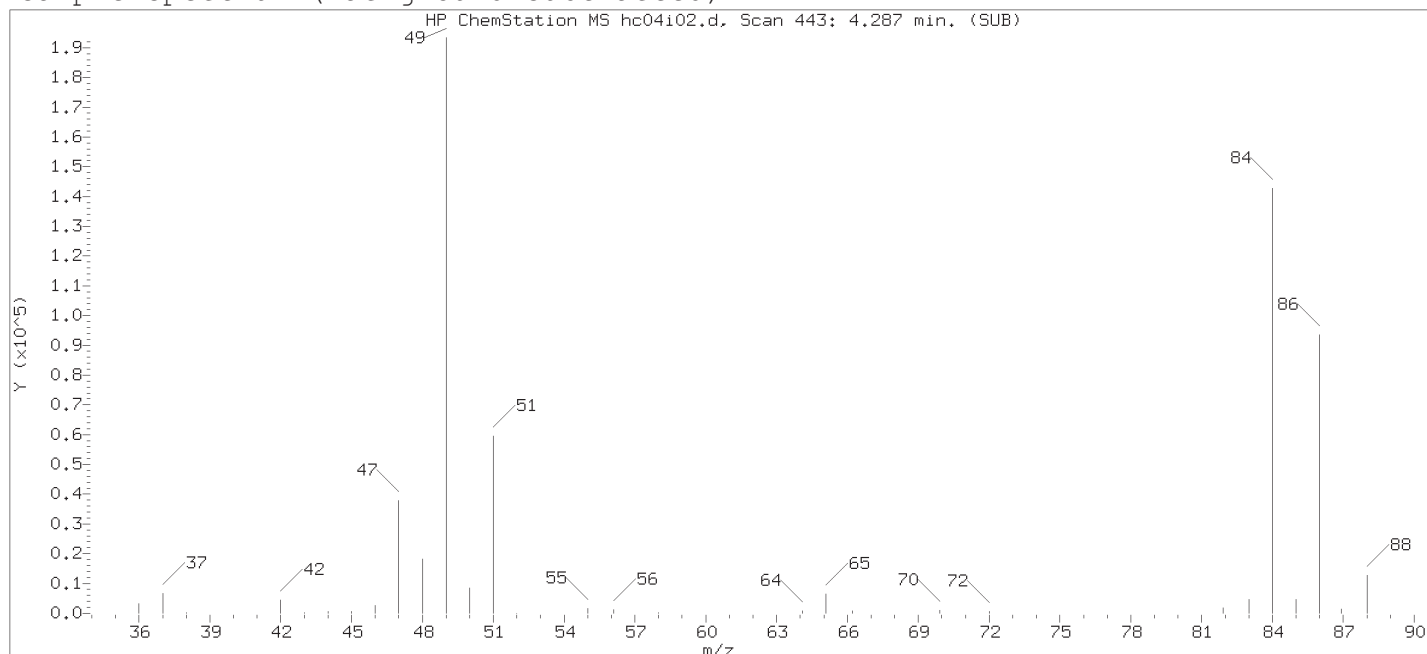
Reason for manual integration: improper integration

Analyst responsible for change:

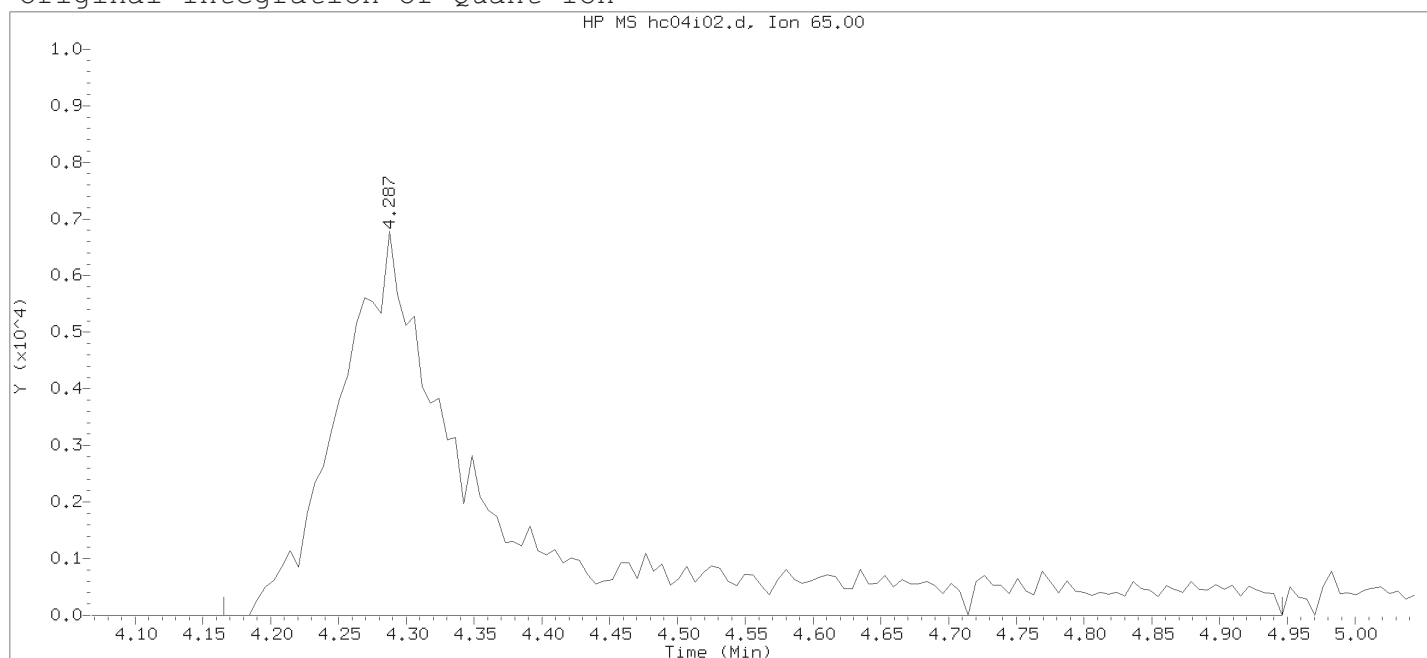
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:13

Date, time and analyst ID of latest file update: 04-Oct-2016 11:13 Automation

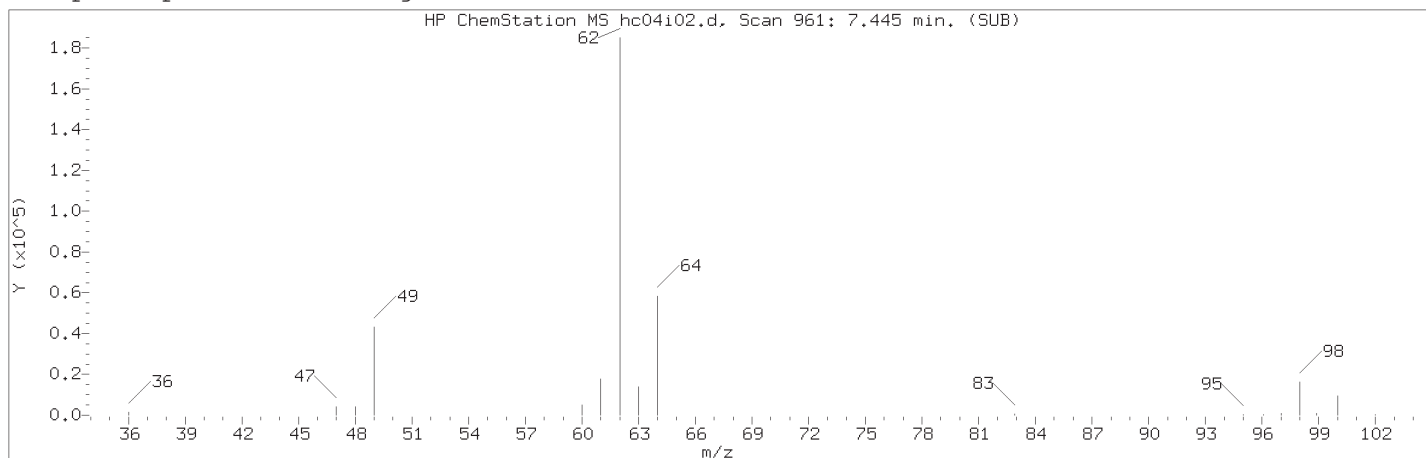
Sample Name: VSTD010

Lab Sample ID: VSTD010

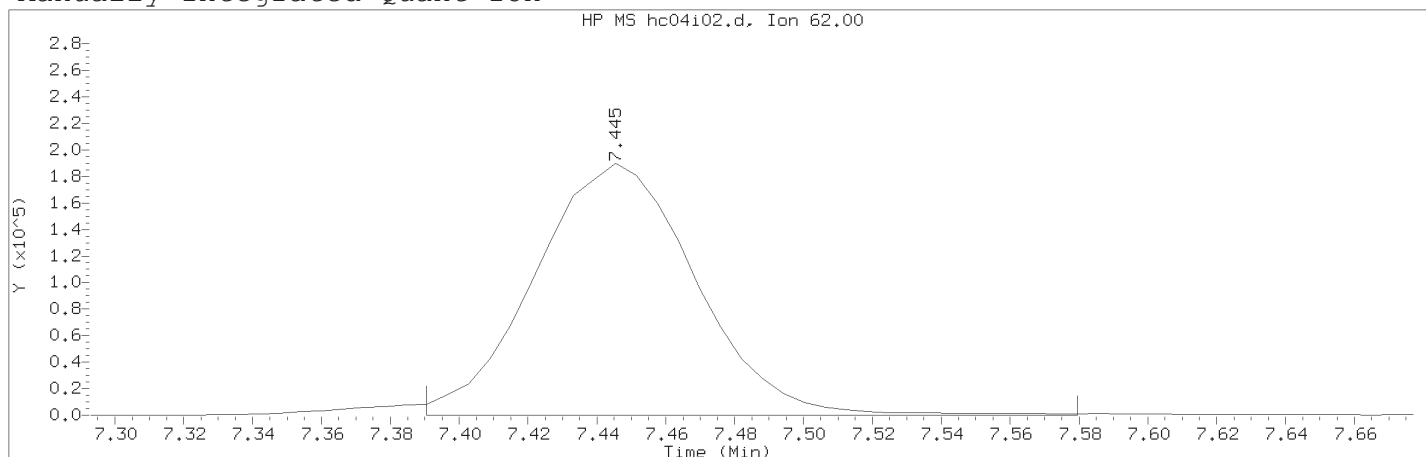
Compound Number : 26
 Compound Name : t-Butyl Alcohol-d10
 Scan Number : 443
 Retention Time (minutes) : 4.287
 Quant Ion : 65.00
 Area : 56449
 On-column Amount (ng) : 50.0000
 Integration start scan : 422
 Y at integration start : 0

Integration stop scan: 550
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 10:54 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

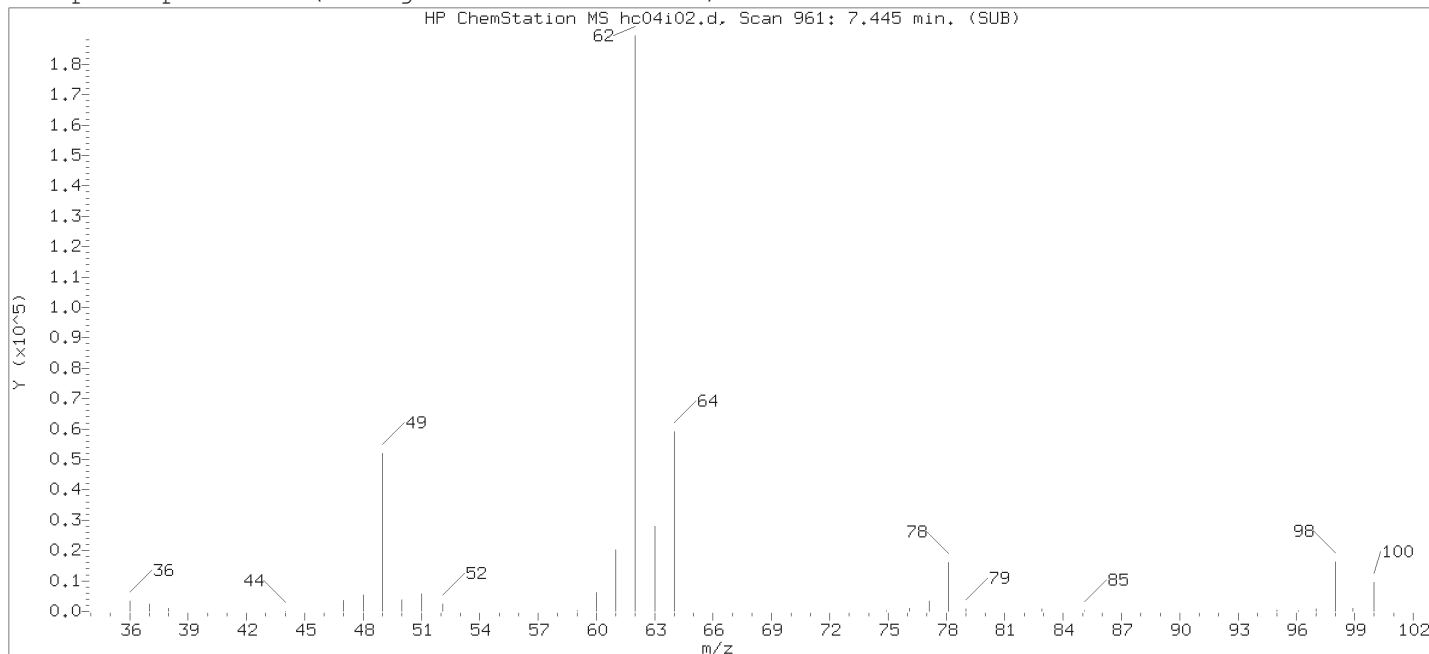
Compound Number	: 59	
Compound Name	: 1,2-Dichloroethane	
Scan Number	: 961	
Retention Time (minutes)	: 7.445	
Quant Ion	: 62.00	
Area (flag)	: 615485M	
On-Column Amount (ng)	: 9.2189	
Integration start scan	: 951	Integration stop scan: 982
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

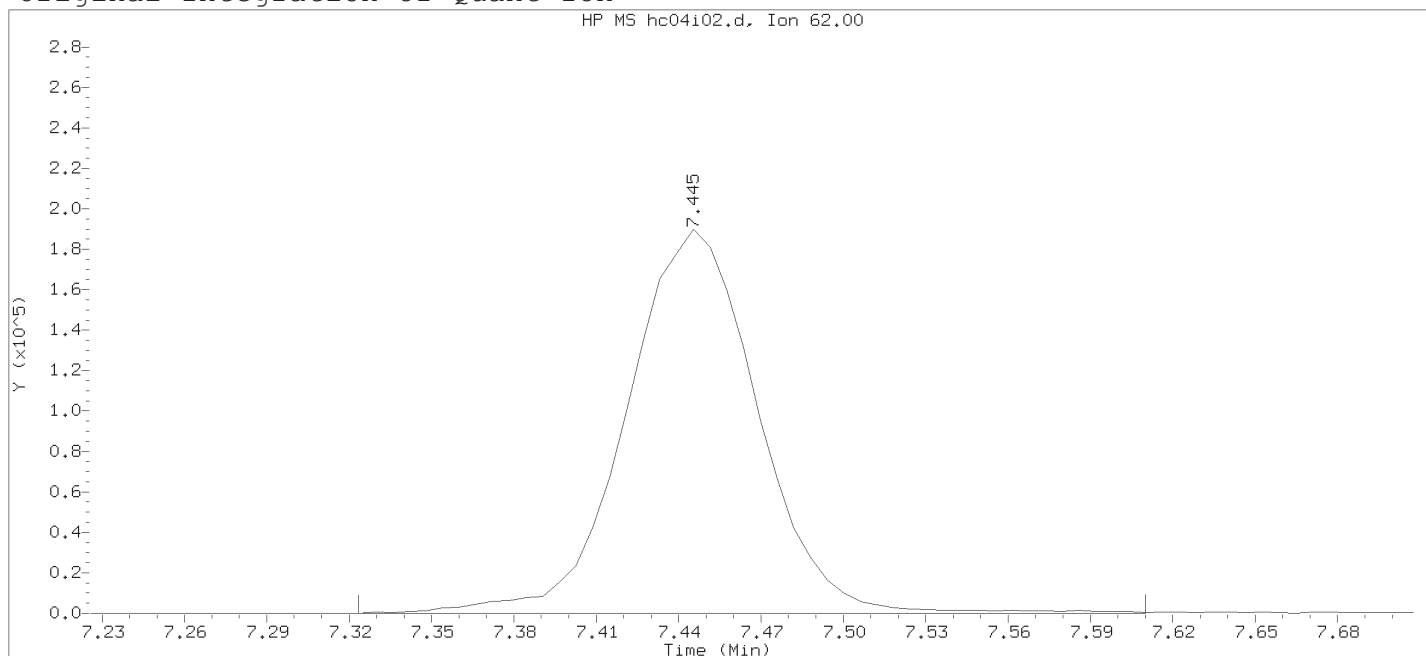
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:13

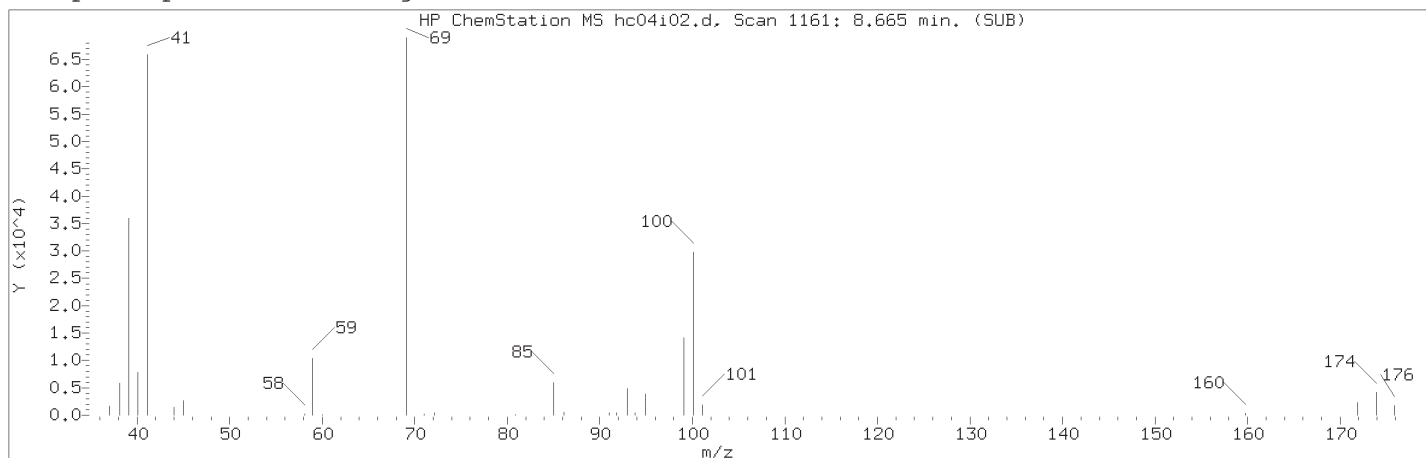
Date, time and analyst ID of latest file update: 04-Oct-2016 11:13 Automation

Sample Name: VSTD010

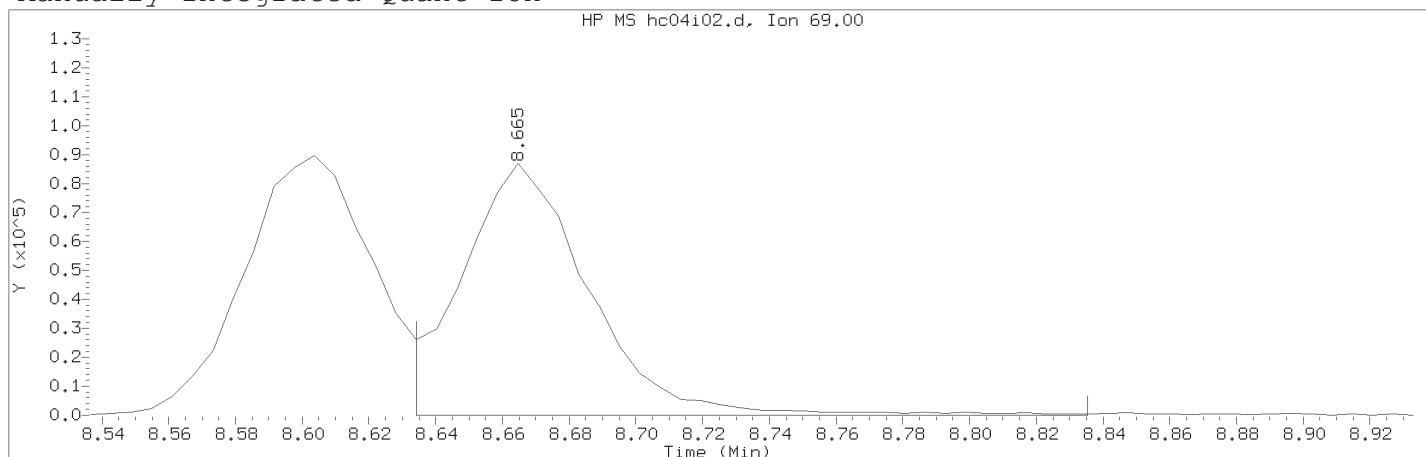
Lab Sample ID: VSTD010

Compound Number	: 59	
Compound Name	: 1,2-Dichloroethane	
Scan Number	: 961	
Retention Time (minutes)	: 7.445	
Quant Ion	: 62.00	
Area	: 629164	
On-column Amount (ng)	: 10.5053	
Integration start scan	: 940	Integration stop scan: 987
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 71	
Compound Name	: Methyl Methacrylate	
Scan Number	: 1161	
Retention Time (minutes)	: 8.665	
Quant Ion	: 69.00	
Area (flag)	: 233126M	
On-Column Amount (ng)	: 12.9752	
Integration start scan	: 1155	Integration stop scan: 1188
Y at integration start	: 0	Y at integration end: 0

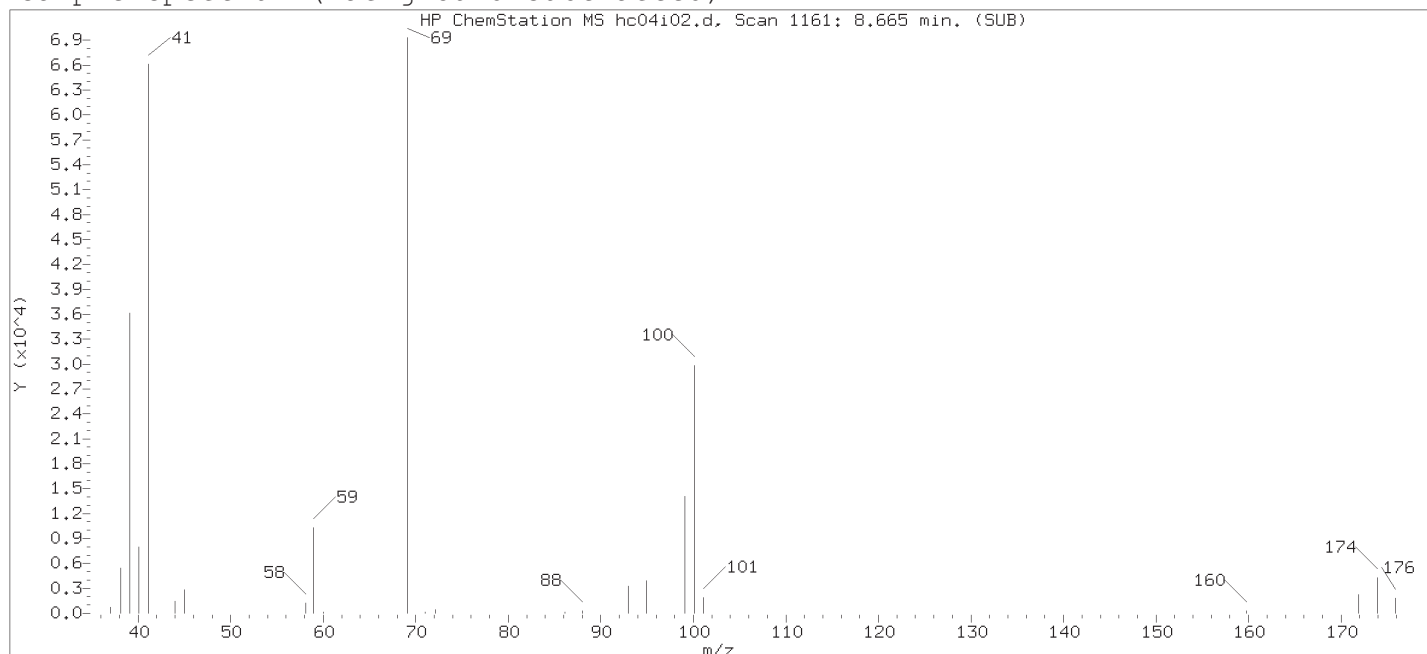
Reason for manual integration: improper integration

Analyst responsible for change:

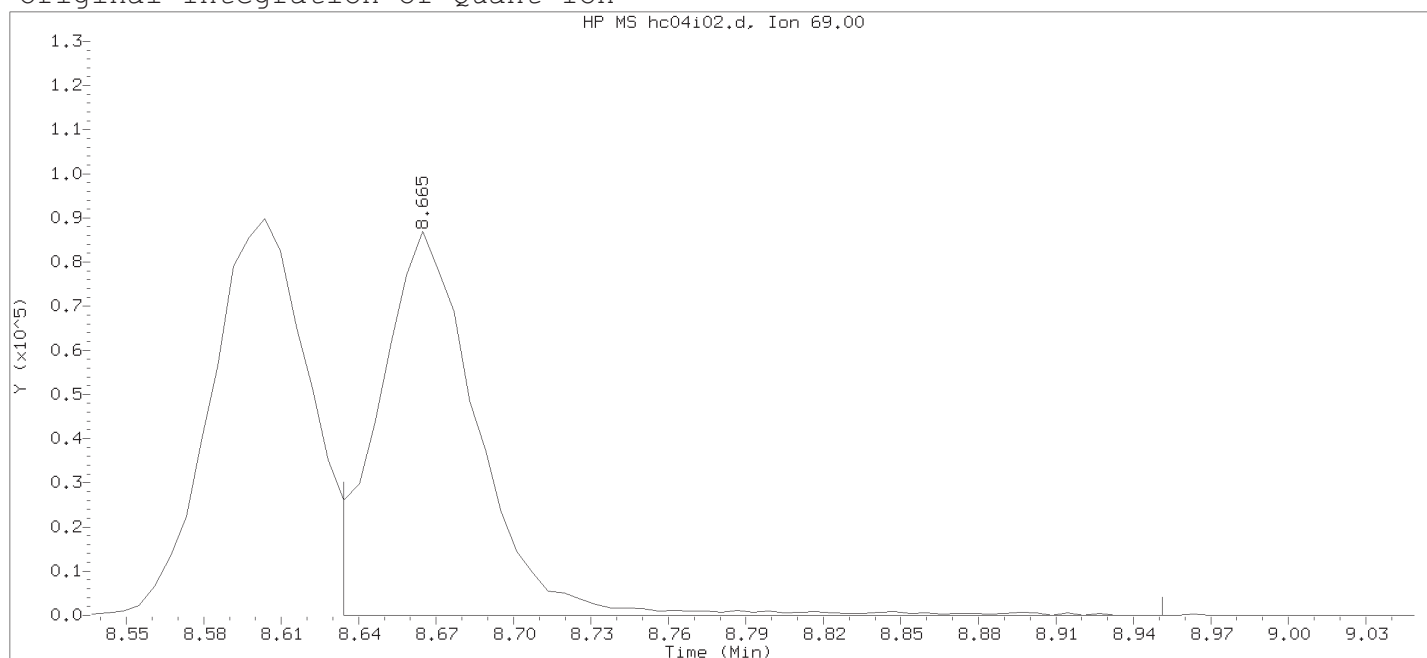
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:13

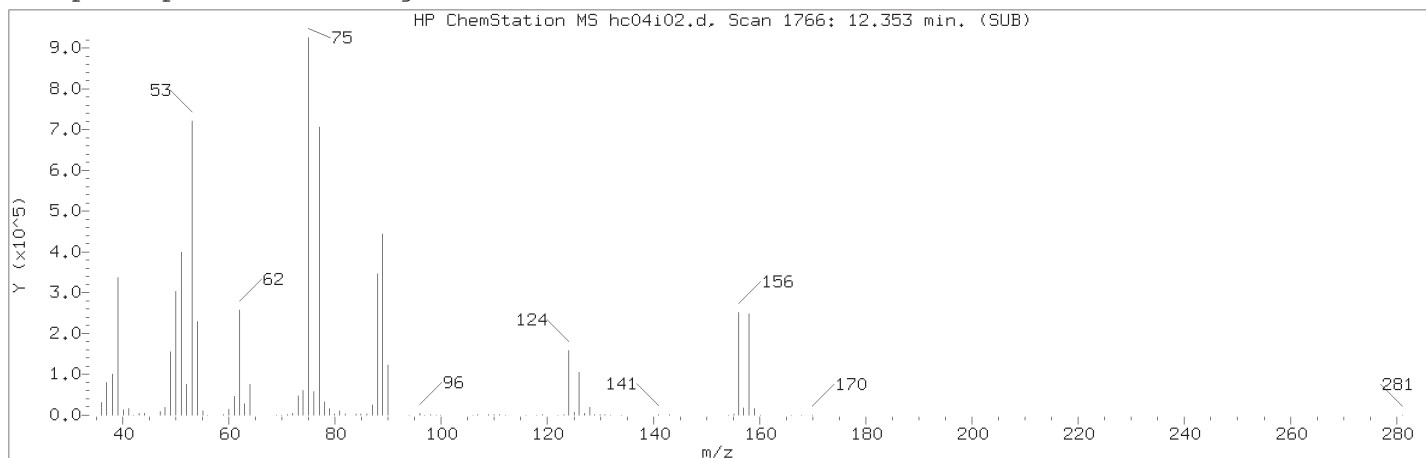
Date, time and analyst ID of latest file update: 04-Oct-2016 11:13 Automation

Sample Name: VSTD010

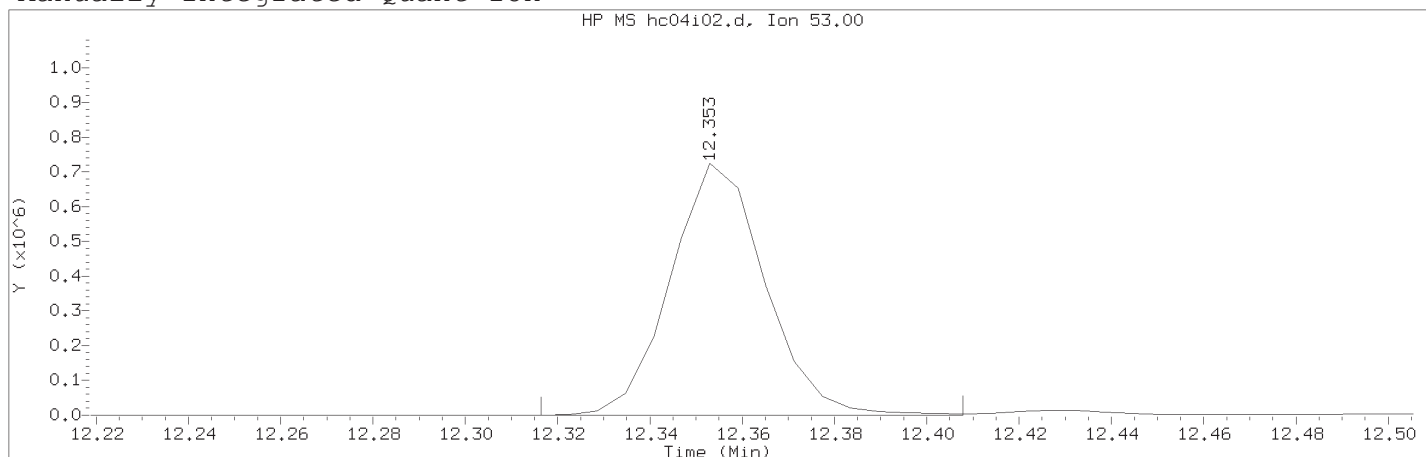
Lab Sample ID: VSTD010

Compound Number	: 71	
Compound Name	: Methyl Methacrylate	
Scan Number	: 1161	
Retention Time (minutes)	: 8.665	
Quant Ion	: 69.00	
Area	: 230585	
On-column Amount (ng)	: 14.0015	
Integration start scan	: 1155	Integration stop scan: 1207
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 115	
Compound Name	: trans-1,4-Dichloro-2-butene	
Scan Number	: 1766	
Retention Time (minutes)	: 12.353	
Quant Ion	: 53.00	
Area (flag)	: 1029351A	
On-Column Amount (ng)	: 125.4006	
Integration start scan	: 1759	Integration stop scan: 1774
Y at integration start	: 0	Y at integration end: 0

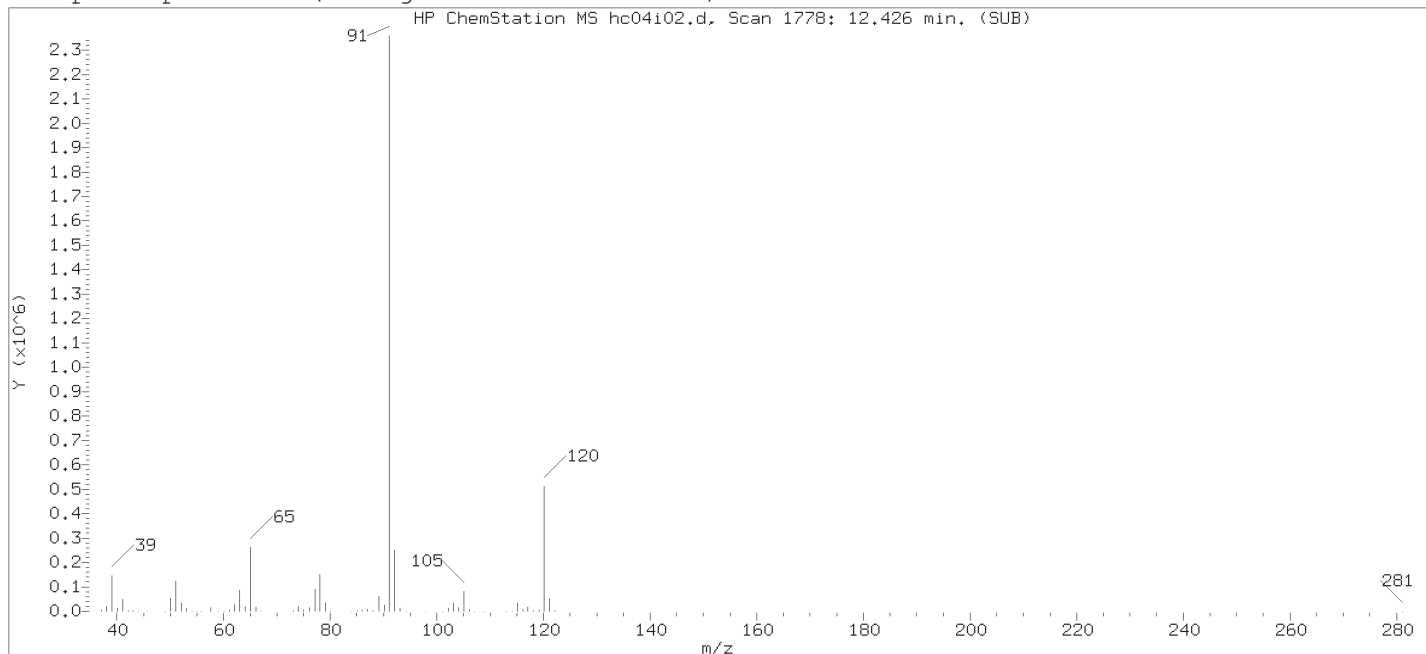
Reason for manual integration: improper integration

Analyst responsible for change:

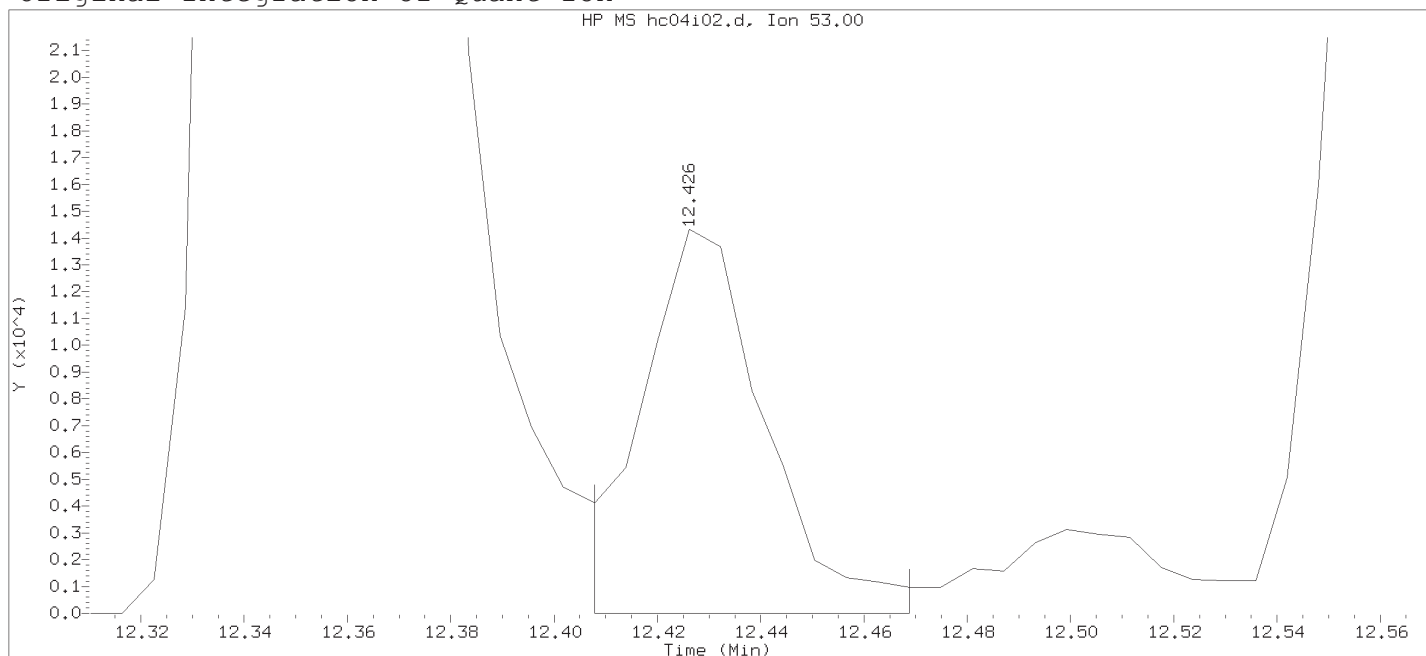
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:13

Date, time and analyst ID of latest file update: 04-Oct-2016 11:13 Automation

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number : 115

Compound Name : trans-1,4-Dichloro-2-butene

Scan Number : 1778

Retention Time (minutes) : 12.426

Quant Ion : 53.00

Area : 23546

On-column Amount (ng) : 6.1180

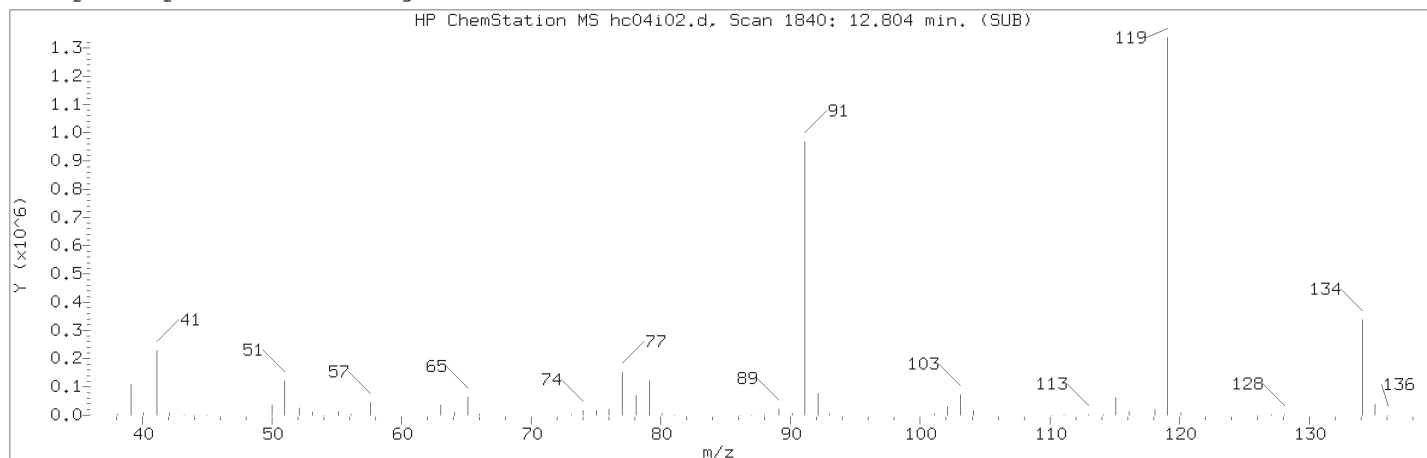
Integration start scan : 1774 Integration stop scan: 1784

Y at integration start : 0 Y at integration end: 0

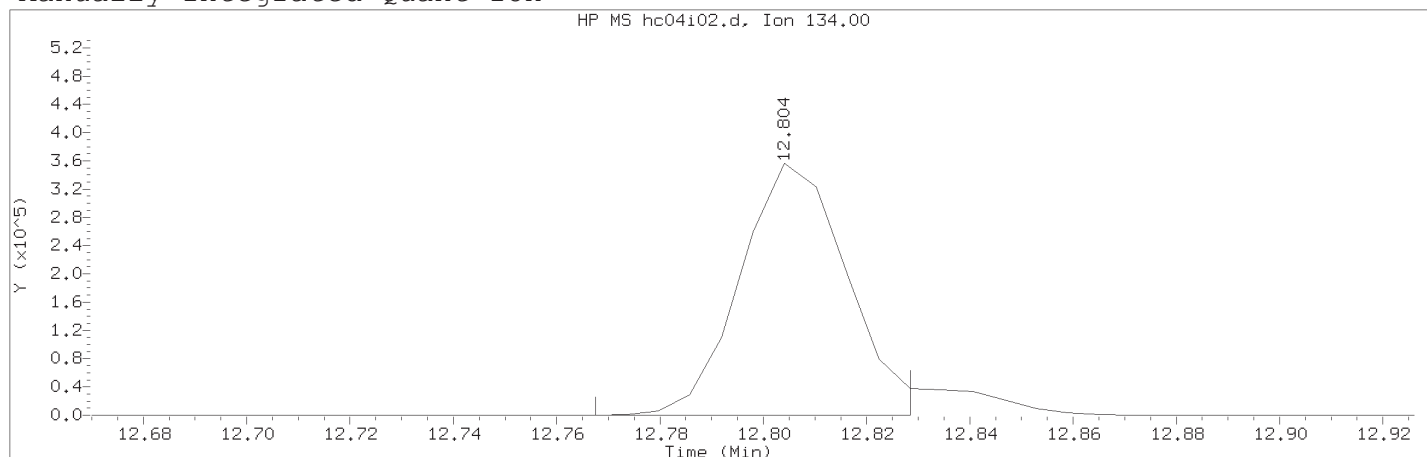
Digitally signed by Kerri E. Koch Legerlotz on 10/04/2016 at 15:33.

Target 3.5 esignature RAE73 Page 149 of 346

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 125	
Compound Name	: tert-Butylbenzene	
Scan Number	: 1840	
Retention Time (minutes)	: 12.804	
Quant Ion	: 134.00	
Area (flag)	: 511972M	
On-Column Amount (ng)	: 9.7470	
Integration start scan	: 1833	Integration stop scan: 1843
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

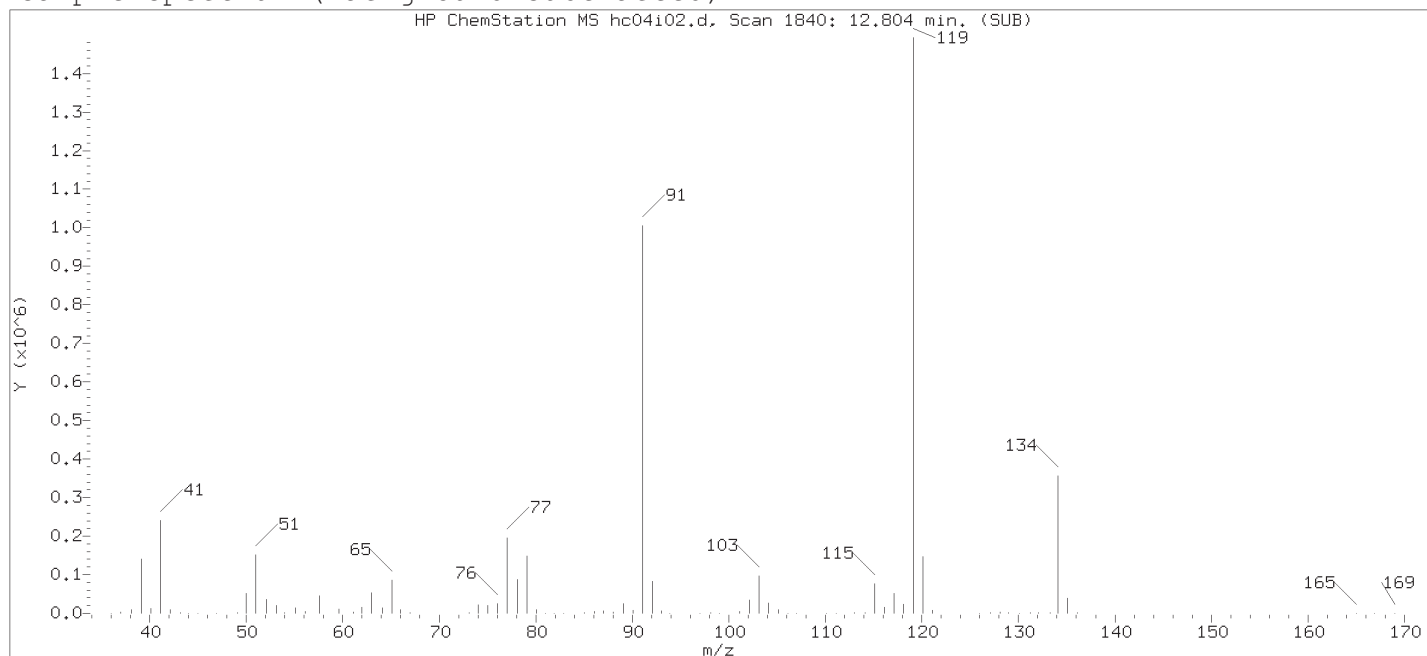
Analyst responsible for change:

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

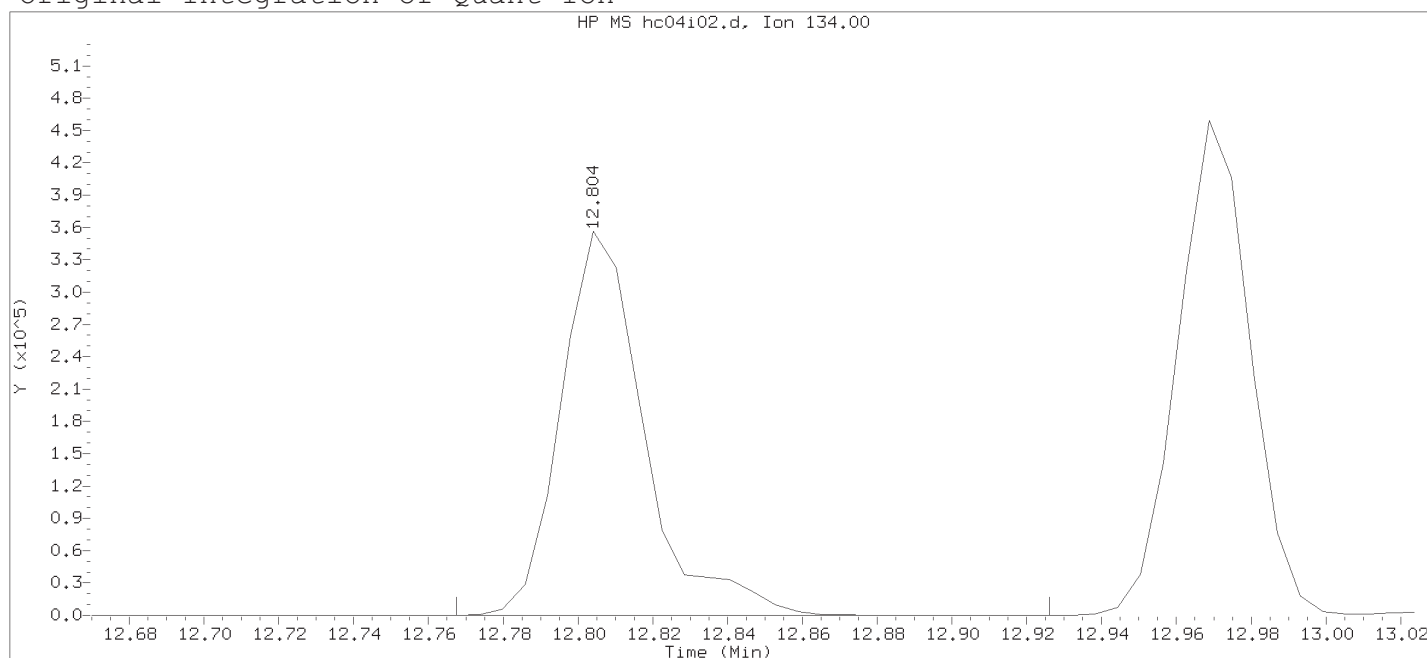
Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.

PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:13

Date, time and analyst ID of latest file update: 04-Oct-2016 11:13 Automation

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number : 125

Compound Name : tert-Butylbenzene

Scan Number : 1840

Retention Time (minutes): 12.804

Quant Ion : 134.00

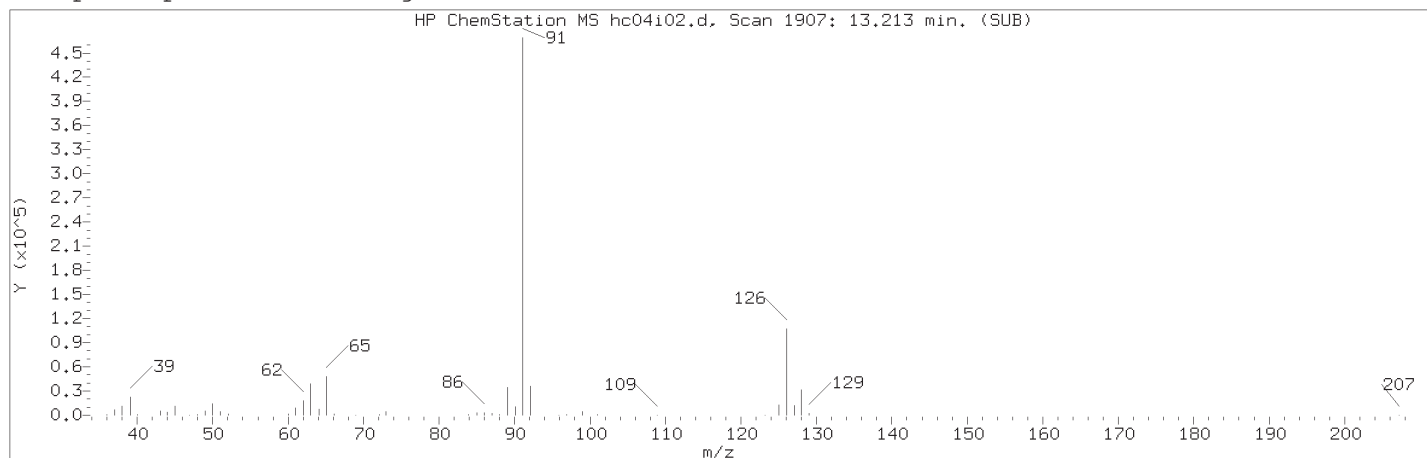
Area : 550294

On-column Amount (ng) : 9.6844

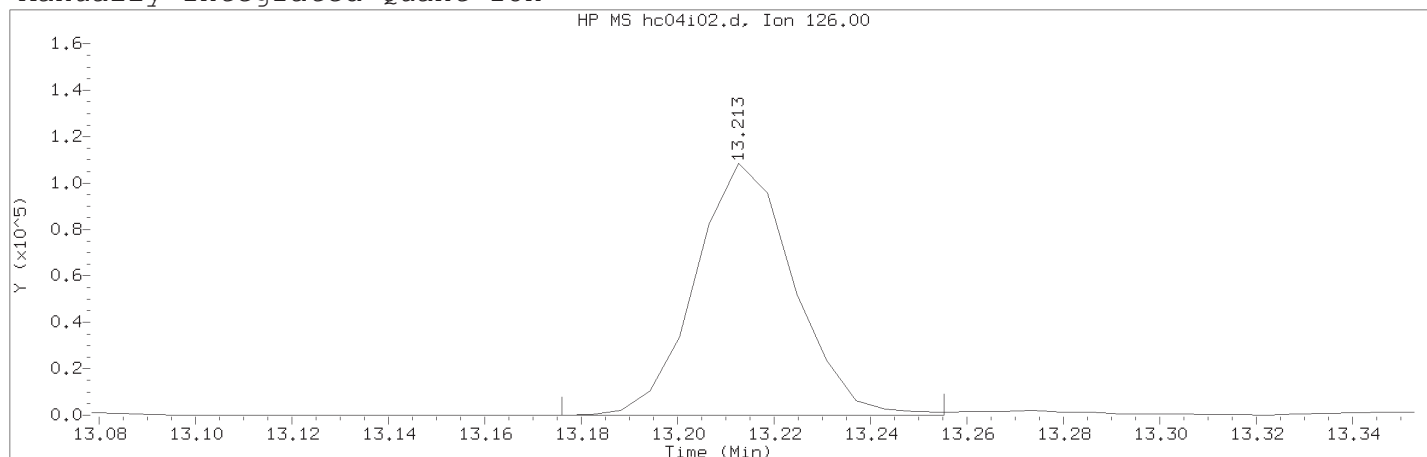
Integration start scan : 1833 Integration stop scan: 1859

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 136	
Compound Name	: Benzyl Chloride	
Scan Number	: 1907	
Retention Time (minutes)	: 13.213	
Quant Ion	: 126.00	
Area (flag)	: 153743M	
On-Column Amount (ng)	: 11.0385	
Integration start scan	: 1900	Integration stop scan: 1913
Y at integration start	: 0	Y at integration end: 0

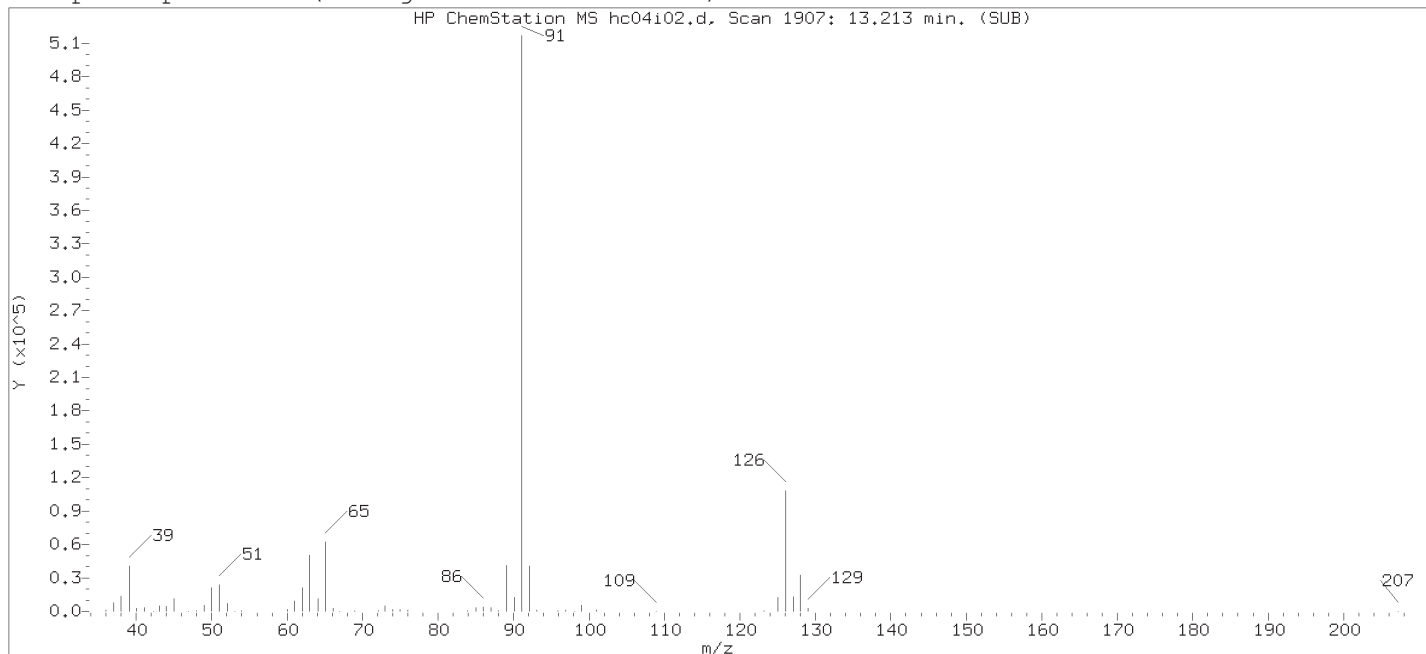
Reason for manual integration: improper integration

Analyst responsible for change:

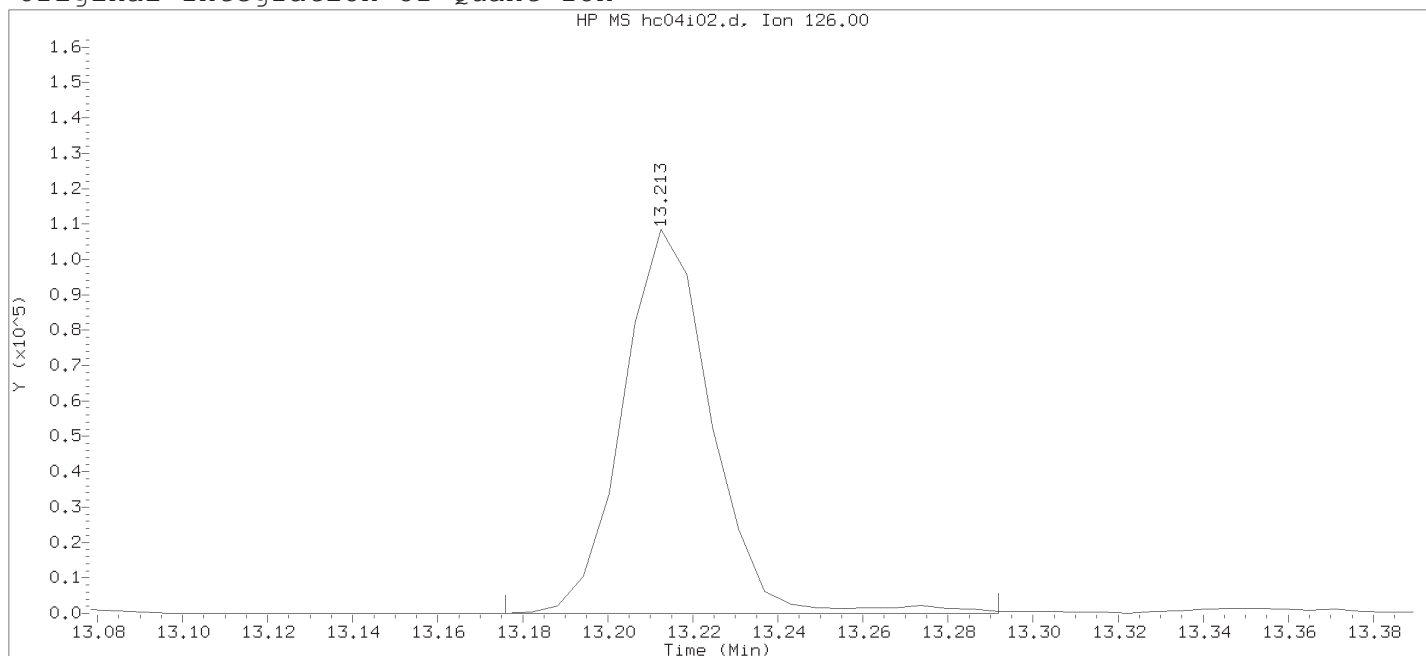
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:13

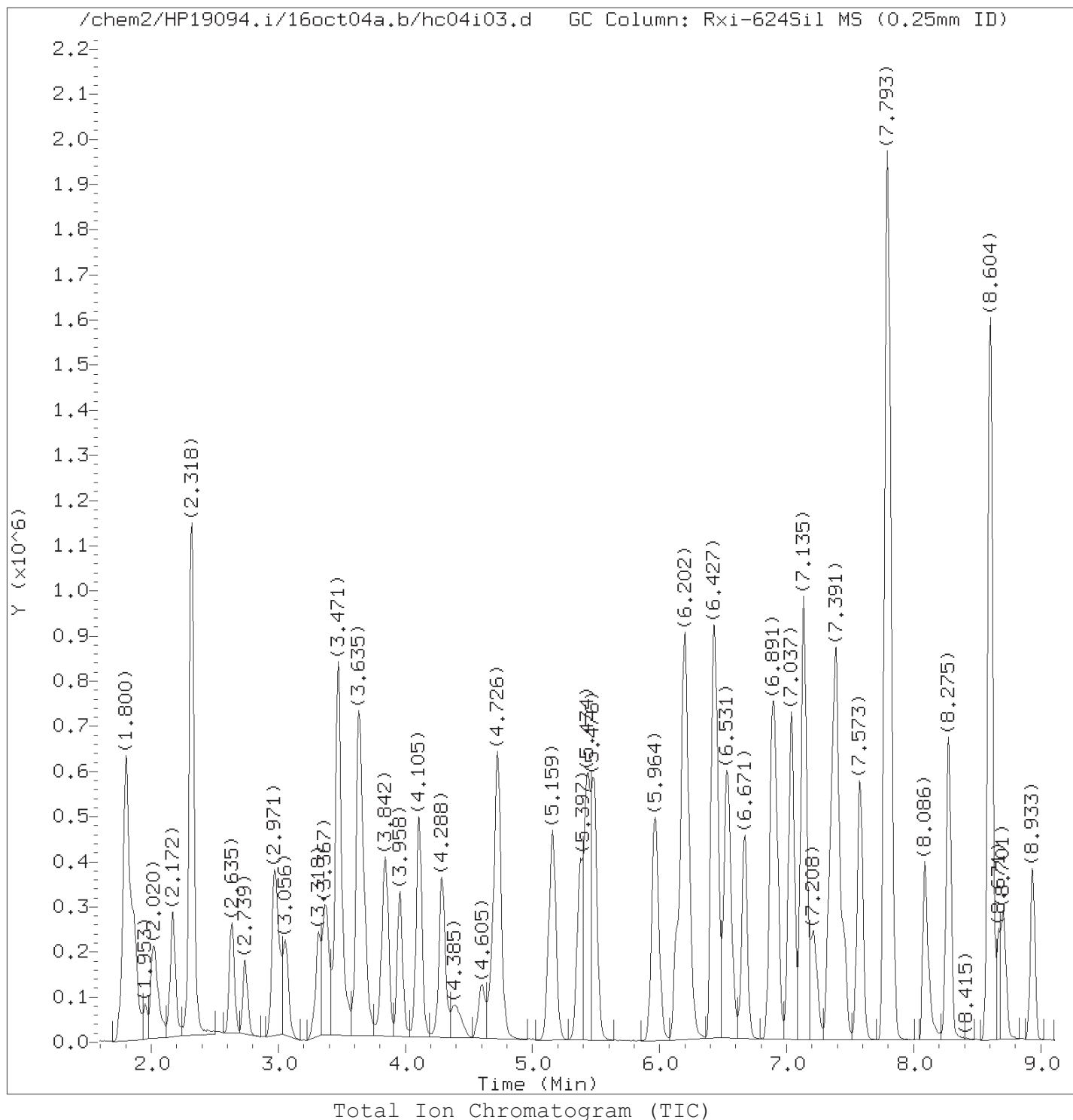
Date, time and analyst ID of latest file update: 04-Oct-2016 11:13 Automation

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number : 136
 Compound Name : Benzyl Chloride
 Scan Number : 1907
 Retention Time (minutes) : 13.213
 Quant Ion : 126.00
 Area : 156722
 On-column Amount (ng) : 10.8354
 Integration start scan : 1900
 Y at integration start : 0

Integration stop scan: 1919
 Y at integration end: 0



Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d
Injection date and time: 04-OCT-2016 11:14

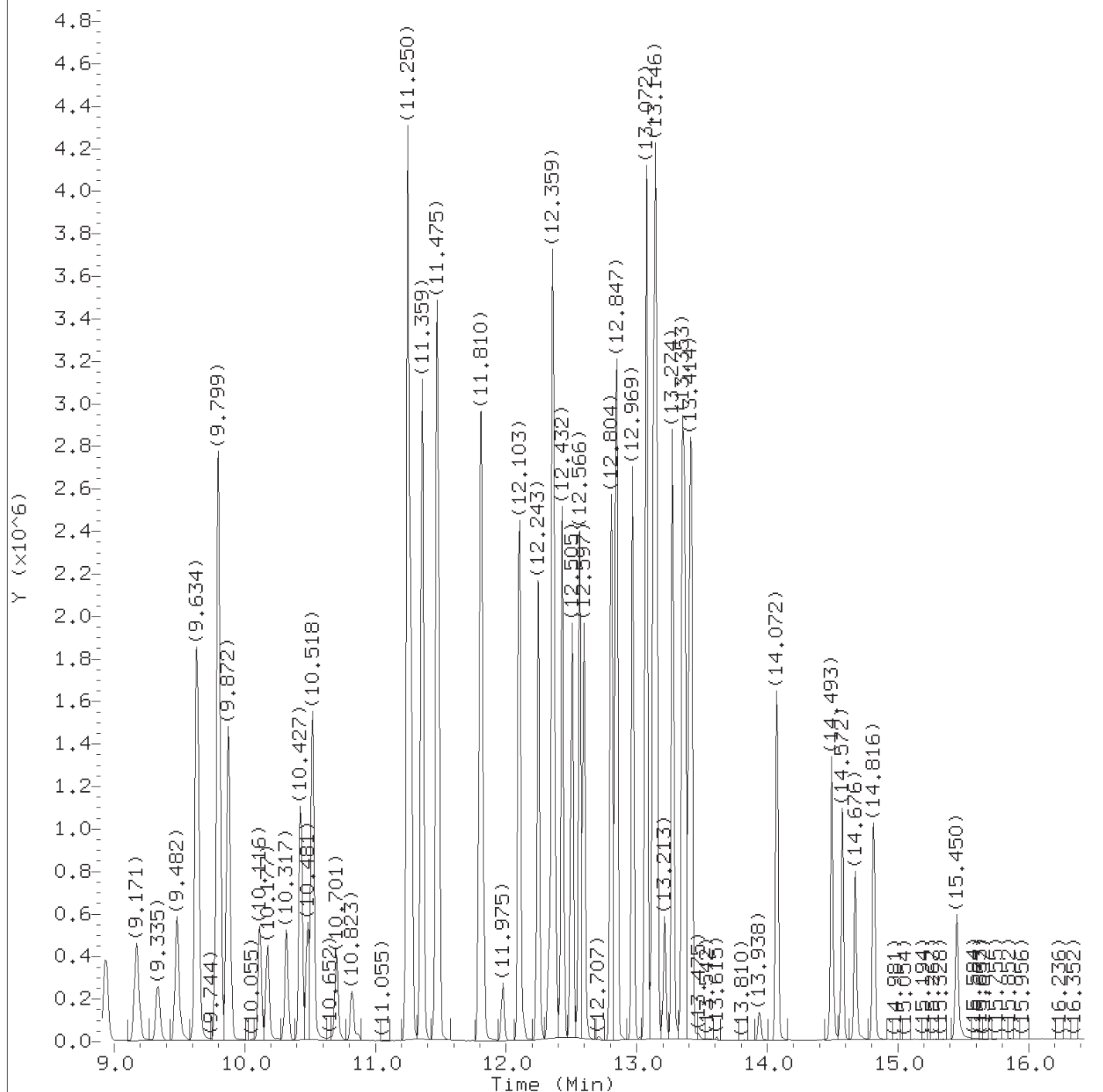
Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

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on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d
Injection date and time: 04-OCT-2016 11:14

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d
 Injection date and time: 04-OCT-2016 11:14

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:28
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.014	85	443442	4.657
2) Chloromethane	(2)	2.166	50	445691	4.373
5) Vinyl Chloride	(2)	2.312	62	406832	4.478
6) 1,3-Butadiene	(2)	2.318	39	657781	4.724
7) Bromomethane	(2)	2.635	94	259321	4.449
8) Chloroethane	(2)	2.733	64	229020	4.459
9) Dichlorofluoromethane	(2)	2.971	67	558327	4.554
10) Trichlorofluoromethane	(2)	3.056	101	513028	4.653
11) Ethyl ether	(2)	3.312	59	200405	4.926
12) Freon 123a	(2)	3.379	67	348740	4.556
13) Acrolein	(1)	3.471	56	1374171	223.784
15) 1,1-Dichloroethene	(2)	3.629	96	250462	4.875
14) Acetone	(1)	3.641	43	401268M	48.811
16) Freon 113	(2)	3.660	101	277543	4.942
17) Methyl Iodide	(2)	3.830	142	480527	4.894
18) Carbon Disulfide	(2)	3.958	76	736984	4.731
21) Methyl Acetate	(1)	4.074	43	102113M	3.835
22) Allyl Chloride	(2)	4.111	41	542366	4.852
26)*t-Butyl Alcohol-d10	(1)	4.275	65	85386M	50.000
23) Methylene Chloride	(2)	4.288	84	265306	4.813
28) t-Butyl Alcohol	(1)	4.385	59	260009	114.631
29) Acrylonitrile	(1)	4.598	53	235508	24.347
30) Methyl Tertiary Butyl Ether	(2)	4.714	73	596954	4.981
31) trans-1,2-Dichloroethene	(2)	4.726	96	280566	4.818
32) n-Hexane	(2)	5.159	57	452708	5.100
33) 1,1-Dichloroethane	(2)	5.373	63	560398	4.887
34) di-Isopropyl Ether	(2)	5.434	45	1022198	4.972
35) 2-Chloro-1,3-Butadiene	(2)	5.489	53	522959	4.926
37) Ethyl t-butyl ether	(2)	5.964	59	826907	4.957
40) 1,2-Dichloroethene (Total)	(2)		96	591845	9.694
38) 2-Butanone	(1)	6.141	43	662561	45.546
39) cis-1,2-Dichloroethene	(2)	6.190	96	311279	4.876
42) Propionitrile	(1)	6.214	54	337657	105.239
41) 2,2-Dichloropropane	(2)	6.214	77	453216	4.870
45) Methacrylonitrile	(1)	6.433	67	599054	43.731
47) Bromochloromethane	(2)	6.525	128	130692	5.105
48) Tetrahydrofuran	(1)	6.549	71	167638	44.708
49) Chloroform	(2)	6.671	83	541214	4.886

M = Compound was manually integrated.

* = Compound is an internal standard.

page 1 of 4

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 on 10/04/2016 at 15:34.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d
 Injection date and time: 04-OCT-2016 11:14

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:28
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
50) \$Dibromofluoromethane	(2)	6.885	113	511912	9.963
50) \$Dibromofluoromethane	(2)	6.885	111	527290	10.037
51) 1,1,1-Trichloroethane	(2)	6.915	97	480409	4.818
52) Cyclohexane	(2)	7.037	56	573798	4.904
52) Cyclohexane	(2)	7.043	84	445270	4.611
52) Cyclohexane	(2)	7.037	69	164513	4.985
55) 1,1-Dichloropropene	(2)	7.128	75	445445	4.941
54) Carbon Tetrachloride	(2)	7.141	117	425337	4.938
56) Isobutyl Alcohol	(1)	7.214	41	234076	266.480
57) \$1,2-Dichloroethane-d4	(2)	7.348	102	82219	9.961
57) \$1,2-Dichloroethane-d4	(2)	7.342	65	447047	9.838
57) \$1,2-Dichloroethane-d4	(2)	7.342	104	51949	9.836
58) Benzene	(2)	7.391	78	1165812	4.851
59) 1,2-Dichloroethane	(2)	7.445	62	317740M	4.749
60) t-Amyl methyl ether	(2)	7.580	73	677453	5.007
63) *Fluorobenzene	(2)	7.787	96	2240146	10.000
62) n-Heptane	(2)	7.817	43	538884	5.042
65) n-Butanol	(1)	8.086	56	384577	599.425
67) Trichloroethene	(2)	8.275	95	322476	4.897
70) 1,2-Dichloropropane	(2)	8.598	63	300083	4.905
69) Methylcyclohexane	(2)	8.604	83	600854	5.226
71) Methyl Methacrylate	(1)	8.671	69	112215	4.449
72) 1,4-Dioxane	(1)	8.689	88	41132	281.337
73) Dibromomethane	(2)	8.707	93	125143	4.885
74) Bromodichloromethane	(2)	8.933	83	342833	4.893
76) 2-Nitropropane	(1)	9.171	41	406385	43.557
80) cis-1,3-Dichloropropene	(2)	9.482	75	395966	4.979
81) 4-Methyl-2-Pentanone	(1)	9.628	43	1687640	43.408
82) \$Toluene-d8	(3)	9.799	98	2196839	10.028
82) \$Toluene-d8	(3)	9.799	100	1424979	10.115
83) Toluene	(3)	9.872	92	726036	4.823
84) trans-1,3-Dichloropropene	(3)	10.116	75	307077	5.026
85) 1,3-Dichloropropene (total)	(3)		75	703043	10.005
86) Ethyl Methacrylate	(3)	10.177	69	243145	5.162
88) 1,1,2-Trichloroethane	(3)	10.317	97	173021	4.992
89) Tetrachloroethene	(3)	10.427	166	352467	4.891
90) 1,3-Dichloropropane	(3)	10.481	76	310292	4.926
91) 2-Hexanone	(1)	10.518	43	1112485M	41.335

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/04/2016 at 15:34.
 Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d
Injection date and time: 04-OCT-2016 11:14

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
93) Dibromochloromethane	(3)	10.701	129	214414	4.989
95) 1,2-Dibromoethane	(3)	10.823	107	163778	4.997
97) *Chlorobenzene-d5	(3)	11.243	117	1450338	10.000
98) Chlorobenzene	(3)	11.274	112	776881	4.843
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	277611	5.036
100) Ethylbenzene	(3)	11.359	91	1464049	4.942
101) m+p-Xylene	(3)	11.475	106	1115465	10.021
105) Xylene (Total)	(3)		106	1664610	15.079
104) o-Xylene	(3)	11.798	106	549145	5.058
106) Styrene	(3)	11.817	104	853759	5.139
107) Bromoform	(3)	11.975	173	117400	4.990
108) Isopropylbenzene	(3)	12.103	105	1482884	5.066
111) \$4-Bromofluorobenzene	(3)	12.243	95	650303	10.097
111) \$4-Bromofluorobenzene	(3)	12.249	174	580103	10.065
113) 1,1,2,2-Tetrachloroethane	(4)	12.329	83	205439M	4.992
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	515605A	44.748
114) Bromobenzene	(4)	12.365	156	324112	4.884
116) 1,2,3-Trichloropropane	(4)	12.377	110	53503M	4.870
117) n-Propylbenzene	(4)	12.432	91	1763462	5.012
119) 2-Chlorotoluene	(4)	12.505	126	330658	4.972
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	1215894	5.024
122) 4-Chlorotoluene	(4)	12.597	126	333452	4.903
125) tert-Butylbenzene	(4)	12.804	134	261669M	4.956
126) Pentachloroethane	(4)	12.841	167	203699	4.986
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	1213982	4.969
128) sec-Butylbenzene	(4)	12.969	105	1582753	4.984
131) 1,3-Dichlorobenzene	(4)	13.072	146	635667	4.926
132) p-Isopropyltoluene	(4)	13.079	119	1345328	5.077
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	665336	10.000
134) 1,4-Dichlorobenzene	(4)	13.146	146	631003	4.701
135) 1,2,3-Trimethylbenzene	(4)	13.152	120	511143	4.834
136) Benzyl Chloride	(4)	13.213	126	74829	5.345
138) n-Butylbenzene	(4)	13.371	92	649984	5.110
139) 1,2-Dichlorobenzene	(4)	13.402	146	559798	4.876
143) 1,2-Dibromo-3-chloropropane	(1)	13.944	155	25502	4.504
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	390261	4.773
146) Hexachlorobutadiene	(4)	14.572	225	190196	4.889
147) Naphthalene	(4)	14.676	128	586712	4.726

M = Compound was manually integrated.

A = User selected an alternate hit.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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on 10/04/2016 at 15:34.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 11:14 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

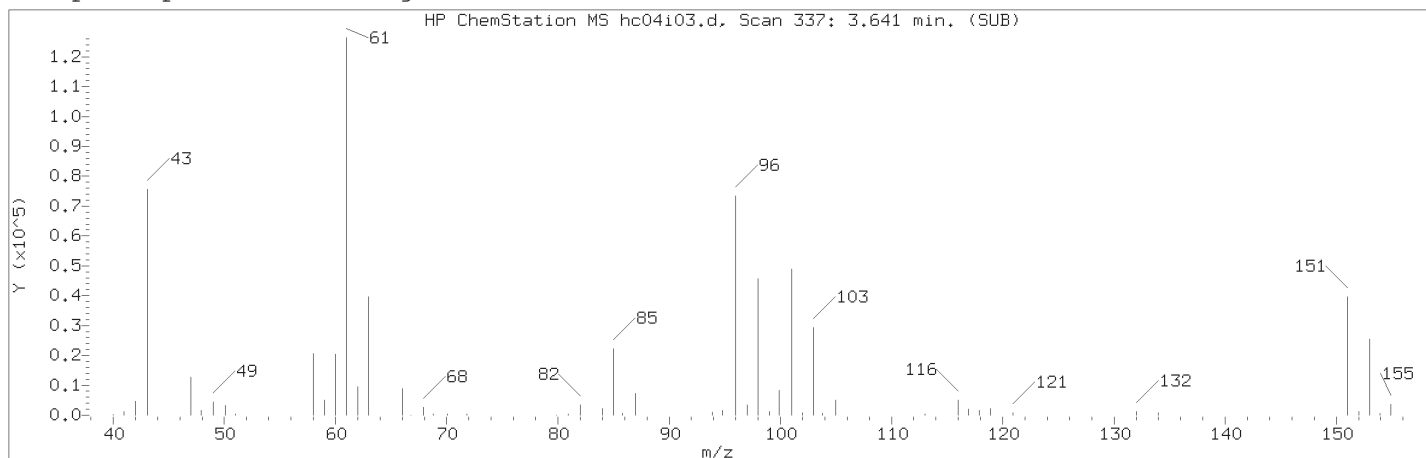
Lab Sample ID: VSTD005

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
148) 1,2,3-Trichlorobenzene	(4)	14.816	180	314806	4.573

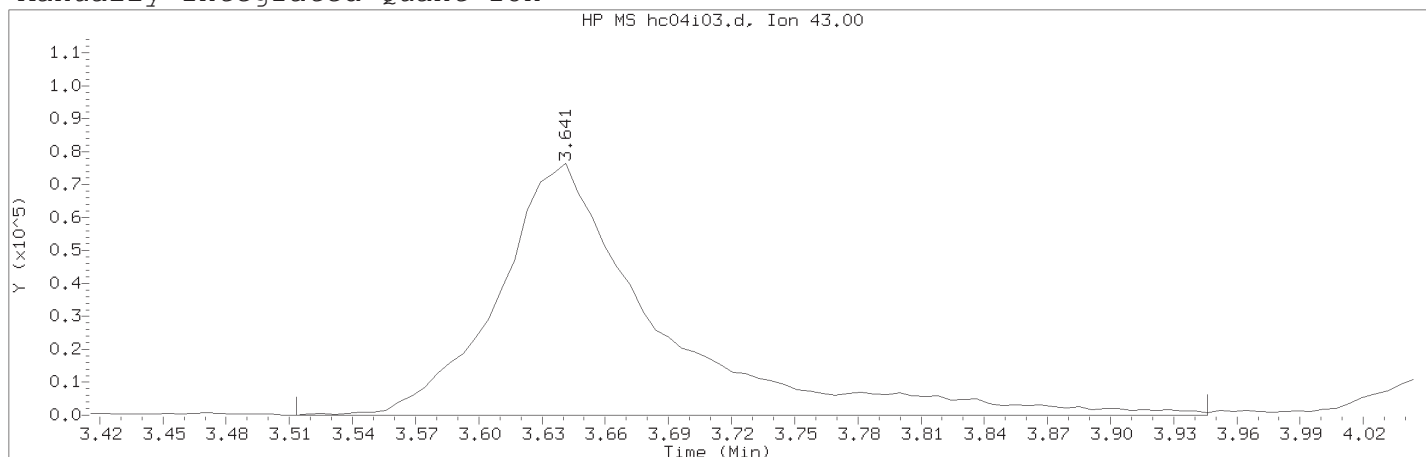
page 4 of 4

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on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number	: 14	
Compound Name	: Acetone	
Scan Number	: 337	
Retention Time (minutes)	: 3.641	
Quant Ion	: 43.00	
Area (flag)	: 401268M	
On-Column Amount (ng)	: 48.8107	
Integration start scan	: 315	Integration stop scan: 386
Y at integration start	: 0	Y at integration end: 0

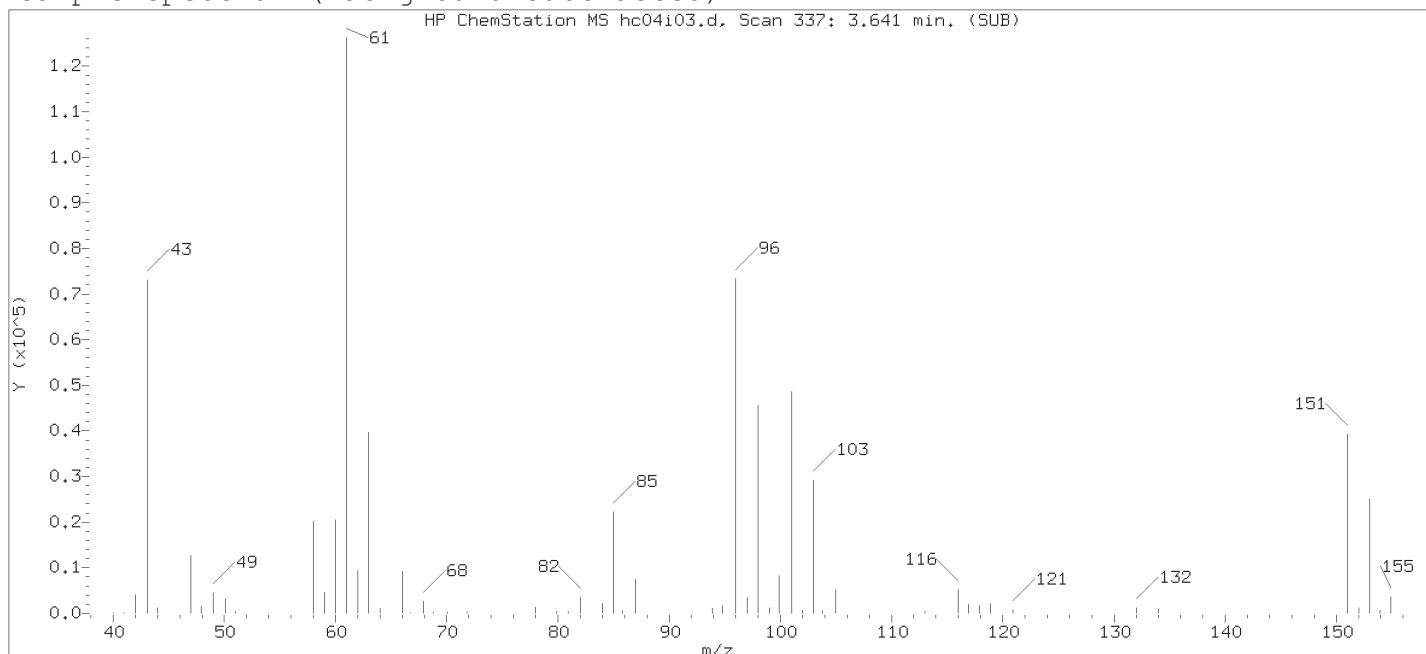
Reason for manual integration: improper integration

Analyst responsible for change:

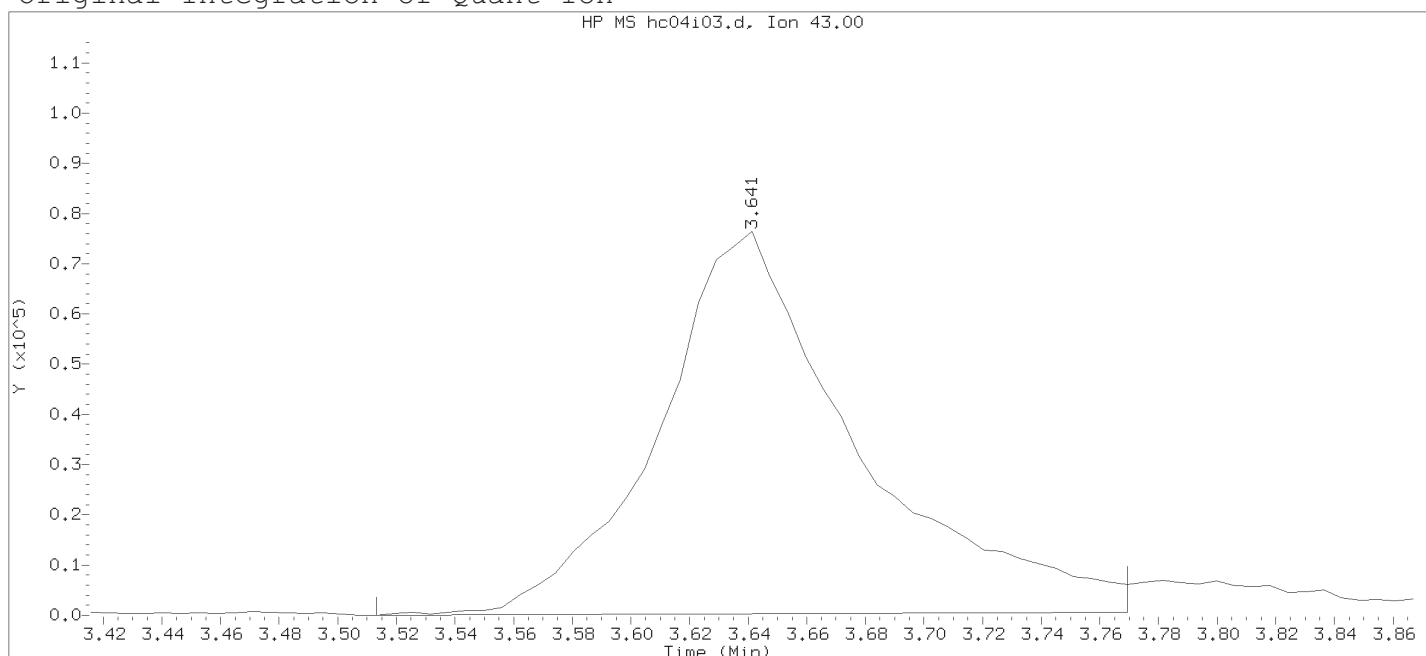
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:33

Date, time and analyst ID of latest file update: 04-Oct-2016 11:33 Automation

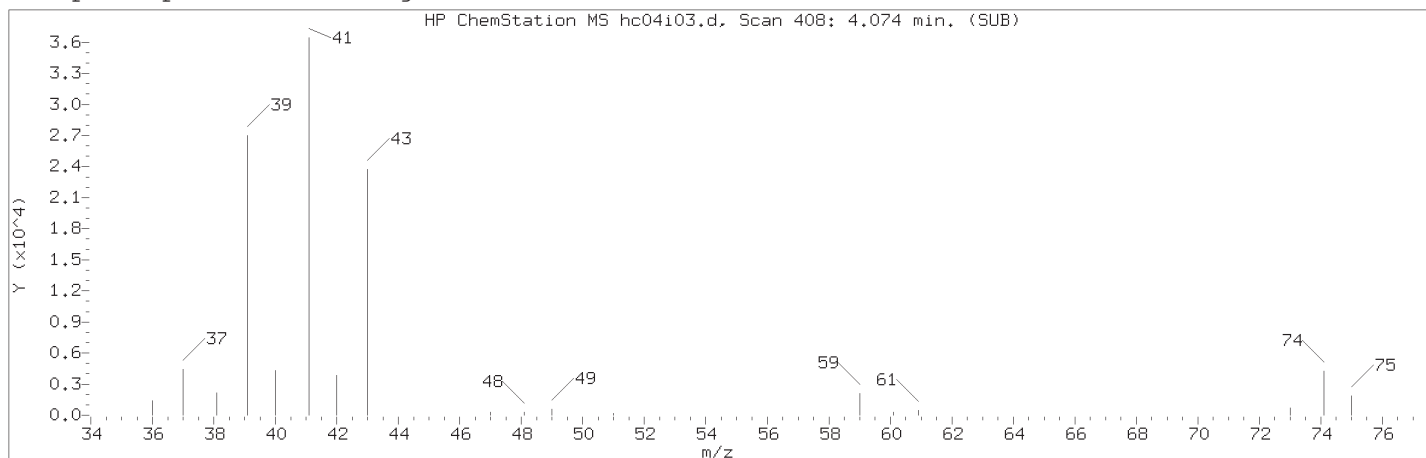
Sample Name: VSTD005

Lab Sample ID: VSTD005

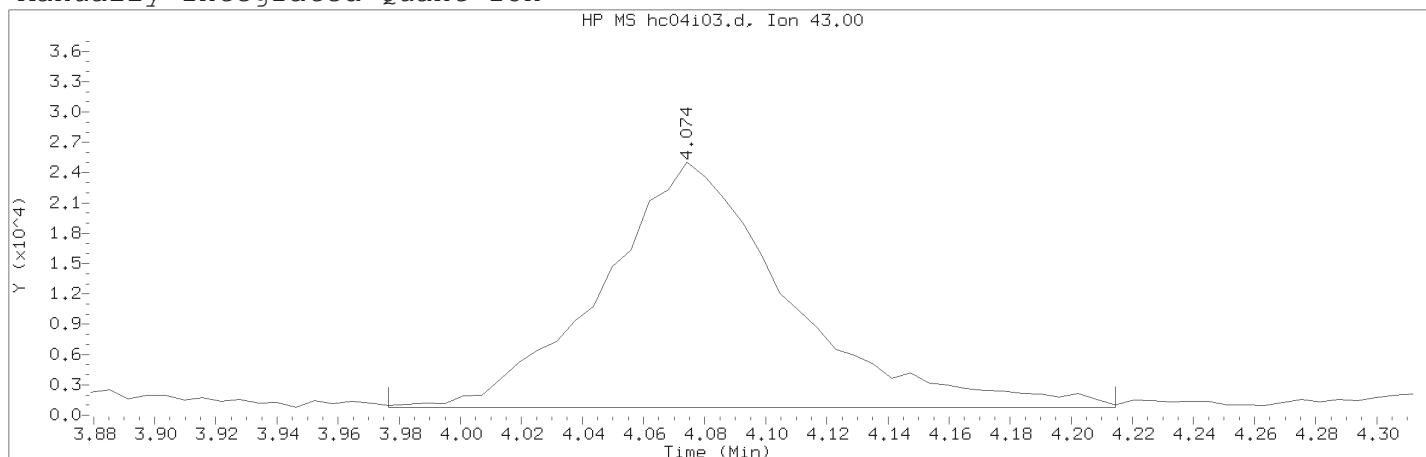
Compound Number : 14
 Compound Name : Acetone
 Scan Number : 337
 Retention Time (minutes): 3.641
 Quant Ion : 43.00
 Area : 357456
 On-column Amount (ng) : 48.2935
 Integration start scan : 315
 Y at integration start : 0

Integration stop scan: 357
 Y at integration end: 654

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number	: 21	
Compound Name	: Methyl Acetate	
Scan Number	: 408	
Retention Time (minutes)	: 4.074	
Quant Ion	: 43.00	
Area (flag)	: 102113M	
On-Column Amount (ng)	: 3.8348	
Integration start scan	: 391	Integration stop scan: 430
Y at integration start	: 801	Y at integration end: 801

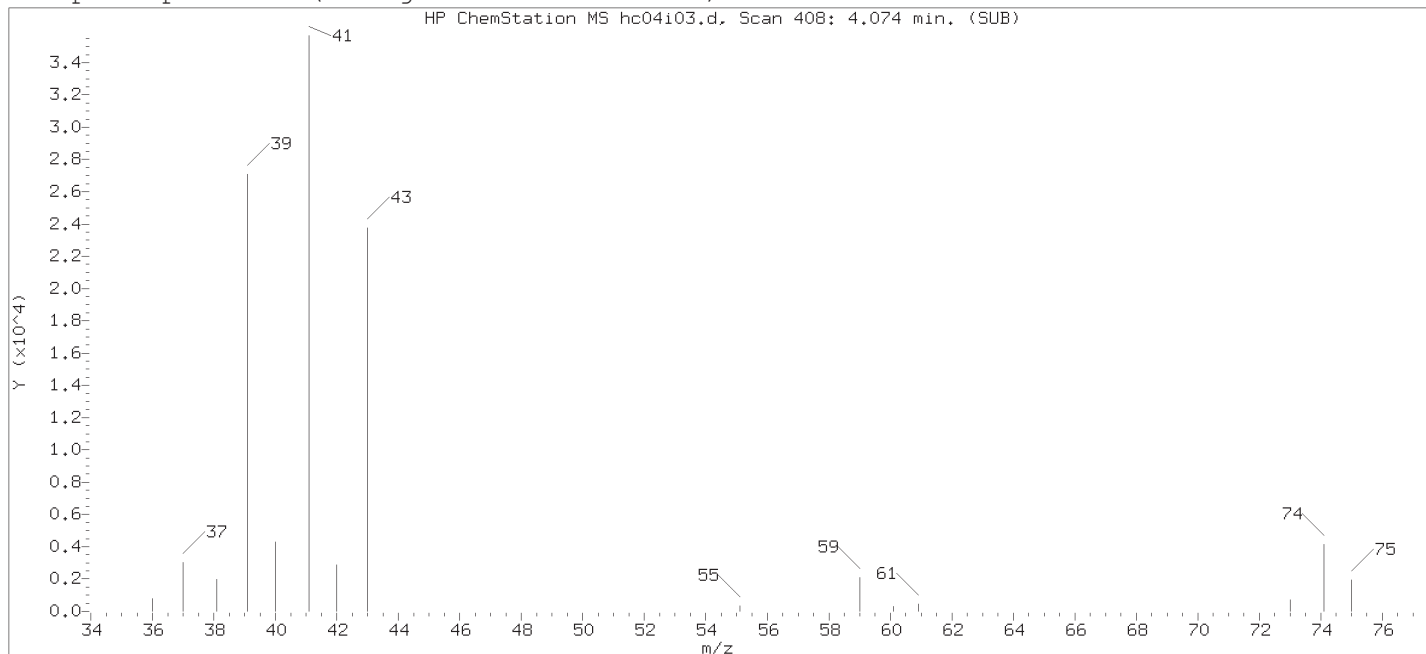
Reason for manual integration: improper integration

Analyst responsible for change:

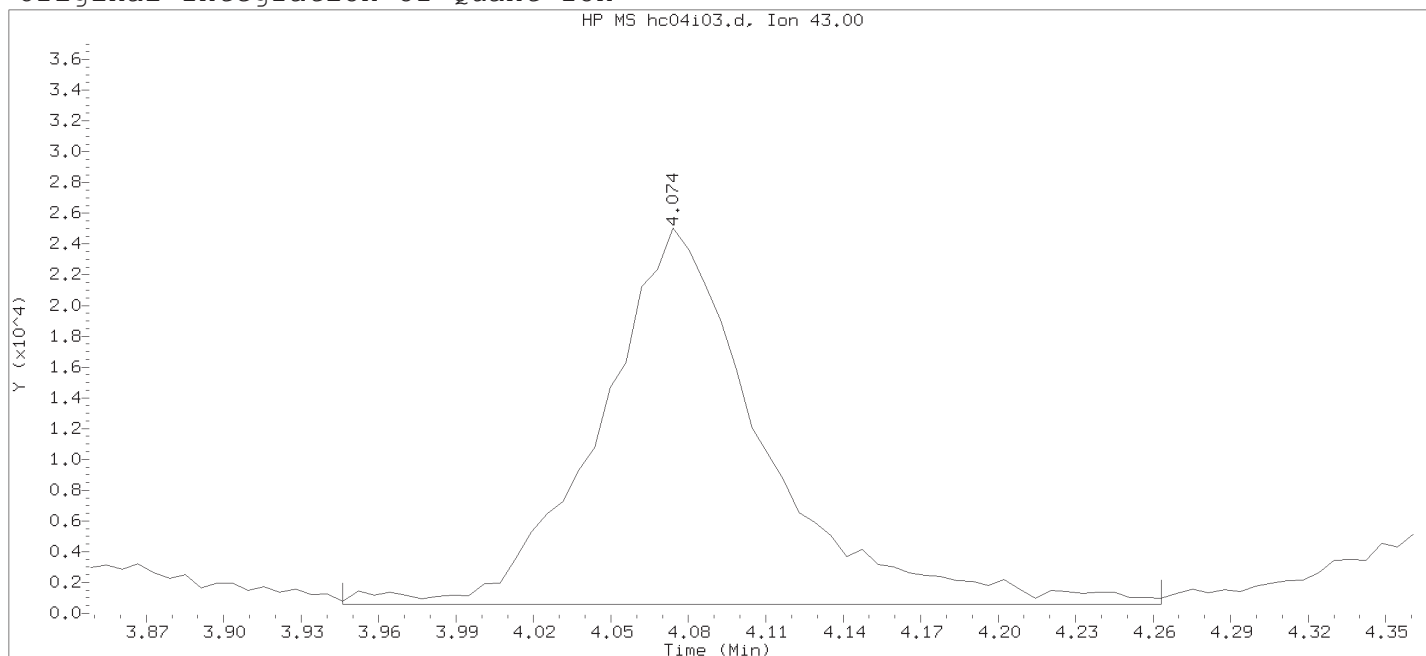
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:33

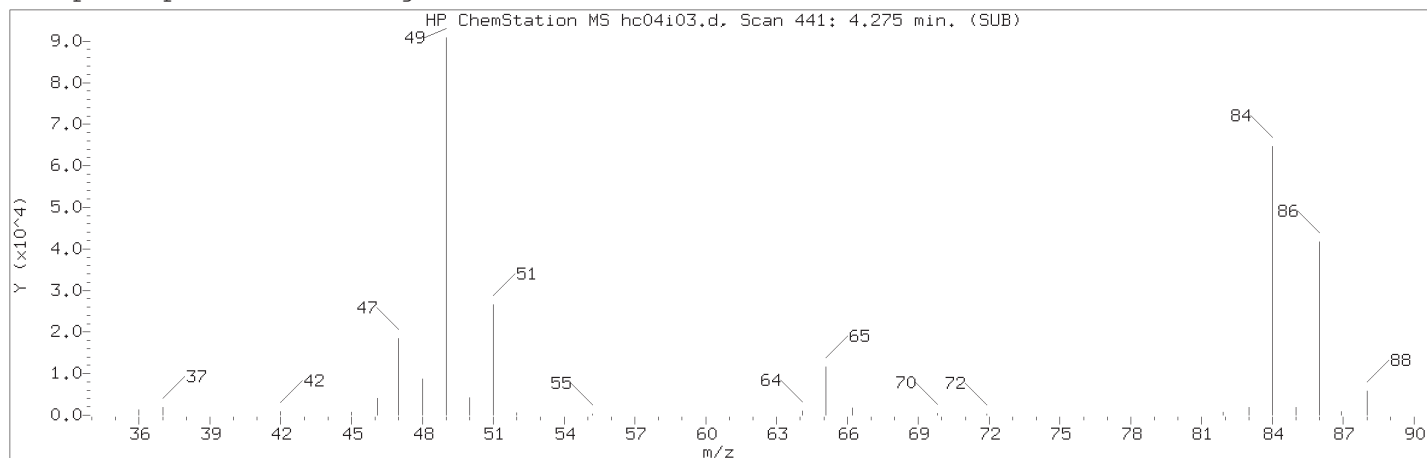
Date, time and analyst ID of latest file update: 04-Oct-2016 11:33 Automation

Sample Name: VSTD005

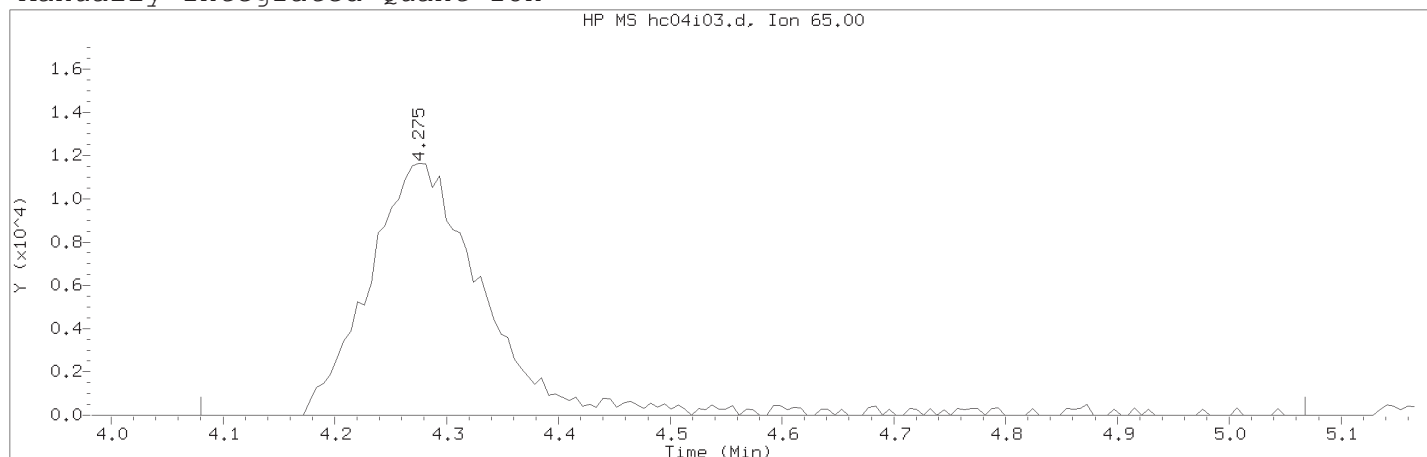
Lab Sample ID: VSTD005

Compound Number	: 21	
Compound Name	: Methyl Acetate	
Scan Number	: 408	
Retention Time (minutes)	: 4.074	
Quant Ion	: 43.00	
Area	: 108405	
On-column Amount (ng)	: 4.7696	
Integration start scan	: 386	Integration stop scan: 438
Y at integration start	: 574	Y at integration end: 574

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number	: 26	
Compound Name	: t-Butyl Alcohol-d10	
Scan Number	: 441	
Retention Time (minutes)	: 4.275	
Quant Ion	: 65.00	
Area (flag)	: 85386M	
On-Column Amount (ng)	: 50.0000	
Integration start scan	: 408	Integration stop scan: 570
Y at integration start	: 0	Y at integration end: 0

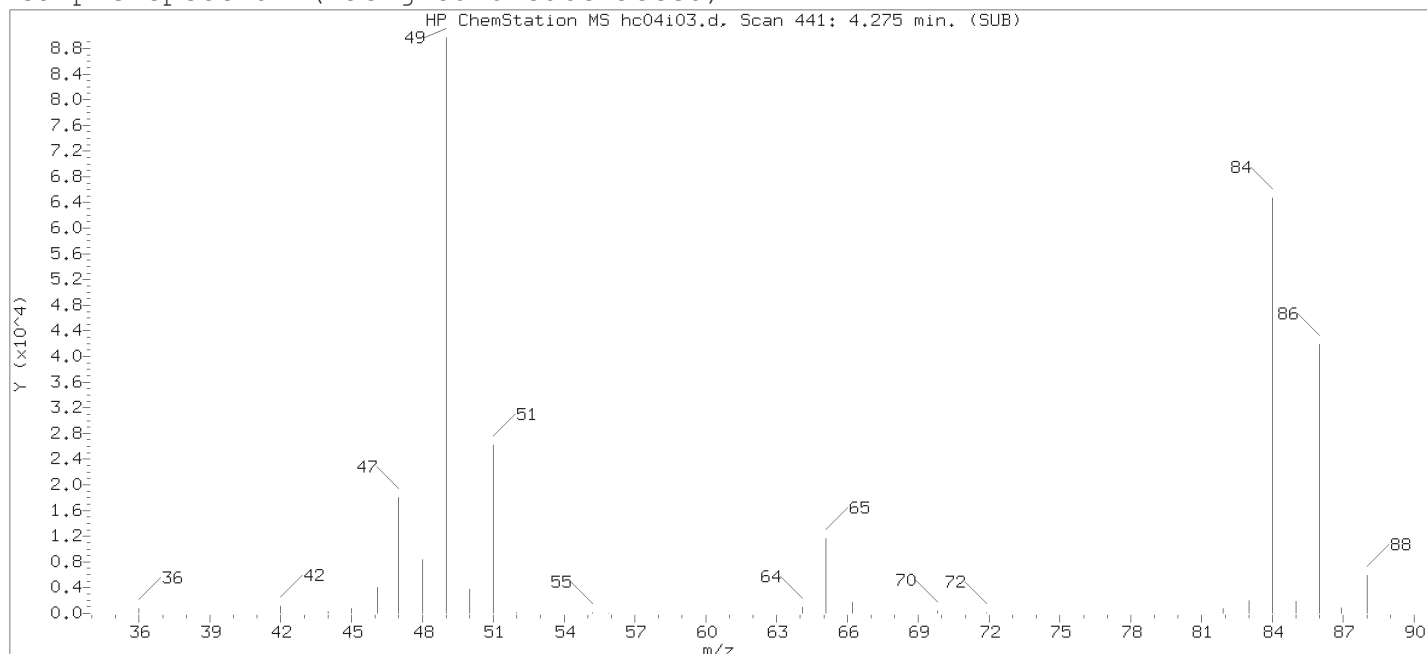
Reason for manual integration: improper integration

Analyst responsible for change:

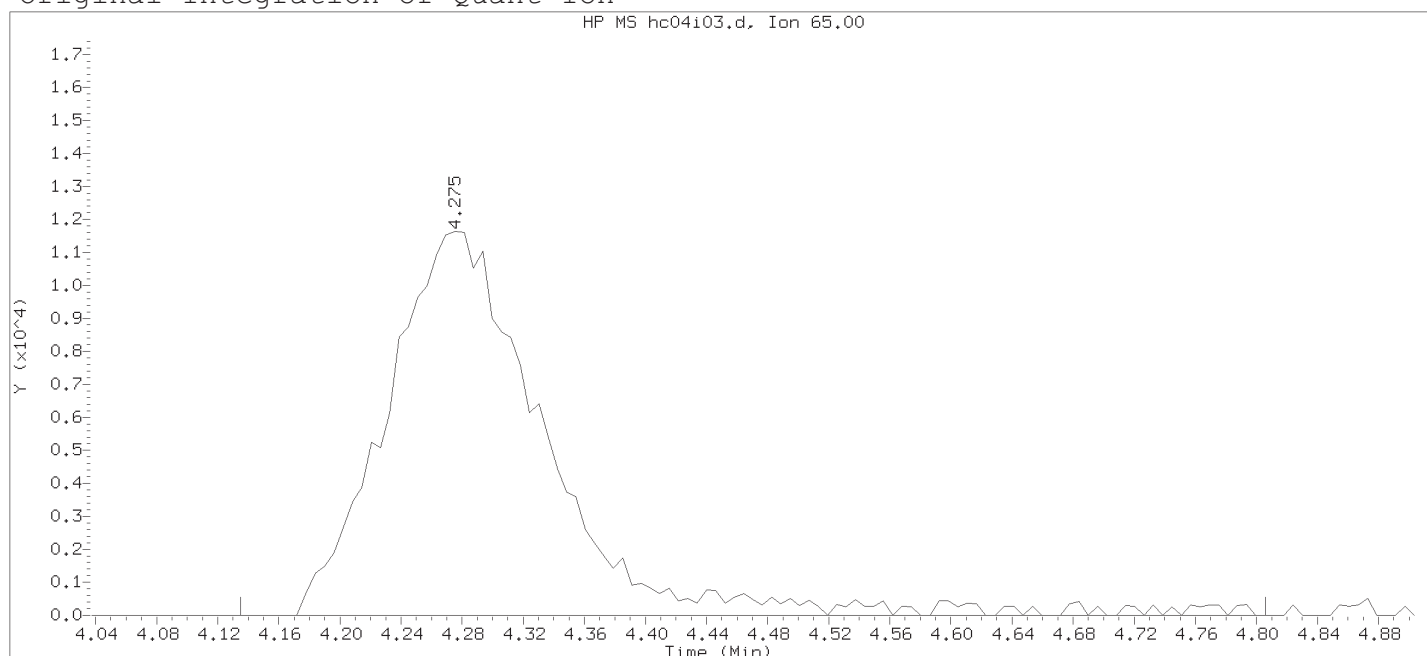
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:33

Date, time and analyst ID of latest file update: 04-Oct-2016 11:33 Automation

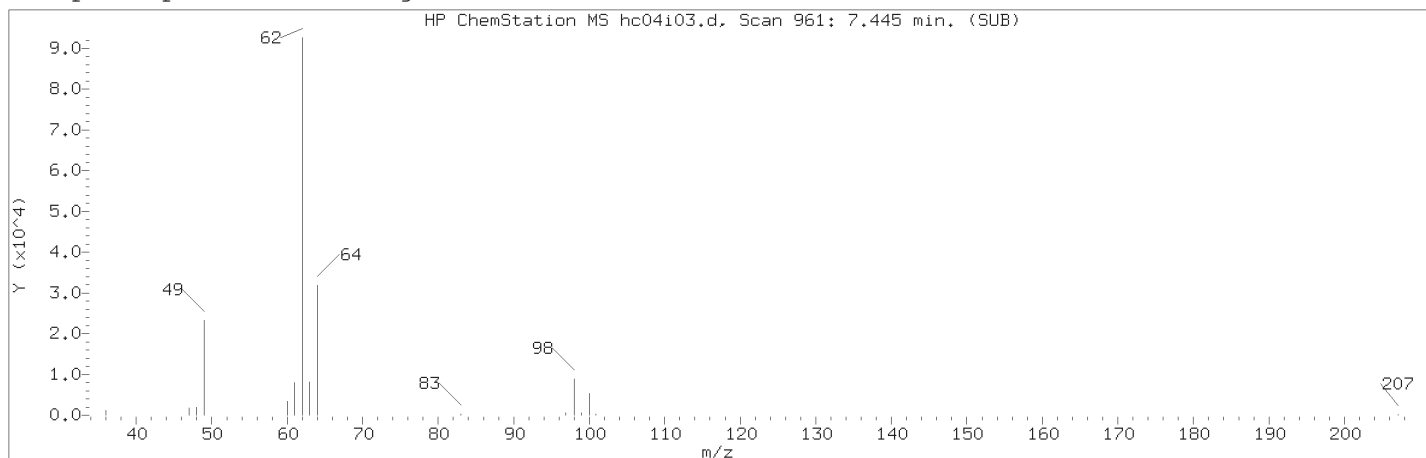
Sample Name: VSTD005

Lab Sample ID: VSTD005

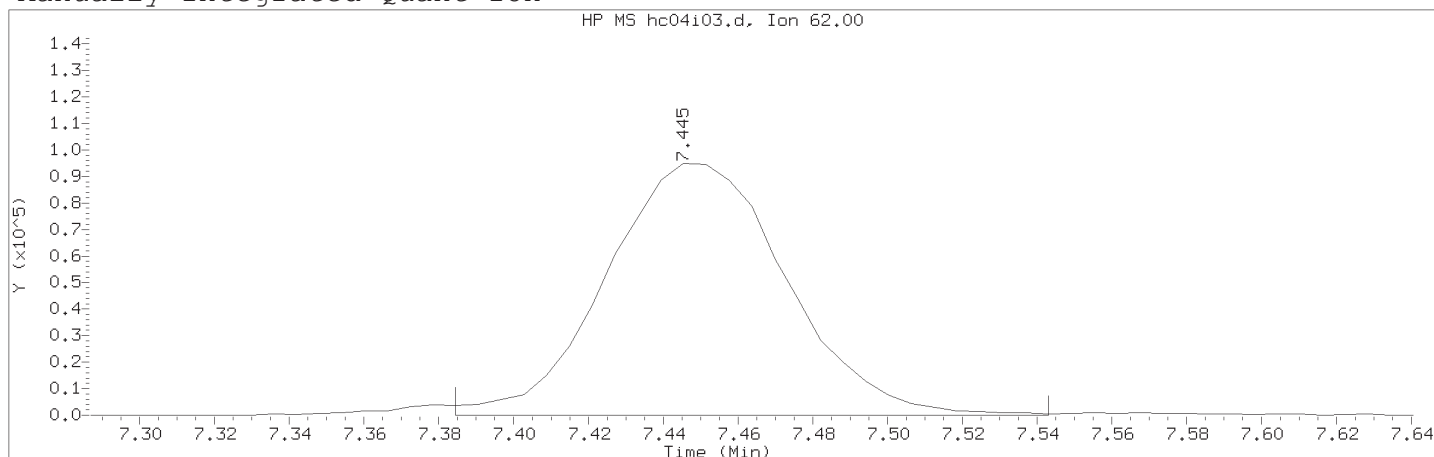
Compound Number : 26
 Compound Name : t-Butyl Alcohol-d10
 Scan Number : 441
 Retention Time (minutes) : 4.275
 Quant Ion : 65.00
 Area : 84096
 On-column Amount (ng) : 50.0000
 Integration start scan : 417
 Y at integration start : 0

Integration stop scan: 527
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number	: 59	
Compound Name	: 1,2-Dichloroethane	
Scan Number	: 961	
Retention Time (minutes)	: 7.445	
Quant Ion	: 62.00	
Area (flag)	: 317740M	
On-Column Amount (ng)	: 4.7489	
Integration start scan	: 950	Integration stop scan: 976
Y at integration start	: 0	Y at integration end: 0

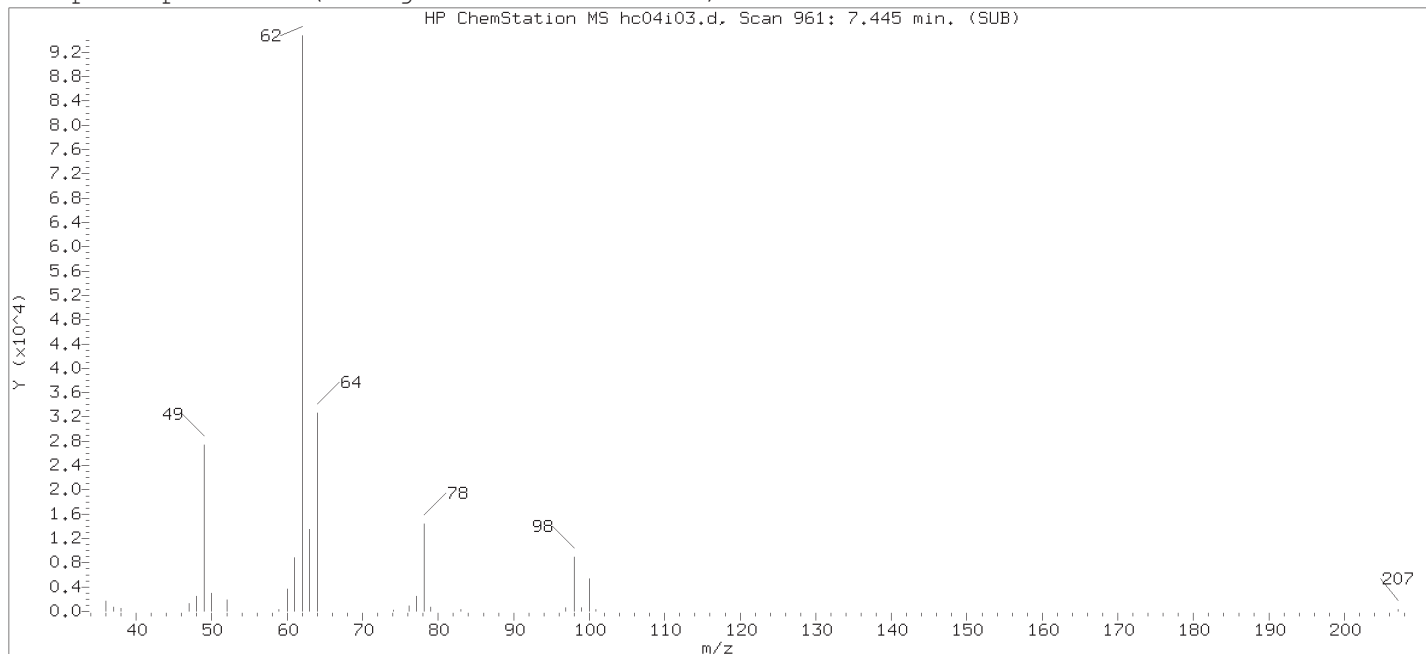
Reason for manual integration: improper integration

Analyst responsible for change:

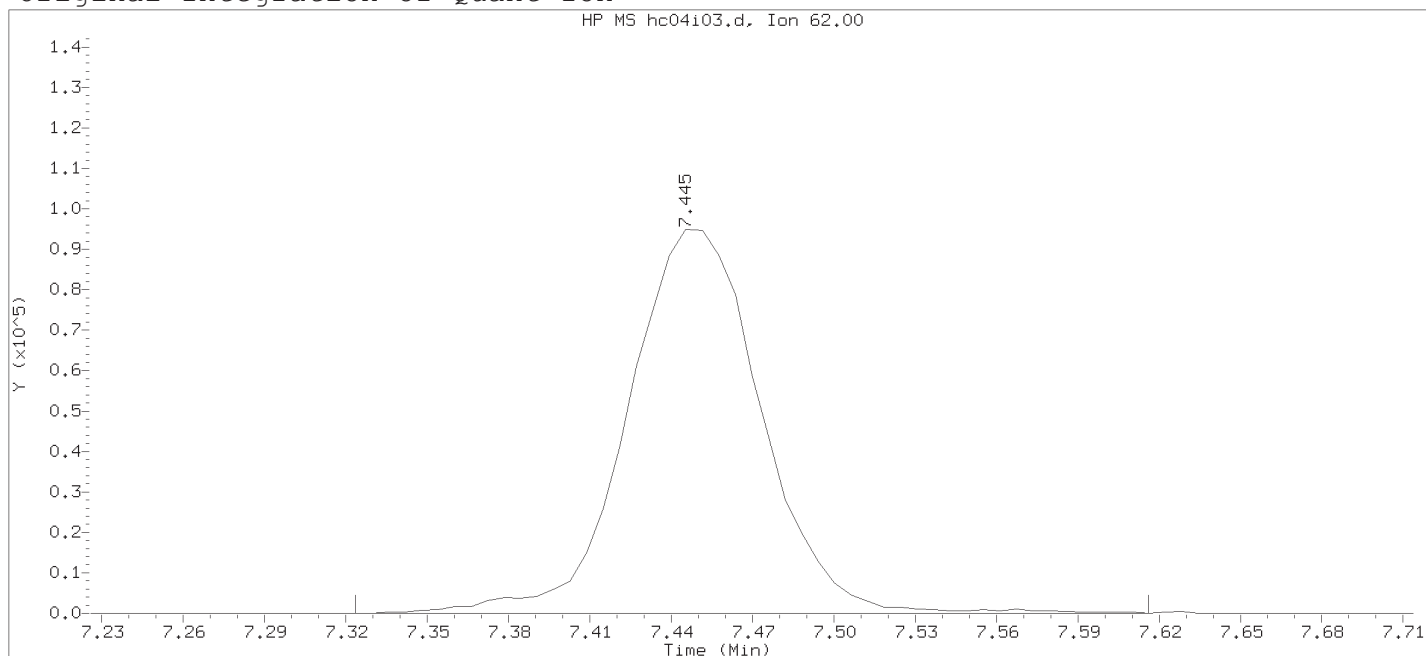
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:33

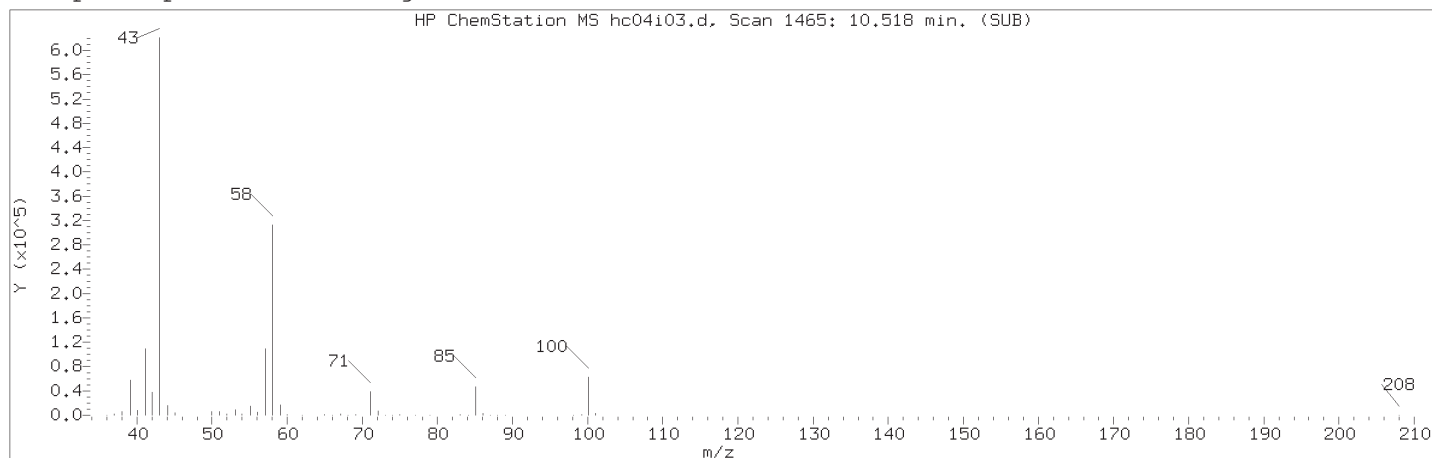
Date, time and analyst ID of latest file update: 04-Oct-2016 11:33 Automation

Sample Name: VSTD005

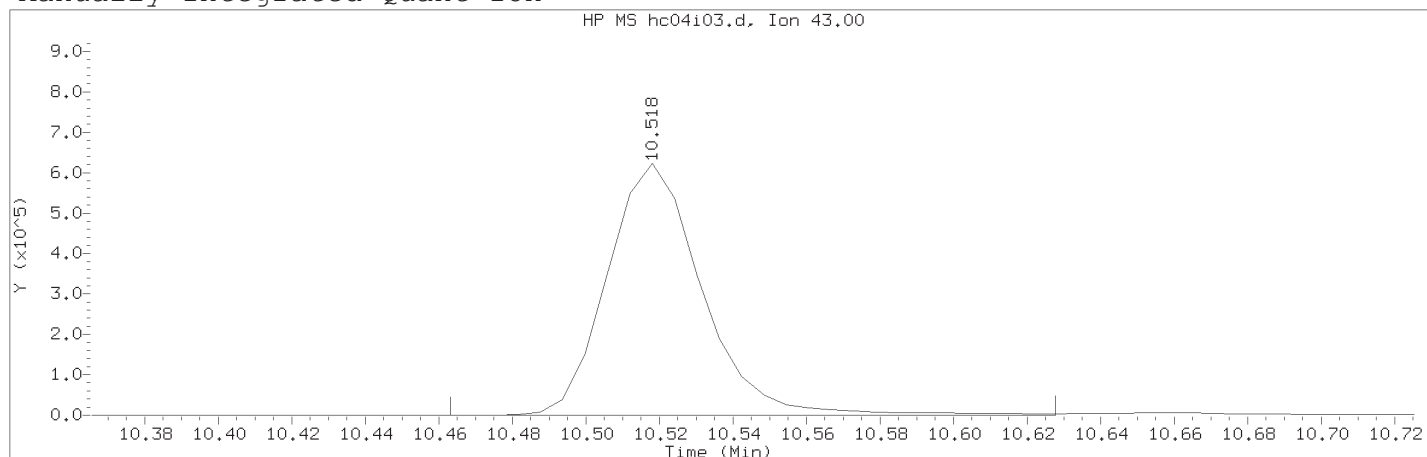
Lab Sample ID: VSTD005

Compound Number	: 59	
Compound Name	: 1,2-Dichloroethane	
Scan Number	: 961	
Retention Time (minutes)	: 7.445	
Quant Ion	: 62.00	
Area	: 324592	
On-column Amount (ng)	: 5.2988	
Integration start scan	: 940	Integration stop scan: 988
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number	: 91	
Compound Name	: 2-Hexanone	
Scan Number	: 1465	
Retention Time (minutes)	: 10.518	
Quant Ion	: 43.00	
Area (flag)	: 1112485M	
On-Column Amount (ng)	: 41.3353	
Integration start scan	: 1455	Integration stop scan: 1482
Y at integration start	: 247	Y at integration end: 247

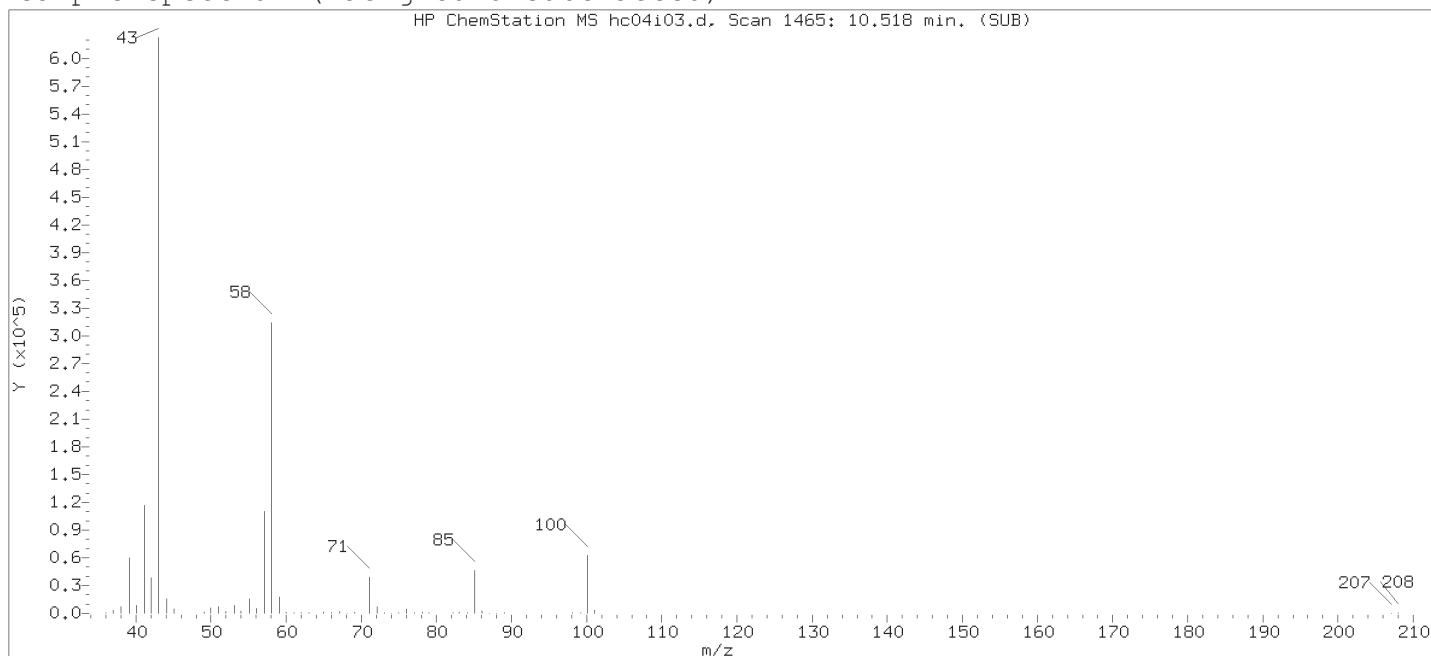
Reason for manual integration: improper integration

Analyst responsible for change:

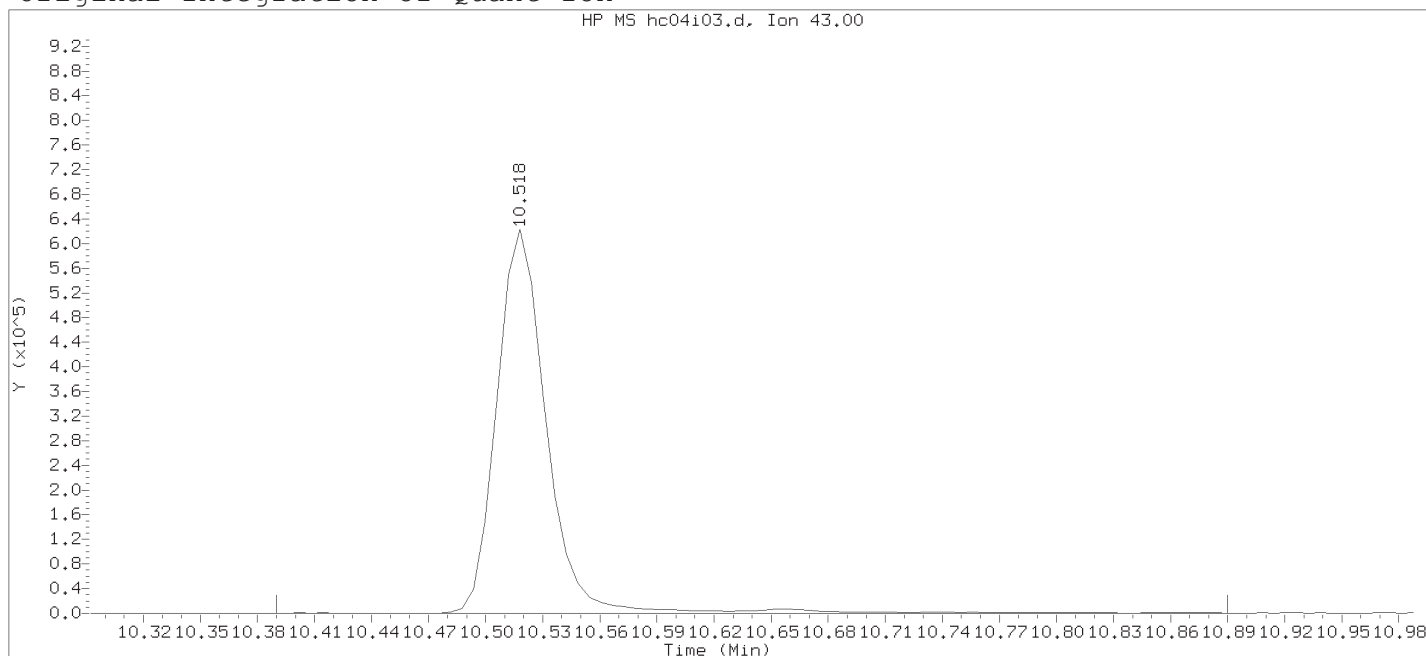
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:33

Date, time and analyst ID of latest file update: 04-Oct-2016 11:33 Automation

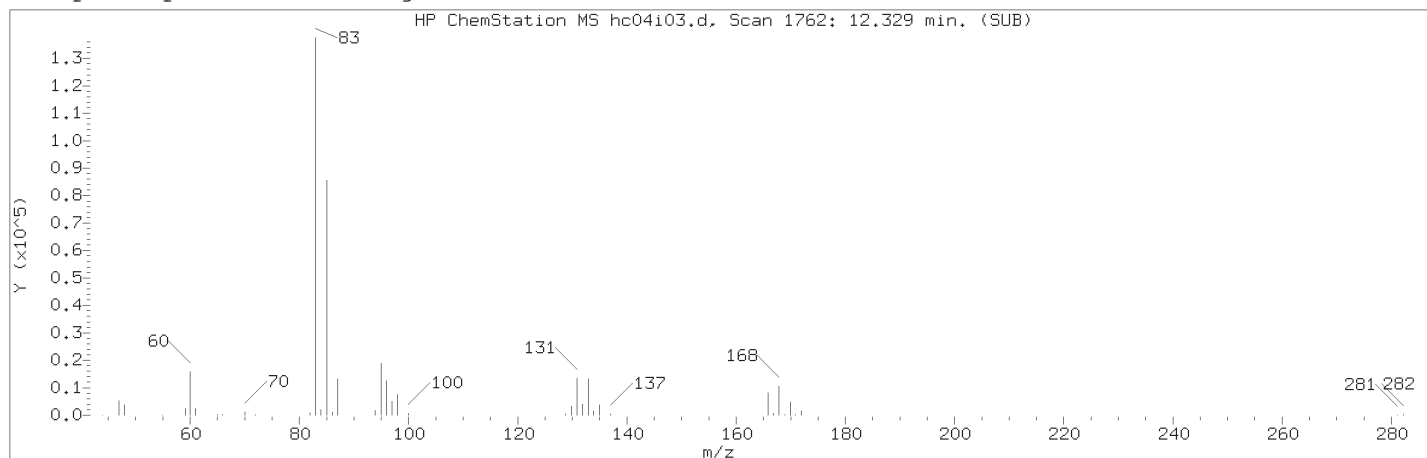
Sample Name: VSTD005

Lab Sample ID: VSTD005

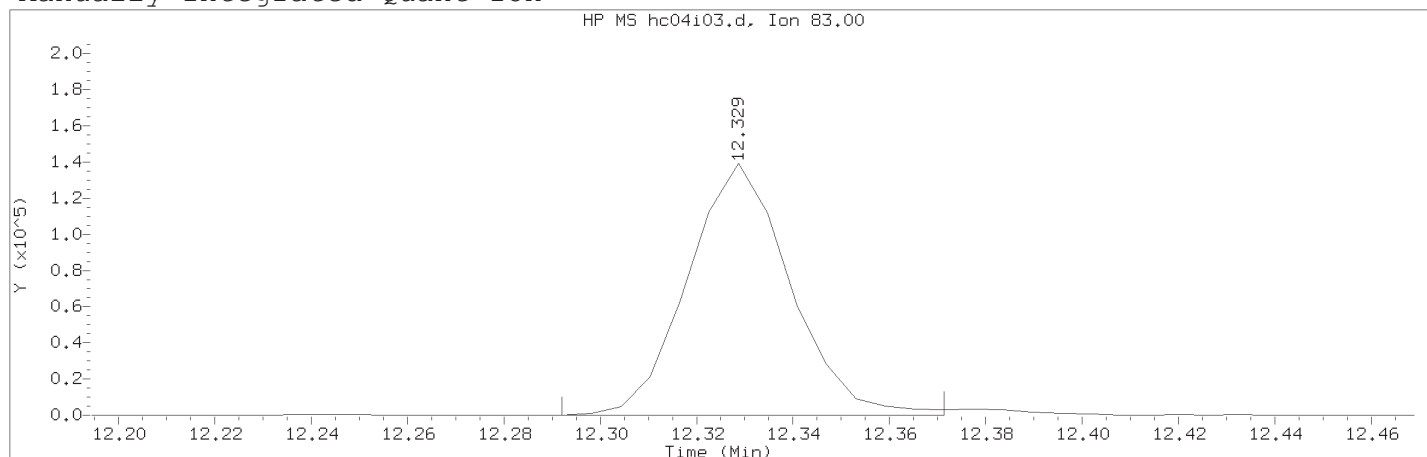
Compound Number : 91
 Compound Name : 2-Hexanone
 Scan Number : 1465
 Retention Time (minutes) : 10.518
 Quant Ion : 43.00
 Area : 1146073
 On-column Amount (ng) : 53.0561
 Integration start scan : 1443
 Y at integration start : 0

Integration stop scan: 1525
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number	: 113	
Compound Name	: 1,1,2,2-Tetrachloroethane	
Scan Number	: 1762	
Retention Time (minutes)	: 12.329	
Quant Ion	: 83.00	
Area (flag)	: 205439M	
On-Column Amount (ng)	: 4.9923	
Integration start scan	: 1755	Integration stop scan: 1768
Y at integration start	: 0	Y at integration end: 0

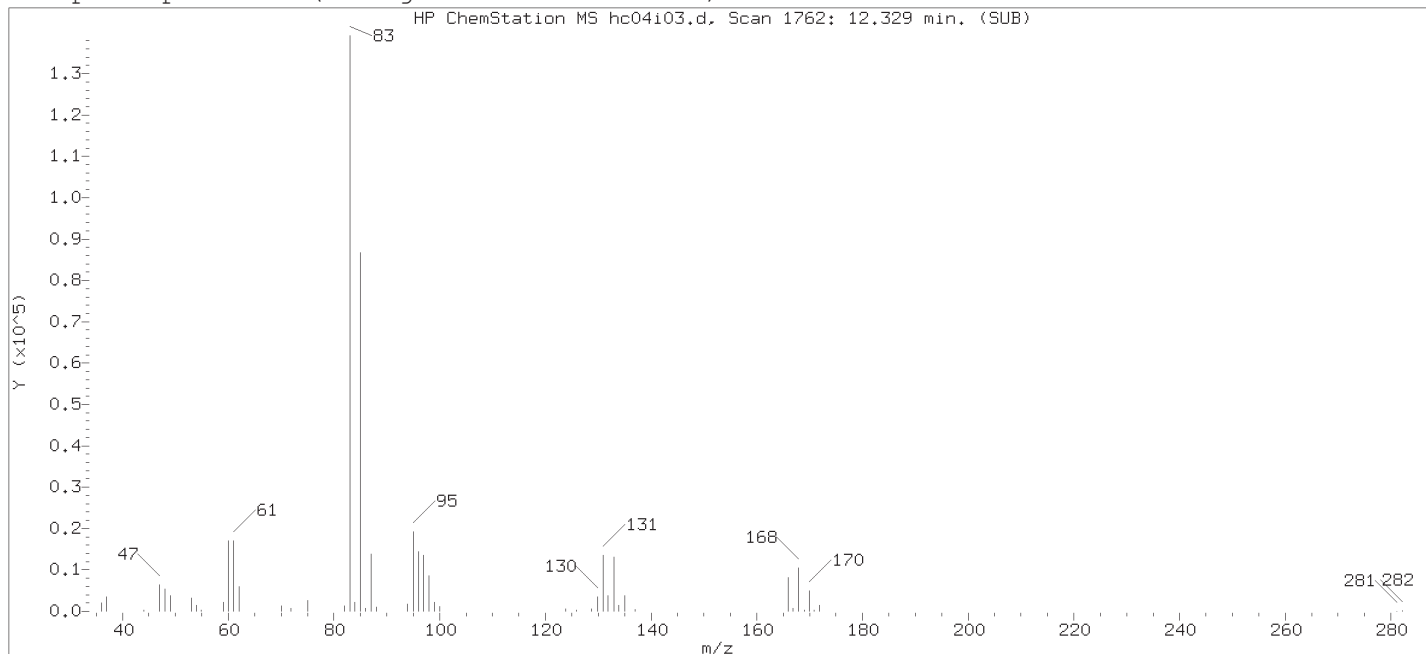
Reason for manual integration: improper integration

Analyst responsible for change:

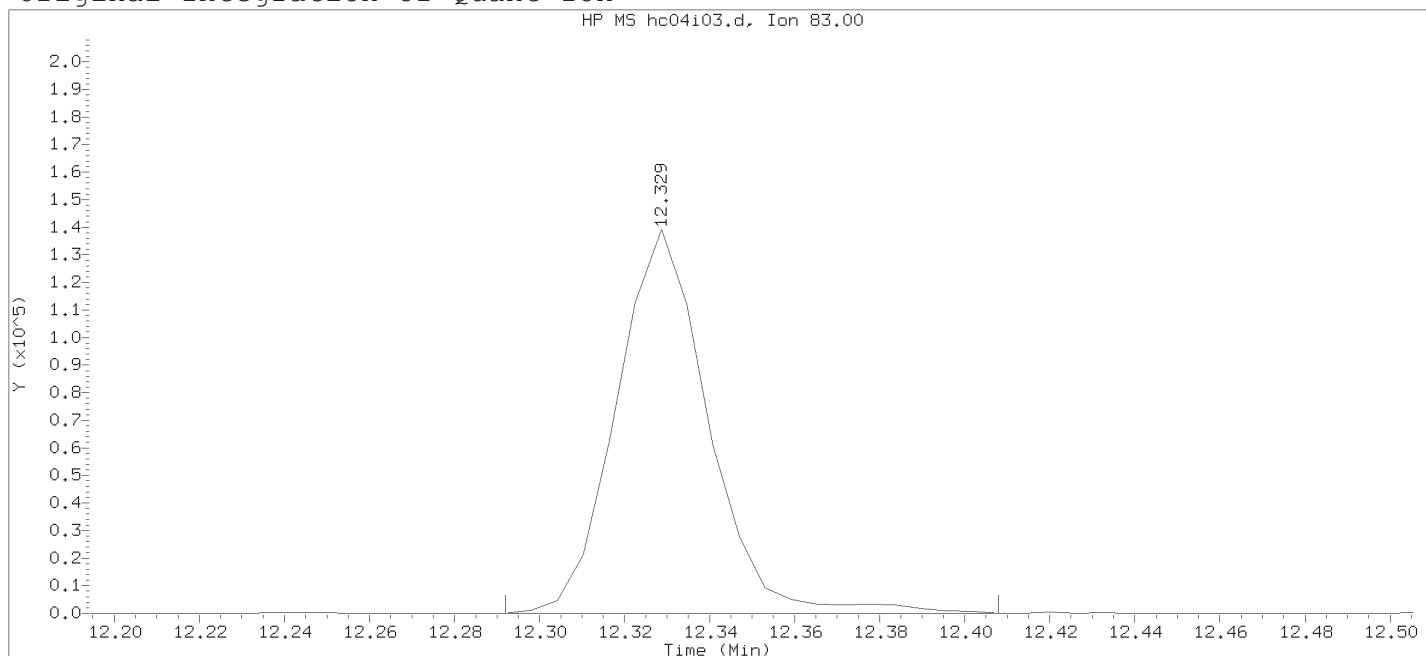
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:33

Date, time and analyst ID of latest file update: 04-Oct-2016 11:33 Automation

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number : 113

Compound Name : 1,1,2,2-Tetrachloroethane

Scan Number : 1762

Retention Time (minutes) : 12.329

Quant Ion : 83.00

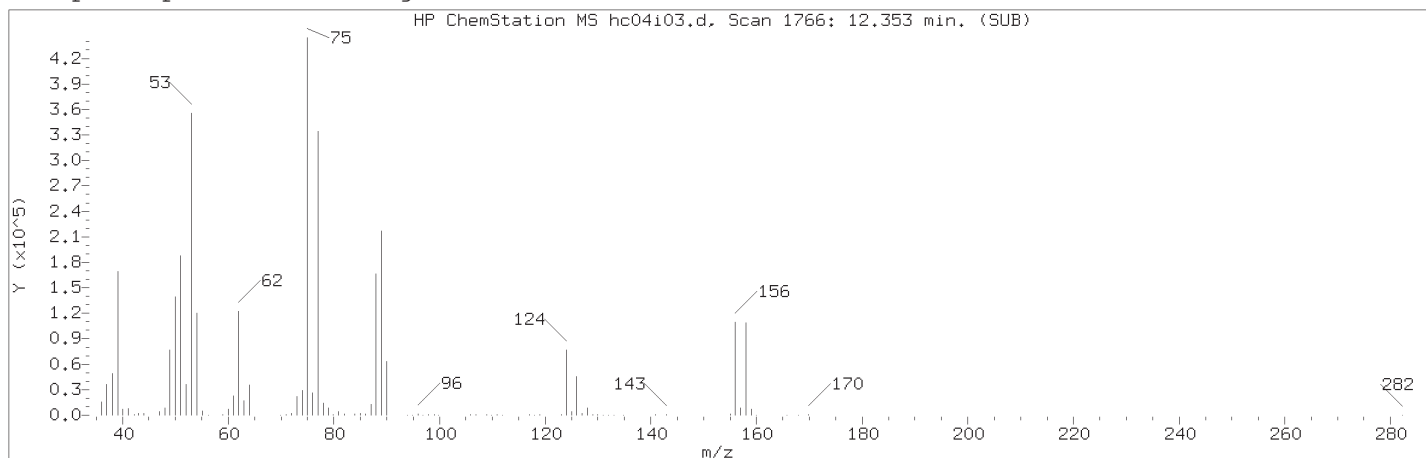
Area : 209035

On-column Amount (ng) : 4.9170

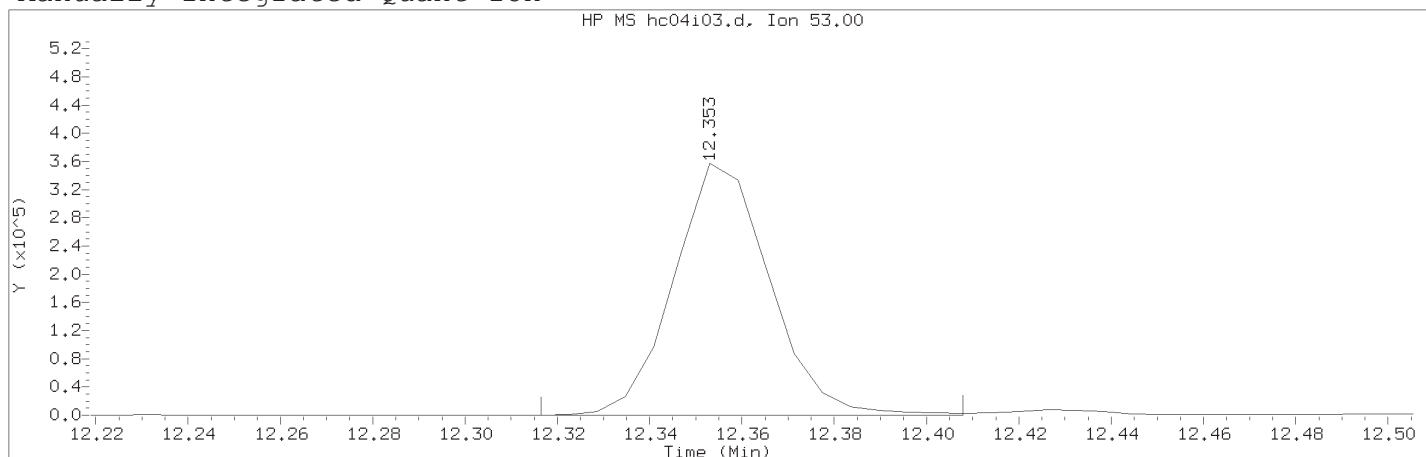
Integration start scan : 1755 Integration stop scan: 1774

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number	: 115	
Compound Name	: trans-1,4-Dichloro-2-butene	
Scan Number	: 1766	
Retention Time (minutes)	: 12.353	
Quant Ion	: 53.00	
Area (flag)	: 515605A	
On-Column Amount (ng)	: 44.7484	
Integration start scan	: 1759	Integration stop scan: 1774
Y at integration start	: 0	Y at integration end: 0

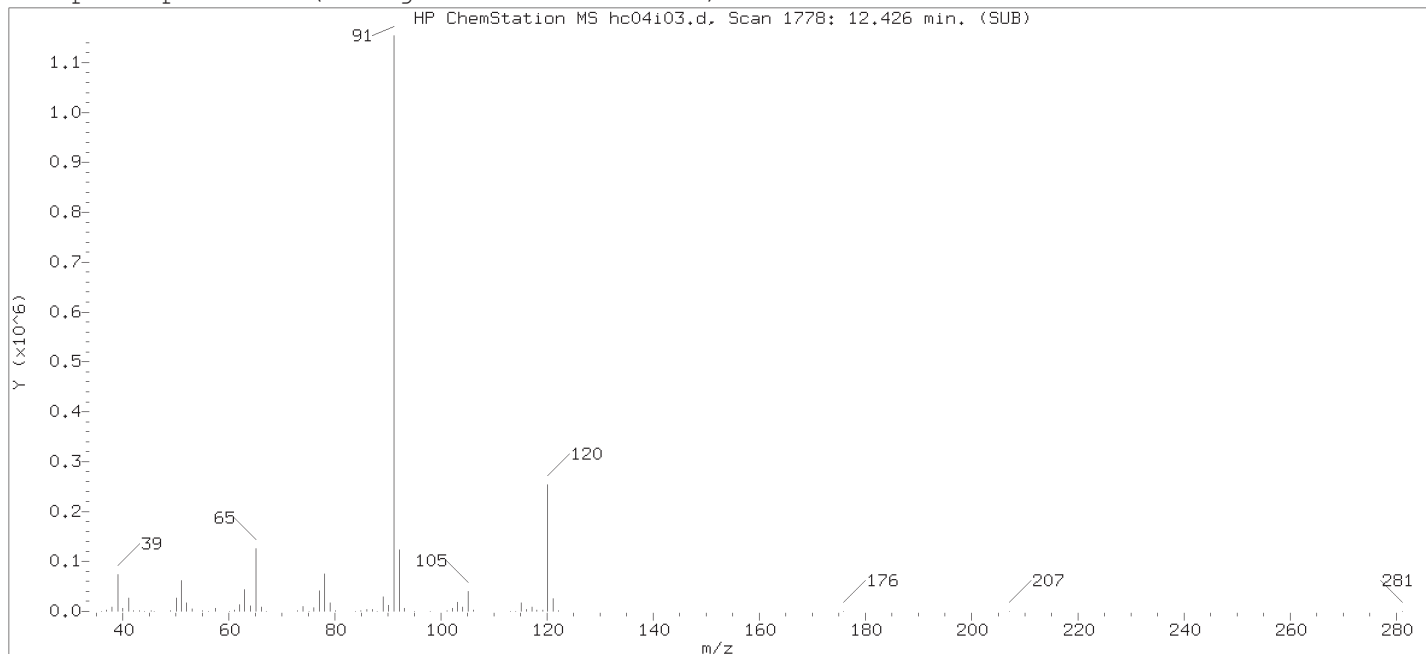
Reason for manual integration: improper integration

Analyst responsible for change:

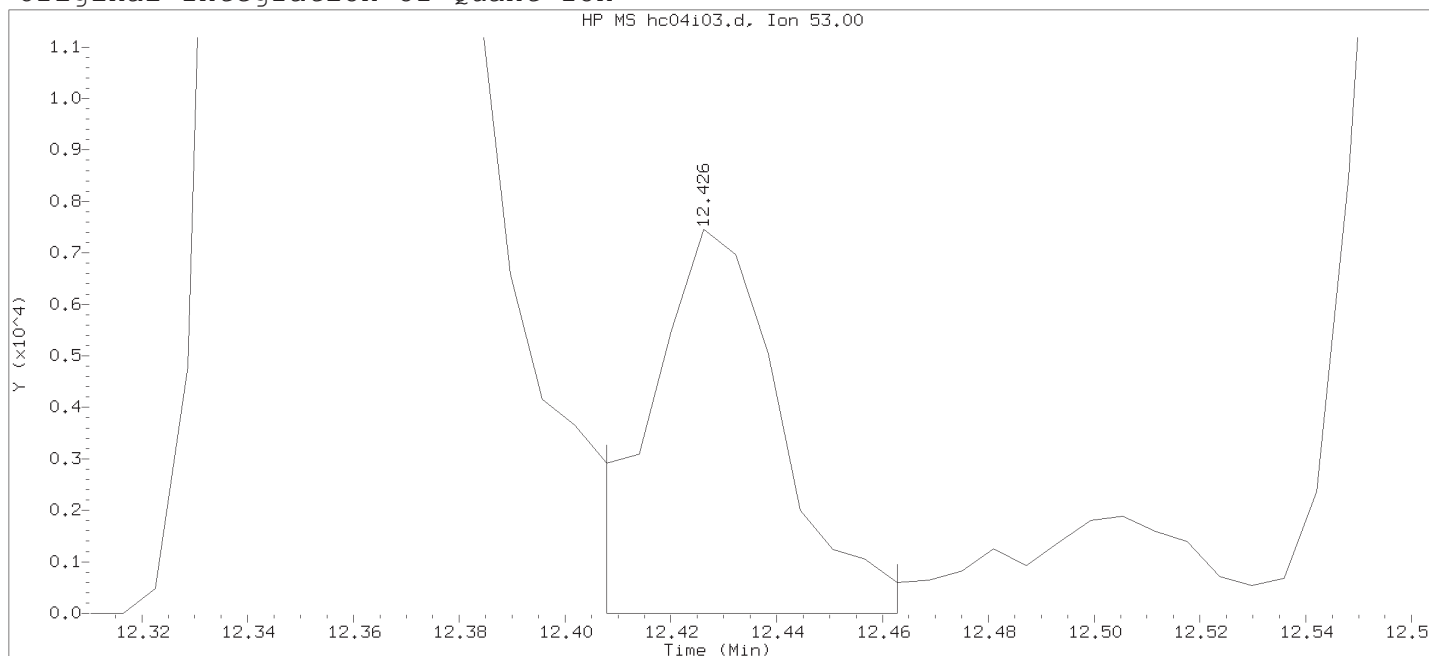
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:33

Date, time and analyst ID of latest file update: 04-Oct-2016 11:33 Automation

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number : 115

Compound Name : trans-1,4-Dichloro-2-butene

Scan Number : 1778

Retention Time (minutes) : 12.426

Quant Ion : 53.00

Area : 12463

On-column Amount (ng) : 2.7495

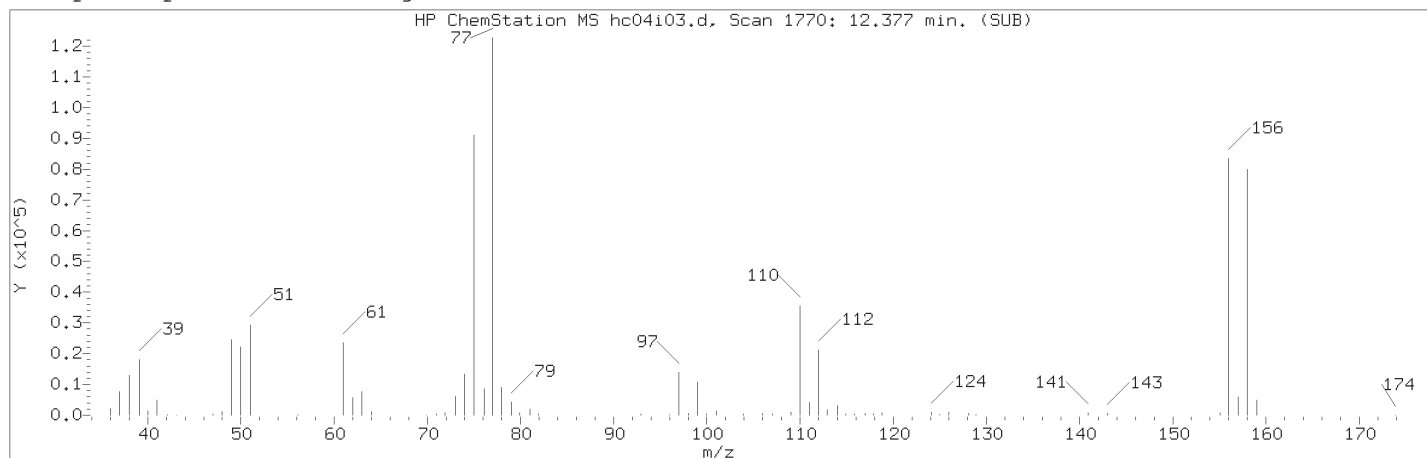
Integration start scan : 1774 Integration stop scan: 1783

Y at integration start : 0 Y at integration end: 0

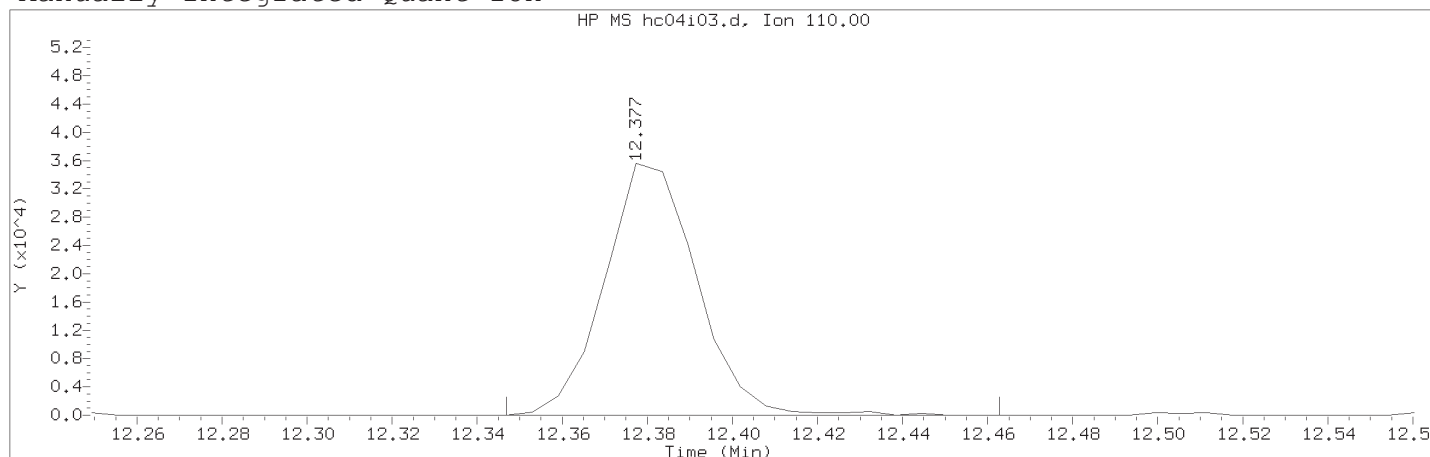
Digitally signed by Kerri E. Koch Legerlotz on 10/04/2016 at 15:34.

Target 3.5 esignature RAE73 Page 173 of 346

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number	: 116	
Compound Name	: 1,2,3-Trichloropropane	
Scan Number	: 1770	
Retention Time (minutes)	: 12.377	
Quant Ion	: 110.00	
Area (flag)	: 53503M	
On-Column Amount (ng)	: 4.8699	
Integration start scan	: 1764	Integration stop scan: 1783
Y at integration start	: 0	Y at integration end: 0

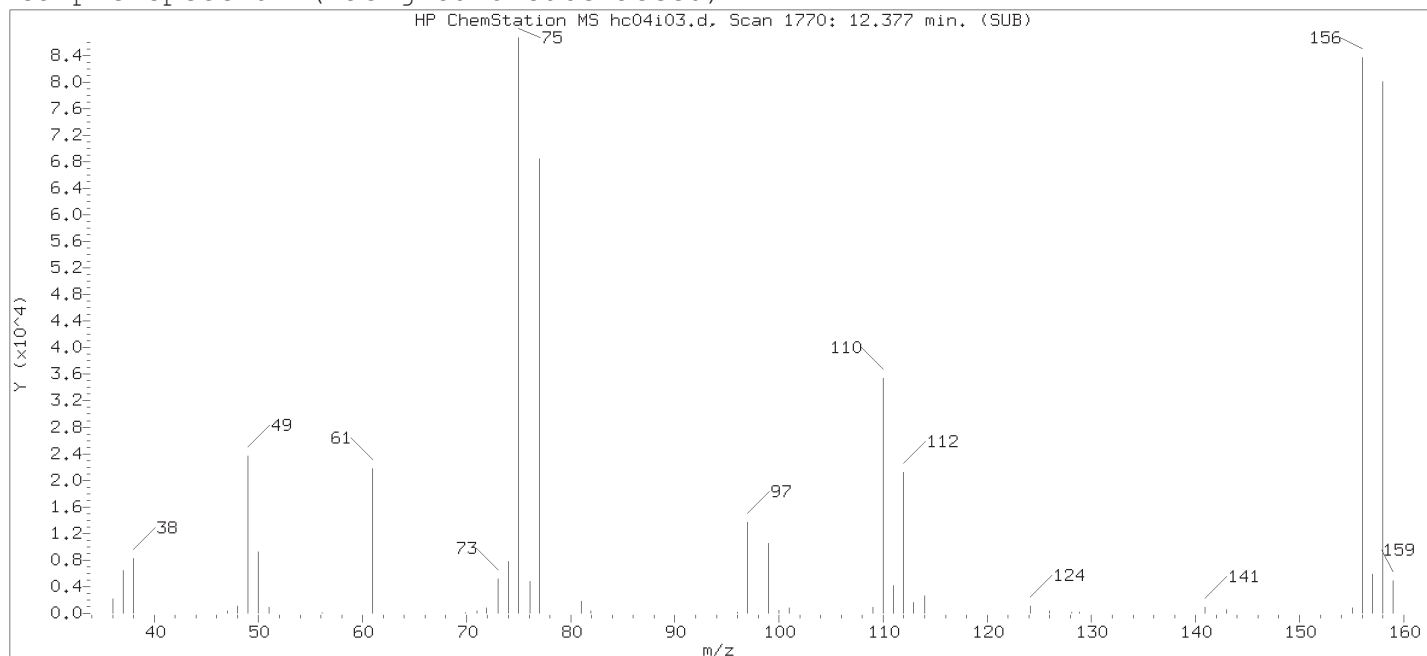
Reason for manual integration: improper integration

Analyst responsible for change:

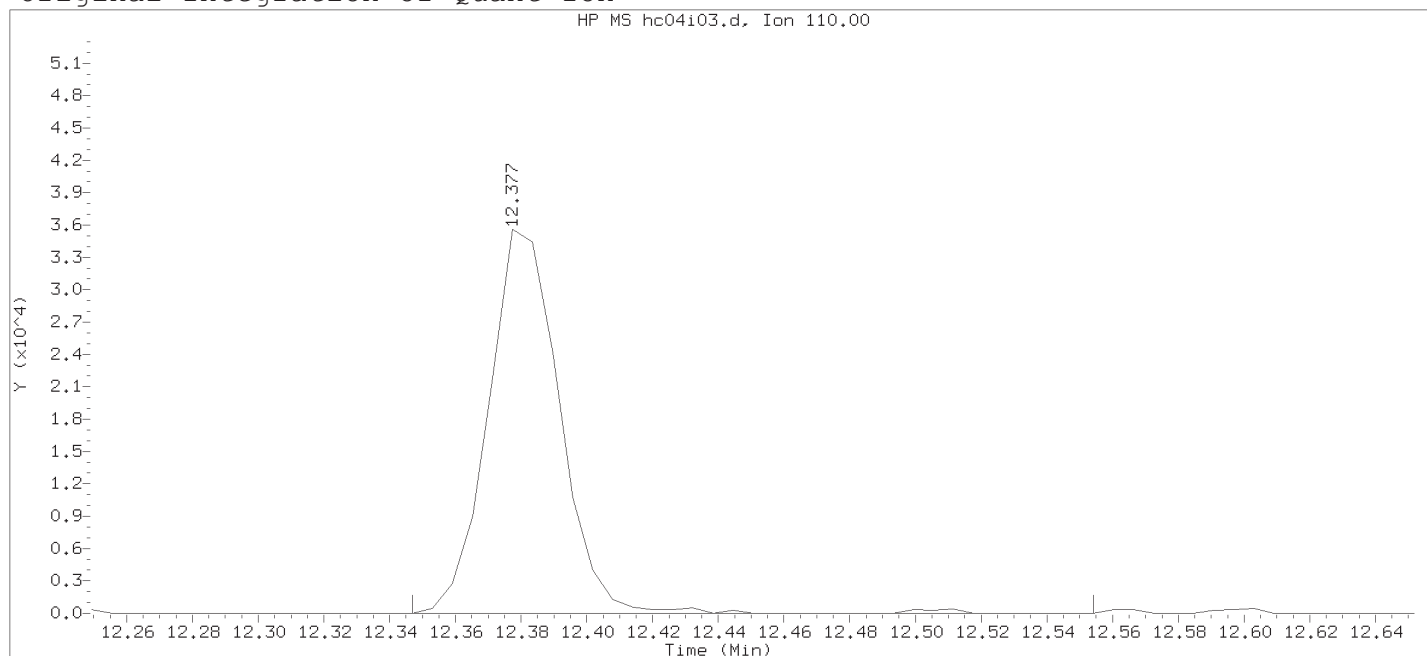
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:33

Date, time and analyst ID of latest file update: 04-Oct-2016 11:33 Automation

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number : 116

Compound Name : 1,2,3-Trichloropropane

Scan Number : 1770

Retention Time (minutes): 12.377

Quant Ion : 110.00

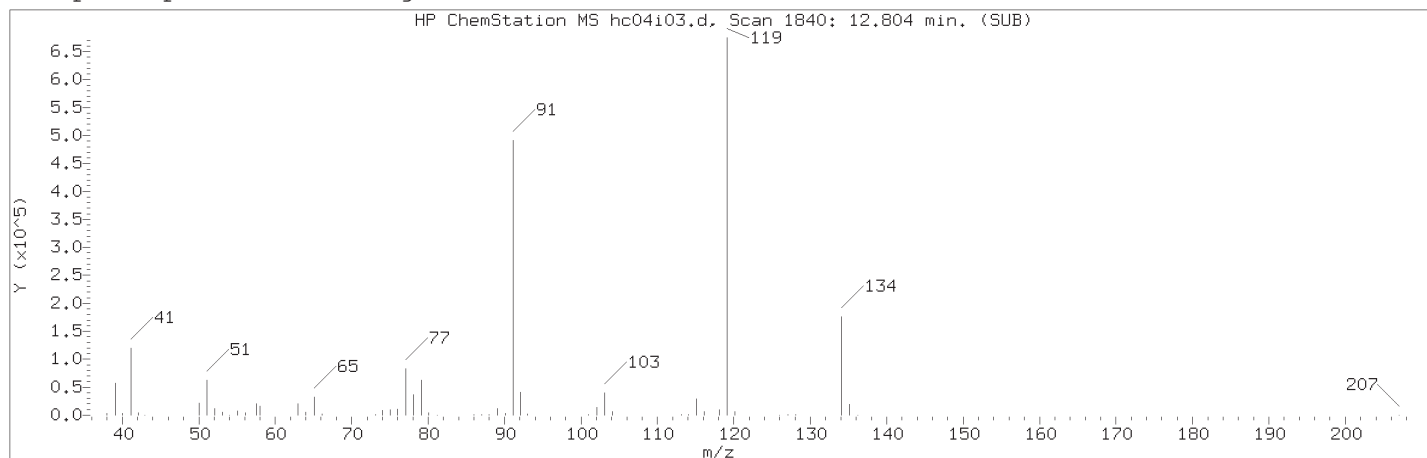
Area : 53851

On-column Amount (ng) : 4.7031

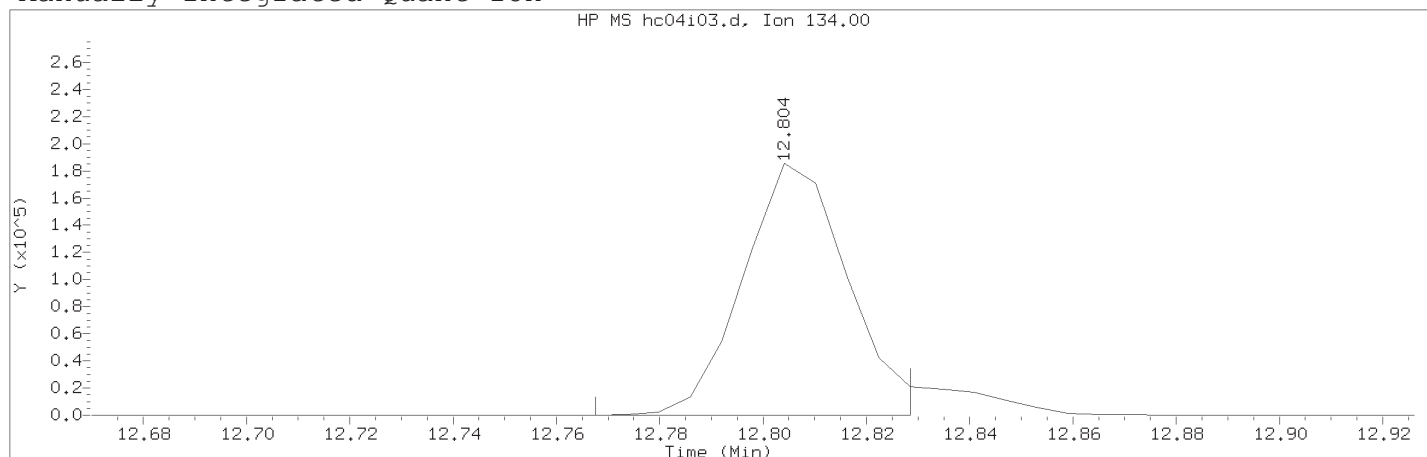
Integration start scan : 1764 Integration stop scan: 1798

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number	: 125	
Compound Name	: tert-Butylbenzene	
Scan Number	: 1840	
Retention Time (minutes)	: 12.804	
Quant Ion	: 134.00	
Area (flag)	: 261669M	
On-Column Amount (ng)	: 4.9561	
Integration start scan	: 1833	Integration stop scan: 1843
Y at integration start	: 0	Y at integration end: 0

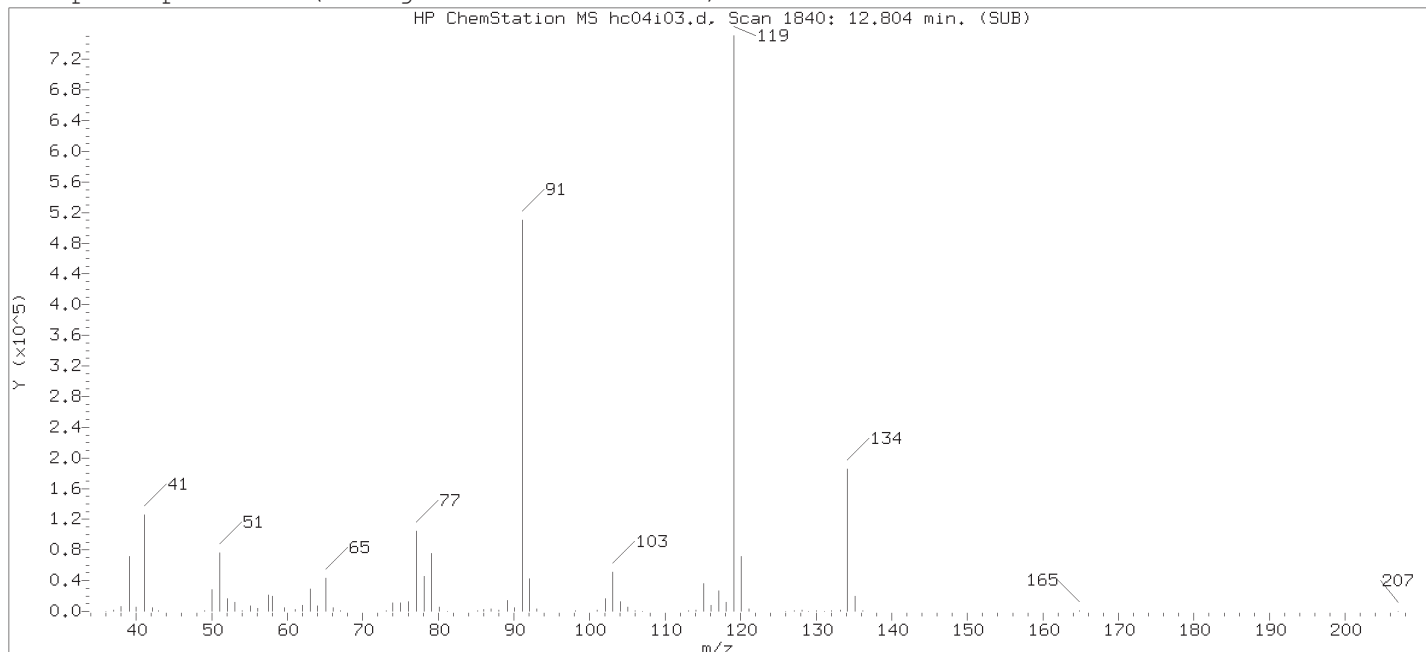
Reason for manual integration: improper integration

Analyst responsible for change:

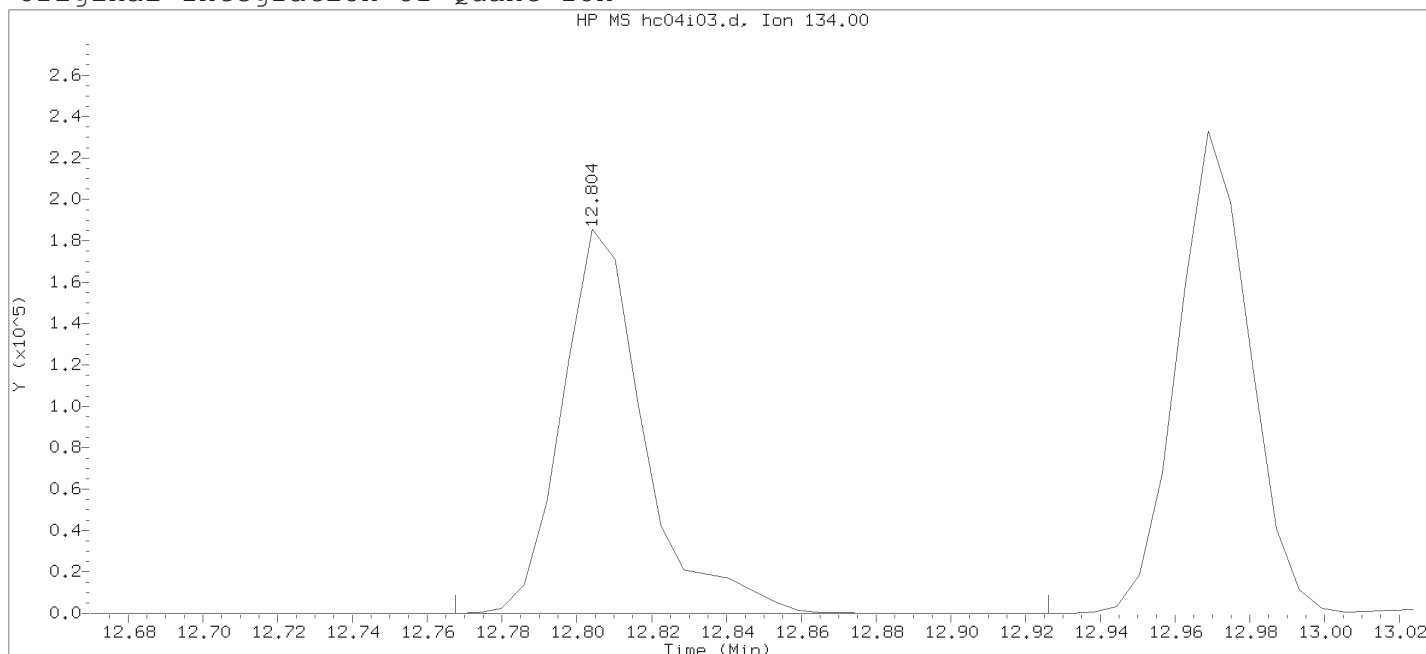
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:33

Date, time and analyst ID of latest file update: 04-Oct-2016 11:33 Automation

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number : 125

Compound Name : tert-Butylbenzene

Scan Number : 1840

Retention Time (minutes): 12.804

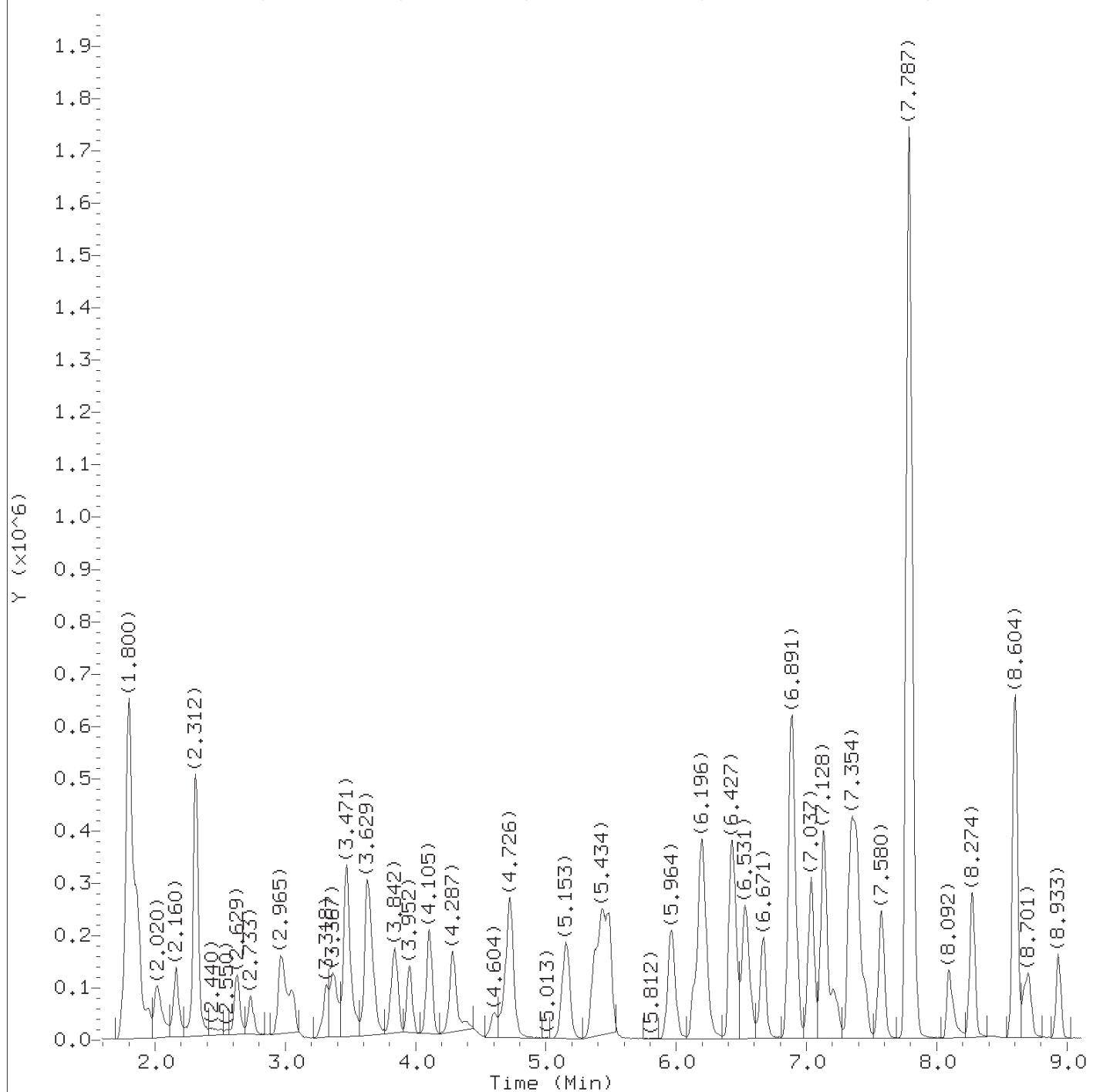
Quant Ion : 134.00

Area : 281658

On-column Amount (ng) : 4.9403

Integration start scan : 1833 Integration stop scan: 1859

Y at integration start : 0 Y at integration end: 0



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d
Injection date and time: 04-OCT-2016 11:35

Instrument ID: HP19094.i
Analyst ID: kel01973

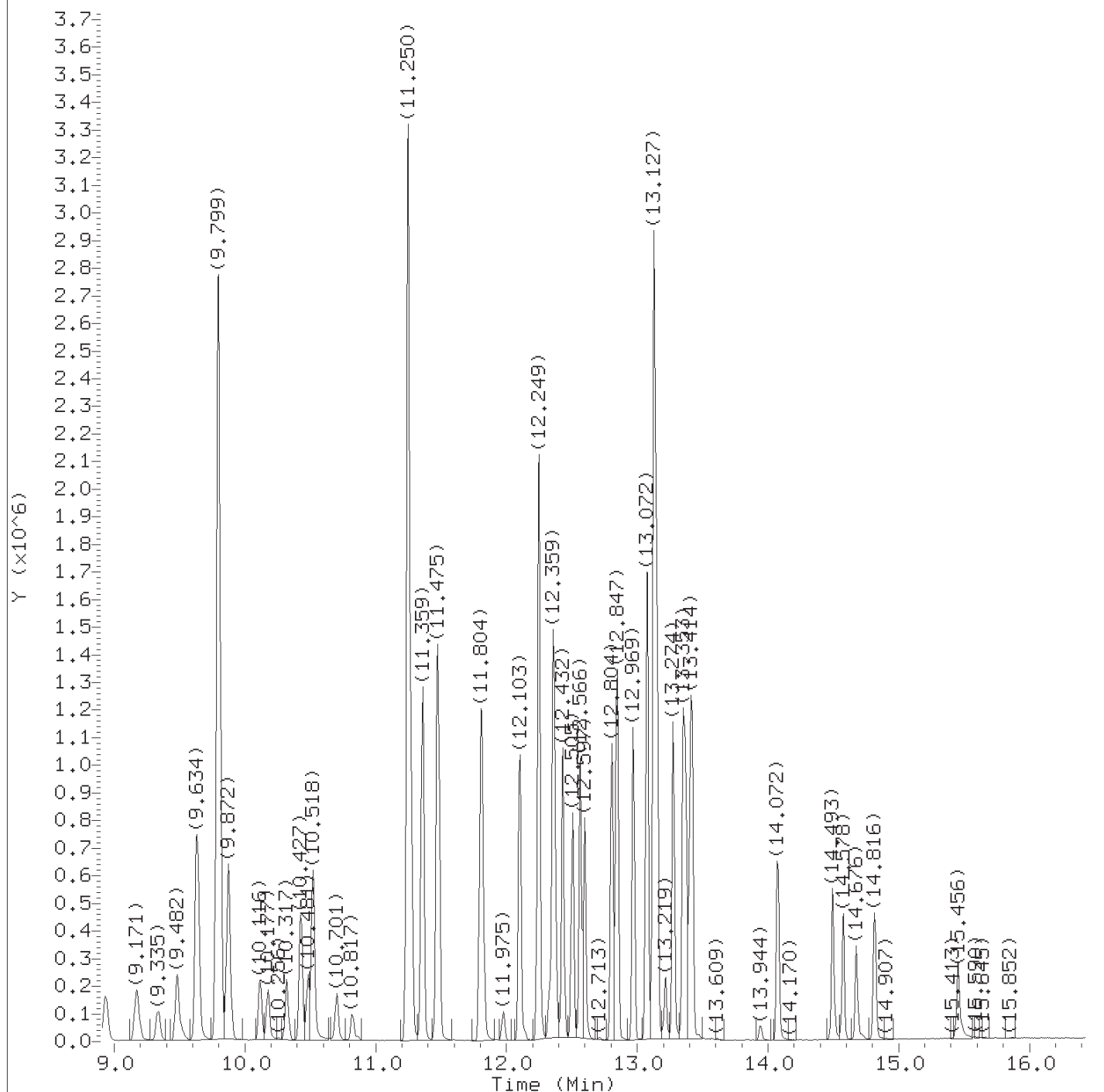
Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:44
Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.

Target 3.5 esignature user ID: kel01973
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Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d
Injection date and time: 04-OCT-2016 11:35

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:44
Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d
 Injection date and time: 04-OCT-2016 11:35

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:44
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.014	85	179502	1.860
2) Chloromethane	(2)	2.160	50	186644	1.807
5) Vinyl Chloride	(2)	2.306	62	169518	1.841
6) 1,3-Butadiene	(2)	2.312	39	283635	2.010
7) Bromomethane	(2)	2.629	94	109457	1.853
8) Chloroethane	(2)	2.733	64	97412	1.872
9) Dichlorofluoromethane	(2)	2.965	67	229303	1.846
10) Trichlorofluoromethane	(2)	3.044	101	206244M	1.846
11) Ethyl ether	(2)	3.312	59	84717	2.055
12) Freon 123a	(2)	3.373	67	144227	1.860
13) Acrolein	(1)	3.471	56	579680	95.280
15) 1,1-Dichloroethene	(2)	3.629	96	105870	2.034
14) Acetone	(1)	3.635	43	171554	21.062
16) Freon 113	(2)	3.653	101	117759	2.069
17) Methyl Iodide	(2)	3.824	142	204878	2.059
18) Carbon Disulfide	(2)	3.952	76	312457	1.979
21) Methyl Acetate	(1)	4.086	43	45359	1.847
22) Allyl Chloride	(2)	4.105	41	229882	2.030
26)*t-Butyl Alcohol-d10	(1)	4.269	65	84598	50.000
23) Methylene Chloride	(2)	4.281	84	113641	2.034
28) t-Butyl Alcohol	(1)	4.397	59	108912	49.500
29) Acrylonitrile	(1)	4.604	53	98552	10.283
30) Methyl Tertiary Butyl Ether	(2)	4.708	73	250146	2.060
31) trans-1,2-Dichloroethene	(2)	4.726	96	119409	2.024
32) n-Hexane	(2)	5.153	57	187648	2.086
33) 1,1-Dichloroethane	(2)	5.373	63	231169	1.990
34) di-Isopropyl Ether	(2)	5.434	45	429453	2.061
35) 2-Chloro-1,3-Butadiene	(2)	5.488	53	217451	2.021
37) Ethyl t-butyl ether	(2)	5.964	59	345133	2.042
40) 1,2-Dichloroethene (Total)	(2)		96	251043	4.058
38) 2-Butanone	(1)	6.129	43	274578	19.051
39) cis-1,2-Dichloroethene	(2)	6.190	96	131634	2.035
42) Propionitrile	(1)	6.202	54	138804	43.664
41) 2,2-Dichloropropane	(2)	6.202	77	191672	2.033
45) Methacrylonitrile	(1)	6.433	67	247153	18.210
47) Bromochloromethane	(2)	6.525	128	53262	2.053
48) Tetrahydrofuran	(1)	6.543	71	69903	18.817
49) Chloroform	(2)	6.671	83	228936	2.040

M = Compound was manually integrated.

* = Compound is an internal standard.

page 1 of 4

Digitally signed by Kerri E. Koch Legerlotz
 on 10/04/2016 at 15:45.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d
 Injection date and time: 04-OCT-2016 11:35

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:44
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
50) \$Dibromofluoromethane	(2)	6.885	113	517277	9.935
50) \$Dibromofluoromethane	(2)	6.885	111	532150	9.996
51) 1,1,1-Trichloroethane	(2)	6.915	97	207749	2.056
52) Cyclohexane	(2)	7.037	56	235081	1.983
52) Cyclohexane	(2)	7.037	84	188116	1.922
52) Cyclohexane	(2)	7.043	69	67422	2.016
55) 1,1-Dichloropropene	(2)	7.128	75	181878	1.991
54) Carbon Tetrachloride	(2)	7.141	117	178185	2.041
56) Isobutyl Alcohol	(1)	7.208	41	91900M	105.597
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	81323M	9.723
57) \$1,2-Dichloroethane-d4	(2)	7.342	65	457266	9.931
57) \$1,2-Dichloroethane-d4	(2)	7.336	104	52875M	9.880
58) Benzene	(2)	7.391	78	495175	2.033
59) 1,2-Dichloroethane	(2)	7.451	62	135982M	2.006
60) t-Amyl methyl ether	(2)	7.580	73	286441	2.089
63) *Fluorobenzene	(2)	7.787	96	2270009	10.000
62) n-Heptane	(2)	7.817	43	223152	2.061
65) n-Butanol	(1)	8.092	56	152708M	240.237
67) Trichloroethene	(2)	8.268	95	135203	2.026
70) 1,2-Dichloropropane	(2)	8.598	63	127593	2.058
69) Methylcyclohexane	(2)	8.604	83	242071	2.078
71) Methyl Methacrylate	(1)	8.671	69	48084M	1.924
72) 1,4-Dioxane	(1)	8.701	88	17907	83.994
73) Dibromomethane	(2)	8.707	93	53361	2.056
74) Bromodichloromethane	(2)	8.933	83	142981	2.014
76) 2-Nitropropane	(1)	9.171	41	168930	18.275
80) cis-1,3-Dichloropropene	(2)	9.482	75	165675	2.056
81) 4-Methyl-2-Pentanone	(1)	9.634	43	700367MA	18.180
82) \$Toluene-d8	(3)	9.799	98	2216302	10.000
82) \$Toluene-d8	(3)	9.799	100	1431654	10.046
83) Toluene	(3)	9.872	92	310818	2.041
84) trans-1,3-Dichloropropene	(3)	10.116	75	127327	2.060
85) 1,3-Dichloropropene (total)	(3)		75	293002	4.116
86) Ethyl Methacrylate	(3)	10.177	69	100742	2.114
88) 1,1,2-Trichloroethane	(3)	10.317	97	71511	2.040
89) Tetrachloroethene	(3)	10.427	166	150068	2.059
90) 1,3-Dichloropropane	(3)	10.481	76	135866	2.132
91) 2-Hexanone	(1)	10.518	43	474841	17.807

M = Compound was manually integrated.

A = User selected an alternate hit.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/04/2016 at 15:45.

Target 3.5 esignature user ID: kel01973

RAE73 Page 181 of 346

page 2 of 4

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d
 Injection date and time: 04-OCT-2016 11:35

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:44
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
93) Dibromochloromethane	(3)	10.701	129	89833	2.066
95) 1,2-Dibromoethane	(3)	10.817	107	66809	2.015
97) *Chlorobenzene-d5	(3)	11.250	117	1467187	10.000
98) Chlorobenzene	(3)	11.274	112	334432	2.061
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	110645	1.984
100) Ethylbenzene	(3)	11.359	91	613525	2.047
101) m+p-Xylene	(3)	11.475	106	464593	4.126
105) Xylene (Total)	(3)		106	690628	6.184
104) o-Xylene	(3)	11.804	106	226035	2.058
106) Styrene	(3)	11.816	104	351177	2.090
107) Bromoform	(3)	11.975	173	48145	2.023
108) Isopropylbenzene	(3)	12.103	105	616930	2.083
111) \$4-Bromofluorobenzene	(3)	12.243	95	643893	9.882
111) \$4-Bromofluorobenzene	(3)	12.249	174	577956	9.912
113) 1,1,2,2-Tetrachloroethane	(4)	12.329	83	87783M	2.173
115) trans-1,4-Dichloro-2-butene	(1)	12.359	53	206083	18.052
114) Bromobenzene	(4)	12.365	156	136085	2.089
116) 1,2,3-Trichloropropane	(4)	12.383	110	23077	2.139
117) n-Propylbenzene	(4)	12.432	91	740294	2.143
119) 2-Chlorotoluene	(4)	12.505	126	135289	2.072
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	506164	2.130
122) 4-Chlorotoluene	(4)	12.597	126	139702	2.092
125) tert-Butylbenzene	(4)	12.804	134	110606M	2.134
126) Pentachloroethane	(4)	12.841	167	87458	2.180
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	509486	2.124
128) sec-Butylbenzene	(4)	12.969	105	667057	2.139
131) 1,3-Dichlorobenzene	(4)	13.072	146	271542	2.143
132) p-Isopropyltoluene	(4)	13.078	119	554675	2.132
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	653236	10.000
134) 1,4-Dichlorobenzene	(4)	13.146	146	273381	2.074
135) 1,2,3-Trimethylbenzene	(4)	13.152	120	219765	2.117
136) Benzyl Chloride	(4)	13.219	126	28896	2.102
138) n-Butylbenzene	(4)	13.371	92	265772	2.128
139) 1,2-Dichlorobenzene	(4)	13.402	146	240247	2.131
143) 1,2-Dibromo-3-chloropropane	(1)	13.944	155	10741	1.915
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	170375	2.122
146) Hexachlorobutadiene	(4)	14.578	225	79963	2.093
147) Naphthalene	(4)	14.676	128	257780	2.115

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/04/2016 at 15:45.

Target 3.5 esignature user ID: kel01973

RAE73 Page 182 of 346

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 11:35 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:44
Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

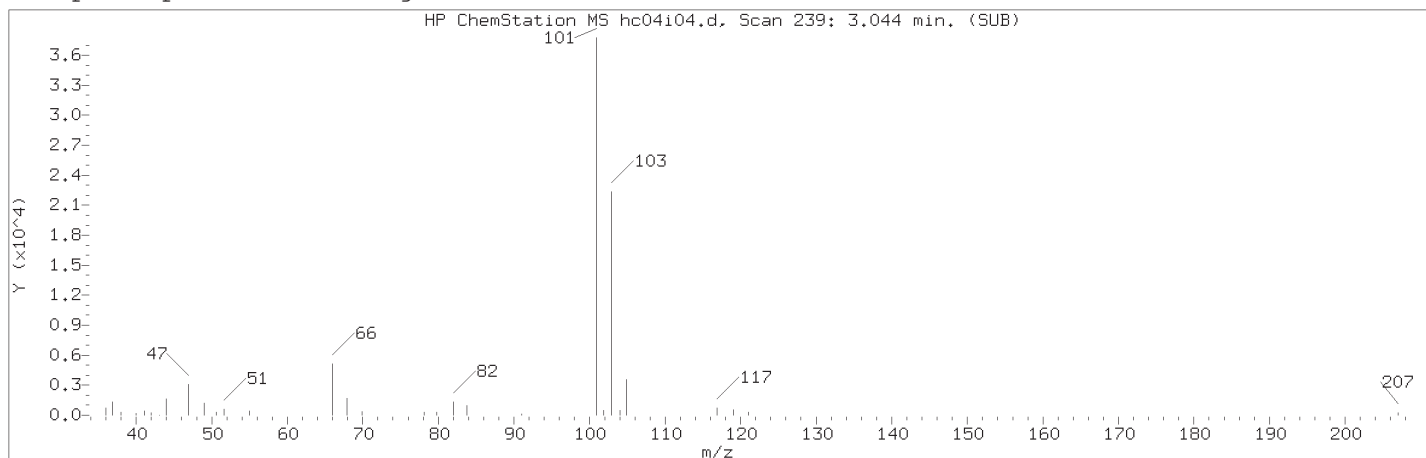
Lab Sample ID: VSTD002

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
148) 1,2,3-Trichlorobenzene	(4)	14.816	180	141396	2.092

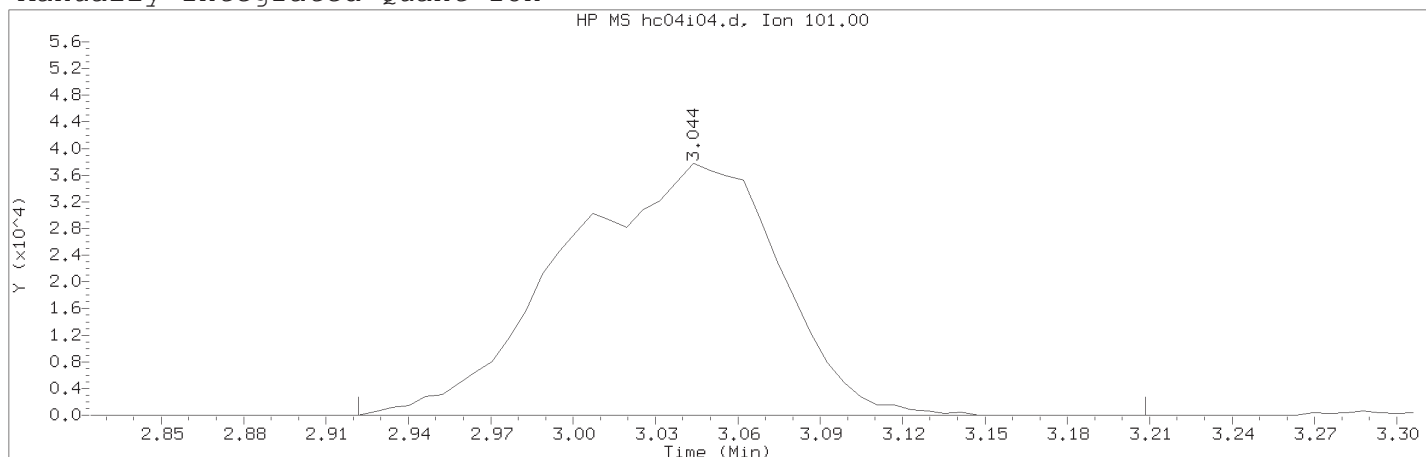
page 4 of 4

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on 10/04/2016 at 15:45.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:44

Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number	: 10	
Compound Name	: Trichlorofluoromethane	
Scan Number	: 239	
Retention Time (minutes)	: 3.044	
Quant Ion	: 101.00	
Area (flag)	: 206244M	
On-Column Amount (ng)	: 1.8460	
Integration start scan	: 218	Integration stop scan: 265
Y at integration start	: 0	Y at integration end: 0

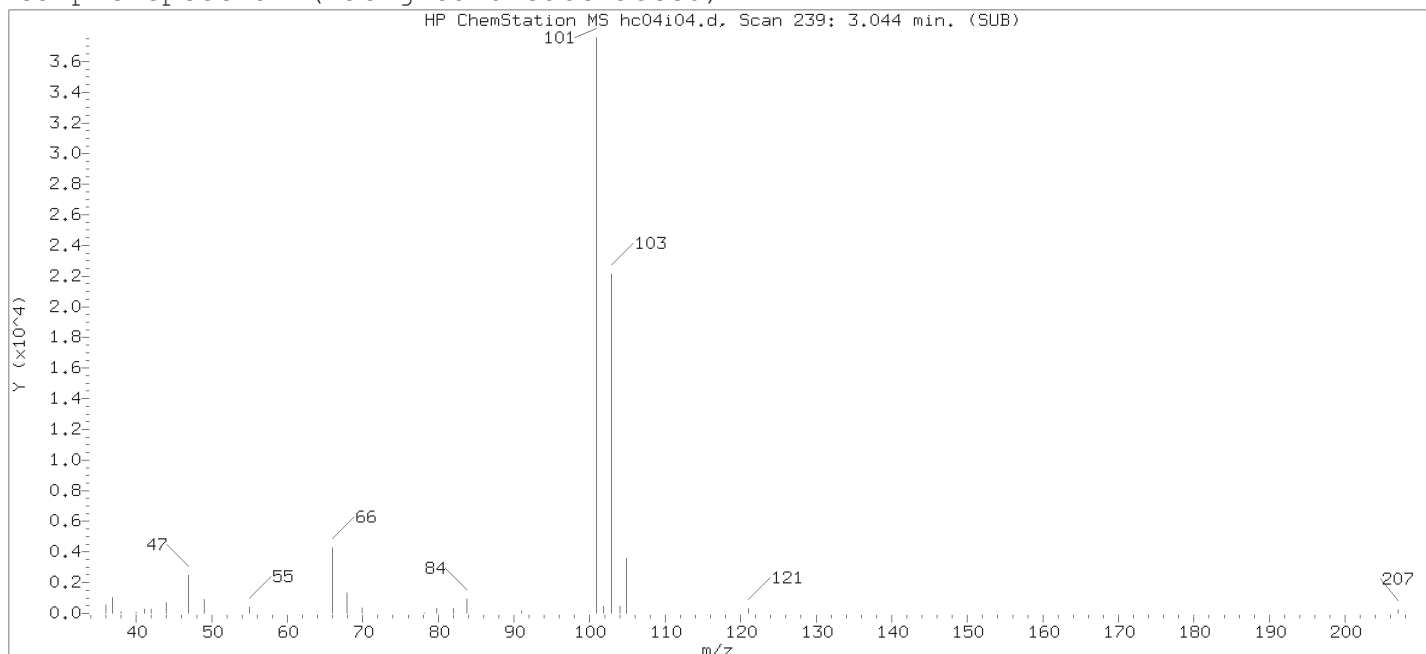
Reason for manual integration: improper integration

Analyst responsible for change:

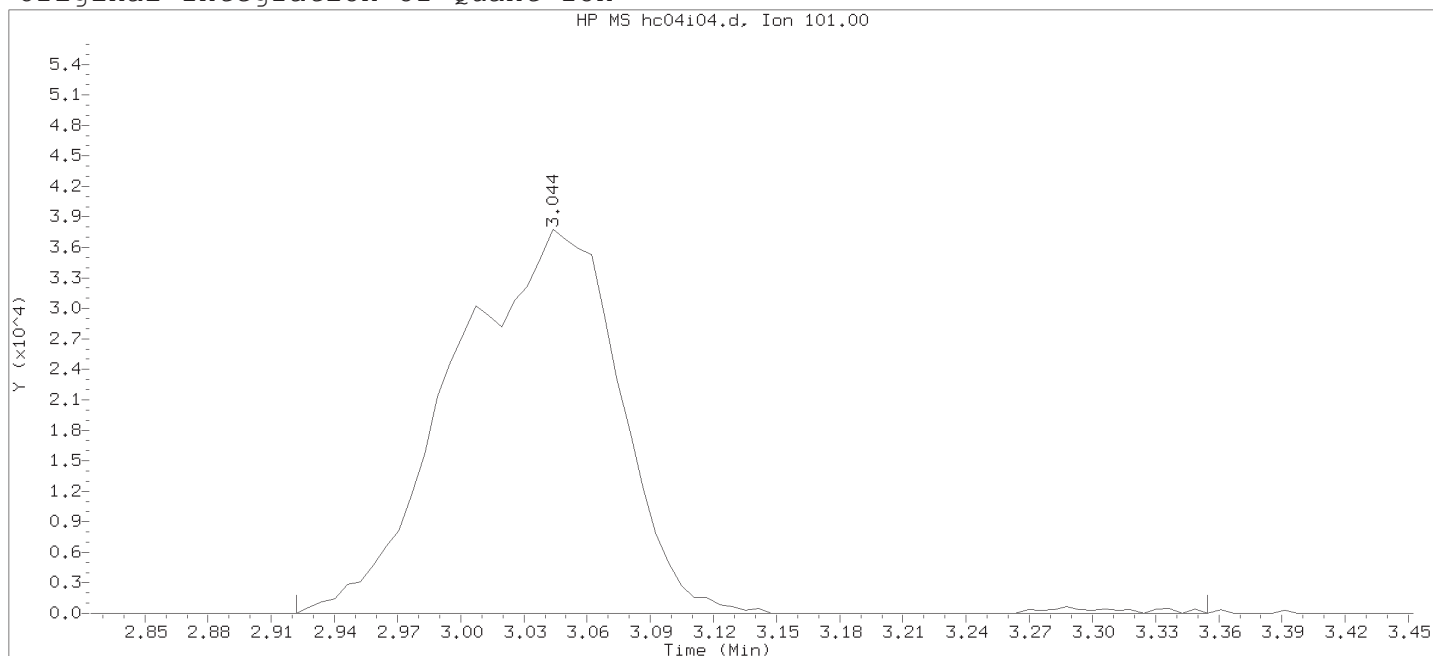
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:54

Date, time and analyst ID of latest file update: 04-Oct-2016 11:54 Automation

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number : 10

Compound Name : Trichlorofluoromethane

Scan Number : 239

Retention Time (minutes): 3.044

Quant Ion : 101.00

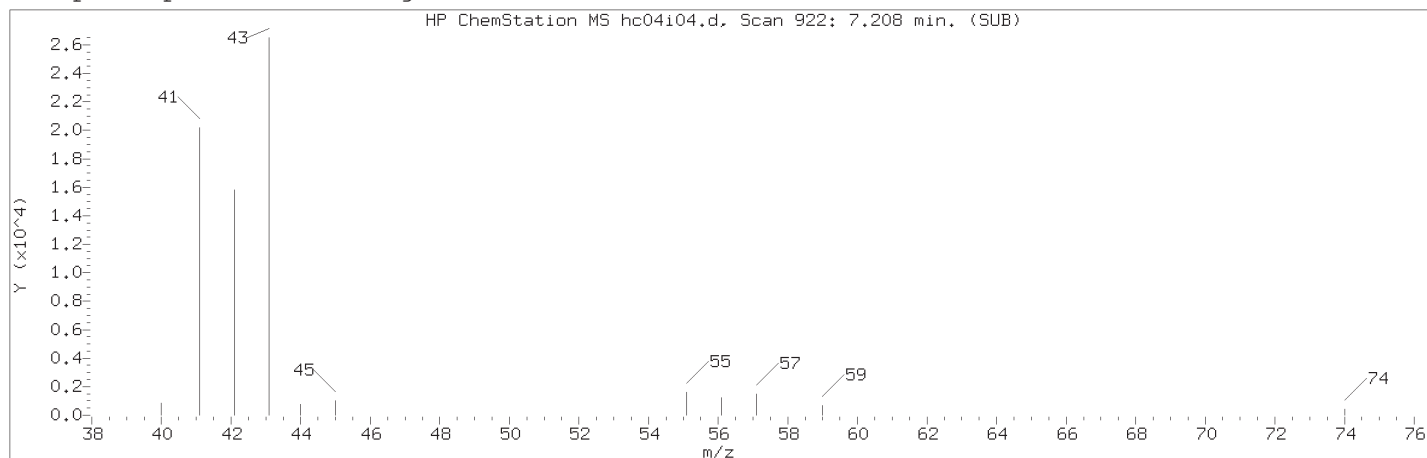
Area : 207957

On-column Amount (ng) : 1.9575

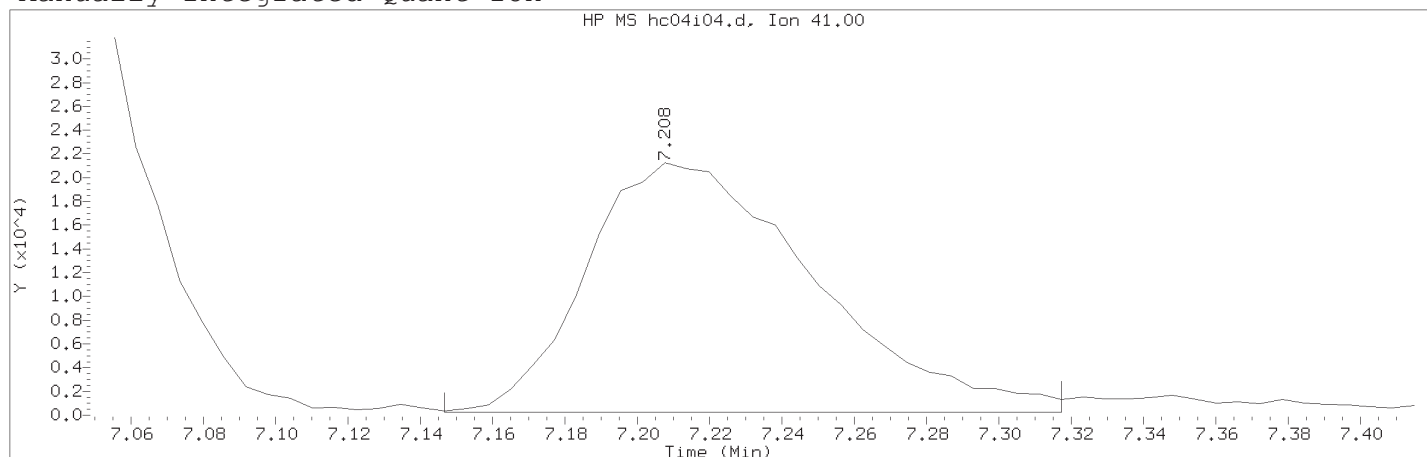
Integration start scan : 218 Integration stop scan: 289

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:44

Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number	: 56	
Compound Name	: Isobutyl Alcohol	
Scan Number	: 922	
Retention Time (minutes)	: 7.208	
Quant Ion	: 41.00	
Area (flag)	: 91900M	
On-Column Amount (ng)	: 105.5967	
Integration start scan	: 911	Integration stop scan: 939
Y at integration start	: 275	Y at integration end: 275

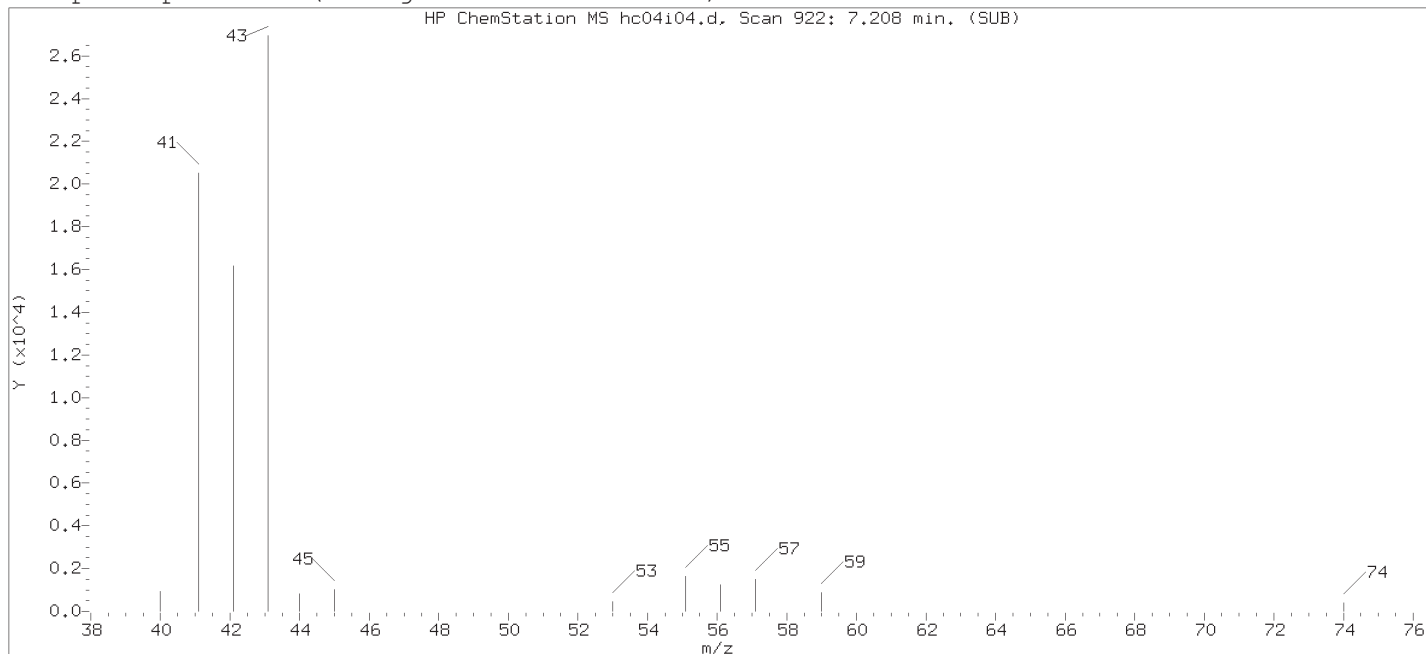
Reason for manual integration: improper integration

Analyst responsible for change:

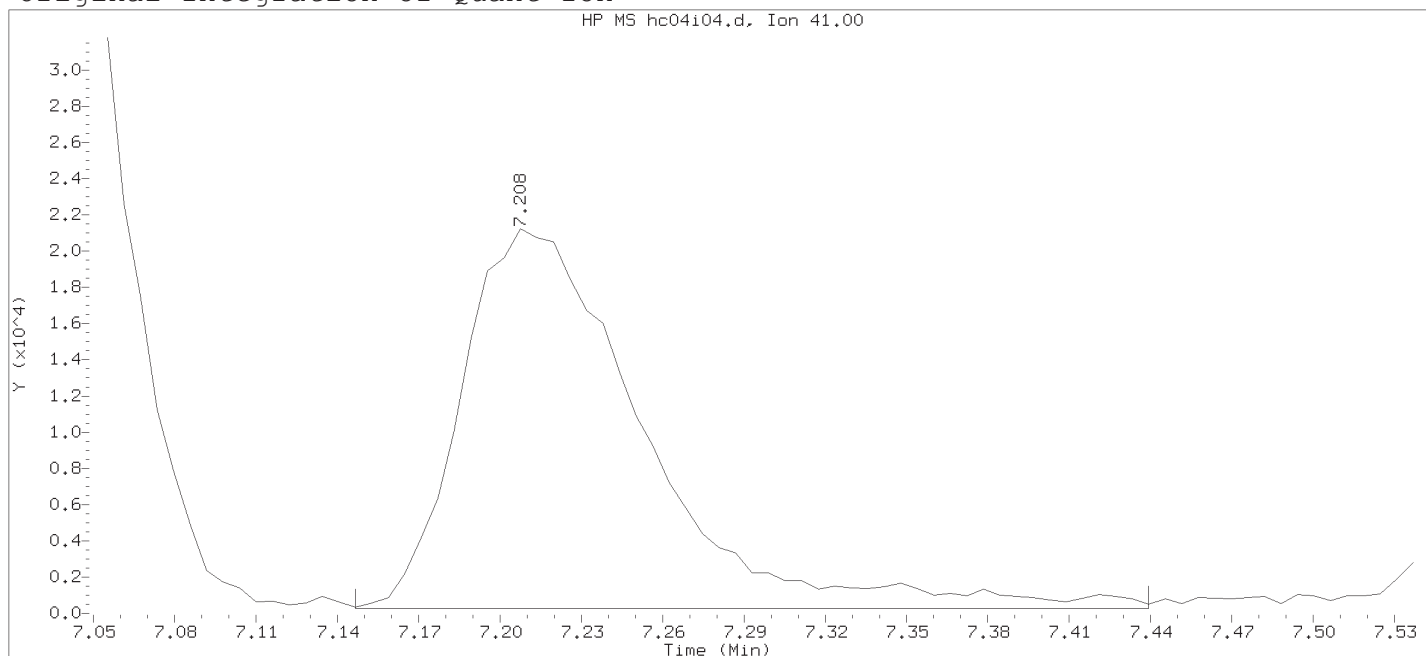
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:54

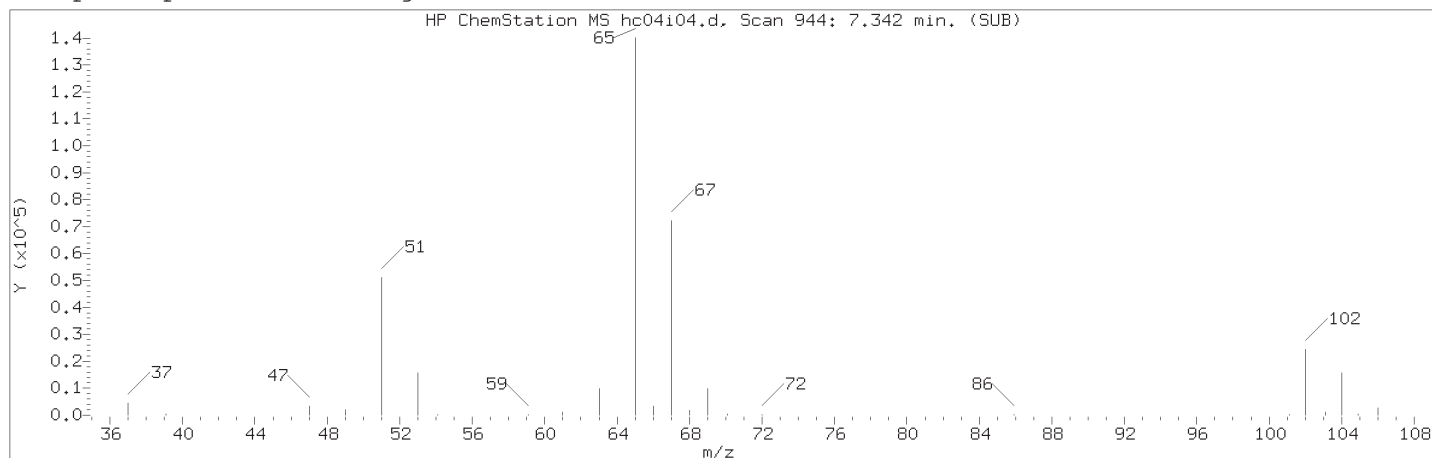
Date, time and analyst ID of latest file update: 04-Oct-2016 11:54 Automation

Sample Name: VSTD002

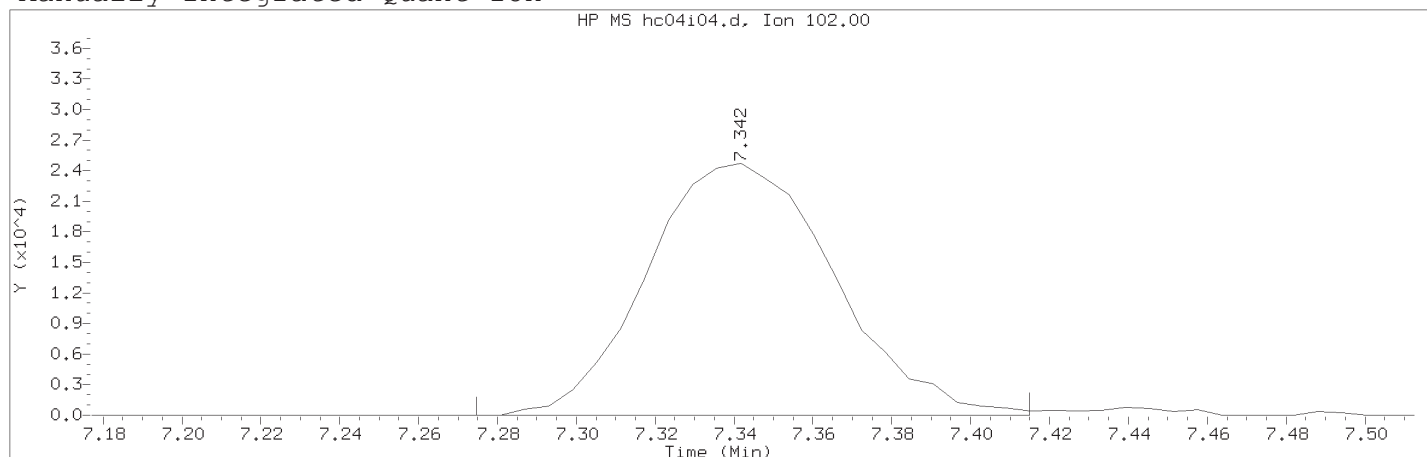
Lab Sample ID: VSTD002

Compound Number	: 56	
Compound Name	: Isobutyl Alcohol	
Scan Number	: 922	
Retention Time (minutes)	: 7.208	
Quant Ion	: 41.00	
Area	: 97691	
On-column Amount (ng)	: 115.3390	
Integration start scan	: 911	Integration stop scan: 959
Y at integration start	: 275	Y at integration end: 275

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:44

Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number	: 57	
Compound Name	: 1,2-Dichloroethane-d4	
Scan Number	: 944	
Retention Time (minutes)	: 7.342	
Quant Ion	: 102.00	
Area (flag)	: 81323M	
On-Column Amount (ng)	: 9.7230	
Integration start scan	: 932	Integration stop scan: 955
Y at integration start	: 0	Y at integration end: 0

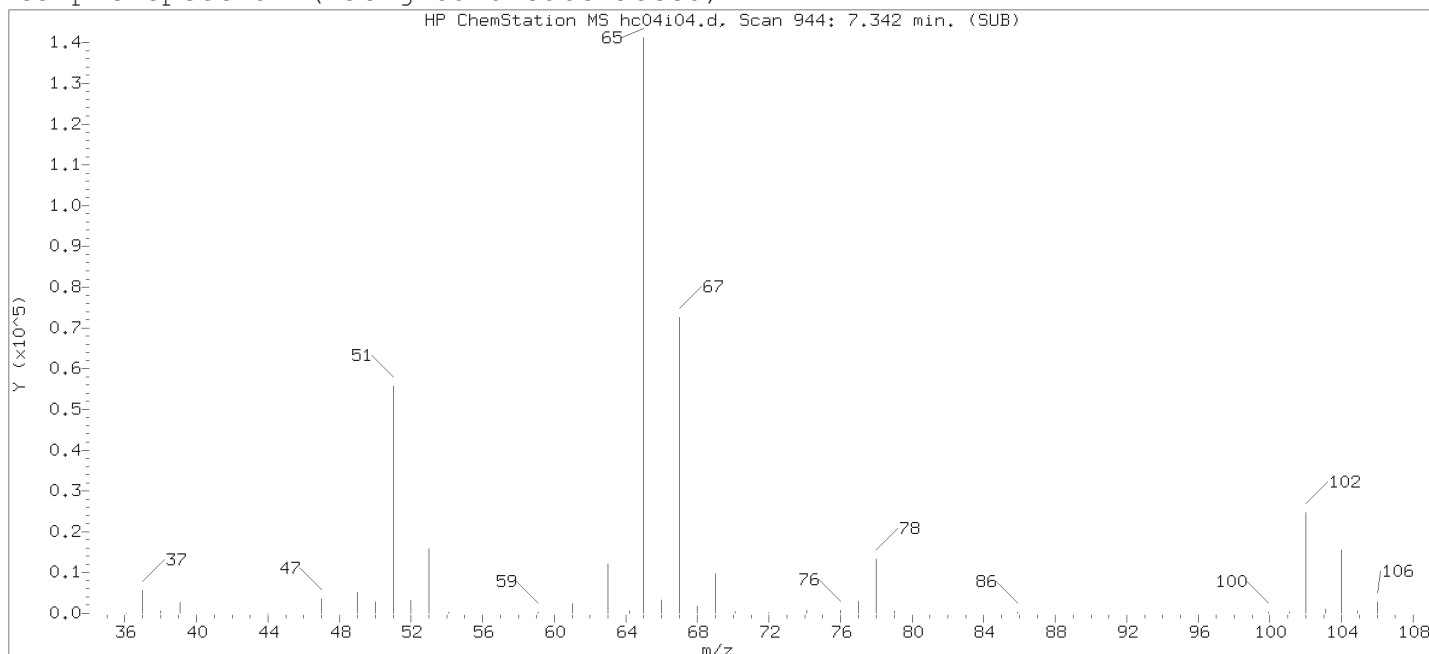
Reason for manual integration: improper integration

Analyst responsible for change:

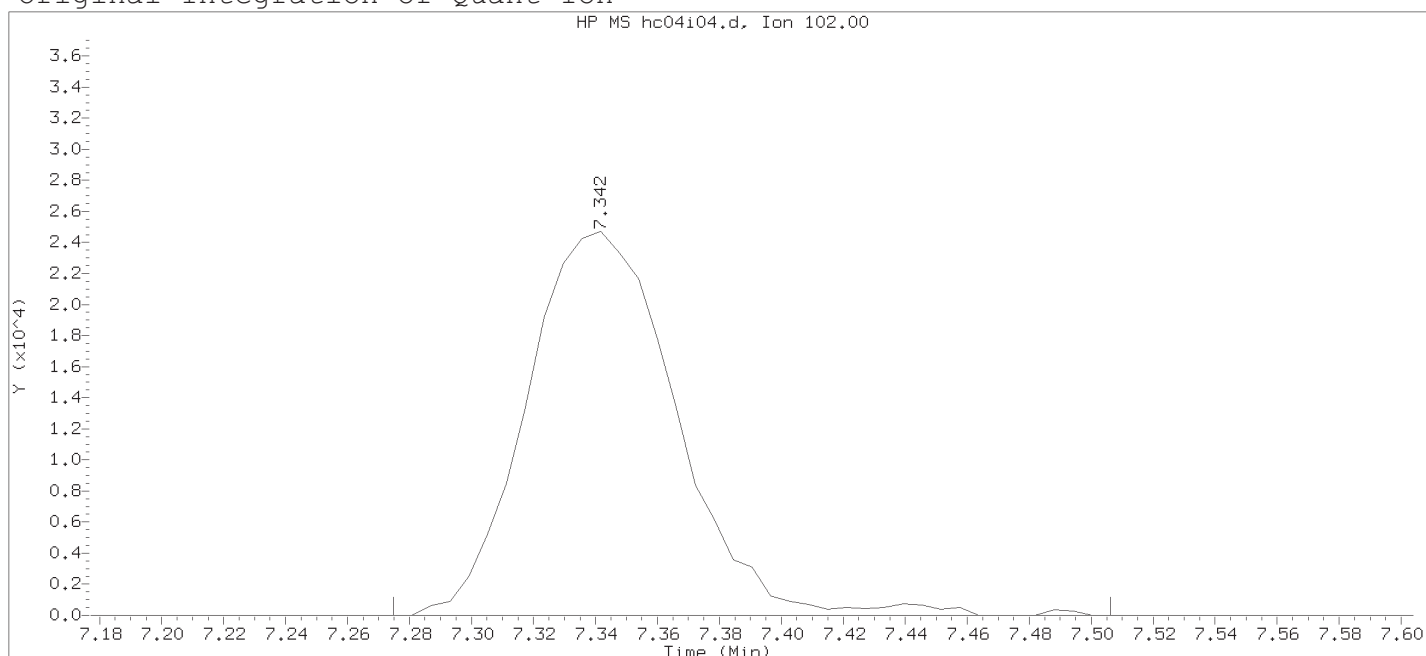
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:54

Date, time and analyst ID of latest file update: 04-Oct-2016 11:54 Automation

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number : 57

Compound Name : 1,2-Dichloroethane-d4

Scan Number : 944

Retention Time (minutes): 7.342

Quant Ion : 102.00

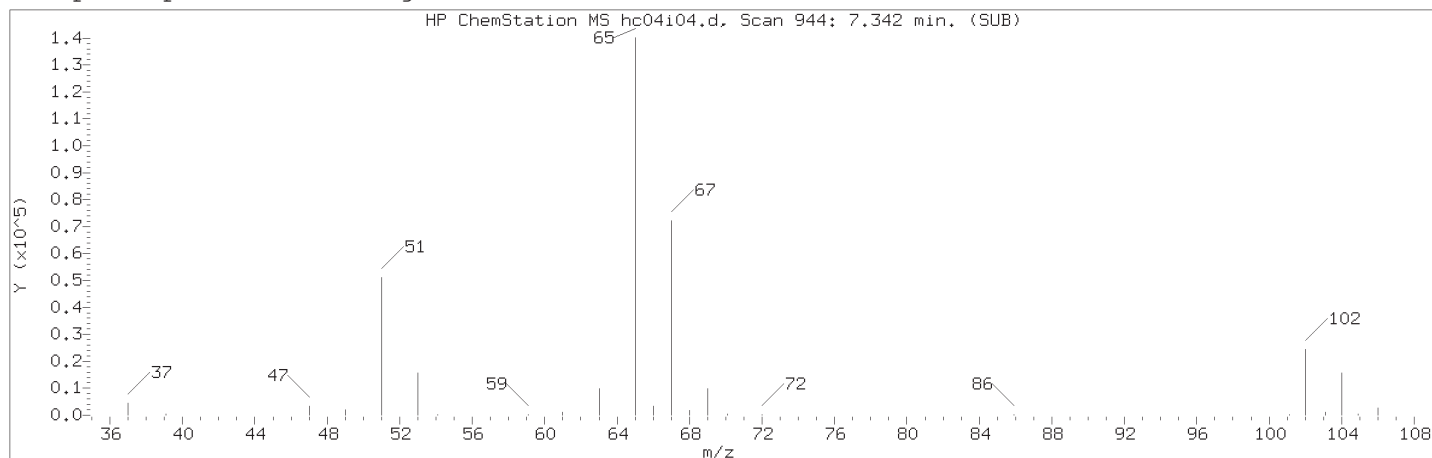
Area : 82889

On-column Amount (ng) : 9.9909

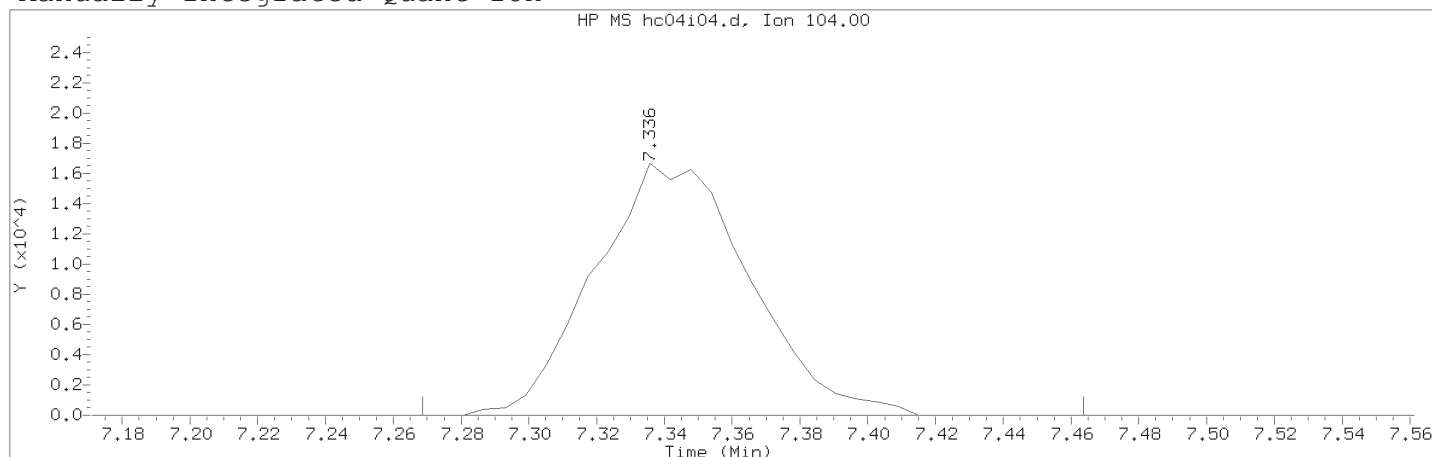
Integration start scan : 932 Integration stop scan: 970

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:44

Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number	: 57	
Compound Name	: 1,2-Dichloroethane-d4	
Scan Number	: 943	
Retention Time (minutes)	: 7.336	
Quant Ion	: 104.00	
Area (flag)	: 52875M	
On-Column Amount (ng)	: 9.8800	
Integration start scan	: 931	Integration stop scan: 963
Y at integration start	: 0	Y at integration end: 0

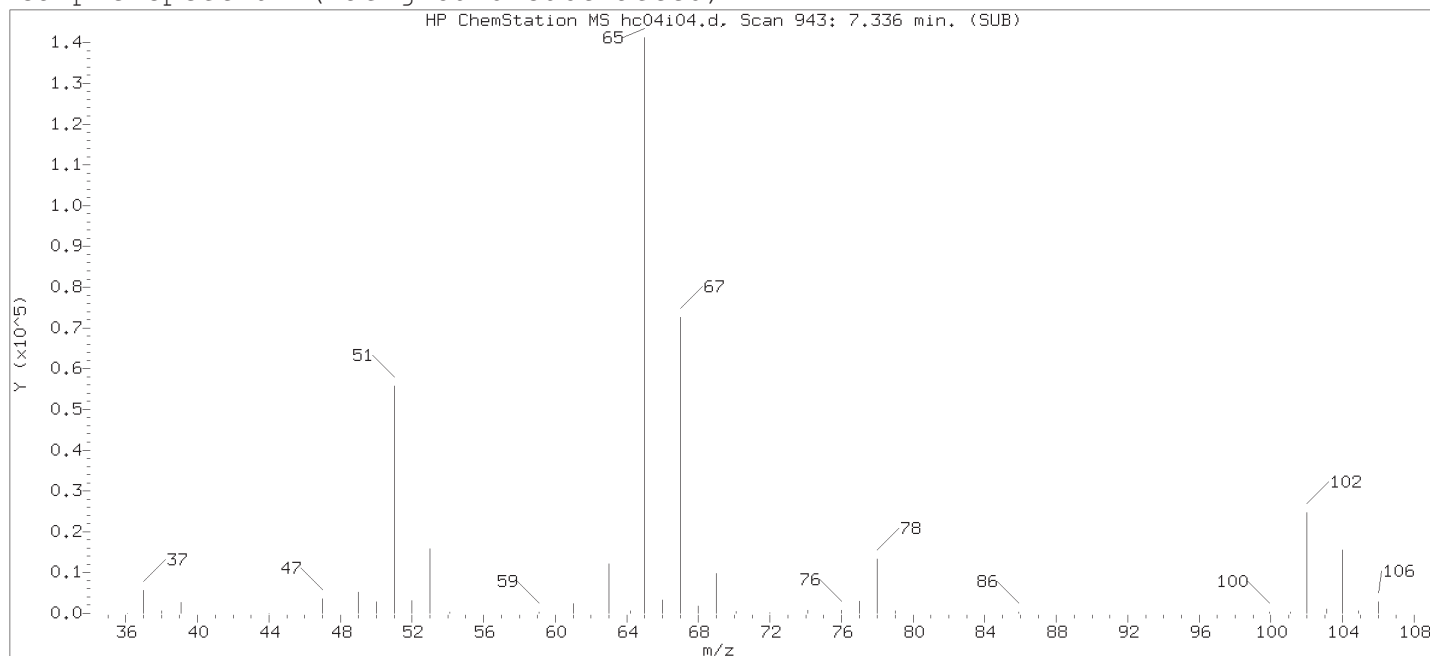
Reason for manual integration: improper integration

Analyst responsible for change:

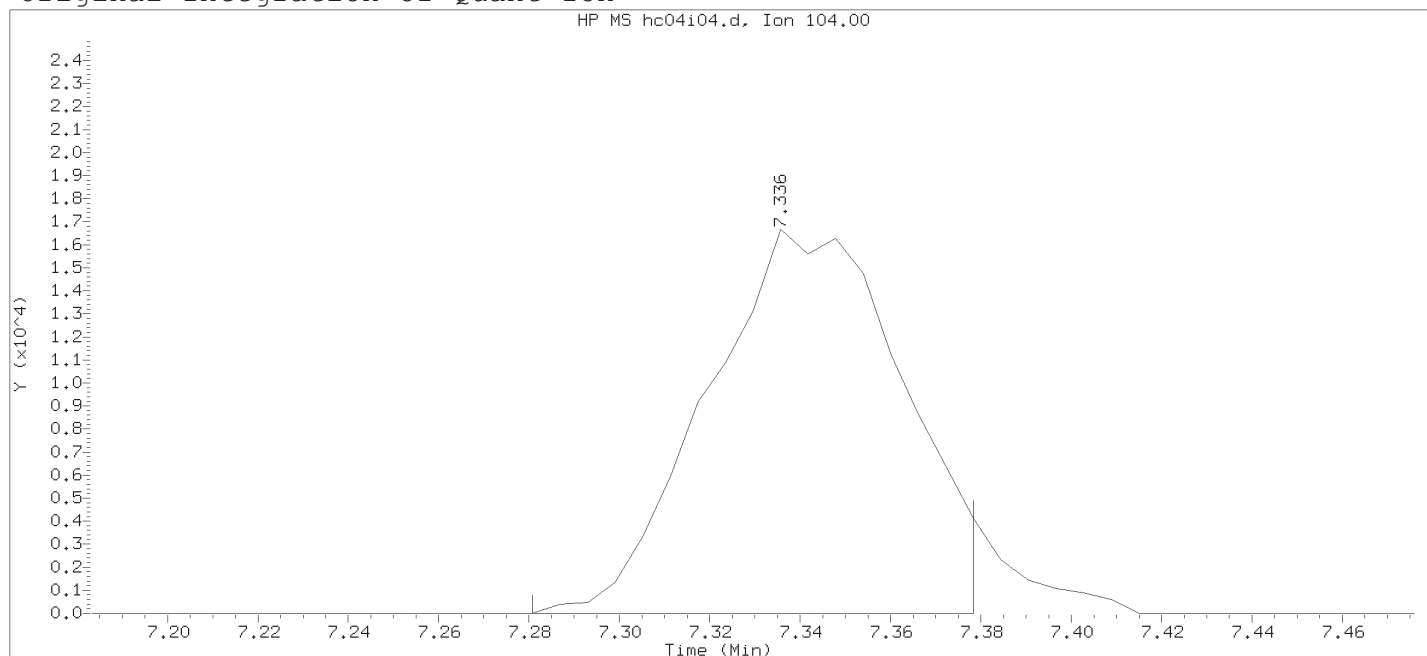
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:54

Date, time and analyst ID of latest file update: 04-Oct-2016 11:54 Automation

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number : 57

Compound Name : 1,2-Dichloroethane-d4

Scan Number : 943

Retention Time (minutes): 7.336

Quant Ion : 104.00

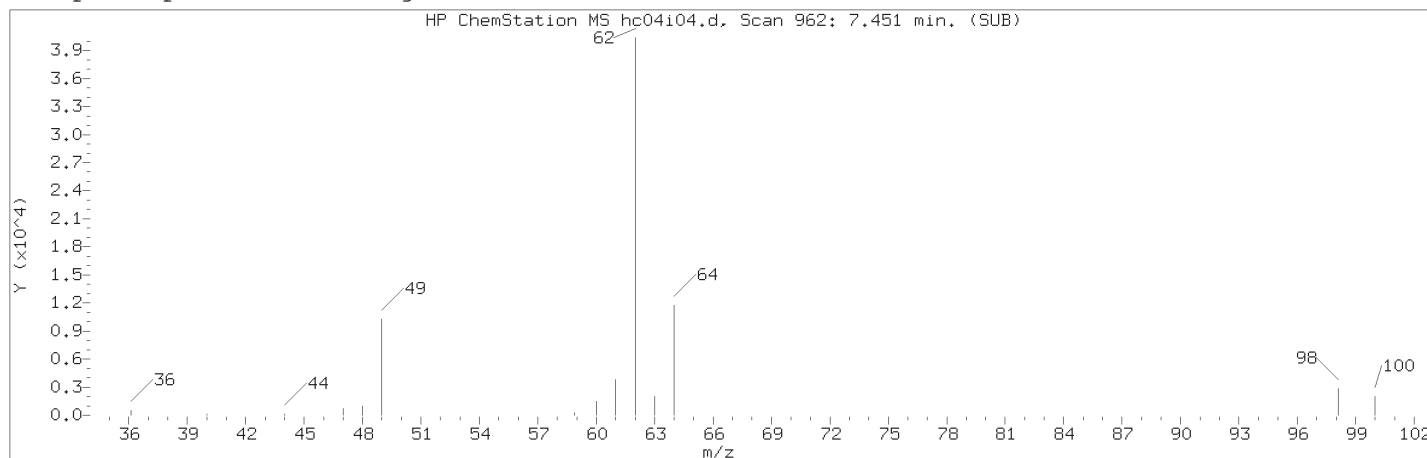
Area : 49819

On-column Amount (ng) : 9.5522

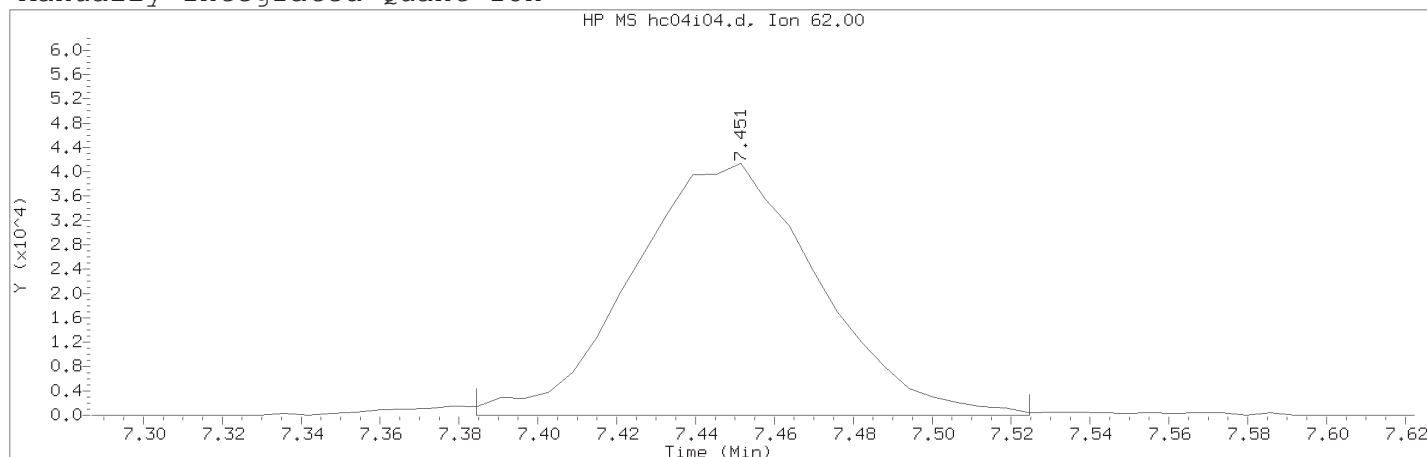
Integration start scan : 933 Integration stop scan: 949

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:44

Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number	: 59	
Compound Name	: 1,2-Dichloroethane	
Scan Number	: 962	
Retention Time (minutes)	: 7.451	
Quant Ion	: 62.00	
Area (flag)	: 135982M	
On-Column Amount (ng)	: 2.0056	
Integration start scan	: 950	Integration stop scan: 973
Y at integration start	: 0	Y at integration end: 0

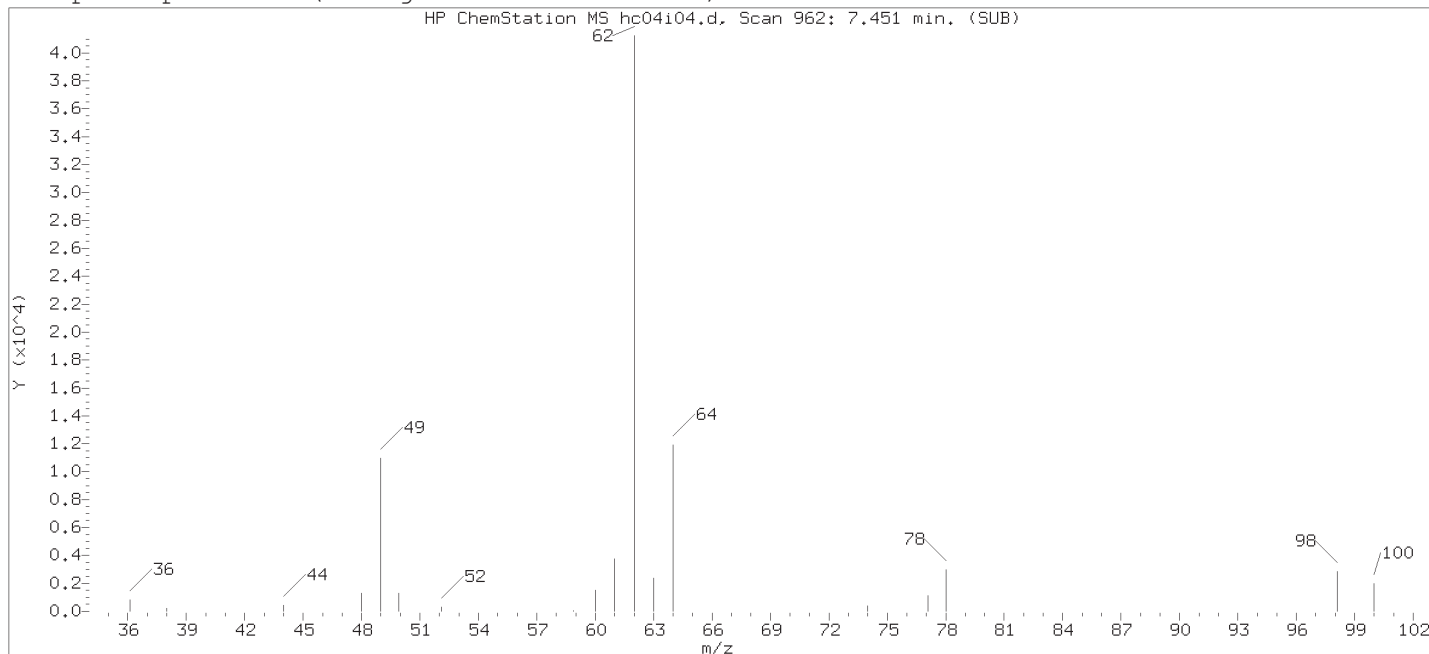
Reason for manual integration: improper integration

Analyst responsible for change:

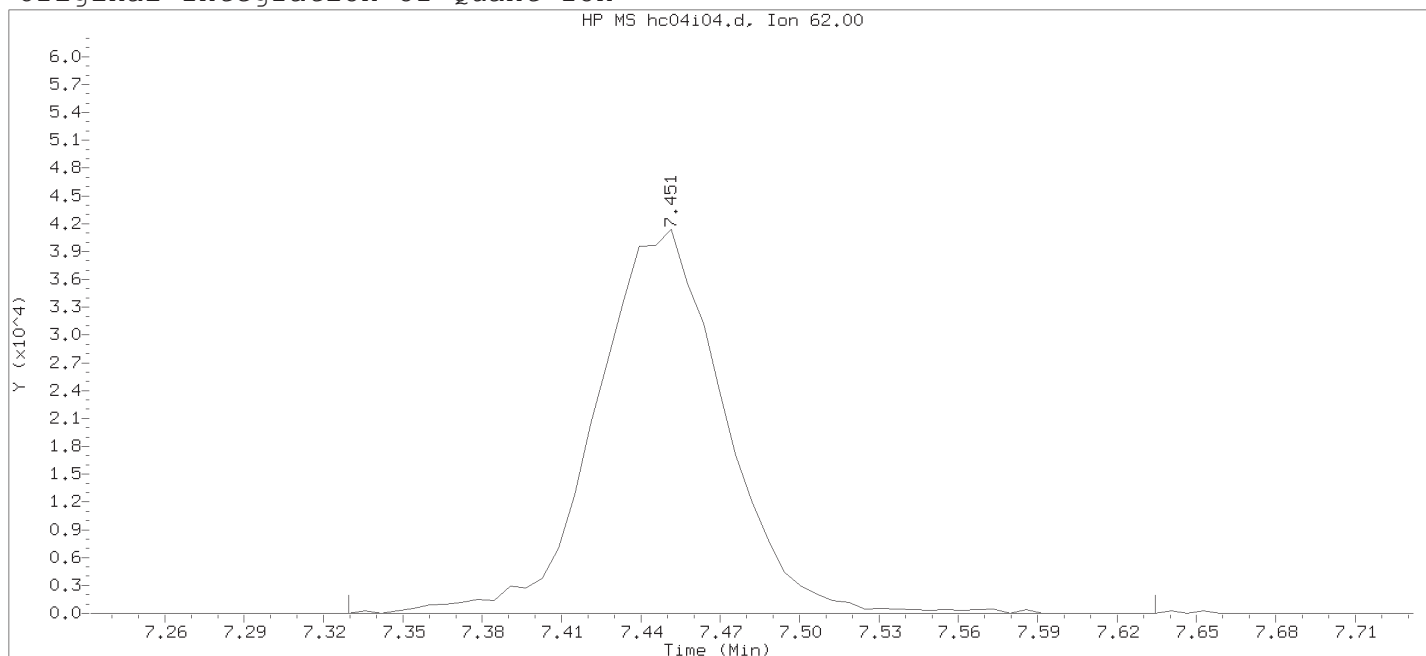
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:54

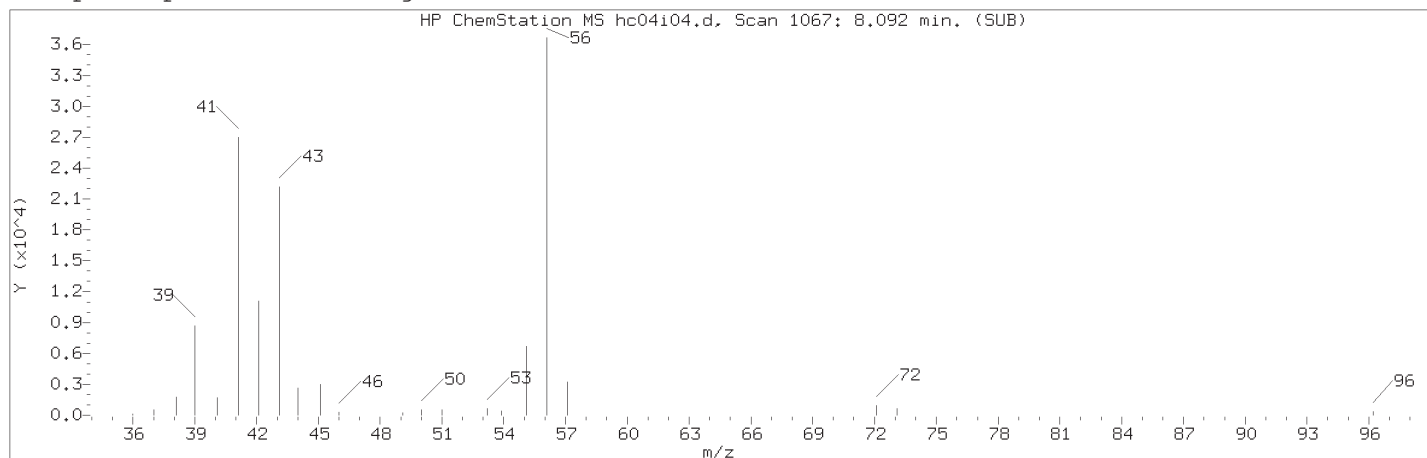
Date, time and analyst ID of latest file update: 04-Oct-2016 11:54 Automation

Sample Name: VSTD002

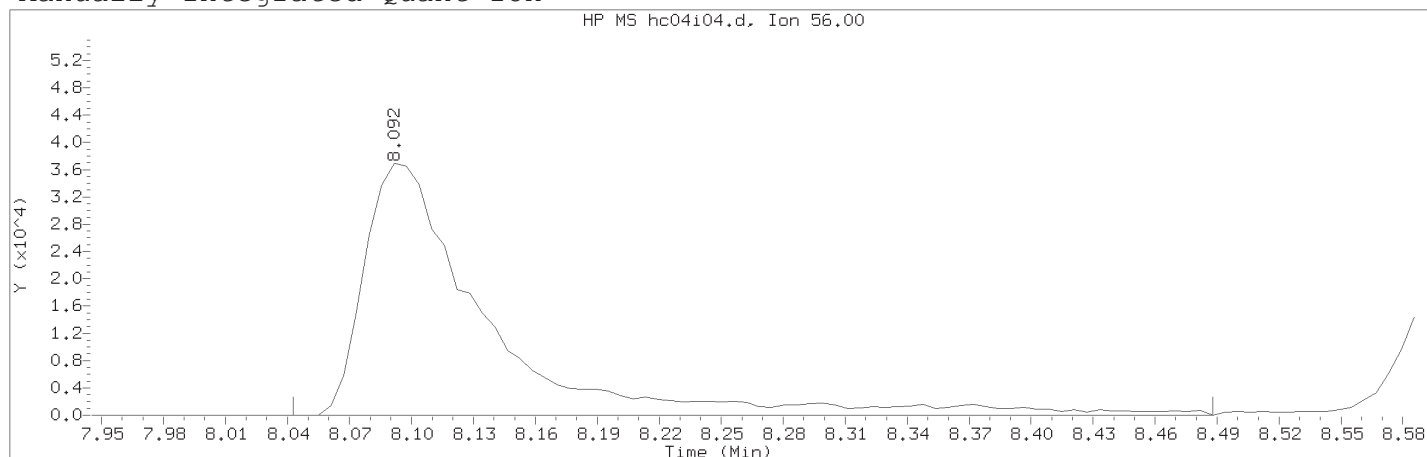
Lab Sample ID: VSTD002

Compound Number	: 59	
Compound Name	: 1,2-Dichloroethane	
Scan Number	: 962	
Retention Time (minutes)	: 7.451	
Quant Ion	: 62.00	
Area	: 139348	
On-column Amount (ng)	: 2.1808	
Integration start scan	: 941	Integration stop scan: 991
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 11:35 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:44
Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002 Lab Sample ID: VSTD002

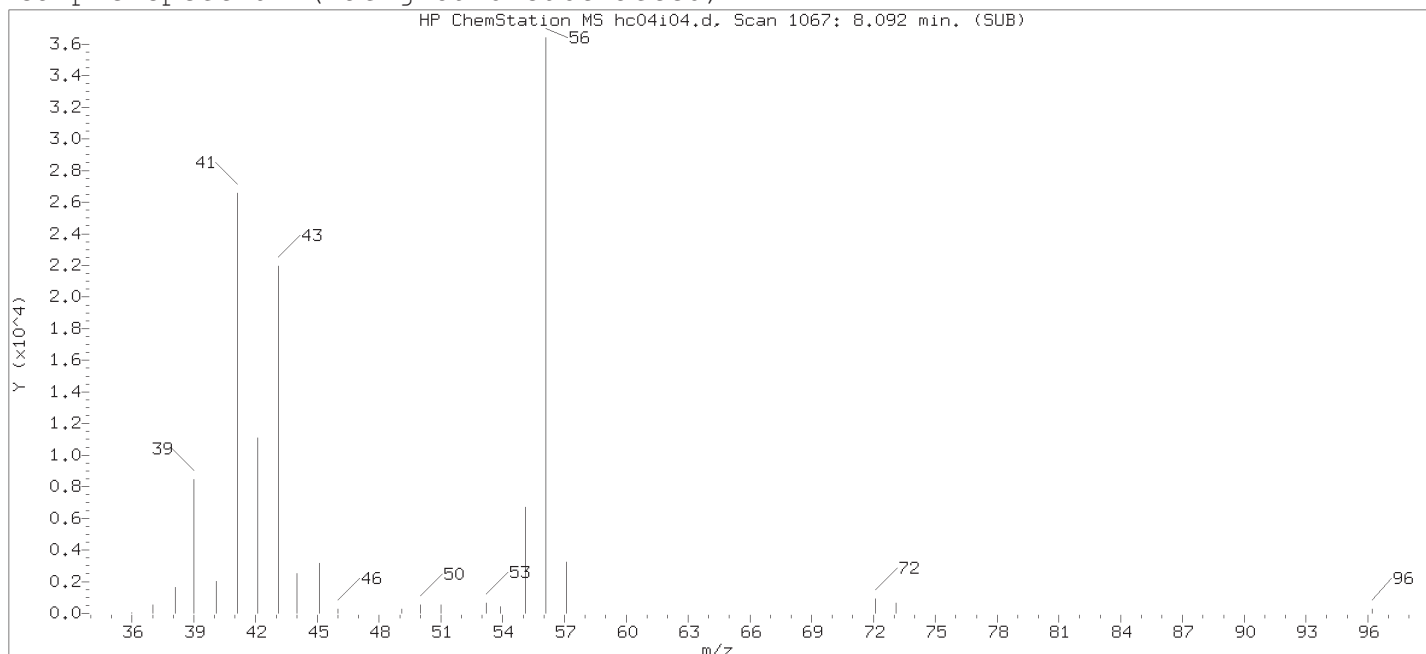
Compound Number	: 65	
Compound Name	: n-Butanol	
Scan Number	: 1067	
Retention Time (minutes)	: 8.092	
Quant Ion	: 56.00	
Area (flag)	: 152708M	
On-Column Amount (ng)	: 240.2371	
Integration start scan	: 1058	Integration stop scan: 1131
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

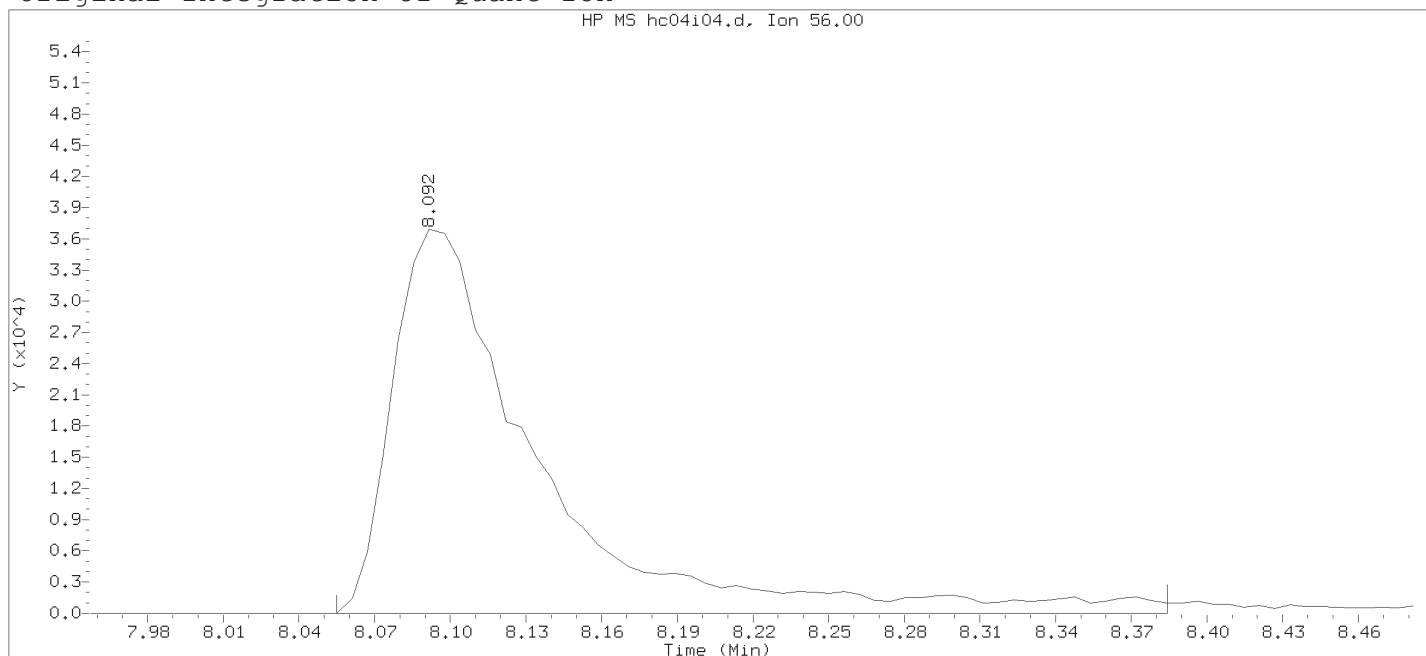
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:54

Date, time and analyst ID of latest file update: 04-Oct-2016 11:54 Automation

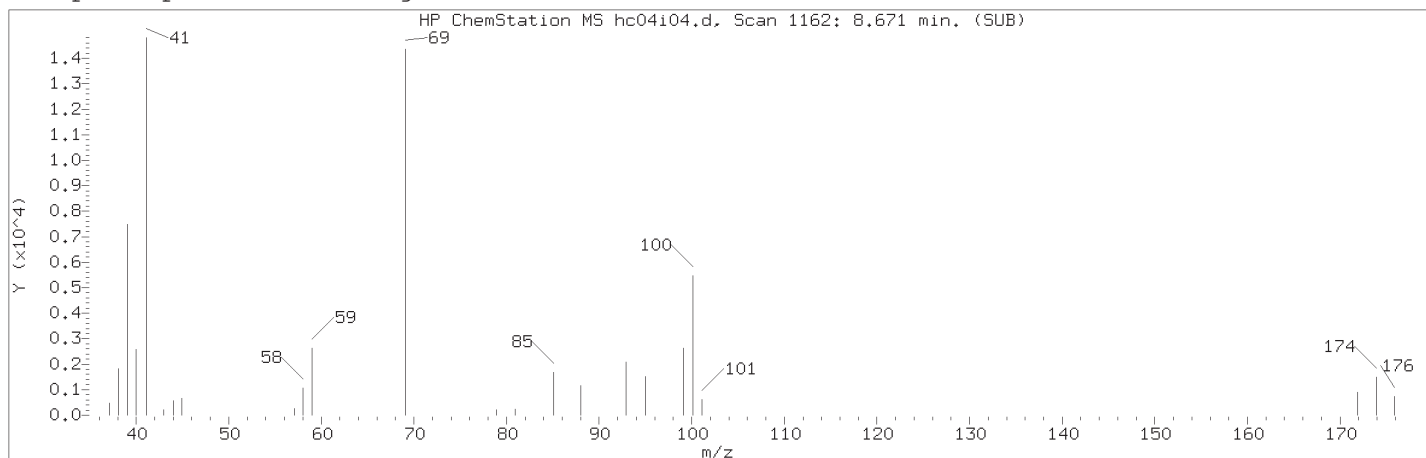
Sample Name: VSTD002

Lab Sample ID: VSTD002

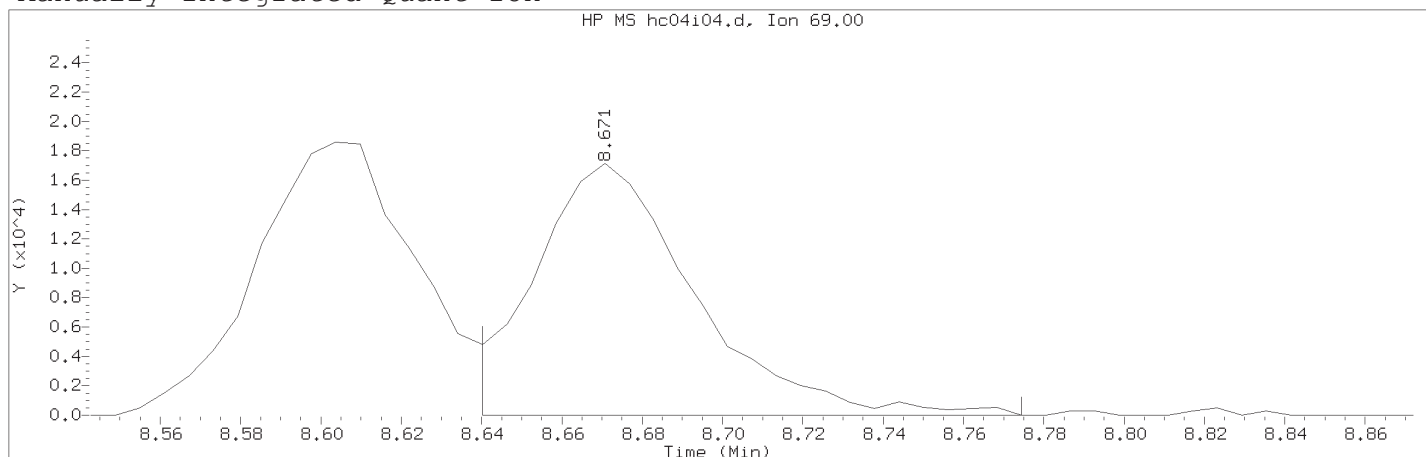
Compound Number : 65
 Compound Name : n-Butanol
 Scan Number : 1067
 Retention Time (minutes) : 8.092
 Quant Ion : 56.00
 Area : 148436
 On-column Amount (ng) : 233.2032
 Integration start scan : 1060
 Y at integration start : 0

Integration stop scan: 1114
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:44

Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number	: 71	
Compound Name	: Methyl Methacrylate	
Scan Number	: 1162	
Retention Time (minutes)	: 8.671	
Quant Ion	: 69.00	
Area (flag)	: 48084M	
On-Column Amount (ng)	: 1.9243	
Integration start scan	: 1156	Integration stop scan: 1178
Y at integration start	: 0	Y at integration end: 0

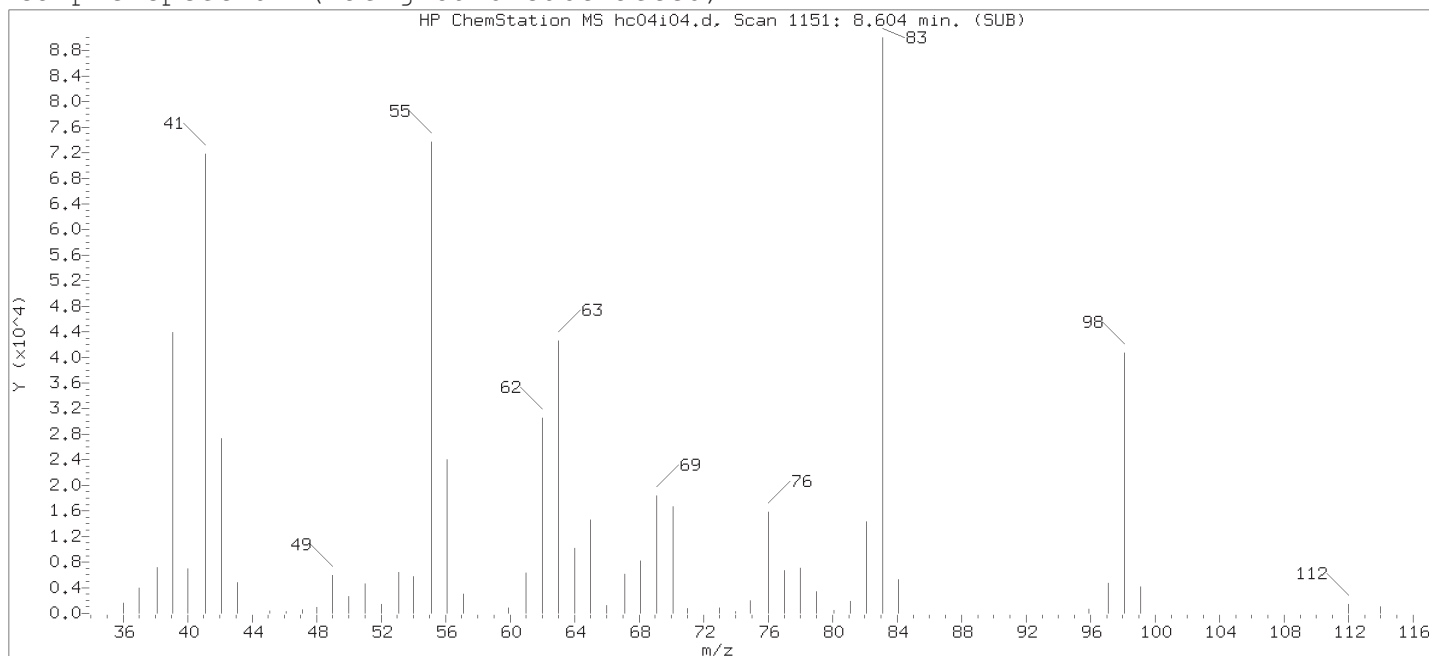
Reason for manual integration: improper integration

Analyst responsible for change:

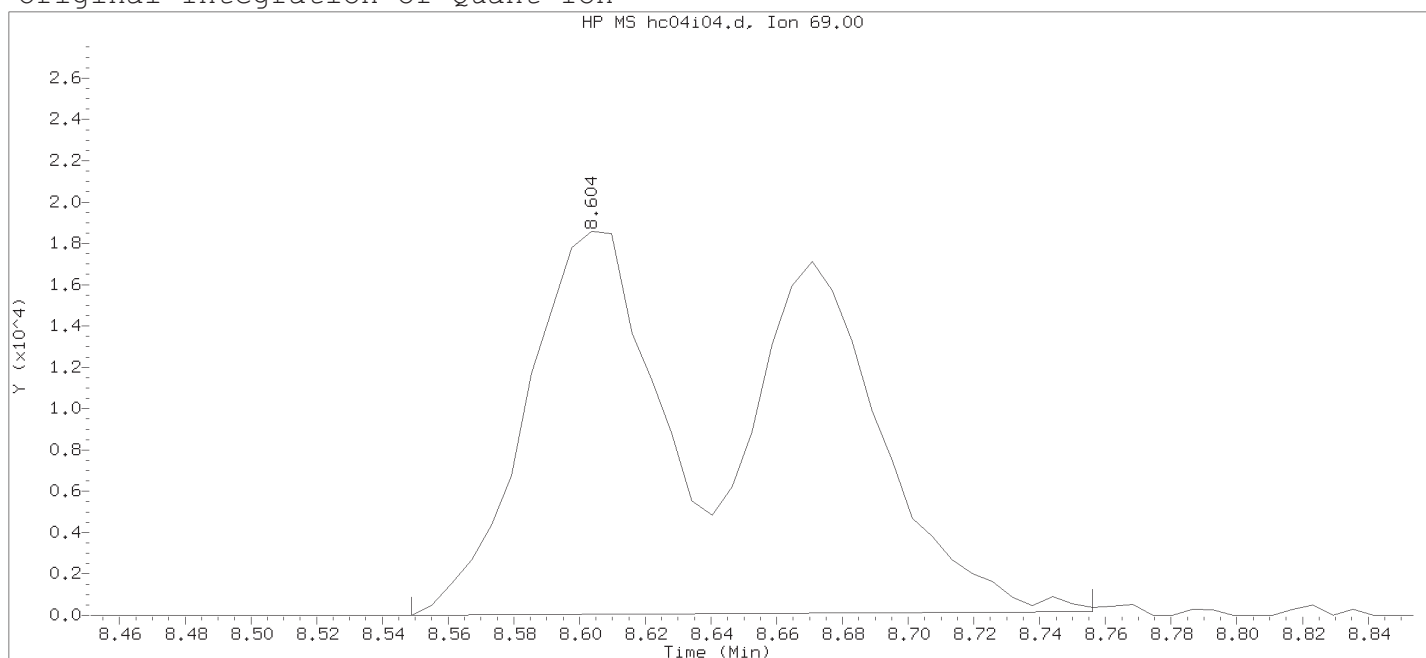
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:54

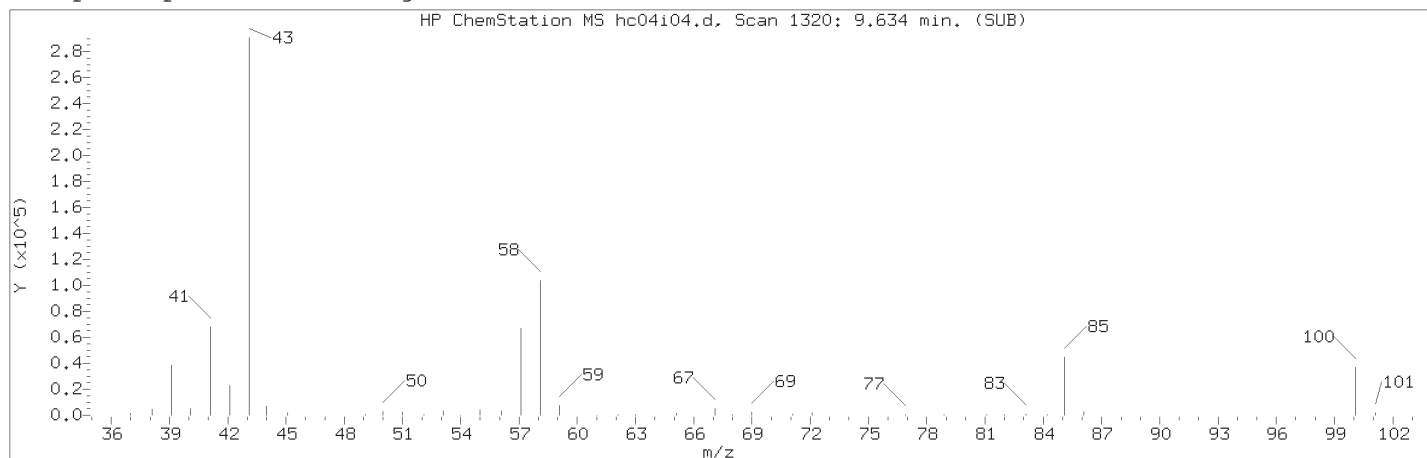
Date, time and analyst ID of latest file update: 04-Oct-2016 11:54 Automation

Sample Name: VSTD002

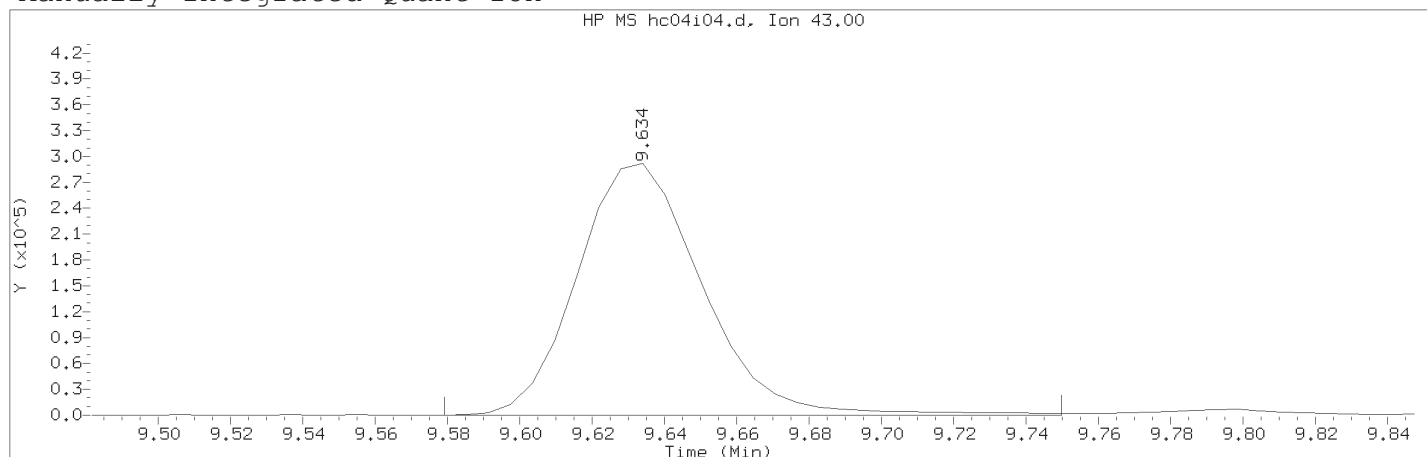
Lab Sample ID: VSTD002

Compound Number	: 71	
Compound Name	: Methyl Methacrylate	
Scan Number	: 1151	
Retention Time (minutes)	: 8.604	
Quant Ion	: 69.00	
Area	: 96455	
On-column Amount (ng)	: 3.4419	
Integration start scan	: 1141	Integration stop scan: 1175
Y at integration start	: 0	Y at integration end: 186

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:44

Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number	: 81	
Compound Name	: 4-Methyl-2-Pentanone	
Scan Number	: 1320	
Retention Time (minutes)	: 9.634	
Quant Ion	: 43.00	
Area (flag)	: 700367MA	
On-Column Amount (ng)	: 18.1795	
Integration start scan	: 1310	Integration stop scan: 1338
Y at integration start	: 0	Y at integration end: 0

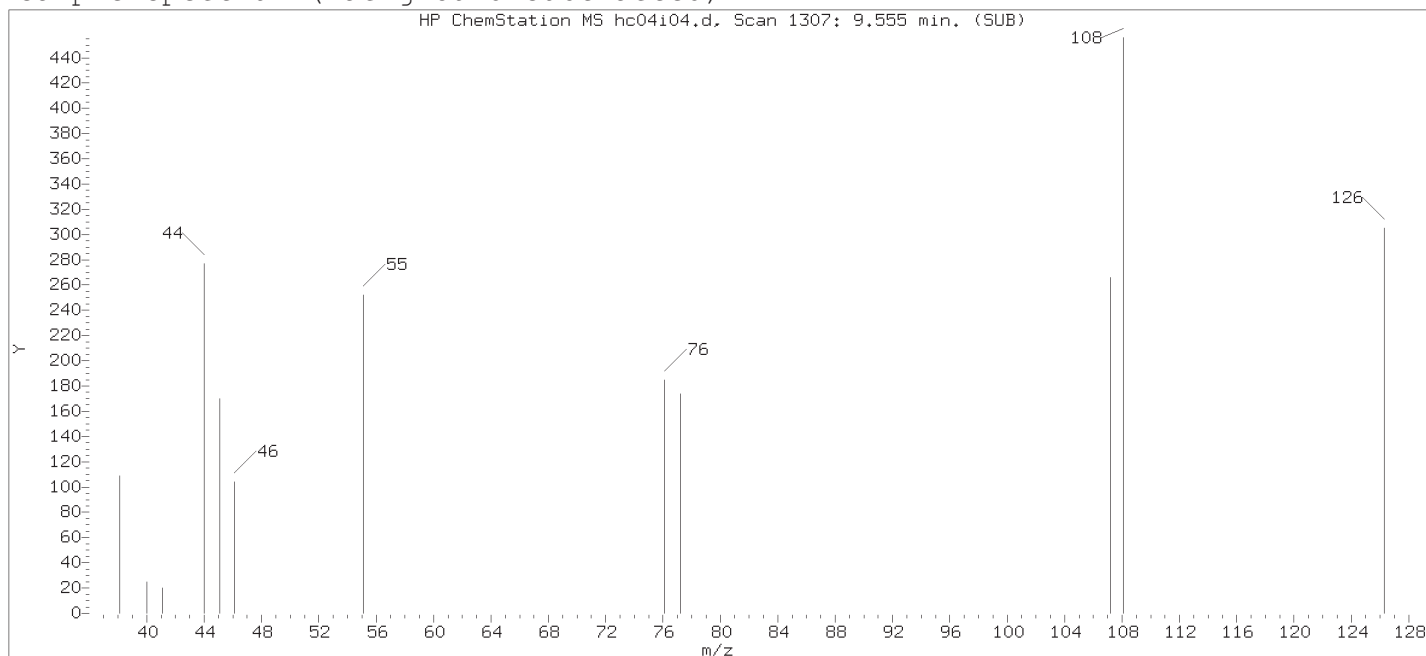
Reason for manual integration: improper integration

Analyst responsible for change:

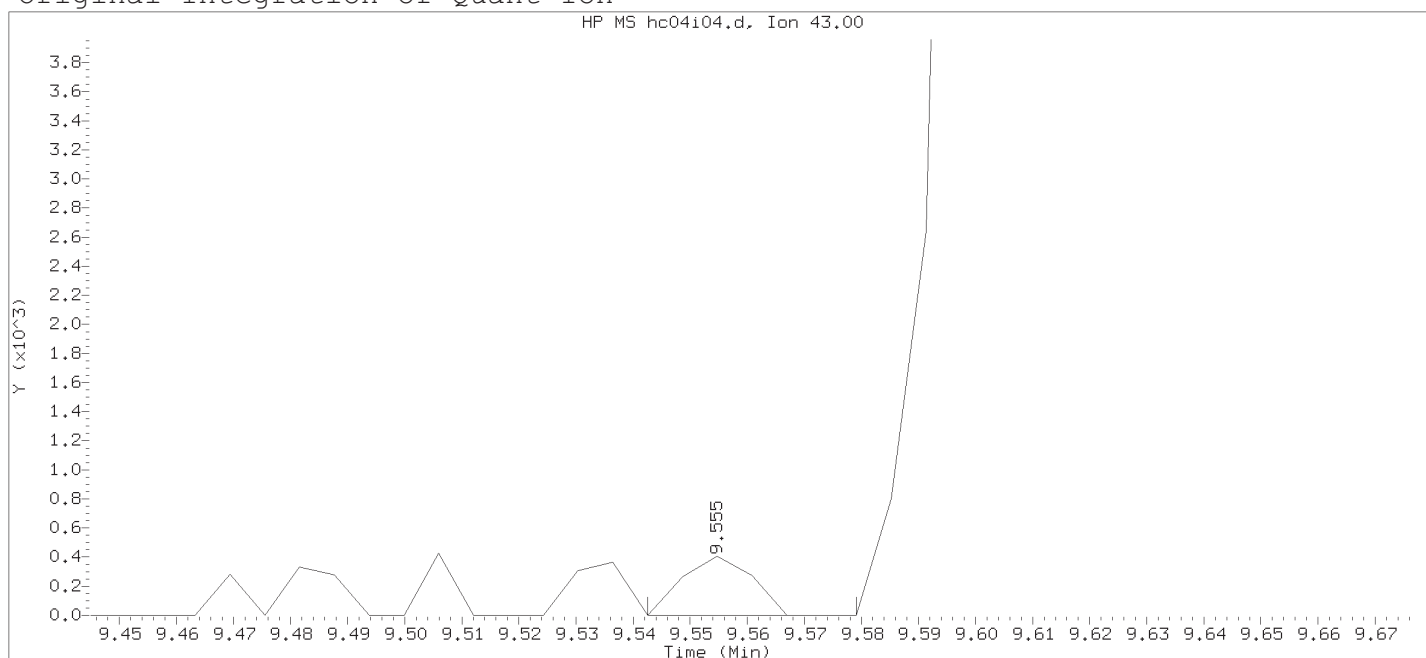
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:54

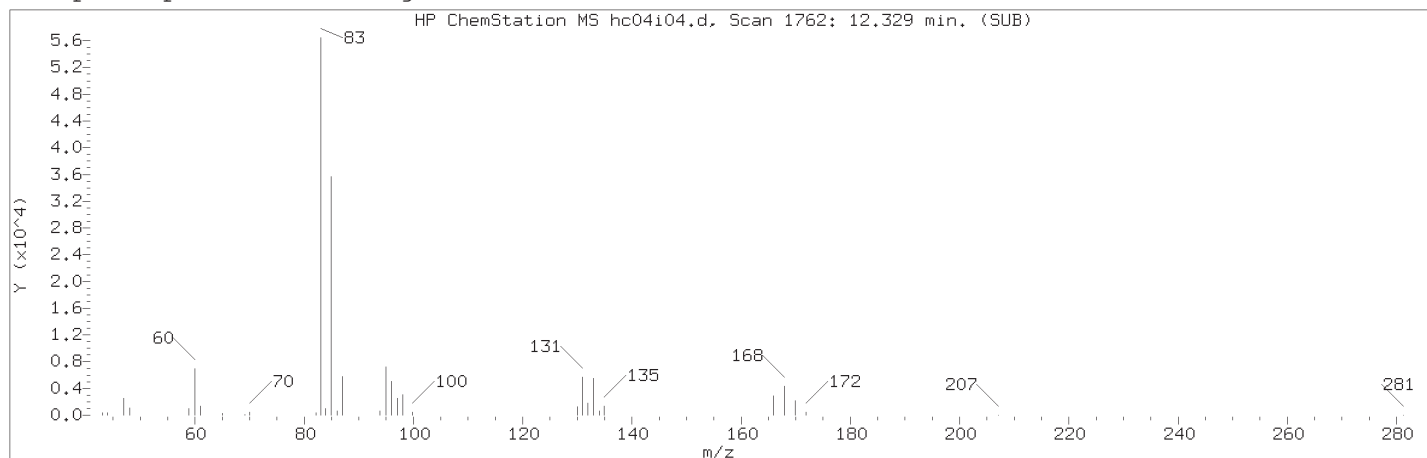
Date, time and analyst ID of latest file update: 04-Oct-2016 11:54 Automation

Sample Name: VSTD002

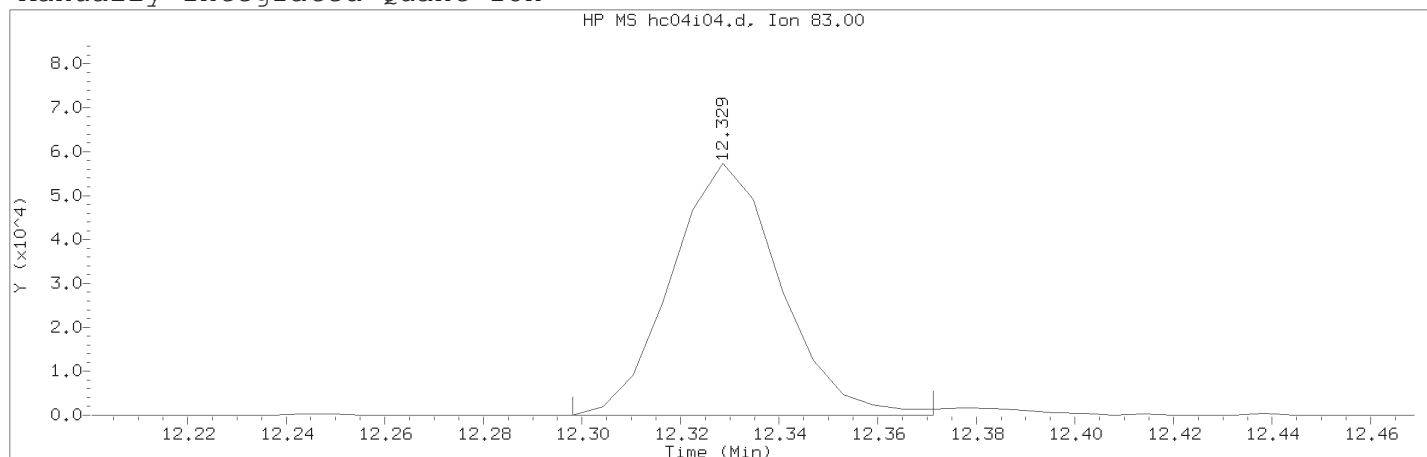
Lab Sample ID: VSTD002

Compound Number	: 81	
Compound Name	: 4-Methyl-2-Pentanone	
Scan Number	: 1307	
Retention Time (minutes)	: 9.555	
Quant Ion	: 43.00	
Area	: 344	
On-column Amount (ng)	: 0.0114	
Integration start scan	: 1304	Integration stop scan: 1310
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:44

Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number	: 113	
Compound Name	: 1,1,2,2-Tetrachloroethane	
Scan Number	: 1762	
Retention Time (minutes)	: 12.329	
Quant Ion	: 83.00	
Area (flag)	: 87783M	
On-Column Amount (ng)	: 2.1727	
Integration start scan	: 1756	Integration stop scan: 1768
Y at integration start	: 0	Y at integration end: 0

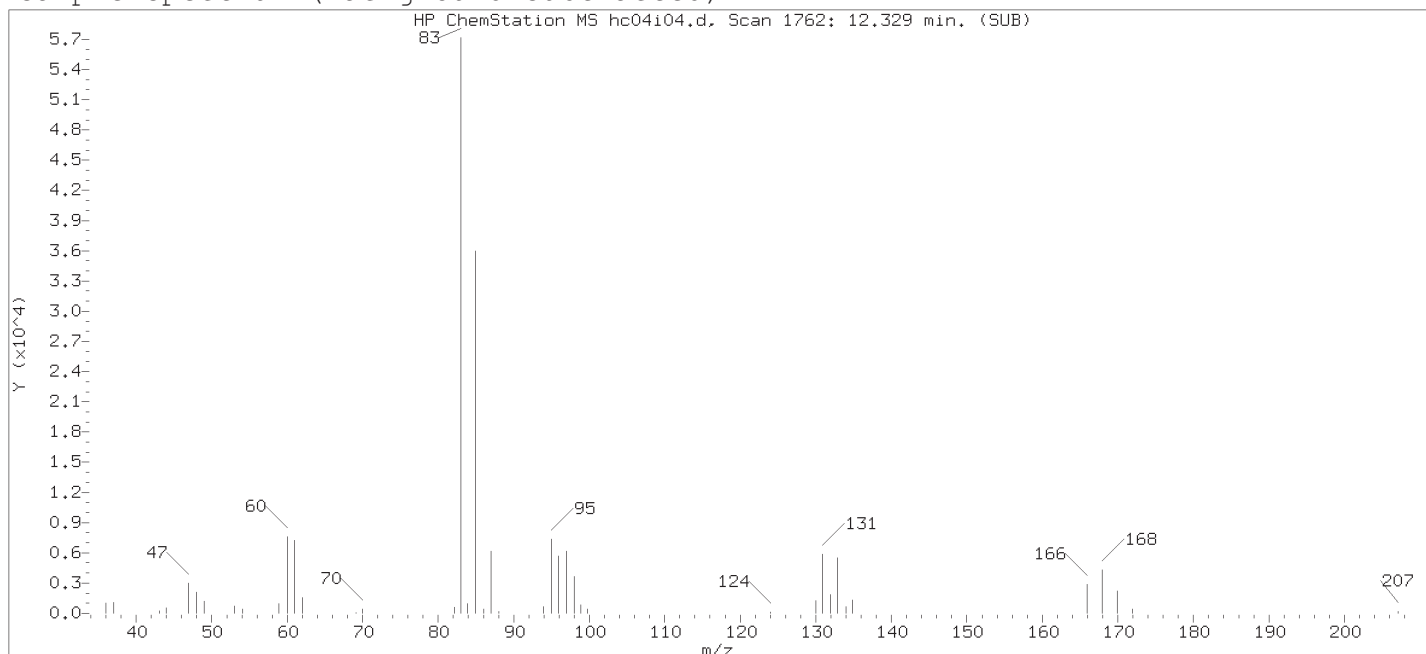
Reason for manual integration: improper integration

Analyst responsible for change:

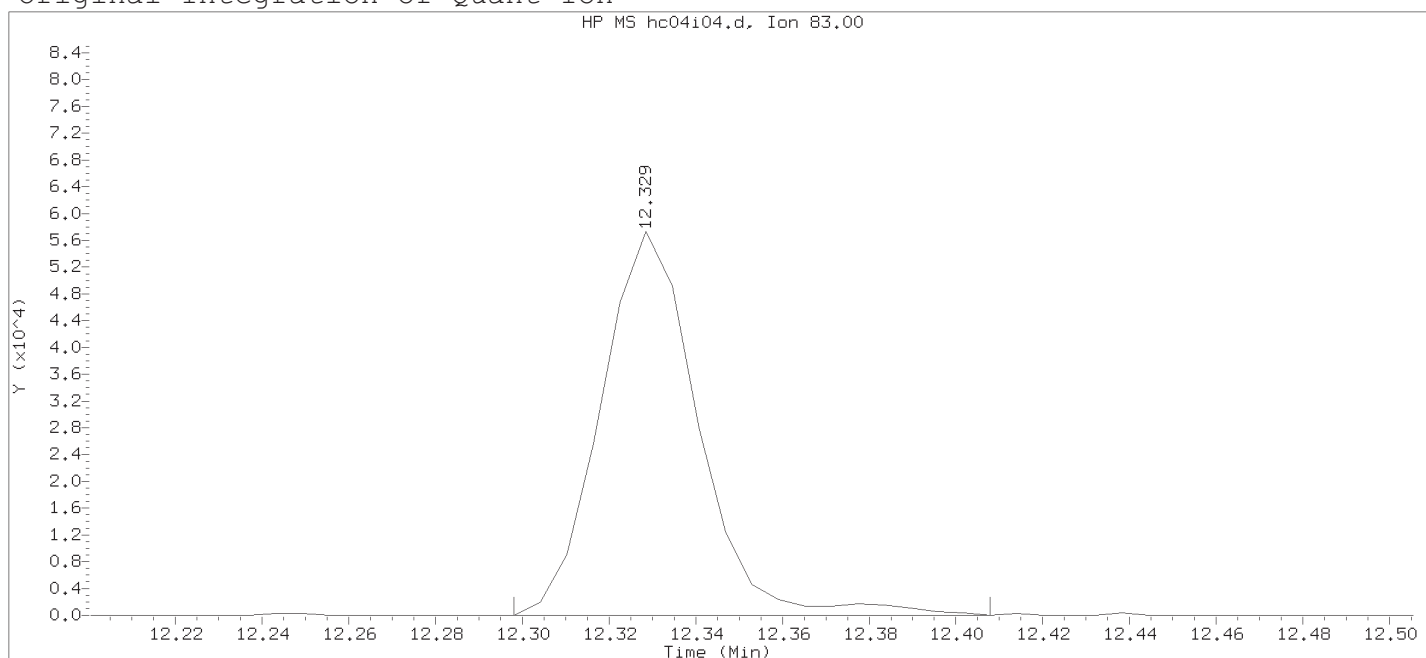
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:54

Date, time and analyst ID of latest file update: 04-Oct-2016 11:54 Automation

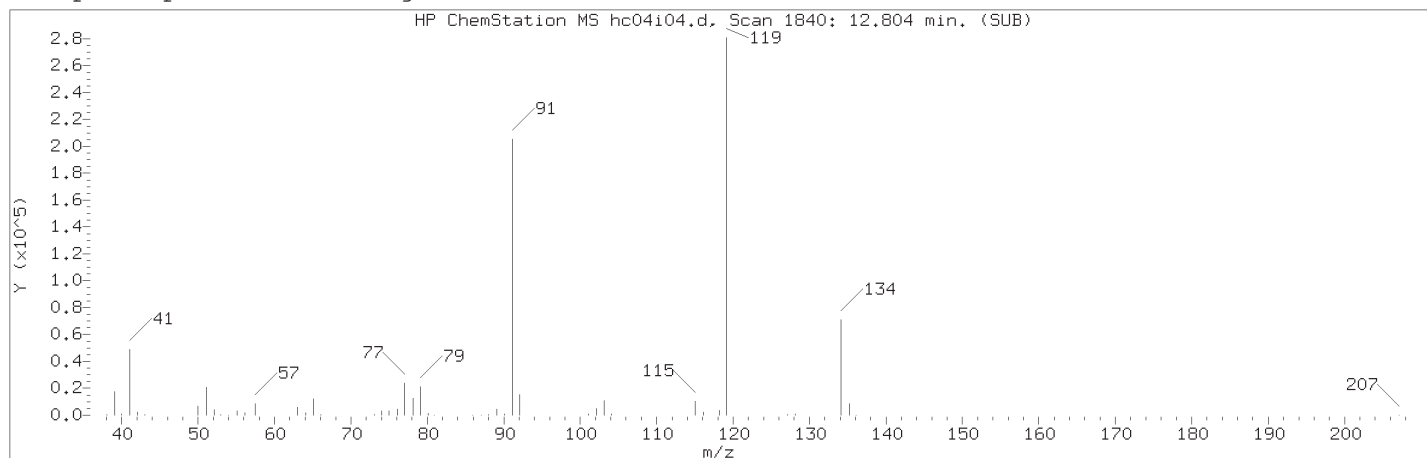
Sample Name: VSTD002

Lab Sample ID: VSTD002

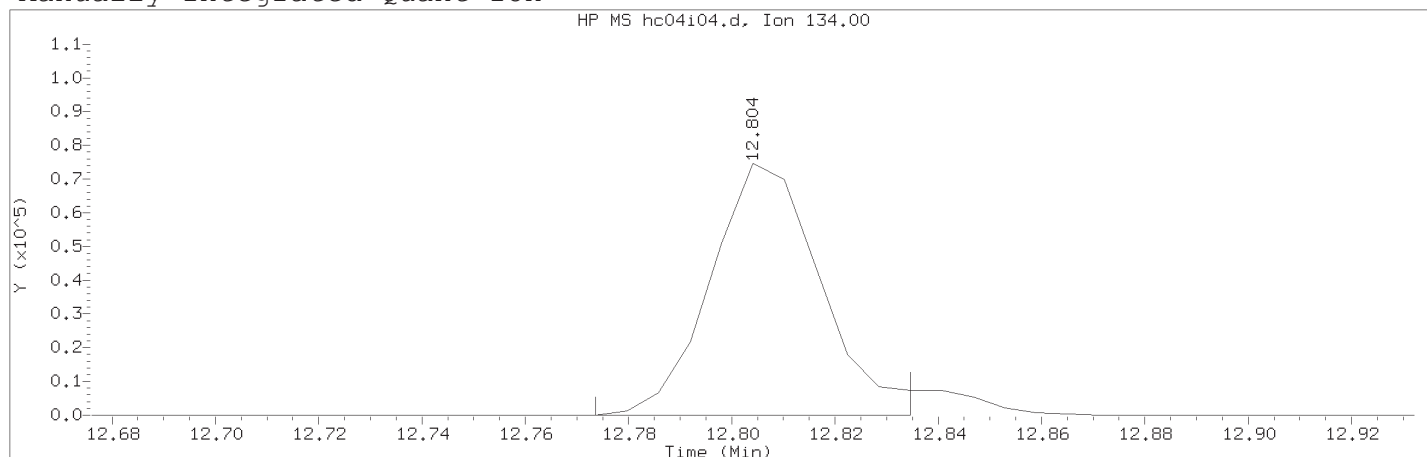
Compound Number : 113
 Compound Name : 1,1,2,2-Tetrachloroethane
 Scan Number : 1762
 Retention Time (minutes) : 12.329
 Quant Ion : 83.00
 Area : 89695
 On-column Amount (ng) : 2.1346
 Integration start scan : 1756
 Y at integration start : 0

Integration stop scan: 1774
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:44

Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number	: 125	
Compound Name	: tert-Butylbenzene	
Scan Number	: 1840	
Retention Time (minutes)	: 12.804	
Quant Ion	: 134.00	
Area (flag)	: 110606M	
On-Column Amount (ng)	: 2.1337	
Integration start scan	: 1834	Integration stop scan: 1844
Y at integration start	: 0	Y at integration end: 0

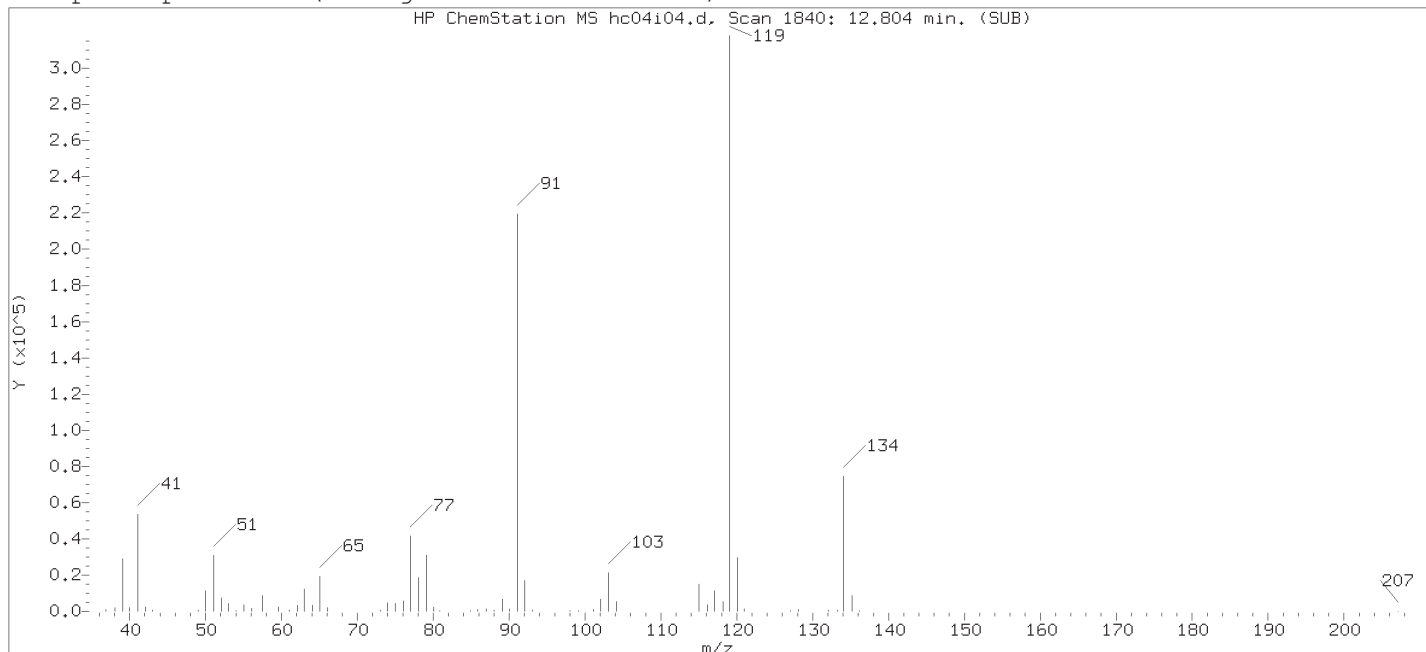
Reason for manual integration: improper integration

Analyst responsible for change:

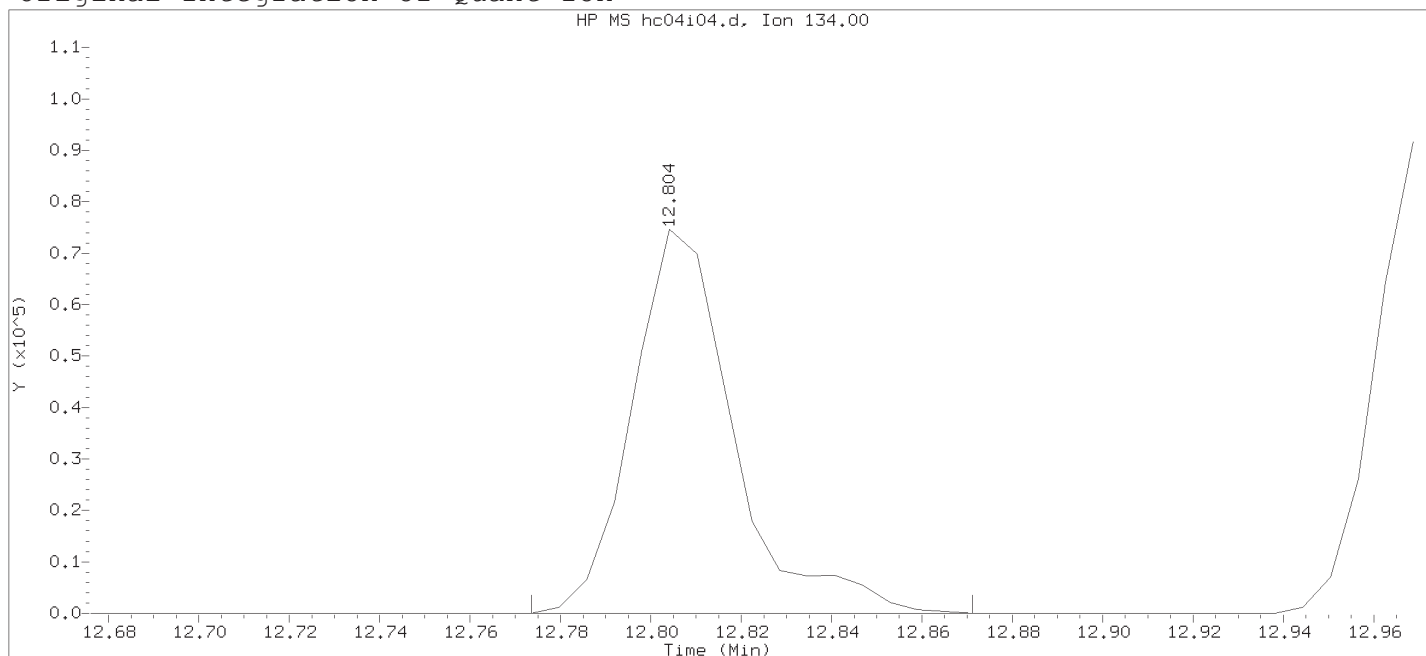
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:54

Date, time and analyst ID of latest file update: 04-Oct-2016 11:54 Automation

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number : 125

Compound Name : tert-Butylbenzene

Scan Number : 1840

Retention Time (minutes): 12.804

Quant Ion : 134.00

Area : 116452

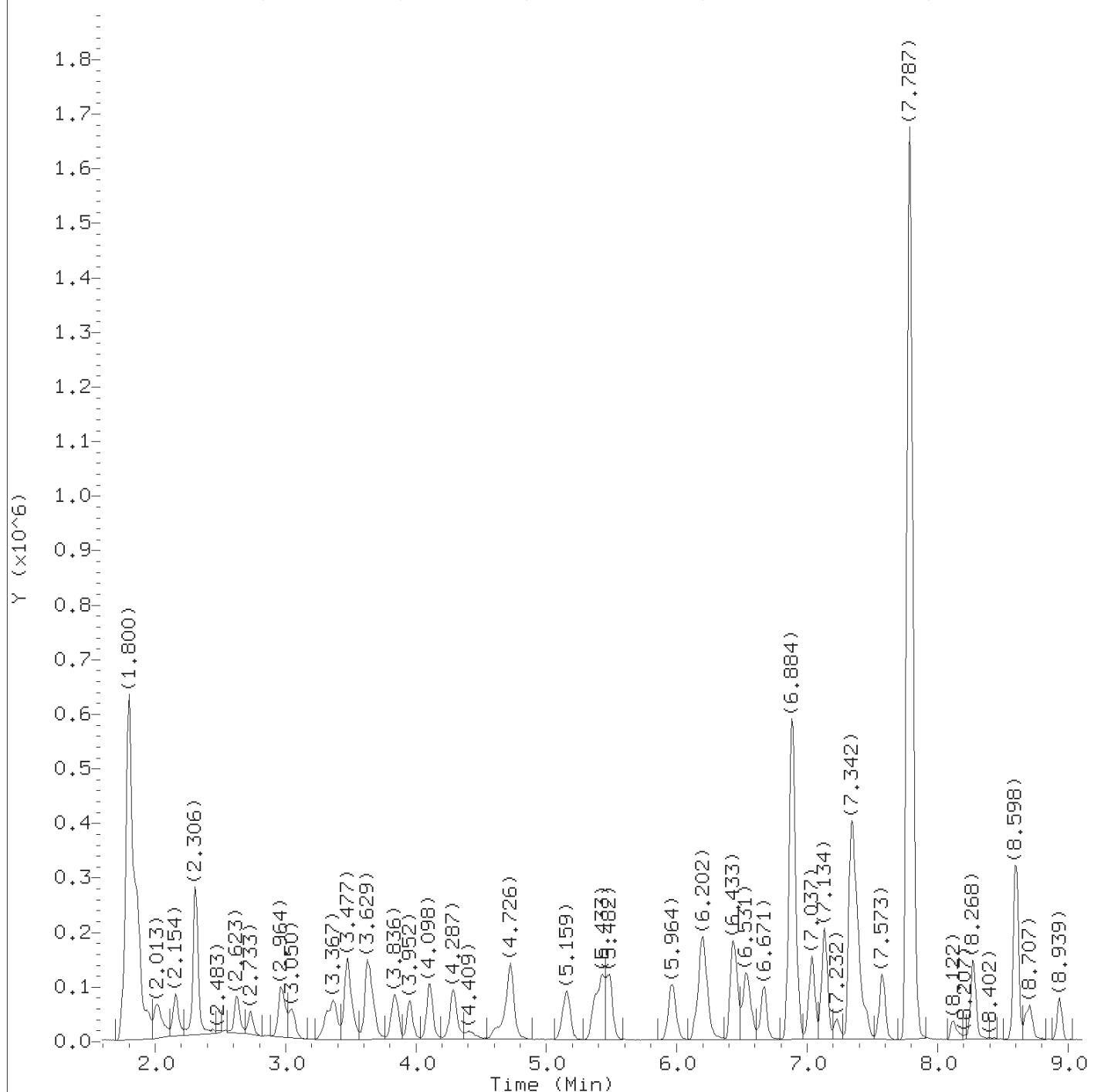
On-column Amount (ng) : 2.0618

Integration start scan : 1834

Integration stop scan: 1850

Y at integration start : 0

Y at integration end: 0



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d
Injection date and time: 04-OCT-2016 11:55

Instrument ID: HP19094.i
Analyst ID: kel01973

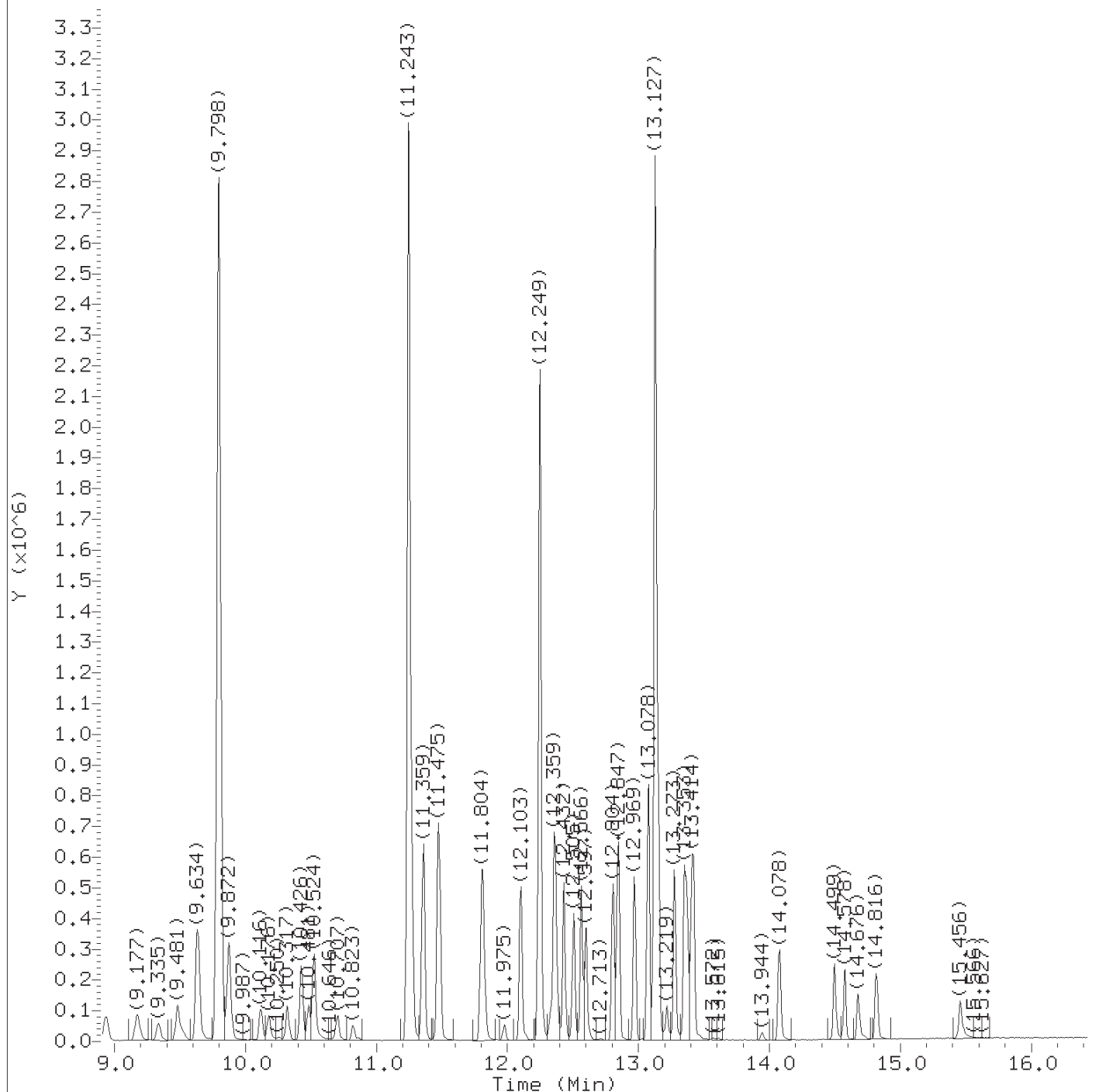
Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:29
Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.

Target 3.5 esignature User ID: kel01973
RAE73 Page 204 of 346



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d
Injection date and time: 04-OCT-2016 11:55

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:29
Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.

Target 3.5 esignature User ID: kel01973
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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d
 Injection date and time: 04-OCT-2016 11:55

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:29
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.020	85	101215	1.050
2) Chloromethane	(2)	2.154	50	109571	1.062
5) Vinyl Chloride	(2)	2.306	62	98581	1.072
6) 1,3-Butadiene	(2)	2.306	39	145147	1.030
7) Bromomethane	(2)	2.623	94	62929	1.067
8) Chloroethane	(2)	2.733	64	55026	1.058
9) Dichlorofluoromethane	(2)	2.964	67	132201	1.065
10) Trichlorofluoromethane	(2)	3.044	101	118226	1.059
11) Ethyl ether	(2)	3.318	59	43283	1.051
12) Freon 123a	(2)	3.367	67	83297	1.075
13) Acrolein	(1)	3.477	56	278316	46.144
15) 1,1-Dichloroethene	(2)	3.629	96	52488	1.009
14) Acetone	(1)	3.647	43	76214M	9.438
16) Freon 113	(2)	3.666	101	56838	1.000
17) Methyl Iodide	(2)	3.824	142	100010	1.006
18) Carbon Disulfide	(2)	3.952	76	159552	1.012
22) Allyl Chloride	(2)	4.098	41	113722	1.005
21) Methyl Acetate	(1)	4.098	43	21725M	0.831
23) Methylene Chloride	(2)	4.281	84	56800	1.018
26)*t-Butyl Alcohol-d10	(1)	4.293	65	83869M	50.000
28) t-Butyl Alcohol	(1)	4.409	59	41253M	18.516
29) Acrylonitrile	(1)	4.623	53	44470	4.680
30) Methyl Tertiary Butyl Ether	(2)	4.702	73	122612	1.011
31) trans-1,2-Dichloroethene	(2)	4.726	96	60036	1.019
32) n-Hexane	(2)	5.153	57	91144	1.014
33) 1,1-Dichloroethane	(2)	5.366	63	119909	1.033
34) di-Isopropyl Ether	(2)	5.427	45	211989	1.019
35) 2-Chloro-1,3-Butadiene	(2)	5.482	53	110158	1.025
37) Ethyl t-butyl ether	(2)	5.964	59	173279	1.026
40) 1,2-Dichloroethene (Total)	(2)		96	127118	2.057
38) 2-Butanone	(1)	6.153	43	136584	9.559
39) cis-1,2-Dichloroethene	(2)	6.189	96	67082	1.038
41) 2,2-Dichloropropane	(2)	6.208	77	98013	1.041
42) Propionitrile	(1)	6.232	54	58944	18.704
45) Methacrylonitrile	(1)	6.439	67	120961	8.990
47) Bromochloromethane	(2)	6.531	128	25859	0.998
48) Tetrahydrofuran	(1)	6.555	71	35045	9.515
49) Chloroform	(2)	6.671	83	114478	1.021

M = Compound was manually integrated.

* = Compound is an internal standard.

page 1 of 4

Digitally signed by Kerri E. Koch Legerlotz
 on 10/04/2016 at 15:34.

Target 3.5 esignature user ID: kel01973

RAE73 Page 206 of 346

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d
 Injection date and time: 04-OCT-2016 11:55

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:29
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
50) \$Dibromofluoromethane	(2)	6.884	113	524149	10.078
50) \$Dibromofluoromethane	(2)	6.884	111	536011	10.080
51) 1,1,1-Trichloroethane	(2)	6.921	97	103485	1.025
52) Cyclohexane	(2)	7.037	56	117038	0.988
52) Cyclohexane	(2)	7.037	84	109272	1.118
52) Cyclohexane	(2)	7.037	69	33688	1.008
55) 1,1-Dichloropropene	(2)	7.134	75	94713	1.038
54) Carbon Tetrachloride	(2)	7.140	117	88372	1.014
56) Isobutyl Alcohol	(1)	7.232	41	36664	42.495
57) \$1,2-Dichloroethane-d4	(2)	7.336	102	85505M	10.234
57) \$1,2-Dichloroethane-d4	(2)	7.336	65	468572	10.188
57) \$1,2-Dichloroethane-d4	(2)	7.348	104	52559M	9.832
58) Benzene	(2)	7.397	78	251100	1.032
59) 1,2-Dichloroethane	(2)	7.457	62	70797	1.045
60) t-Amyl methyl ether	(2)	7.579	73	139165	1.016
63) *Fluorobenzene	(2)	7.787	96	2267516	10.000
62) n-Heptane	(2)	7.811	43	110229	1.019
65) n-Butanol	(1)	8.122	56	53921M	85.565
67) Trichloroethene	(2)	8.268	95	67903	1.019
70) 1,2-Dichloropropane	(2)	8.598	63	63384	1.024
69) Methylcyclohexane	(2)	8.610	83	118748	1.020
71) Methyl Methacrylate	(1)	8.683	69	22888	0.924
73) Dibromomethane	(2)	8.707	93	26411	1.019
72) 1,4-Dioxane	(1)	8.719	88	7483	52.108
74) Bromodichloromethane	(2)	8.939	83	70793	0.998
76) 2-Nitropropane	(1)	9.171	41	79620	8.688
80) cis-1,3-Dichloropropene	(2)	9.481	75	78683	0.977
81) 4-Methyl-2-Pentanone	(1)	9.634	43	338341	8.860
82) \$Toluene-d8	(3)	9.798	98	2226098	10.024
82) \$Toluene-d8	(3)	9.798	100	1414727	9.907
83) Toluene	(3)	9.872	92	157946	1.035
84) trans-1,3-Dichloropropene	(3)	10.116	75	61540	0.994
85) 1,3-Dichloropropene (total)	(3)		75	140223	1.971
86) Ethyl Methacrylate	(3)	10.176	69	48061	1.007
88) 1,1,2-Trichloroethane	(3)	10.317	97	36304	1.033
89) Tetrachloroethene	(3)	10.426	166	73681	1.009
90) 1,3-Dichloropropane	(3)	10.481	76	65475	1.025
91) 2-Hexanone	(1)	10.524	43	243177	9.199

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/04/2016 at 15:34.
 Target 3.5 esignature user ID: kel01973

RAE73 Page 207 of 346

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d
 Injection date and time: 04-OCT-2016 11:55

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:29
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
93) Dibromochloromethane	(3)	10.707	129	42919	0.985
95) 1,2-Dibromoethane	(3)	10.823	107	34546	1.040
97) *Chlorobenzene-d5	(3)	11.243	117	1470132	10.000
98) Chlorobenzene	(3)	11.274	112	168428	1.036
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	56610	1.013
100) Ethylbenzene	(3)	11.359	91	306411	1.020
101) m+p-Xylene	(3)	11.475	106	235410	2.086
105) Xylene (Total)	(3)		106	348270	3.112
104) o-Xylene	(3)	11.804	106	112860	1.026
106) Styrene	(3)	11.816	104	171739	1.020
107) Bromoform	(3)	11.975	173	22620	0.948
108) Isopropylbenzene	(3)	12.103	105	299148	1.008
111) \$4-Bromofluorobenzene	(3)	12.249	95	662364	10.145
111) \$4-Bromofluorobenzene	(3)	12.249	174	588733	10.077
113) 1,1,2,2-Tetrachloroethane	(4)	12.328	83	43816M	1.046
115) trans-1,4-Dichloro-2-butene	(1)	12.359	53	97320A	8.599
114) Bromobenzene	(4)	12.365	156	67742	1.003
116) 1,2,3-Trichloropropane	(4)	12.383	110	11211	1.003
117) n-Propylbenzene	(4)	12.432	91	360459	1.007
119) 2-Chlorotoluene	(4)	12.505	126	68973	1.019
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	251387	1.021
122) 4-Chlorotoluene	(4)	12.603	126	69182	1.000
125) tert-Butylbenzene	(4)	12.804	134	52401M	0.975
126) Pentachloroethane	(4)	12.841	167	42690	1.027
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	252093	1.014
128) sec-Butylbenzene	(4)	12.969	105	326416	1.010
131) 1,3-Dichlorobenzene	(4)	13.072	146	132378	1.008
132) p-Isopropyltoluene	(4)	13.078	119	273609	1.015
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	676960	10.000
134) 1,4-Dichlorobenzene	(4)	13.145	146	140734	1.030
135) 1,2,3-Trimethylbenzene	(4)	13.151	120	110375	1.026
136) Benzyl Chloride	(4)	13.219	126	14279	1.002
138) n-Butylbenzene	(4)	13.371	92	127073	0.982
139) 1,2-Dichlorobenzene	(4)	13.401	146	117709	1.008
143) 1,2-Dibromo-3-chloropropane	(1)	13.944	155	5092	0.916
145) 1,2,4-Trichlorobenzene	(4)	14.499	180	83380	1.002
146) Hexachlorobutadiene	(4)	14.578	225	39571	1.000
147) Naphthalene	(4)	14.676	128	126470	1.001

M = Compound was manually integrated.

A = User selected an alternate hit.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/04/2016 at 15:34.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 11:55 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:29
Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

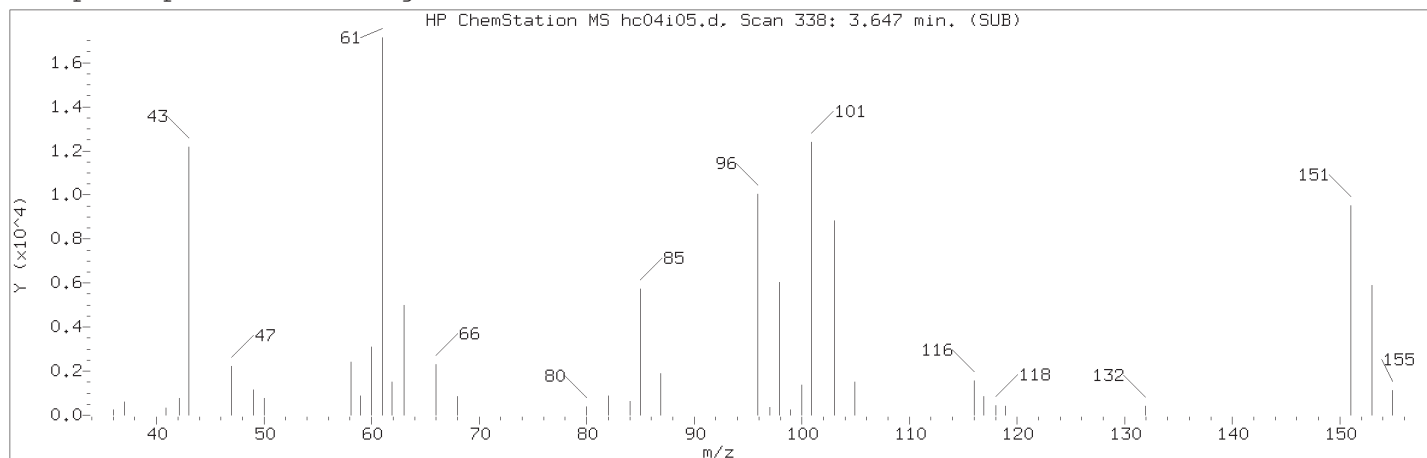
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
148) 1,2,3-Trichlorobenzene	(4)	14.816	180	68713M	0.981

M = Compound was manually integrated.

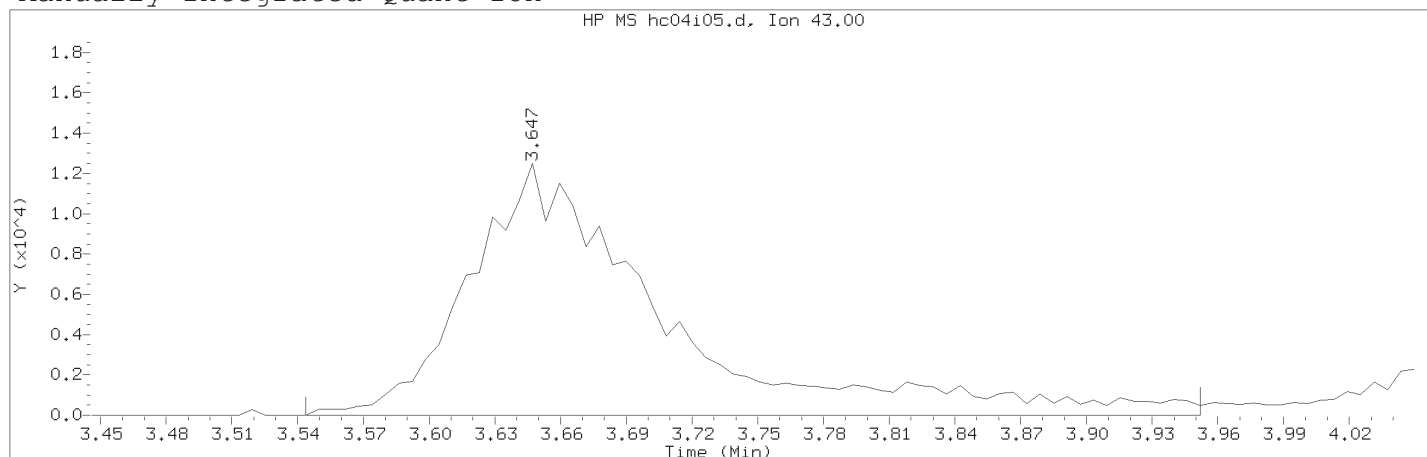
page 4 of 4

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on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number : 14
 Compound Name : Acetone
 Scan Number : 338
 Retention Time (minutes): 3.647
 Quant Ion : 43.00
 Area (flag) : 76214M
 On-Column Amount (ng) : 9.4384
 Integration start scan : 320
 Y at integration start : 0

Integration stop scan: 387
 Y at integration end: 0

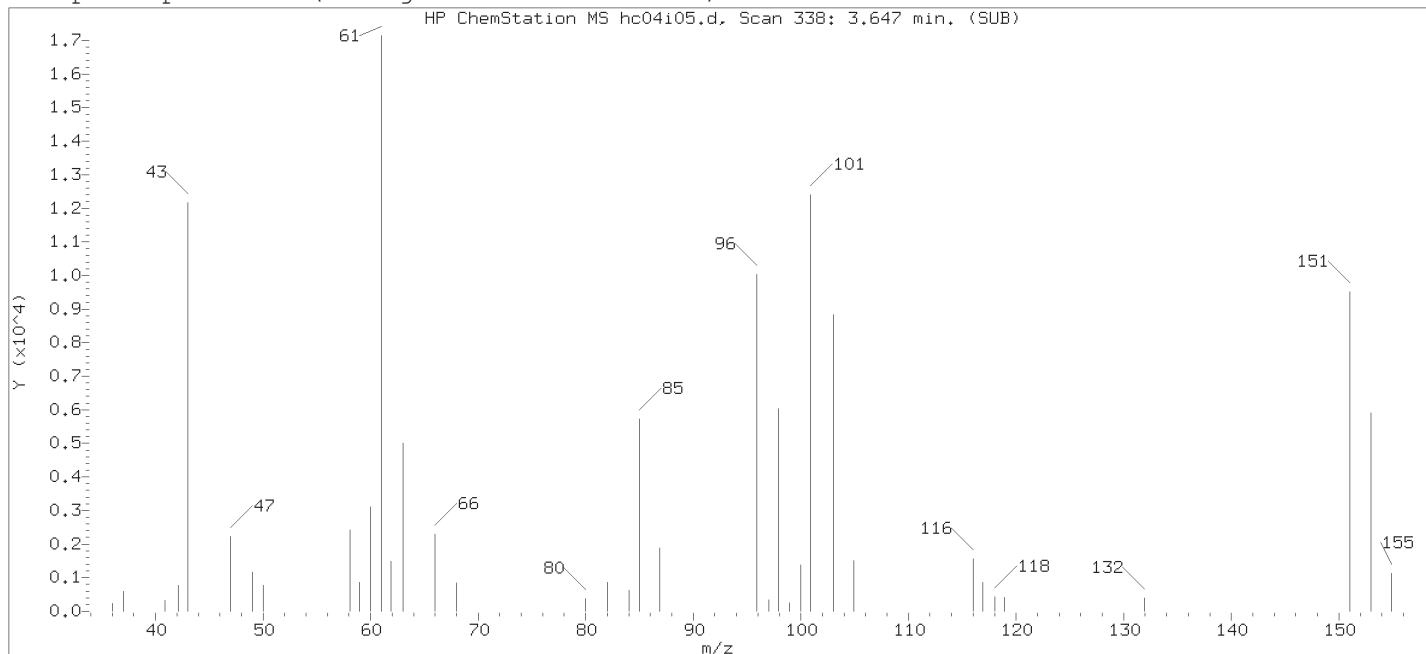
Reason for manual integration: improper integration

Analyst responsible for change:

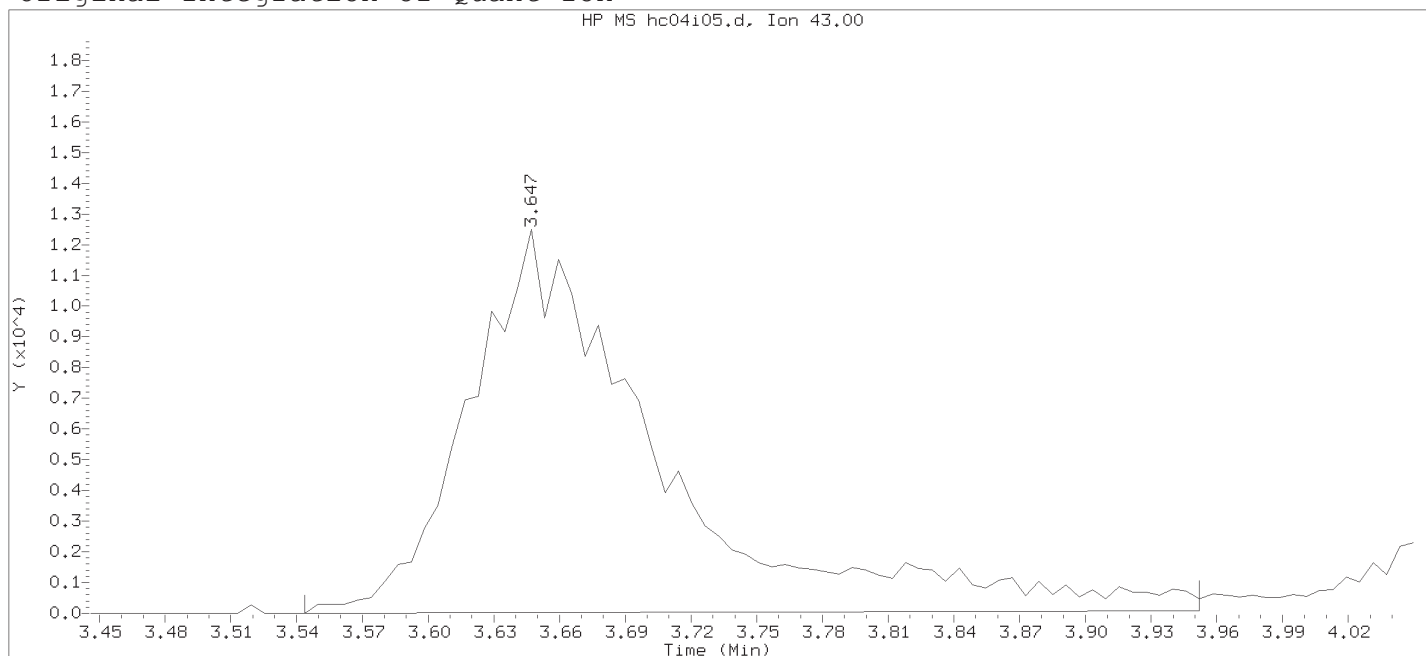
Digitally signed by Kerri E. Koch Legerlotz
 on 10/04/2016 at 15:34.
 Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
 PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:14

Date, time and analyst ID of latest file update: 04-Oct-2016 12:14 Automation

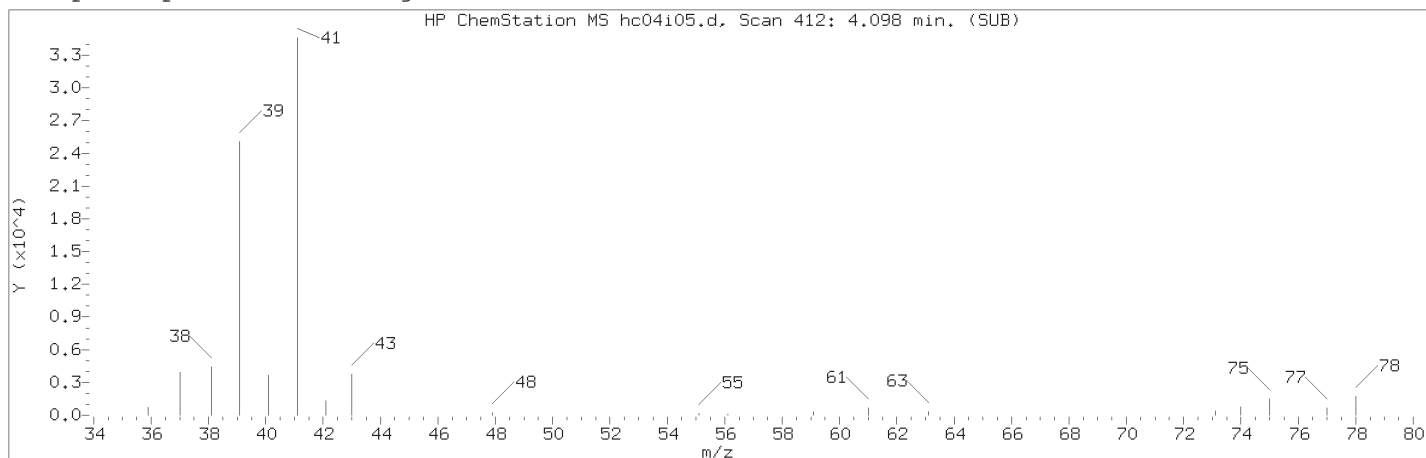
Sample Name: VSTD001

Lab Sample ID: VSTD001

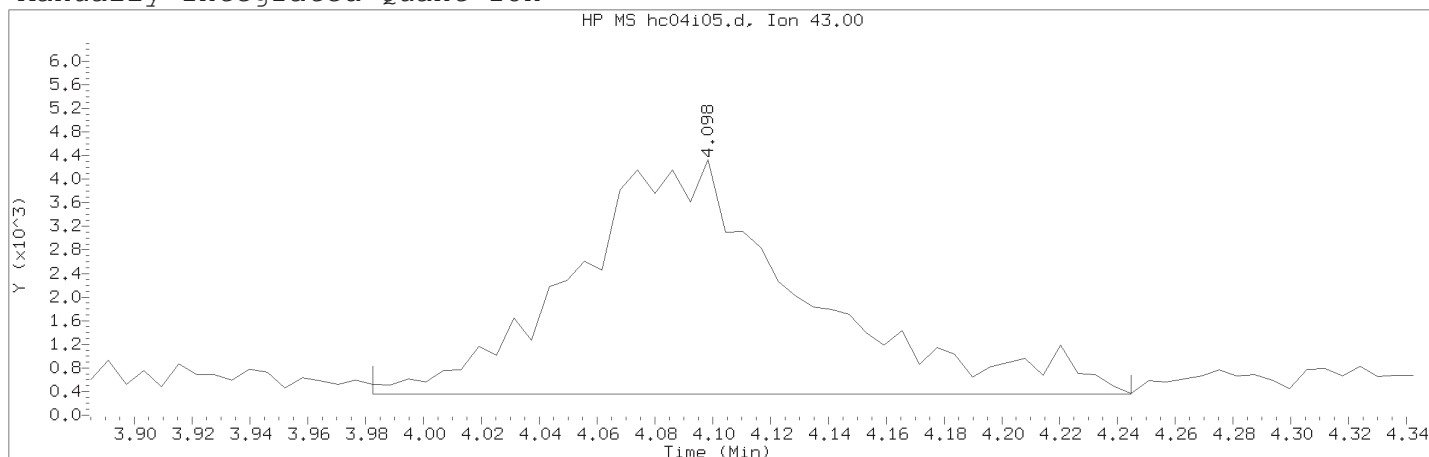
Compound Number : 14
 Compound Name : Acetone
 Scan Number : 338
 Retention Time (minutes) : 3.647
 Quant Ion : 43.00
 Area : 75270
 On-column Amount (ng) : 11.0175
 Integration start scan : 320
 Y at integration start : 0

Integration stop scan: 387
 Y at integration end: 70

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number	: 21	
Compound Name	: Methyl Acetate	
Scan Number	: 412	
Retention Time (minutes)	: 4.098	
Quant Ion	: 43.00	
Area (flag)	: 21725M	
On-Column Amount (ng)	: 0.8306	
Integration start scan	: 392	Integration stop scan: 435
Y at integration start	: 362	Y at integration end: 362

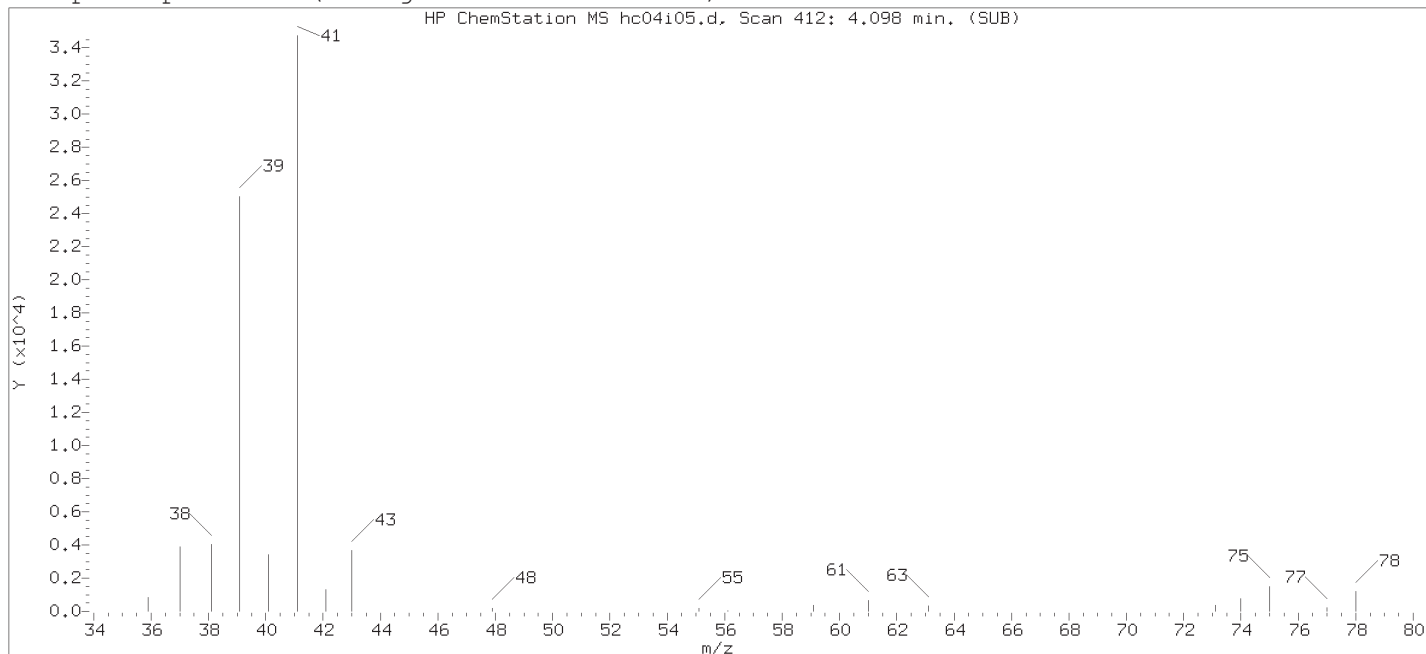
Reason for manual integration: improper integration

Analyst responsible for change:

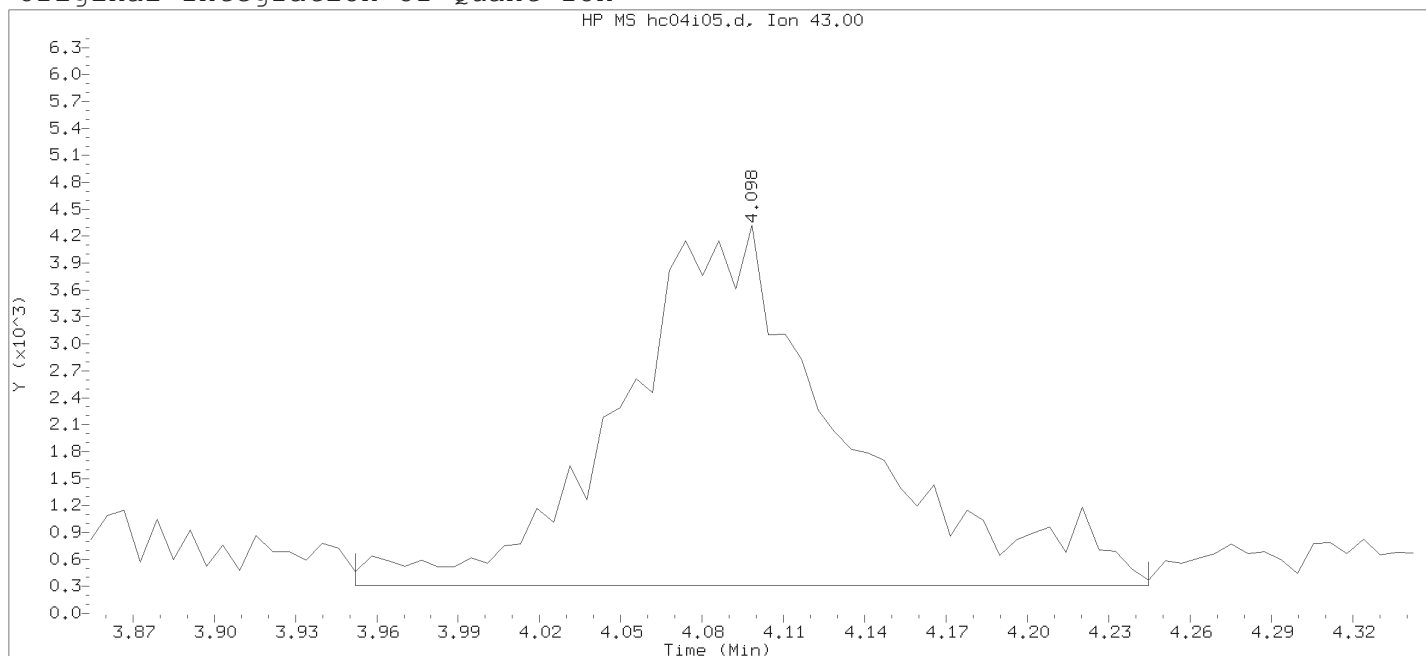
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:14

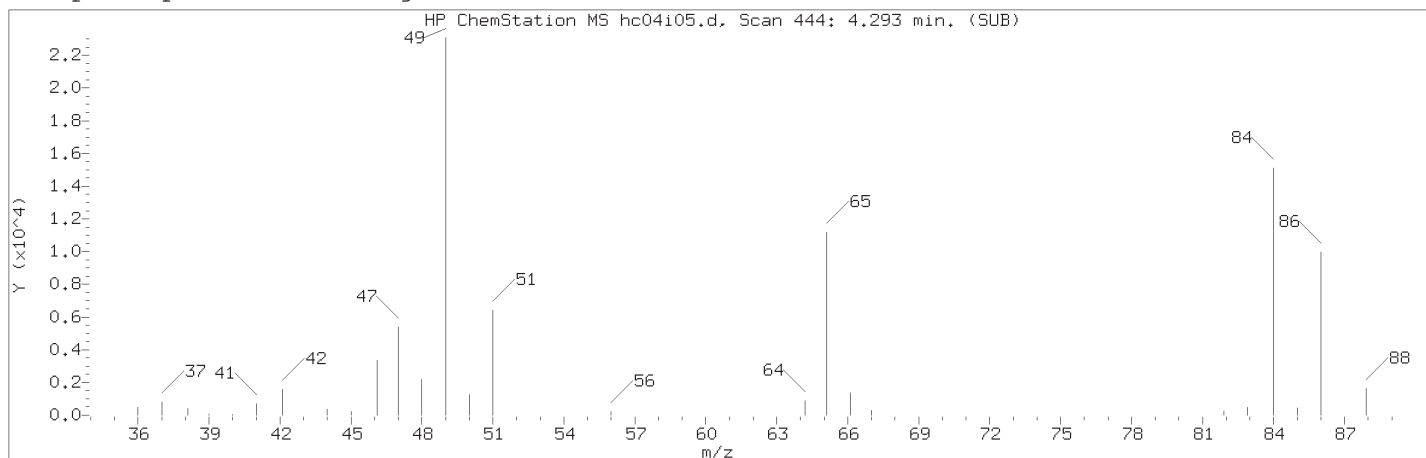
Date, time and analyst ID of latest file update: 04-Oct-2016 12:14 Automation

Sample Name: VSTD001

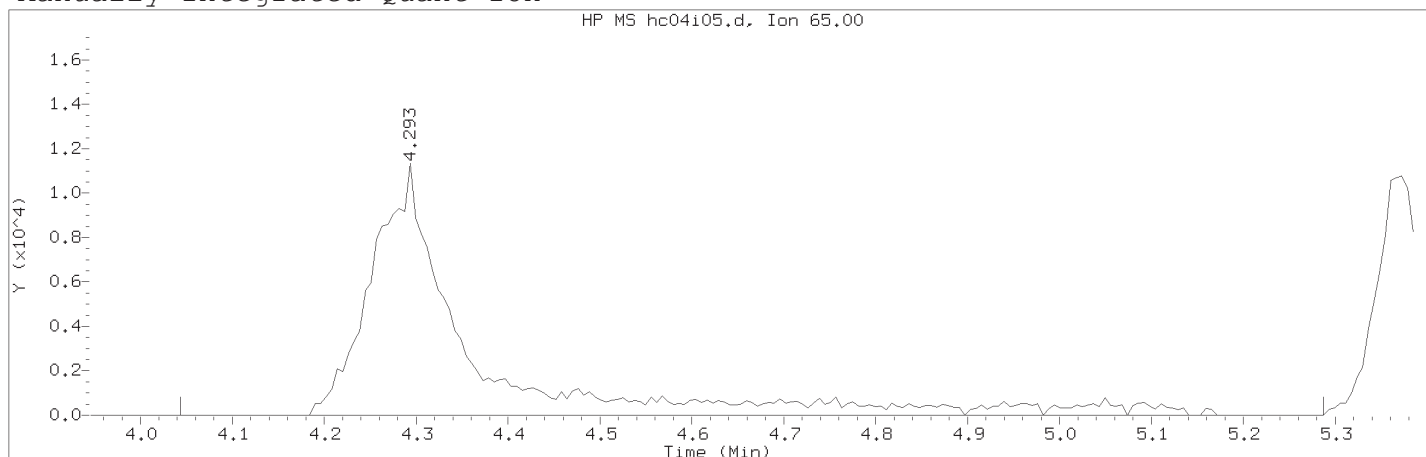
Lab Sample ID: VSTD001

Compound Number	: 21	
Compound Name	: Methyl Acetate	
Scan Number	: 412	
Retention Time (minutes)	: 4.098	
Quant Ion	: 43.00	
Area	: 23016	
On-column Amount (ng)	: 1.0823	
Integration start scan	: 387	Integration stop scan: 435
Y at integration start	: 308	Y at integration end: 308

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number	: 26	
Compound Name	: t-Butyl Alcohol-d10	
Scan Number	: 444	
Retention Time (minutes)	: 4.293	
Quant Ion	: 65.00	
Area (flag)	: 83869M	
On-Column Amount (ng)	: 50.0000	
Integration start scan	: 402	Integration stop scan: 606
Y at integration start	: 0	Y at integration end: 0

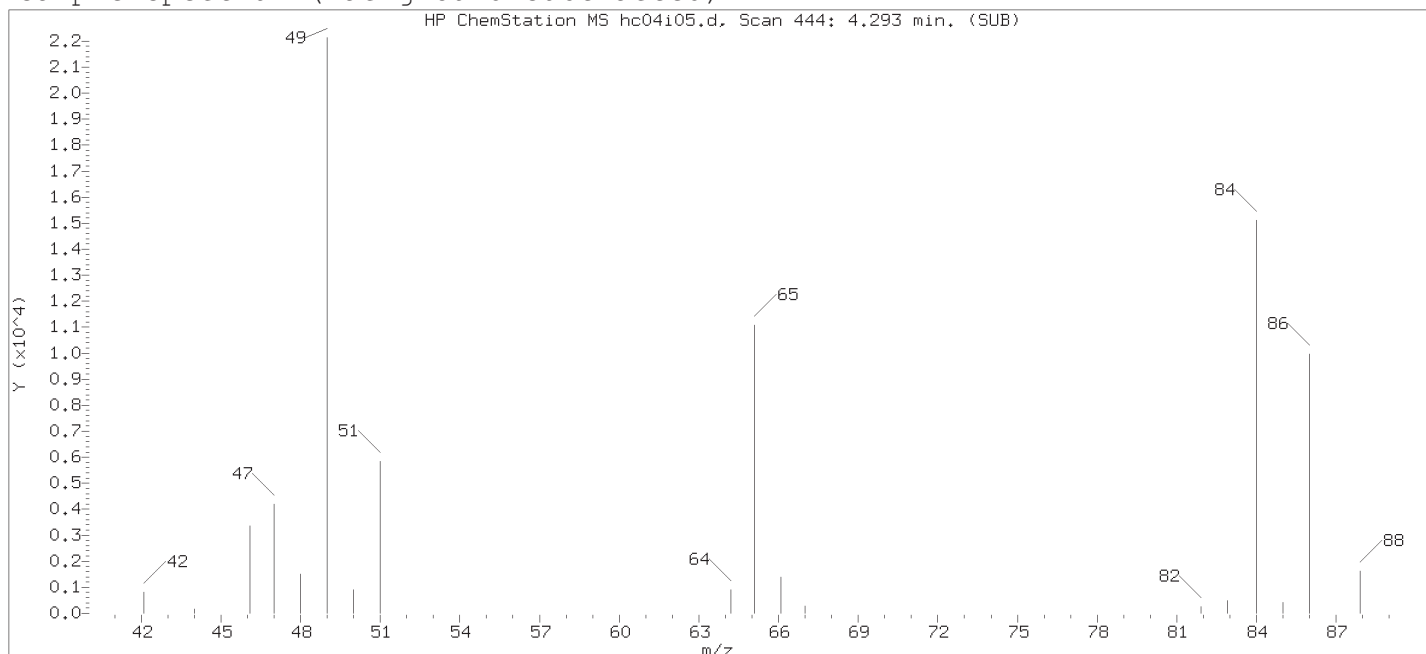
Reason for manual integration: improper integration

Analyst responsible for change:

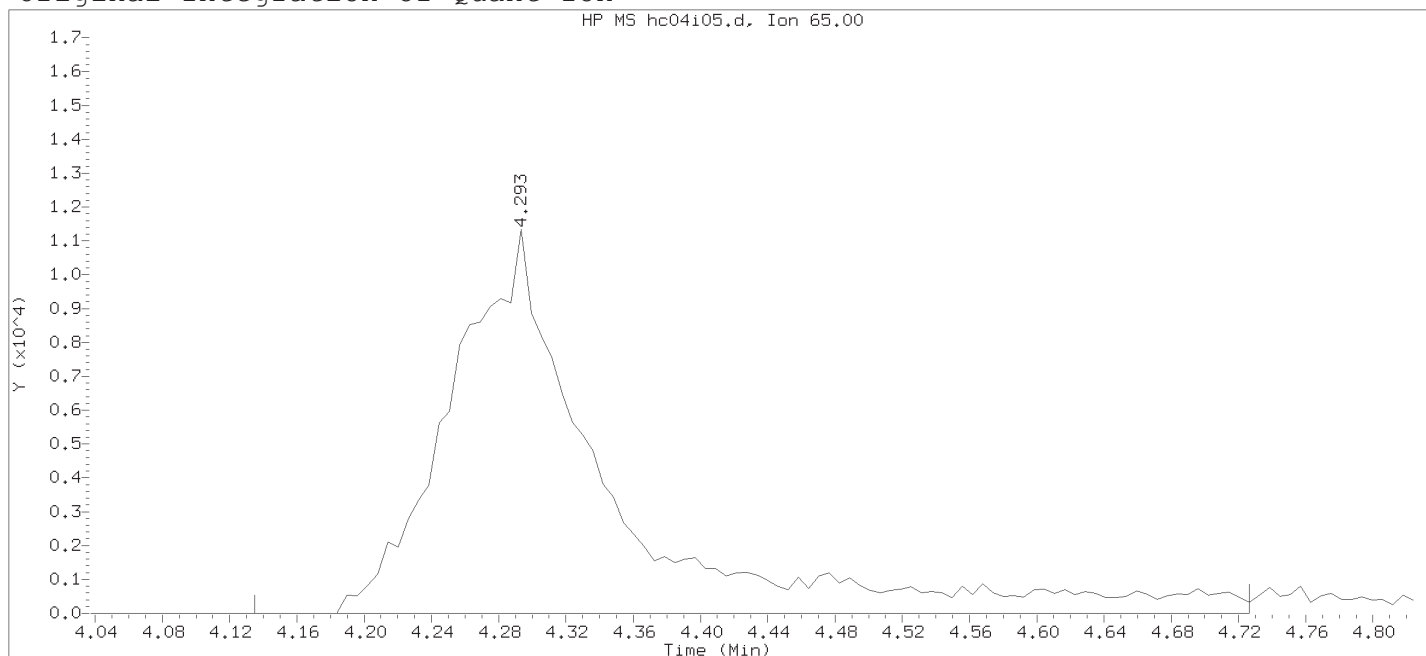
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:14

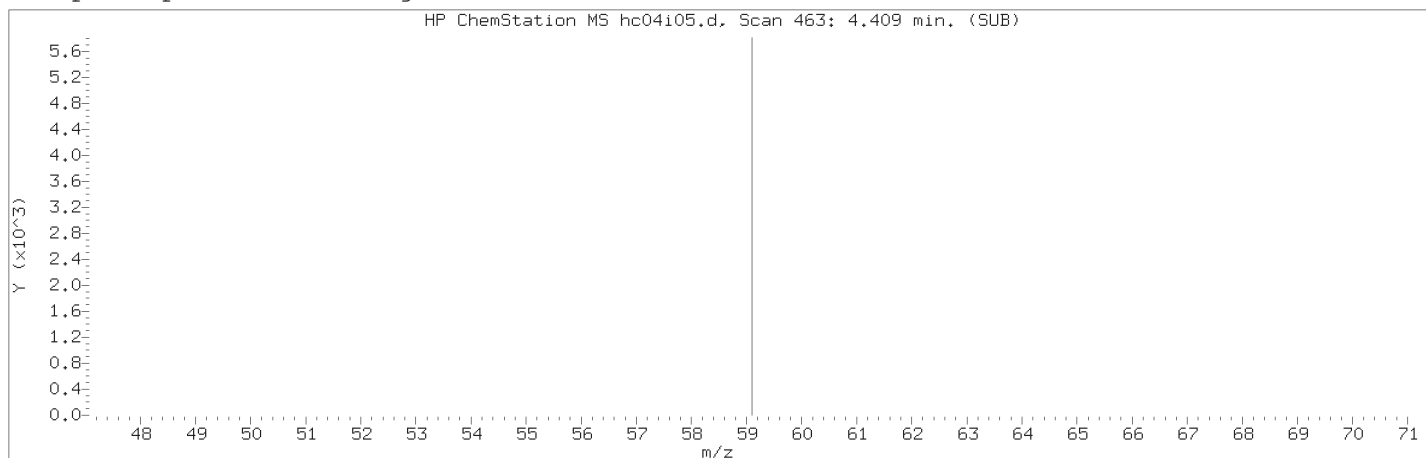
Date, time and analyst ID of latest file update: 04-Oct-2016 12:14 Automation

Sample Name: VSTD001

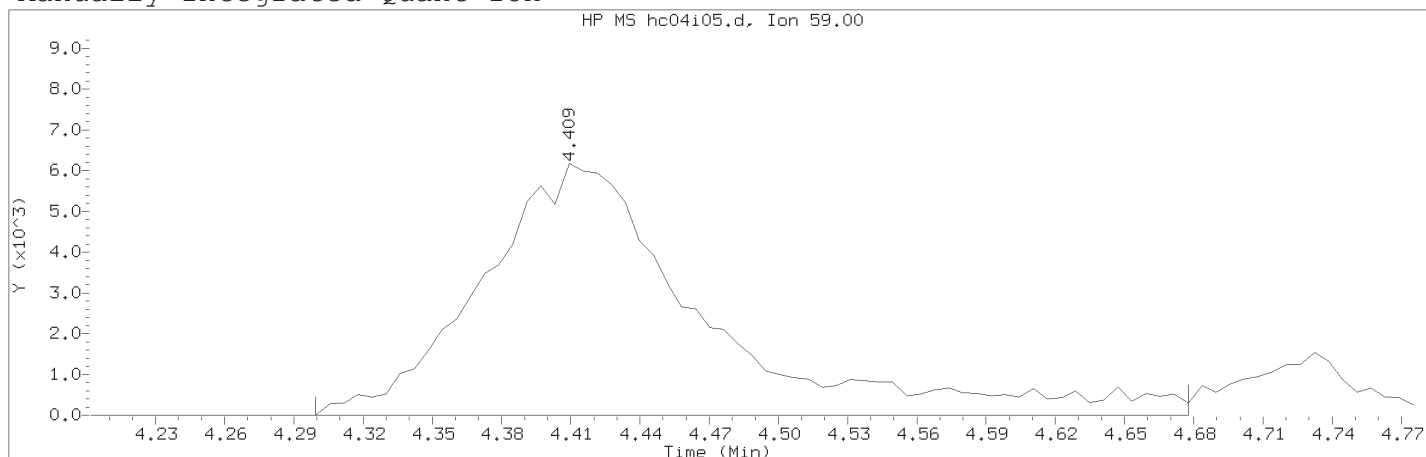
Lab Sample ID: VSTD001

Compound Number	: 26	
Compound Name	: t-Butyl Alcohol-d10	
Scan Number	: 444	
Retention Time (minutes)	: 4.293	
Quant Ion	: 65.00	
Area	: 73388	
On-column Amount (ng)	: 50.0000	
Integration start scan	: 417	Integration stop scan: 514
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number	: 28	
Compound Name	: t-Butyl Alcohol	
Scan Number	: 463	
Retention Time (minutes)	: 4.409	
Quant Ion	: 59.00	
Area (flag)	: 41253M	
On-Column Amount (ng)	: 18.5163	
Integration start scan	: 444	Integration stop scan: 506
Y at integration start	: 0	Y at integration end: 0

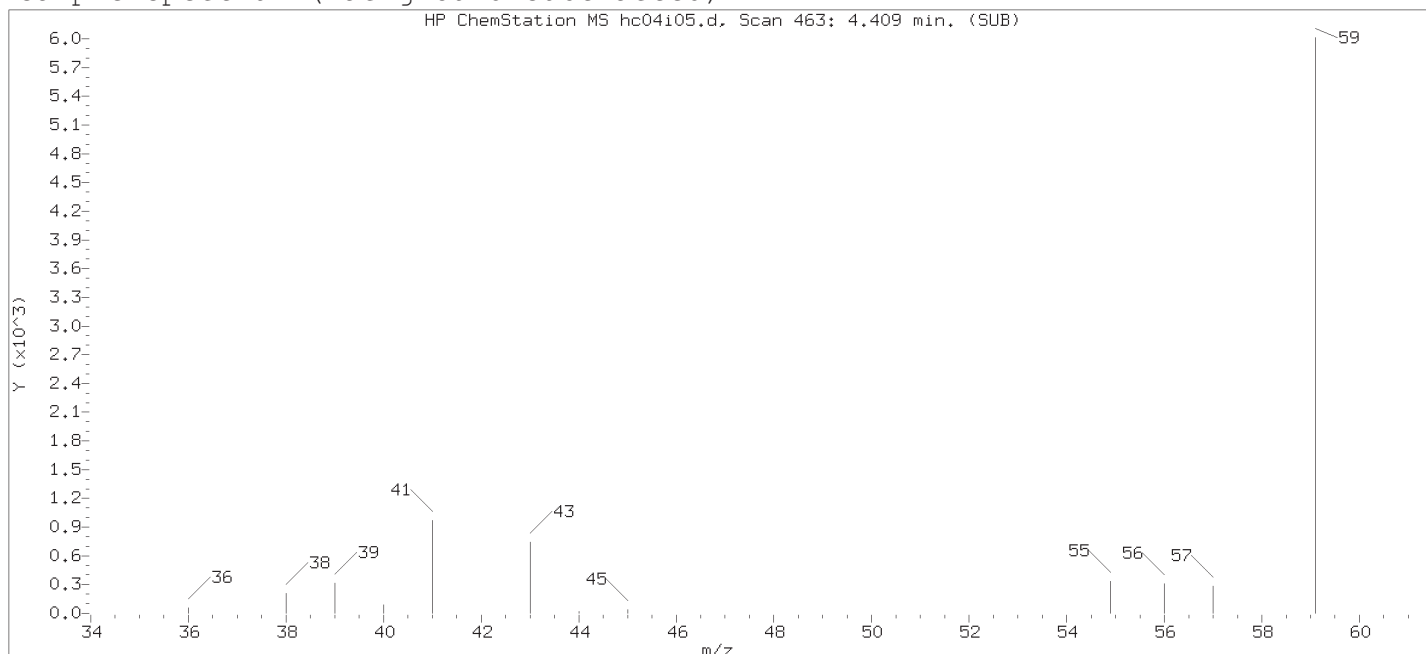
Reason for manual integration: improper integration

Analyst responsible for change:

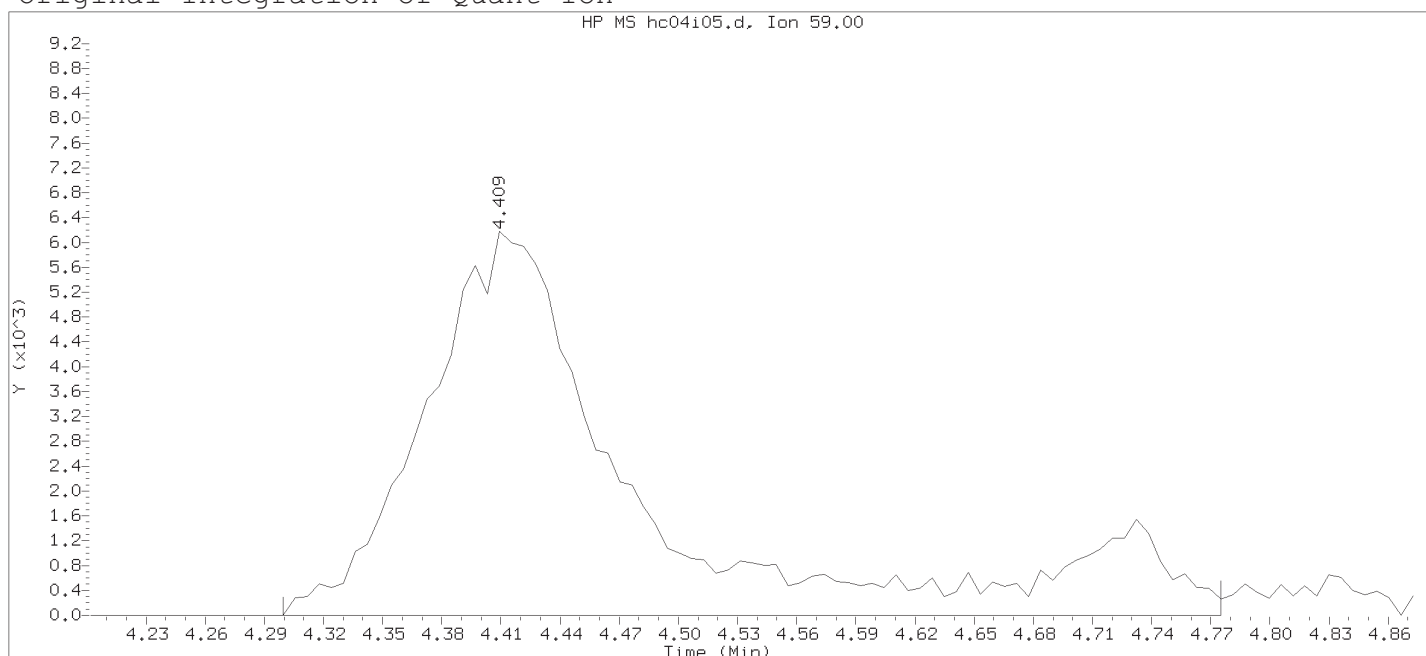
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:14

Date, time and analyst ID of latest file update: 04-Oct-2016 12:14 Automation

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number

: 28

Compound Name

: t-Butyl Alcohol

Scan Number

: 463

Retention Time (minutes)

: 4.409

Quant Ion

: 59.00

Area

: 46172

On-column Amount (ng)

: 21.2838

Integration start scan

: 444

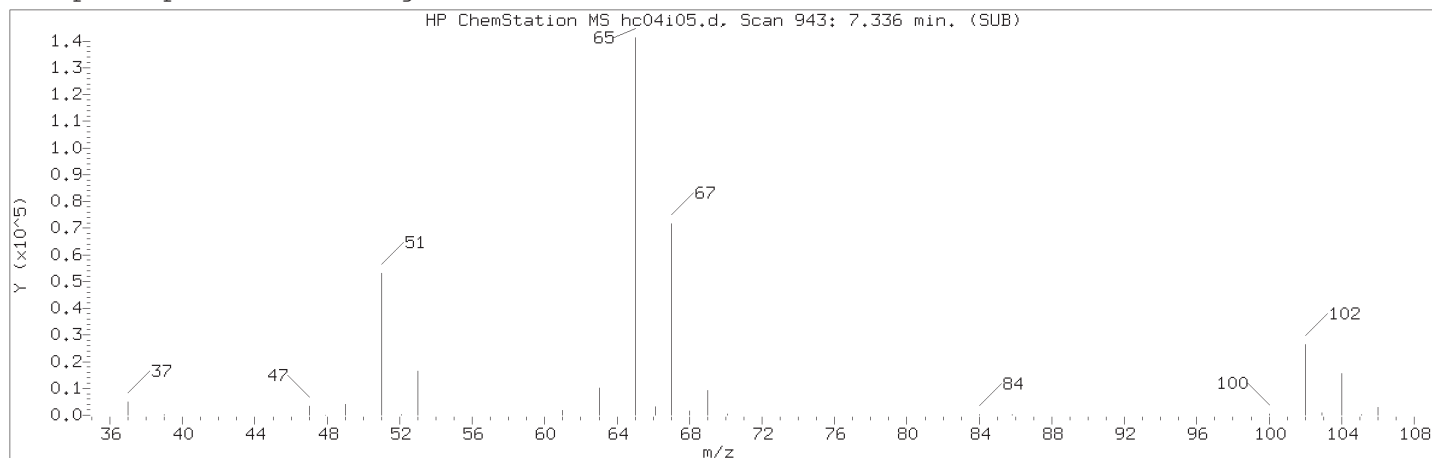
Integration stop scan: 522

Y at integration start

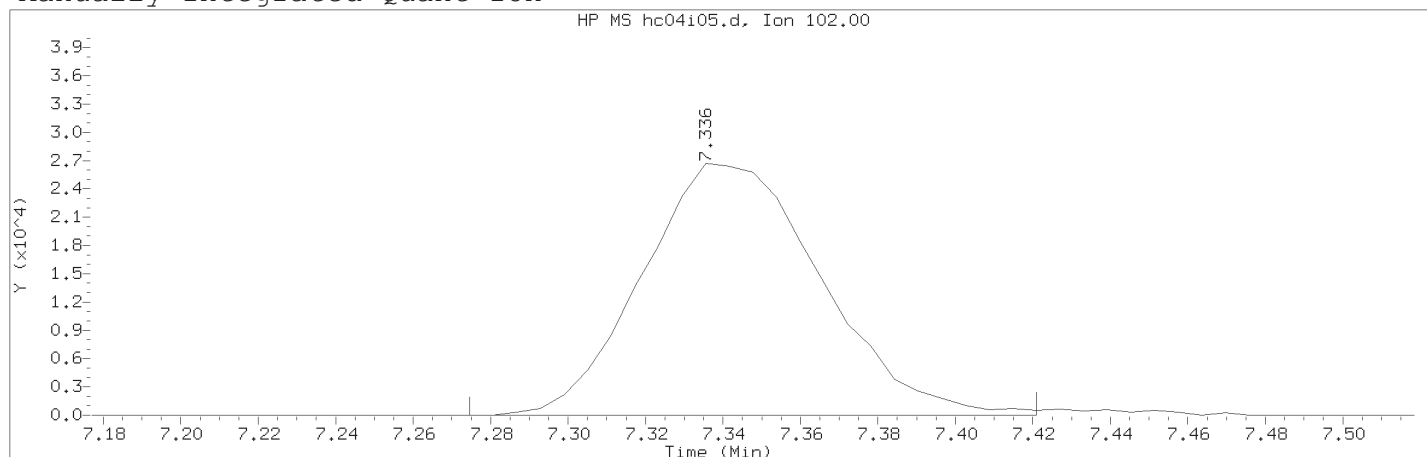
: 0

Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number	: 57	
Compound Name	: 1,2-Dichloroethane-d4	
Scan Number	: 943	
Retention Time (minutes)	: 7.336	
Quant Ion	: 102.00	
Area (flag)	: 85505M	
On-Column Amount (ng)	: 10.2342	
Integration start scan	: 932	Integration stop scan: 956
Y at integration start	: 0	Y at integration end: 0

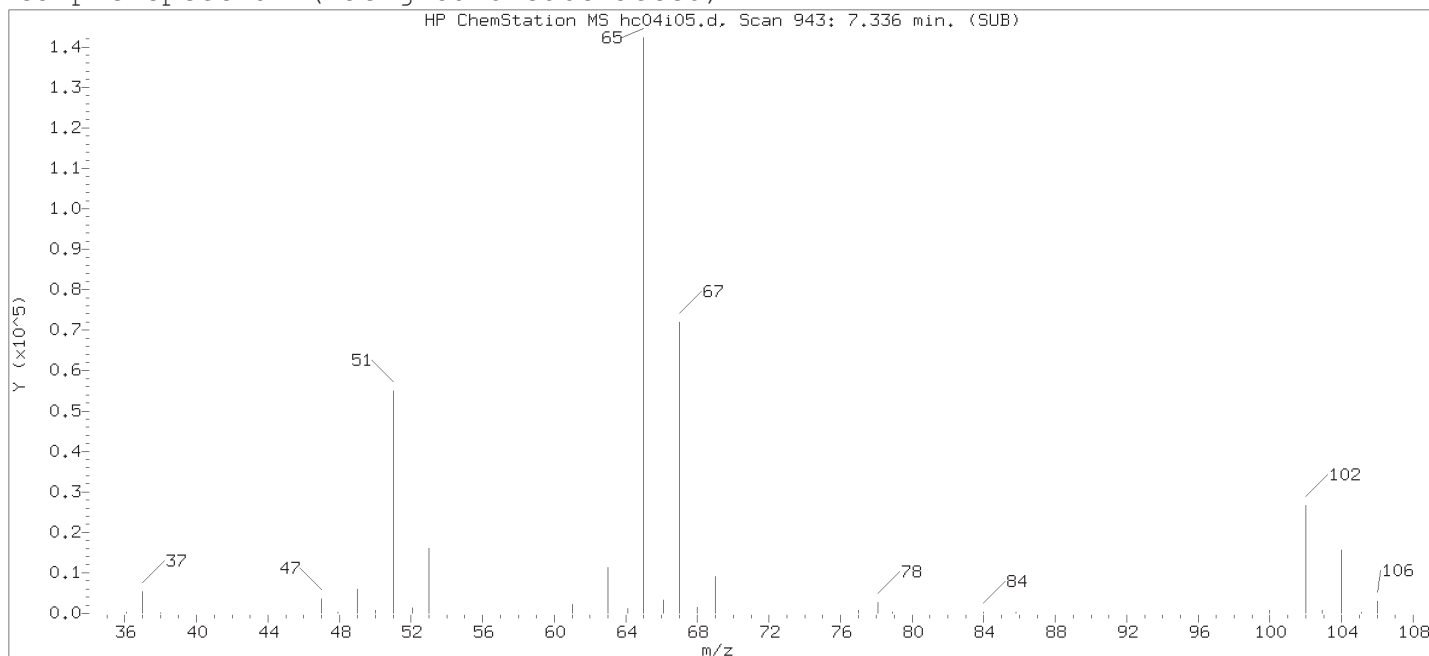
Reason for manual integration: improper integration

Analyst responsible for change:

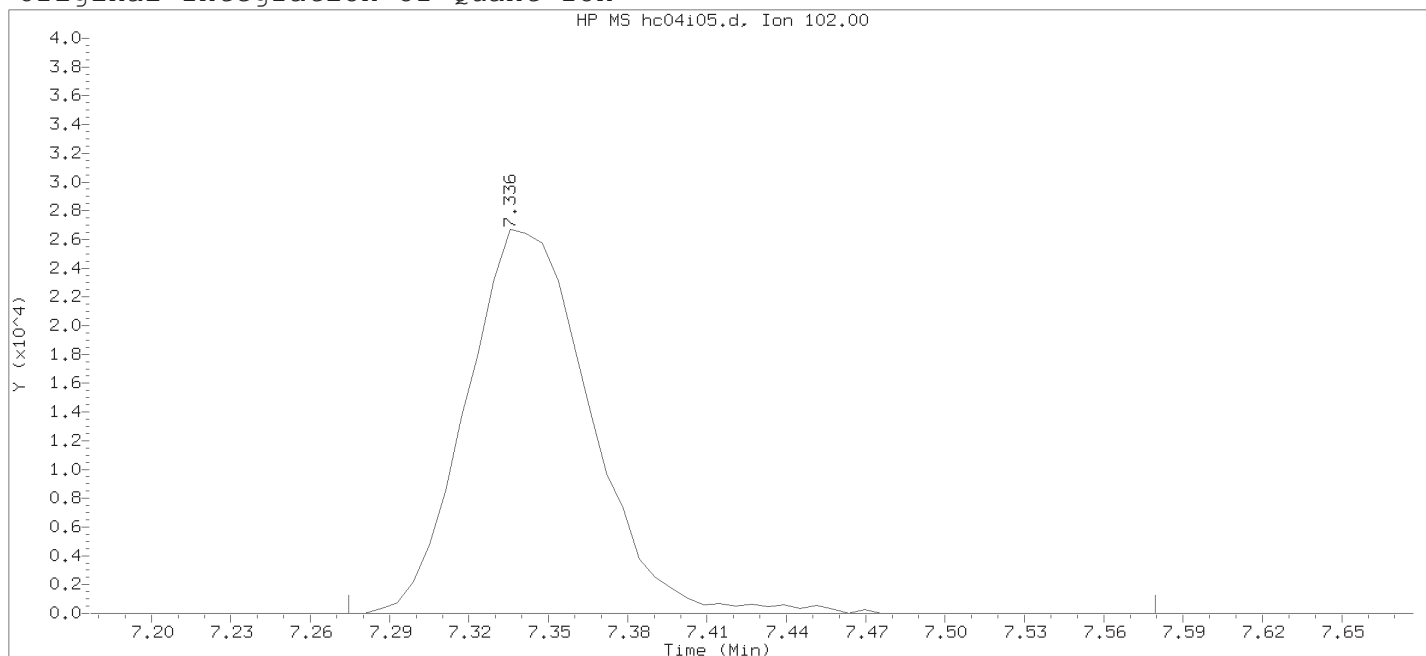
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:14

Date, time and analyst ID of latest file update: 04-Oct-2016 12:14 Automation

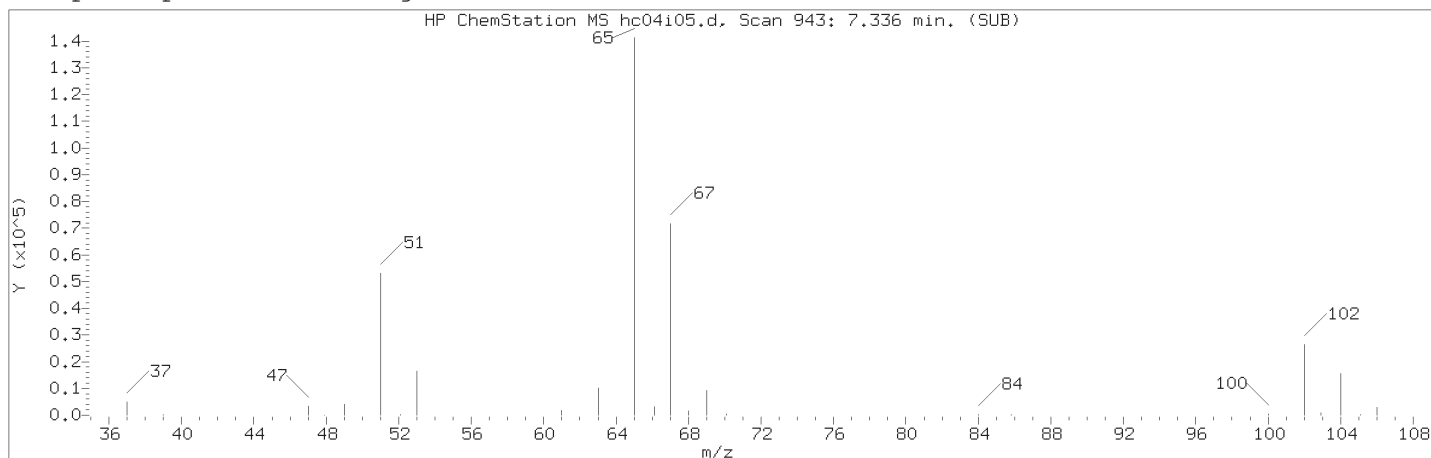
Sample Name: VSTD001

Lab Sample ID: VSTD001

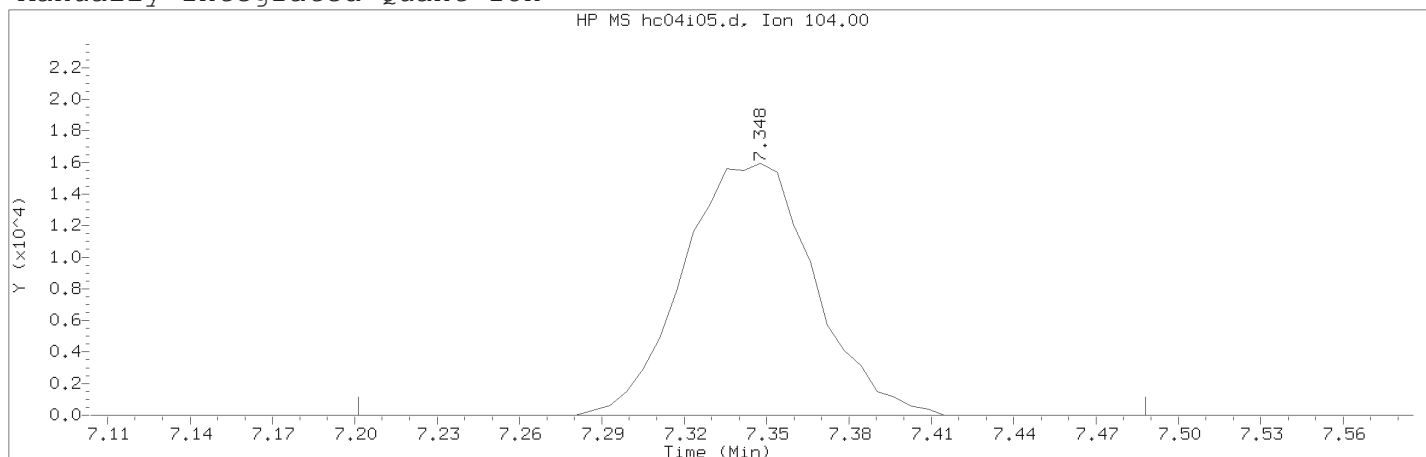
Compound Number : 57
 Compound Name : 1,2-Dichloroethane-d4
 Scan Number : 943
 Retention Time (minutes): 7.336
 Quant Ion : 102.00
 Area : 86642
 On-column Amount (ng) : 10.3858
 Integration start scan : 932
 Y at integration start : 0

Integration stop scan: 982
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number	: 57	
Compound Name	: 1,2-Dichloroethane-d4	
Scan Number	: 945	
Retention Time (minutes)	: 7.348	
Quant Ion	: 104.00	
Area (flag)	: 52559M	
On-Column Amount (ng)	: 9.8318	
Integration start scan	: 920	Integration stop scan: 967
Y at integration start	: 0	Y at integration end: 0

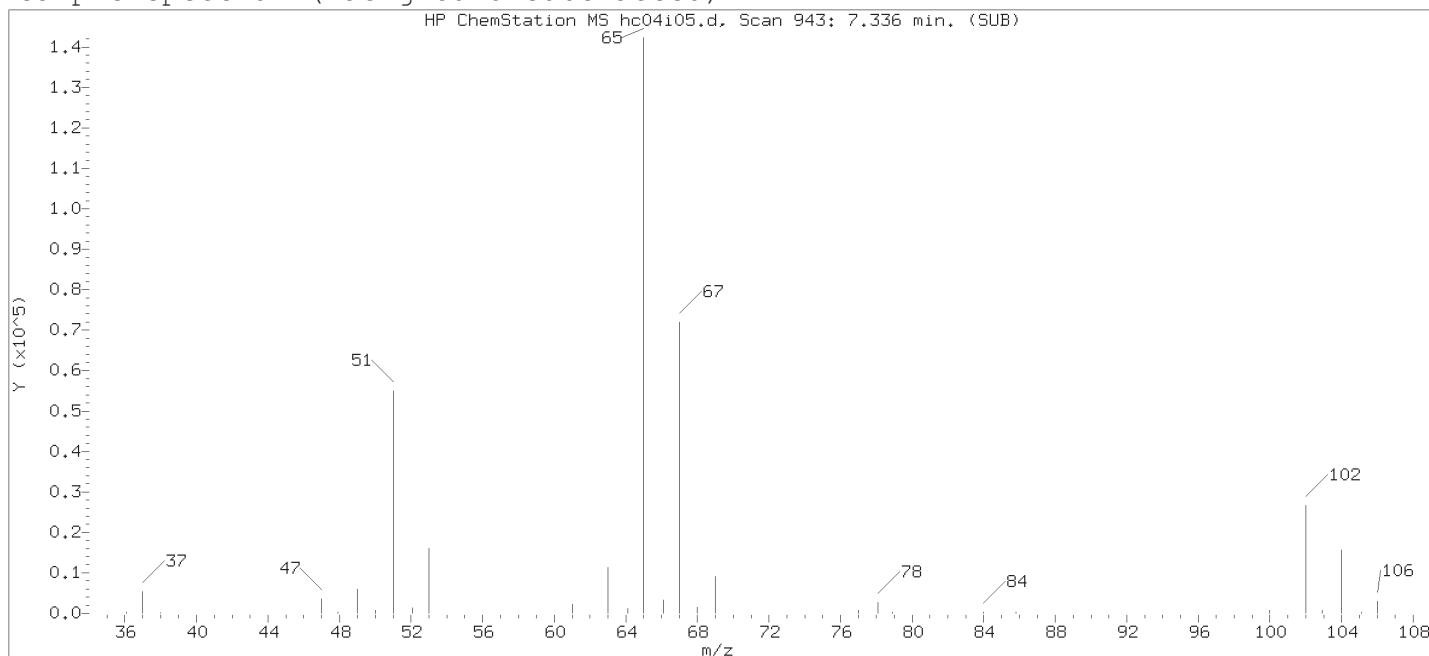
Reason for manual integration: improper integration

Analyst responsible for change:

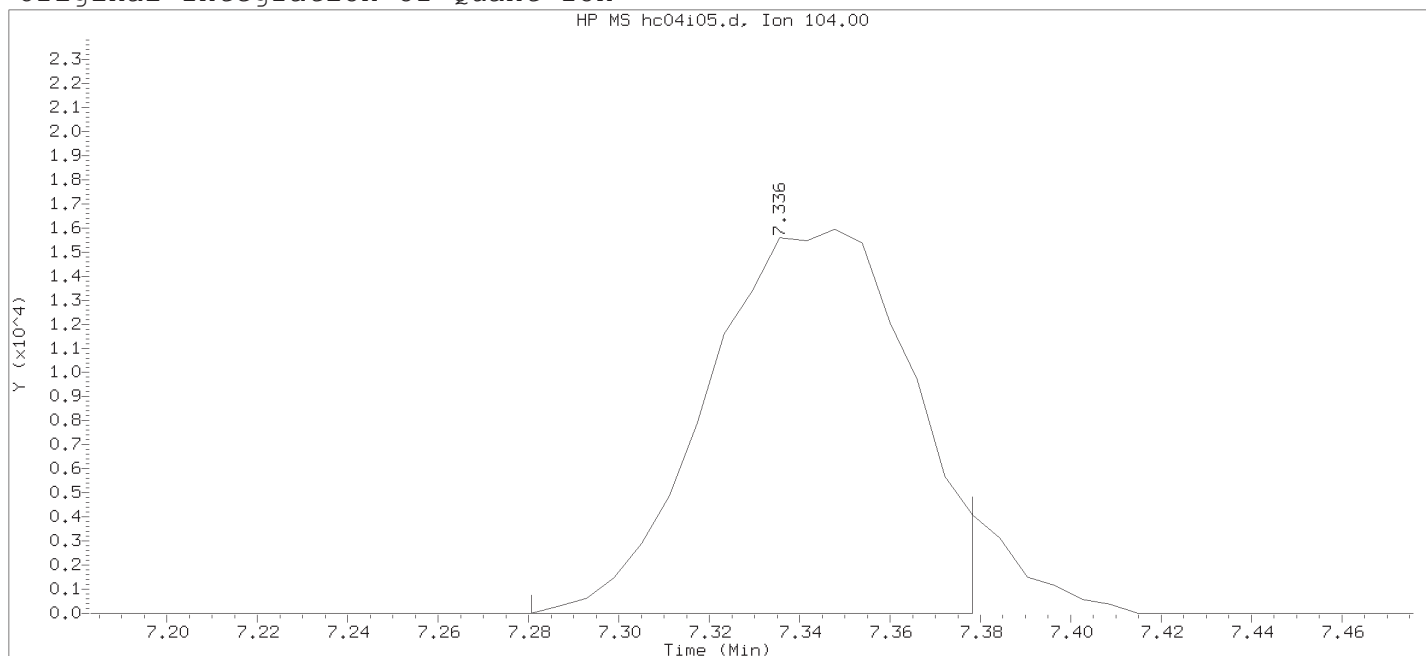
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:14

Date, time and analyst ID of latest file update: 04-Oct-2016 12:14 Automation

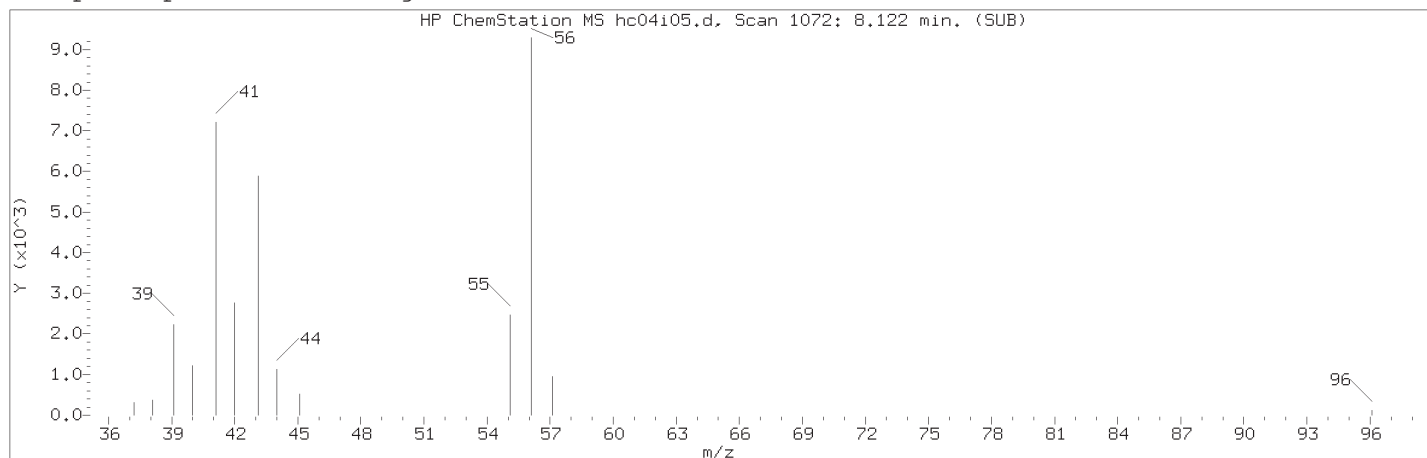
Sample Name: VSTD001

Lab Sample ID: VSTD001

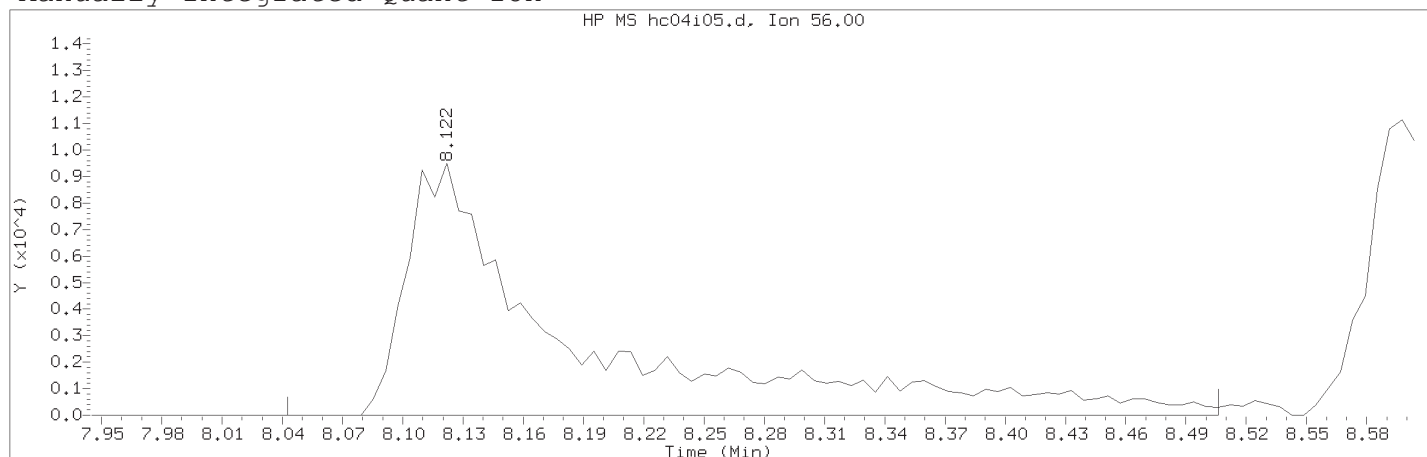
Compound Number : 57
 Compound Name : 1,2-Dichloroethane-d4
 Scan Number : 943
 Retention Time (minutes): 7.336
 Quant Ion : 104.00
 Area : 49350
 On-column Amount (ng) : 9.5614
 Integration start scan : 933
 Y at integration start : 0

Integration stop scan: 949
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number	: 65	
Compound Name	: n-Butanol	
Scan Number	: 1072	
Retention Time (minutes)	: 8.122	
Quant Ion	: 56.00	
Area (flag)	: 53921M	
On-Column Amount (ng)	: 85.5648	
Integration start scan	: 1058	Integration stop scan: 1134
Y at integration start	: 0	Y at integration end: 0

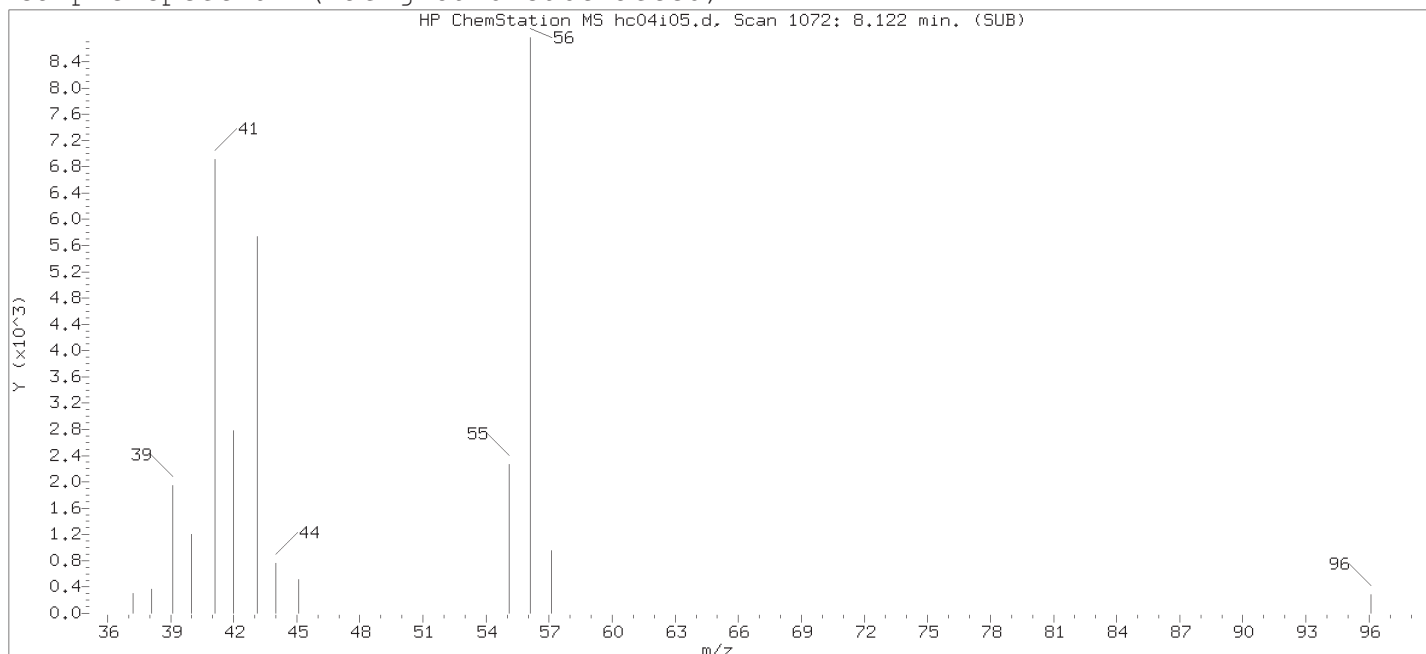
Reason for manual integration: improper integration

Analyst responsible for change:

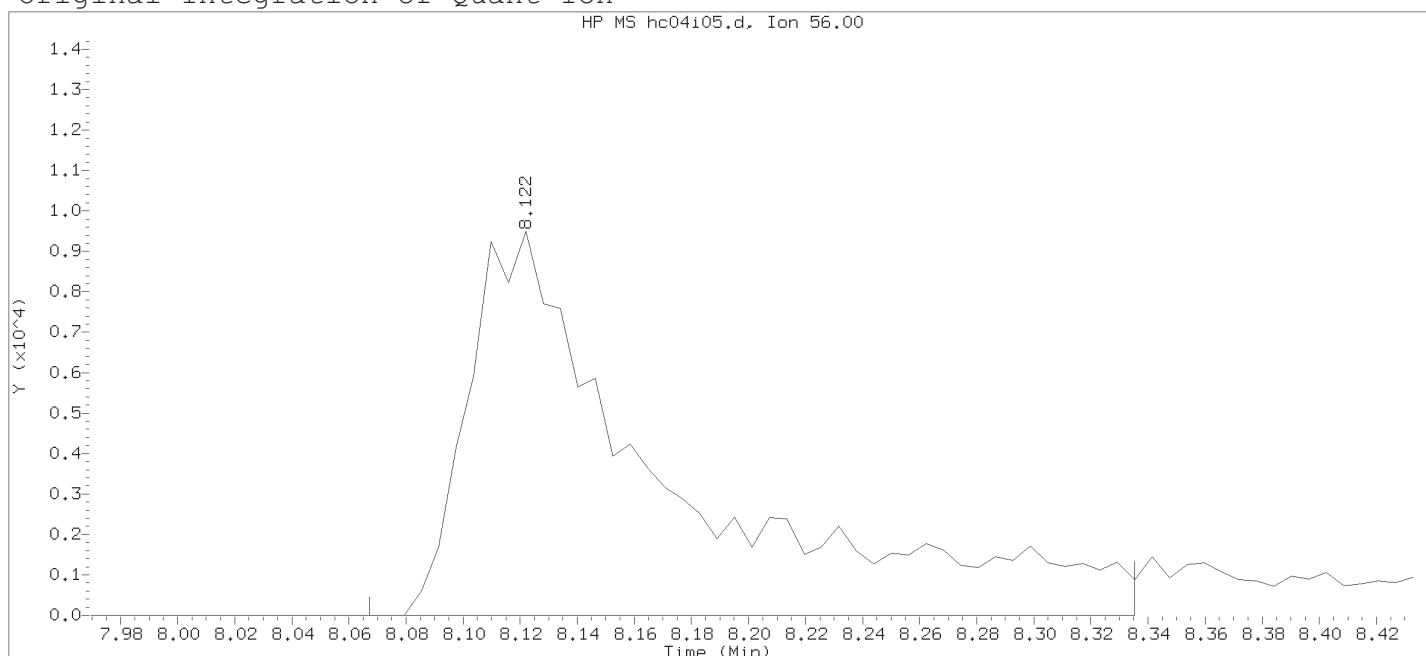
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:14

Date, time and analyst ID of latest file update: 04-Oct-2016 12:14 Automation

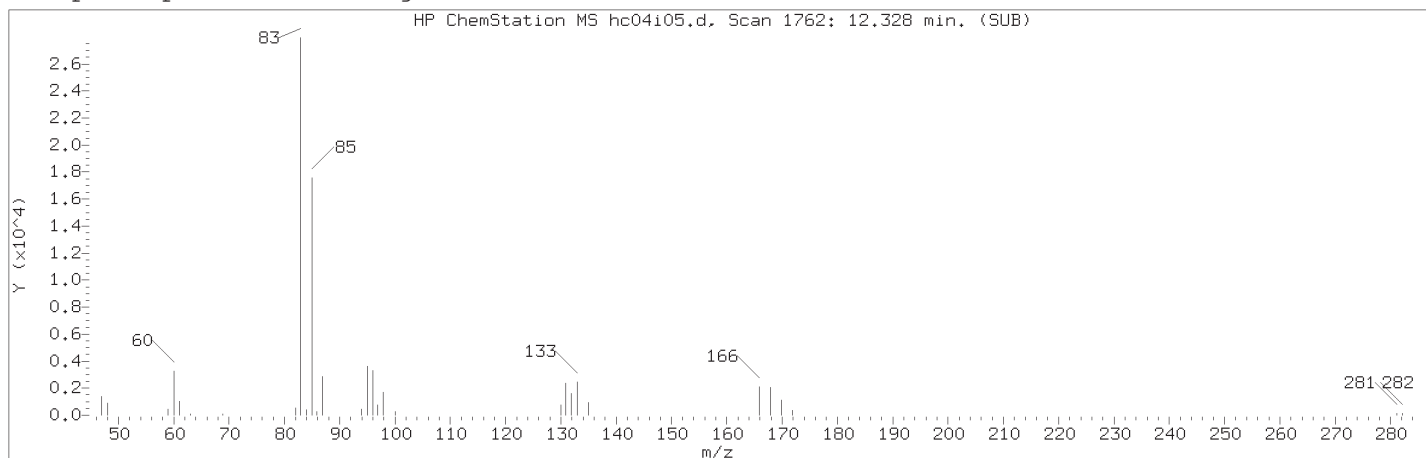
Sample Name: VSTD001

Lab Sample ID: VSTD001

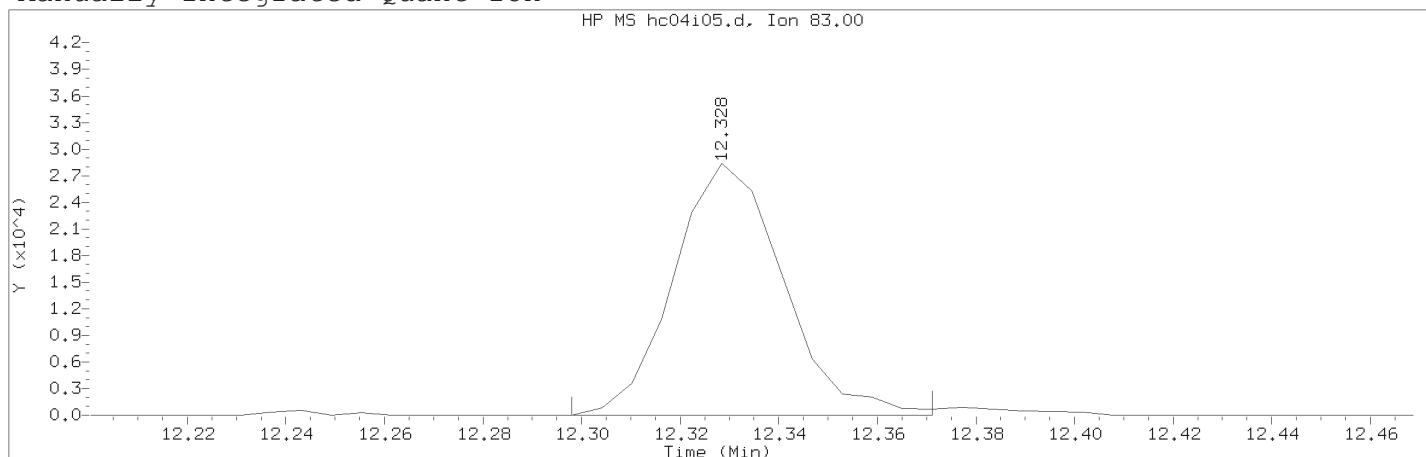
Compound Number : 65
 Compound Name : n-Butanol
 Scan Number : 1072
 Retention Time (minutes) : 8.122
 Quant Ion : 56.00
 Area : 45925
 On-column Amount (ng) : 85.7160
 Integration start scan : 1062
 Y at integration start : 0

Integration stop scan: 1106
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number	: 113	
Compound Name	: 1,1,2,2-Tetrachloroethane	
Scan Number	: 1762	
Retention Time (minutes)	: 12.328	
Quant Ion	: 83.00	
Area (flag)	: 43816M	
On-Column Amount (ng)	: 1.0465	
Integration start scan	: 1756	Integration stop scan: 1768
Y at integration start	: 0	Y at integration end: 0

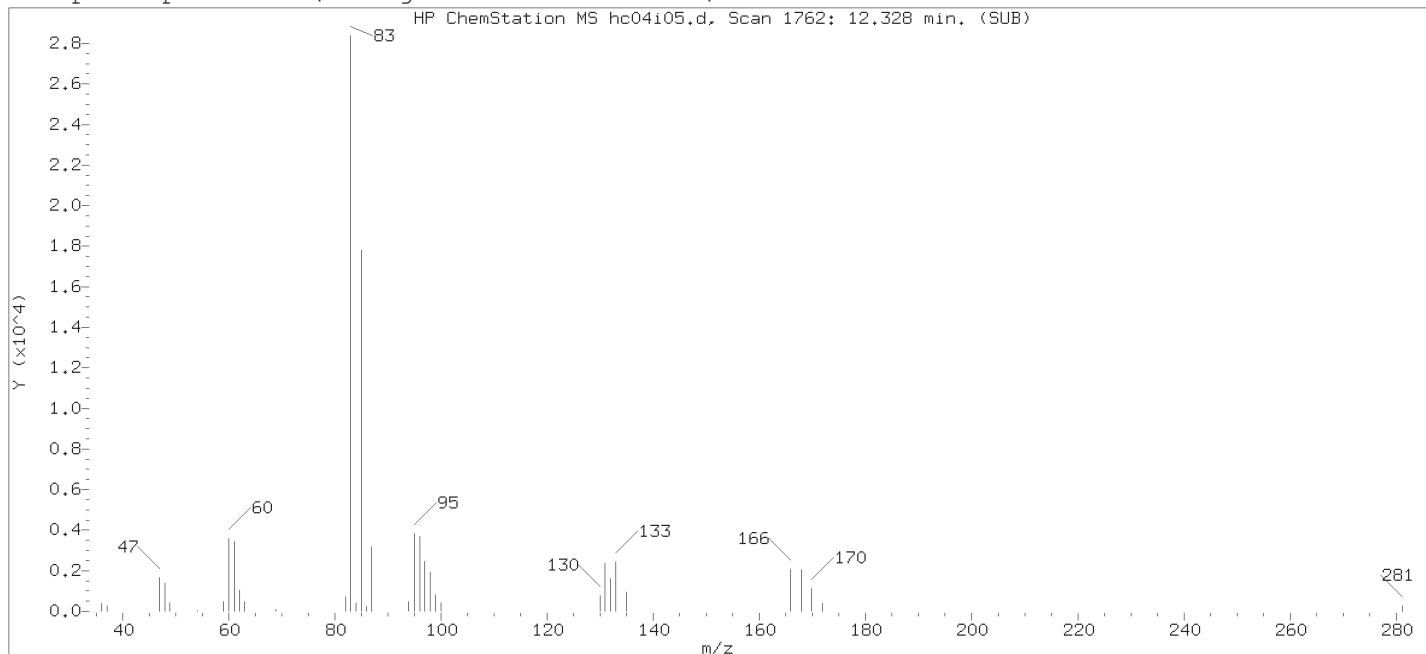
Reason for manual integration: improper integration

Analyst responsible for change:

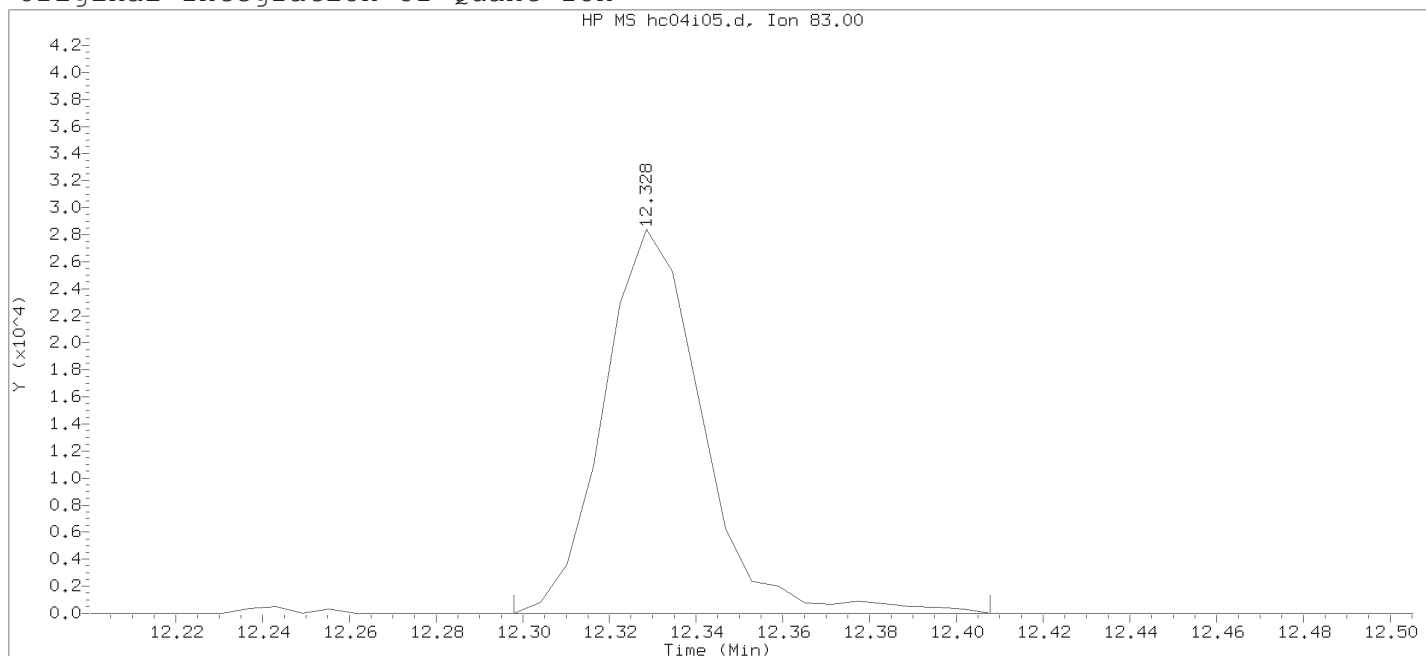
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:14

Date, time and analyst ID of latest file update: 04-Oct-2016 12:14 Automation

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number : 113

Compound Name : 1,1,2,2-Tetrachloroethane

Scan Number : 1762

Retention Time (minutes) : 12.328

Quant Ion : 83.00

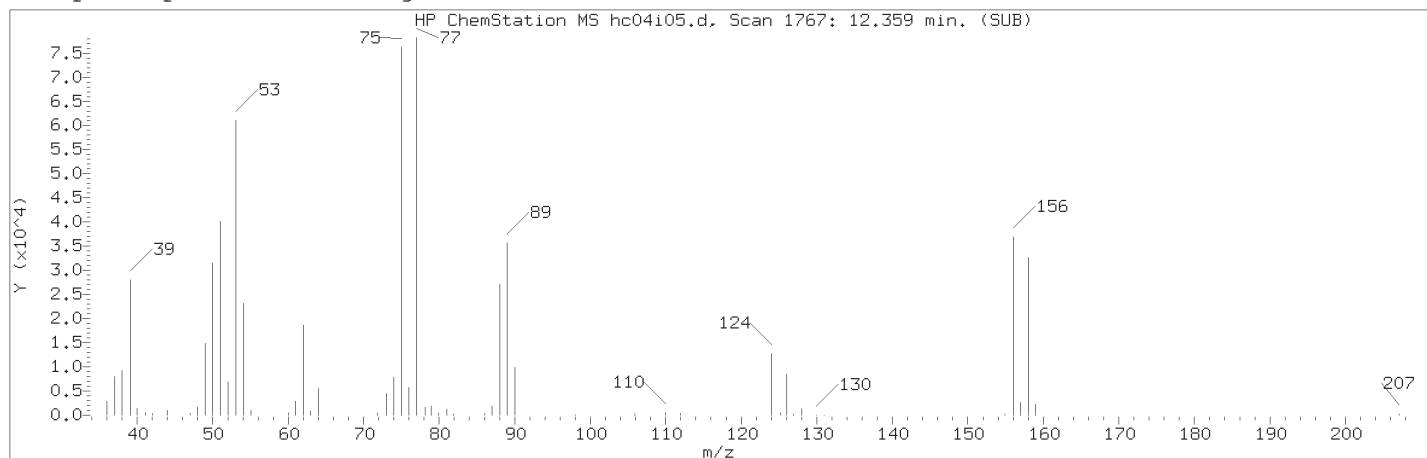
Area : 44840

On-column Amount (ng) : 1.0308

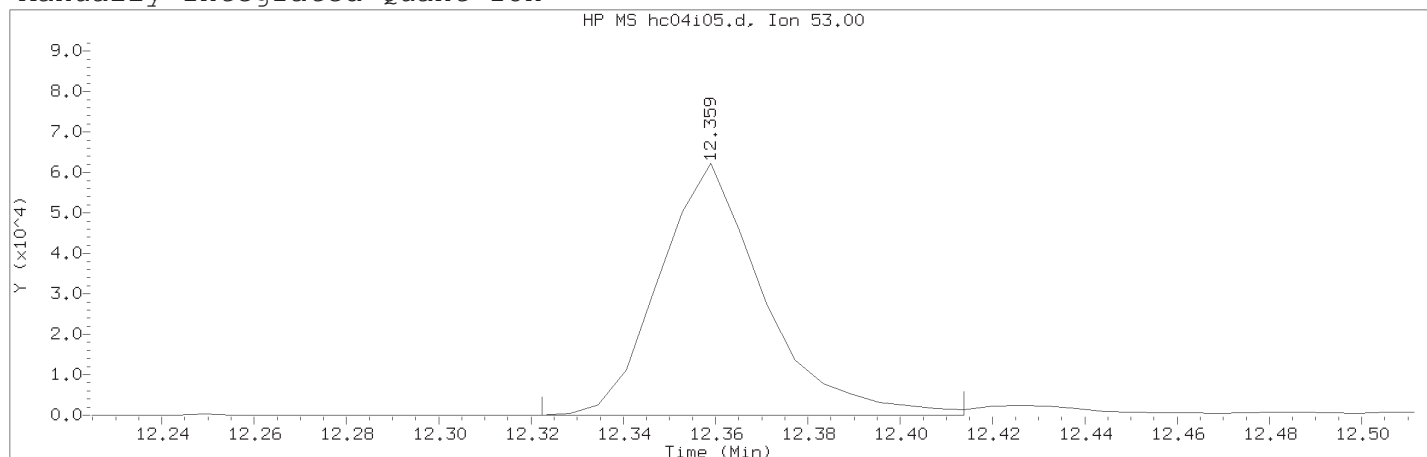
Integration start scan : 1756 Integration stop scan: 1774

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number	: 115	
Compound Name	: trans-1,4-Dichloro-2-butene	
Scan Number	: 1767	
Retention Time (minutes)	: 12.359	
Quant Ion	: 53.00	
Area (flag)	: 97320A	
On-Column Amount (ng)	: 8.5990	
Integration start scan	: 1760	Integration stop scan: 1775
Y at integration start	: 0	Y at integration end: 0

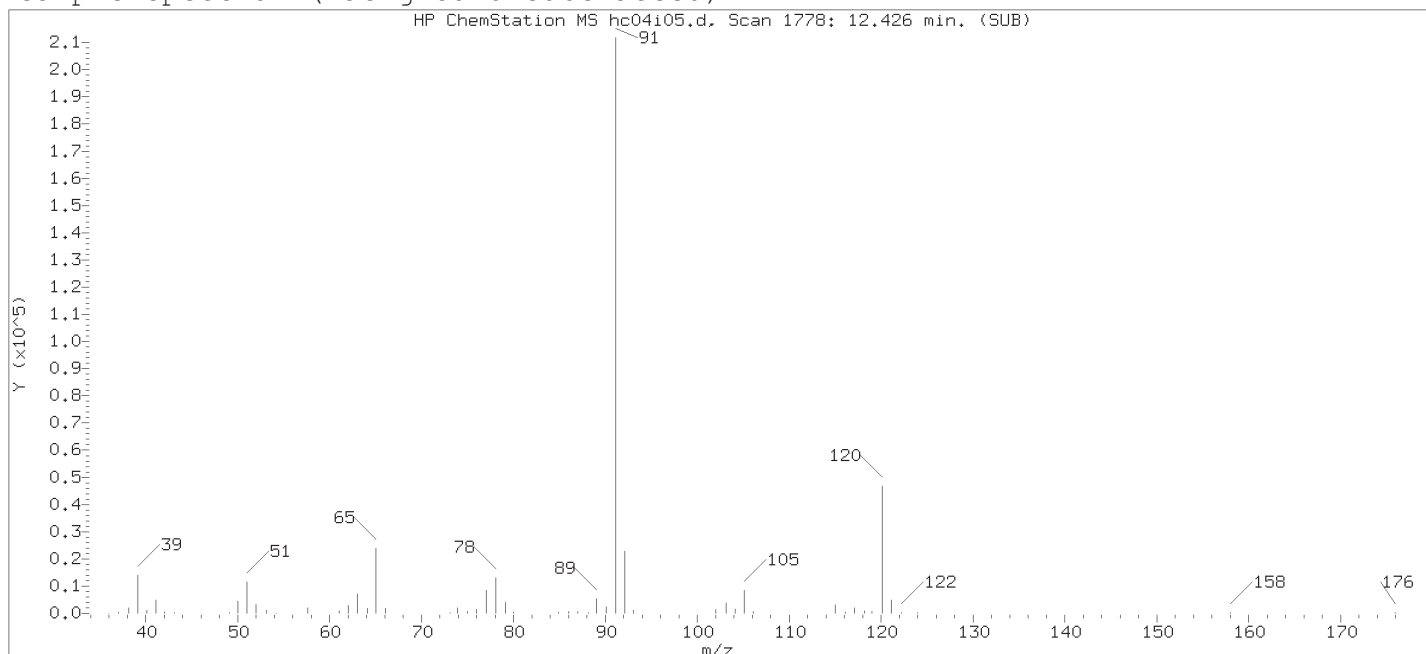
Reason for manual integration: improper integration

Analyst responsible for change:

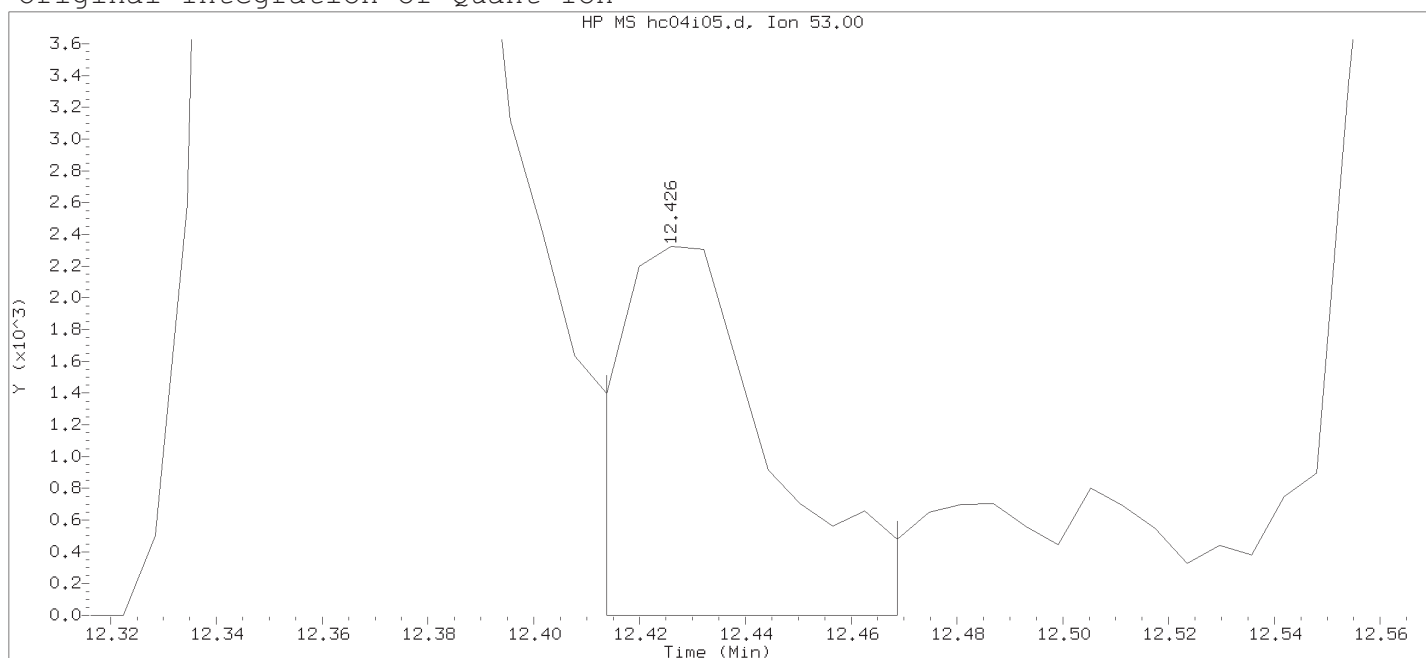
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:14

Date, time and analyst ID of latest file update: 04-Oct-2016 12:14 Automation

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number : 115

Compound Name : trans-1,4-Dichloro-2-butene

Scan Number : 1778

Retention Time (minutes): 12.426

Quant Ion : 53.00

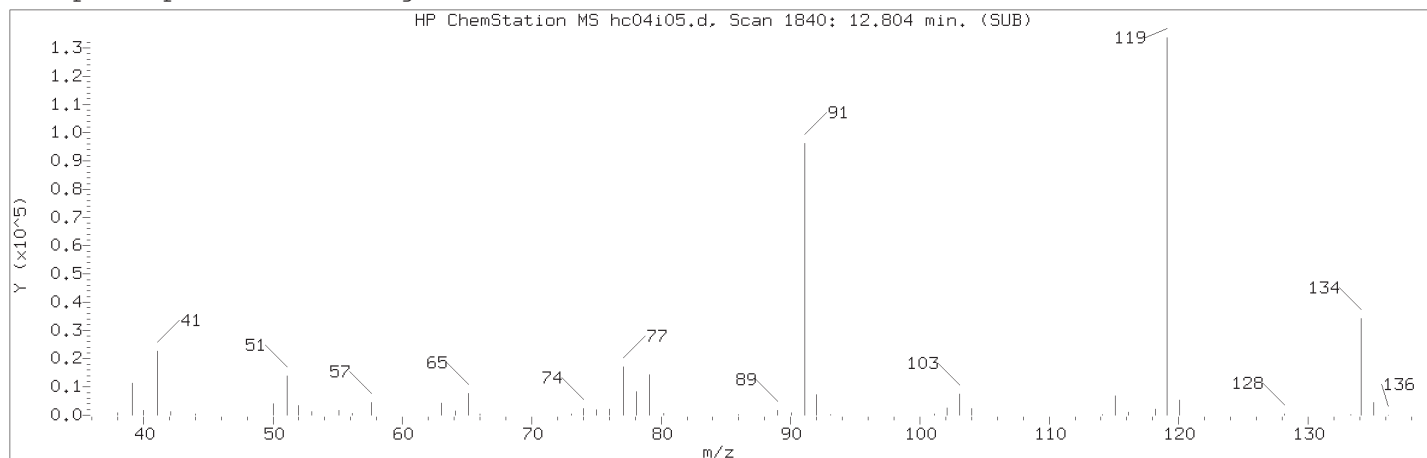
Area : 4468

On-column Amount (ng) : 1.3996

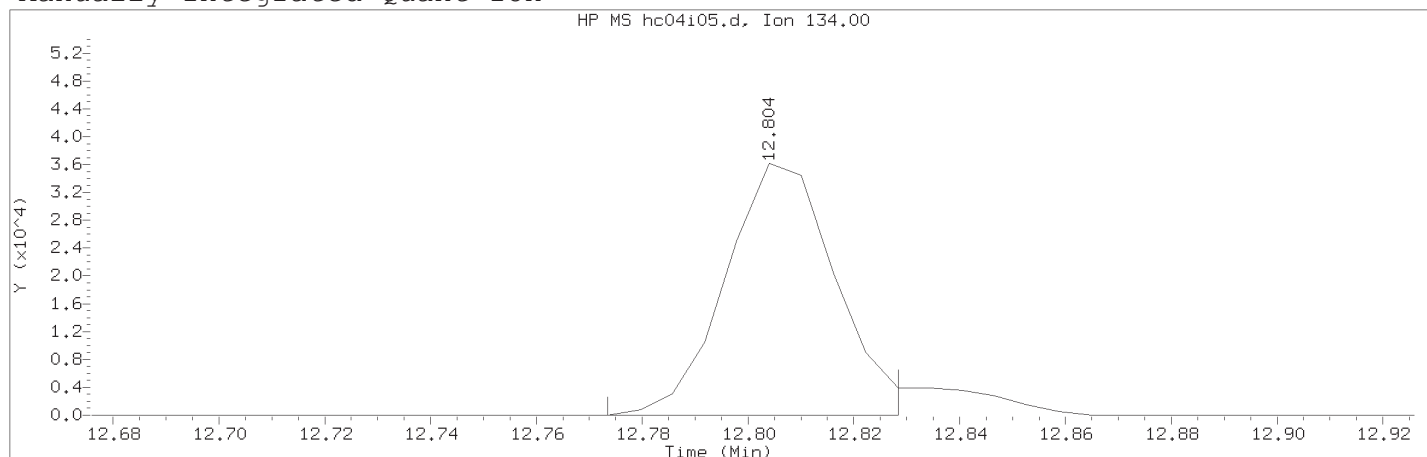
Integration start scan : 1775 Integration stop scan: 1784

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number	: 125	
Compound Name	: tert-Butylbenzene	
Scan Number	: 1840	
Retention Time (minutes)	: 12.804	
Quant Ion	: 134.00	
Area (flag)	: 52401M	
On-Column Amount (ng)	: 0.9755	
Integration start scan	: 1834	Integration stop scan: 1843
Y at integration start	: 0	Y at integration end: 0

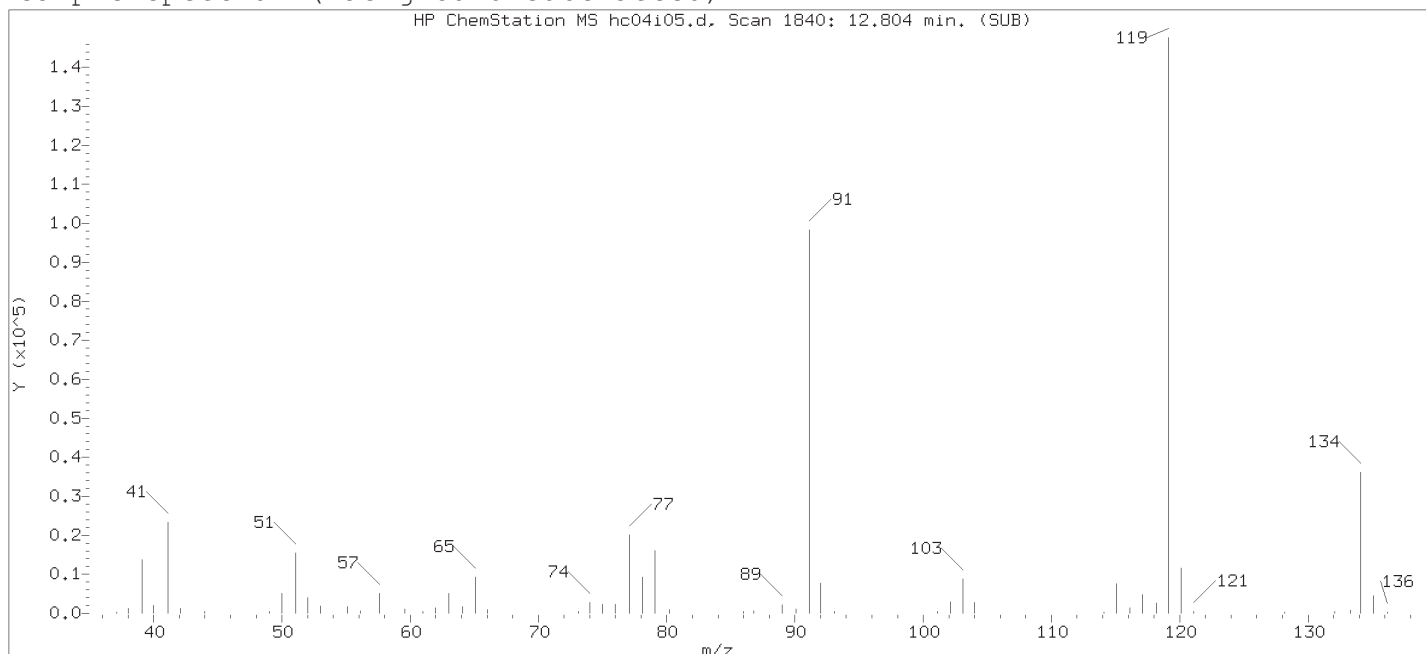
Reason for manual integration: improper integration

Analyst responsible for change:

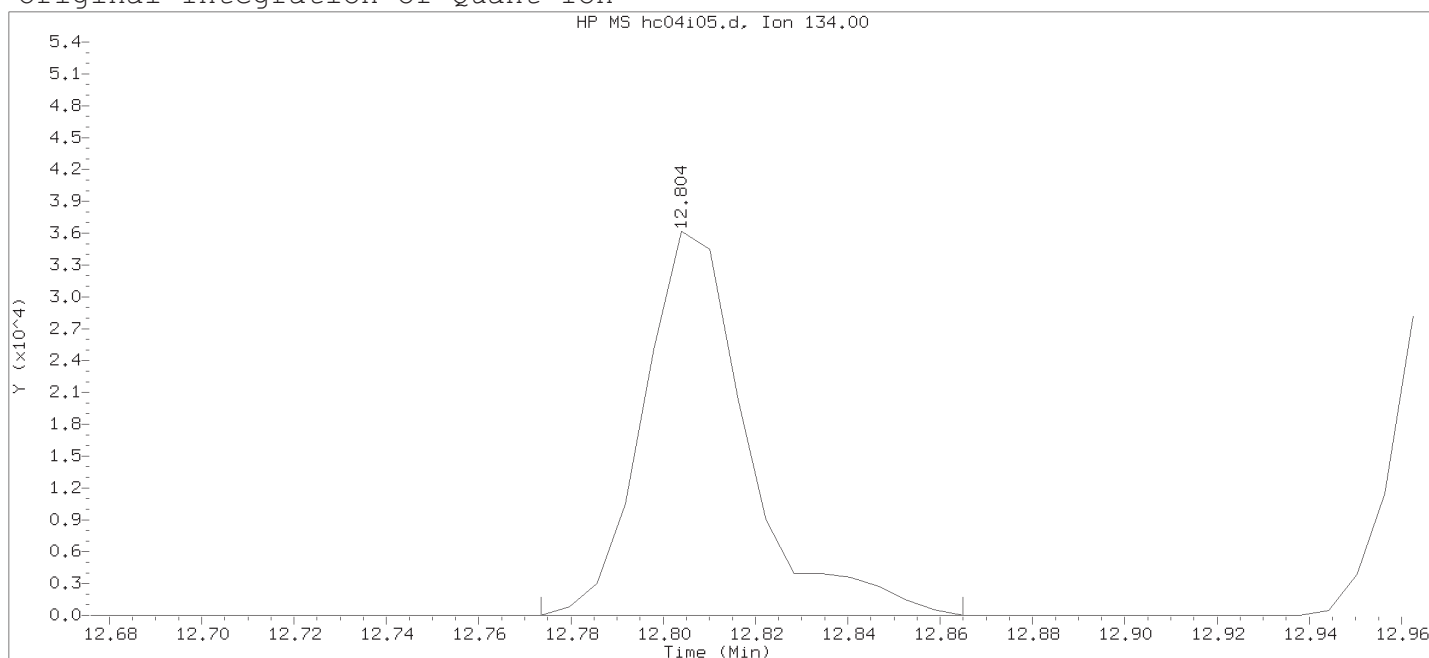
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:14

Date, time and analyst ID of latest file update: 04-Oct-2016 12:14 Automation

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number : 125

Compound Name : tert-Butylbenzene

Scan Number : 1840

Retention Time (minutes): 12.804

Quant Ion : 134.00

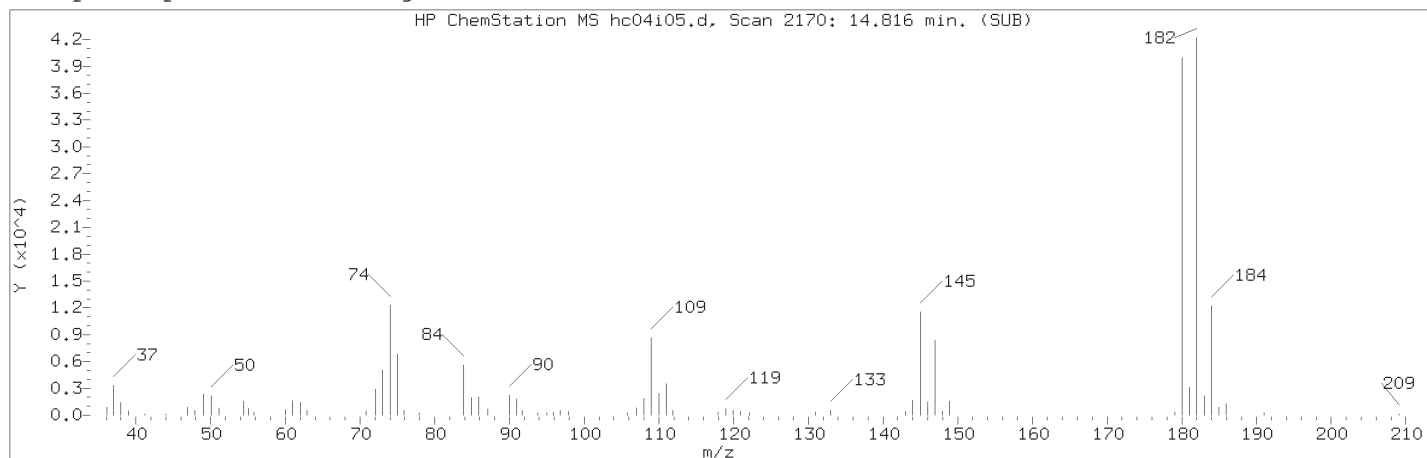
Area : 56879

On-column Amount (ng) : 0.9839

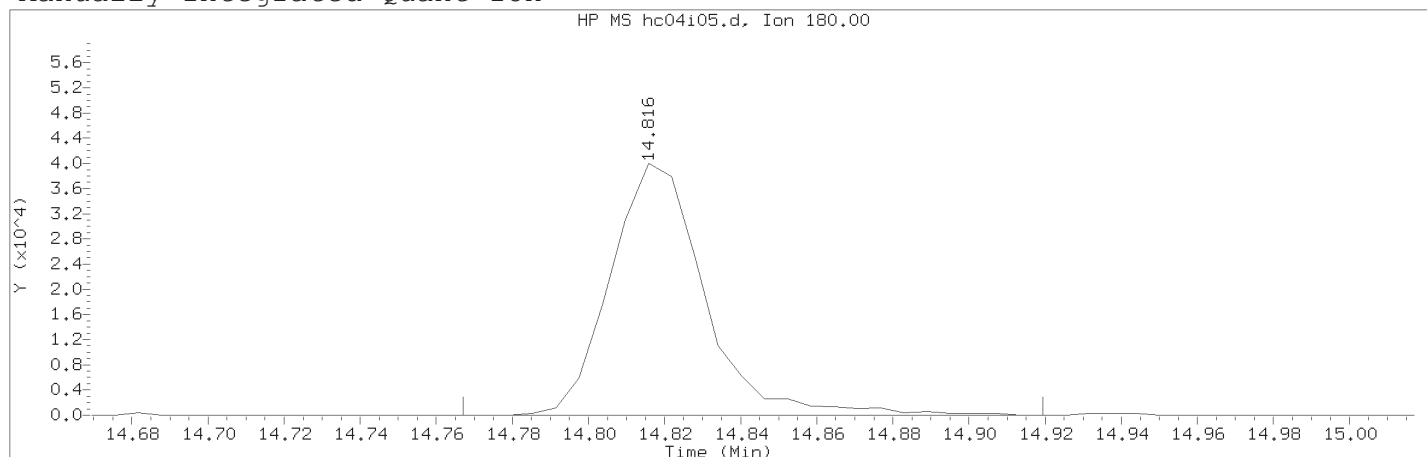
Integration start scan : 1834 Integration stop scan: 1849

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number	: 148	
Compound Name	: 1,2,3-Trichlorobenzene	
Scan Number	: 2170	
Retention Time (minutes)	: 14.816	
Quant Ion	: 180.00	
Area (flag)	: 68713M	
On-Column Amount (ng)	: 0.9810	
Integration start scan	: 2161	Integration stop scan: 2186
Y at integration start	: 0	Y at integration end: 0

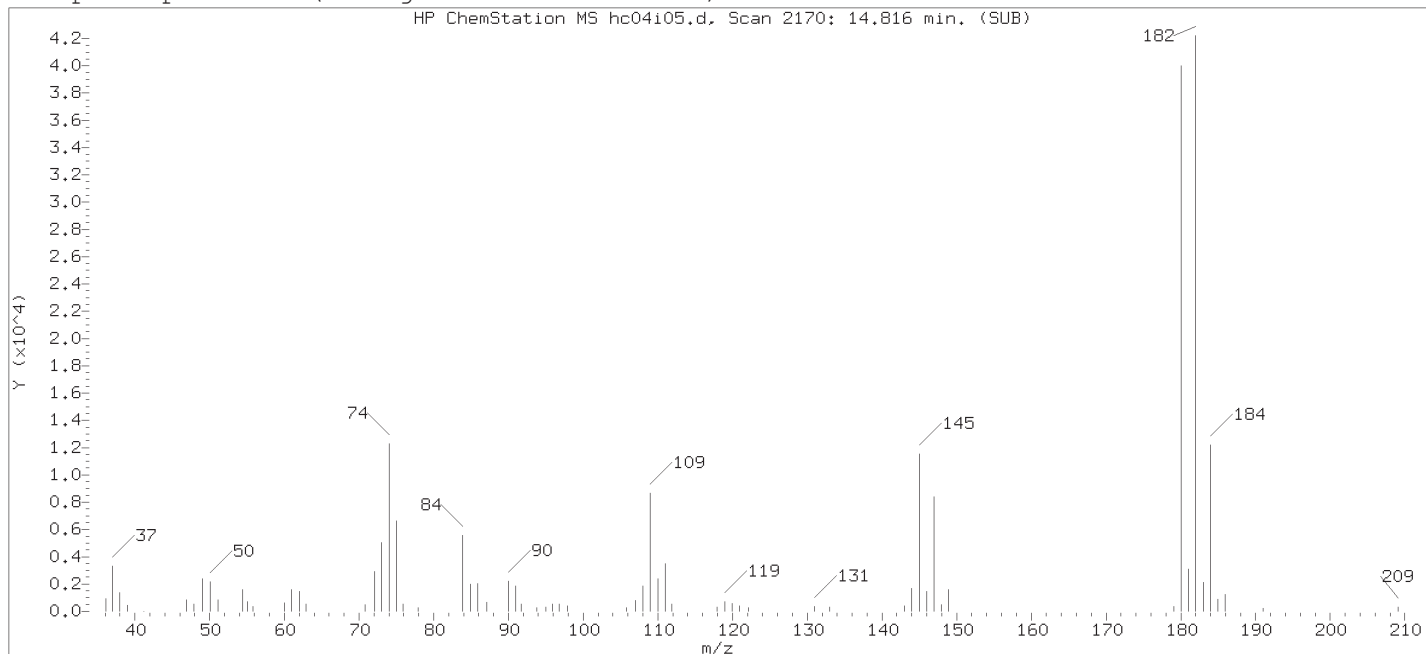
Reason for manual integration: improper integration

Analyst responsible for change:

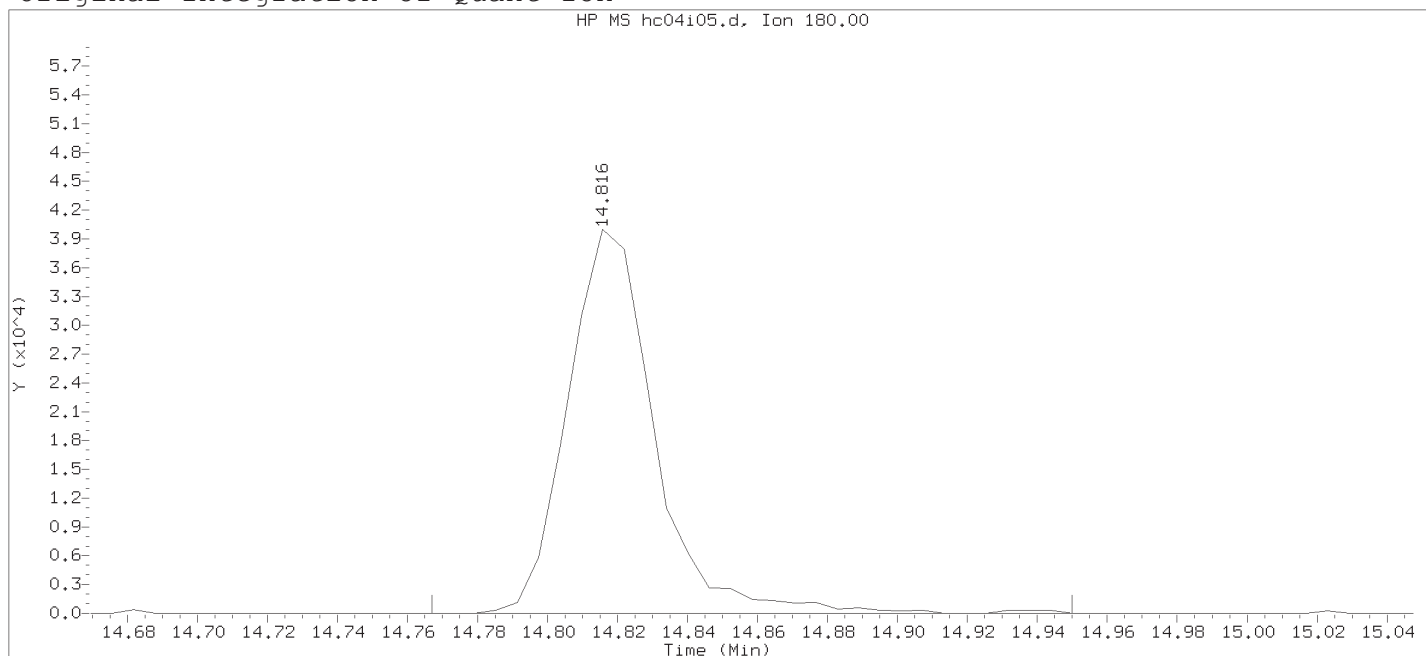
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:14

Date, time and analyst ID of latest file update: 04-Oct-2016 12:14 Automation

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number : 148

Compound Name : 1,2,3-Trichlorobenzene

Scan Number : 2170

Retention Time (minutes): 14.816

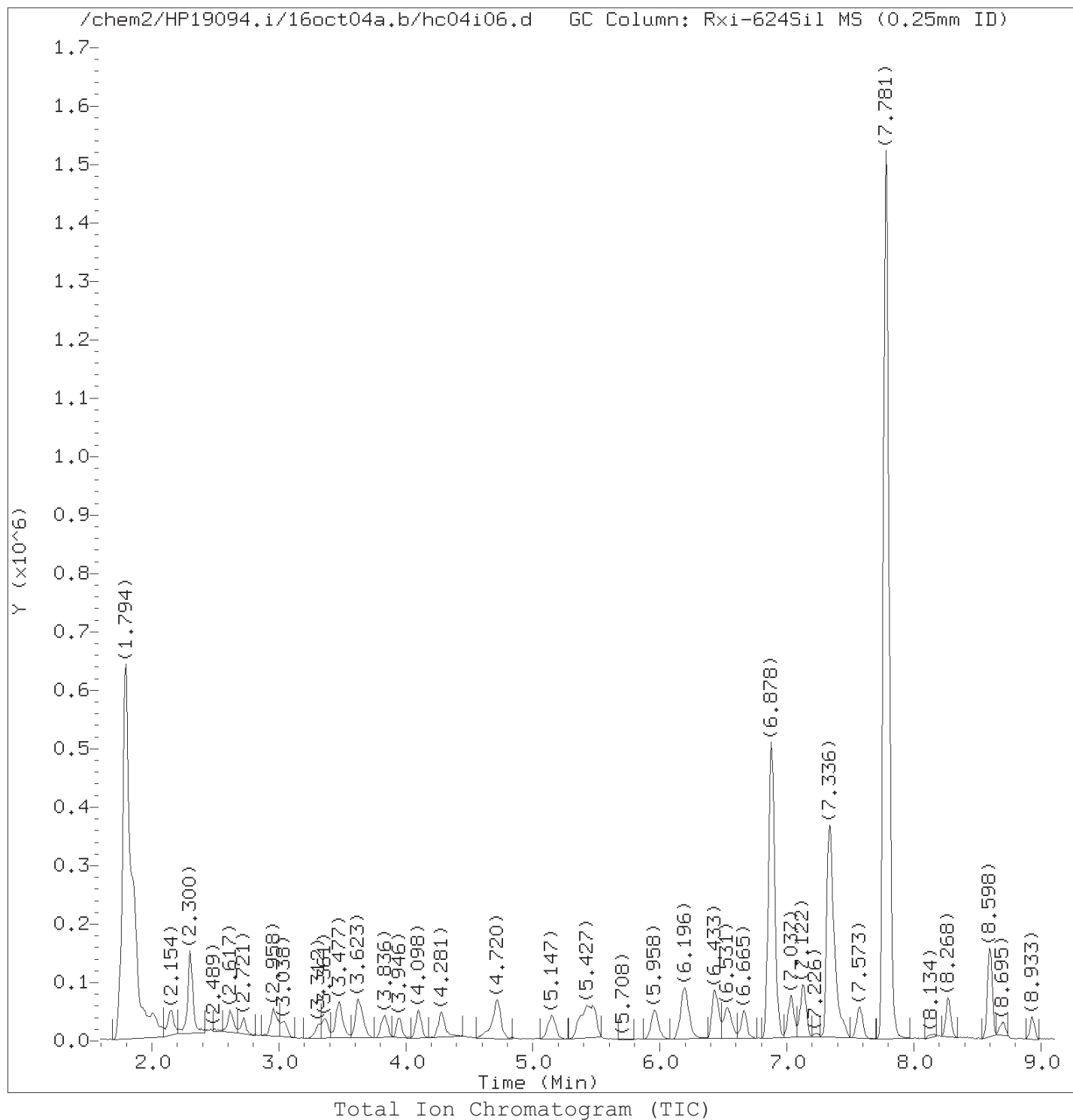
Quant Ion : 180.00

Area : 69056

On-column Amount (ng) : 1.0213

Integration start scan : 2161 Integration stop scan: 2191

Y at integration start : 0 Y at integration end: 0



Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d
Injection date and time: 04-OCT-2016 12:15

Instrument ID: HP19094.i
Analyst ID: kel01973

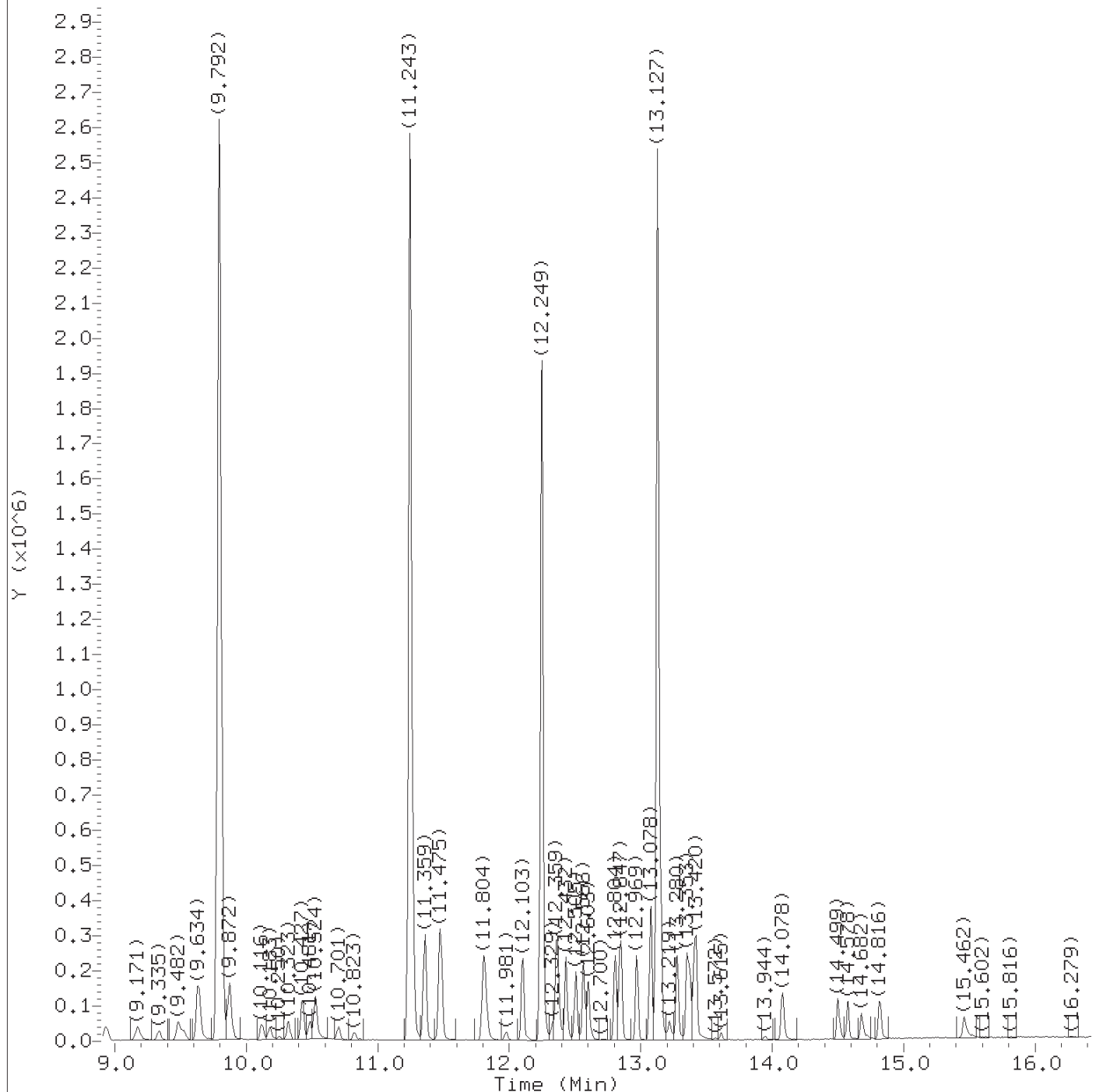
Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:29
Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

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Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d
Injection date and time: 04-OCT-2016 12:15

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:29
Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.

Target 3.5 esignature User ID: kel01973
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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d
 Injection date and time: 04-OCT-2016 12:15

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:29
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.001	85	48558	0.546
2) Chloromethane	(2)	2.148	50	54403	0.572
5) Vinyl Chloride	(2)	2.294	62	47314	0.558
6) 1,3-Butadiene	(2)	2.300	39	74548M	0.573
7) Bromomethane	(2)	2.617	94	31797	0.584
8) Chloroethane	(2)	2.727	64	27441	0.572
9) Dichlorofluoromethane	(2)	2.958	67	64866	0.566
10) Trichlorofluoromethane	(2)	3.038	101	57165	0.555
11) Ethyl ether	(2)	3.312	59	20014	0.527
12) Freon 123a	(2)	3.355	67	40577	0.568
13) Acrolein	(1)	3.477	56	114771	26.923
15) 1,1-Dichloroethene	(2)	3.623	96	26249	0.547
16) Freon 113	(2)	3.660	101	26837	0.512
14) Acetone	(1)	3.660	43	29357	5.144
17) Methyl Iodide	(2)	3.824	142	48522	0.529
18) Carbon Disulfide	(2)	3.946	76	77950	0.536
21) Methyl Acetate	(1)	4.086	43	12607	0.682
22) Allyl Chloride	(2)	4.098	41	56847	0.544
23) Methylene Chloride	(2)	4.281	84	28277	0.549
26)*t-Butyl Alcohol-d10	(1)	4.294	65	59277M	50.000
28) t-Butyl Alcohol	(1)	4.415	59	14332	9.102
29) Acrylonitrile	(1)	4.617	53	14916	2.221
30) Methyl Tertiary Butyl Ether	(2)	4.696	73	58877	0.526
31) trans-1,2-Dichloroethene	(2)	4.720	96	28485	0.524
32) n-Hexane	(2)	5.159	57	41949	0.506
33) 1,1-Dichloroethane	(2)	5.367	63	57858	0.540
34) di-Isopropyl Ether	(2)	5.427	45	101644	0.529
35) 2-Chloro-1,3-Butadiene	(2)	5.482	53	52648	0.531
37) Ethyl t-butyl ether	(2)	5.958	59	80852	0.519
40) 1,2-Dichloroethene (Total)	(2)		96	59531	1.044
38) 2-Butanone	(1)	6.165	43	53210	5.269
39) cis-1,2-Dichloroethene	(2)	6.183	96	31046	0.521
41) 2,2-Dichloropropane	(2)	6.208	77	45114	0.519
42) Propionitrile	(1)	6.238	54	20448	9.180
45) Methacrylonitrile	(1)	6.427	67	54742	5.756
47) Bromochloromethane	(2)	6.525	128	12232	0.512
48) Tetrahydrofuran	(1)	6.549	71	13804	5.303
49) Chloroform	(2)	6.665	83	55172	0.533

M = Compound was manually integrated.

* = Compound is an internal standard.

page 1 of 4

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Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d
 Injection date and time: 04-OCT-2016 12:15

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:29
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
50) \$Dibromofluoromethane	(2)	6.878	113	479342	9.988
50) \$Dibromofluoromethane	(2)	6.878	111	487670	9.938
51) 1,1,1-Trichloroethane	(2)	6.915	97	50602	0.543
52) Cyclohexane	(2)	7.031	56	63166	0.578
52) Cyclohexane	(2)	7.037	84	51177	0.567
52) Cyclohexane	(2)	7.025	69	16105	0.522
55) 1,1-Dichloropropene	(2)	7.128	75	43958	0.522
54) Carbon Tetrachloride	(2)	7.134	117	41886	0.521
56) Isobutyl Alcohol	(1)	7.214	41	15299	25.088
57) \$1,2-Dichloroethane-d4	(2)	7.336	102	78575	10.192
57) \$1,2-Dichloroethane-d4	(2)	7.336	65	441007	10.391
57) \$1,2-Dichloroethane-d4	(2)	7.342	104	51199	10.379
58) Benzene	(2)	7.384	78	117532	0.524
59) 1,2-Dichloroethane	(2)	7.439	62	33212	0.531
60) t-Amyl methyl ether	(2)	7.573	73	62900	0.498
63) *Fluorobenzene	(2)	7.781	96	2092367	10.000
62) n-Heptane	(2)	7.817	43	51269	0.514
65) n-Butanol	(1)	8.134	56	22910M	51.437
67) Trichloroethene	(2)	8.274	95	32449	0.528
70) 1,2-Dichloropropane	(2)	8.591	63	30041	0.526
69) Methylcyclohexane	(2)	8.598	83	52709	0.491
71) Methyl Methacrylate	(1)	8.677	69	9506	0.543
73) Dibromomethane	(2)	8.707	93	13038	0.545
72) 1,4-Dioxane	(1)	8.720	88	1716	16.907
74) Bromodichloromethane	(2)	8.933	83	34304	0.524
76) 2-Nitropropane	(1)	9.171	41	35796	5.527
80) cis-1,3-Dichloropropene	(2)	9.488	75	36906	0.497
81) 4-Methyl-2-Pentanone	(1)	9.634	43	154898	5.739
82) \$Toluene-d8	(3)	9.792	98	2054352	10.193
82) \$Toluene-d8	(3)	9.792	100	1308863	10.099
83) Toluene	(3)	9.872	92	72855	0.526
84) trans-1,3-Dichloropropene	(3)	10.116	75	28971	0.515
85) 1,3-Dichloropropene (total)	(3)		75	65877	1.012
86) Ethyl Methacrylate	(3)	10.177	69	21763	0.502
88) 1,1,2-Trichloroethane	(3)	10.323	97	17302	0.543
89) Tetrachloroethene	(3)	10.427	166	36536	0.551
90) 1,3-Dichloropropane	(3)	10.487	76	30650	0.529
91) 2-Hexanone	(1)	10.524	43	108239	5.793

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/04/2016 at 15:34.
 Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d
 Injection date and time: 04-OCT-2016 12:15

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:29
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
93) Dibromochloromethane	(3)	10.701	129	19862	0.502
95) 1,2-Dibromoethane	(3)	10.823	107	16193	0.537
97) *Chlorobenzene-d5	(3)	11.243	117	1334284	10.000
98) Chlorobenzene	(3)	11.274	112	76967	0.522
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	26776	0.528
100) Ethylbenzene	(3)	11.359	91	144208	0.529
101) m+p-Xylene	(3)	11.475	106	107132	1.046
105) Xylene (Total)	(3)		106	158103	1.557
104) o-Xylene	(3)	11.804	106	50971	0.510
106) Styrene	(3)	11.823	104	77408	0.507
107) Bromoform	(3)	11.981	173	11627	0.537
108) Isopropylbenzene	(3)	12.103	105	141305	0.525
111) \$4-Bromofluorobenzene	(3)	12.249	95	588459	9.931
111) \$4-Bromofluorobenzene	(3)	12.249	174	529217	9.980
113) 1,1,2,2-Tetrachloroethane	(4)	12.329	83	19656	0.528
115) trans-1,4-Dichloro-2-butene	(1)	12.359	53	46127	5.767
114) Bromobenzene	(4)	12.365	156	32673	0.544
116) 1,2,3-Trichloropropane	(4)	12.383	110	5293	0.532
117) n-Propylbenzene	(4)	12.432	91	166016	0.522
119) 2-Chlorotoluene	(4)	12.505	126	32078	0.533
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	117015	0.534
122) 4-Chlorotoluene	(4)	12.603	126	32420	0.527
125) tert-Butylbenzene	(4)	12.804	134	24181M	0.506
126) Pentachloroethane	(4)	12.841	167	18718	0.506
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	114549	0.518
128) sec-Butylbenzene	(4)	12.969	105	148227	0.516
131) 1,3-Dichlorobenzene	(4)	13.072	146	59839	0.512
132) p-Isopropyltoluene	(4)	13.078	119	121955	0.509
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	602014	10.000
134) 1,4-Dichlorobenzene	(4)	13.145	146	66695	0.549
135) 1,2,3-Trimethylbenzene	(4)	13.152	120	51934	0.543
136) Benzyl Chloride	(4)	13.219	126	5587	0.441
138) n-Butylbenzene	(4)	13.371	92	54740	0.476
139) 1,2-Dichlorobenzene	(4)	13.402	146	54818	0.528
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	2172	0.553
145) 1,2,4-Trichlorobenzene	(4)	14.499	180	40509	0.547
146) Hexachlorobutadiene	(4)	14.578	225	18466	0.525
147) Naphthalene	(4)	14.682	128	63169M	0.562

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/04/2016 at 15:34.

Target 3.5 esignature user ID: kel01973

RAE73 Page 236 of 346

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 12:15 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:29
Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.5

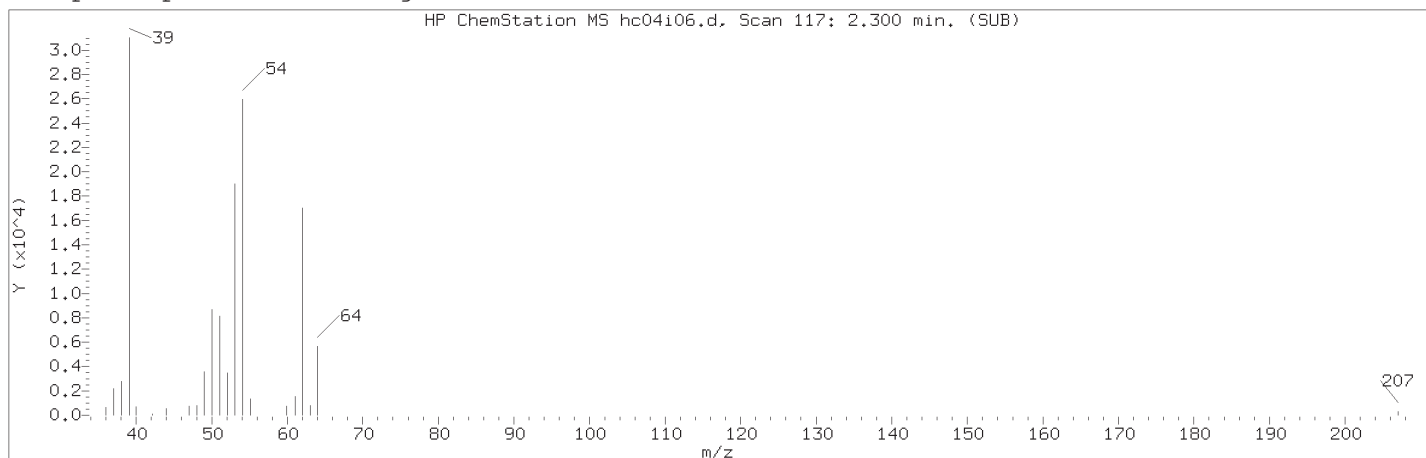
Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
148) 1,2,3-Trichlorobenzene	(4)	14.822	180	35657	0.572

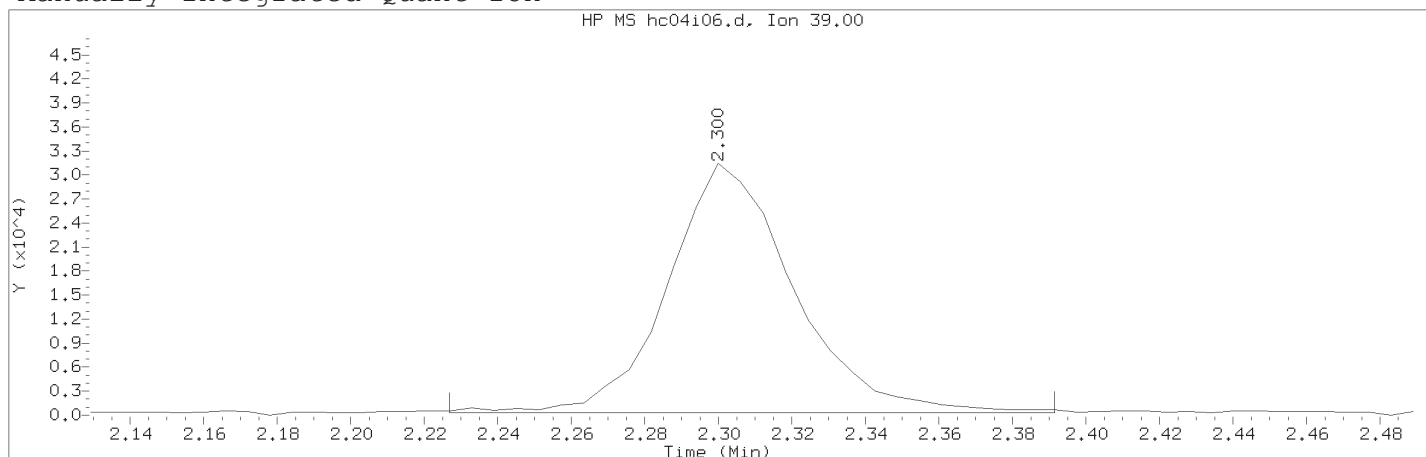
page 4 of 4

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on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:15

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compound Number	: 6	
Compound Name	: 1,3-Butadiene	
Scan Number	: 117	
Retention Time (minutes)	: 2.300	
Quant Ion	: 39.00	
Area (flag)	: 74548M	
On-Column Amount (ng)	: 0.5732	
Integration start scan	: 104	Integration stop scan: 131
Y at integration start	: 298	Y at integration end: 298

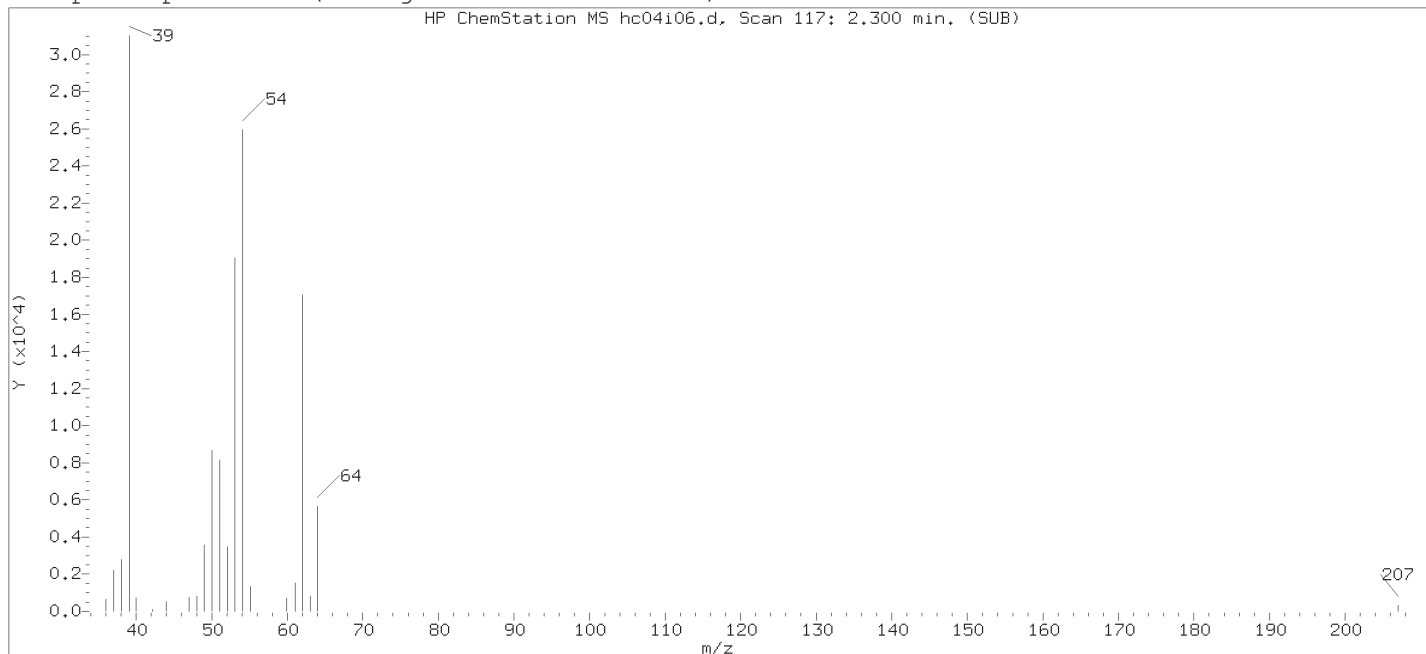
Reason for manual integration: improper integration

Analyst responsible for change:

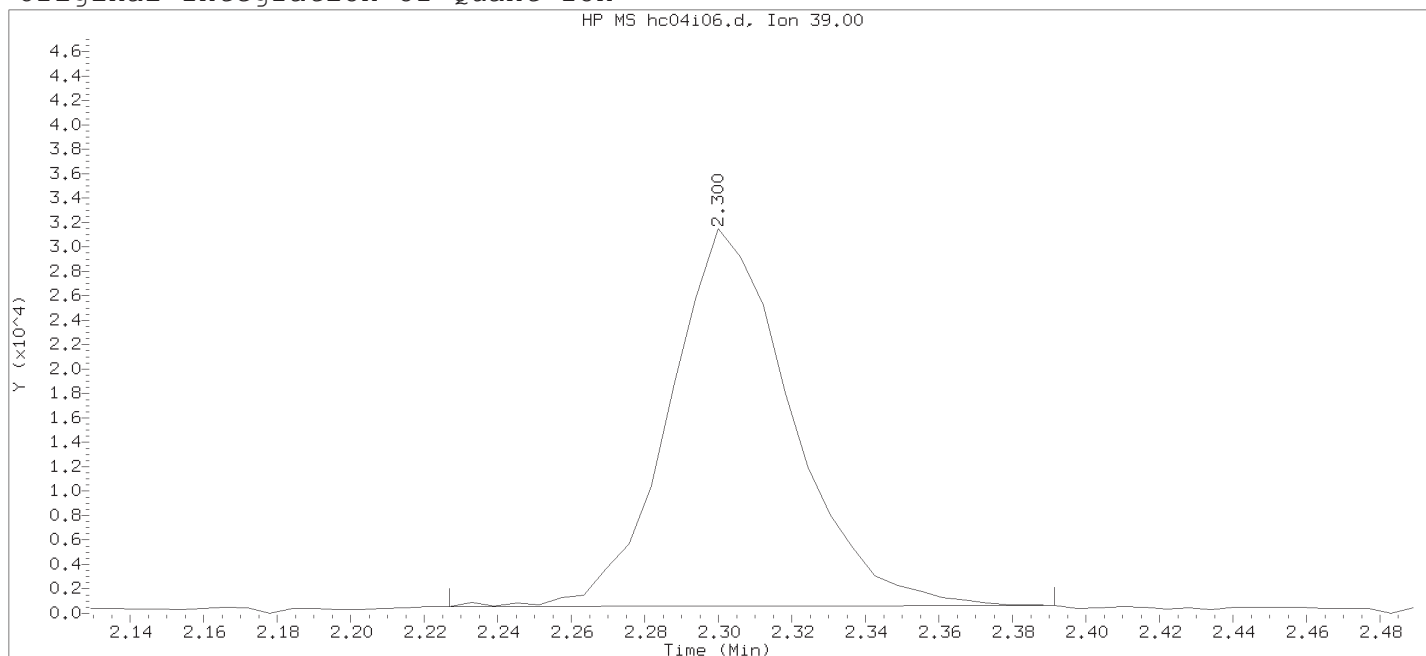
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:15

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:34

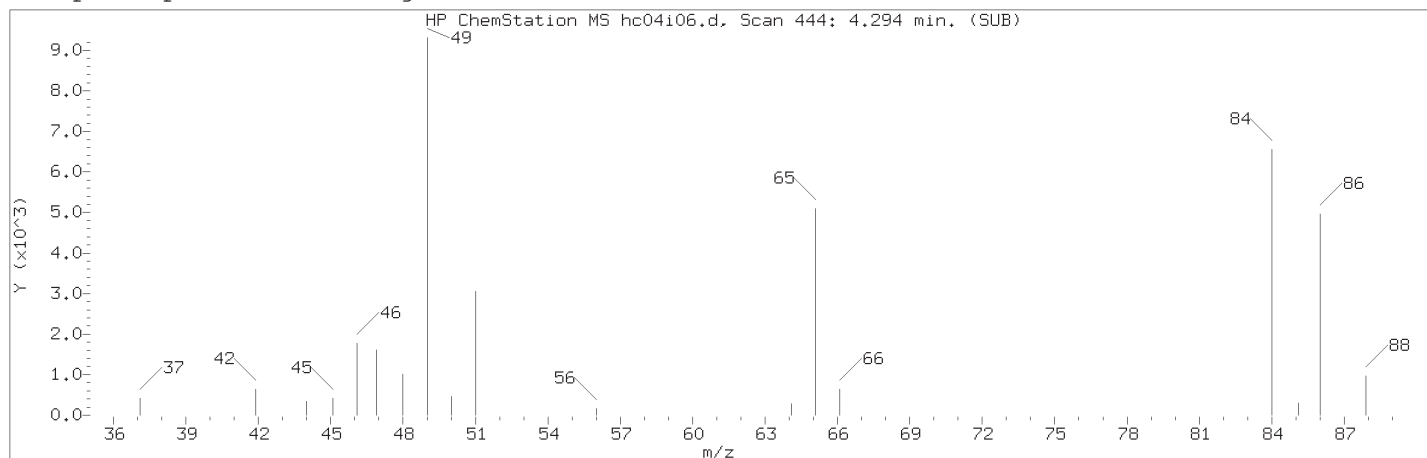
Date, time and analyst ID of latest file update: 04-Oct-2016 12:35 Automation

Sample Name: VSTD0.5

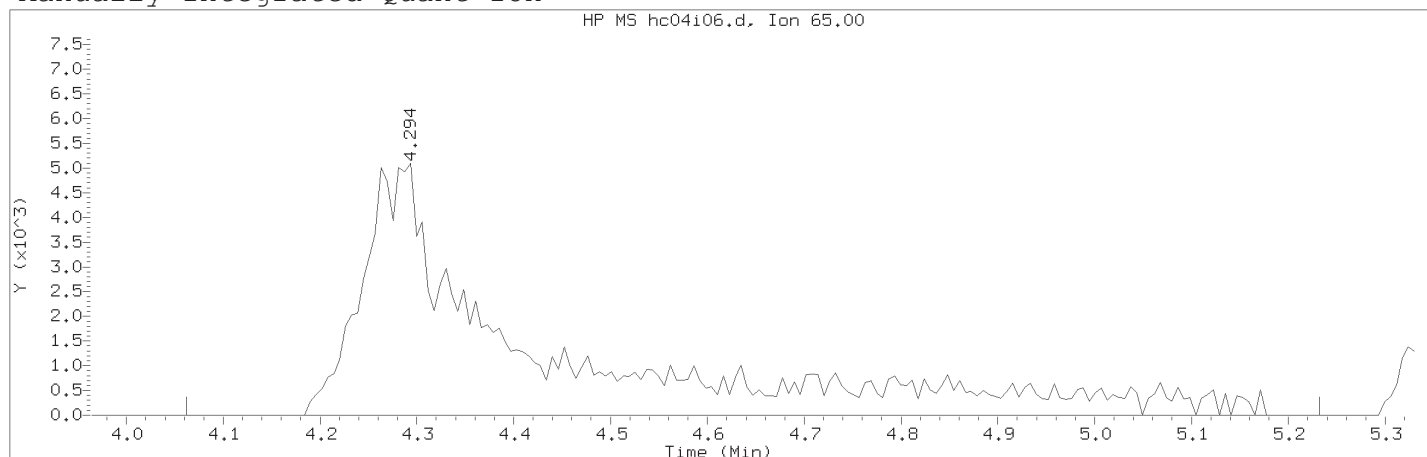
Lab Sample ID: VSTD0.5

Compound Number	: 6	
Compound Name	: 1,3-Butadiene	
Scan Number	: 117	
Retention Time (minutes)	: 2.300	
Quant Ion	: 39.00	
Area	: 71522	
On-column Amount (ng)	: 0.5923	
Integration start scan	: 104	Integration stop scan: 131
Y at integration start	: 530	Y at integration end: 657

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:15

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compound Number	: 26	
Compound Name	: t-Butyl Alcohol-d10	
Scan Number	: 444	
Retention Time (minutes)	: 4.294	
Quant Ion	: 65.00	
Area (flag)	: 59277M	
On-Column Amount (ng)	: 50.0000	
Integration start scan	: 405	Integration stop scan: 597
Y at integration start	: 0	Y at integration end: 0

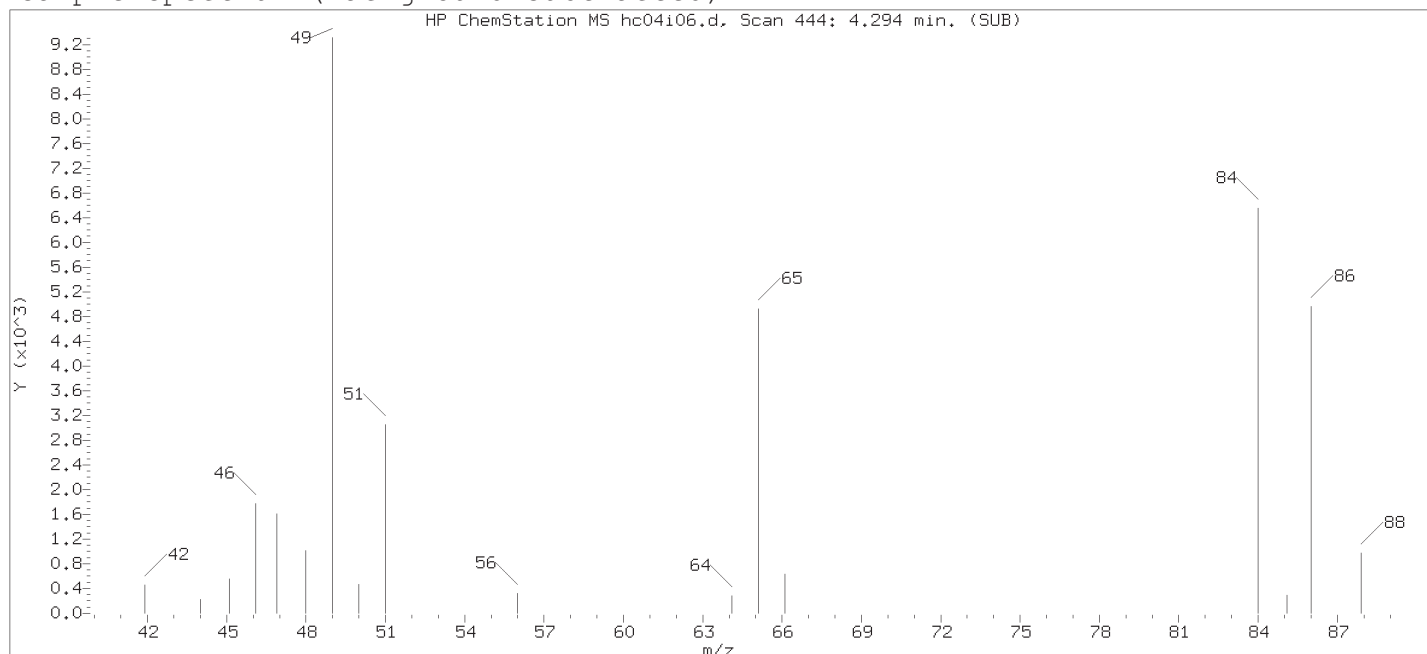
Reason for manual integration: improper integration

Analyst responsible for change:

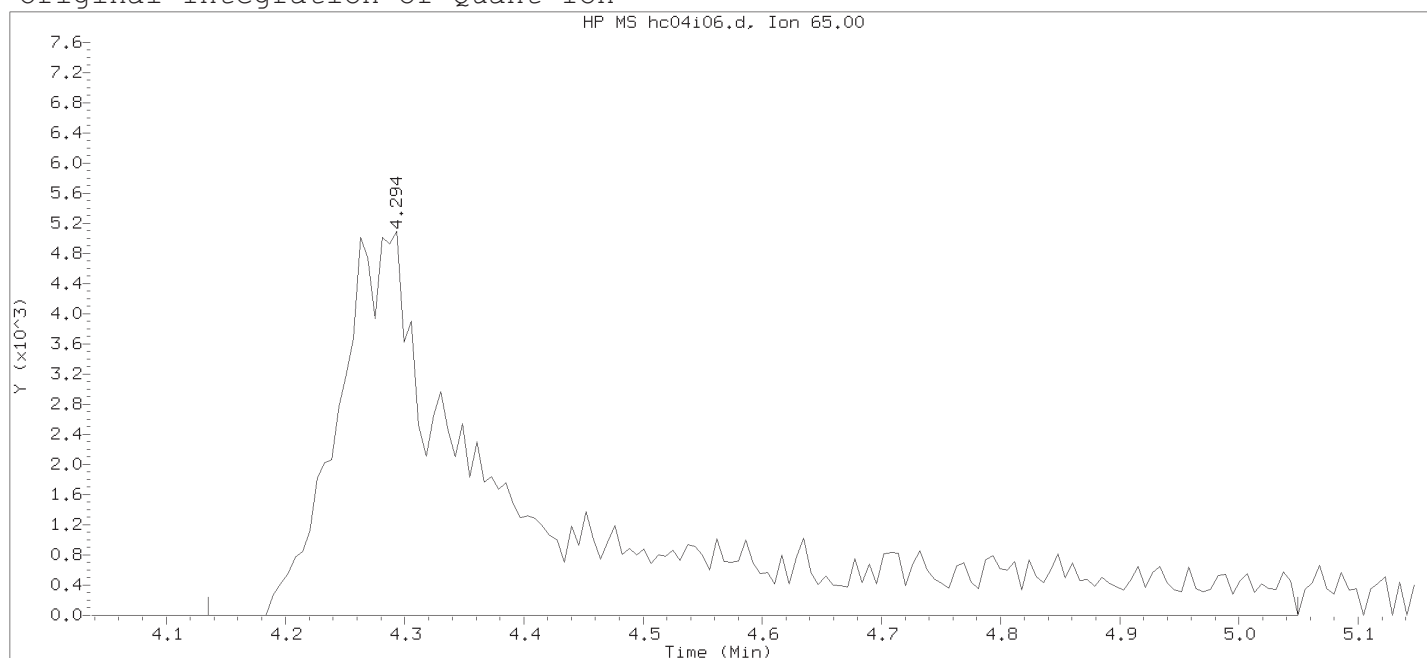
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:15

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:34

Date, time and analyst ID of latest file update: 04-Oct-2016 12:35 Automation

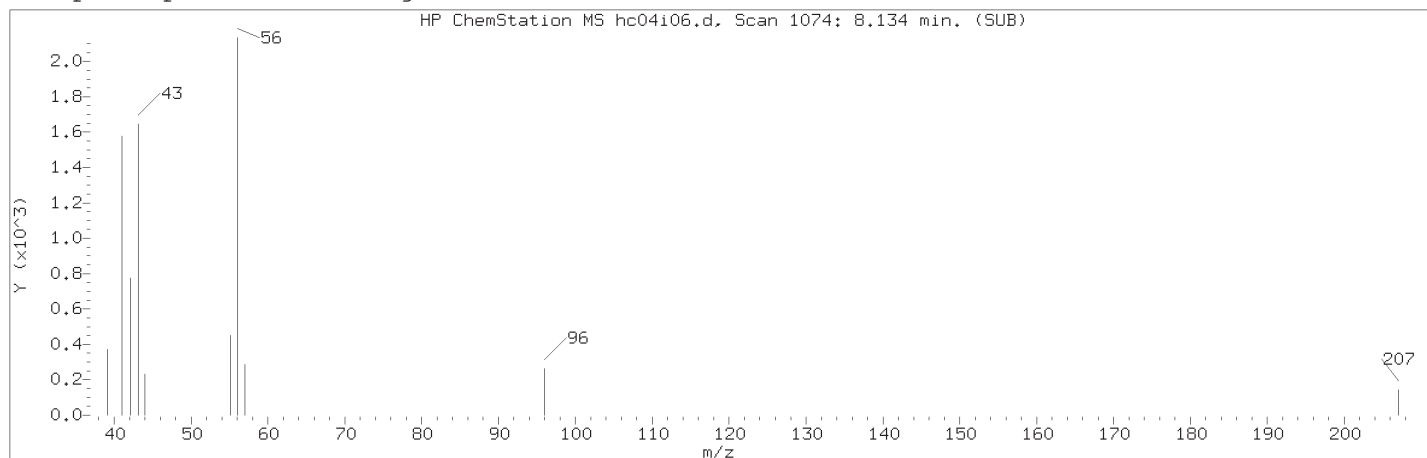
Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

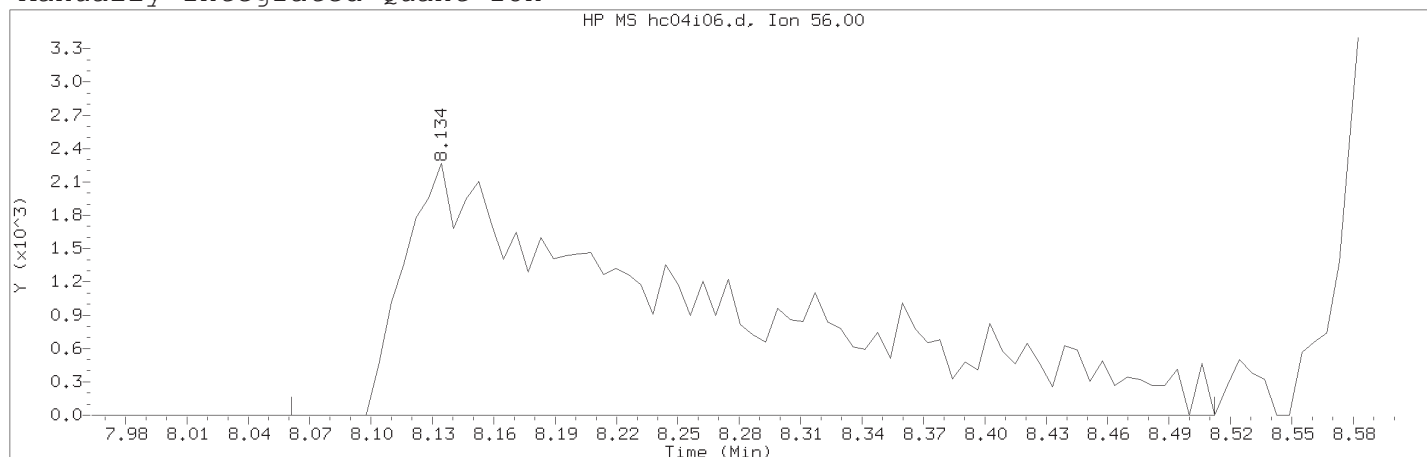
Compound Number : 26
 Compound Name : t-Butyl Alcohol-d10
 Scan Number : 444
 Retention Time (minutes) : 4.294
 Quant Ion : 65.00
 Area : 56873
 On-column Amount (ng) : 50.0000
 Integration start scan : 417
 Y at integration start : 0

Integration stop scan: 567
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:15

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compound Number	: 65	
Compound Name	: n-Butanol	
Scan Number	: 1074	
Retention Time (minutes)	: 8.134	
Quant Ion	: 56.00	
Area (flag)	: 22910M	
On-Column Amount (ng)	: 51.4372	
Integration start scan	: 1061	Integration stop scan: 1135
Y at integration start	: 0	Y at integration end: 0

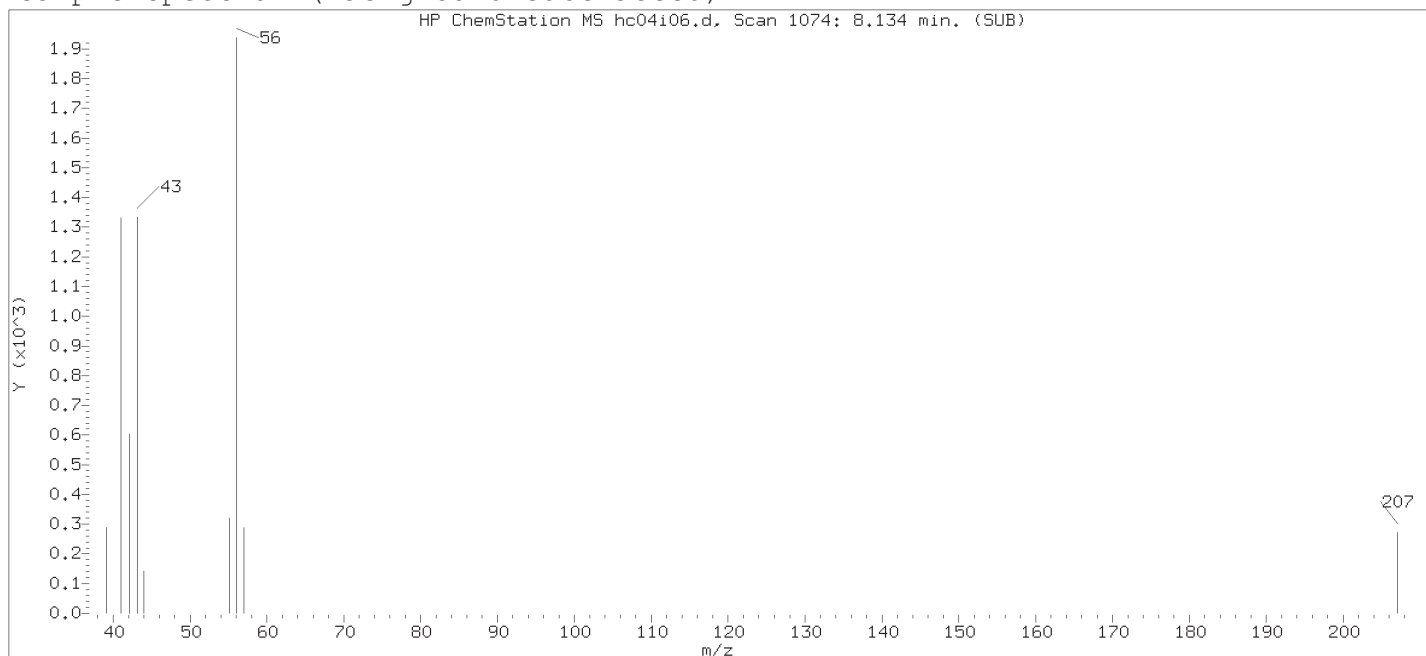
Reason for manual integration: improper integration

Analyst responsible for change:

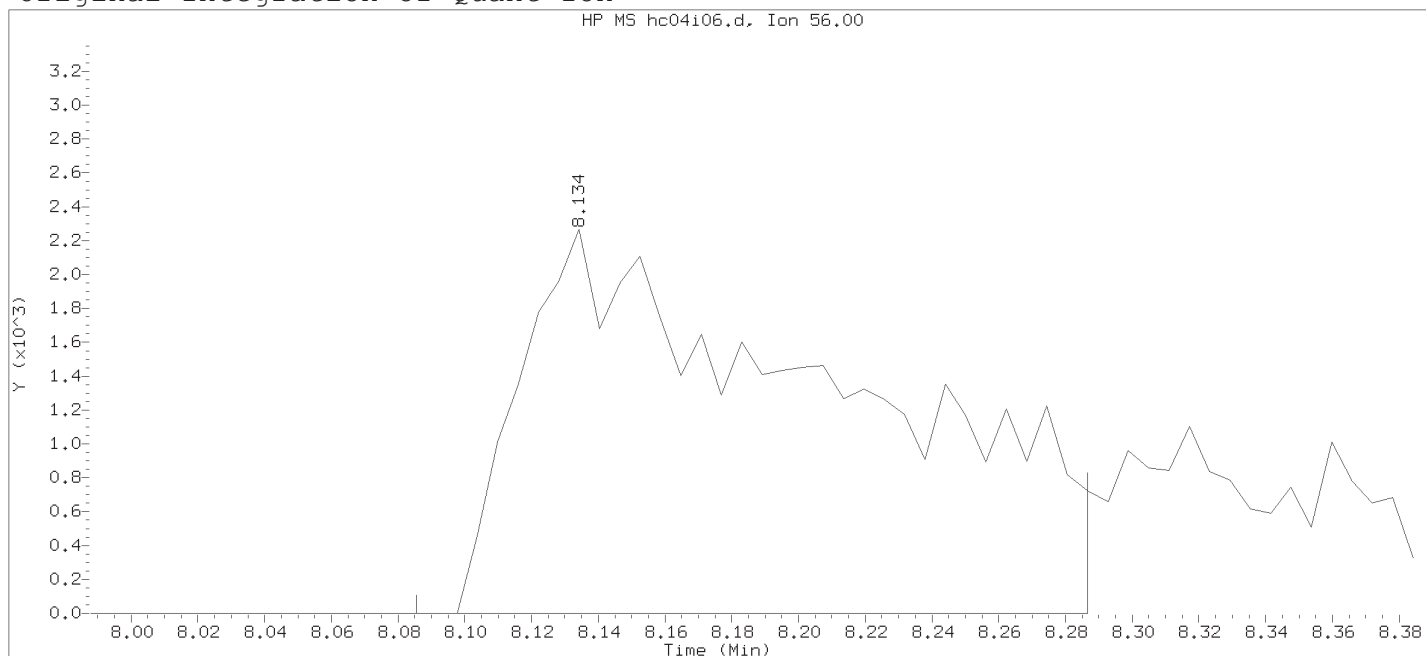
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:15

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:34

Date, time and analyst ID of latest file update: 04-Oct-2016 12:35 Automation

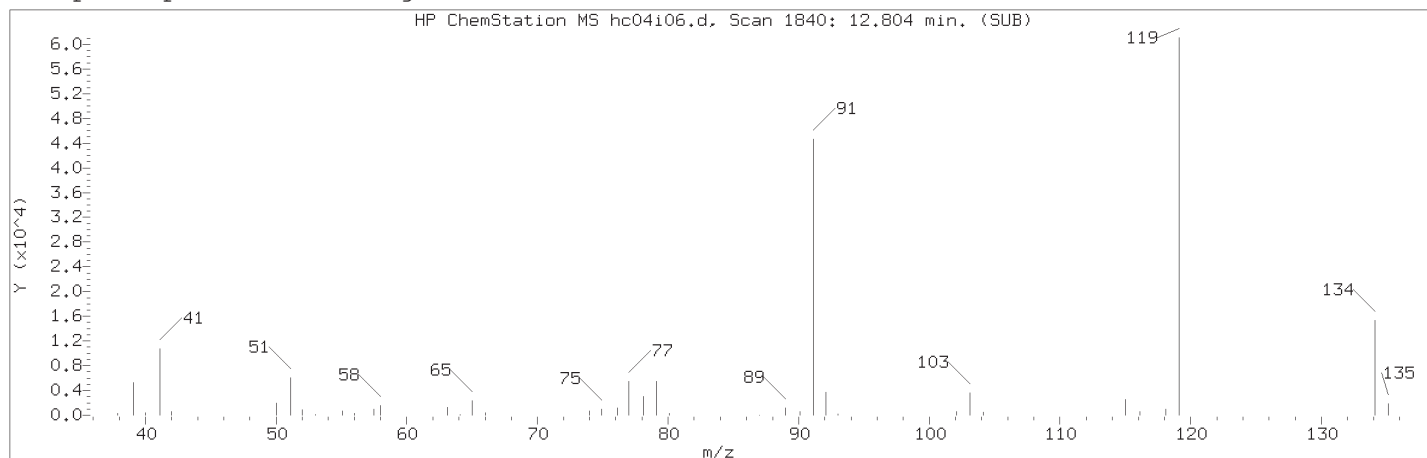
Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

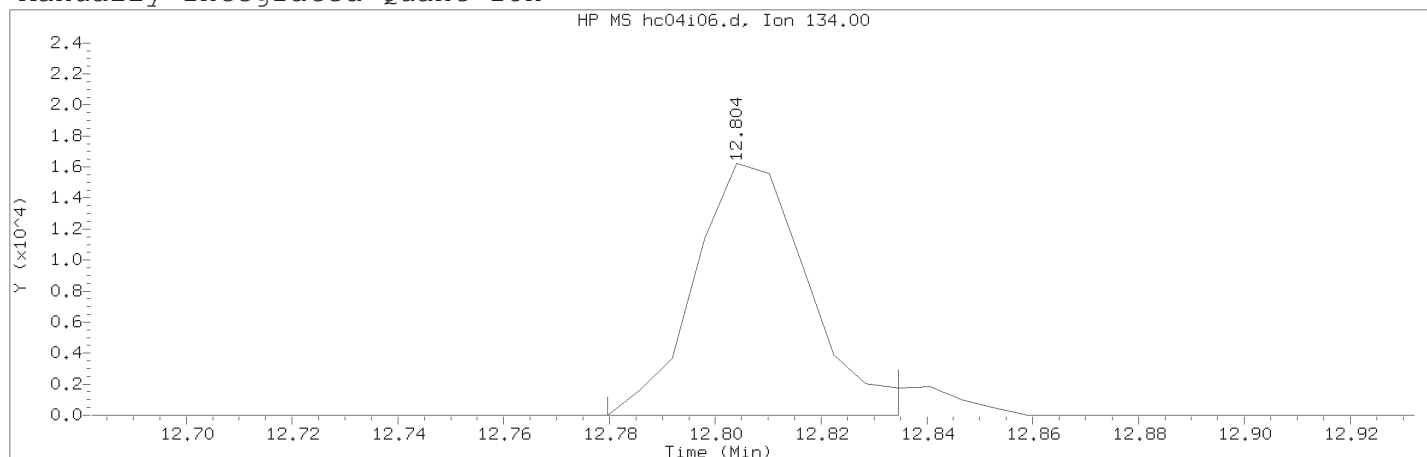
Compound Number : 65
 Compound Name : n-Butanol
 Scan Number : 1074
 Retention Time (minutes): 8.134
 Quant Ion : 56.00
 Area : 15310
 On-column Amount (ng) : 37.7500
 Integration start scan : 1065
 Y at integration start : 0

Integration stop scan: 1098
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:15

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compound Number	: 125	
Compound Name	: tert-Butylbenzene	
Scan Number	: 1840	
Retention Time (minutes)	: 12.804	
Quant Ion	: 134.00	
Area (flag)	: 24181M	
On-Column Amount (ng)	: 0.5062	
Integration start scan	: 1835	Integration stop scan: 1844
Y at integration start	: 0	Y at integration end: 0

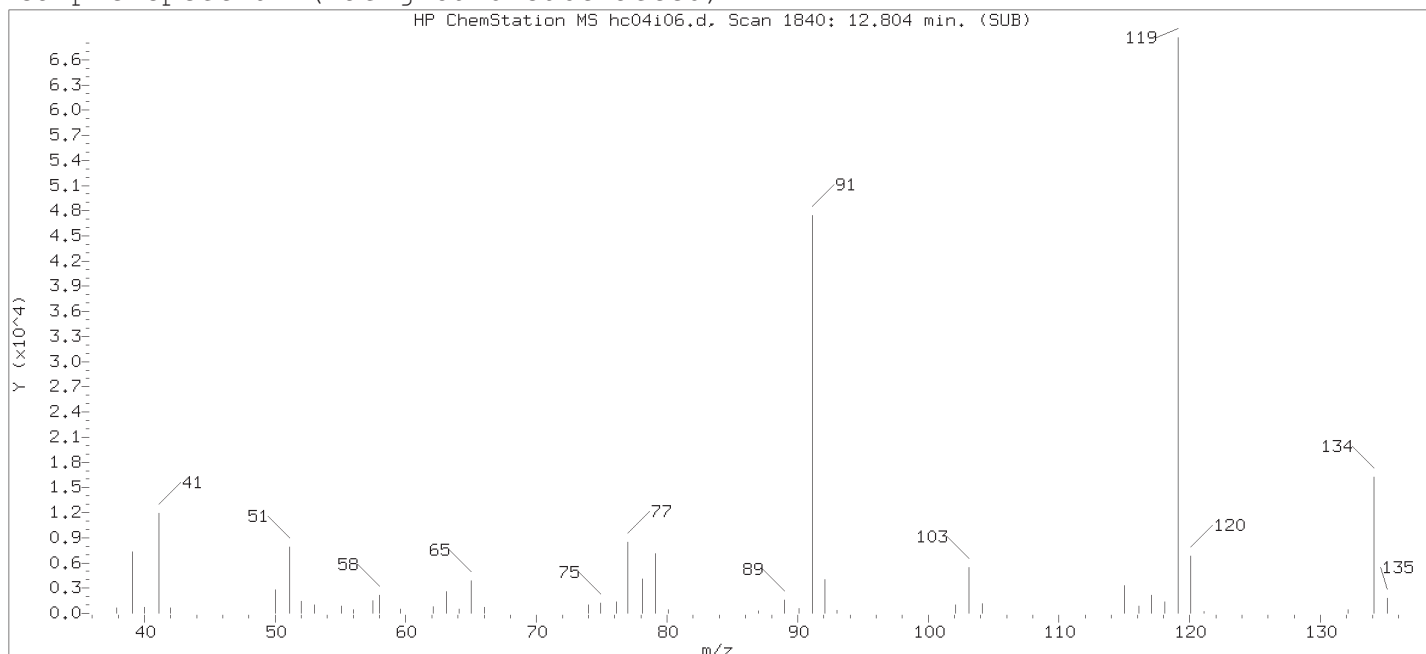
Reason for manual integration: improper integration

Analyst responsible for change:

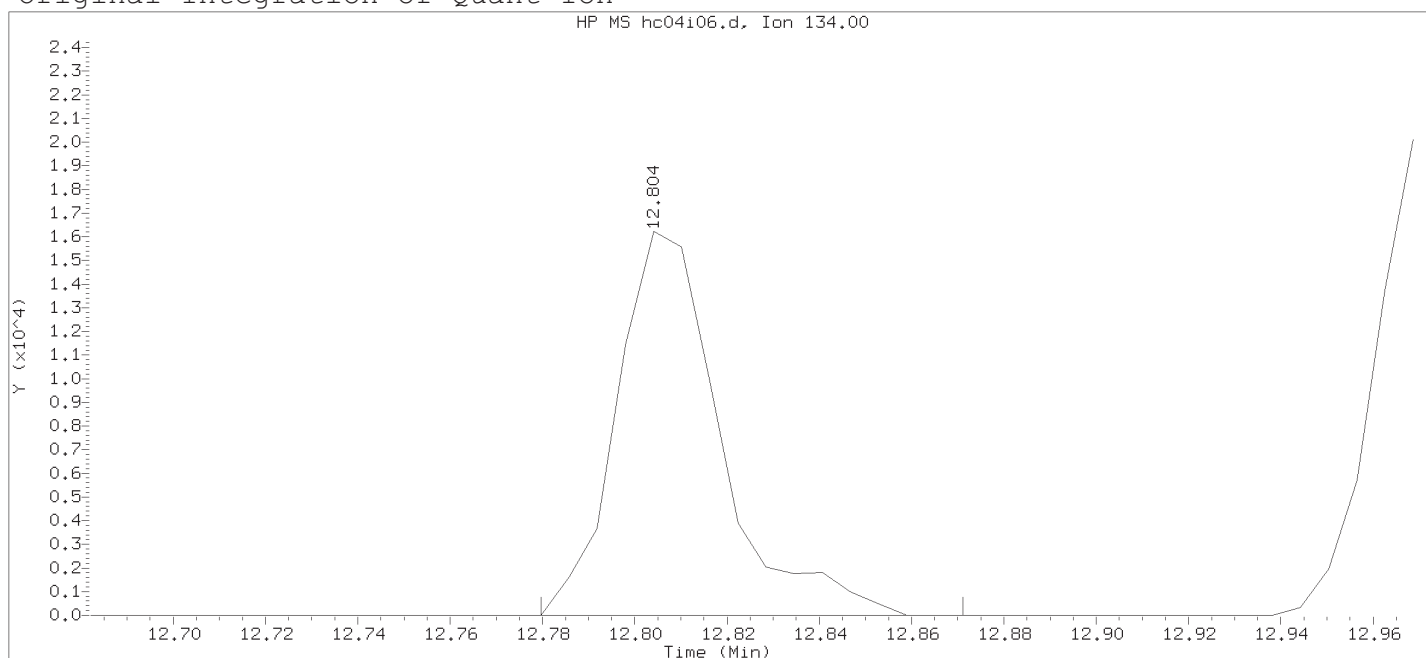
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:15

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:34

Date, time and analyst ID of latest file update: 04-Oct-2016 12:35 Automation

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compound Number : 125

Compound Name : tert-Butylbenzene

Scan Number : 1840

Retention Time (minutes) : 12.804

Quant Ion : 134.00

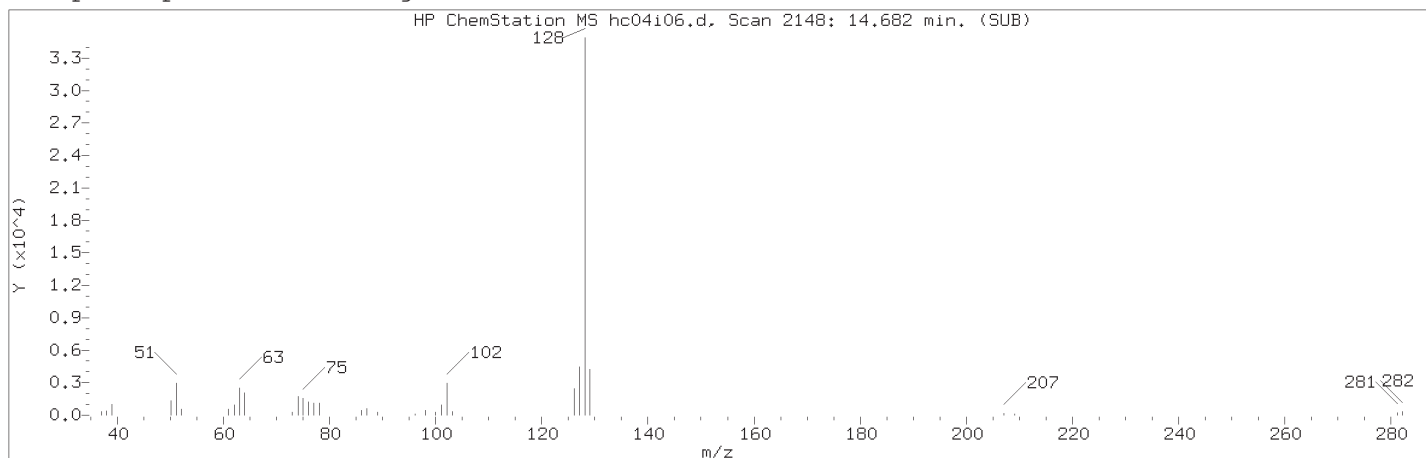
Area : 25380

On-column Amount (ng) : 0.4976

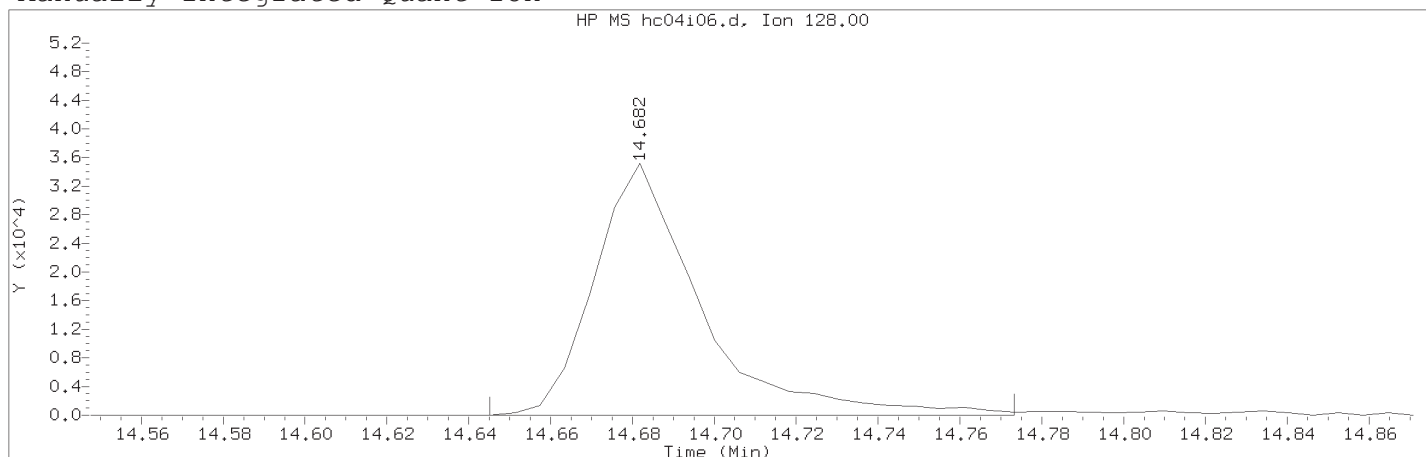
Integration start scan : 1835 Integration stop scan: 1850

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 12:15 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:29
Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

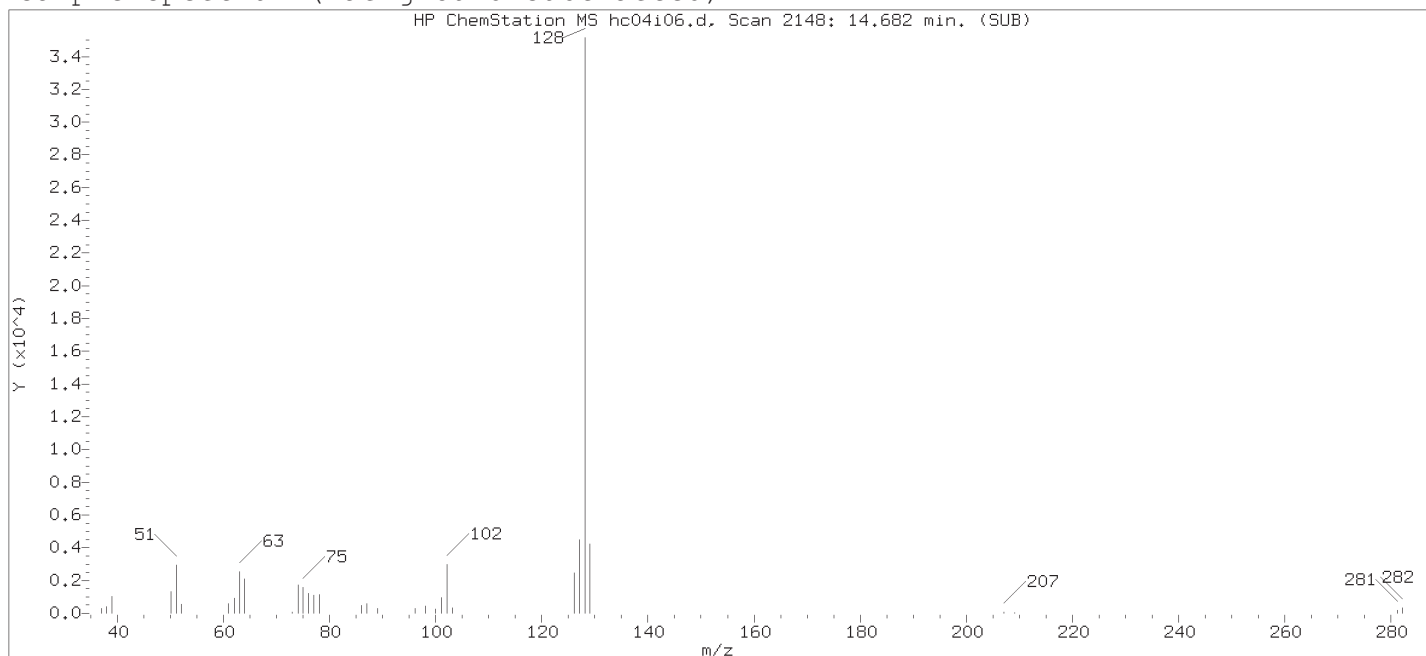
Compound Number : 147
Compound Name : Naphthalene
Scan Number : 2148
Retention Time (minutes): 14.682
Quant Ion : 128.00
Area (flag) : 63169M
On-Column Amount (ng) : 0.5624
Integration start scan : 2141 Integration stop scan: 2162
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

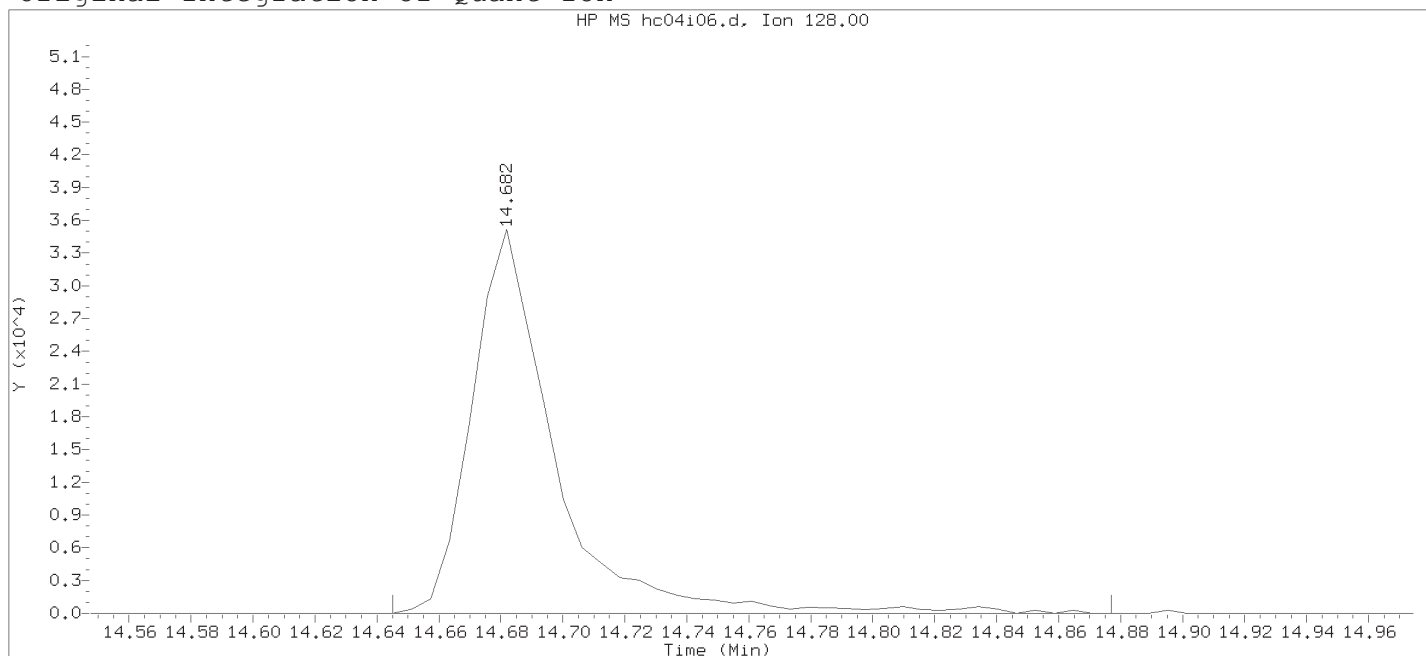
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:15

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:34

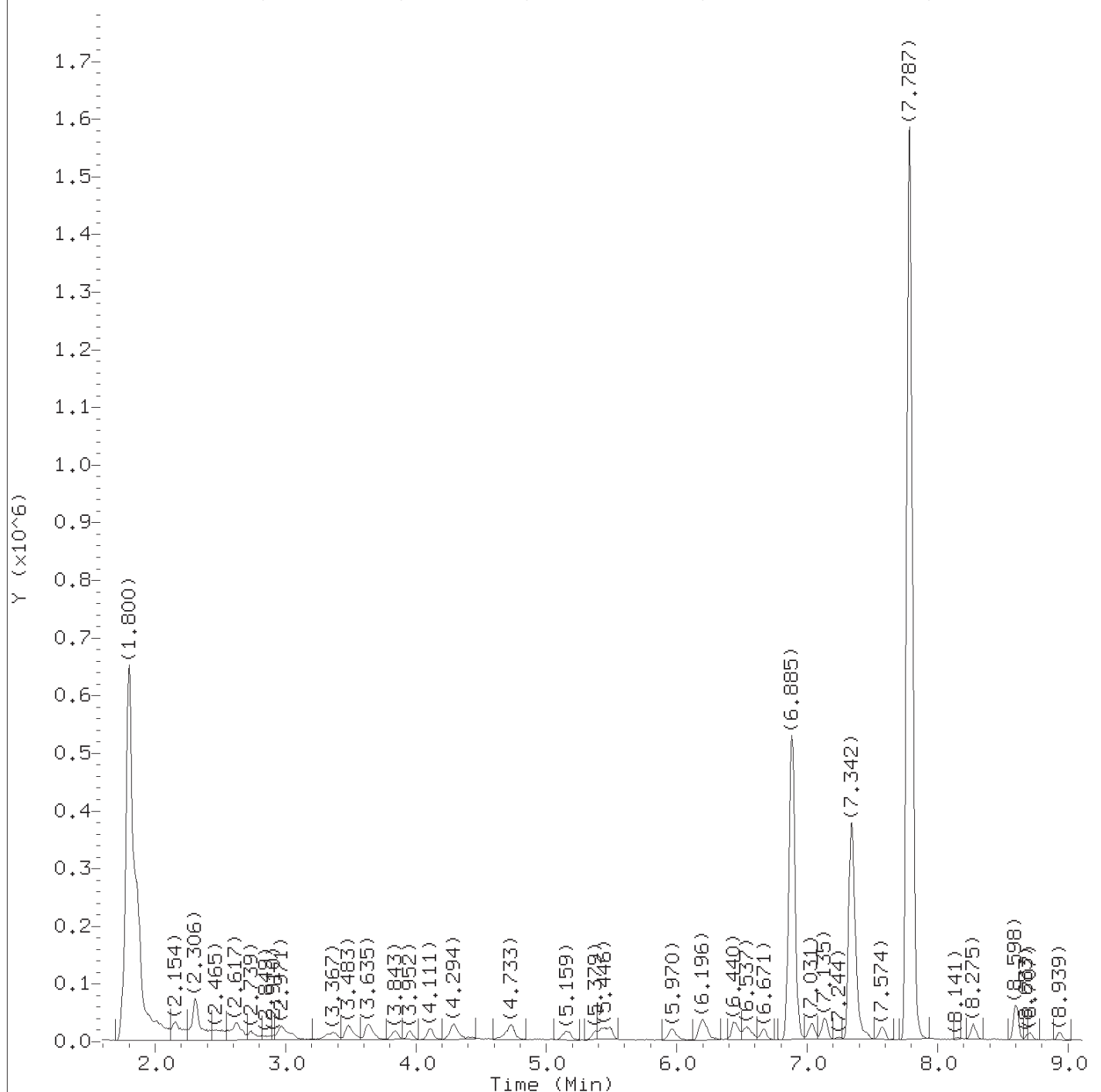
Date, time and analyst ID of latest file update: 04-Oct-2016 12:35 Automation

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compound Number : 147
 Compound Name : Naphthalene
 Scan Number : 2148
 Retention Time (minutes): 14.682
 Quant Ion : 128.00
 Area : 65160
 On-column Amount (ng) : 0.5761
 Integration start scan : 2141
 Y at integration start : 0

Integration stop scan: 2179
 Y at integration end: 0



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d
Injection date and time: 04-OCT-2016 12:36

Instrument ID: HP19094.i
Analyst ID: kel01973

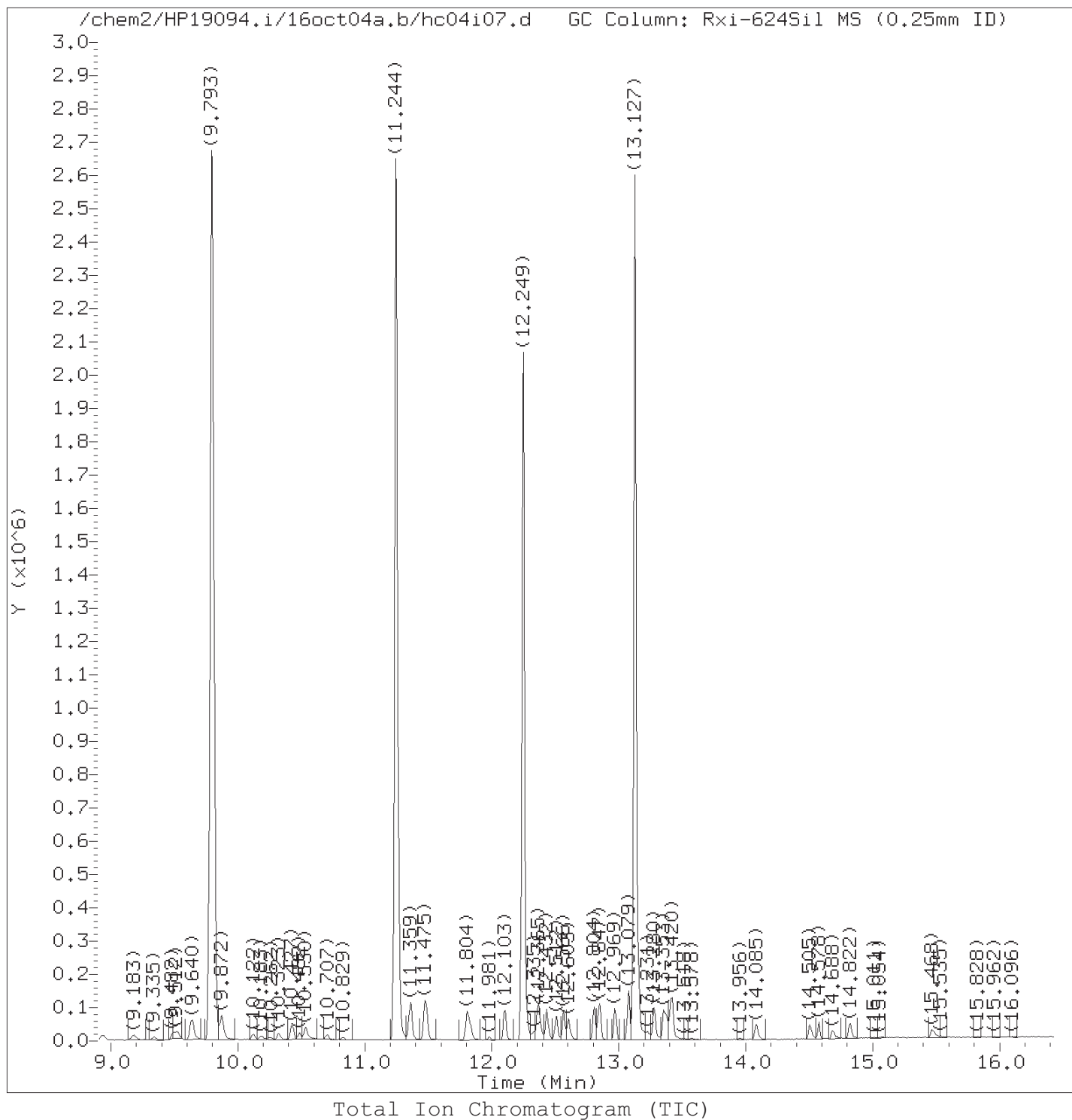
Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:29
Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

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on 10/04/2016 at 15:34.

Target 3.5 esignature user ID: kel01973
RAE73 Page 248 of 346



Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d
Injection date and time: 04-OCT-2016 12:36

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:29
Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d
 Injection date and time: 04-OCT-2016 12:36

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:29
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.014	85	18100	0.194
2) Chloromethane	(2)	2.160	50	23026	0.230
5) Vinyl Chloride	(2)	2.300	62	19132	0.214
6) 1,3-Butadiene	(2)	2.306	39	29010	0.212
7) Bromomethane	(2)	2.623	94	12338	0.215
8) Chloroethane	(2)	2.727	64	11035	0.219
9) Dichlorofluoromethane	(2)	2.965	67	25531	0.212
10) Trichlorofluoromethane	(2)	3.032	101	21957	0.203
11) Ethyl ether	(2)	3.318	59	7615	0.191
12) Freon 123a	(2)	3.379	67	15191	0.202
13) Acrolein	(1)	3.483	56	50544	10.764
15) 1,1-Dichloroethene	(2)	3.629	96	10052	0.199
16) Freon 113	(2)	3.648	101	10986	0.199
14) Acetone	(1)	3.666	43	14768	2.349
17) Methyl Iodide	(2)	3.824	142	19726	0.205
18) Carbon Disulfide	(2)	3.952	76	34436	0.225
21) Methyl Acetate	(1)	4.105	43	5555	0.273
22) Allyl Chloride	(2)	4.111	41	22602	0.206
23) Methylene Chloride	(2)	4.288	84	11316	0.209
26)*t-Butyl Alcohol-d10	(1)	4.312	65	65291M	50.000
28) t-Butyl Alcohol	(1)	4.428	59	5921	3.414
29) Acrylonitrile	(1)	4.629	53	7191M	0.972
30) Methyl Tertiary Butyl Ether	(2)	4.696	73	23372	0.199
31) trans-1,2-Dichloroethene	(2)	4.733	96	12422	0.217
32) n-Hexane	(2)	5.159	57	15825	0.181
33) 1,1-Dichloroethane	(2)	5.367	63	22778	0.202
34) di-Isopropyl Ether	(2)	5.446	45	38886	0.193
35) 2-Chloro-1,3-Butadiene	(2)	5.501	53	20162	0.193
37) Ethyl t-butyl ether	(2)	5.958	59	32295	0.197
40) 1,2-Dichloroethene (Total)	(2)		96	25236	0.421
38) 2-Butanone	(1)	6.171	43	23635	2.125
39) cis-1,2-Dichloroethene	(2)	6.196	96	12814	0.204
41) 2,2-Dichloropropane	(2)	6.214	77	18334	0.201
42) Propionitrile	(1)	6.251	54	9740	3.970
45) Methacrylonitrile	(1)	6.434	67	21904	2.091
47) Bromochloromethane	(2)	6.531	128	4937	0.196
48) Tetrahydrofuran	(1)	6.562	71	6128	2.137
49) Chloroform	(2)	6.677	83	22132	0.203

M = Compound was manually integrated.

* = Compound is an internal standard.

page 1 of 4

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 on 10/04/2016 at 15:34.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d
 Injection date and time: 04-OCT-2016 12:36

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:29
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
50) \$Dibromofluoromethane	(2)	6.879	113	505645	10.018
50) \$Dibromofluoromethane	(2)	6.885	111	516457	10.007
51) 1,1,1-Trichloroethane	(2)	6.915	97	19538	0.199
52) Cyclohexane	(2)	7.031	56	22517	0.196
52) Cyclohexane	(2)	7.049	84	19846	0.209
52) Cyclohexane	(2)	7.049	69	6334	0.195
55) 1,1-Dichloropropene	(2)	7.129	75	17580	0.199
54) Carbon Tetrachloride	(2)	7.147	117	16670	0.197
56) Isobutyl Alcohol	(1)	7.244	41	7480	11.136
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	83020	10.239
57) \$1,2-Dichloroethane-d4	(2)	7.342	65	459741	10.299
57) \$1,2-Dichloroethane-d4	(2)	7.342	104	52727	10.163
58) Benzene	(2)	7.391	78	48224	0.204
59) 1,2-Dichloroethane	(2)	7.452	62	14563	0.222
60) t-Amyl methyl ether	(2)	7.574	73	26471	0.199
63) *Fluorobenzene	(2)	7.787	96	2200643	10.000
62) n-Heptane	(2)	7.824	43	20542	0.196
65) n-Butanol	(1)	8.159	56	7719M	15.734
67) Trichloroethene	(2)	8.281	95	13125	0.203
69) Methylcyclohexane	(2)	8.598	83	20486	0.181
70) 1,2-Dichloropropene	(2)	8.604	63	11708	0.195
71) Methyl Methacrylate	(1)	8.683	69	2871M	0.149
73) Dibromomethane	(2)	8.714	93	4844	0.192
74) Bromodichloromethane	(2)	8.933	83	13680	0.199
76) 2-Nitropropane	(1)	9.183	41	15570	2.182
80) cis-1,3-Dichloropropene	(2)	9.482	75	15015	0.192
81) 4-Methyl-2-Pentanone	(1)	9.640	43	62066	2.088
82) \$Toluene-d8	(3)	9.799	98	2144109	10.022
82) \$Toluene-d8	(3)	9.793	100	1376822	10.008
83) Toluene	(3)	9.872	92	30844	0.210
84) trans-1,3-Dichloropropene	(3)	10.122	75	10747	0.180
85) 1,3-Dichloropropene (total)	(3)		75	25762	0.372
86) Ethyl Methacrylate	(3)	10.183	69	8210	0.178
88) 1,1,2-Trichloroethane	(3)	10.323	97	6472	0.191
89) Tetrachloroethene	(3)	10.427	166	13889	0.197
90) 1,3-Dichloropropene	(3)	10.488	76	12029	0.196
91) 2-Hexanone	(1)	10.530	43	43733	2.125
93) Dibromochloromethane	(3)	10.707	129	8102	0.193

M = Compound was manually integrated.

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 on 10/04/2016 at 15:34.
 Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d
 Injection date and time: 04-OCT-2016 12:36

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:29
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
95) 1,2-Dibromoethane	(3)	10.835	107	5864	0.183
97) *Chlorobenzene-d5	(3)	11.244	117	1416303M	10.000
98) Chlorobenzene	(3)	11.274	112	32476	0.207
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	10606	0.197
100) Ethylbenzene	(3)	11.366	91	57205	0.198
101) m+p-Xylene	(3)	11.475	106	40888	0.376
105) Xylene (Total)	(3)		106	61587	0.571
104) o-Xylene	(3)	11.804	106	20699	0.195
106) Styrene	(3)	11.823	104	28975	0.179
107) Bromoform	(3)	11.981	173	4362	0.190
108) Isopropylbenzene	(3)	12.103	105	54632	0.191
111) \$4-Bromofluorobenzene	(3)	12.249	95	632197	10.051
111) \$4-Bromofluorobenzene	(3)	12.249	174	560874	9.965
113) 1,1,2,2-Tetrachloroethane	(4)	12.335	83	7473	0.190
115) trans-1,4-Dichloro-2-butene	(1)	12.365	53	14834	1.684
114) Bromobenzene	(4)	12.365	156	12803	0.202
116) 1,2,3-Trichloropropane	(4)	12.390	110	2222	0.212
117) n-Propylbenzene	(4)	12.432	91	64533	0.192
119) 2-Chlorotoluene	(4)	12.512	126	12655	0.199
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	42104	0.182
122) 4-Chlorotoluene	(4)	12.603	126	13535	0.208
125) tert-Butylbenzene	(4)	12.804	134	10624M	0.210
126) Pentachloroethane	(4)	12.835	167	7016	0.180
127) 1,2,4-Trimethylbenzene	(4)	12.853	105	45540	0.195
128) sec-Butylbenzene	(4)	12.969	105	59995M	0.198
131) 1,3-Dichlorobenzene	(4)	13.079	146	24578	0.199
132) p-Isopropyltoluene	(4)	13.079	119	48032	0.190
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	636044	10.000
134) 1,4-Dichlorobenzene	(4)	13.146	146	27674	0.216
135) 1,2,3-Trimethylbenzene	(4)	13.152	120	20265M	0.200
136) Benzyl Chloride	(4)	13.225	126	2230	0.167
138) n-Butylbenzene	(4)	13.377	92	23839	0.196
139) 1,2-Dichlorobenzene	(4)	13.408	146	22995	0.210
143) 1,2-Dibromo-3-chloropropane	(1)	13.950	155	737	0.170
145) 1,2,4-Trichlorobenzene	(4)	14.505	180	17287	0.221
146) Hexachlorobutadiene	(4)	14.578	225	8122	0.218
147) Naphthalene	(4)	14.688	128	27700	0.233
148) 1,2,3-Trichlorobenzene	(4)	14.822	180	16666	0.253

M = Compound was manually integrated.

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 on 10/04/2016 at 15:34.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 12:36 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:29
Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

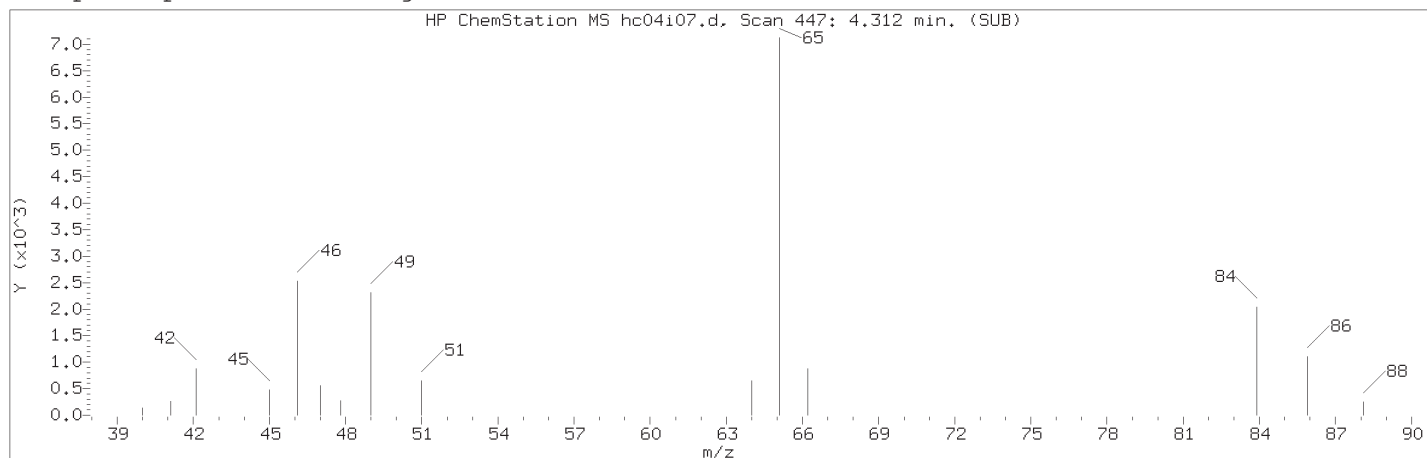
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====

M = Compound was manually integrated.
* = Compound is an internal standard.
\$ = Compound is a surrogate standard.

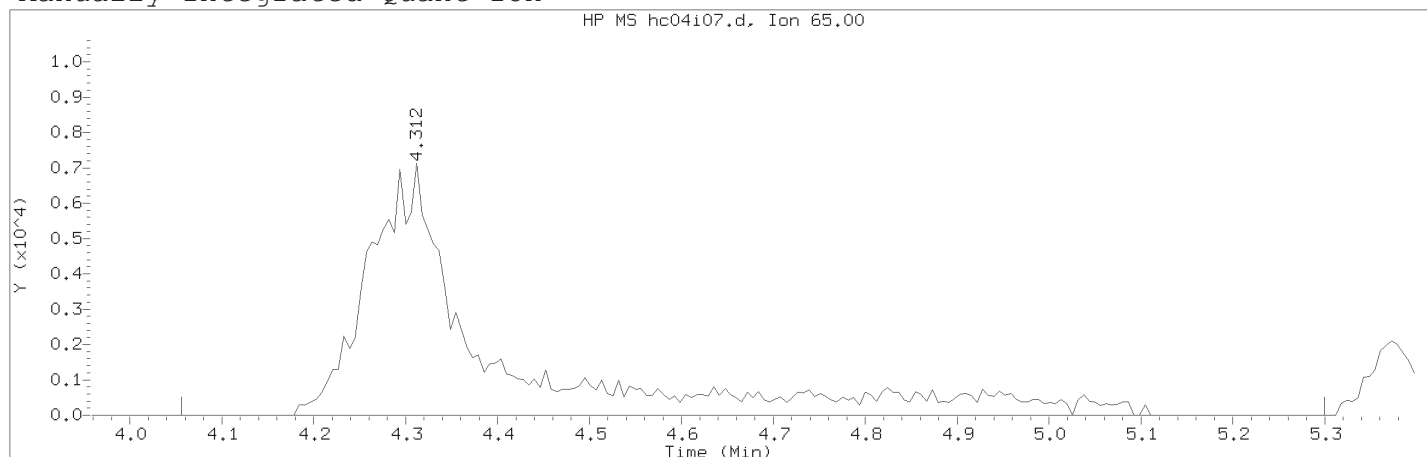
page 4 of 4

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on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number	: 26	
Compound Name	: t-Butyl Alcohol-d10	
Scan Number	: 447	
Retention Time (minutes)	: 4.312	
Quant Ion	: 65.00	
Area (flag)	: 65291M	
On-Column Amount (ng)	: 50.0000	
Integration start scan	: 404	Integration stop scan: 608
Y at integration start	: 0	Y at integration end: 0

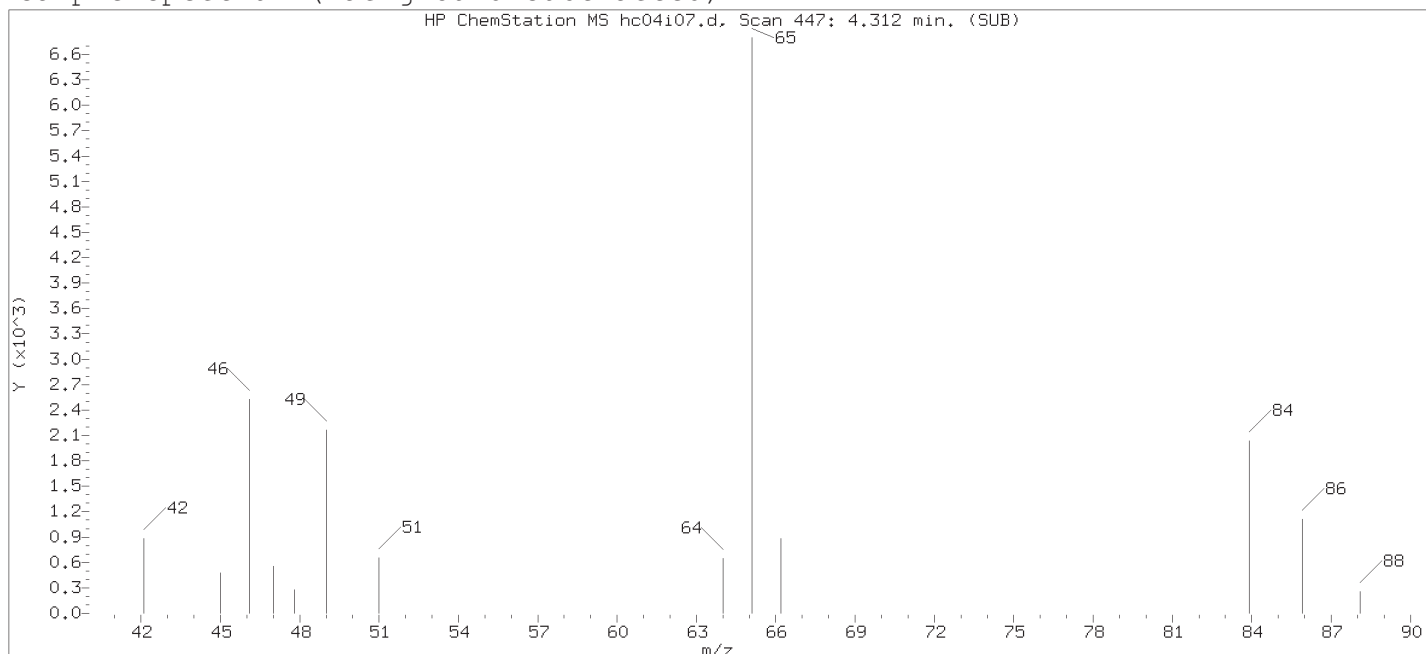
Reason for manual integration: improper integration

Analyst responsible for change:

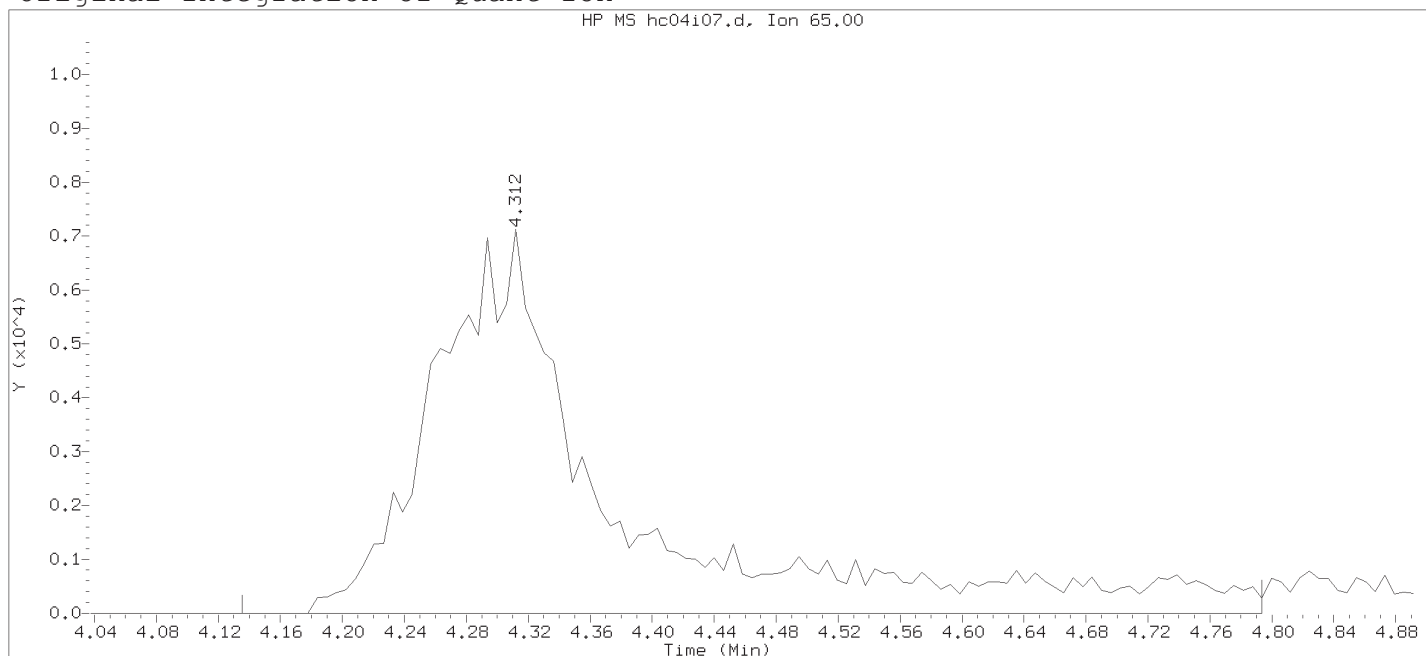
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:55

Date, time and analyst ID of latest file update: 04-Oct-2016 12:55 Automation

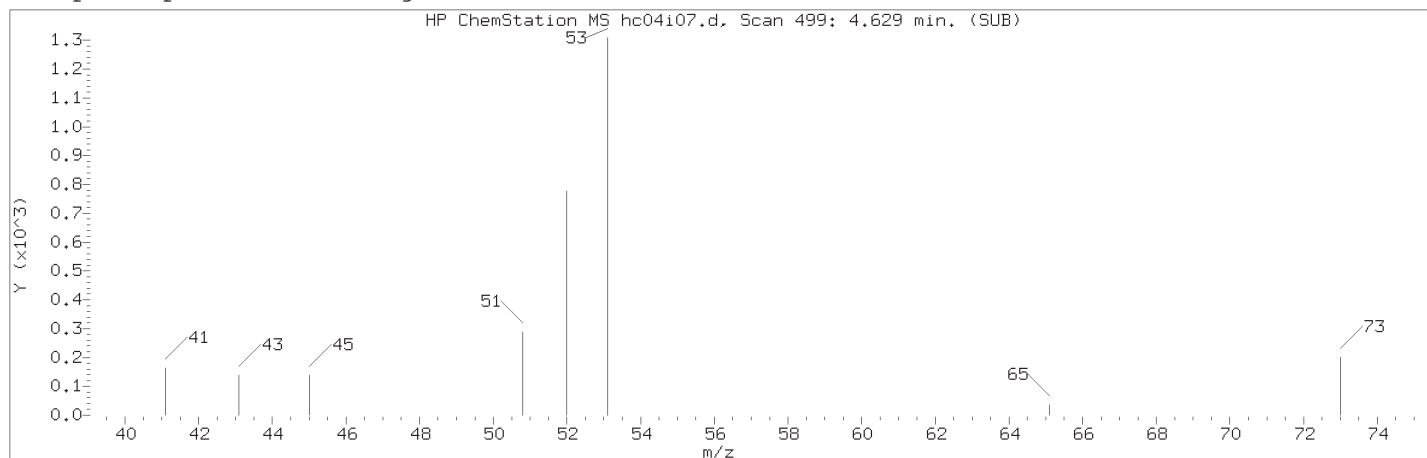
Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

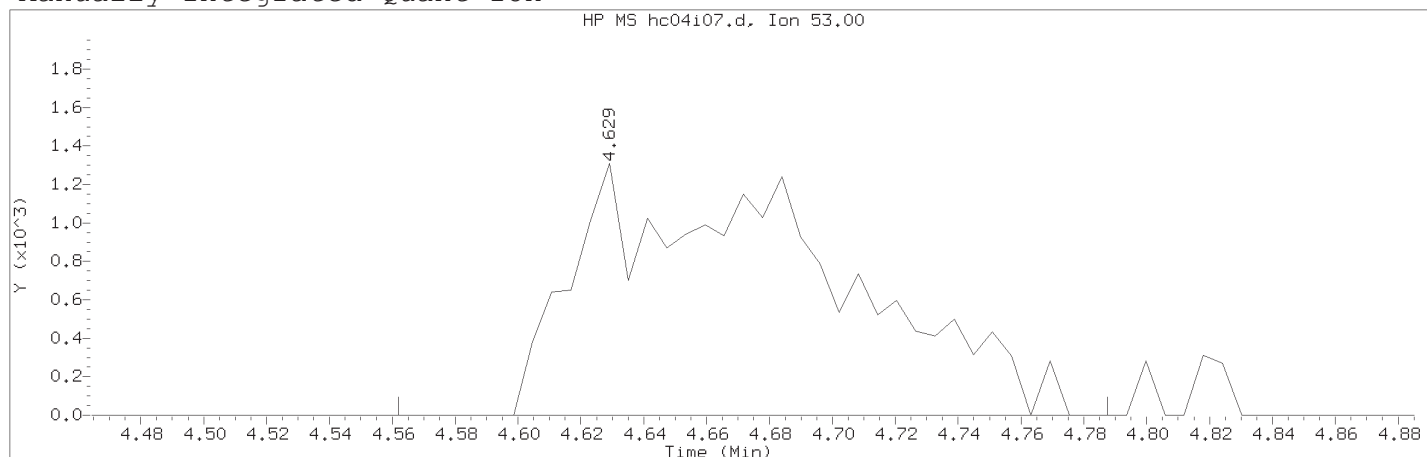
Compound Number : 26
 Compound Name : t-Butyl Alcohol-d10
 Scan Number : 447
 Retention Time (minutes): 4.312
 Quant Ion : 65.00
 Area : 56892
 On-column Amount (ng) : 50.0000
 Integration start scan : 417
 Y at integration start : 0

Integration stop scan: 525
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number	: 29	
Compound Name	: Acrylonitrile	
Scan Number	: 499	
Retention Time (minutes)	: 4.629	
Quant Ion	: 53.00	
Area (flag)	: 7191M	
On-Column Amount (ng)	: 0.9722	
Integration start scan	: 487	Integration stop scan: 524
Y at integration start	: 0	Y at integration end: 0

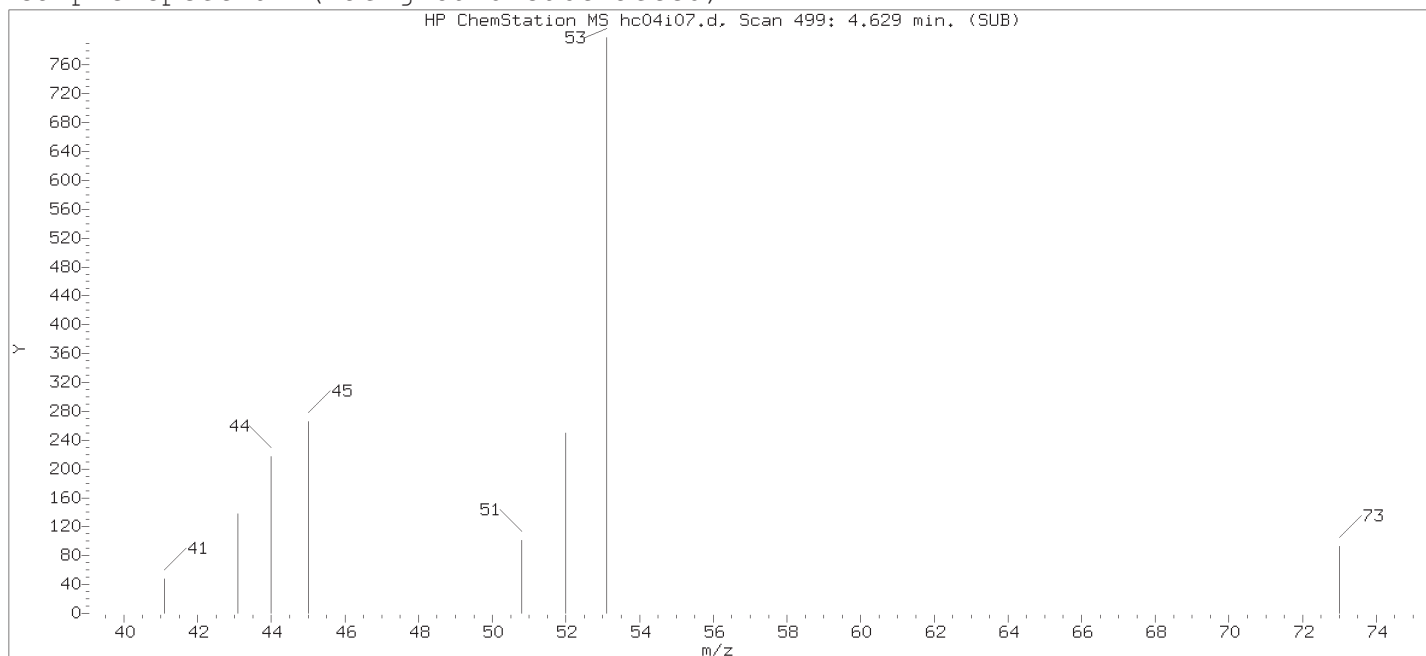
Reason for manual integration: improper integration

Analyst responsible for change:

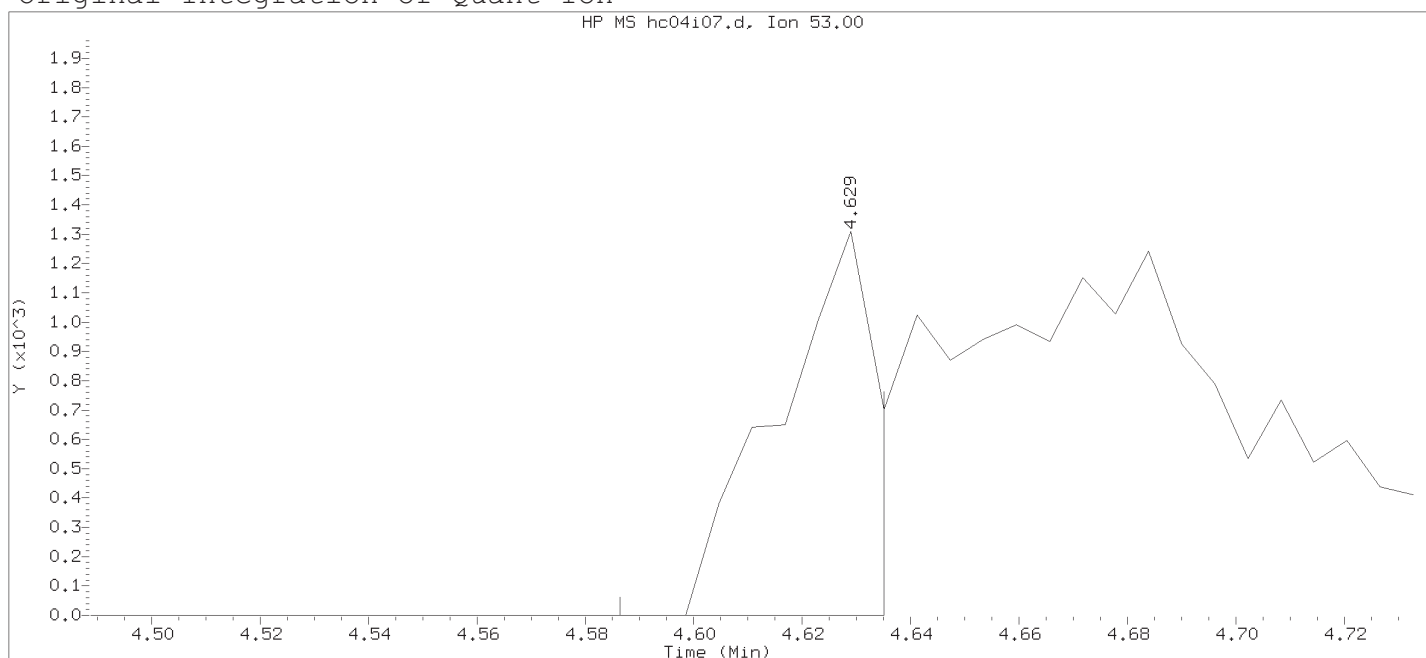
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:55

Date, time and analyst ID of latest file update: 04-Oct-2016 12:55 Automation

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number

: 29

Compound Name

: Acrylonitrile

Scan Number

: 499

Retention Time (minutes)

: 4.629

Quant Ion

: 53.00

Area

: 1587

On-column Amount (ng)

: 0.2744

Integration start scan

: 491

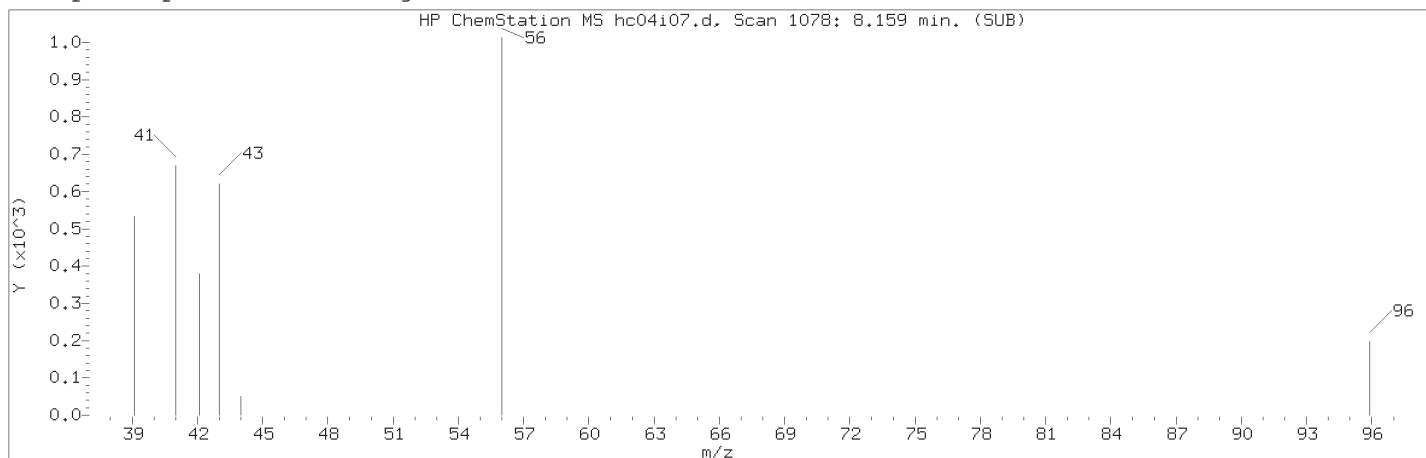
Integration stop scan: 499

Y at integration start

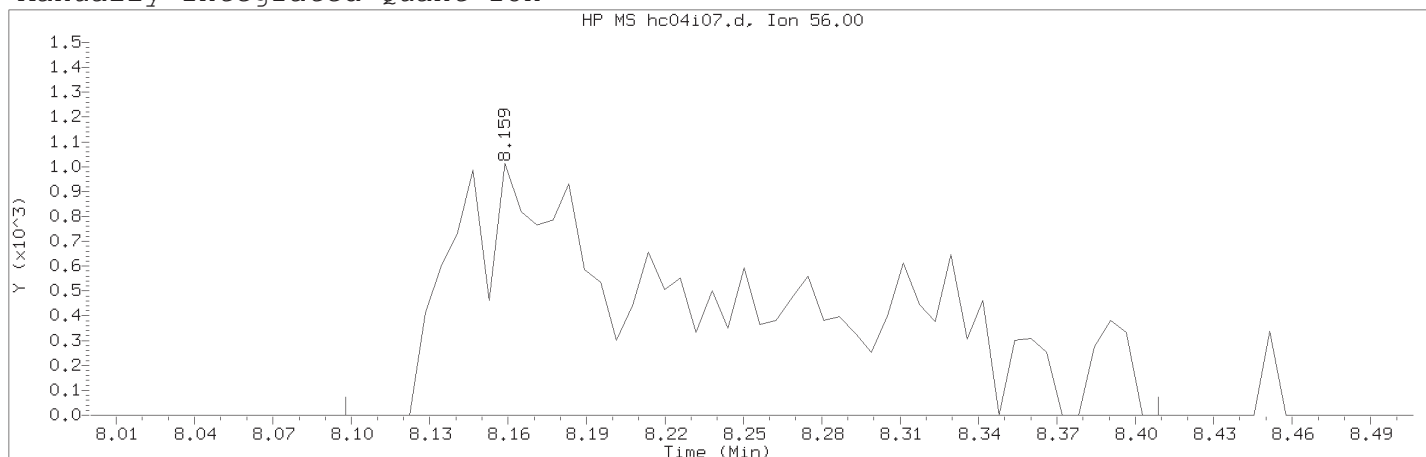
: 0

Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number	: 65	
Compound Name	: n-Butanol	
Scan Number	: 1078	
Retention Time (minutes)	: 8.159	
Quant Ion	: 56.00	
Area (flag)	: 7719M	
On-Column Amount (ng)	: 15.7343	
Integration start scan	: 1067	Integration stop scan: 1118
Y at integration start	: 0	Y at integration end: 0

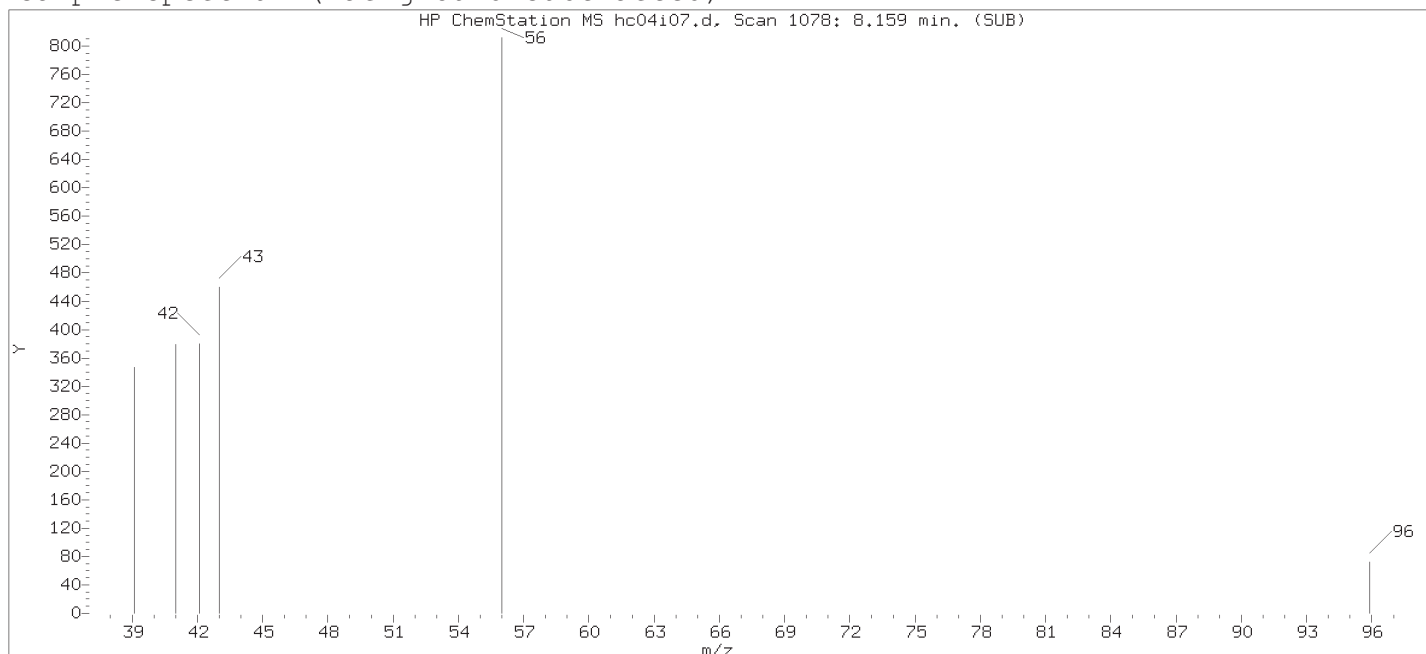
Reason for manual integration: improper integration

Analyst responsible for change:

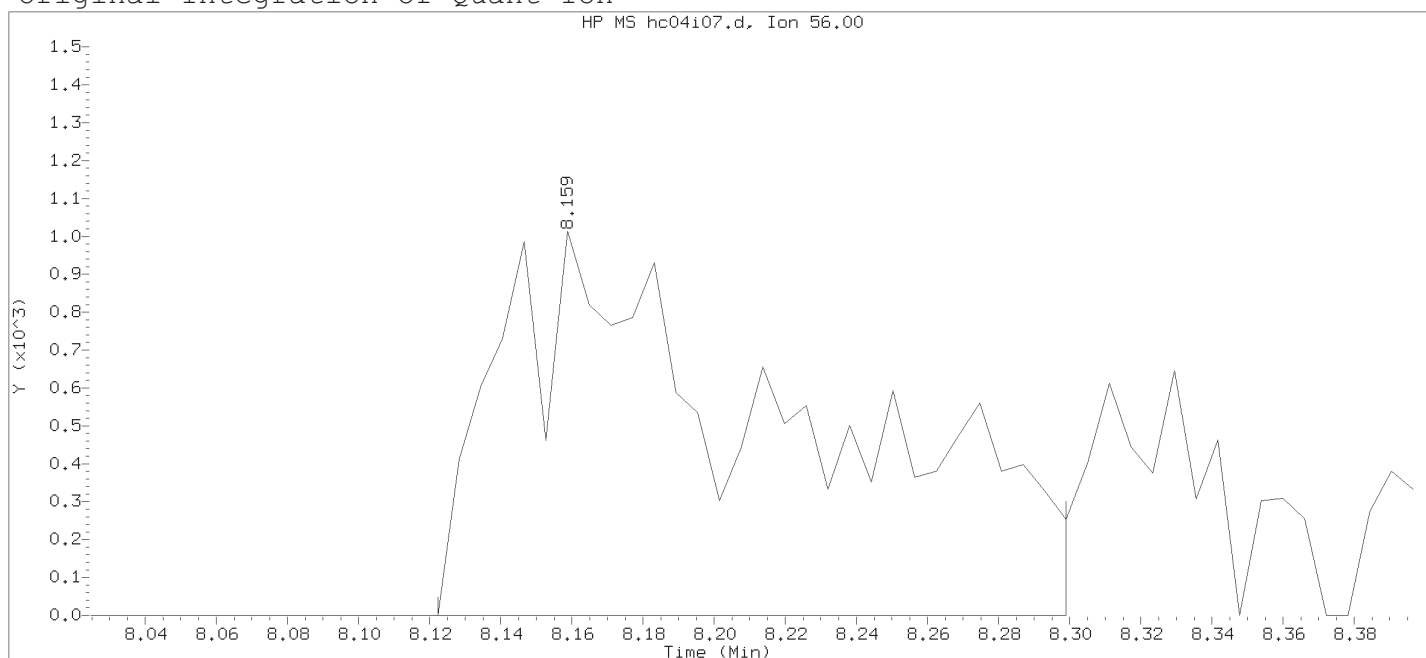
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:55

Date, time and analyst ID of latest file update: 04-Oct-2016 12:55 Automation

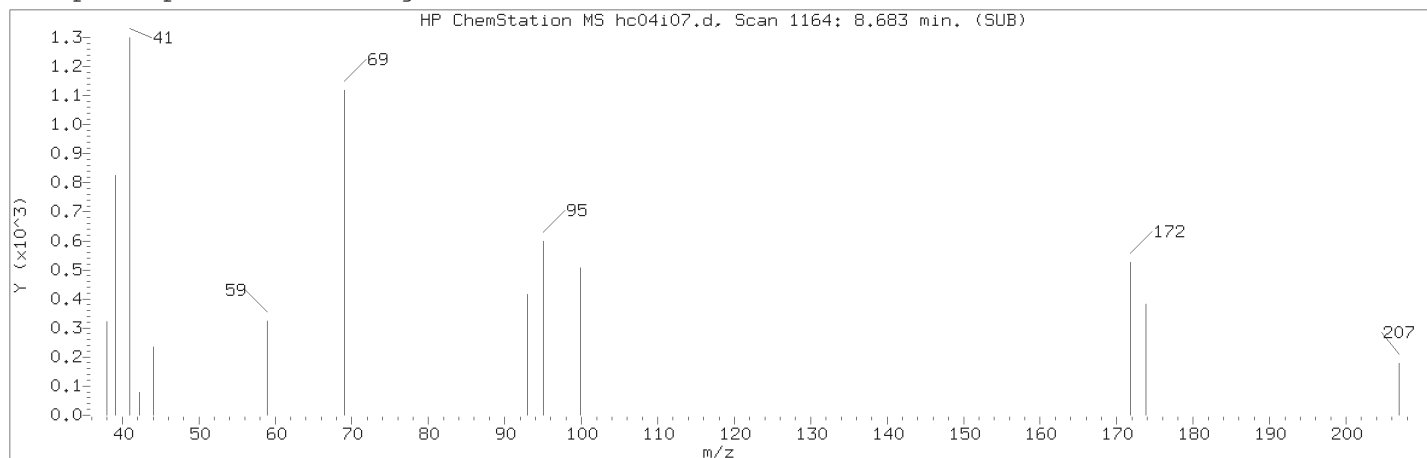
Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

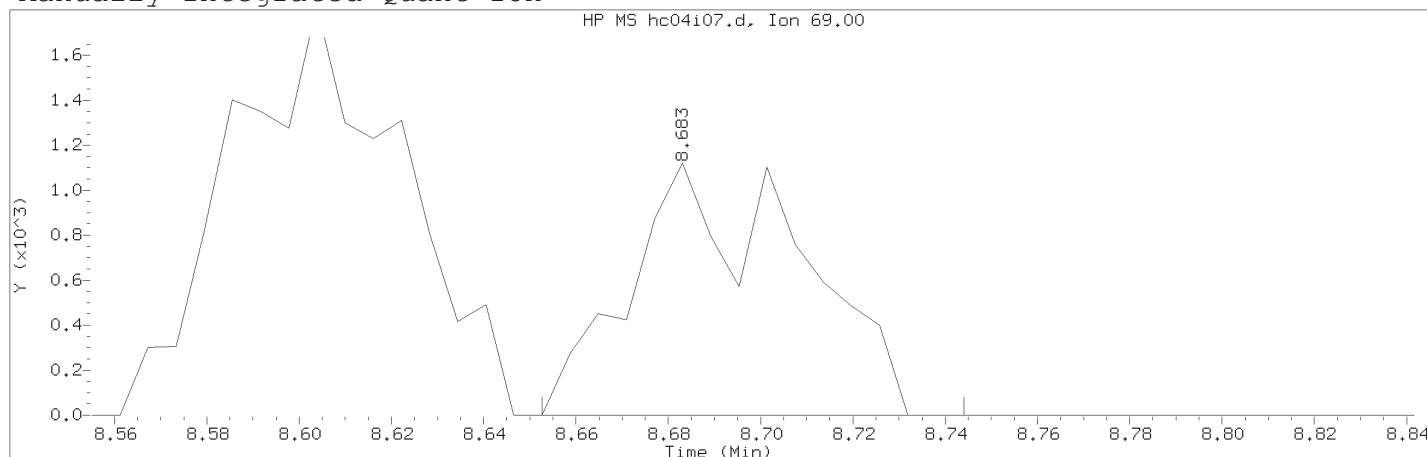
Compound Number : 65
 Compound Name : n-Butanol
 Scan Number : 1078
 Retention Time (minutes) : 8.159
 Quant Ion : 56.00
 Area : 5806
 On-column Amount (ng) : 14.5306
 Integration start scan : 1071
 Y at integration start : 0

Integration stop scan: 1100
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number	: 71	
Compound Name	: Methyl Methacrylate	
Scan Number	: 1164	
Retention Time (minutes)	: 8.683	
Quant Ion	: 69.00	
Area (flag)	: 2871M	
On-Column Amount (ng)	: 0.1489	
Integration start scan	: 1158	Integration stop scan: 1173
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

Analyst responsible for change:

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

HP ChemStation MS hc04107.d, Scan 1151: 8.604 min. (SUB)

Mass spectrum showing relative intensity (Y, $\times 10^3$) versus mass-to-charge ratio (m/z). The spectrum displays several peaks, with the base peak at m/z 41. Other labeled peaks include 39, 55, 63, 83, and 98.

m/z	Relative Intensity (Y, $\times 10^3$)
39	4.4
41	7.2
43	0.6
49	1.2
51	0.8
55	5.6
56	2.4
62	2.8
63	4.4
68	1.0
69	2.0
75	0.6
76	1.6
82	1.4
83	7.0
98	3.6
99	0.4

HP MS hc04107.d, Ion 69.00

Y (x10³)

Time (Min)

8.604

Instrument ID: HP19094.i

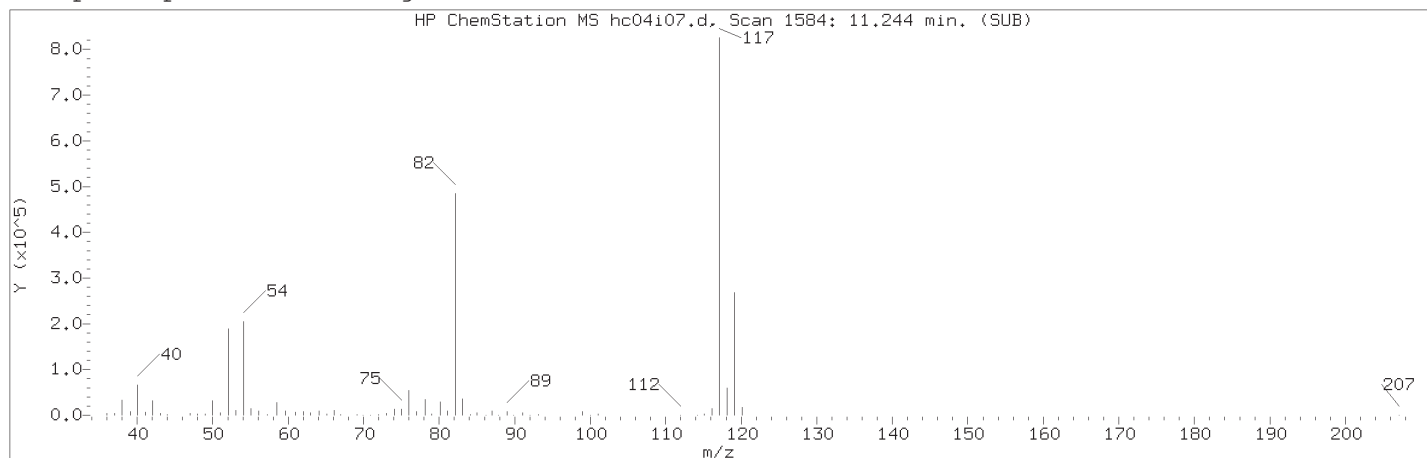
Analyst ID: kel01973

Date, time and analyst ID of latest file update: 04-Oct-2016 12:55 Automation

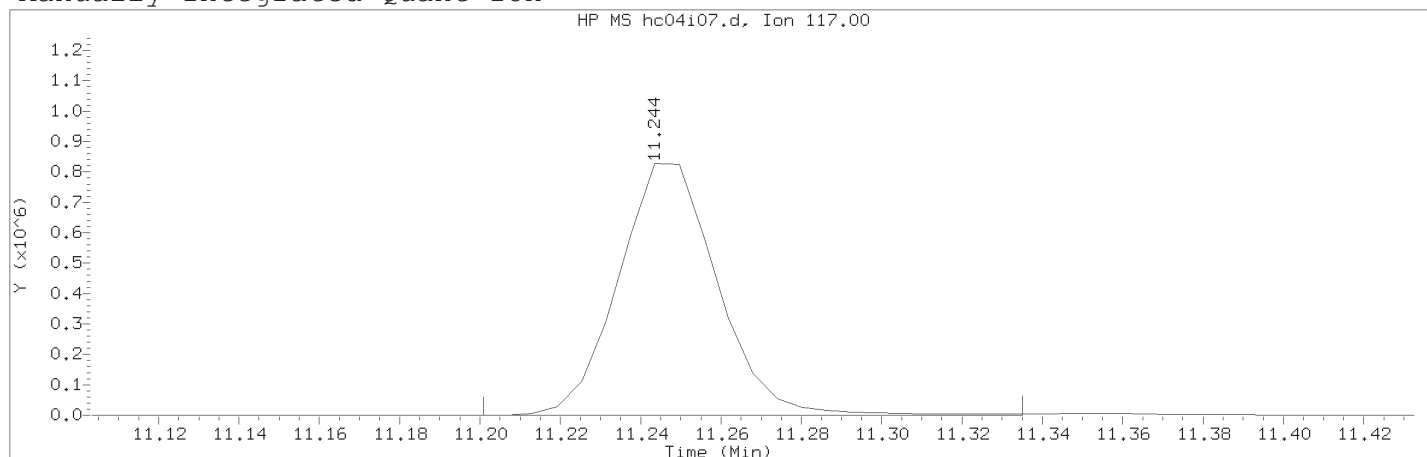
Lab Sample ID: VSTD0.2

Compound Number	:	71	
Compound Name	:	Methyl Methacrylate	
Scan Number	:	1151	
Retention Time (minutes)	:	8.604	
Quant Ion	:	69.00	
Area	:	7571	
On-column Amount (ng)	:	0.3659	
Integration start scan	:	1142	Integration stop scan: 1178
Y at integration start	:	0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number	: 97	
Compound Name	: Chlorobenzene-d5	
Scan Number	: 1584	
Retention Time (minutes)	: 11.244	
Quant Ion	: 117.00	
Area (flag)	: 1416303M	
On-Column Amount (ng)	: 10.0000	
Integration start scan	: 1576	Integration stop scan: 1598
Y at integration start	: 0	Y at integration end: 0

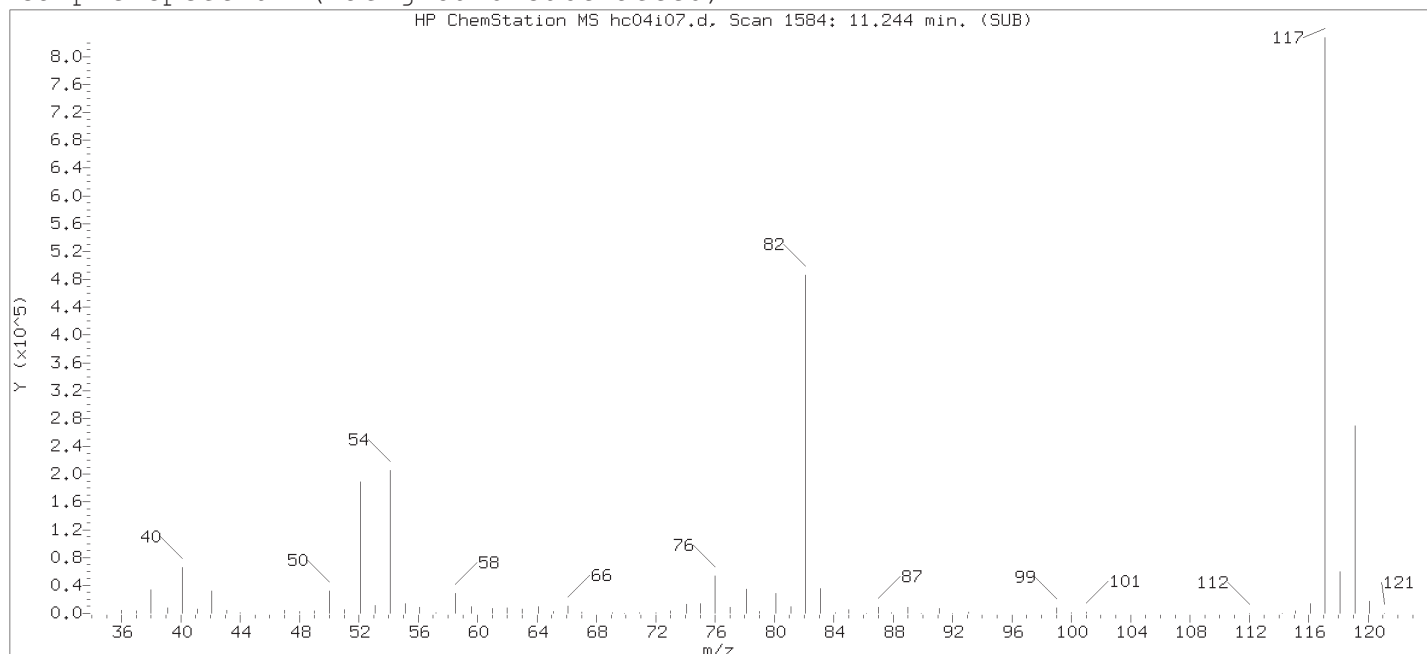
Reason for manual integration: improper integration

Analyst responsible for change:

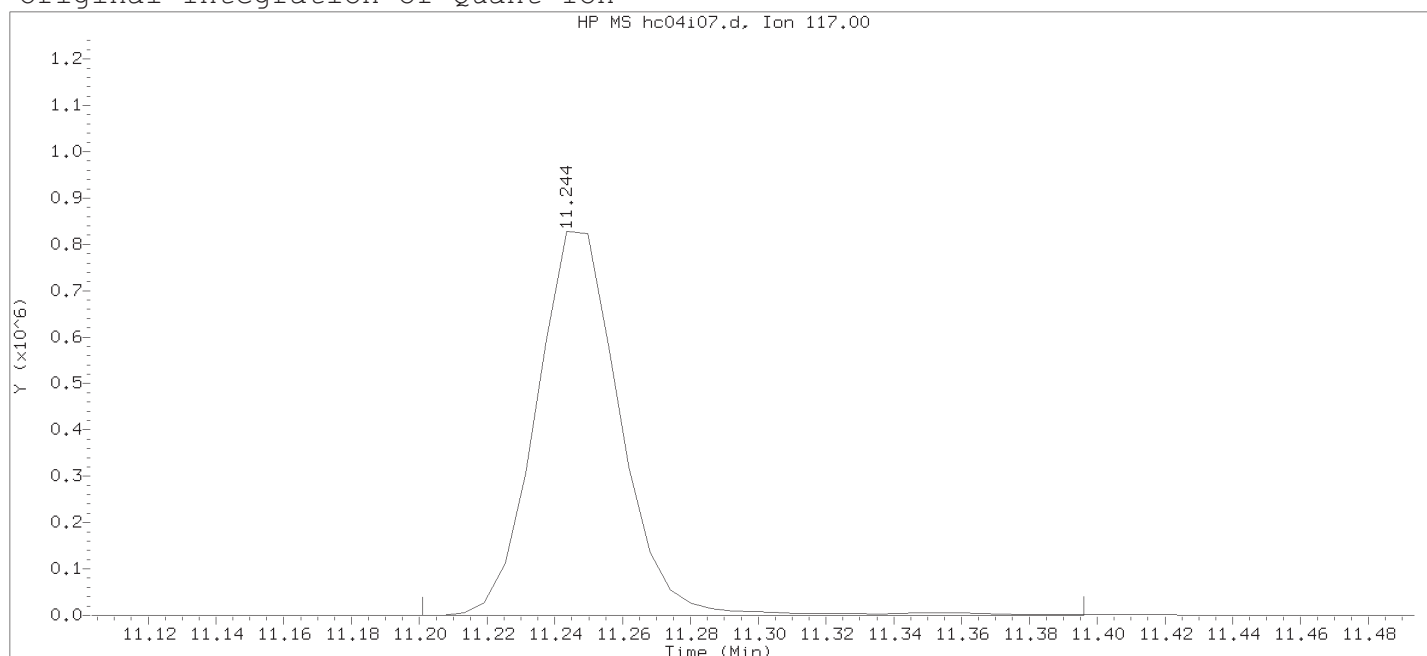
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:55

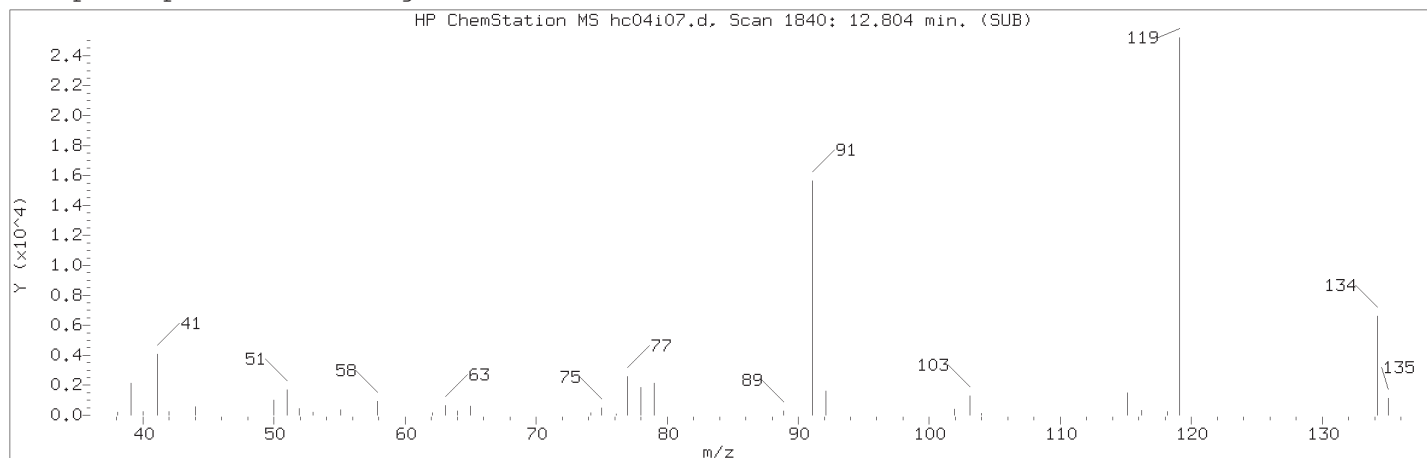
Date, time and analyst ID of latest file update: 04-Oct-2016 12:55 Automation

Sample Name: VSTD0.2

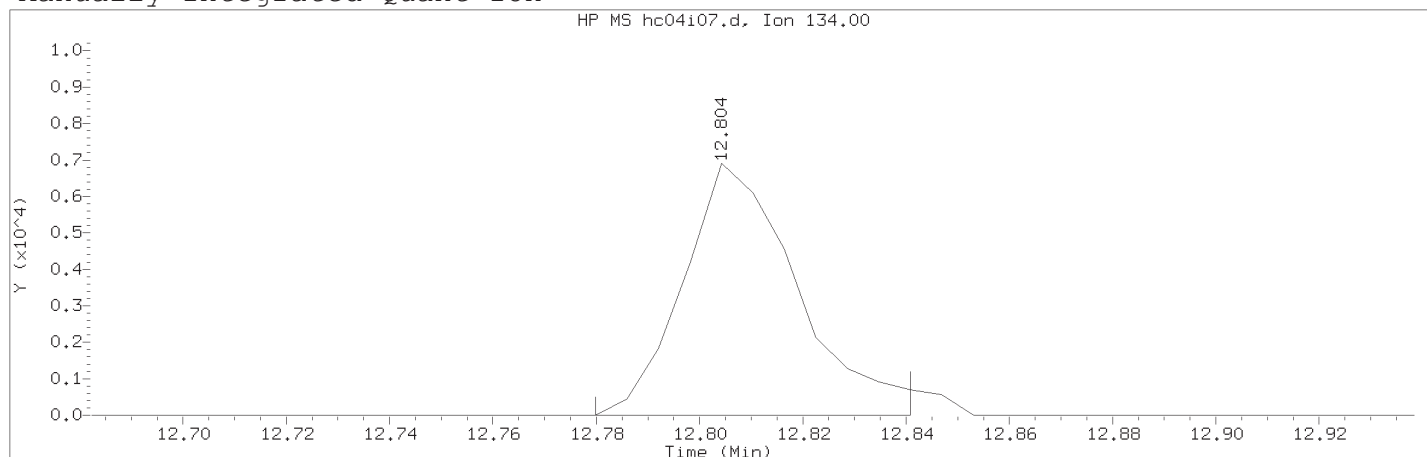
Lab Sample ID: VSTD0.2

Compound Number	: 97	
Compound Name	: Chlorobenzene-d5	
Scan Number	: 1584	
Retention Time (minutes)	: 11.244	
Quant Ion	: 117.00	
Area	: 1427811	
On-column Amount (ng)	: 10.0000	
Integration start scan	: 1576	Integration stop scan: 1608
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number	: 125	
Compound Name	: tert-Butylbenzene	
Scan Number	: 1840	
Retention Time (minutes)	: 12.804	
Quant Ion	: 134.00	
Area (flag)	: 10624M	
On-Column Amount (ng)	: 0.2105	
Integration start scan	: 1835	Integration stop scan: 1845
Y at integration start	: 0	Y at integration end: 0

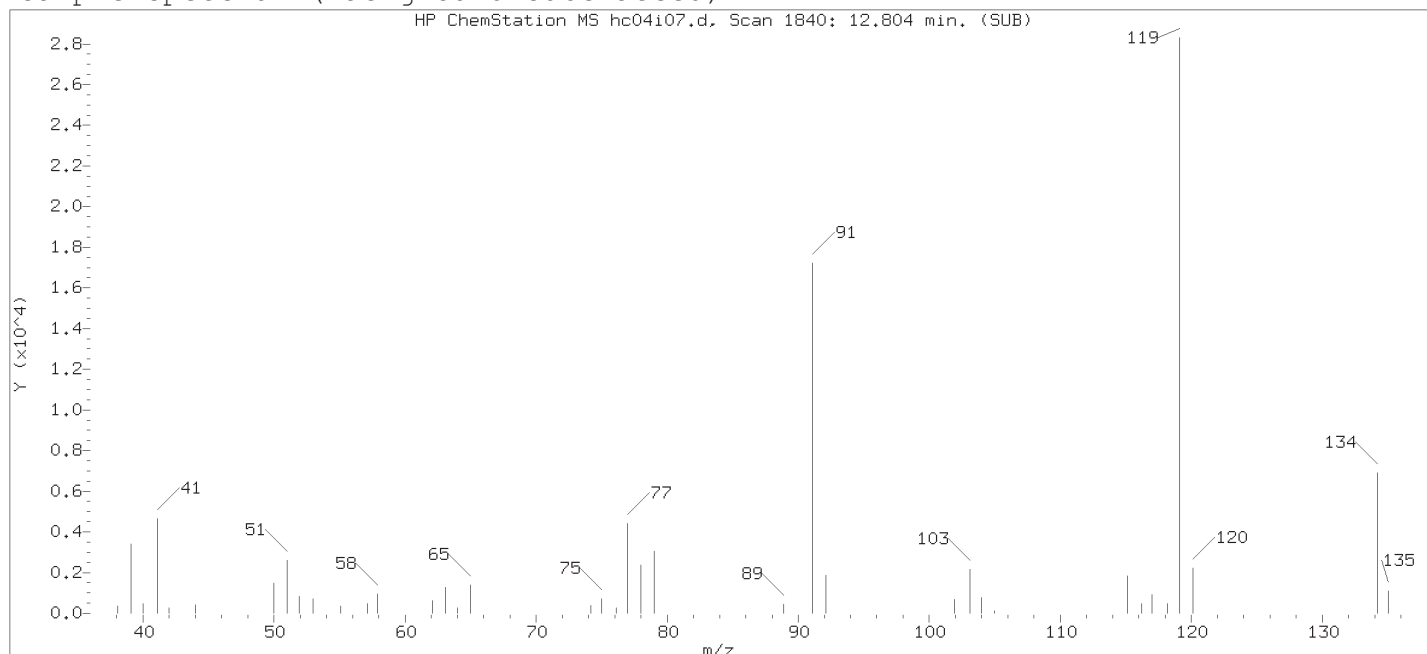
Reason for manual integration: improper integration

Analyst responsible for change:

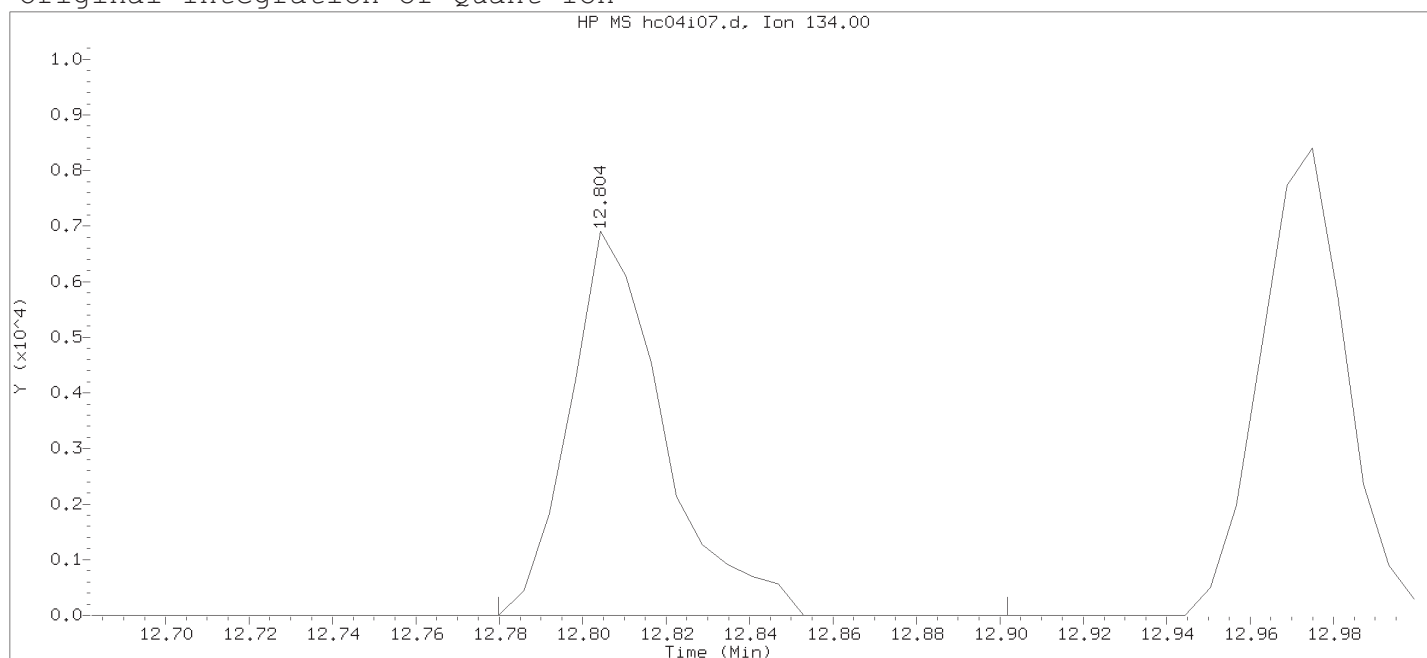
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:55

Date, time and analyst ID of latest file update: 04-Oct-2016 12:55 Automation

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number : 125

Compound Name : tert-Butylbenzene

Scan Number : 1840

Retention Time (minutes): 12.804

Quant Ion : 134.00

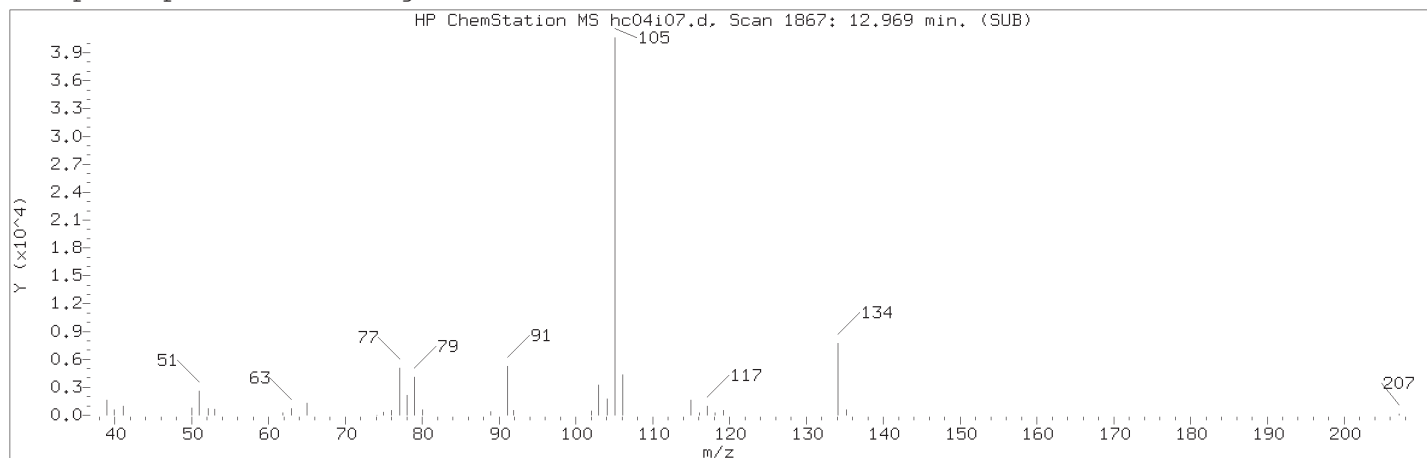
Area : 10831

On-column Amount (ng) : 0.2143

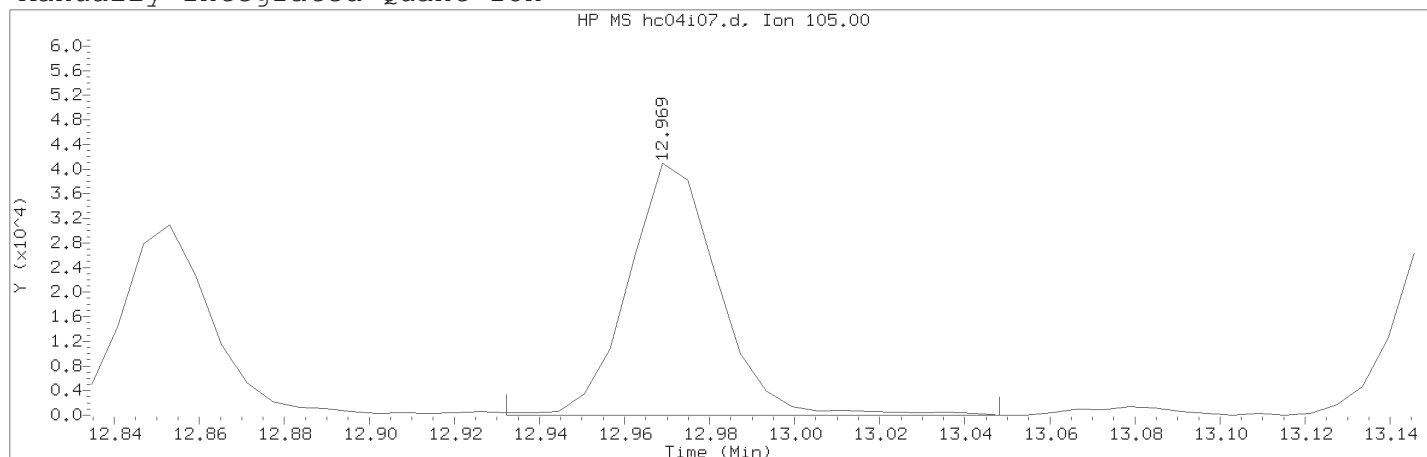
Integration start scan : 1835 Integration stop scan: 1855

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number	: 128	
Compound Name	: sec-Butylbenzene	
Scan Number	: 1867	
Retention Time (minutes)	: 12.969	
Quant Ion	: 105.00	
Area (flag)	: 59995M	
On-Column Amount (ng)	: 0.1976	
Integration start scan	: 1860	Integration stop scan: 1879
Y at integration start	: 0	Y at integration end: 0

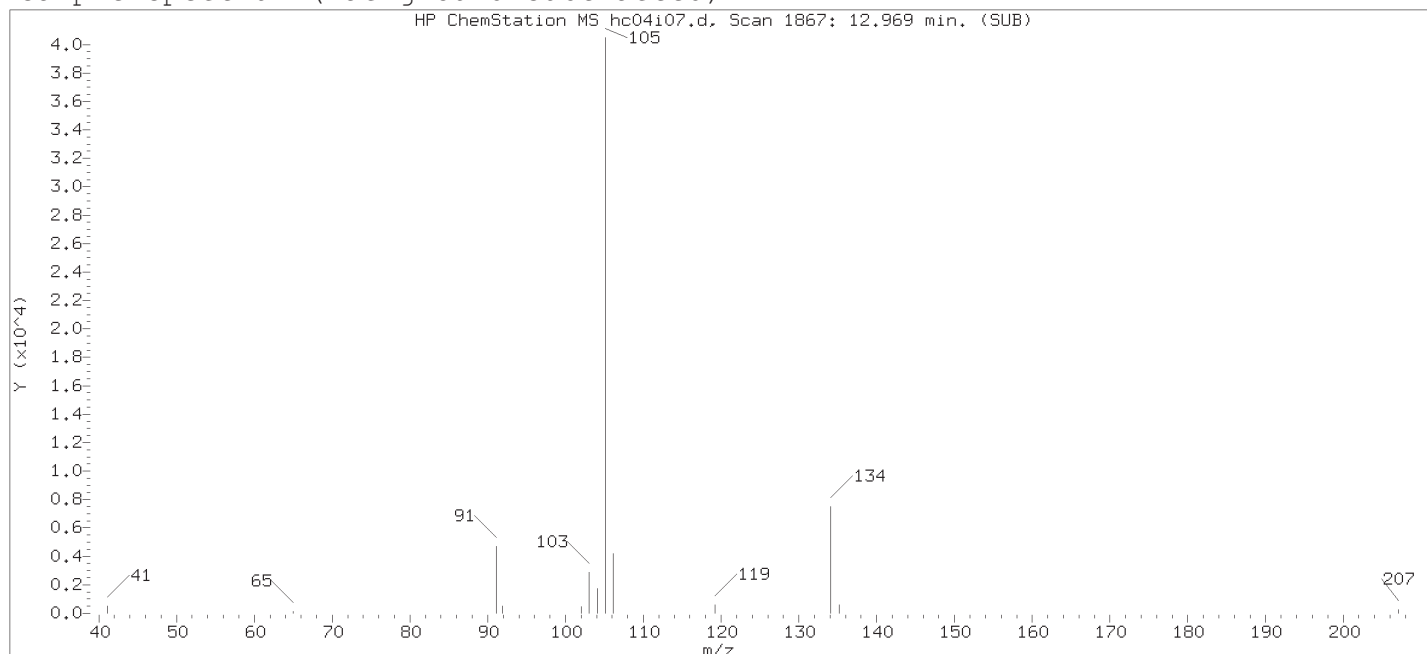
Reason for manual integration: improper integration

Analyst responsible for change:

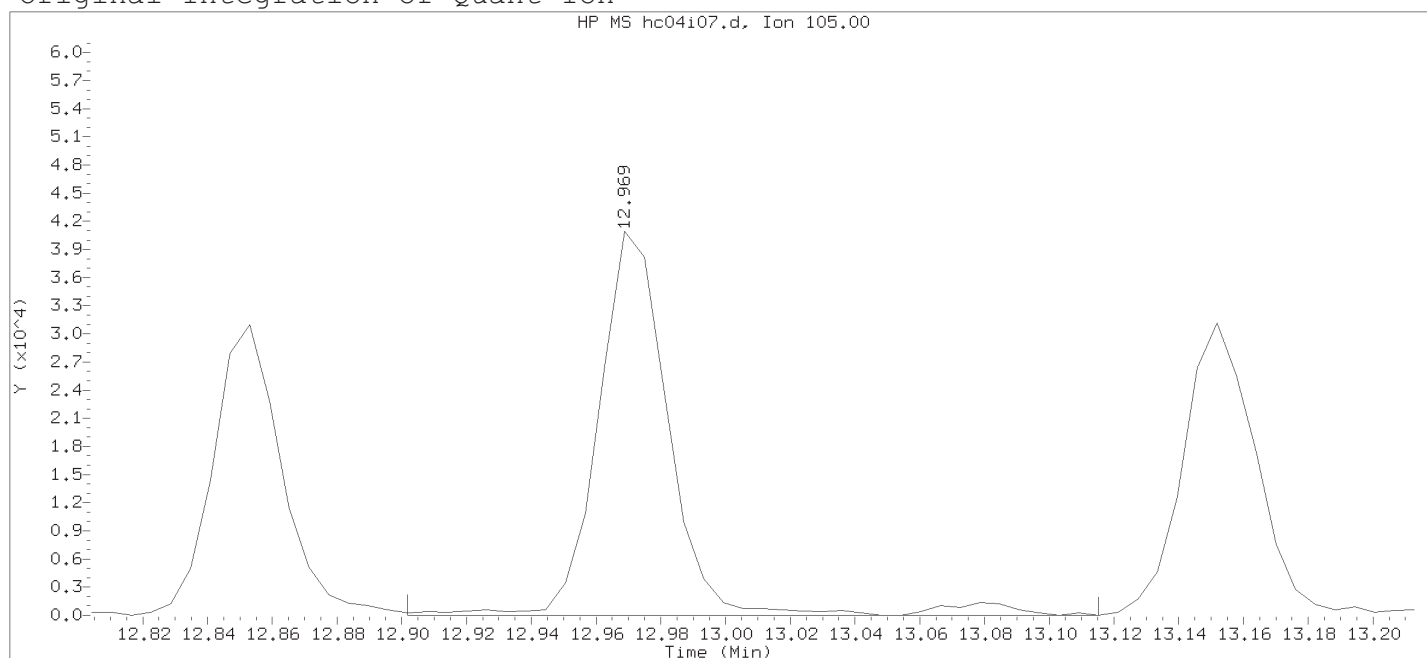
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:55

Date, time and analyst ID of latest file update: 04-Oct-2016 12:55 Automation

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number : 128

Compound Name : sec-Butylbenzene

Scan Number : 1867

Retention Time (minutes) : 12.969

Quant Ion : 105.00

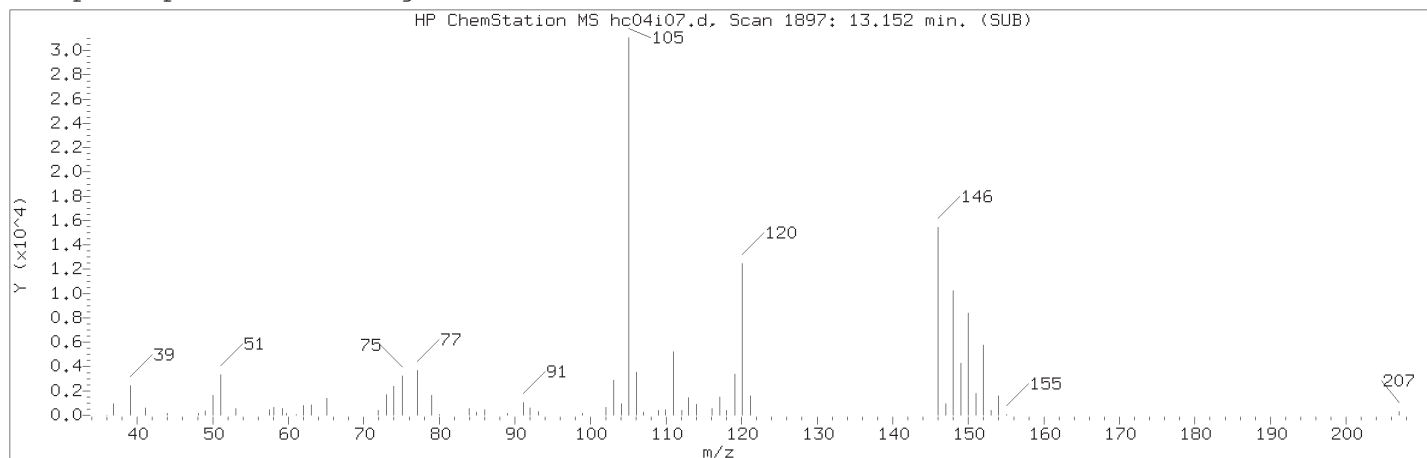
Area : 62817

On-column Amount (ng) : 0.2064

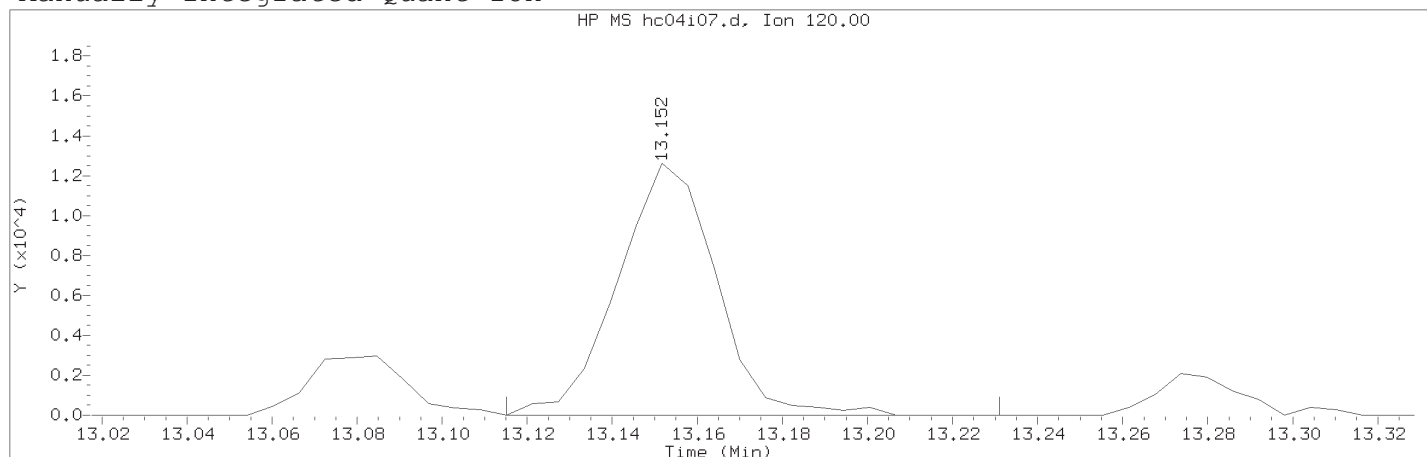
Integration start scan : 1855 Integration stop scan: 1890

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number	: 135	
Compound Name	: 1,2,3-Trimethylbenzene	
Scan Number	: 1897	
Retention Time (minutes)	: 13.152	
Quant Ion	: 120.00	
Area (flag)	: 20265M	
On-Column Amount (ng)	: 0.2005	
Integration start scan	: 1890	Integration stop scan: 1909
Y at integration start	: 0	Y at integration end: 0

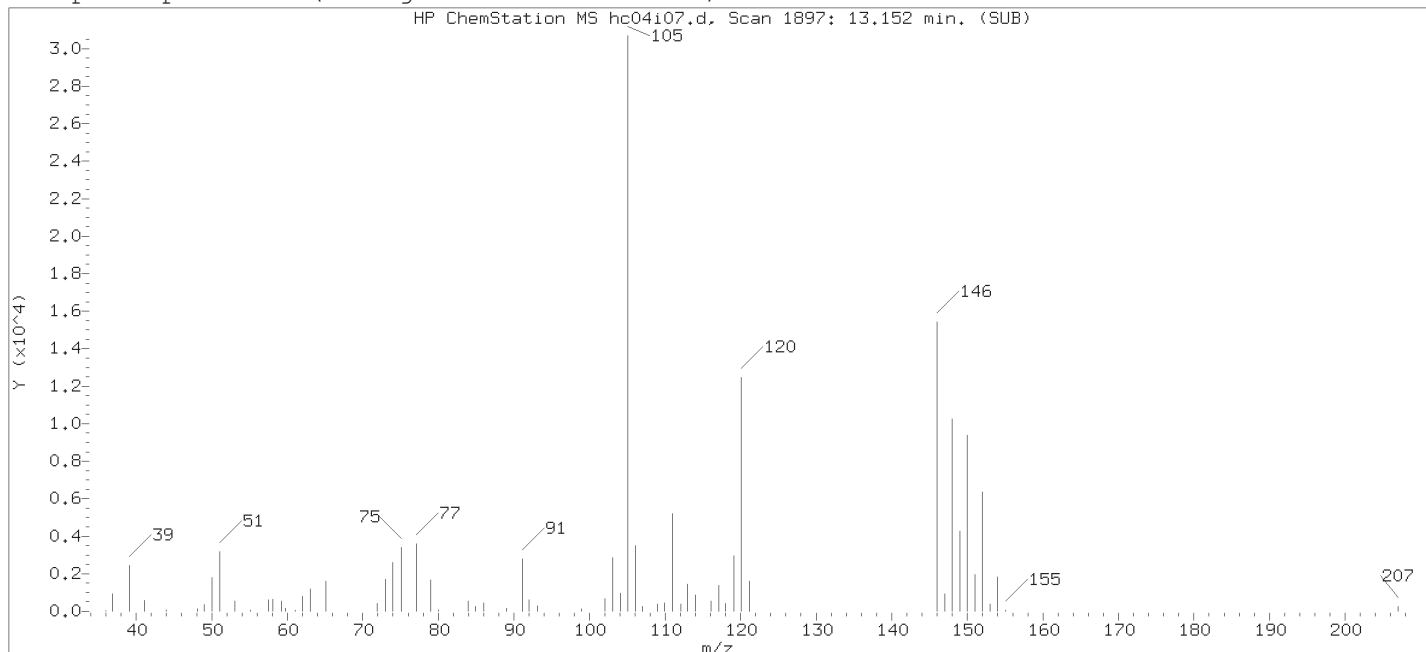
Reason for manual integration: improper integration

Analyst responsible for change:

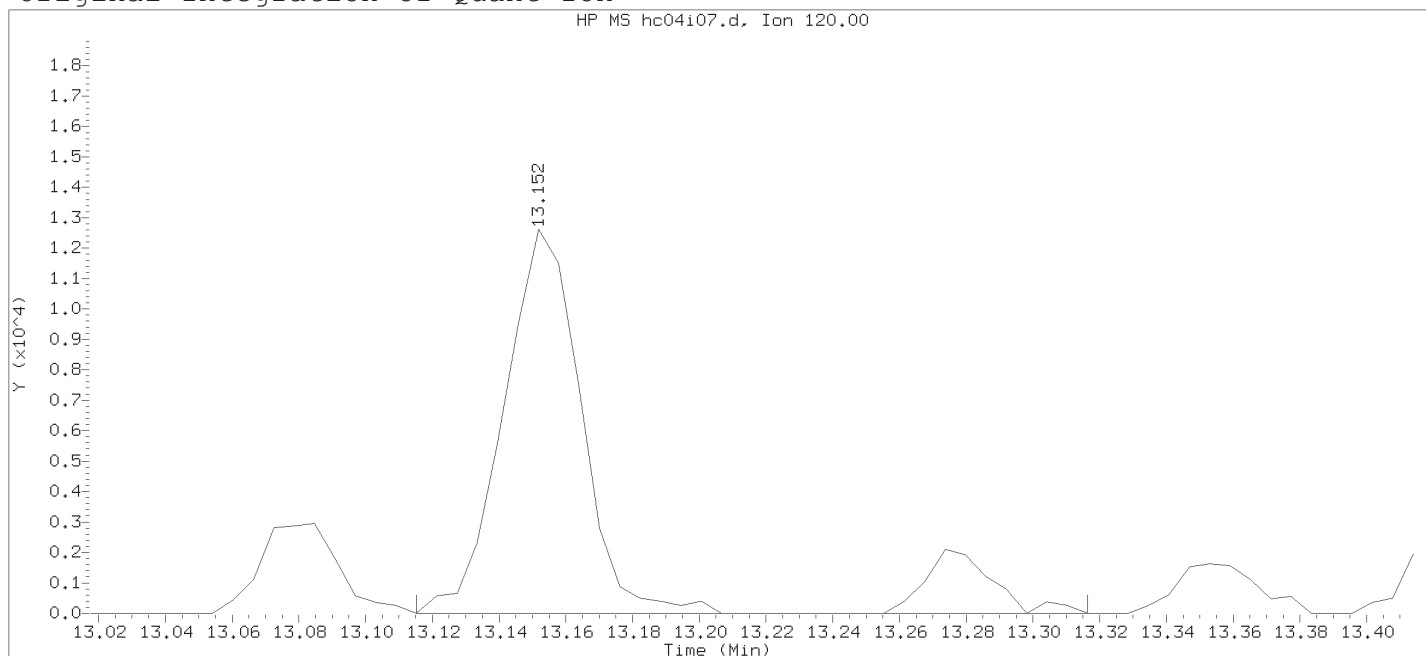
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:55

Date, time and analyst ID of latest file update: 04-Oct-2016 12:55 Automation

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number : 135

Compound Name : 1,2,3-Trimethylbenzene

Scan Number : 1897

Retention Time (minutes): 13.152

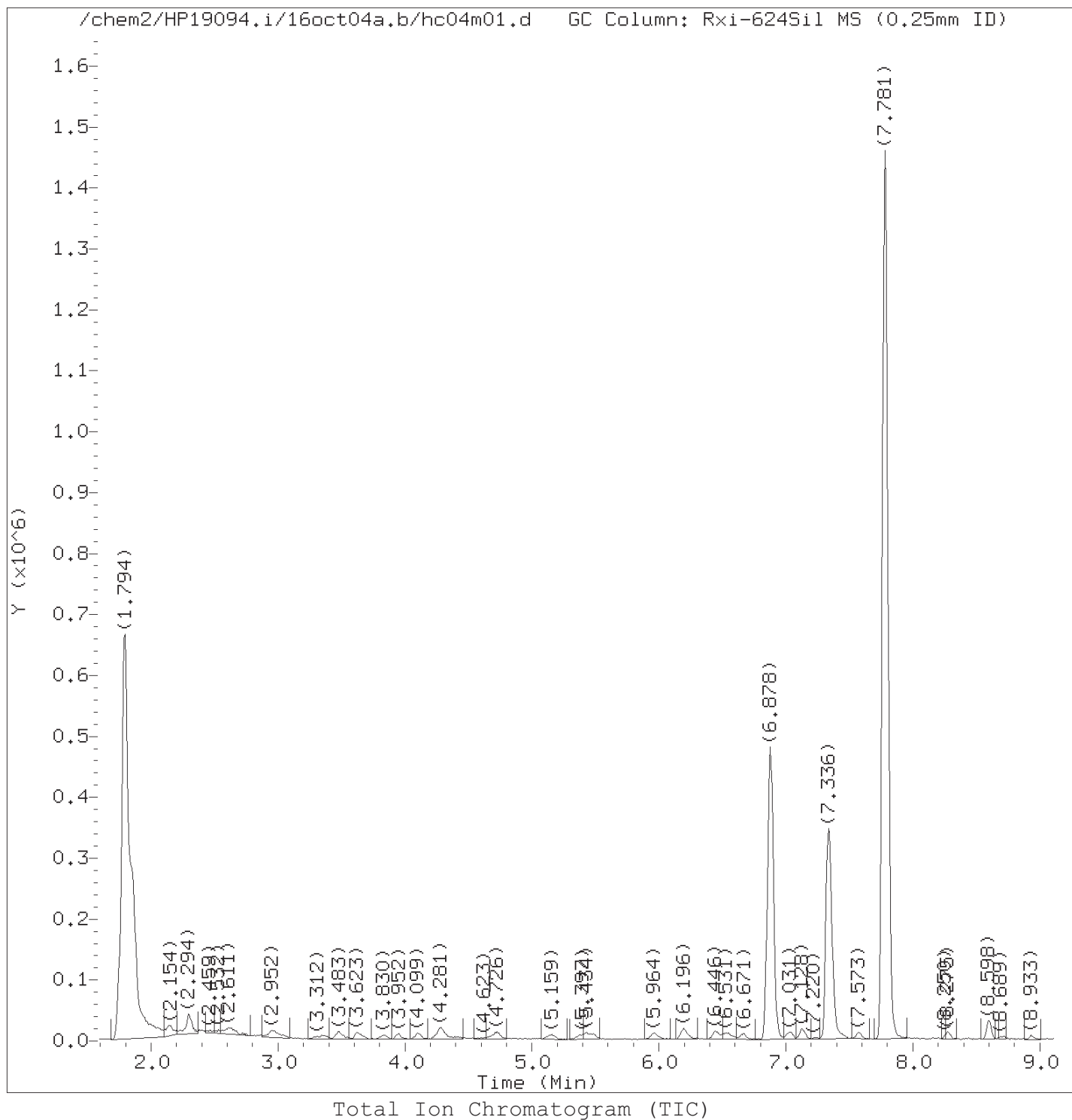
Quant Ion : 120.00

Area : 23231

On-column Amount (ng) : 0.2275

Integration start scan : 1890 Integration stop scan: 1923

Y at integration start : 0 Y at integration end: 0



Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d
Injection date and time: 04-OCT-2016 12:56

Instrument ID: HP19094.i
Analyst ID: kel01973

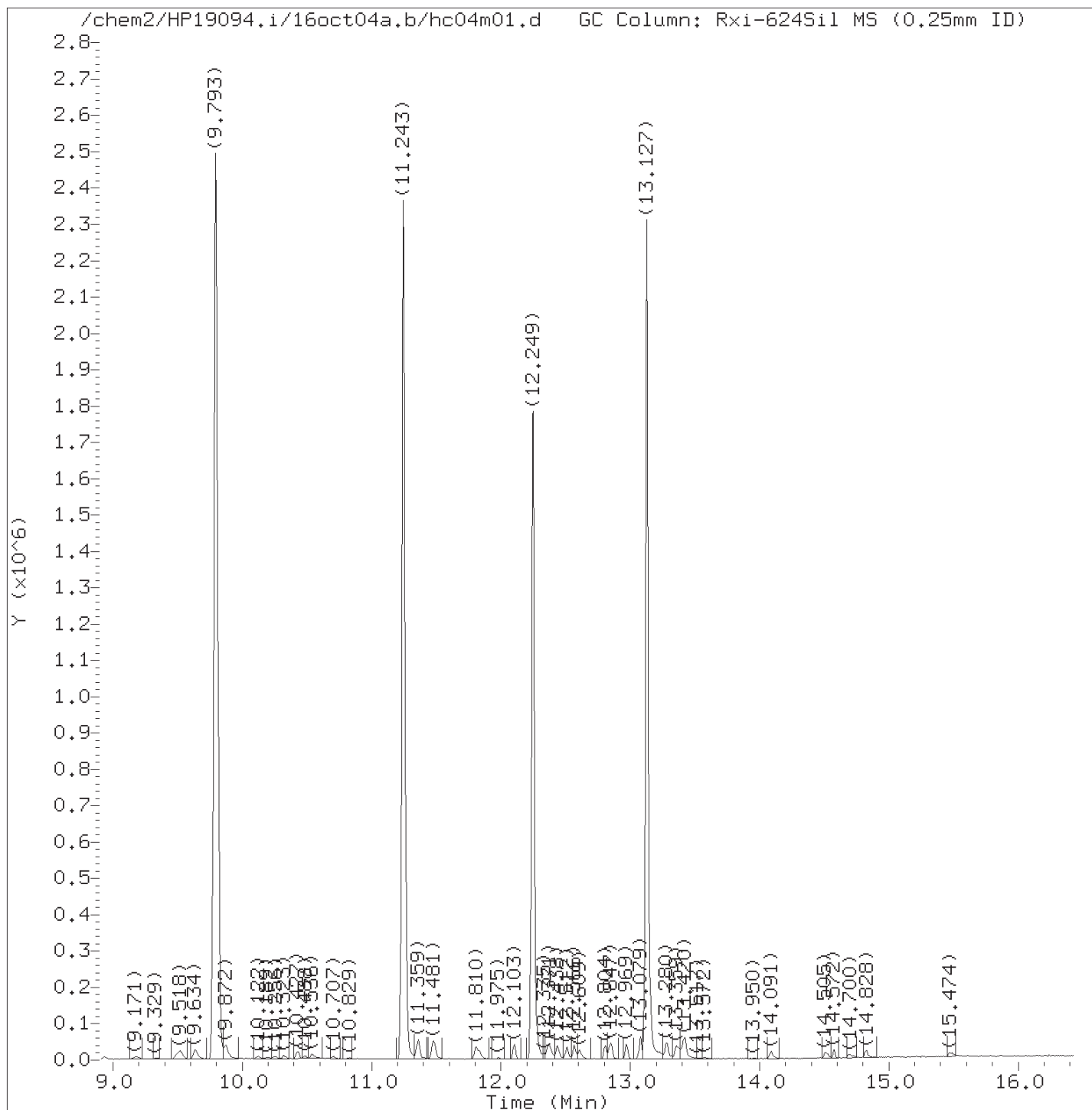
Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:33
Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.

Target 3.5 esignature User ID: kel01973
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Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 12:56 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:33
Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.
Target 3.5 esignature User ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d
 Injection date and time: 04-OCT-2016 12:56

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:33
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.026	85	9414	0.109
2) Chloromethane	(2)	2.142	50	12025	0.130
5) Vinyl Chloride	(2)	2.294	62	8936	0.108
6) 1,3-Butadiene	(2)	2.306	39	16639M	0.131
7) Bromomethane	(2)	2.623	94	5415	0.102
8) Chloroethane	(2)	2.721	64	5397	0.116
9) Dichlorofluoromethane	(2)	2.952	67	12783	0.115
10) Trichlorofluoromethane	(2)	3.038	101	10226	0.102
11) Ethyl ether	(2)	3.312	59	3721	0.101
12) Freon 123a	(2)	3.367	67	6664	0.096
13) Acrolein	(1)	3.477	56	21269	4.794
15) 1,1-Dichloroethene	(2)	3.623	96	5028	0.108
16) Freon 113	(2)	3.641	101	4233	0.083
14) Acetone	(1)	3.672	43	7749	1.305
17) Methyl Iodide	(2)	3.824	142	8559	0.096
18) Carbon Disulfide	(2)	3.952	76	18036M	0.127
21) Methyl Acetate	(1)	4.092	43	1547M	0.336
22) Allyl Chloride	(2)	4.111	41	11325	0.111
26)*t-Butyl Alcohol-d10	(1)	4.269	65	61694	50.000
23) Methylene Chloride	(2)	4.281	84	5709	0.114
28) t-Butyl Alcohol	(1)	4.416	59	1842	1.148
29) Acrylonitrile	(1)	4.647	53	2722	0.389
30) Methyl Tertiary Butyl Ether	(2)	4.696	73	10114	0.093
31) trans-1,2-Dichloroethene	(2)	4.726	96	5555	0.105
32) n-Hexane	(2)	5.165	57	6580	0.082
33) 1,1-Dichloroethane	(2)	5.373	63	10017	0.096
34) di-Isopropyl Ether	(2)	5.434	45	18310	0.098
35) 2-Chloro-1,3-Butadiene	(2)	5.495	53	9182	0.095
37) Ethyl t-butyl ether	(2)	5.964	59	13990	0.092
40) 1,2-Dichloroethene (Total)	(2)		96	11665	0.210
38) 2-Butanone	(1)	6.184	43	9965	0.948
41) 2,2-Dichloropropane	(2)	6.196	77	8249	0.097
39) cis-1,2-Dichloroethene	(2)	6.196	96	6110	0.105
42) Propionitrile	(1)	6.281	54	3016	1.301
45) Methacrylonitrile	(1)	6.452	67	8775	0.887
47) Bromochloromethane	(2)	6.525	128	2193	0.094
48) Tetrahydrofuran	(1)	6.549	71	2855	1.054
49) Chloroform	(2)	6.671	83	10721	0.106

M = Compound was manually integrated.

* = Compound is an internal standard.

page 1 of 3

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 on 10/04/2016 at 15:40.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d
 Injection date and time: 04-OCT-2016 12:56

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:33
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
50) \$Dibromofluoromethane	(2)	6.878	113	460279	9.851
51) 1,1,1-Trichloroethane	(2)	6.915	97	9311	0.103
52) Cyclohexane	(2)	7.025	56	9806	0.092
55) 1,1-Dichloropropene	(2)	7.128	75	7695	0.094
54) Carbon Tetrachloride	(2)	7.128	117	6994	0.089
56) Isobutyl Alcohol	(1)	7.250	41	1767	2.784
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	77318	10.300
58) Benzene	(2)	7.391	78	21439	0.098
59) 1,2-Dichloroethane	(2)	7.445	62	7347	0.121
60) t-Amyl methyl ether	(2)	7.567	73	11191	0.091
63) *Fluorobenzene	(2)	7.781	96	2037214	10.000
62) n-Heptane	(2)	7.811	43	9340	0.096
65) n-Butanol	(1)	8.189	56	1449	3.126
67) Trichloroethene	(2)	8.281	95	6215	0.104
70) 1,2-Dichloropropane	(2)	8.598	63	5224	0.094
69) Methylcyclohexane	(2)	8.610	83	11371	0.109
71) Methyl Methacrylate	(1)	8.671	69	930M	0.051
73) Dibromomethane	(2)	8.701	93	2126	0.091
74) Bromodichloromethane	(2)	8.933	83	5847	0.092
76) 2-Nitropropane	(1)	9.183	41	7366	1.093
80) cis-1,3-Dichloropropene	(2)	9.494	75	6072	0.084
81) 4-Methyl-2-Pentanone	(1)	9.640	43	27813	0.990
82) \$Toluene-d8	(3)	9.793	98	1984496	10.156
83) Toluene	(3)	9.872	92	13330	0.099
84) trans-1,3-Dichloropropene	(3)	10.122	75	5015	0.092
85) 1,3-Dichloropropene (total)	(3)		75	11087	0.176
86) Ethyl Methacrylate	(3)	10.189	69	3185	0.076
88) 1,1,2-Trichloroethane	(3)	10.323	97	3348	0.108
89) Tetrachloroethene	(3)	10.433	166	6522	0.101
90) 1,3-Dichloropropane	(3)	10.488	76	5029	0.090
91) 2-Hexanone	(1)	10.536	43	18146	0.933
93) Dibromochloromethane	(3)	10.701	129	3301	0.086
95) 1,2-Dibromoethane	(3)	10.829	107	2424	0.083
97) *Chlorobenzene-d5	(3)	11.243	117	1293534	10.000
98) Chlorobenzene	(3)	11.274	112	14866	0.104
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	4678	0.095
100) Ethylbenzene	(3)	11.359	91	26353	0.100
101) m+p-Xylene	(3)	11.481	106	18239	0.184

M = Compound was manually integrated.

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\$ = Compound is a surrogate standard.

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 on 10/04/2016 at 15:40.
 Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d
Injection date and time: 04-OCT-2016 12:56

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:33
Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
105) Xylene (Total)	(3)		106	27109	0.275
104) o-Xylene	(3)	11.804	106	8870	0.092
106) Styrene	(3)	11.835	104	13061	0.088
107) Bromoform	(3)	11.981	173	2097	0.100
108) Isopropylbenzene	(3)	12.103	105	24961	0.096
111) \$4-Bromofluorobenzene	(3)	12.243	95	572854	9.972
113) 1,1,2,2-Tetrachloroethane	(4)	12.335	83	3414	0.096
114) Bromobenzene	(4)	12.365	156	5720	0.100
115) trans-1,4-Dichloro-2-butene	(1)	12.371	53	7530M	0.905
116) 1,2,3-Trichloropropane	(4)	12.390	110	1014	0.107
117) n-Propylbenzene	(4)	12.438	91	28431	0.093
119) 2-Chlorotoluene	(4)	12.512	126	5787	0.101
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	18790	0.090
122) 4-Chlorotoluene	(4)	12.609	126	5623	0.096
125) tert-Butylbenzene	(4)	12.804	134	3884M	0.085
126) Pentachloroethane	(4)	12.841	167	3373	0.095
127) 1,2,4-Trimethylbenzene	(4)	12.853	105	19806	0.094
128) sec-Butylbenzene	(4)	12.969	105	25519	0.093
131) 1,3-Dichlorobenzene	(4)	13.079	146	11440	0.103
132) p-Isopropyltoluene	(4)	13.079	119	19174	0.084
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	575339	10.000
134) 1,4-Dichlorobenzene	(4)	13.146	146	13157	0.113
135) 1,2,3-Trimethylbenzene	(4)	13.158	120	9940M	0.109
136) Benzyl Chloride	(4)	13.237	126	689	0.057
138) n-Butylbenzene	(4)	13.383	92	9602	0.087
139) 1,2-Dichlorobenzene	(4)	13.408	146	9604	0.097
143) 1,2-Dibromo-3-chloropropane	(1)	13.950	155	193	0.047
145) 1,2,4-Trichlorobenzene	(4)	14.517	180	8880	0.126
146) Hexachlorobutadiene	(4)	14.578	225	3757	0.112
147) Naphthalene	(4)	14.694	128	12628M	0.118
148) 1,2,3-Trichlorobenzene	(4)	14.828	180	8148	0.137

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

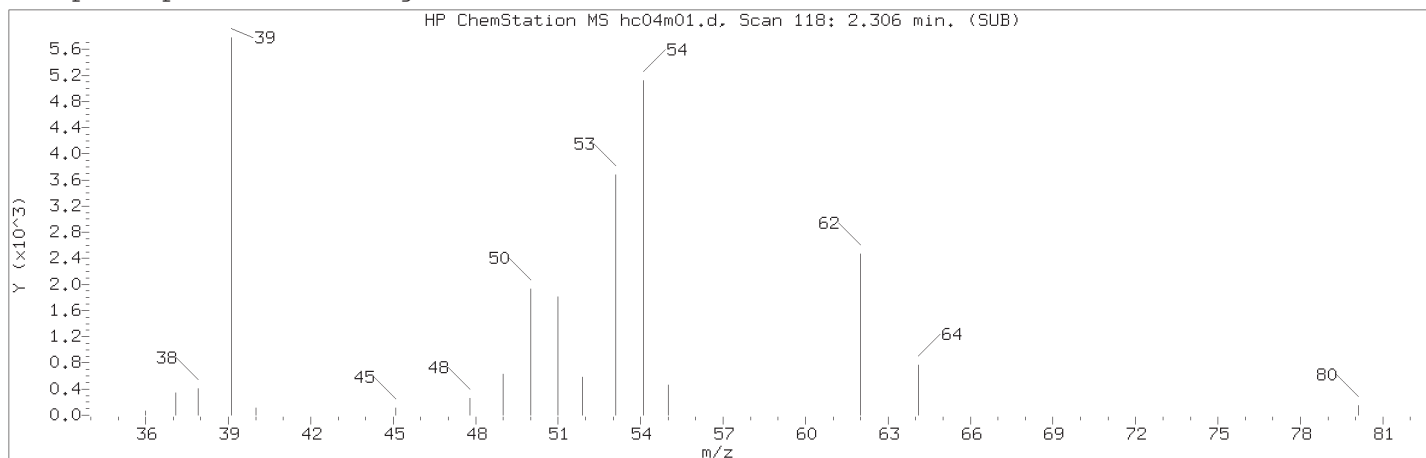
page 3 of 3

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.

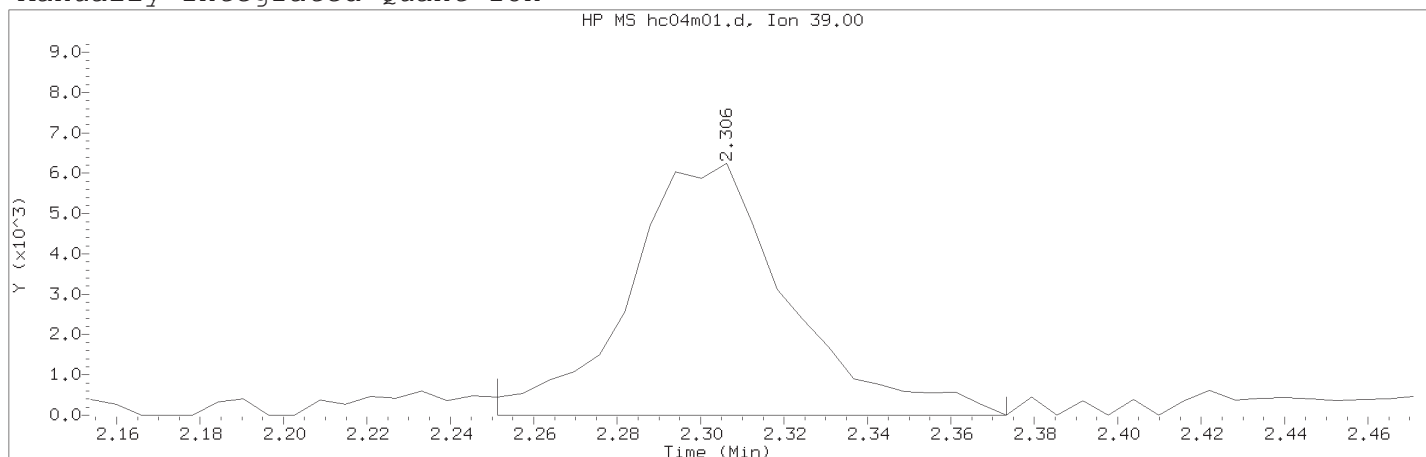
Target 3.5 esignature user ID: kel01973

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Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:33

Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number	: 6	
Compound Name	: 1,3-Butadiene	
Scan Number	: 118	
Retention Time (minutes)	: 2.306	
Quant Ion	: 39.00	
Area (flag)	: 16639M	
On-Column Amount (ng)	: 0.1314	
Integration start scan	: 108	Integration stop scan: 128
Y at integration start	: 0	Y at integration end: 0

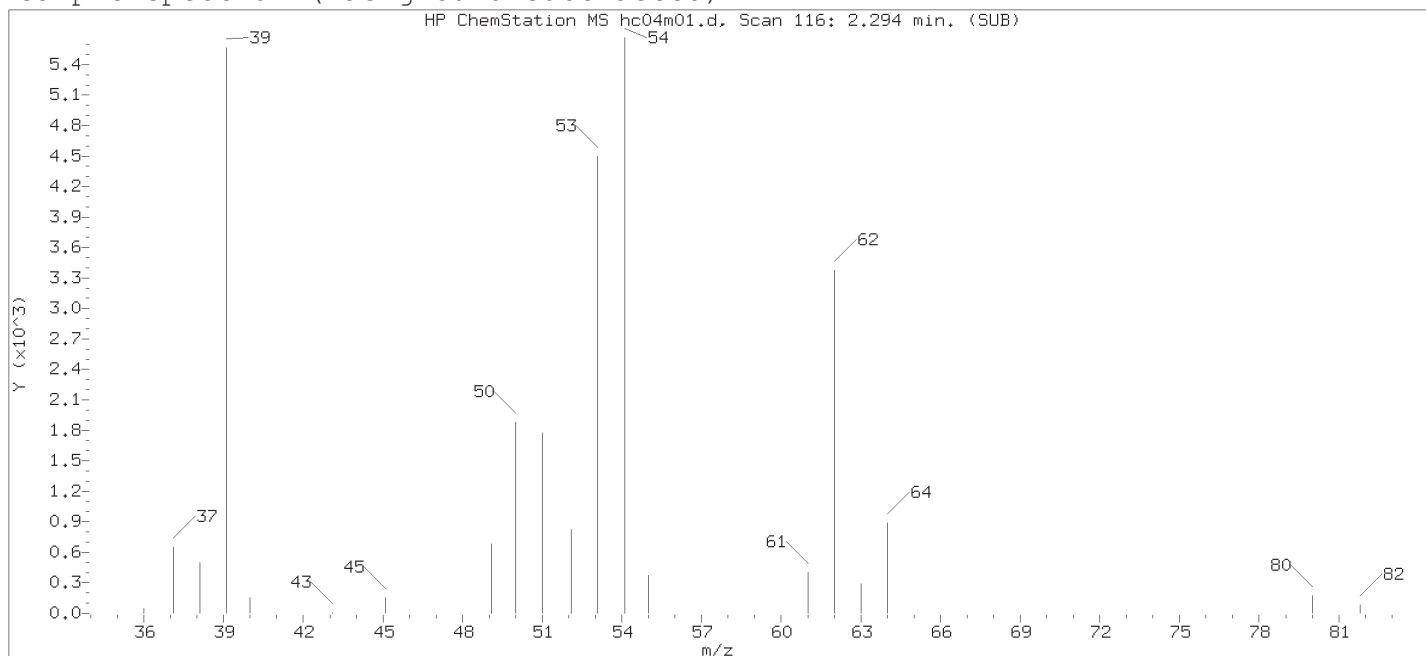
Reason for manual integration: improper integration

Analyst responsible for change:

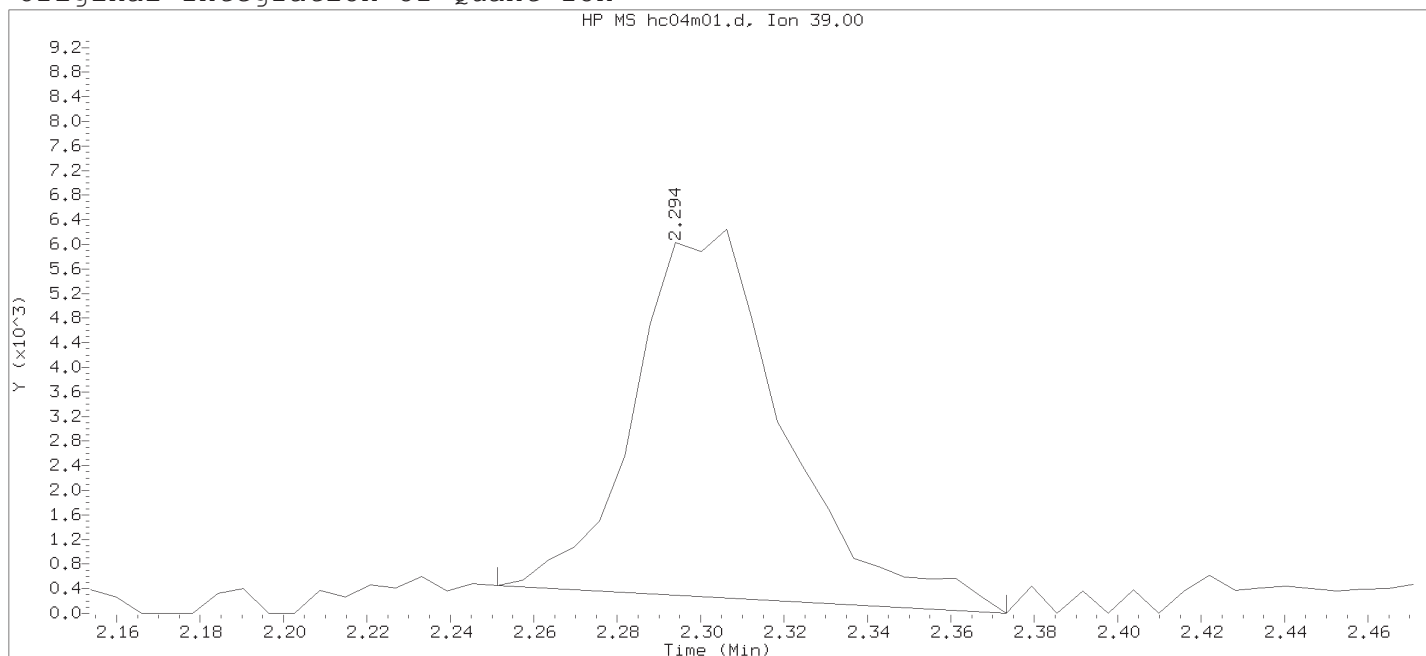
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:51.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:56

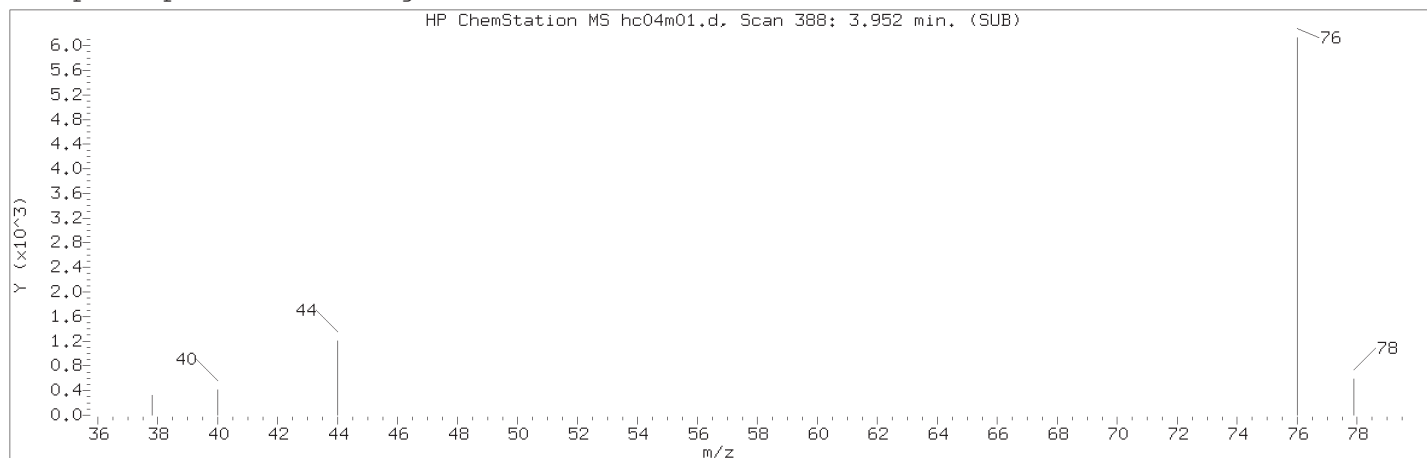
Date, time and analyst ID of latest file update: 04-Oct-2016 13:16 Automation

Sample Name: MDL0.1

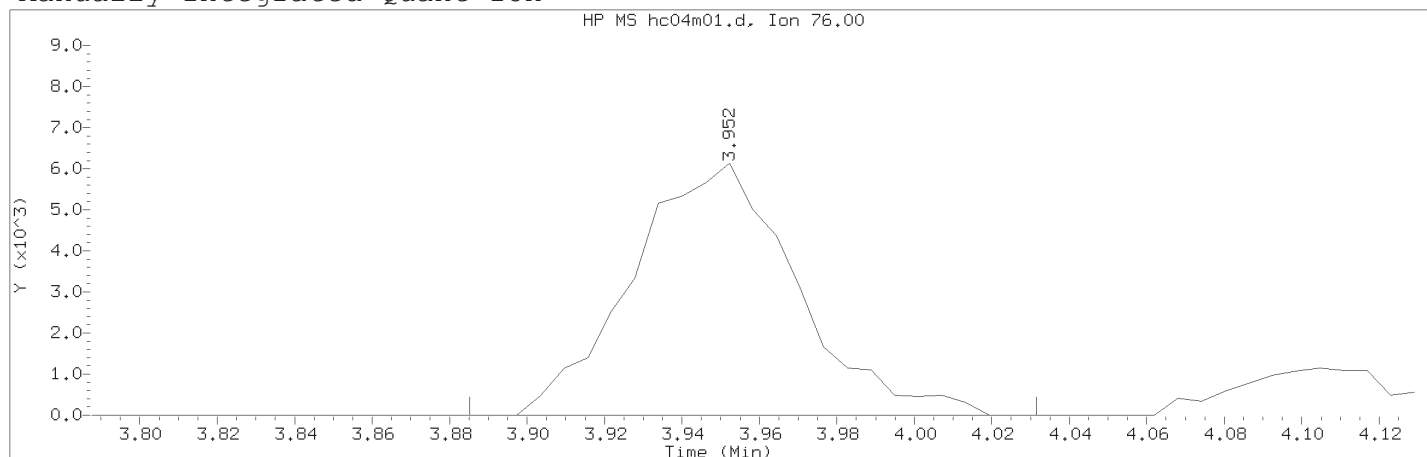
Lab Sample ID: MDL0.1

Compound Number	: 6	
Compound Name	: 1,3-Butadiene	
Scan Number	: 116	
Retention Time (minutes)	: 2.294	
Quant Ion	: 39.00	
Area	: 14914	
On-column Amount (ng)	: 0.1190	
Integration start scan	: 108	Integration stop scan: 128
Y at integration start	: 449	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 12:56 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:33
Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

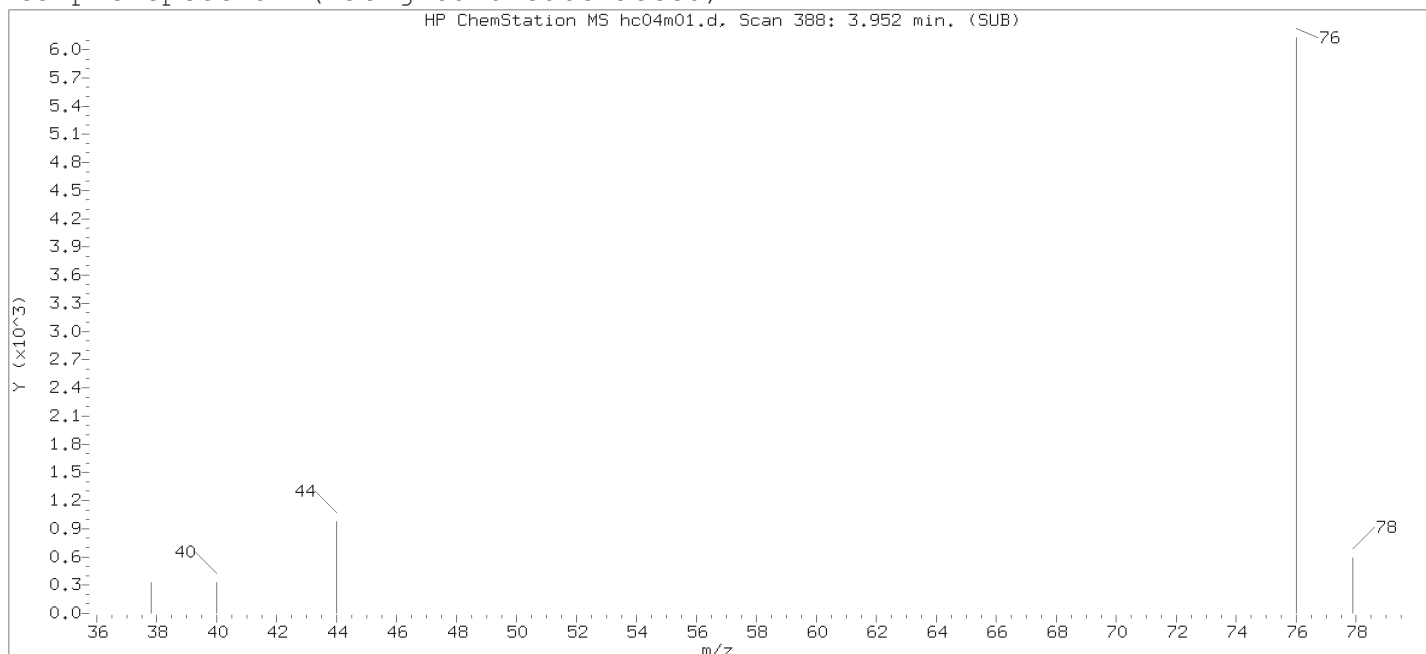
Compound Number : 18
Compound Name : Carbon Disulfide
Scan Number : 388
Retention Time (minutes): 3.952
Quant Ion : 76.00
Area (flag) : 18036M
On-Column Amount (ng) : 0.1273
Integration start scan : 376 Integration stop scan: 400
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

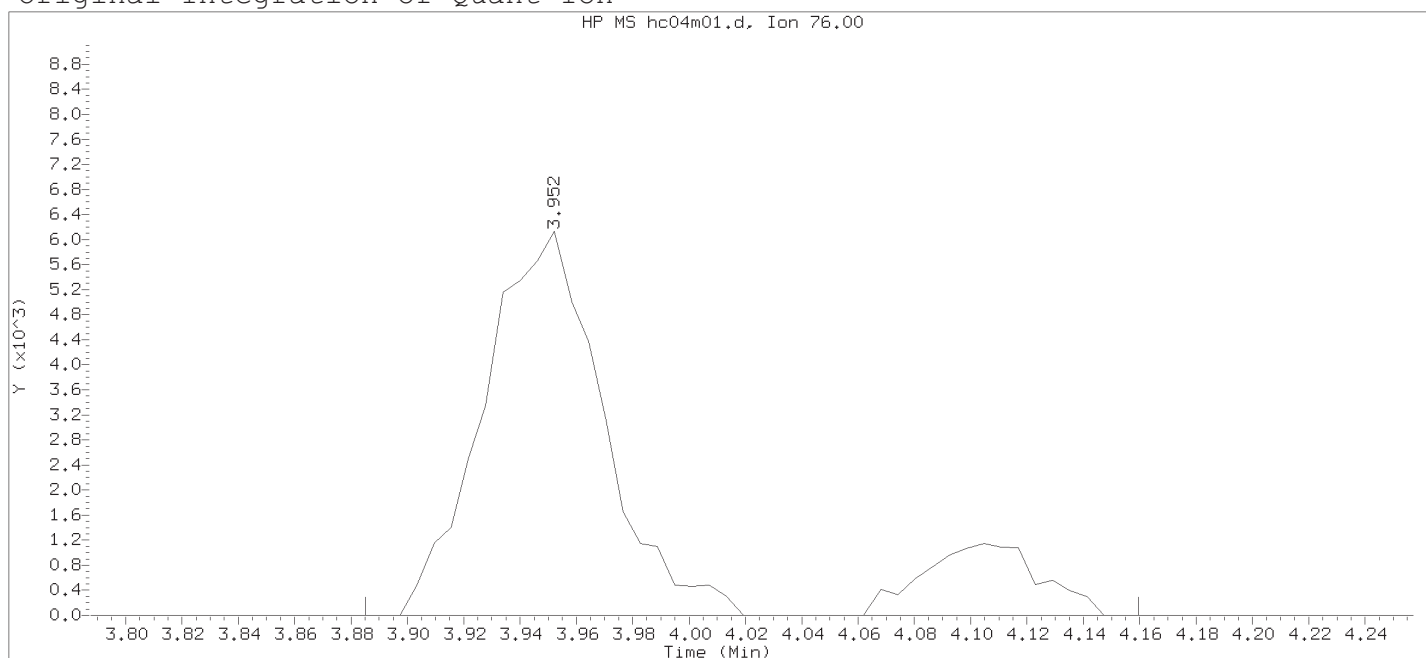
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:51.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:56

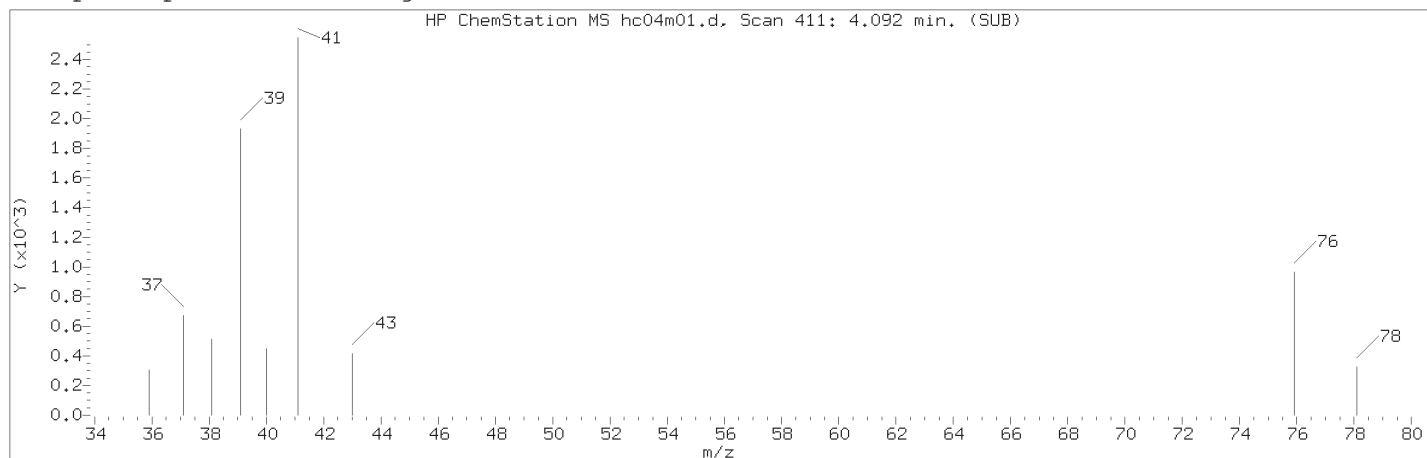
Date, time and analyst ID of latest file update: 04-Oct-2016 13:16 Automation

Sample Name: MDL0.1

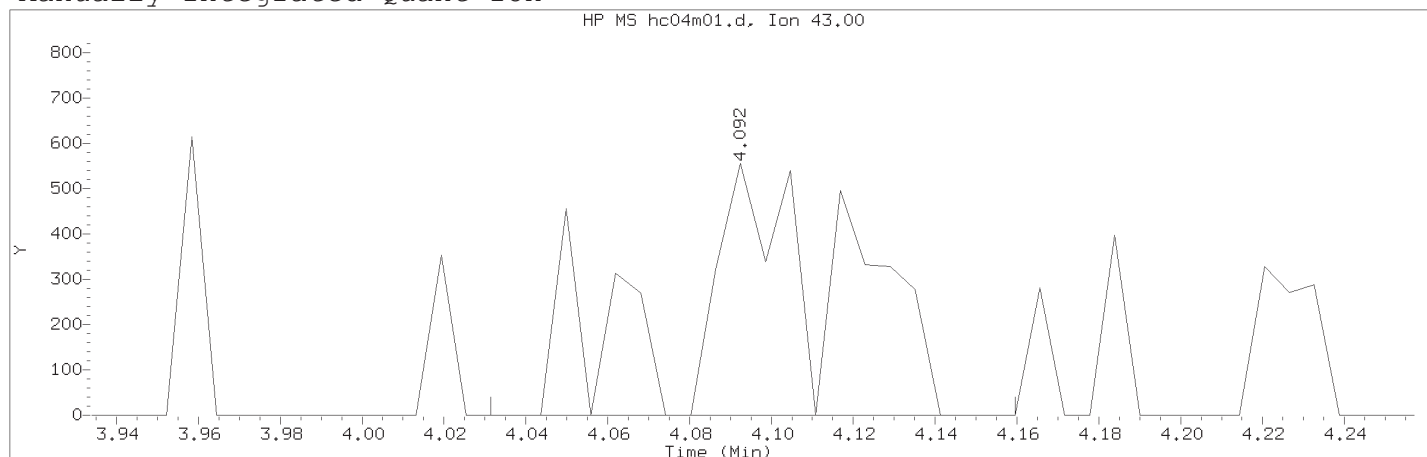
Lab Sample ID: MDL0.1

Compound Number	: 18	
Compound Name	: Carbon Disulfide	
Scan Number	: 388	
Retention Time (minutes)	: 3.952	
Quant Ion	: 76.00	
Area	: 21404	
On-column Amount (ng)	: 0.1543	
Integration start scan	: 376	Integration stop scan: 421
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:33

Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number	: 21	
Compound Name	: Methyl Acetate	
Scan Number	: 411	
Retention Time (minutes)	: 4.092	
Quant Ion	: 43.00	
Area (flag)	: 1547M	
On-Column Amount (ng)	: 0.3365	
Integration start scan	: 400	Integration stop scan: 421
Y at integration start	: 0	Y at integration end: 0

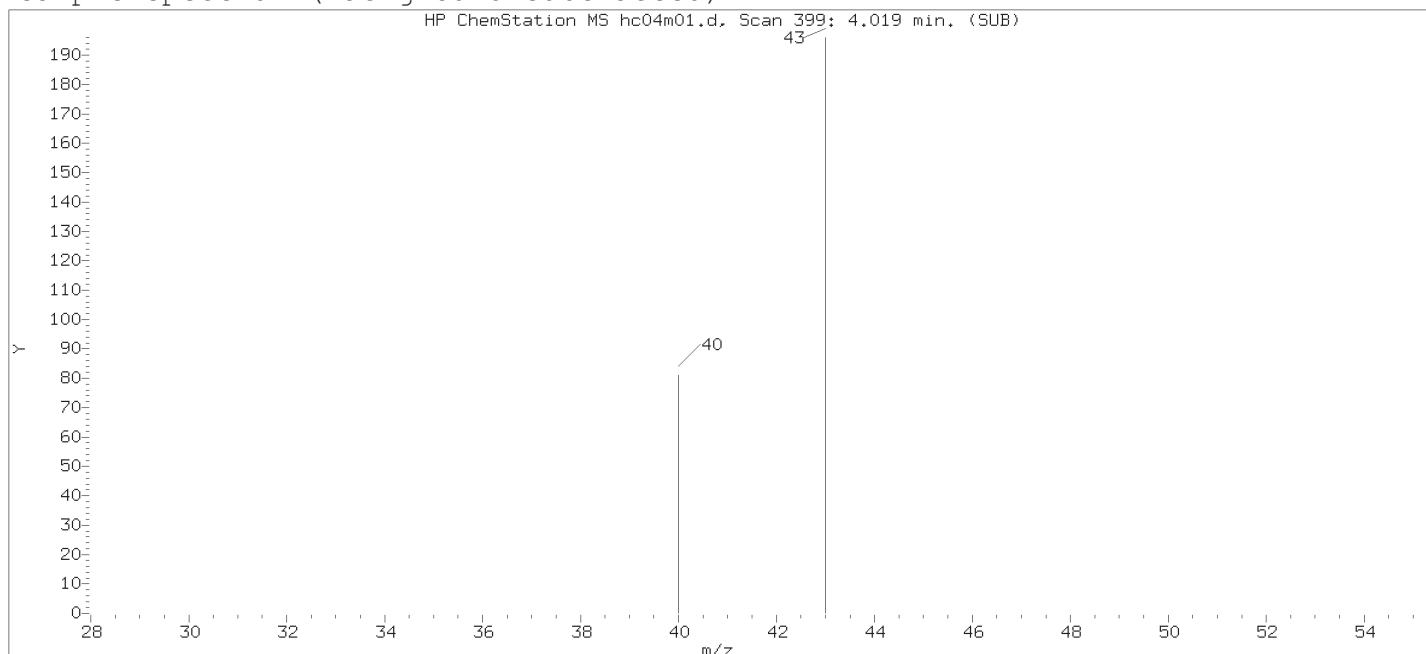
Reason for manual integration: improper integration

Analyst responsible for change:

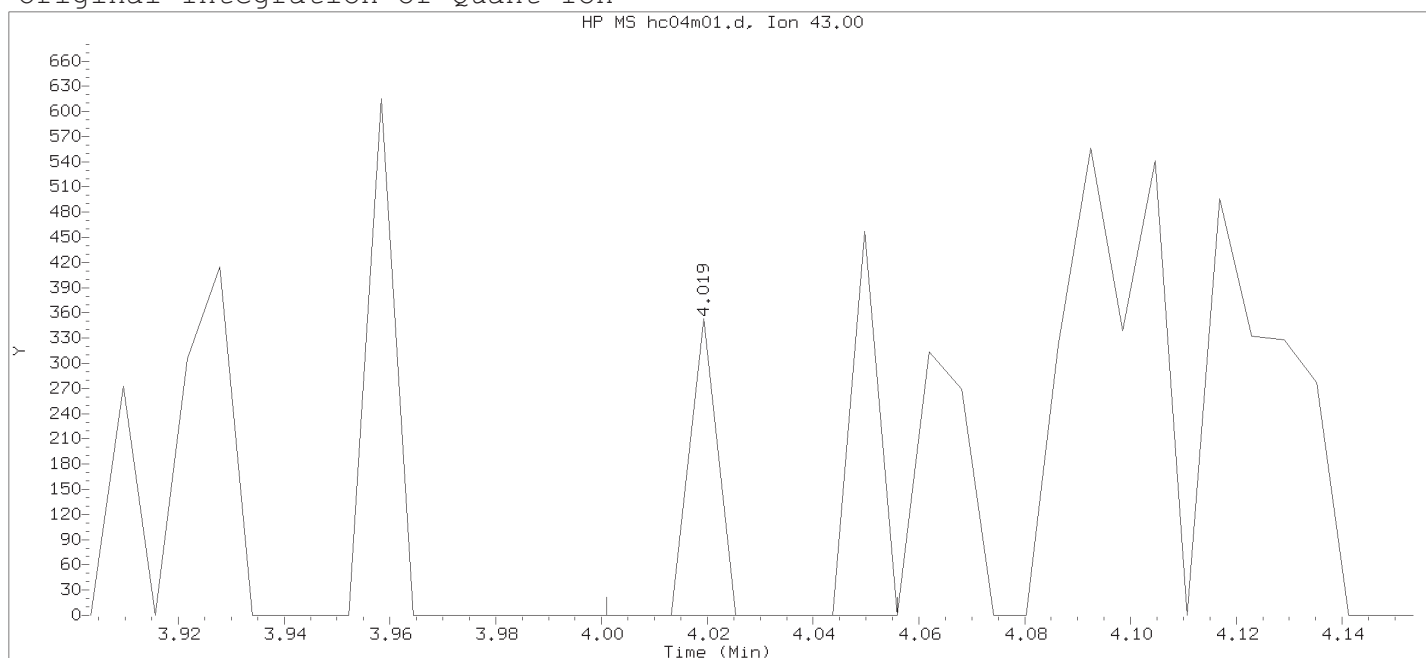
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:51.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:56

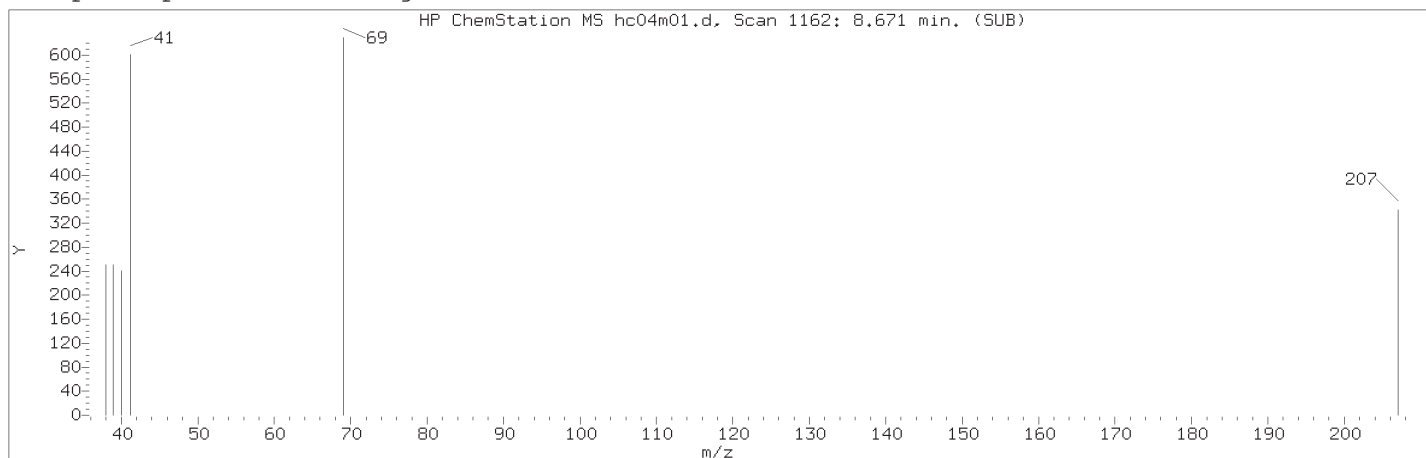
Date, time and analyst ID of latest file update: 04-Oct-2016 13:16 Automation

Sample Name: MDL0.1

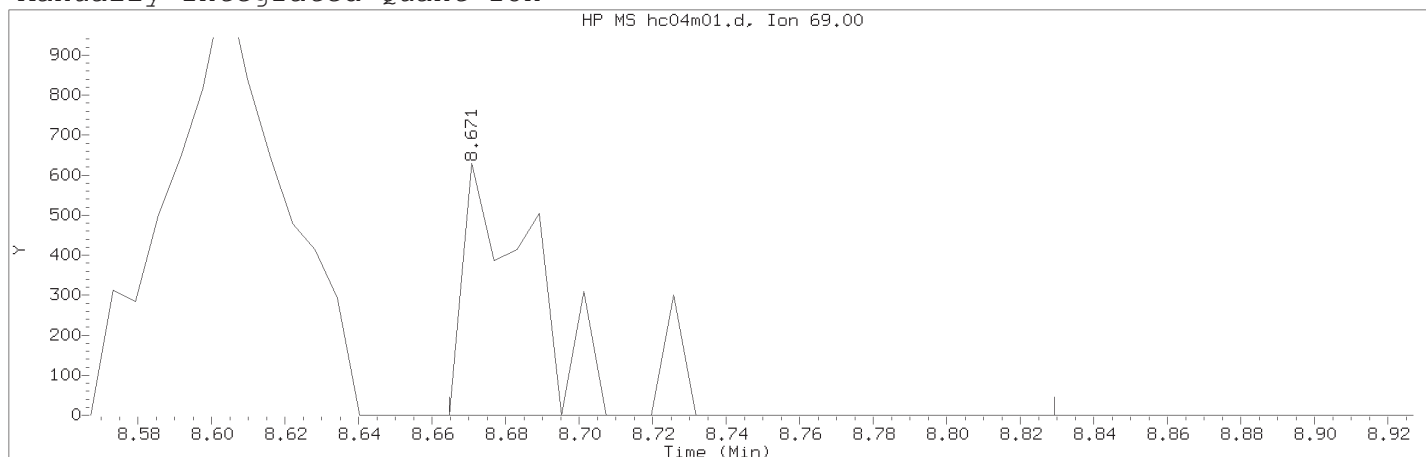
Lab Sample ID: MDL0.1

Compound Number	: 21	
Compound Name	: Methyl Acetate	
Scan Number	: 399	
Retention Time (minutes)	: 4.019	
Quant Ion	: 43.00	
Area	: 296	
On-column Amount (ng)	: 0.0155	
Integration start scan	: 395	Integration stop scan: 404
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:33

Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number	: 71	
Compound Name	: Methyl Methacrylate	
Scan Number	: 1162	
Retention Time (minutes)	: 8.671	
Quant Ion	: 69.00	
Area (flag)	: 930M	
On-Column Amount (ng)	: 0.0510	
Integration start scan	: 1160	Integration stop scan: 1187
Y at integration start	: 0	Y at integration end: 0

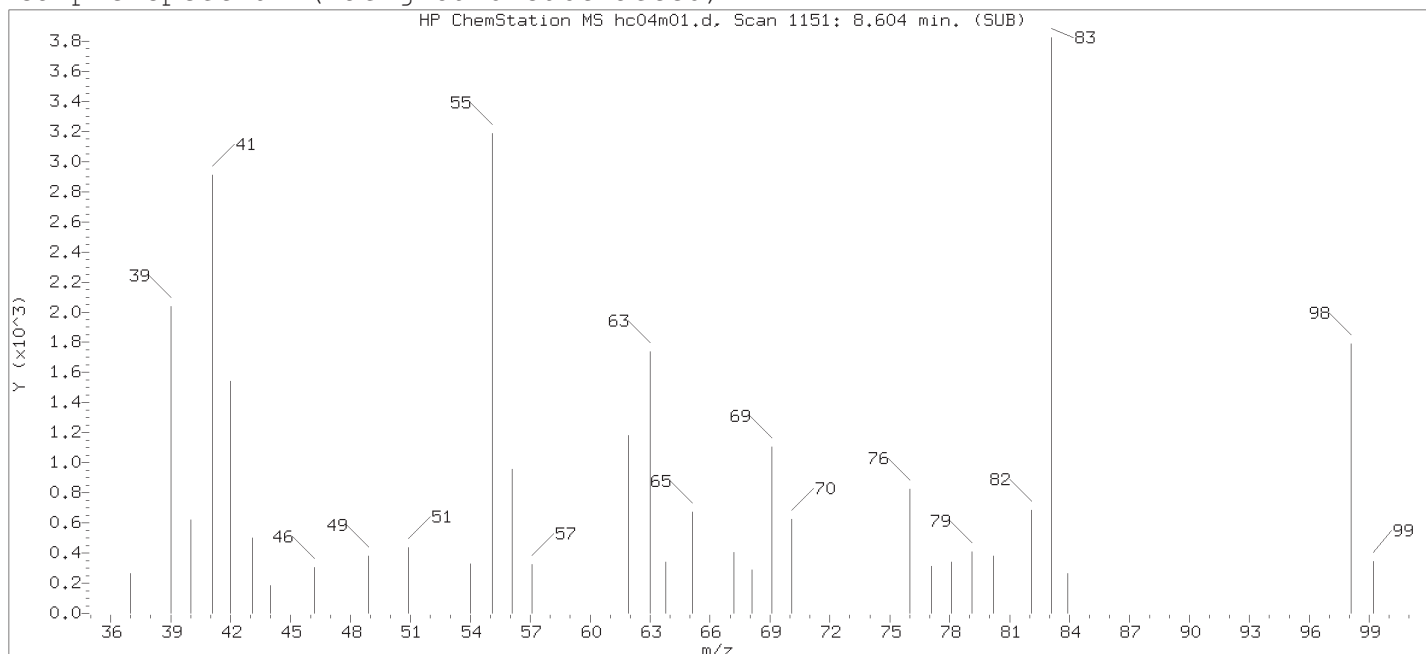
Reason for manual integration: improper integration

Analyst responsible for change:

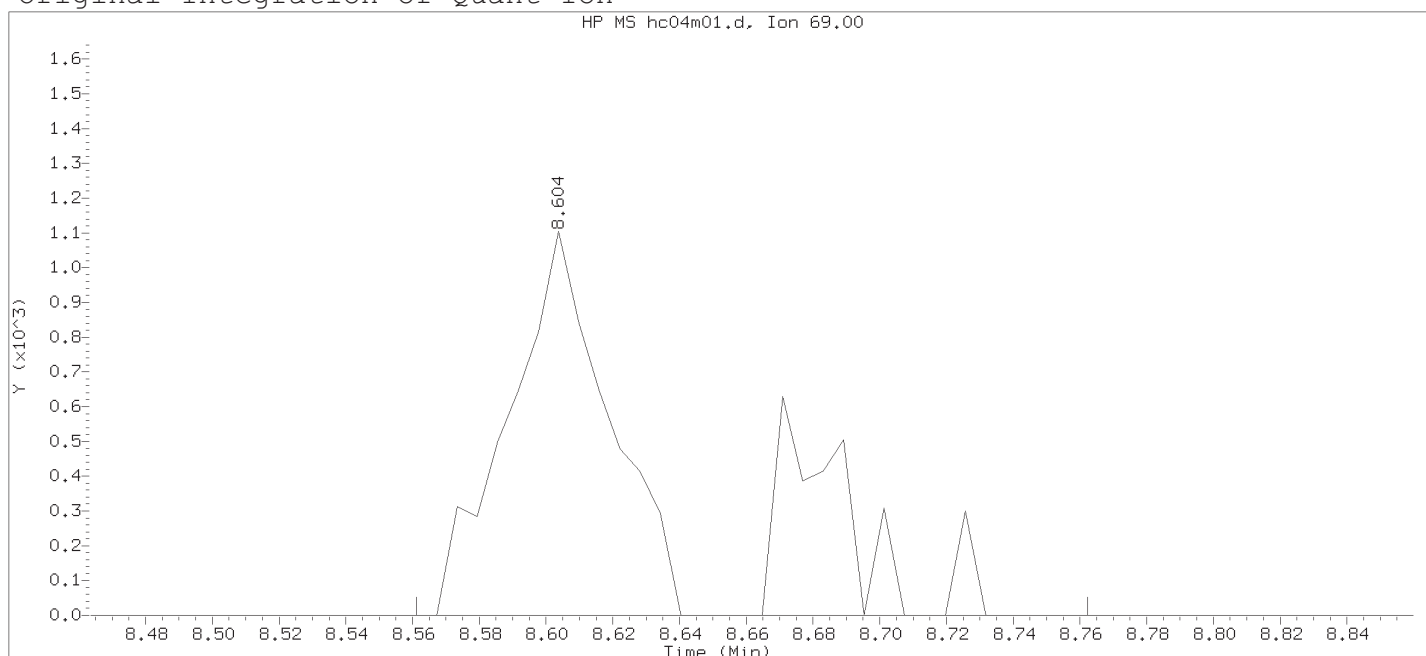
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:51.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:56

Date, time and analyst ID of latest file update: 04-Oct-2016 13:16 Automation

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number : 71

Compound Name : Methyl Methacrylate

Scan Number : 1151

Retention Time (minutes): 8.604

Quant Ion : 69.00

Area : 3245

On-column Amount (ng) : 0.1718

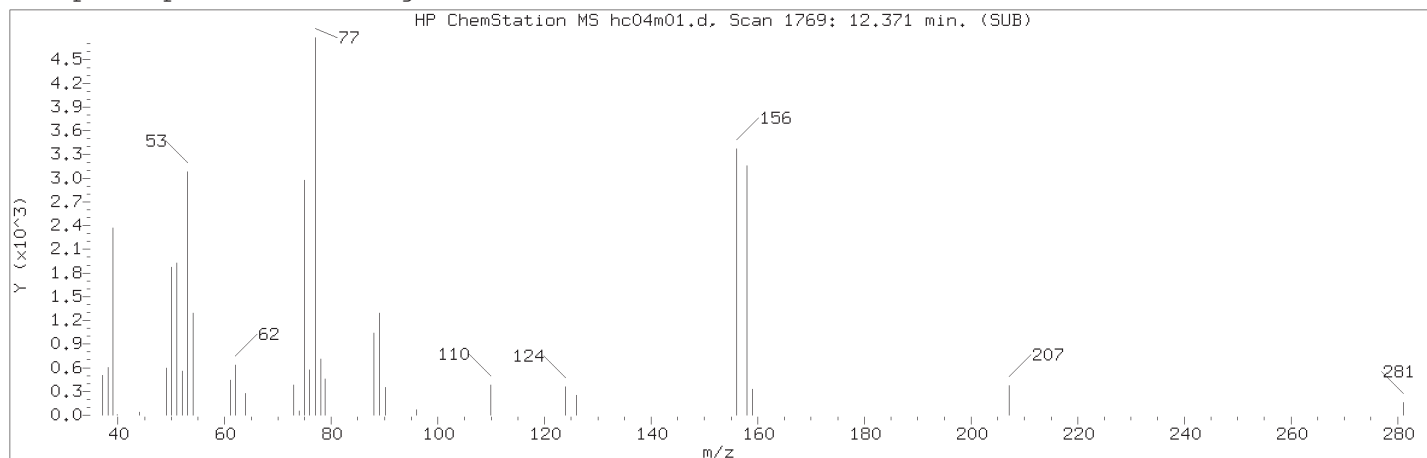
Integration start scan : 1143 Integration stop scan: 1176

Y at integration start : 0 Y at integration end: 0

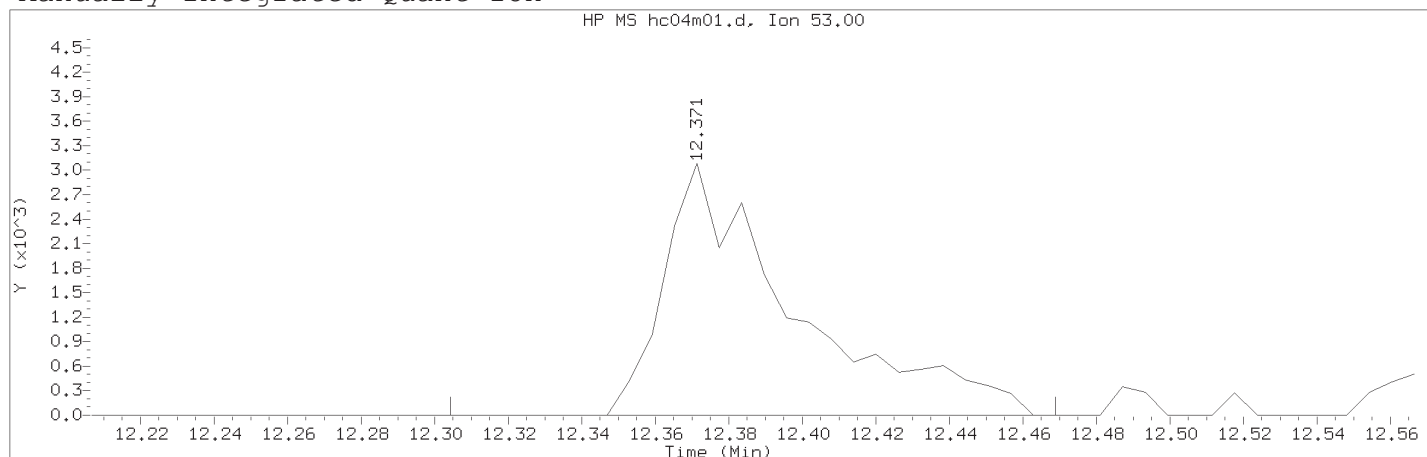
Digitally signed by Kerri E. Koch Legerlotz on 10/04/2016 at 15:40.

Target 3.5 esignature RAE73 Page 282 of 346

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:33

Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number	: 115	
Compound Name	: trans-1,4-Dichloro-2-butene	
Scan Number	: 1769	
Retention Time (minutes)	: 12.371	
Quant Ion	: 53.00	
Area (flag)	: 7530M	
On-Column Amount (ng)	: 0.9045	
Integration start scan	: 1757	Integration stop scan: 1784
Y at integration start	: 0	Y at integration end: 0

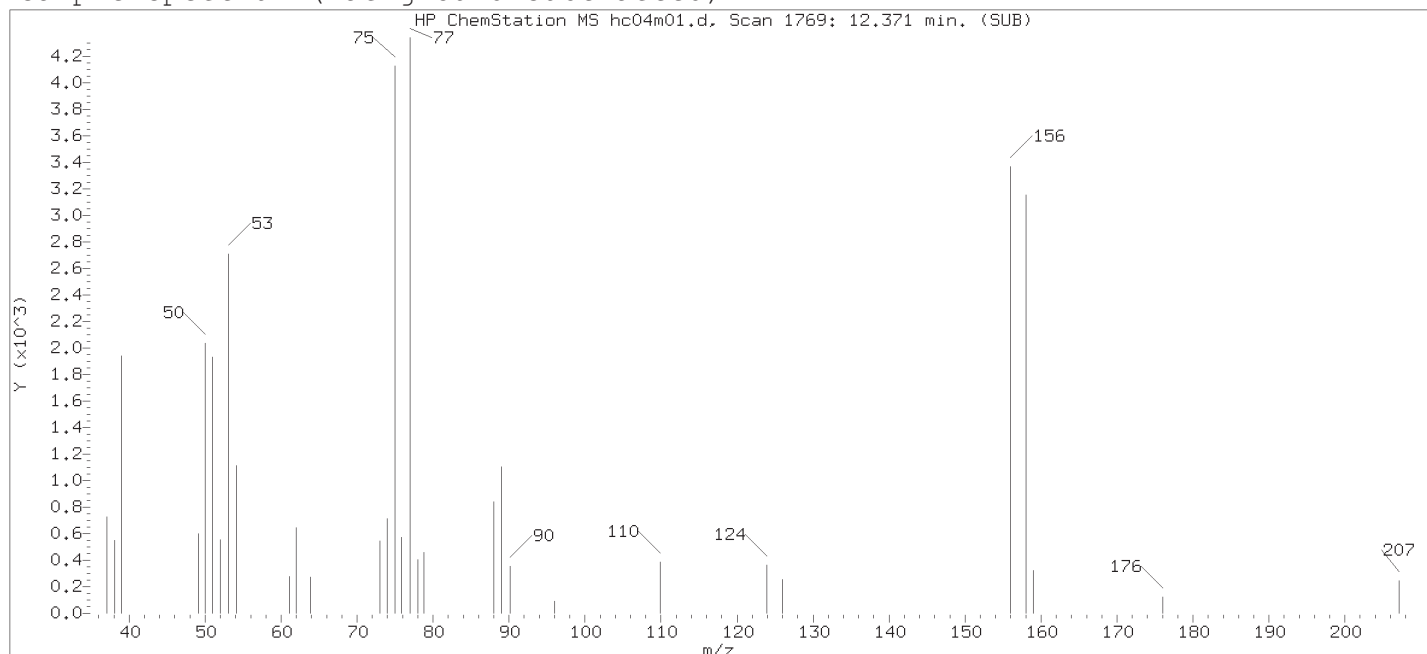
Reason for manual integration: improper integration

Analyst responsible for change:

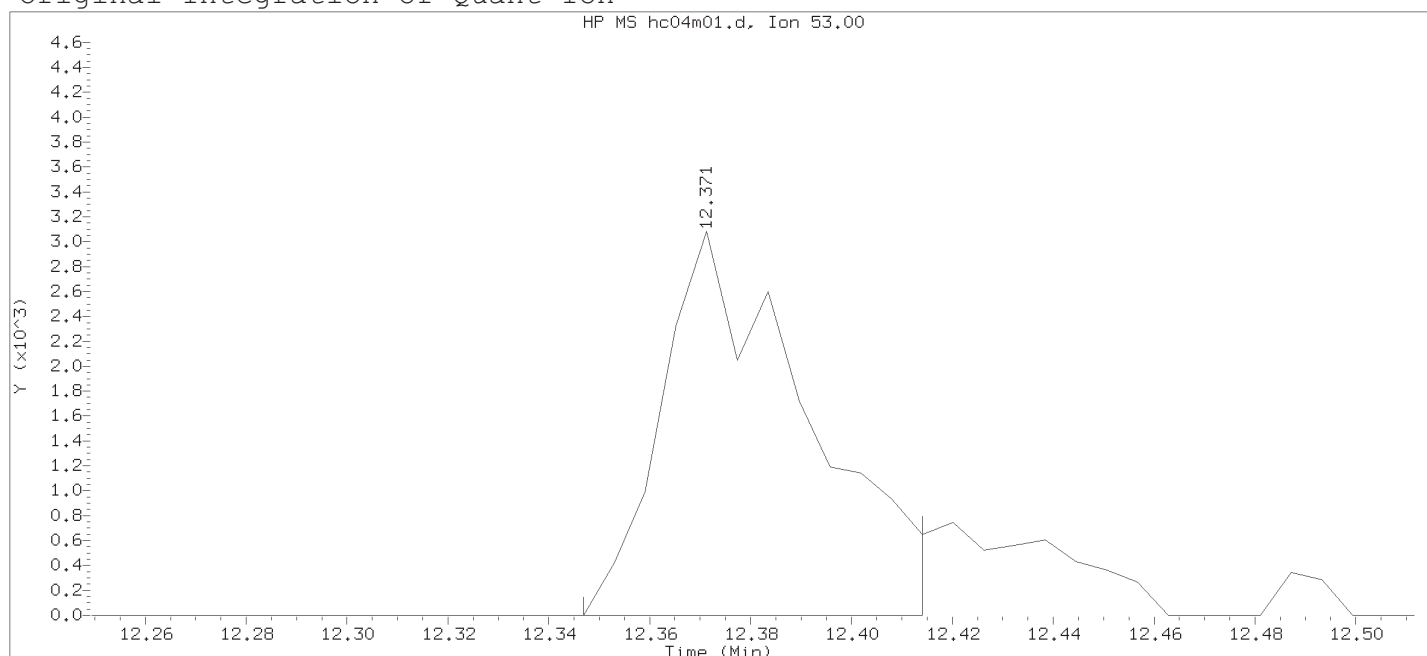
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:51.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:56

Date, time and analyst ID of latest file update: 04-Oct-2016 13:16 Automation

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number : 115

Compound Name : trans-1,4-Dichloro-2-butene

Scan Number : 1769

Retention Time (minutes): 12.371

Quant Ion : 53.00

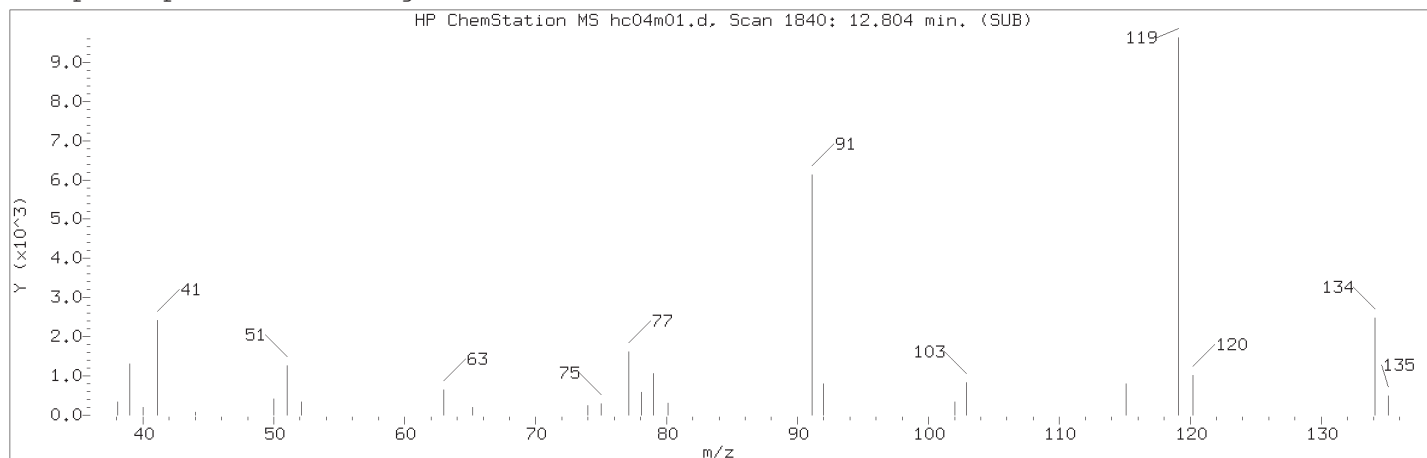
Area : 6134

On-column Amount (ng) : 0.7179

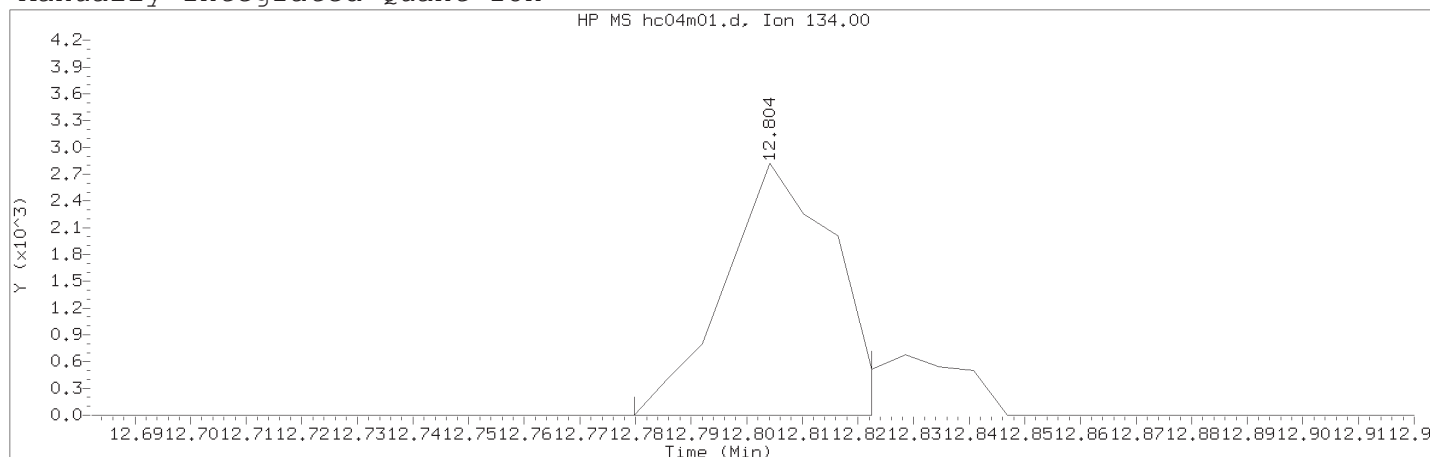
Integration start scan : 1764 Integration stop scan: 1775

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:33

Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number	: 125	
Compound Name	: tert-Butylbenzene	
Scan Number	: 1840	
Retention Time (minutes)	: 12.804	
Quant Ion	: 134.00	
Area (flag)	: 3884M	
On-Column Amount (ng)	: 0.0851	
Integration start scan	: 1835	Integration stop scan: 1842
Y at integration start	: 0	Y at integration end: 0

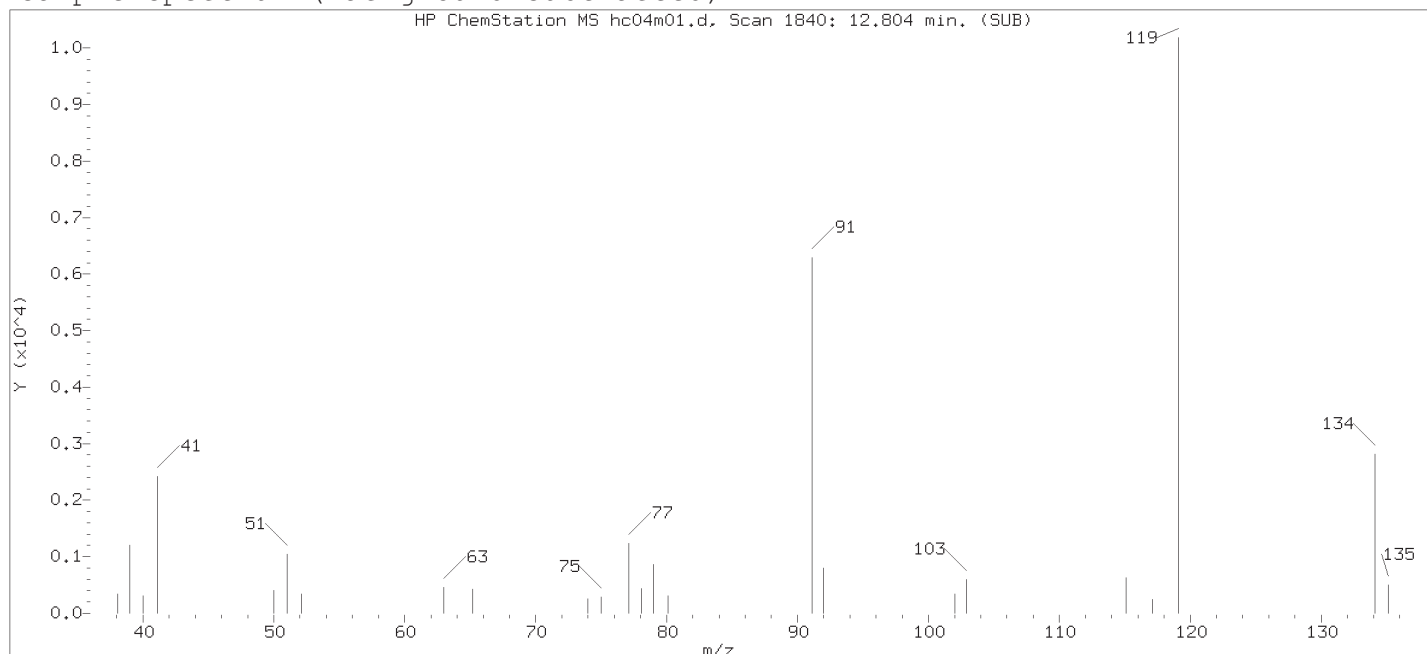
Reason for manual integration: improper integration

Analyst responsible for change:

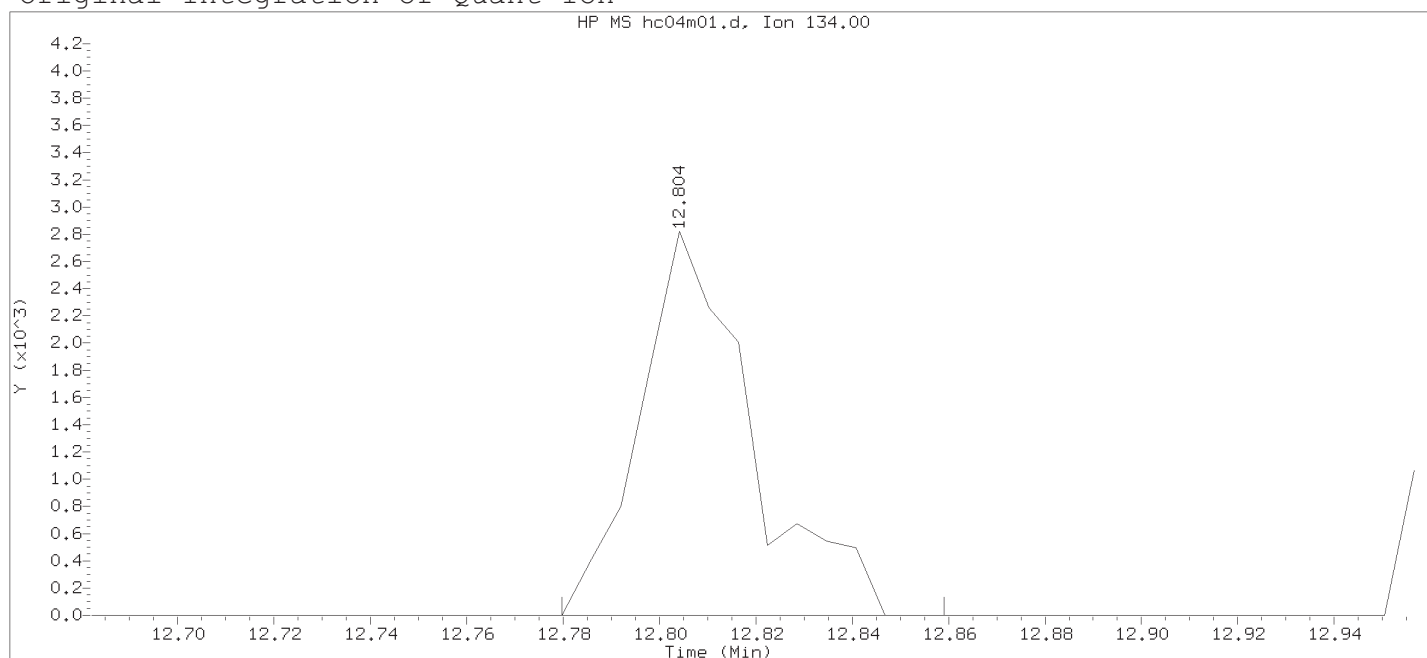
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:51.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:56

Date, time and analyst ID of latest file update: 04-Oct-2016 13:16 Automation

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number : 125

Compound Name : tert-Butylbenzene

Scan Number : 1840

Retention Time (minutes) : 12.804

Quant Ion : 134.00

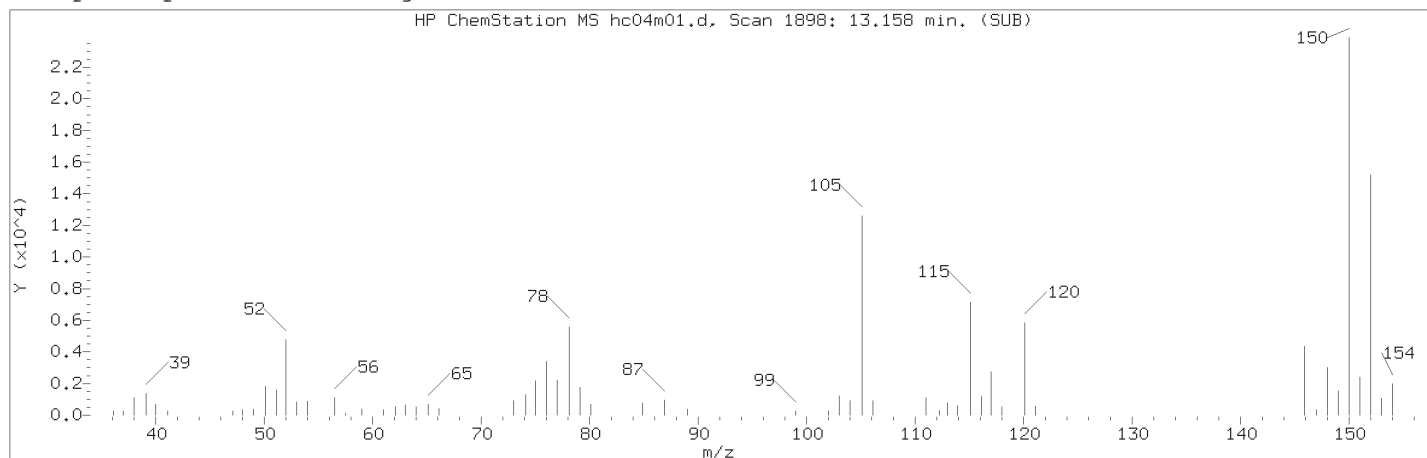
Area : 4513

On-column Amount (ng) : 0.0997

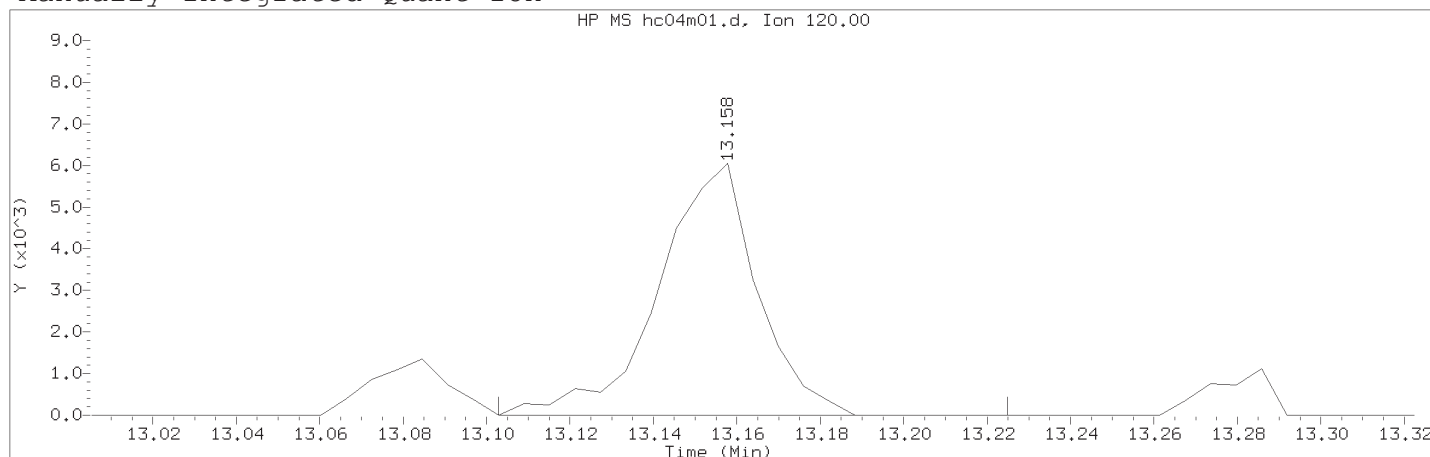
Integration start scan : 1835 Integration stop scan: 1848

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:33

Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number	: 135	
Compound Name	: 1,2,3-Trimethylbenzene	
Scan Number	: 1898	
Retention Time (minutes)	: 13.158	
Quant Ion	: 120.00	
Area (flag)	: 9940M	
On-Column Amount (ng)	: 0.1087	
Integration start scan	: 1888	Integration stop scan: 1908
Y at integration start	: 0	Y at integration end: 0

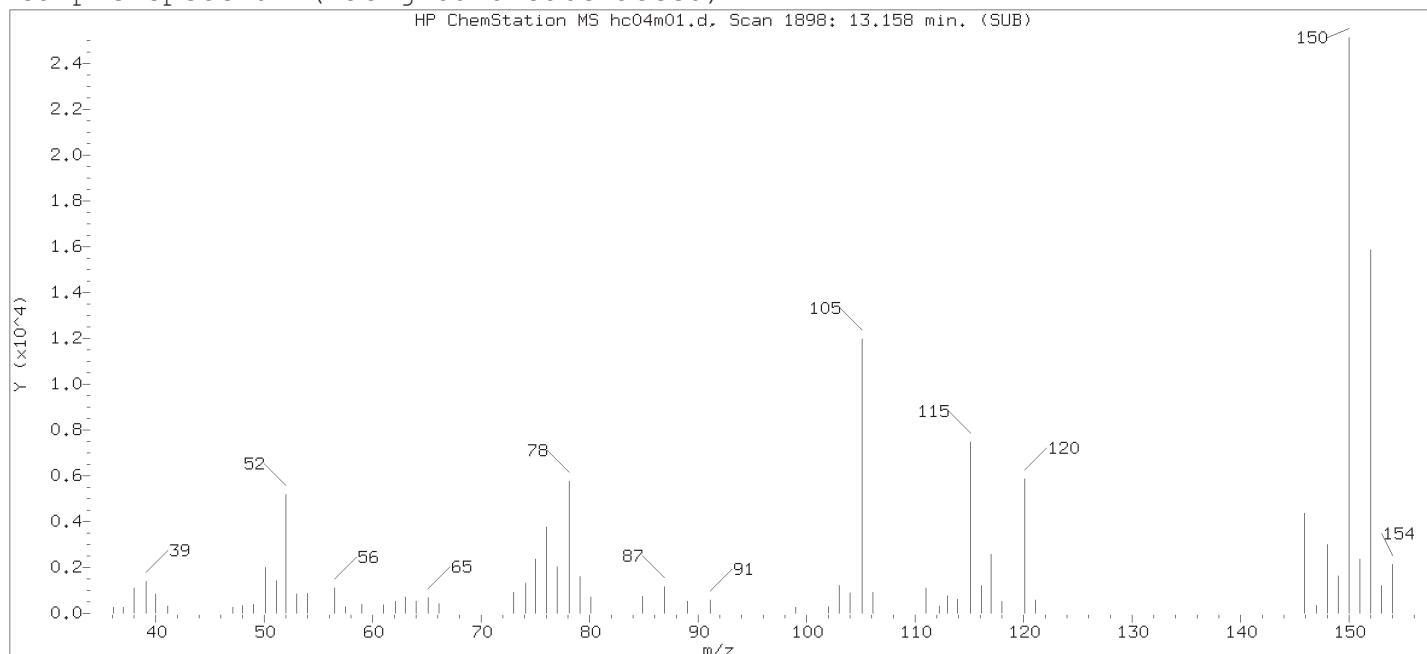
Reason for manual integration: improper integration

Analyst responsible for change:

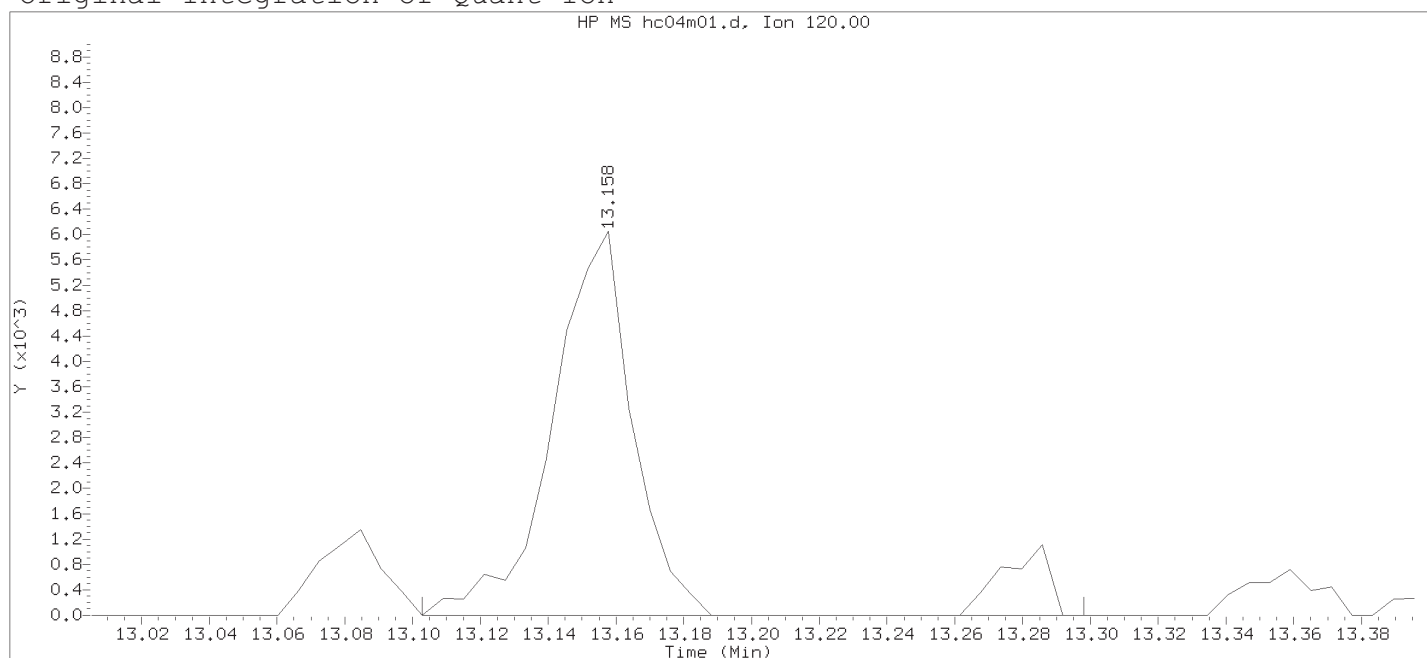
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:51.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:56

Date, time and analyst ID of latest file update: 04-Oct-2016 13:16 Automation

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number : 135

Compound Name : 1,2,3-Trimethylbenzene

Scan Number : 1898

Retention Time (minutes) : 13.158

Quant Ion : 120.00

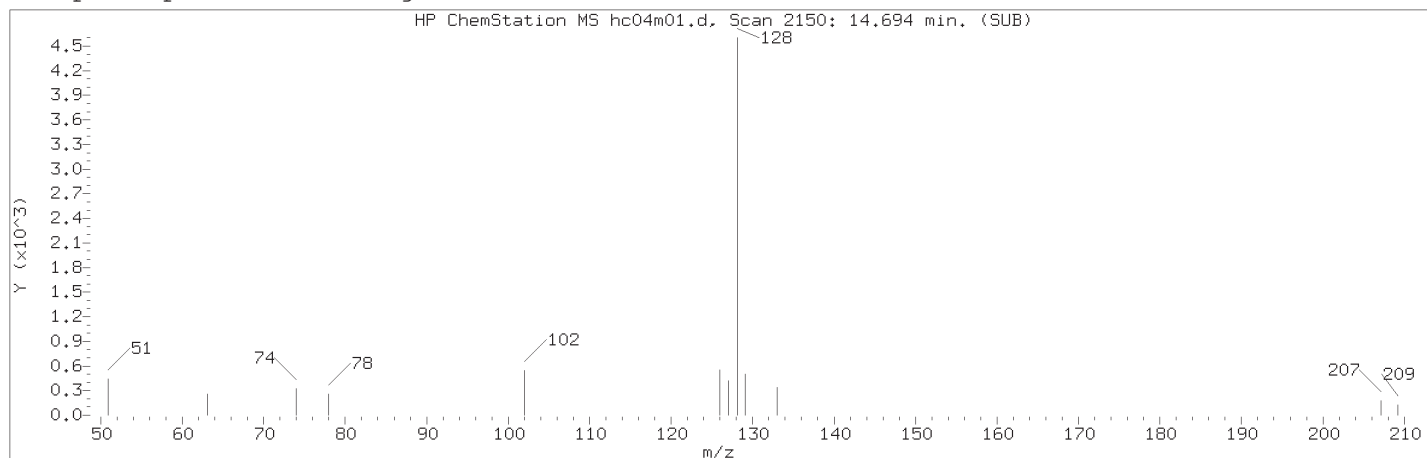
Area : 11021

On-column Amount (ng) : 0.1206

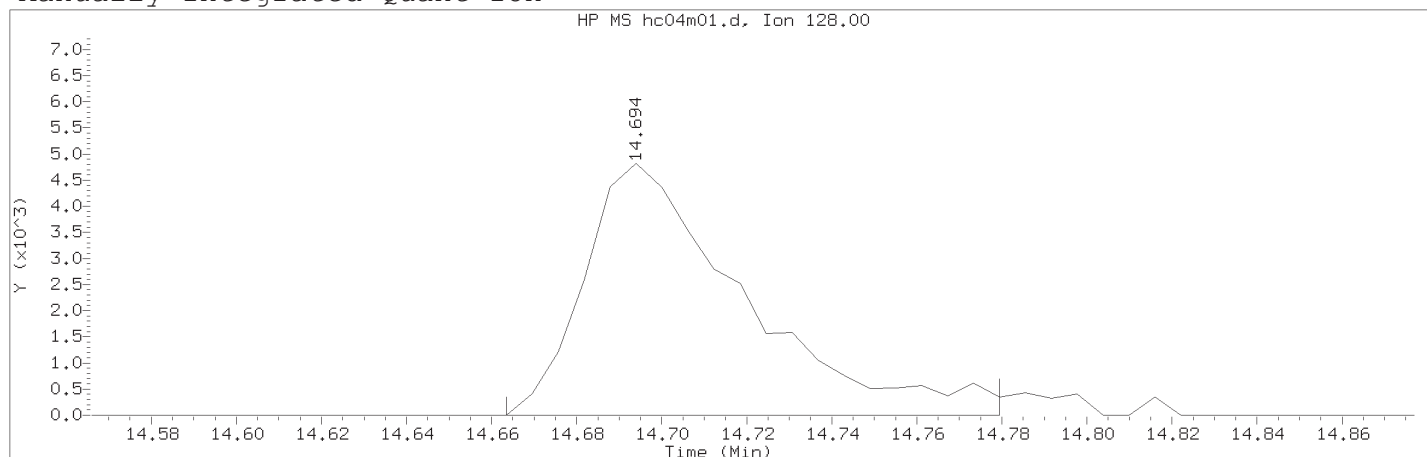
Integration start scan : 1888 Integration stop scan: 1920

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:33

Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number	: 147	
Compound Name	: Naphthalene	
Scan Number	: 2150	
Retention Time (minutes)	: 14.694	
Quant Ion	: 128.00	
Area (flag)	: 12628M	
On-Column Amount (ng)	: 0.1176	
Integration start scan	: 2144	Integration stop scan: 2163
Y at integration start	: 0	Y at integration end: 0

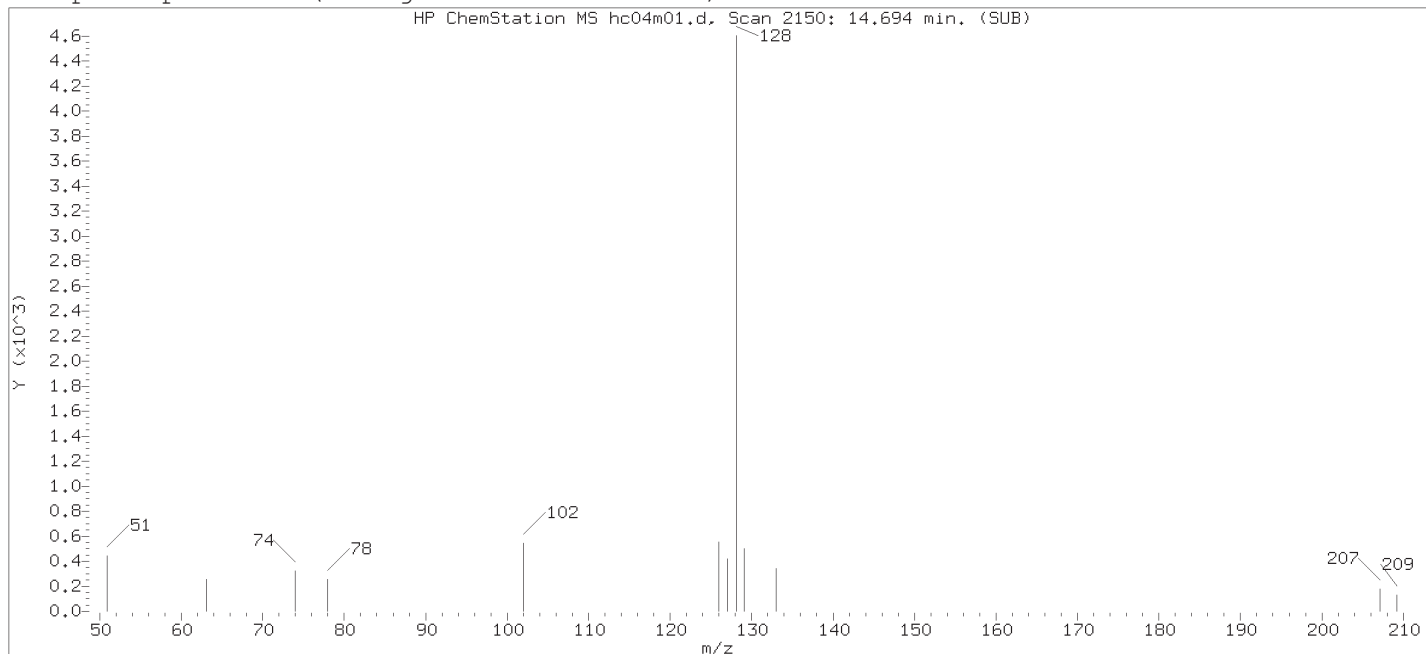
Reason for manual integration: improper integration

Analyst responsible for change:

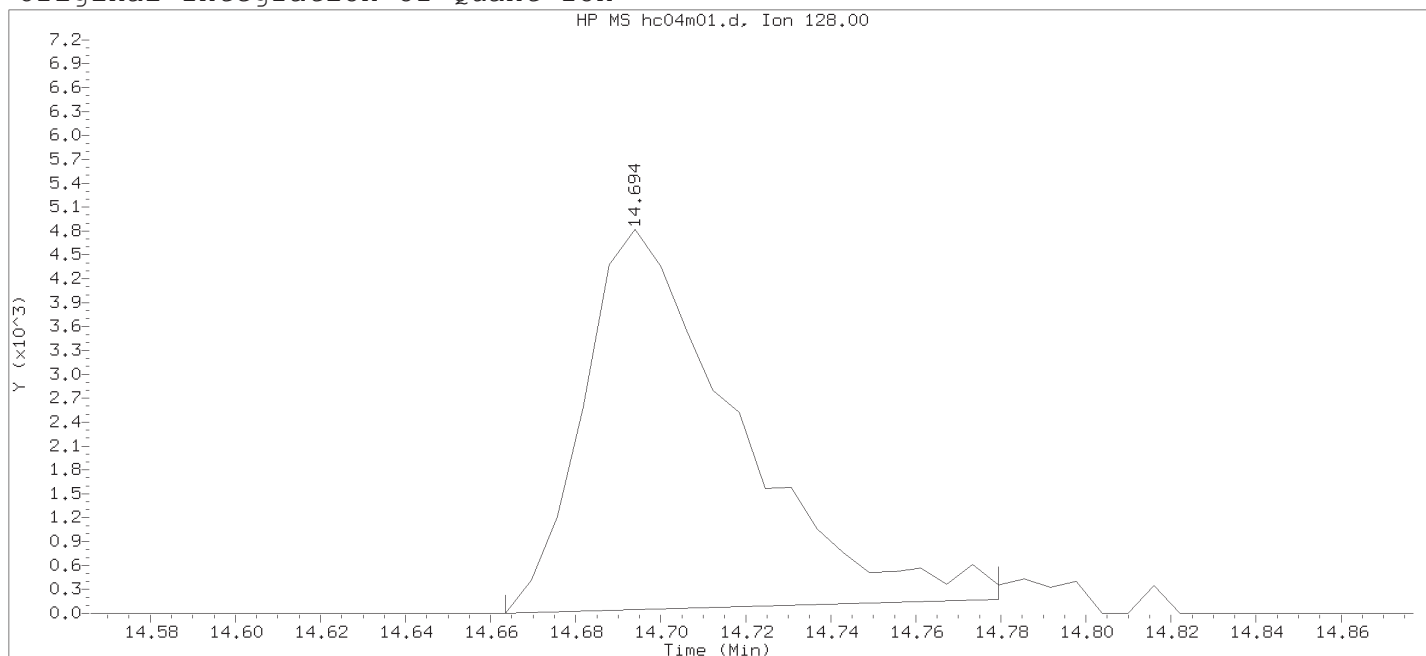
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:51.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:56

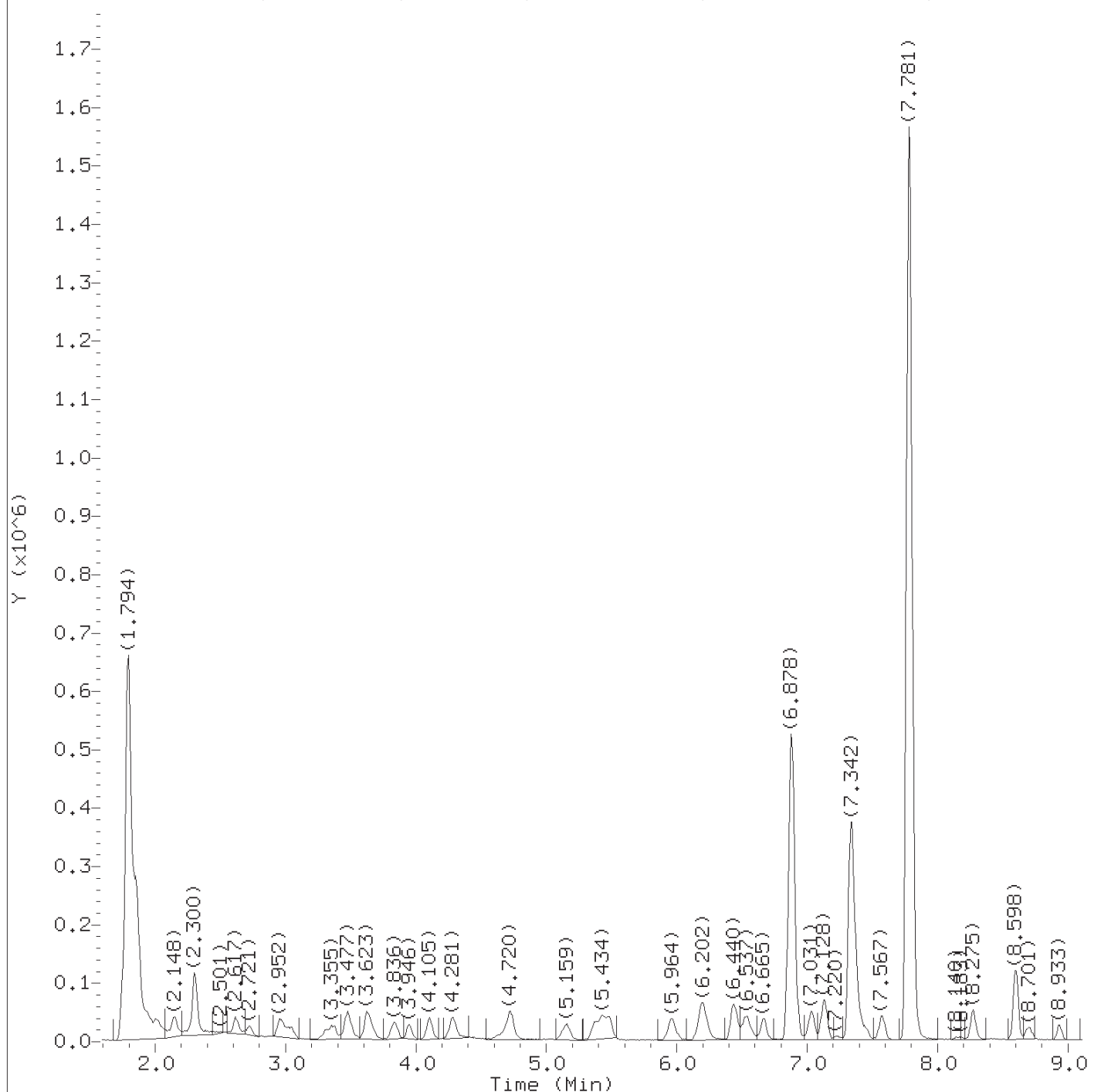
Date, time and analyst ID of latest file update: 04-Oct-2016 13:16 Automation

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number : 147
 Compound Name : Naphthalene
 Scan Number : 2150
 Retention Time (minutes) : 14.694
 Quant Ion : 128.00
 Area : 11953
 On-column Amount (ng) : 0.1145
 Integration start scan : 2144
 Y at integration start : 0

Integration stop scan: 2163
 Y at integration end: 176



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04m02.d
Injection date and time: 04-OCT-2016 13:17

Instrument ID: HP19094.i
Analyst ID: kel01973

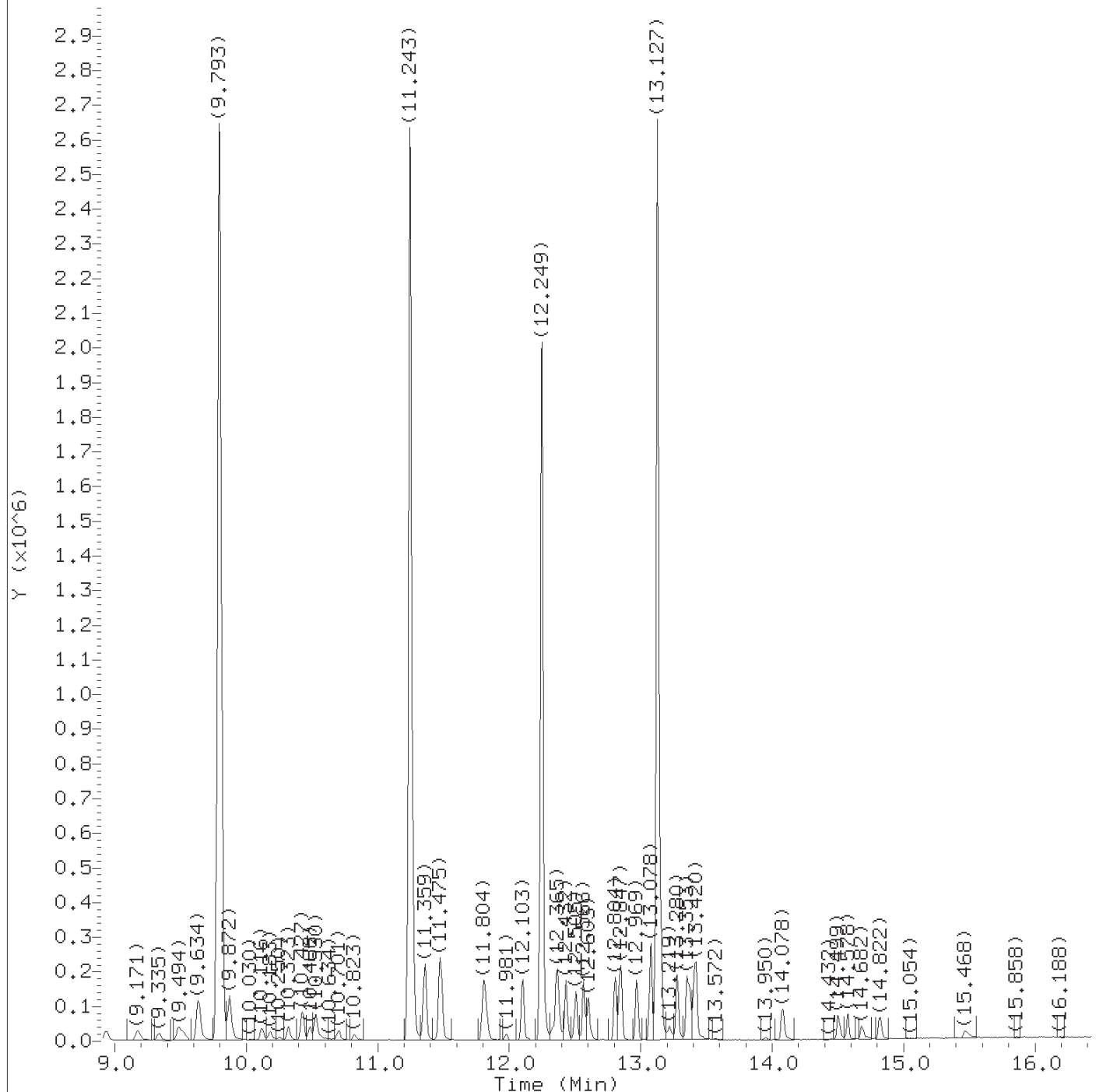
Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 14DIOX
Calibration date and time: 04-OCT-2016 15:33
Date, time and analyst ID of latest file update: 04-Oct-2016 15:40 kel01973

Sample Name: MDL0.4

Lab Sample ID: MDL0.4

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.

Target 3.5 esignature User ID: kel01973
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Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04m02.d
Injection date and time: 04-OCT-2016 13:17

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m
Calibration date and time: 04-OCT-2016 15:33

Sublist used: 14DIOX

Date, time and analyst ID of latest file update: 04-Oct-2016 15:40 kel01973

Sample Name: MDL0.4

Lab Sample ID: MDL0.4

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.

Target 3.5 esignature user ID: kel01973
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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04m02.d
Injection date and time: 04-OCT-2016 13:17

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 14DIOX
Calibration date and time: 04-OCT-2016 15:33
Date, time and analyst ID of latest file update: 04-Oct-2016 15:40 kel01973

Sample Name: MDL0.4

Lab Sample ID: MDL0.4

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26) *t-Butyl Alcohol-d10	(1)	4.281	65	63290	50.000
50) \$Dibromofluoromethane	(2)	6.878	113	488429	9.848
57) \$1,2-Dichloroethane-d4	(2)	7.336	102	81868	10.275
63) *Fluorobenzene	(2)	7.781	96	2162526	10.000
72) 1,4-Dioxane	(1)	8.738	88	105M	50.899
82) \$Toluene-d8	(3)	9.793	98	2102105	10.043
97) *Chlorobenzene-d5	(3)	11.243	117	1385637	10.000
111) \$4-Bromofluorobenzene	(3)	12.243	95	629090	10.223
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	632807	10.000

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

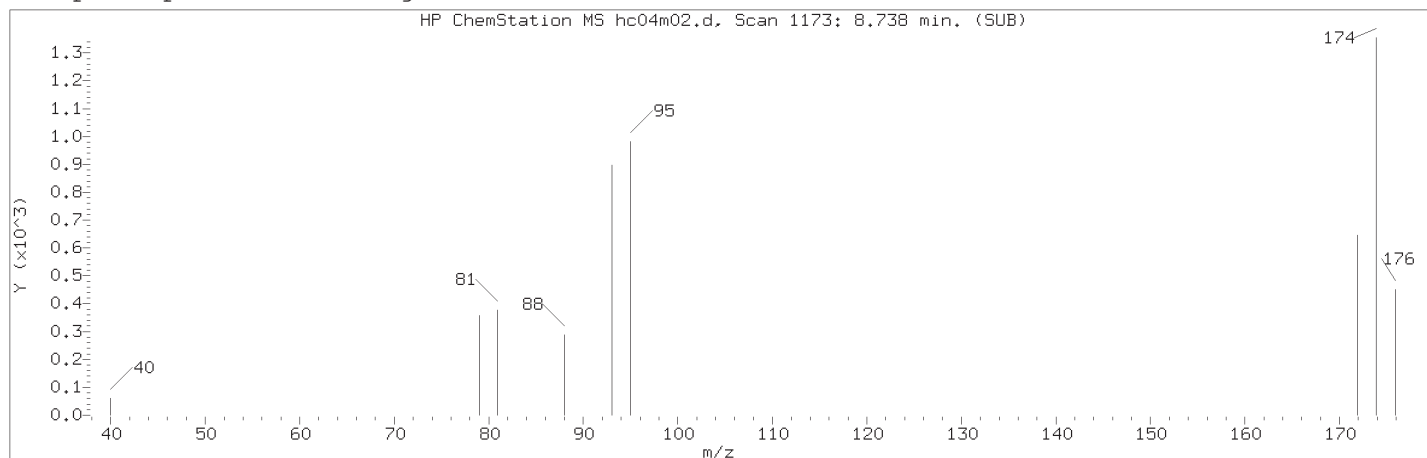
page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.

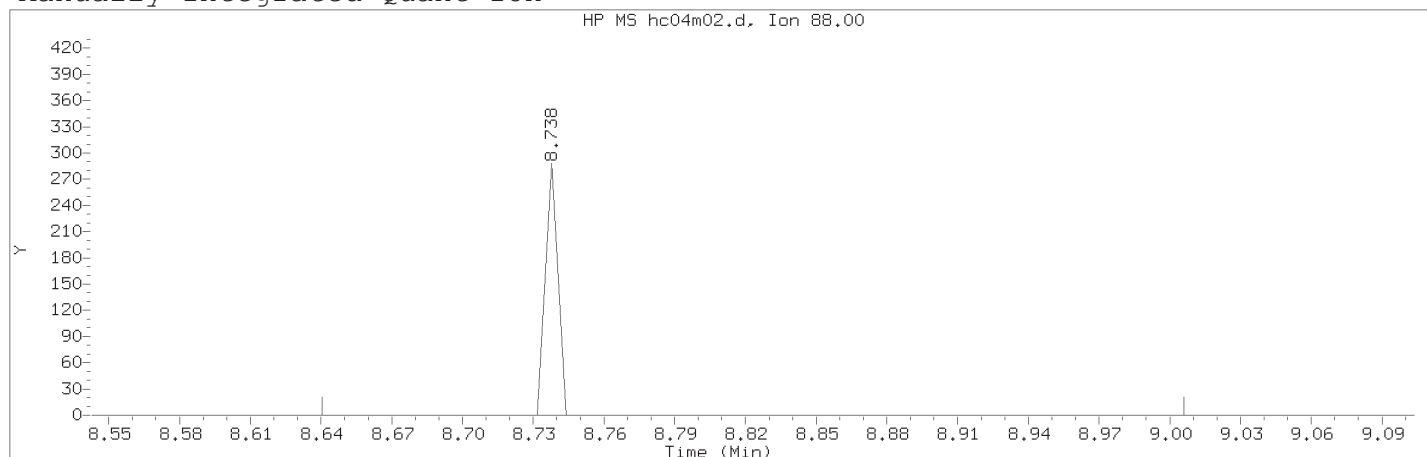
Target 3.5 esignature user ID: kel01973

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Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 13:17

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 14DIOX

Calibration date and time: 04-OCT-2016 15:33

Date, time and analyst ID of latest file update: 04-Oct-2016 15:40 kel01973

Sample Name: MDL0.4

Lab Sample ID: MDL0.4

Compound Number	: 72	
Compound Name	: 1,4-Dioxane	
Scan Number	: 1173	
Retention Time (minutes)	: 8.738	
Quant Ion	: 88.00	
Area (flag)	: 105M	
On-Column Amount (ng)	: 50.8989	
Integration start scan	: 1156	Integration stop scan: 1216
Y at integration start	: 0	Y at integration end: 0

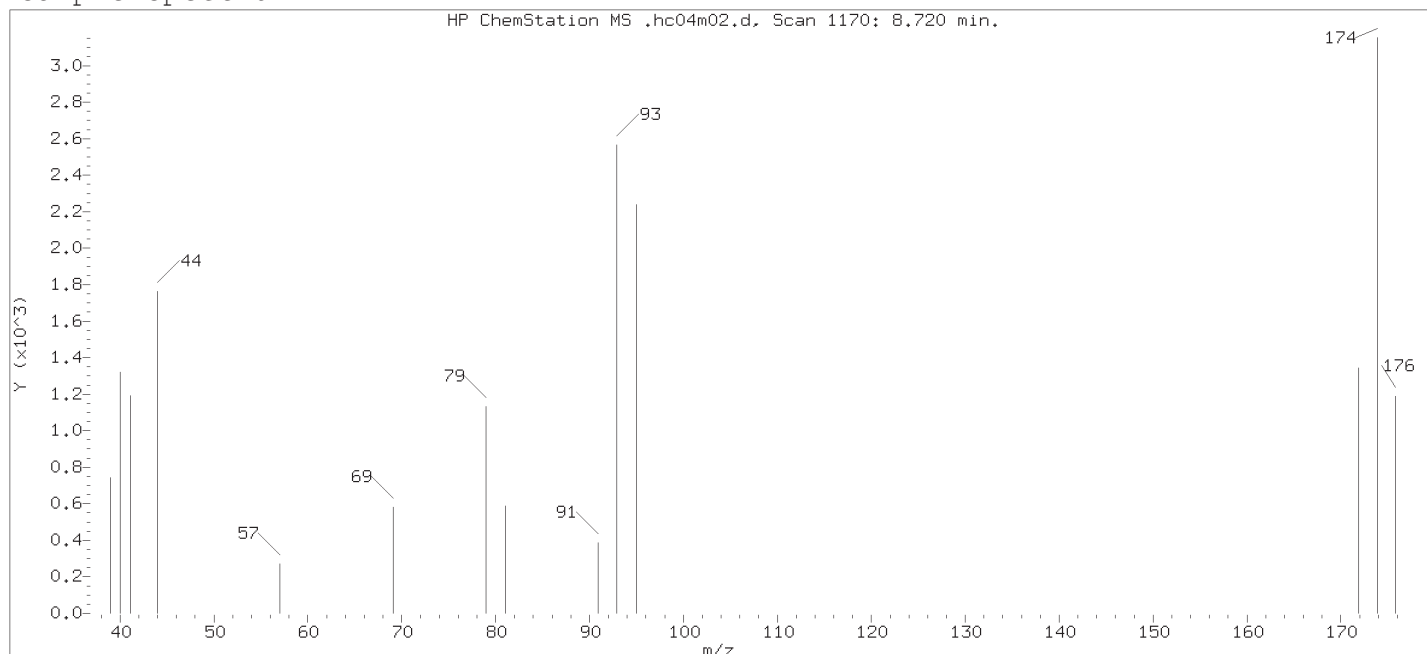
Reason for manual integration: missed peak

Analyst responsible for change:

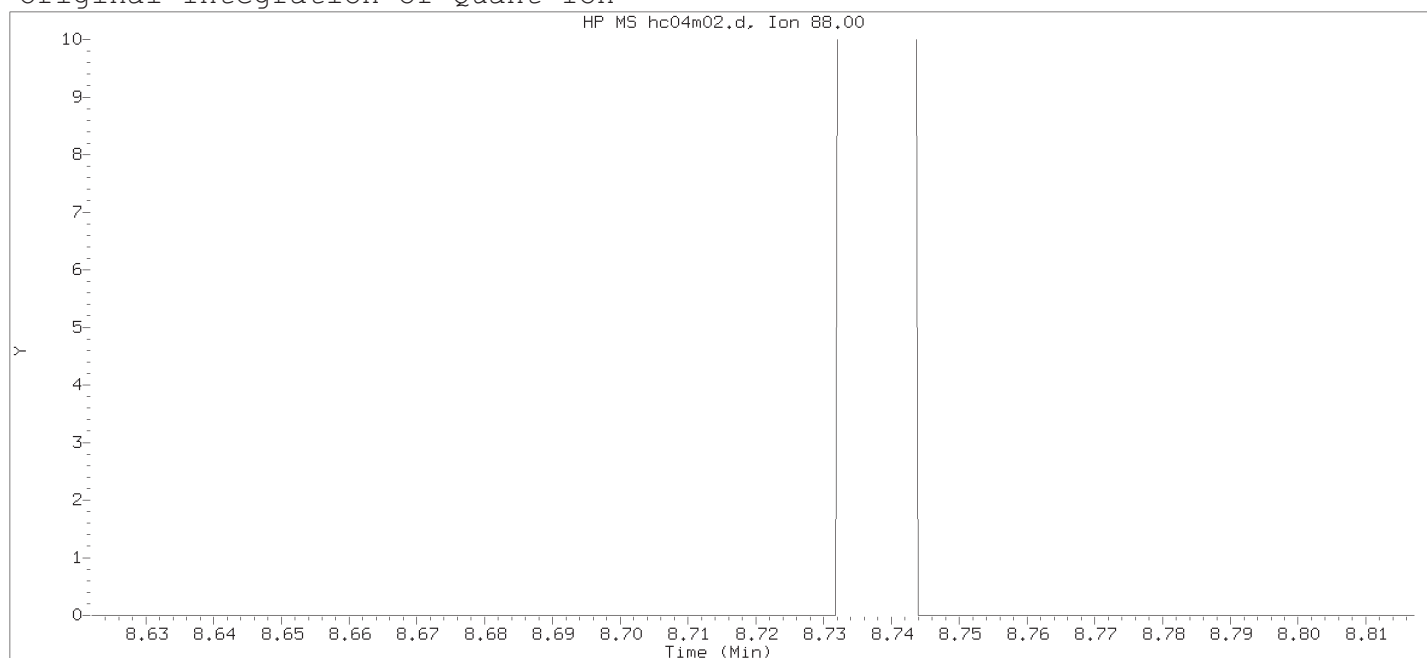
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:51.
PARALLAX ID: msl01251

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 13:17

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 14DIOX

Calibration date and time: 04-OCT-2016 12:56

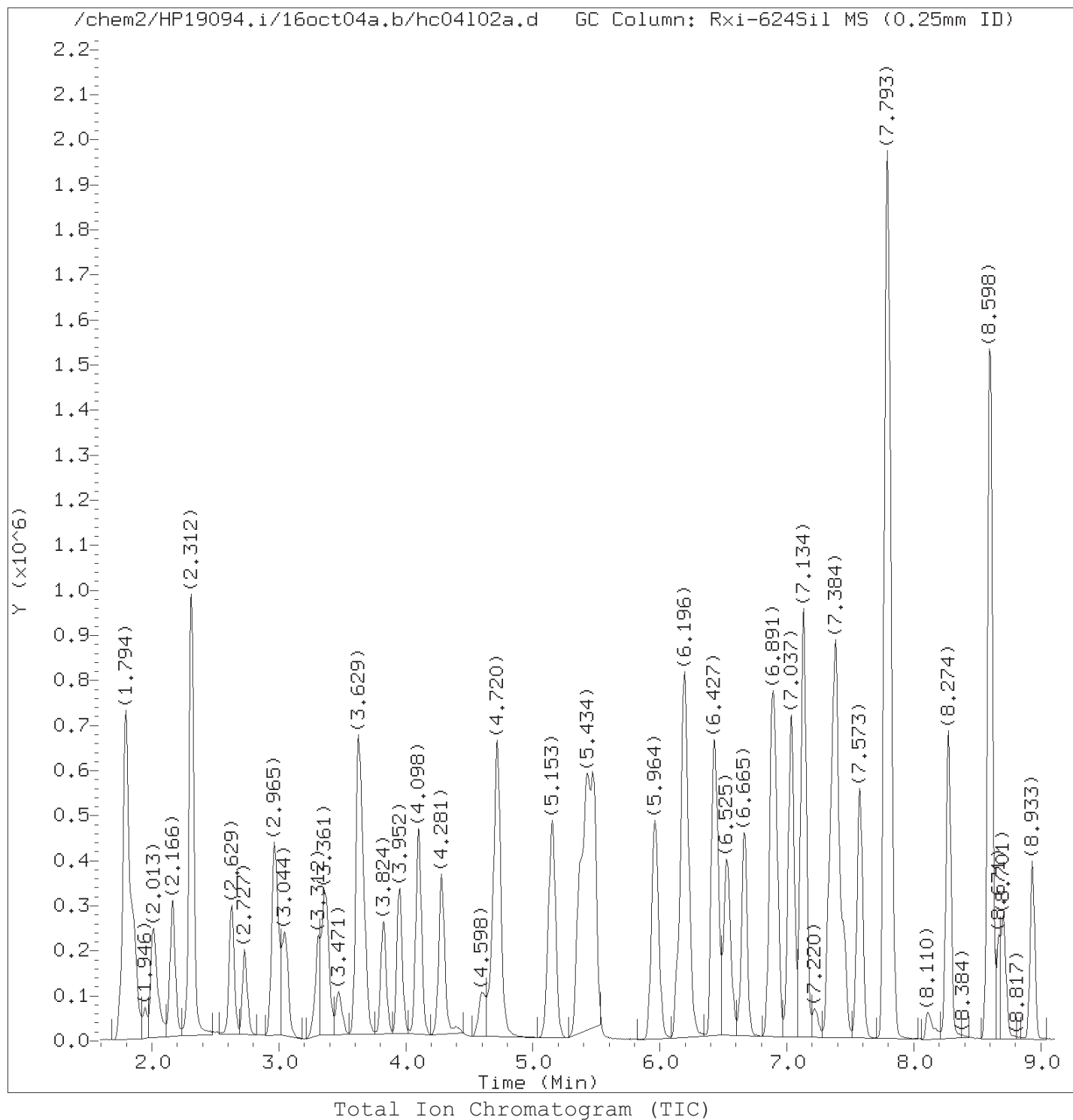
Date, time and analyst ID of latest file update: 04-Oct-2016 13:36 Automation

Sample Name: MDL0.4

Lab Sample ID: MDL0.4

Compound Number : 72
Compound Name : 1,4-Dioxane
Expected RT (minutes) : 8.720
Quant Ion : 88.00

Digitally signed by Kerri E. Koch Legerlotz on 10/04/2016 at 15:40.
Target 3.5 esignature user ID: kel01973



Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 14:26 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:30 kel01973

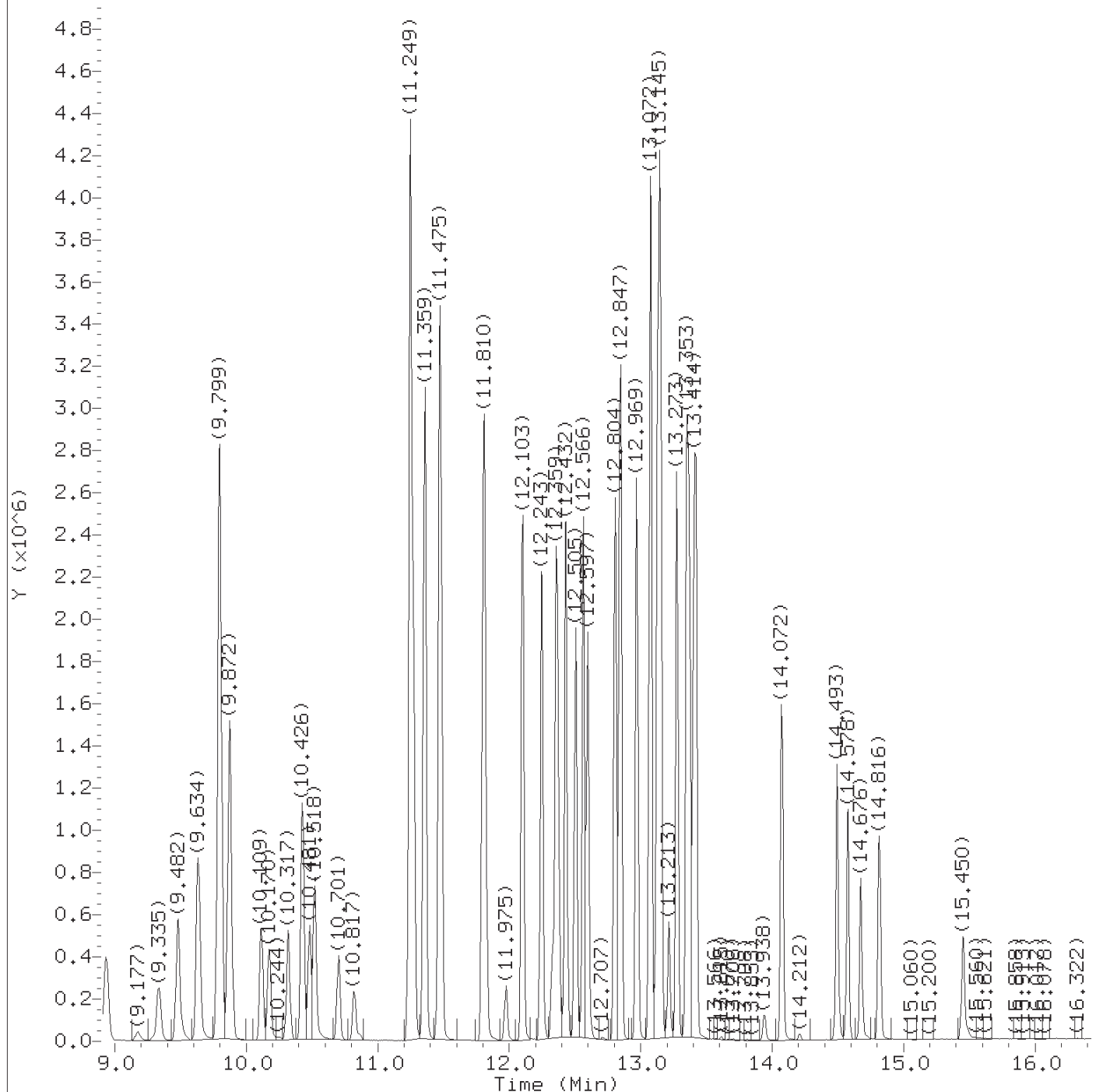
Sample Name: LCSHLG

Lab Sample ID: LCSHLG

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 16:30.

Target 3.5 esignature user ID: kel01973
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Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 14:26 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:30 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 16:30.

Target 3.5 esignature user ID: kel01973
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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d
Injection date and time: 04-OCT-2016 14:26

Instrument ID: HP19094.i
Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:30 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.013	85	512132	5.298
2) Chloromethane	(2)	2.166	50	508224	4.912
5) Vinyl Chloride	(2)	2.306	62	460912	4.997
6) 1,3-Butadiene	(2)	2.312	39	504636	3.570
7) Bromomethane	(2)	2.629	94	288841	4.881
8) Chloroethane	(2)	2.727	64	257737	4.943
9) Dichlorofluoromethane	(2)	2.965	67	635173	5.103
10) Trichlorofluoromethane	(2)	3.044	101	555674	4.964
11) Ethyl ether	(2)	3.306	59	187414	4.537
12) Freon 123a	(2)	3.361	67	382810	4.926
13) Acrolein	(1)	3.464	56	181667	38.129
15) 1,1-Dichloroethene	(2)	3.623	96	260591	4.996
14) Acetone	(1)	3.641	43	214524	33.631
16) Freon 113	(2)	3.653	101	284046	4.982
17) Methyl Iodide	(2)	3.824	142	472845	4.743
18) Carbon Disulfide	(2)	3.952	76	761479	4.814
21) Methyl Acetate	(1)	4.074	43	100429	4.967
22) Allyl Chloride	(2)	4.098	41	504927	4.449
26) *t-Butyl Alcohol-d10	(1)	4.275	65	66251M	50.000
23) Methylene Chloride	(2)	4.281	84	269344	4.813
28) t-Butyl Alcohol	(1)	4.397	59	73203	42.484
29) Acrylonitrile	(1)	4.598	53	213238	28.411
30) Methyl Tertiary Butyl Ether	(2)	4.702	73	588286	4.834
31) trans-1,2-Dichloroethene	(2)	4.720	96	294838	4.987
32) n-Hexane	(2)	5.147	57	478023	5.304
33) 1,1-Dichloroethane	(2)	5.366	63	573583	4.927
34) di-Isopropyl Ether	(2)	5.427	45	1014622	4.860
35) 2-Chloro-1,3-Butadiene	(2)	5.482	53	526554	4.885
37) Ethyl t-butyl ether	(2)	5.964	59	811535	4.792
40) 1,2-Dichloroethene (Total)	(2)		96	611421	9.871
38) 2-Butanone	(1)	6.147	43	449523	39.826
39) cis-1,2-Dichloroethene	(2)	6.189	96	316583	4.884
41) 2,2-Dichloropropane	(2)	6.208	77	453576	4.801
42) Propionitrile	(1)	6.214	54	99830	40.101
45) Methacrylonitrile	(1)	6.433	67	425388	40.022
47) Bromochloromethane	(2)	6.525	128	124844	4.803
48) Tetrahydrofuran	(1)	6.543	71	73583	25.292
49) Chloroform	(2)	6.665	83	540098	4.803

M = Compound was manually integrated.

* = Compound is an internal standard.

page 1 of 3

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 16:30.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 14:26

Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 16:13

Date, time and analyst ID of latest file update: 04-Oct-2016 16:30 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
50) \$Dibromofluoromethane	(2)	6.878	113	523381	10.033
51) 1,1,1-Trichloroethane	(2)	6.915	97	481182	4.753
52) Cyclohexane	(2)	7.031	56	569485	4.793
55) 1,1-Dichloropropene	(2)	7.128	75	417300	4.559
54) Carbon Tetrachloride	(2)	7.141	117	430237	4.920
56) Isobutyl Alcohol	(1)	7.220	41	85024	124.750
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	83055M	9.911
58) Benzene	(2)	7.384	78	1184111	4.853
59) 1,2-Dichloroethane	(2)	7.445	62	322419M	4.746
60) t-Amyl methyl ether	(2)	7.573	73	650419	4.735
63) *Fluorobenzene	(2)	7.787	96	2274428	10.000
62) n-Heptane	(2)	7.811	43	536195	4.941
65) n-Butanol	(1)	8.110	56	98147	197.160
67) Trichloroethene	(2)	8.274	95	327747	4.902
70) 1,2-Dichloropropane	(2)	8.598	63	307056	4.944
69) Methylcyclohexane	(2)	8.604	83	547296	4.688
71) Methyl Methacrylate	(1)	8.665	69	114137M	5.833
73) Dibromomethane	(2)	8.707	93	127491	4.902
72) 1,4-Dioxane	(1)	8.707	88	14082	84.214
74) Bromodichloromethane	(2)	8.933	83	348972	4.905
76) 2-Nitropropane	(1)	9.177	41	38398M	5.304
80) cis-1,3-Dichloropropene	(2)	9.482	75	394354	4.884
81) 4-Methyl-2-Pentanone	(1)	9.634	43	796289	26.393
82) \$Toluene-d8	(3)	9.799	98	2253992	9.932
83) Toluene	(3)	9.872	92	745678	4.782
84) trans-1,3-Dichloropropene	(3)	10.109	75	314884	4.976
85) 1,3-Dichloropropene (total)	(3)		75	709238	9.859
86) Ethyl Methacrylate	(3)	10.177	69	244547	5.012
88) 1,1,2-Trichloroethane	(3)	10.317	97	173211	4.825
89) Tetrachloroethene	(3)	10.426	166	356754	4.779
90) 1,3-Dichloropropane	(3)	10.481	76	307142	4.707
91) 2-Hexanone	(1)	10.518	43	556490	26.649
93) Dibromochloromethane	(3)	10.701	129	214586	4.820
95) 1,2-Dibromoethane	(3)	10.817	107	167620	4.937
97) *Chlorobenzene-d5	(3)	11.243	117	1502373	10.000
98) Chlorobenzene	(3)	11.274	112	787761	4.741
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	272389	4.770
100) Ethylbenzene	(3)	11.359	91	1458791	4.754

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 16:30.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d
 Injection date and time: 04-OCT-2016 14:26

Instrument ID: HP19094.i
 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 16:13
 Date, time and analyst ID of latest file update: 04-Oct-2016 16:30 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
101) m+p-Xylene	(3)	11.475	106	1116577	9.684
105) Xylene (Total)	(3)		106	1650623	14.433
104) o-Xylene	(3)	11.798	106	534046	4.749
106) Styrene	(3)	11.816	104	856335	4.976
107) Bromoform	(3)	11.975	173	114584	4.701
108) Isopropylbenzene	(3)	12.103	105	1472225	4.856
111) \$4-Bromofluorobenzene	(3)	12.243	95	665497	9.975
113) 1,1,2,2-Tetrachloroethane	(4)	12.329	83	196835	4.667
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	238785	26.709
114) Bromobenzene	(4)	12.365	156	326949	4.807
116) 1,2,3-Trichloropropane	(4)	12.383	110	56754	5.040
117) n-Propylbenzene	(4)	12.432	91	1768172	4.904
119) 2-Chlorotoluene	(4)	12.505	126	327212	4.801
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	1211847	4.886
122) 4-Chlorotoluene	(4)	12.597	126	335507	4.814
125) tert-Butylbenzene	(4)	12.804	134	254846M	4.710
126) Pentachloroethane	(4)	12.841	167	194026	4.634
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	1211131	4.837
128) sec-Butylbenzene	(4)	12.969	105	1588966	4.882
131) 1,3-Dichlorobenzene	(4)	13.072	146	635274	4.803
132) p-Isopropyltoluene	(4)	13.078	119	1307024	4.813
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	681898	10.000
134) 1,4-Dichlorobenzene	(4)	13.145	146	633803	4.607
135) 1,2,3-Trimethylbenzene	(4)	13.152	120	508350	4.691
136) Benzyl Chloride	(4)	13.213	126	72757M	5.071
138) n-Butylbenzene	(4)	13.371	92	651333	4.996
139) 1,2-Dichlorobenzene	(4)	13.402	146	567120	4.820
143) 1,2-Dibromo-3-chloropropane	(1)	13.944	155	23888	5.437
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	372933	4.450
146) Hexachlorobutadiene	(4)	14.578	225	193304	4.848
147) Naphthalene	(4)	14.676	128	562881	4.424
148) 1,2,3-Trichlorobenzene	(4)	14.816	180	293309	4.157

M = Compound was manually integrated.

* = Compound is an internal standard.

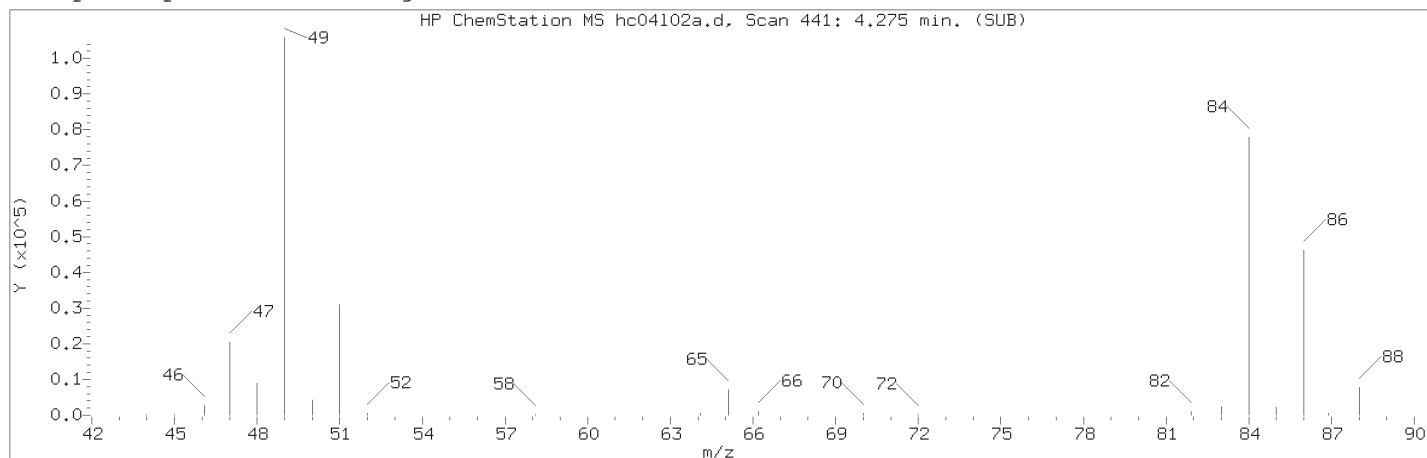
\$ = Compound is a surrogate standard.

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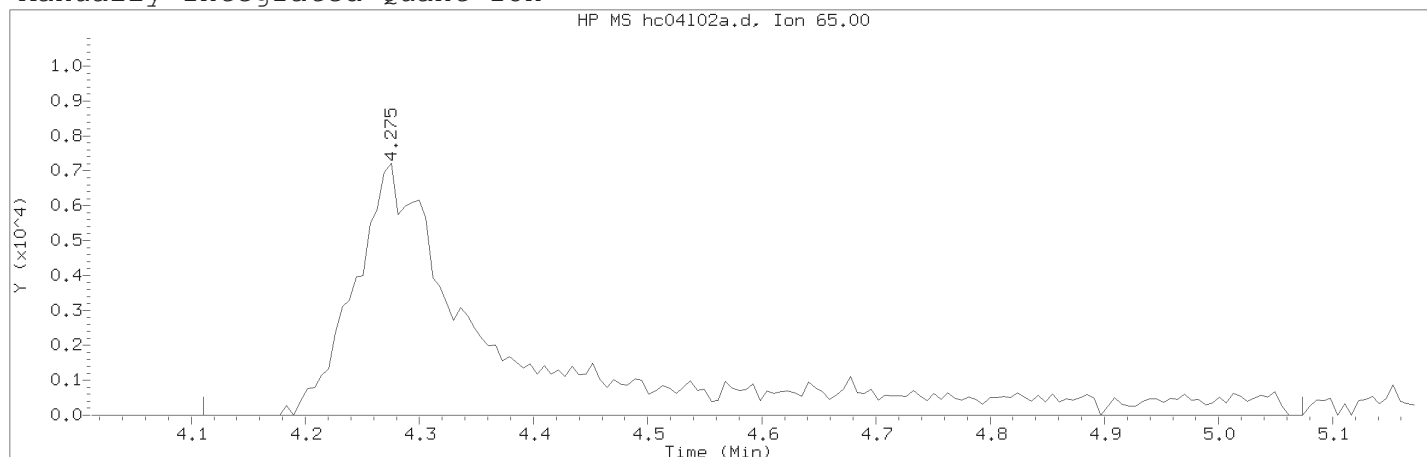
Digitally signed by Kerri E. Koch Legerlotz
 on 10/04/2016 at 16:30.

Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 14:26 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:30 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

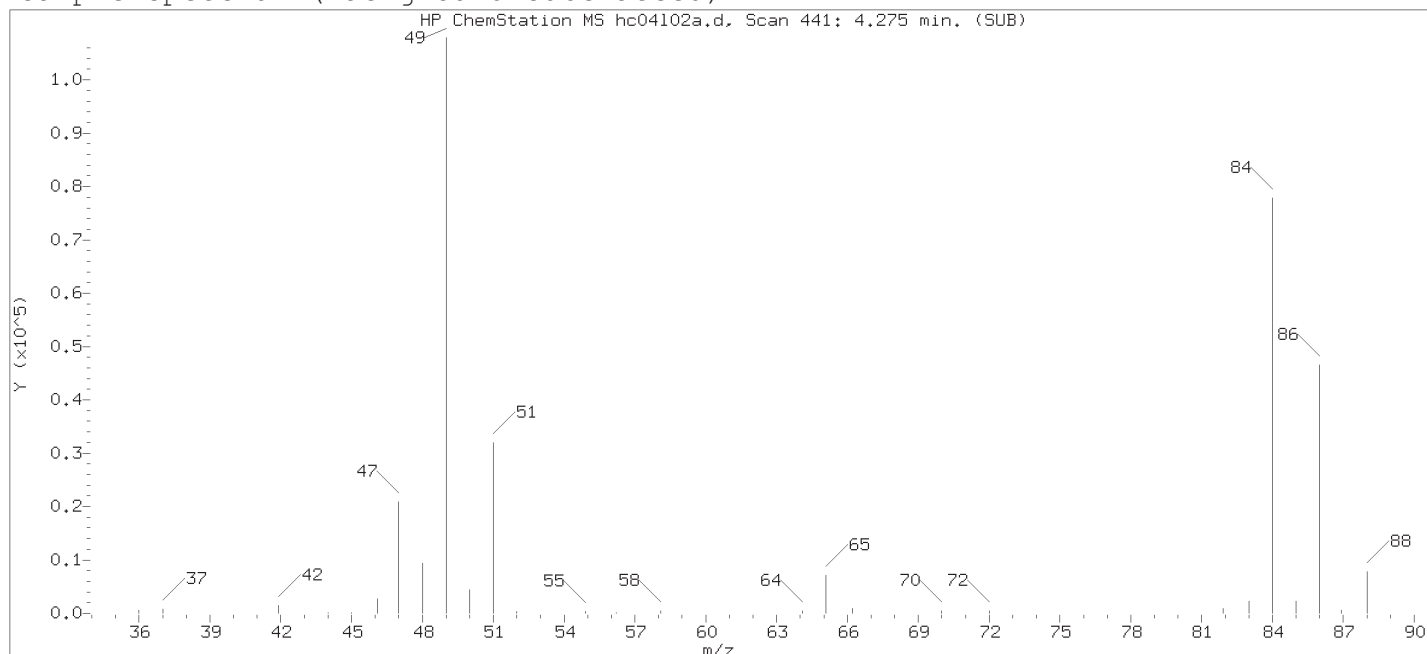
Compound Number	: 26	
Compound Name	: t-Butyl Alcohol-d10	
Scan Number	: 441	
Retention Time (minutes)	: 4.275	
Quant Ion	: 65.00	
Area (flag)	: 66251M	
On-Column Amount (ng)	: 50.0000	
Integration start scan	: 413	Integration stop scan: 571
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

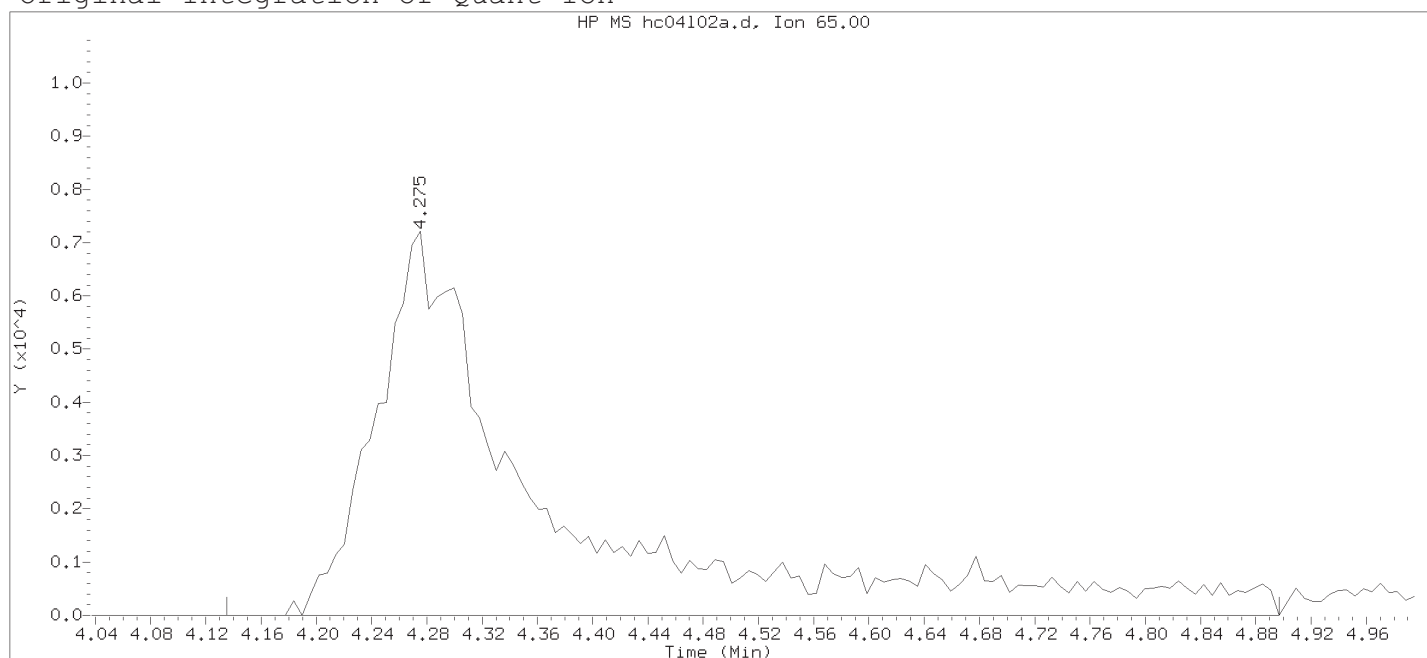
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 16:30.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 19:08.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 14:26

Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 16:13

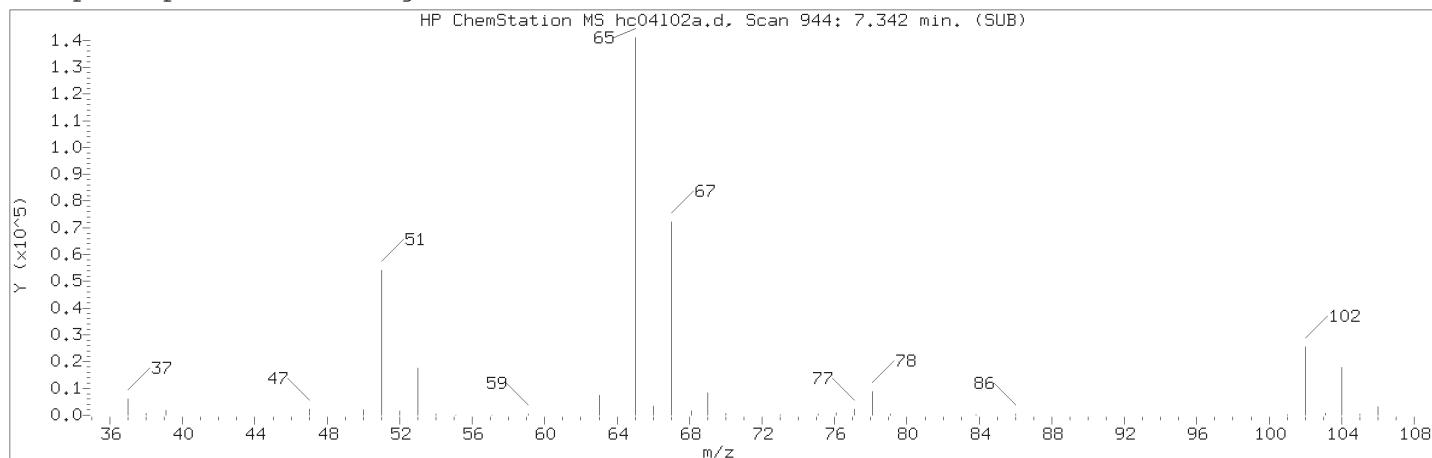
Date, time and analyst ID of latest file update: 04-Oct-2016 16:28 kel01973

Sample Name: LCSHLG

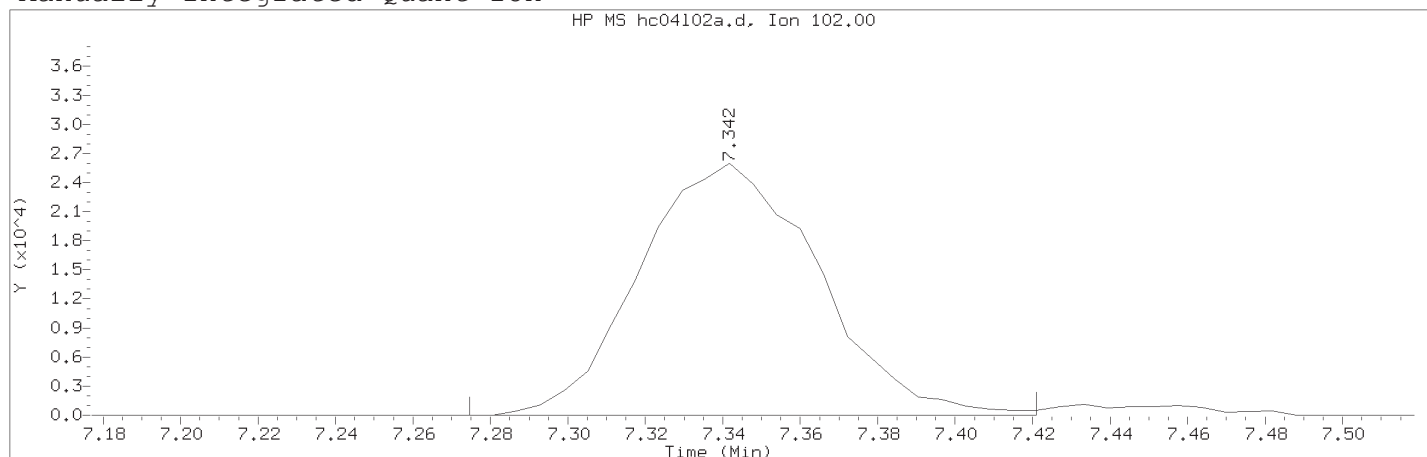
Lab Sample ID: LCSHLG

Compound Number	: 26	
Compound Name	: t-Butyl Alcohol-d10	
Scan Number	: 441	
Retention Time (minutes)	: 4.275	
Quant Ion	: 65.00	
Area	: 62127	
On-column Amount (ng)	: 50.0000	
Integration start scan	: 417	Integration stop scan: 542
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 14:26 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:30 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

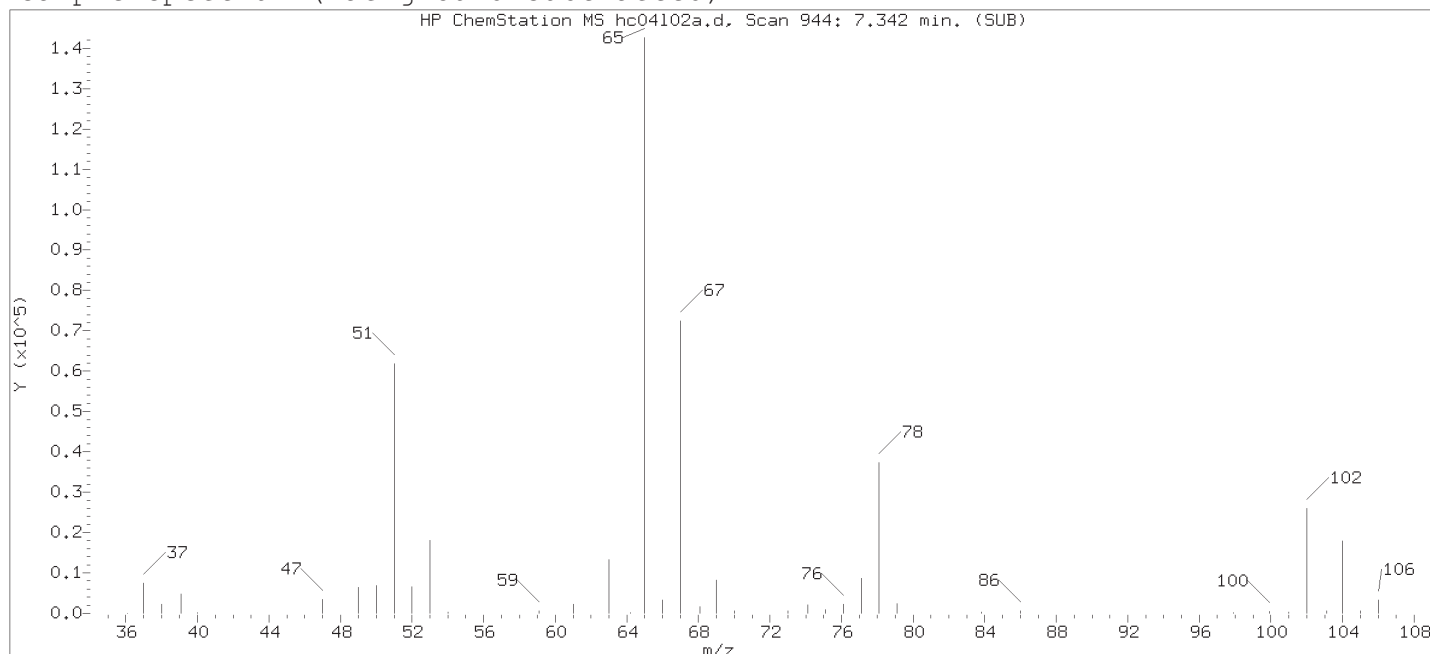
Compound Number	: 57	
Compound Name	: 1,2-Dichloroethane-d4	
Scan Number	: 944	
Retention Time (minutes)	: 7.342	
Quant Ion	: 102.00	
Area (flag)	: 83055M	
On-Column Amount (ng)	: 9.9108	
Integration start scan	: 932	Integration stop scan: 956
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

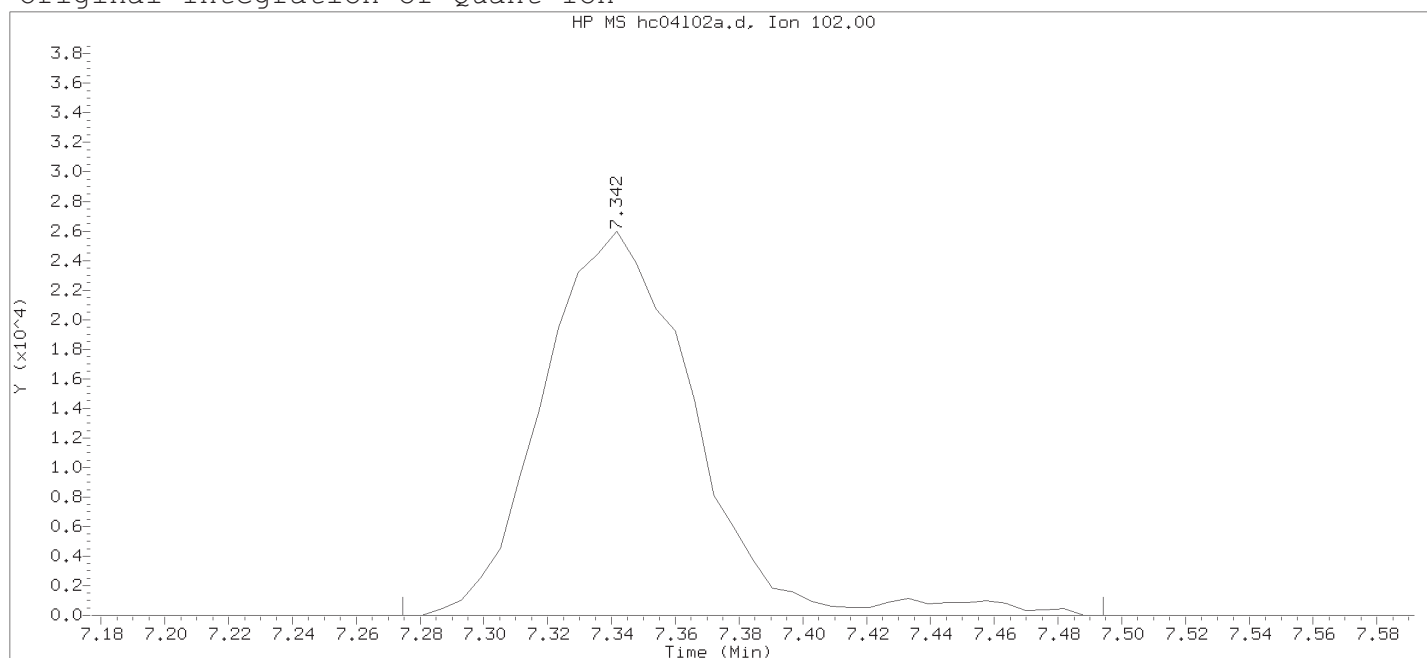
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 16:30.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 19:08.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 14:26 Analyst ID: KEL01973

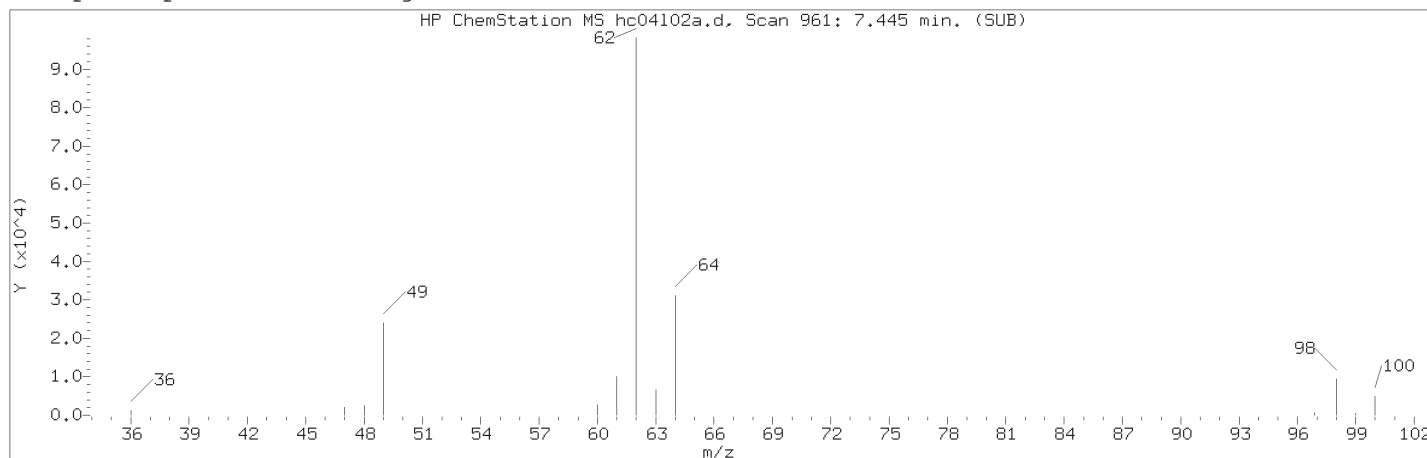
Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:28 kel01973

Sample Name: LCSHLG

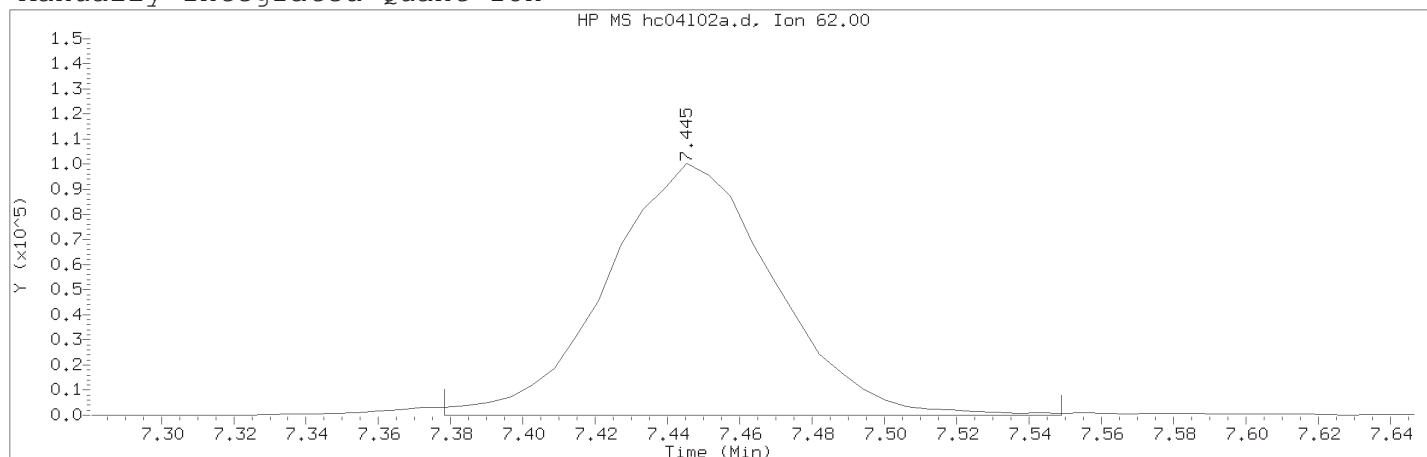
Lab Sample ID: LCSHLG

Compound Number	: 57	
Compound Name	: 1,2-Dichloroethane-d4	
Scan Number	: 944	
Retention Time (minutes)	: 7.342	
Quant Ion	: 102.00	
Area	: 85798	
On-column Amount (ng)	: 10.2381	
Integration start scan	: 932	Integration stop scan: 968
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 14:26 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:30 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

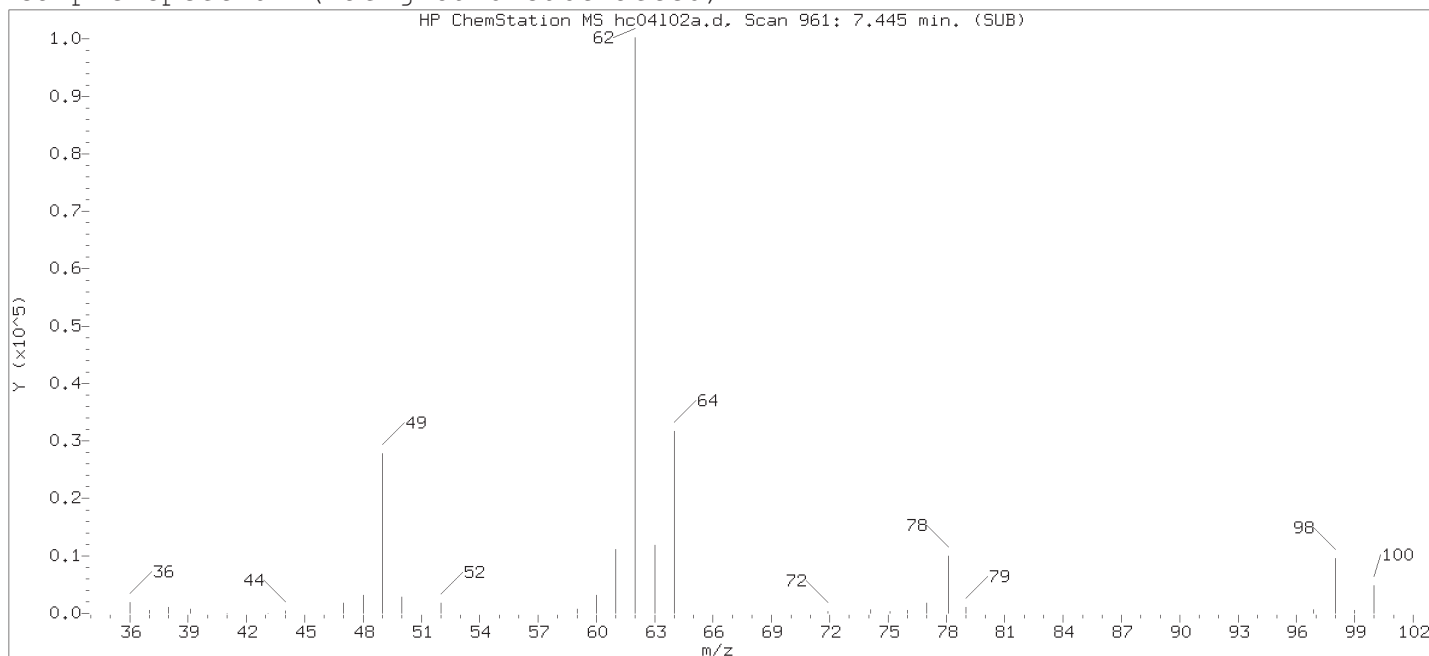
Compound Number	: 59	
Compound Name	: 1,2-Dichloroethane	
Scan Number	: 961	
Retention Time (minutes)	: 7.445	
Quant Ion	: 62.00	
Area (flag)	: 322419M	
On-Column Amount (ng)	: 4.7462	
Integration start scan	: 949	Integration stop scan: 977
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

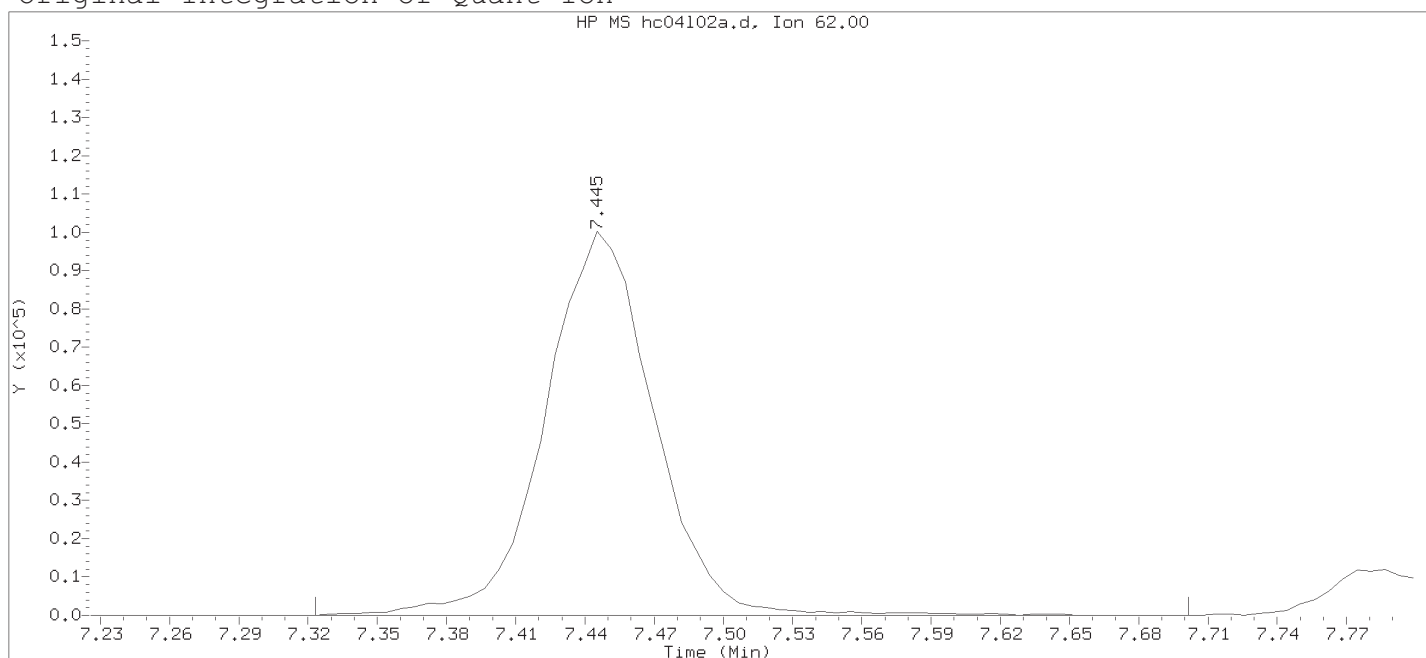
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 16:30.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 19:08.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 14:26

Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 16:13

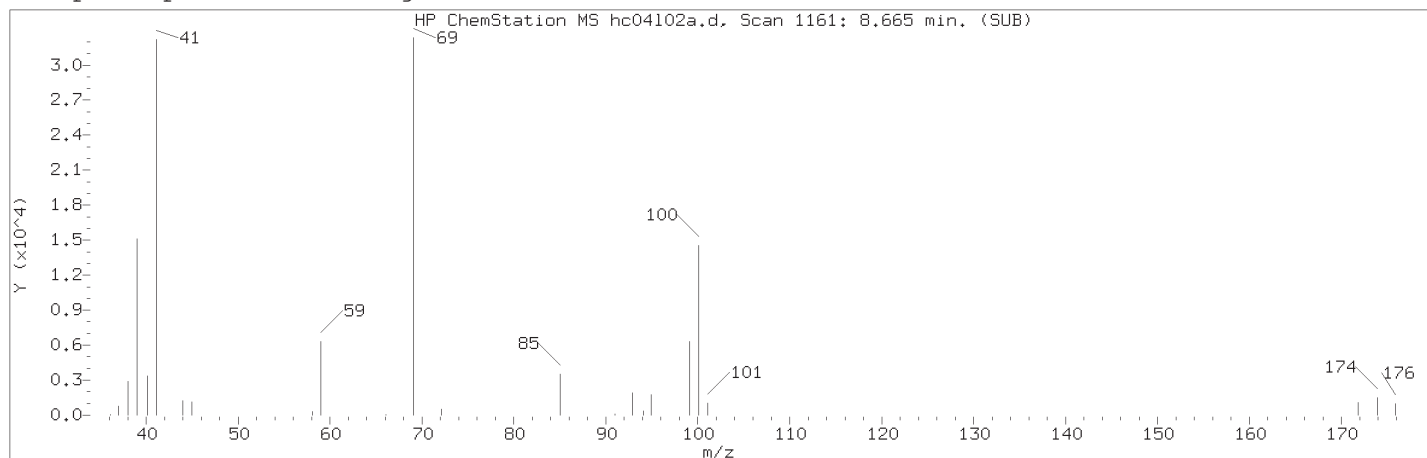
Date, time and analyst ID of latest file update: 04-Oct-2016 16:28 kel01973

Sample Name: LCSHLG

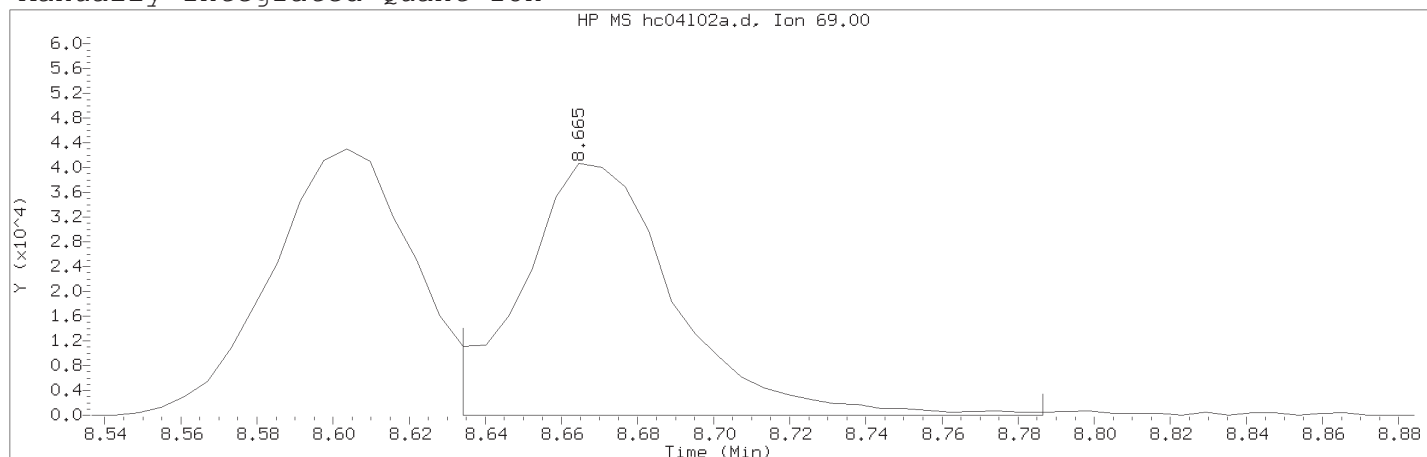
Lab Sample ID: LCSHLG

Compound Number	: 59	
Compound Name	: 1,2-Dichloroethane	
Scan Number	: 961	
Retention Time (minutes)	: 7.445	
Quant Ion	: 62.00	
Area	: 328604	
On-column Amount (ng)	: 4.8372	
Integration start scan	: 940	Integration stop scan: 1002
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 14:26 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:30 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

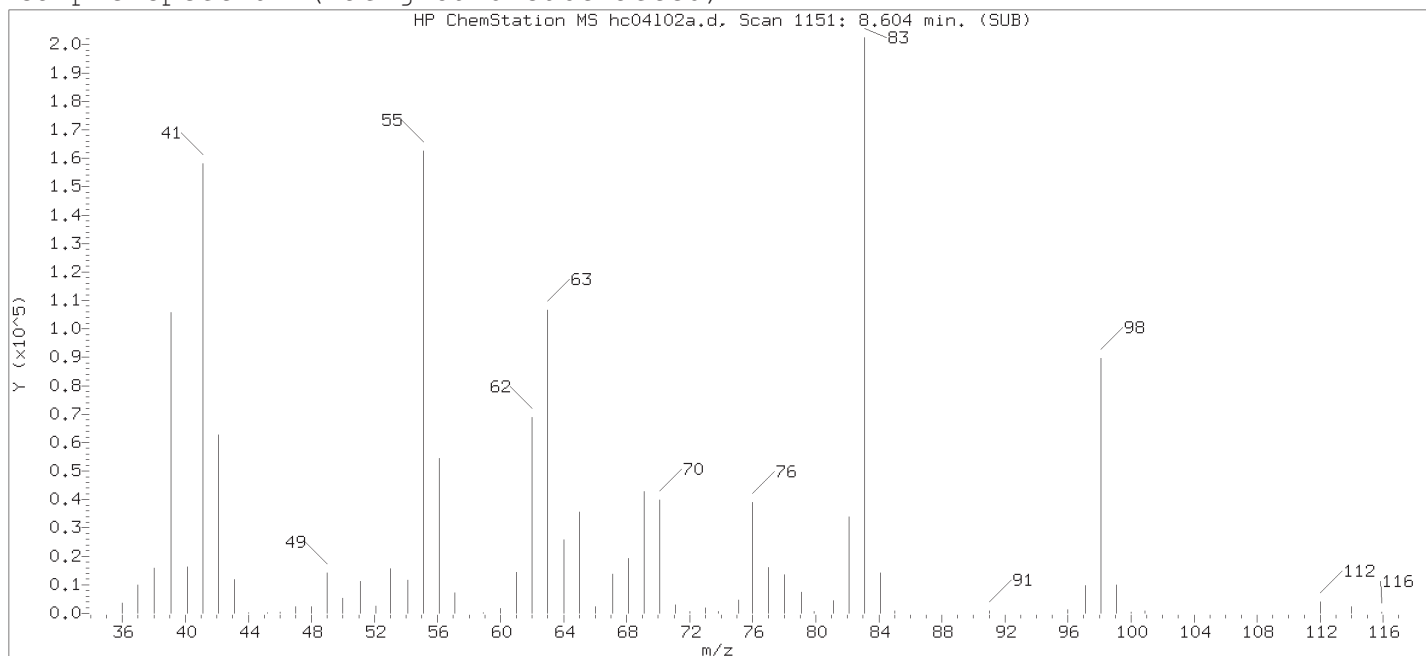
Compound Number	: 71	
Compound Name	: Methyl Methacrylate	
Scan Number	: 1161	
Retention Time (minutes)	: 8.665	
Quant Ion	: 69.00	
Area (flag)	: 114137M	
On-Column Amount (ng)	: 5.8326	
Integration start scan	: 1155	Integration stop scan: 1180
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

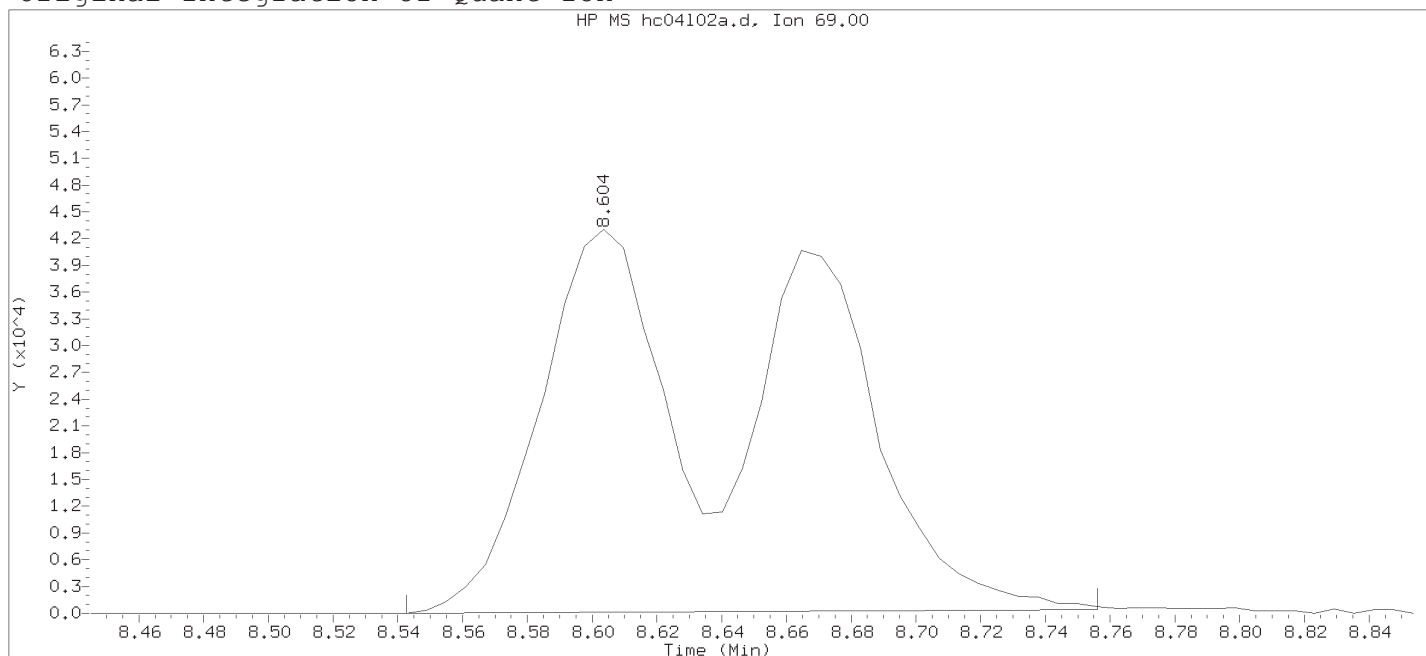
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 16:30.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 19:08.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 14:26

Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 16:13

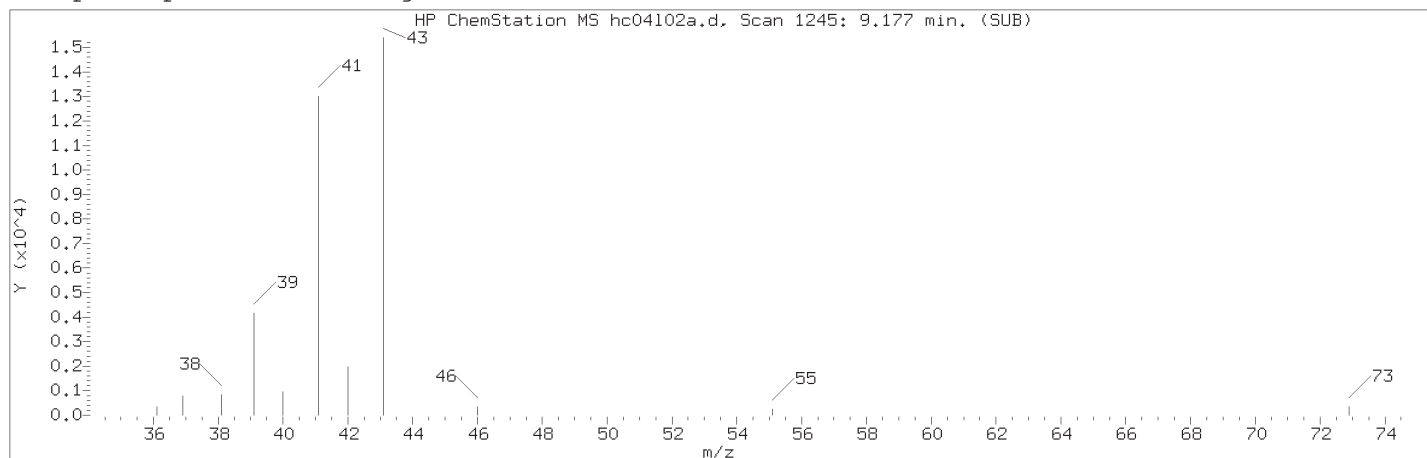
Date, time and analyst ID of latest file update: 04-Oct-2016 16:28 kel01973

Sample Name: LCSHLG

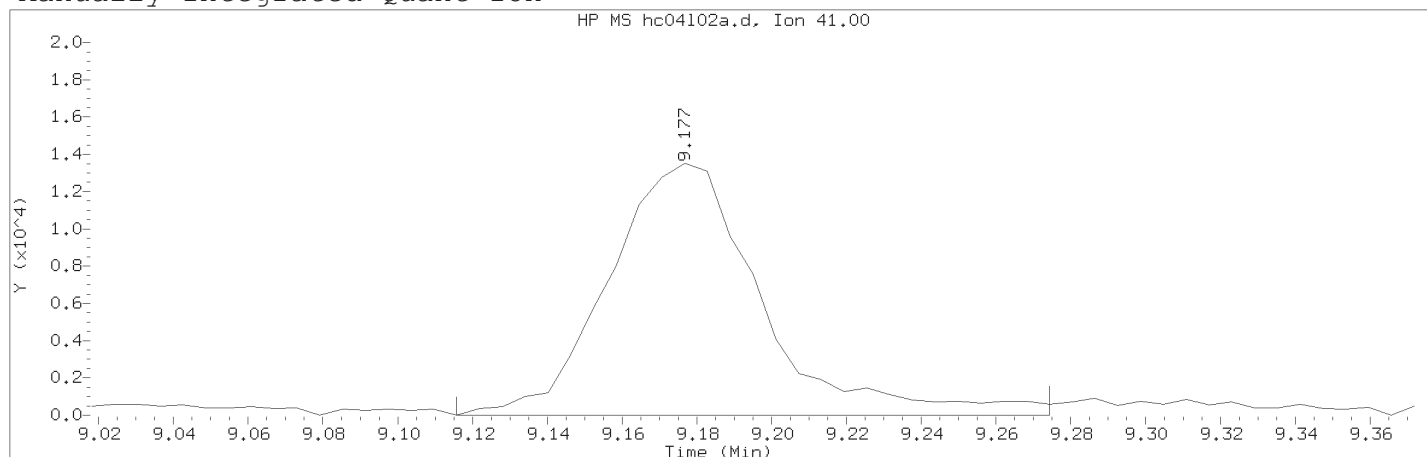
Lab Sample ID: LCSHLG

Compound Number	: 71	
Compound Name	: Methyl Methacrylate	
Scan Number	: 1151	
Retention Time (minutes)	: 8.604	
Quant Ion	: 69.00	
Area	: 218824	
On-column Amount (ng)	: 11.9246	
Integration start scan	: 1140	Integration stop scan: 1175
Y at integration start	: 0	Y at integration end: 381

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 14:26 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:30 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

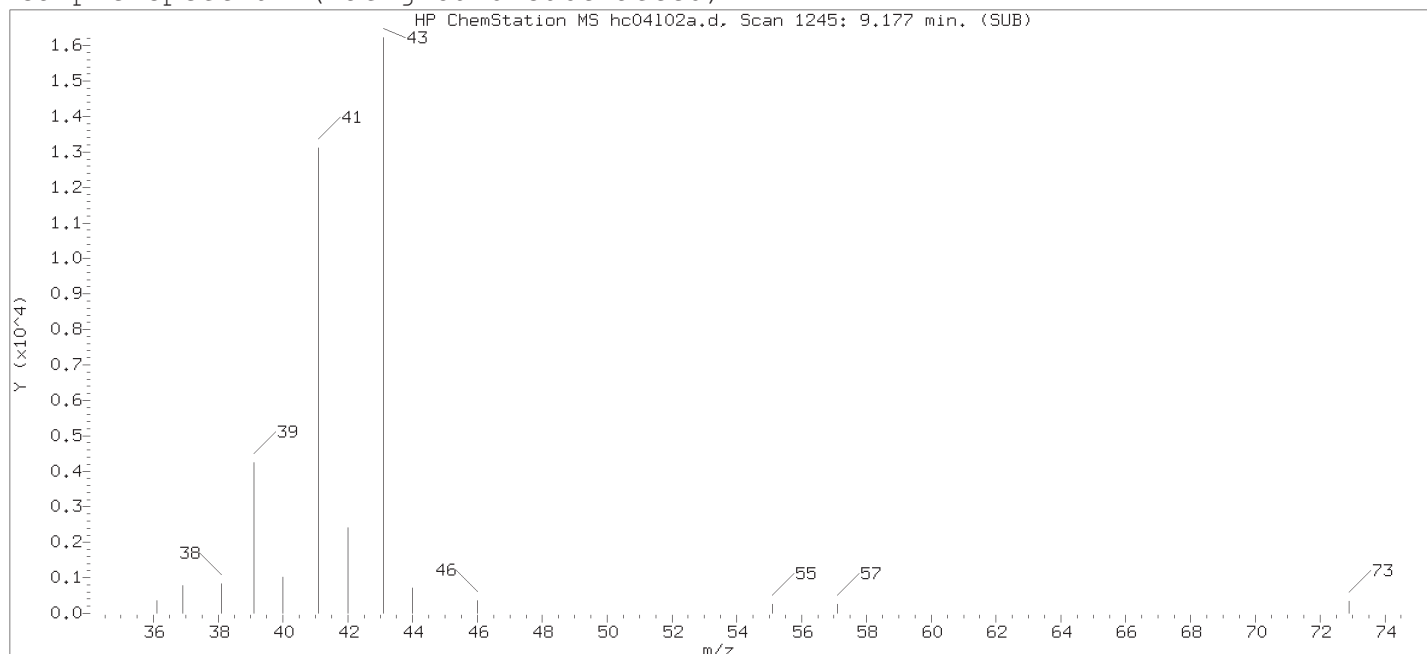
Compound Number	: 76	
Compound Name	: 2-Nitropropane	
Scan Number	: 1245	
Retention Time (minutes)	: 9.177	
Quant Ion	: 41.00	
Area (flag)	: 38398M	
On-Column Amount (ng)	: 5.3042	
Integration start scan	: 1234	Integration stop scan: 1260
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

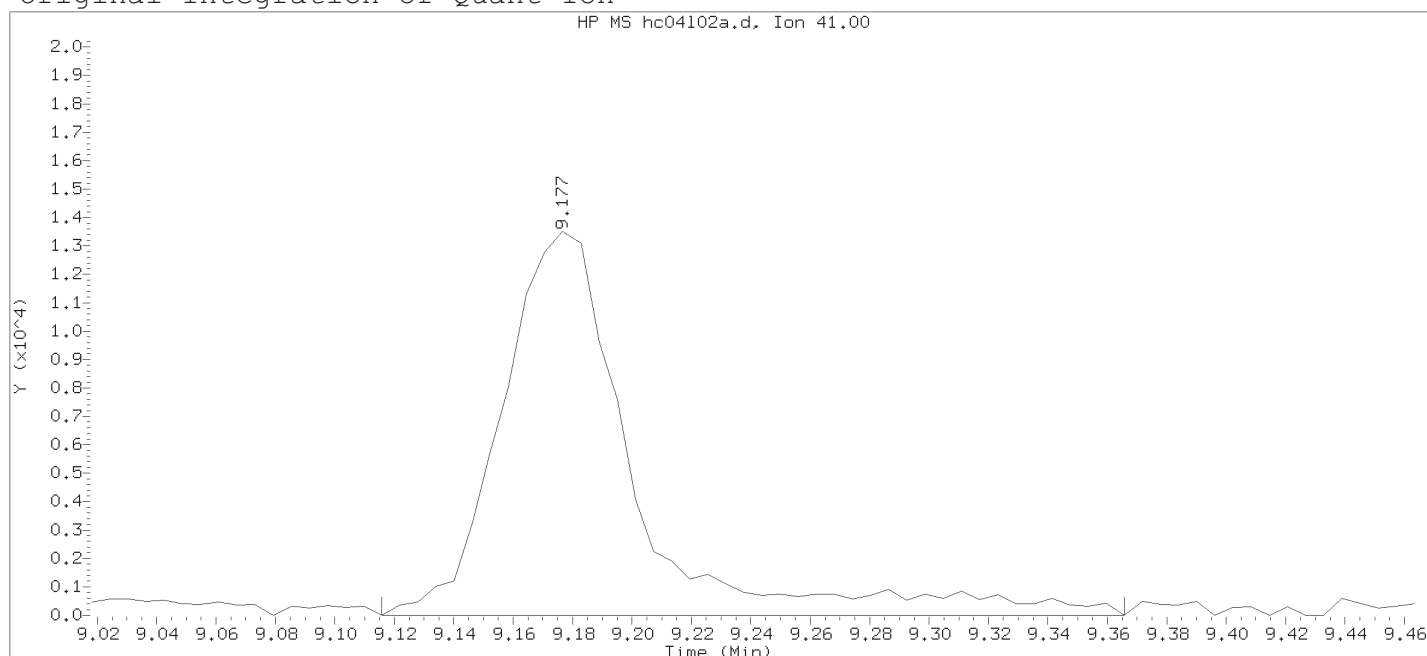
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 16:30.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 19:08.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 14:26 Analyst ID: KEL01973

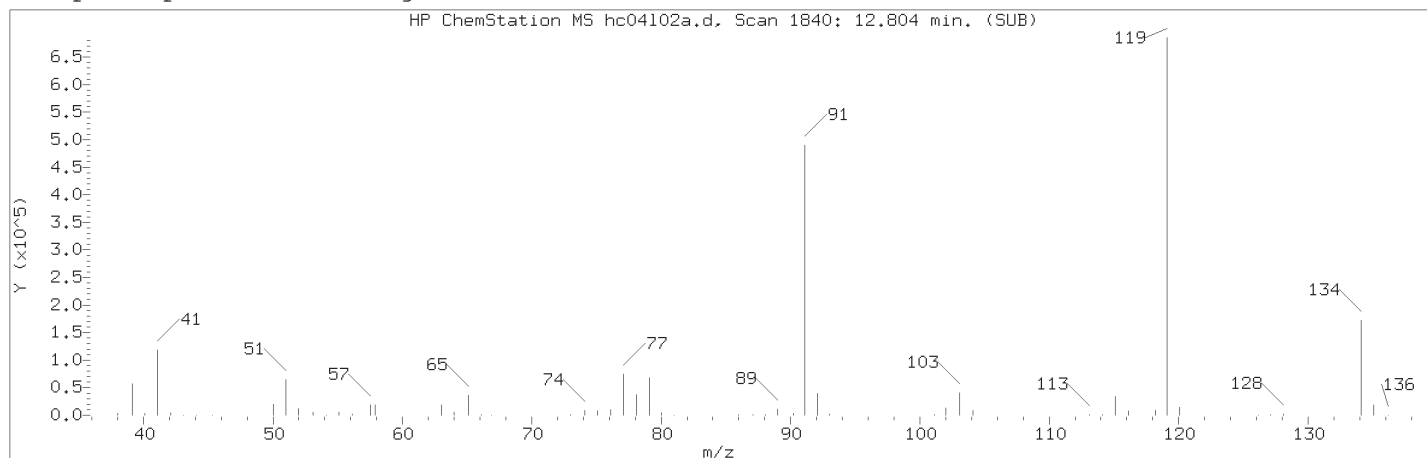
Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:28 kel01973

Sample Name: LCSHLG

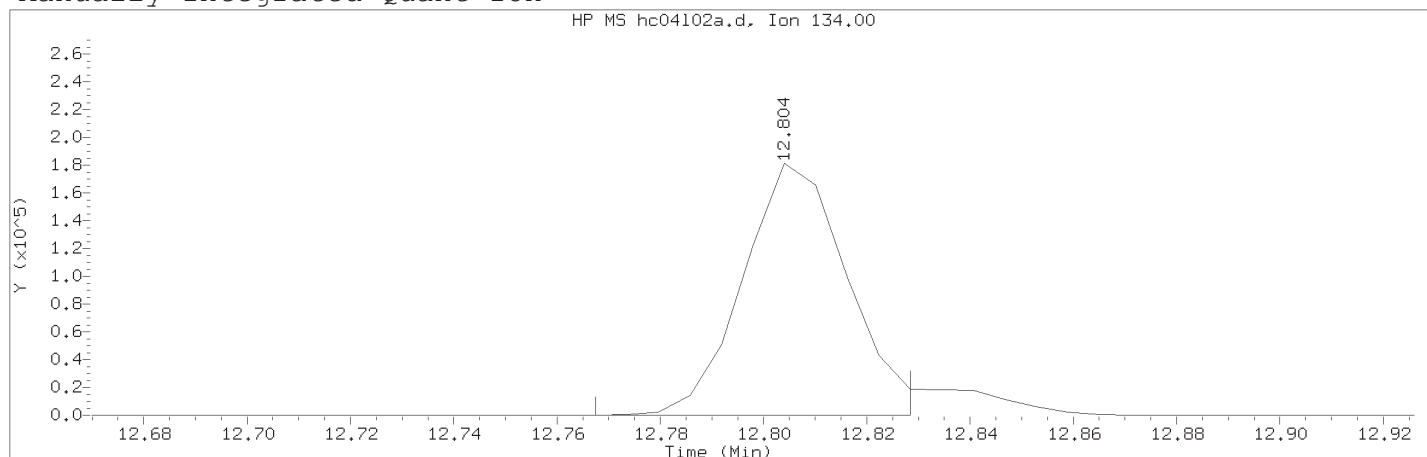
Lab Sample ID: LCSHLG

Compound Number	: 76	
Compound Name	: 2-Nitropropane	
Scan Number	: 1245	
Retention Time (minutes)	: 9.177	
Quant Ion	: 41.00	
Area	: 41341	
On-column Amount (ng)	: 6.0900	
Integration start scan	: 1234	Integration stop scan: 1275
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 14:26 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:30 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

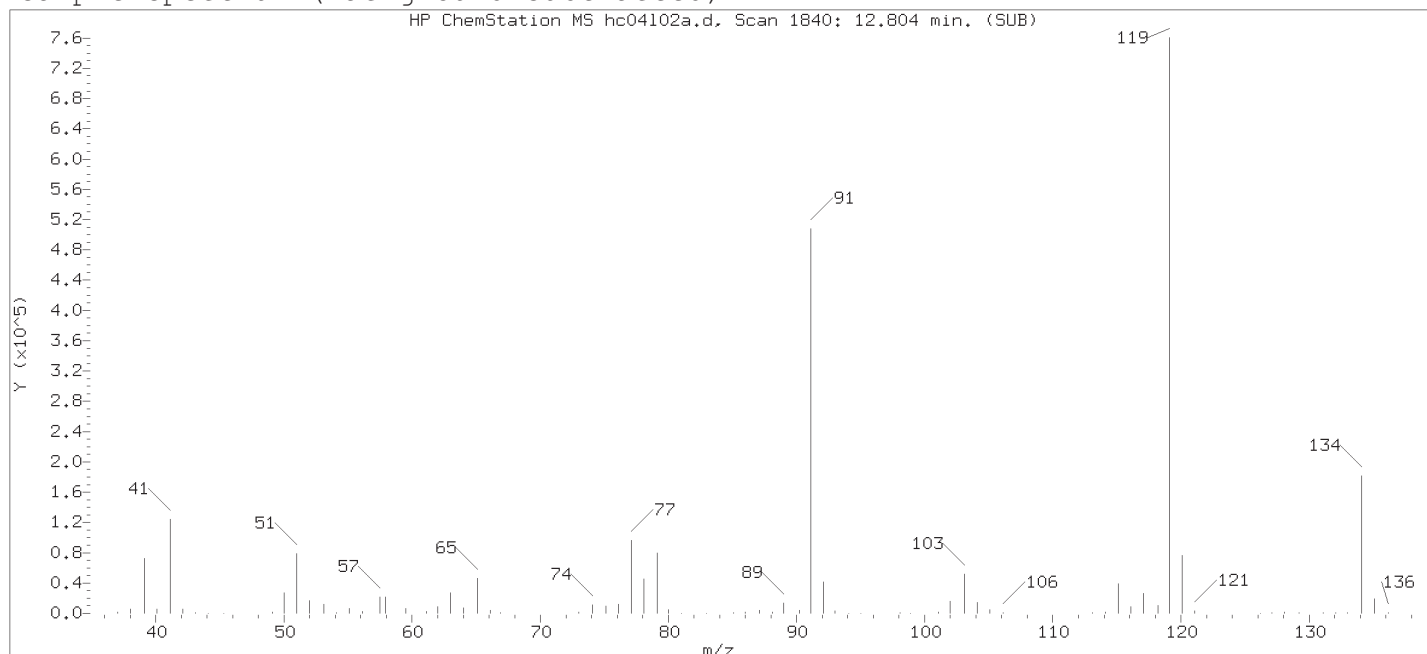
Compound Number	: 125	
Compound Name	: tert-Butylbenzene	
Scan Number	: 1840	
Retention Time (minutes)	: 12.804	
Quant Ion	: 134.00	
Area (flag)	: 254846M	
On-Column Amount (ng)	: 4.7097	
Integration start scan	: 1833	Integration stop scan: 1843
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

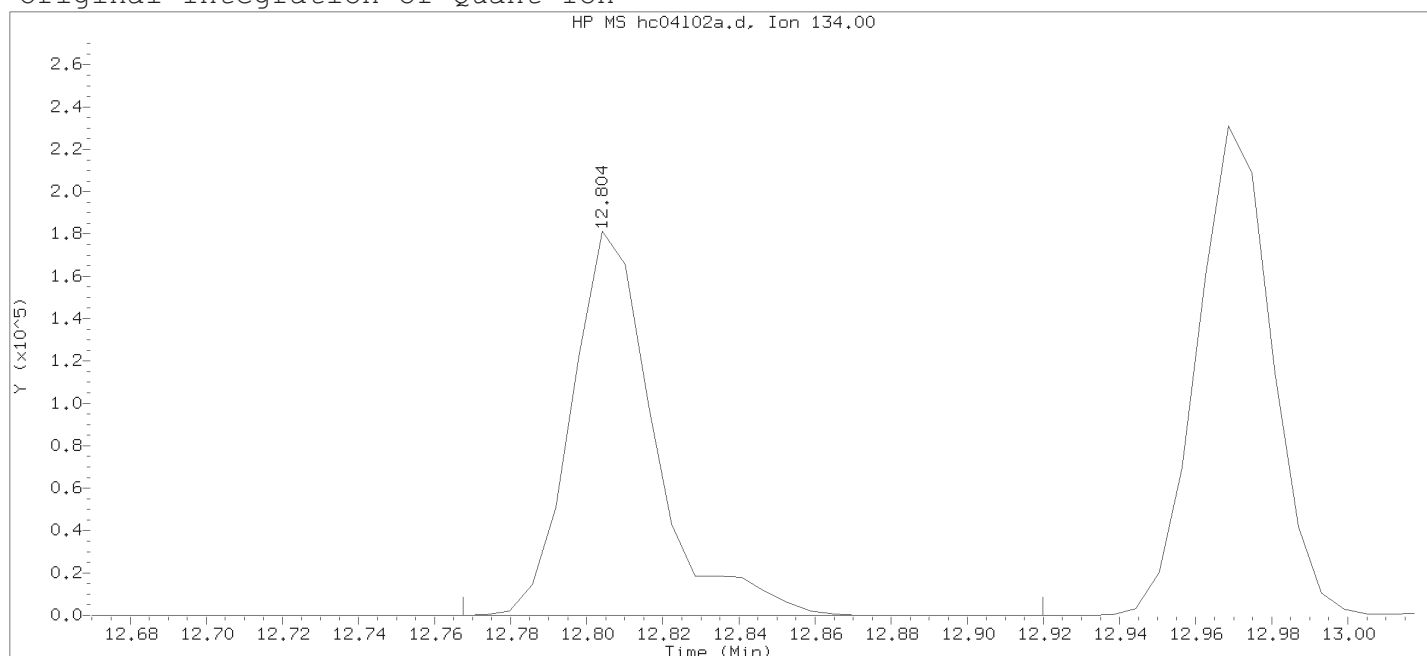
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 16:30.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 19:08.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 14:26

Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 16:13

Date, time and analyst ID of latest file update: 04-Oct-2016 16:28 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

Compound Number : 125

Compound Name : tert-Butylbenzene

Scan Number : 1840

Retention Time (minutes): 12.804

Quant Ion : 134.00

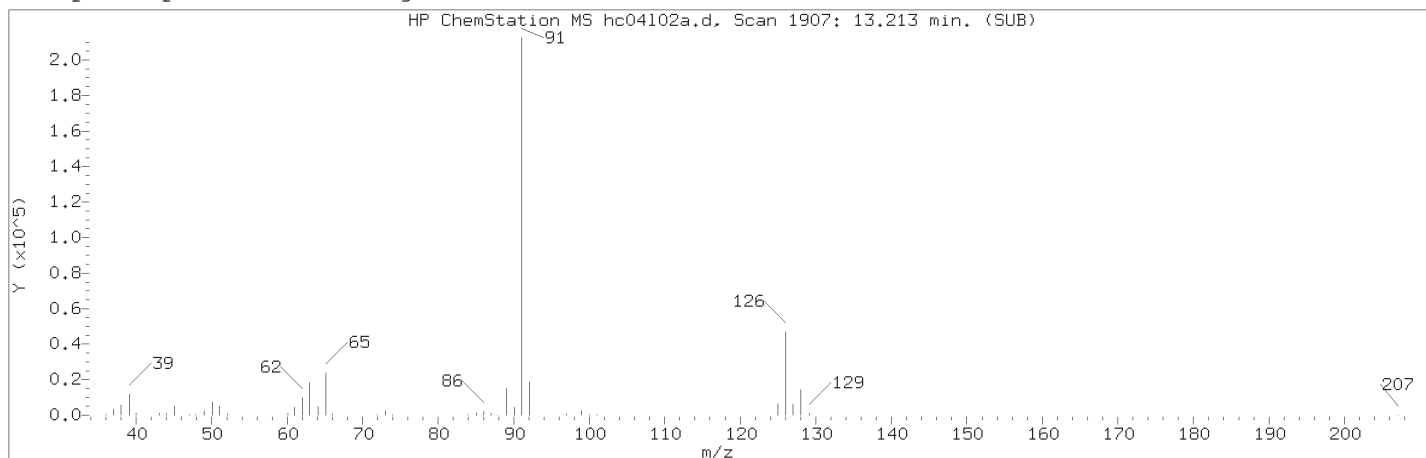
Area : 275371

On-column Amount (ng) : 5.0890

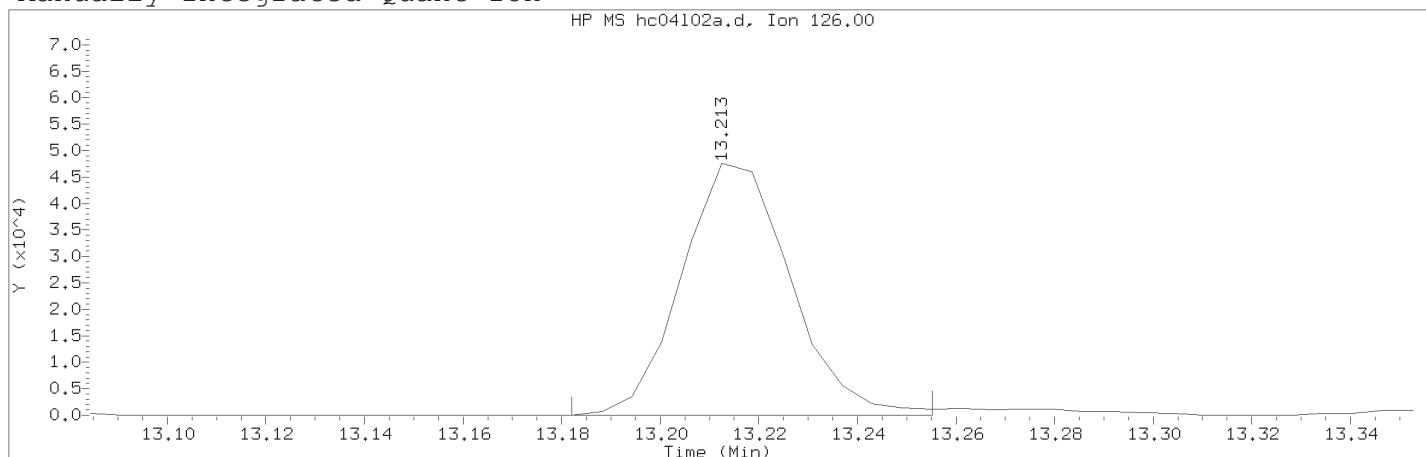
Integration start scan : 1833 Integration stop scan: 1858

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 14:26 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:30 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

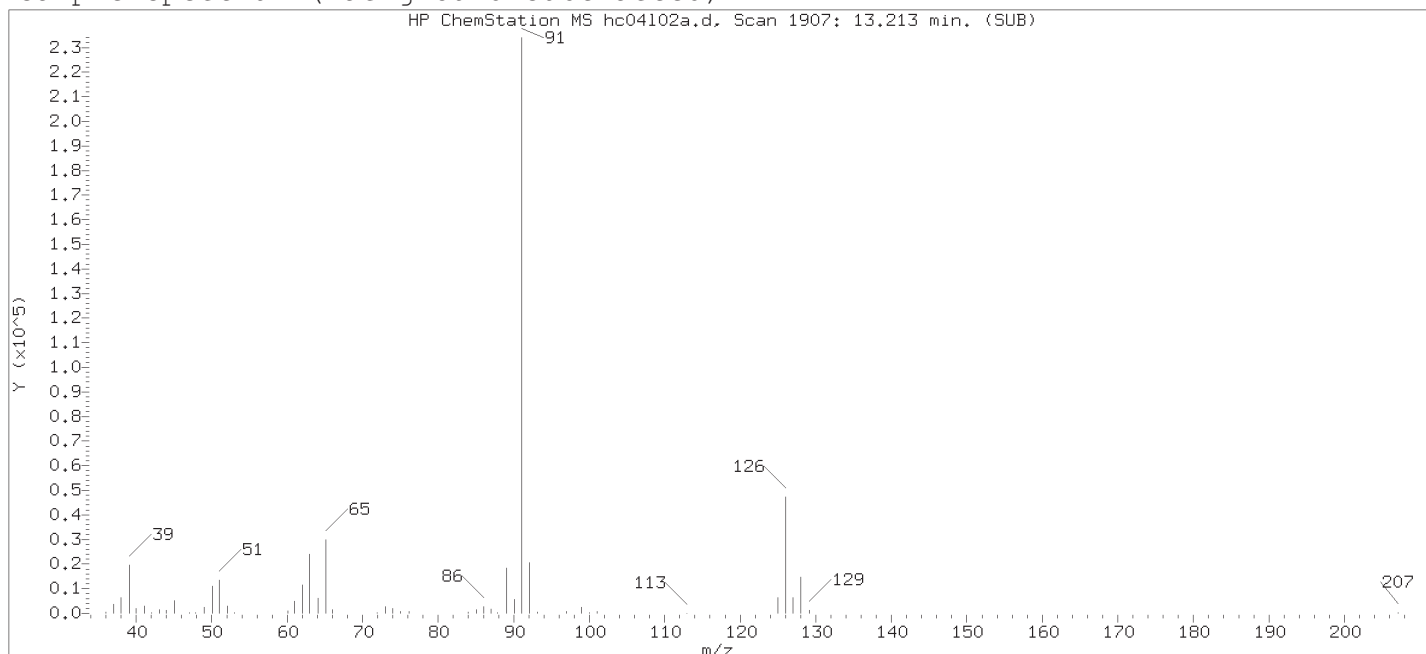
Compound Number	: 136	
Compound Name	: Benzyl Chloride	
Scan Number	: 1907	
Retention Time (minutes)	: 13.213	
Quant Ion	: 126.00	
Area (flag)	: 72757M	
On-Column Amount (ng)	: 5.0708	
Integration start scan	: 1901	Integration stop scan: 1913
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

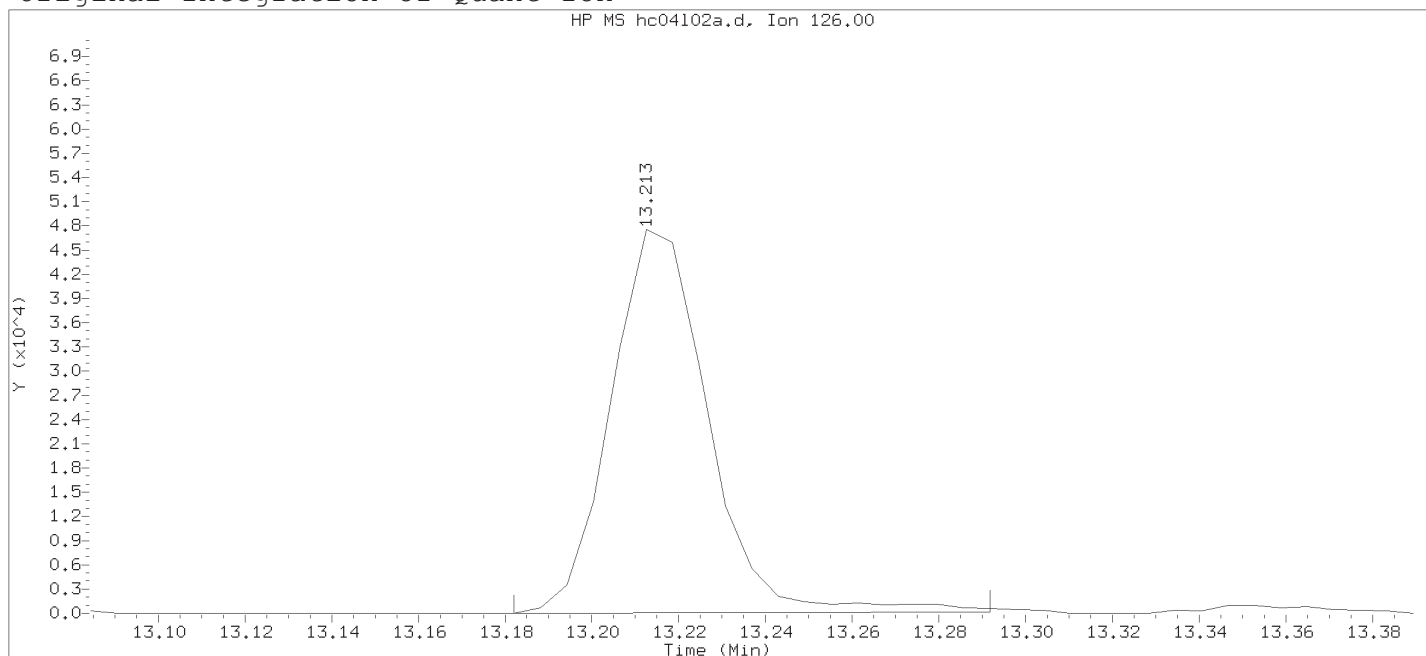
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 16:30.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 19:08.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 14:26 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:28 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

Compound Number	: 136	
Compound Name	: Benzyl Chloride	
Scan Number	: 1907	
Retention Time (minutes)	: 13.213	
Quant Ion	: 126.00	
Area	: 74236	
On-column Amount (ng)	: 5.1739	
Integration start scan	: 1901	Integration stop scan: 1919
Y at integration start	: 0	Y at integration end: 161

Date : 31-OCT-2016 07:58

Client ID: aug22-16

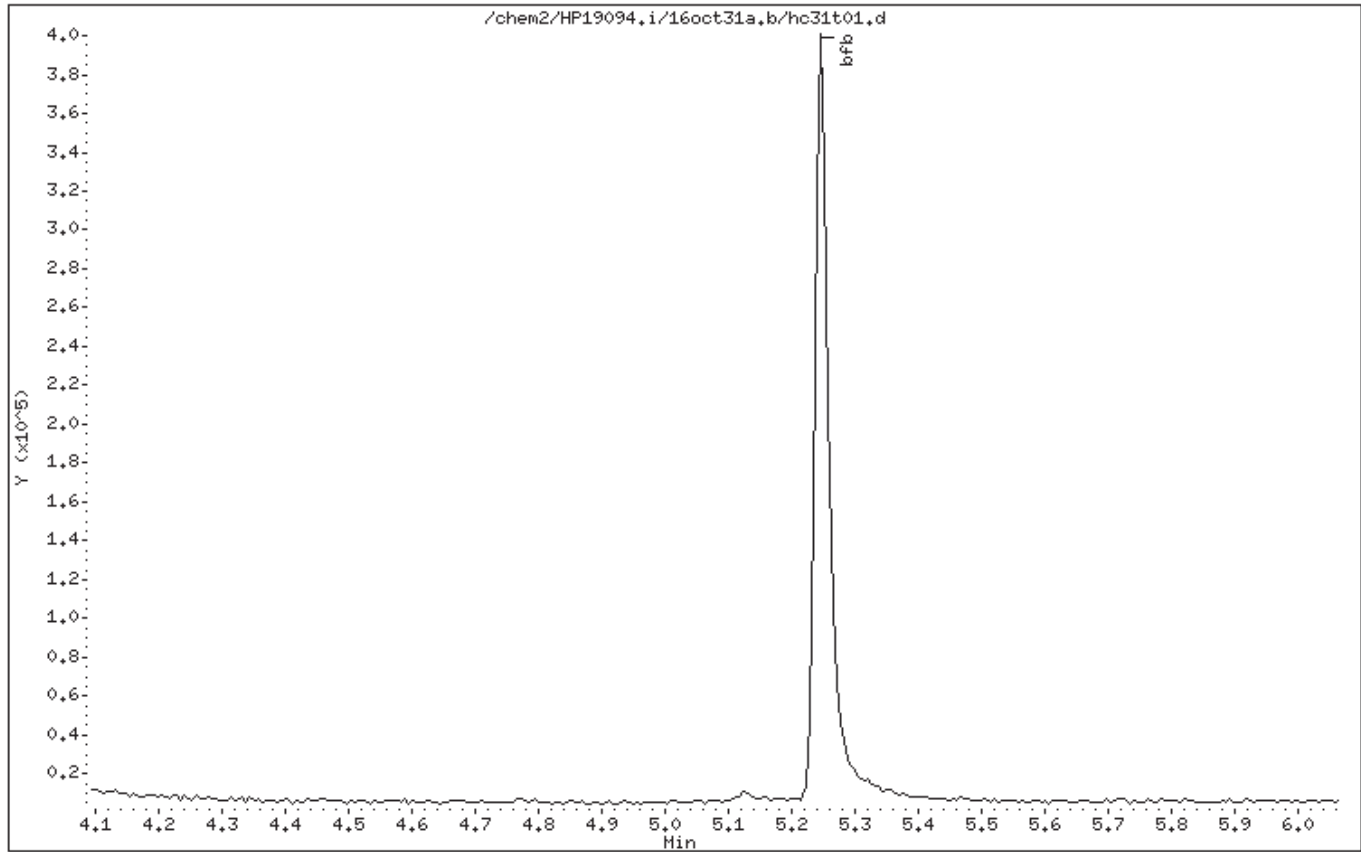
Instrument: HP19094.i

Sample Info: aug22-16;50NGBFB;1;3;+;+;+;

Operator: KAS02648

Column phase: Rxi-624Sil MS

Column diameter: 0,25



Digitally signed by Kevin A. Sposito on 10/31/2016 at 08:06.
Target 3.5 esignature user ID: kas02648

Date : 31-OCT-2016 07:58

Client ID: aug22-16

Instrument: HP19094.i

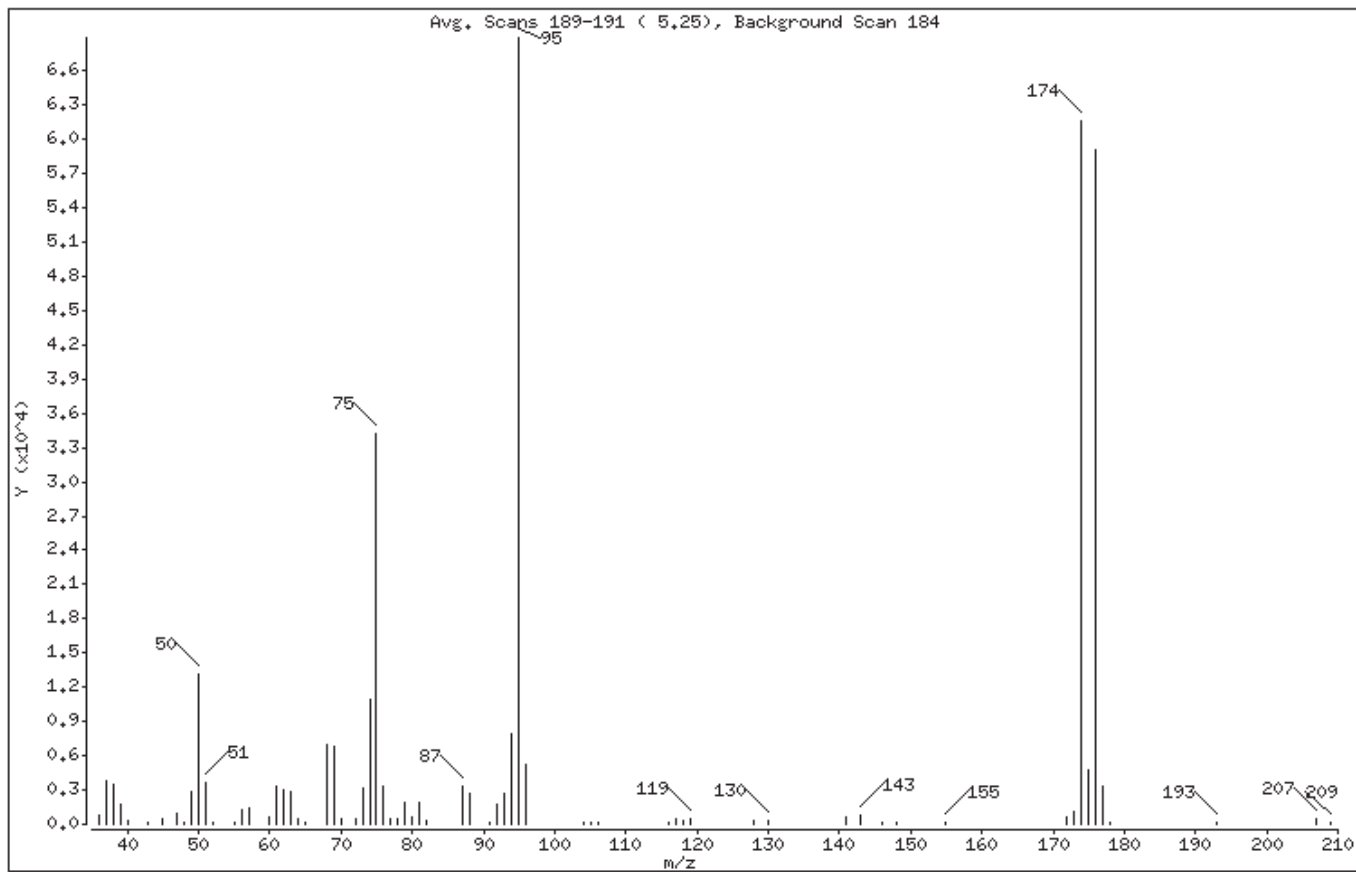
Sample Info: aug22-16;50NGBFB;1;3;:::;

Operator: KAS02648

Column phase: Rxi-624Sil MS

Column diameter: 0.25

1 bfb



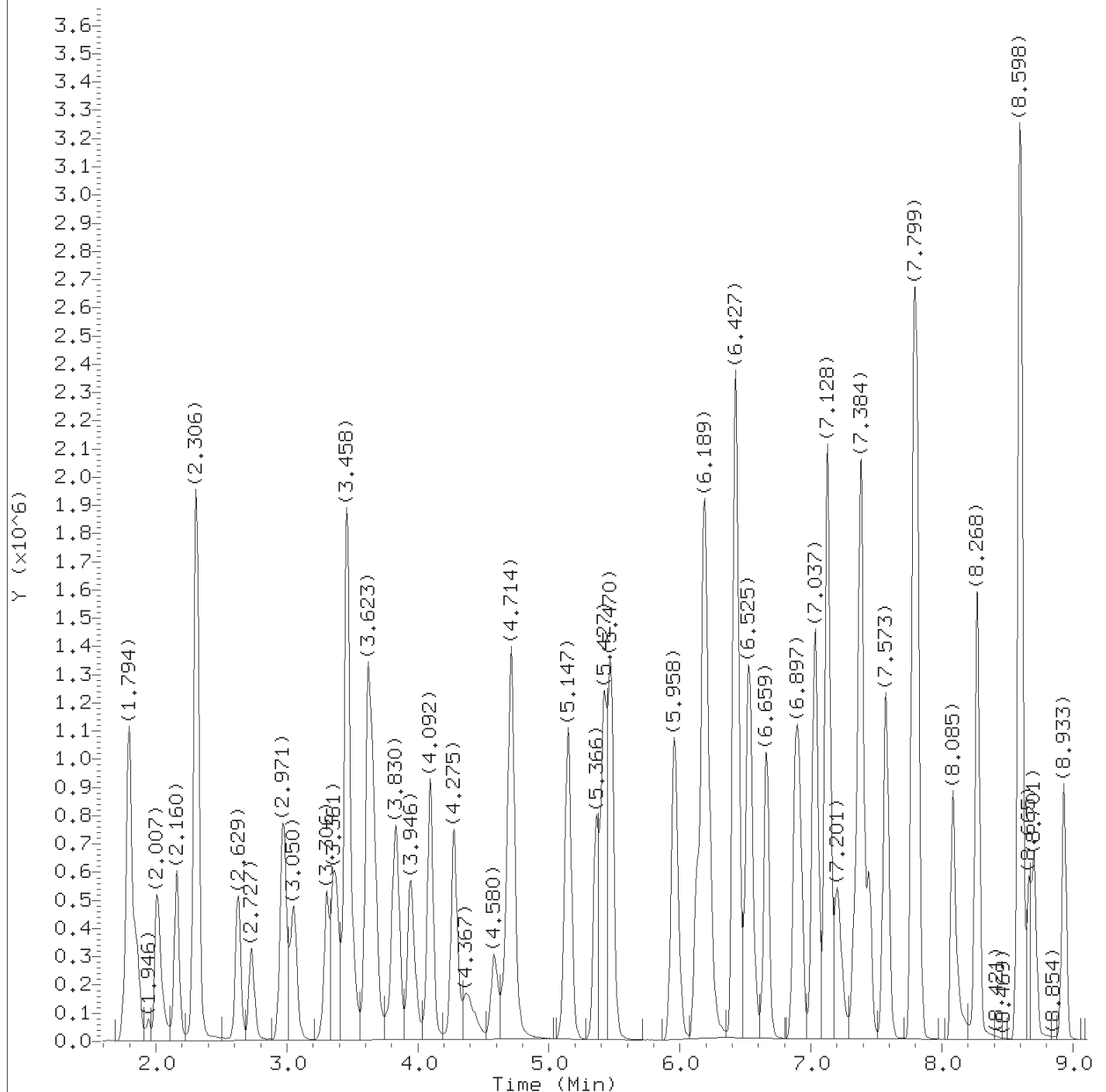
m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.98
75	30.00 - 60.00% of mass 95	49.59
96	5.00 - 9.00% of mass 95	7.70
173	Less than 2.00% of mass 174	1.58 (1.77)
174	50.00 - 100.00% of mass 95	89.54
175	5.00 - 9.00% of mass 174	6.92 (7.73)
176	95.00 - 101.00% of mass 174	85.69 (95.69)
177	5.00 - 9.00% of mass 176	4.90 (5.72)

Digitally signed by Kevin A. Sposito on 10/31/2016 at 08:06.
Target 3.5 esignature user ID: kas02648

Page 3

Column diameter: 0.25

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36,00	731	62,00	3026	87,00	3308	143,00	753
37,00	3852	63,00	2806	88,00	2630	146,00	101
38,00	3535	64,00	435	91,00	174	148,00	84
39,00	1680	65,00	159	92,00	1788	155,00	88
40,00	283	68,00	6931	93,00	2723	172,00	624
43,00	83	69,00	6800	94,00	7926	173,00	1090
45,00	491	70,00	529	95,00	68896	174,00	61688
47,00	959	72,00	419	96,00	5305	175,00	4771
48,00	227	73,00	3182	104,00	188	176,00	59032
49,00	2791	74,00	10939	105,00	86	177,00	3374
50,00	13078	75,00	34168	106,00	237	178,00	111
51,00	3699	76,00	3306	116,00	129	193,00	92
52,00	225	77,00	447	117,00	415	207,00	503
55,00	216	78,00	418	118,00	283	209,00	103
56,00	1219	79,00	1840	119,00	516		
57,00	1483	80,00	607	128,00	242		
60,00	561	81,00	1863	130,00	326		
61,00	3356	82,00	374	141,00	675		



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31c01.d
Injection date and time: 31-OCT-2016 08:33

Instrument ID: HP19094.i
Analyst ID: KAS02648

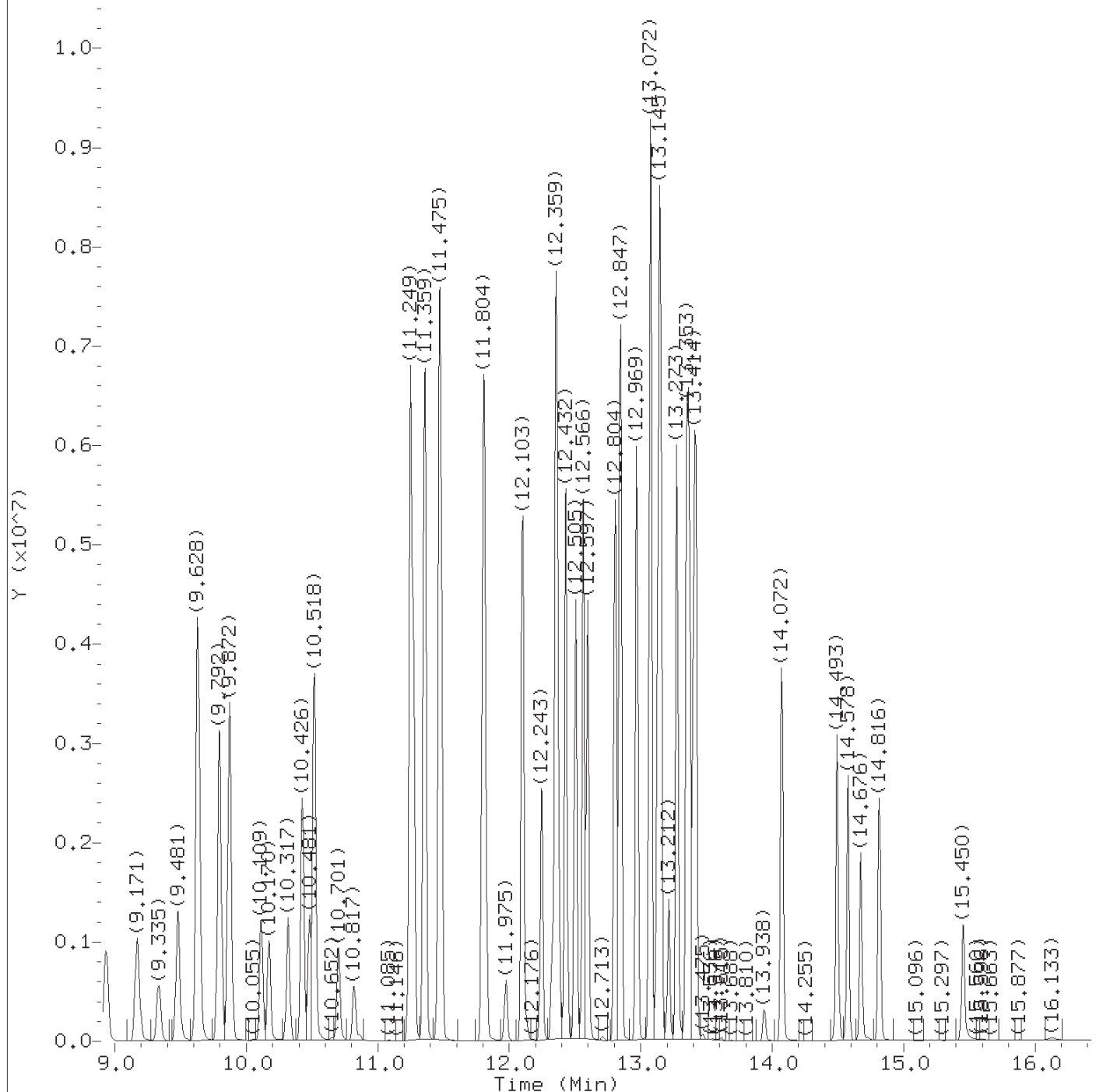
Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 31-OCT-2016 08:52
Date, time and analyst ID of latest file update: 31-Oct-2016 09:05 kas02648

Sample Name: VSTD010

Lab Sample ID: VSTD010

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 09:05.

Target 3.5 esignature User ID: kas02648
RAE73 Page 318 of 346



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31c01.d Instrument ID: HP19094.i
Injection date and time: 31-OCT-2016 08:33 Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 31-OCT-2016 08:52
Date, time and analyst ID of latest file update: 31-Oct-2016 09:05 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 09:05.

Target 3.5 esignature User ID: kas02648
RAE73 Page 319 of 346

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31c01.d
 Injection date and time: 31-OCT-2016 08:33

Instrument ID: HP19094.i
 Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 31-OCT-2016 08:52
 Date, time and analyst ID of latest file update: 31-Oct-2016 09:05 kas02648

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.007	85	1112536	10.934
2) Chloromethane	(2)	2.160	50	947266	8.698
5) Vinyl Chloride	(2)	2.300	62	885056	9.116
6) 1,3-Butadiene	(2)	2.312	39	1143267	7.683
7) Bromomethane	(2)	2.629	94	550346	8.836
8) Chloroethane	(2)	2.733	64	474238	8.640
9) Dichlorofluoromethane	(2)	2.964	67	1074962	8.204
10) Trichlorofluoromethane	(2)	3.050	101	1088865	9.241
11) Ethyl ether	(2)	3.306	59	412415	9.485
12) Freon 123a	(2)	3.361	67	776322	9.491
13) Acrolein	(1)	3.458	56	3010699	351.279
15) 1,1-Dichloroethene	(2)	3.617	96	535456	9.752
14) Acetone	(1)	3.623	43	874991	76.257
16) Freon 113	(2)	3.659	101	597018	9.948
17) Methyl Iodide	(2)	3.818	142	1010725	9.632
18) Carbon Disulfide	(2)	3.946	76	1565035	9.400
21) Methyl Acetate	(1)	4.062	43	219796	6.079
22) Allyl Chloride	(2)	4.092	41	972568	8.142
26)*t-Butyl Alcohol-d10	(1)	4.263	65	119176	50.000
23) Methylene Chloride	(2)	4.281	84	584221	9.917
28) t-Butyl Alcohol	(1)	4.385	59	582289M	187.862
29) Acrylonitrile	(1)	4.580	53	537750	39.830
30) Methyl Tertiary Butyl Ether	(2)	4.696	73	1231976	9.618
31) trans-1,2-Dichloroethene	(2)	4.714	96	602295	9.678
32) n-Hexane	(2)	5.147	57	975579	10.283
33) 1,1-Dichloroethane	(2)	5.360	63	1168915	9.539
34) di-Isopropyl Ether	(2)	5.421	45	2100993	9.562
35) 2-Chloro-1,3-Butadiene	(2)	5.476	53	1075686	9.481
37) Ethyl t-butyl ether	(2)	5.958	59	1678817	9.418
40) 1,2-Dichloroethene (Total)	(2)		96	1281463	19.632
38) 2-Butanone	(1)	6.135	43	1496016	73.682
39) cis-1,2-Dichloroethene	(2)	6.183	96	679168	9.954
42) Propionitrile	(1)	6.196	54	839626	187.492
41) 2,2-Dichloropropane	(2)	6.202	77	930109	9.352
45) Methacrylonitrile	(1)	6.427	67	1375003	71.916
47) Bromochloromethane	(2)	6.519	128	259309	9.478
48) Tetrahydrofuran	(1)	6.537	71	378828	72.386
49) Chloroform	(2)	6.659	83	1157138	9.776

M = Compound was manually integrated.

* = Compound is an internal standard.

page 1 of 4

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 on 10/31/2016 at 09:05.

Target 3.5 esignature user ID: kas02648

RAE73 Page 320 of 346

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31c01.d
 Injection date and time: 31-OCT-2016 08:33

Instrument ID: HP19094.i
 Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 31-OCT-2016 08:52
 Date, time and analyst ID of latest file update: 31-Oct-2016 09:05 kas02648

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
50) \$Dibromofluoromethane	(2)	6.878	113	562547	10.245
50) \$Dibromofluoromethane	(2)	6.878	111	573094	10.208
51) 1,1,1-Trichloroethane	(2)	6.909	97	988205	9.273
52) Cyclohexane	(2)	7.037	56	1180898	9.443
52) Cyclohexane	(2)	7.031	84	926355	8.976
52) Cyclohexane	(2)	7.037	69	344184	9.758
55) 1,1-Dichloropropene	(2)	7.122	75	935460	9.710
54) Carbon Tetrachloride	(2)	7.140	117	874545	9.501
56) Isobutyl Alcohol	(1)	7.201	41	575013	469.012
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	92579	10.495
57) \$1,2-Dichloroethane-d4	(2)	7.336	65	461103	9.495
57) \$1,2-Dichloroethane-d4	(2)	7.336	104	60219	10.669
58) Benzene	(2)	7.384	78	2604617	10.141
59) 1,2-Dichloroethane	(2)	7.445	62	683651	9.561
60) t-Amyl methyl ether	(2)	7.573	73	1416589	9.797
63) *Fluorobenzene	(2)	7.787	96	2394060	10.000
62) n-Heptane	(2)	7.811	43	1149183	10.061
65) n-Butanol	(1)	8.085	56	873086	975.005
67) Trichloroethene	(2)	8.268	95	704022	10.005
70) 1,2-Dichloropropane	(2)	8.598	63	668927	10.232
69) Methylcyclohexane	(2)	8.604	83	1129572	9.193
71) Methyl Methacrylate	(1)	8.665	69	261146	7.419
72) 1,4-Dioxane	(1)	8.677	88	117993	542.200
73) Dibromomethane	(2)	8.707	93	287109	10.488
74) Bromodichloromethane	(2)	8.933	83	775658	10.359
76) 2-Nitropropane	(1)	9.171	41	854571	65.625
80) cis-1,3-Dichloropropene	(2)	9.475	75	897839	10.563
81) 4-Methyl-2-Pentanone	(1)	9.628	43	3691500	68.019
82) \$Toluene-d8	(3)	9.792	98	2389096	9.146
82) \$Toluene-d8	(3)	9.798	100	1542779	9.185
83) Toluene	(3)	9.872	92	1647453	9.178
84) trans-1,3-Dichloropropene	(3)	10.115	75	698226	9.585
85) 1,3-Dichloropropene (total)	(3)		75	1596065	20.148
86) Ethyl Methacrylate	(3)	10.170	69	543492	9.677
88) 1,1,2-Trichloroethane	(3)	10.317	97	402158	9.732
89) Tetrachloroethene	(3)	10.426	166	780162	9.080
90) 1,3-Dichloropropane	(3)	10.481	76	715808	9.531
91) 2-Hexanone	(1)	10.518	43	2576942	68.601

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

page 2 of 4

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 on 10/31/2016 at 09:05.

Target 3.5 esignature user ID: kas02648

RAE73 Page 321 of 346

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31c01.d
Injection date and time: 31-OCT-2016 08:33

Instrument ID: HP19094.i
Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 31-OCT-2016 08:52
Date, time and analyst ID of latest file update: 31-Oct-2016 09:05 kas02648

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
93) Dibromochloromethane	(3)	10.701	129	490603	9.575
95) 1,2-Dibromoethane	(3)	10.823	107	385817	9.874
97) *Chlorobenzene-d5	(3)	11.243	117	1729291	10.000
98) Chlorobenzene	(3)	11.274	112	1783786	9.326
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	618418	9.409
100) Ethylbenzene	(3)	11.359	91	3288922	9.311
101) m+p-Xylene	(3)	11.475	106	2512713	18.933
105) Xylene (Total)	(3)		106	3719698	28.259
104) o-Xylene	(3)	11.798	106	1206985	9.324
106) Styrene	(3)	11.816	104	1954971	9.870
107) Bromoform	(3)	11.975	173	269593	9.610
108) Isopropylbenzene	(3)	12.103	105	3208114	9.192
111) \$4-Bromofluorobenzene	(3)	12.243	95	768114	10.002
111) \$4-Bromofluorobenzene	(3)	12.249	174	682151	9.926
113) 1,1,2,2-Tetrachloroethane	(4)	12.328	83	479577	9.857
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	1026817	63.849
114) Bromobenzene	(4)	12.365	156	742885	9.468
116) 1,2,3-Trichloropropane	(4)	12.377	110	125800	9.685
117) n-Propylbenzene	(4)	12.432	91	3967355	9.538
119) 2-Chlorotoluene	(4)	12.505	126	754503	9.596
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	2717781	9.499
122) 4-Chlorotoluene	(4)	12.597	126	771712	9.598
125) tert-Butylbenzene	(4)	12.804	134	570911M	9.146
126) Pentachloroethane	(4)	12.841	167	435930	9.025
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	2734915	9.468
128) sec-Butylbenzene	(4)	12.969	105	3575602	9.522
131) 1,3-Dichlorobenzene	(4)	13.072	146	1444615	9.468
132) p-Isopropyltoluene	(4)	13.078	119	3026717	9.661
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	786644	10.000
134) 1,4-Dichlorobenzene	(4)	13.145	146	1440323	9.075
135) 1,2,3-Trimethylbenzene	(4)	13.151	120	1098650	8.788
136) Benzyl Chloride	(4)	13.212	126	183395	11.080
138) n-Butylbenzene	(4)	13.365	92	1538669	10.231
139) 1,2-Dichlorobenzene	(4)	13.401	146	1267839	9.340
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	61651	7.801
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	895978	9.267
146) Hexachlorobutadiene	(4)	14.578	225	467288	10.159
147) Naphthalene	(4)	14.676	128	1348077	9.184

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: kas02648

RAE73 Page 322 of 346

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31c01.d Instrument ID: HP19094.i
Injection date and time: 31-OCT-2016 08:33 Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 31-OCT-2016 08:52
Date, time and analyst ID of latest file update: 31-Oct-2016 09:05 kas02648

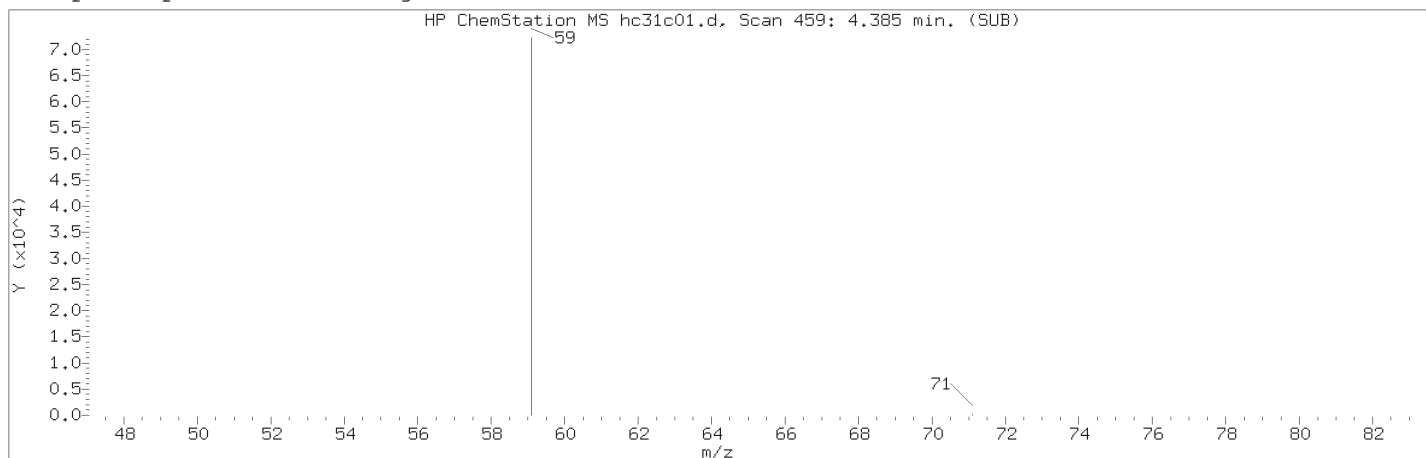
Sample Name: VSTD010

Lab Sample ID: VSTD010

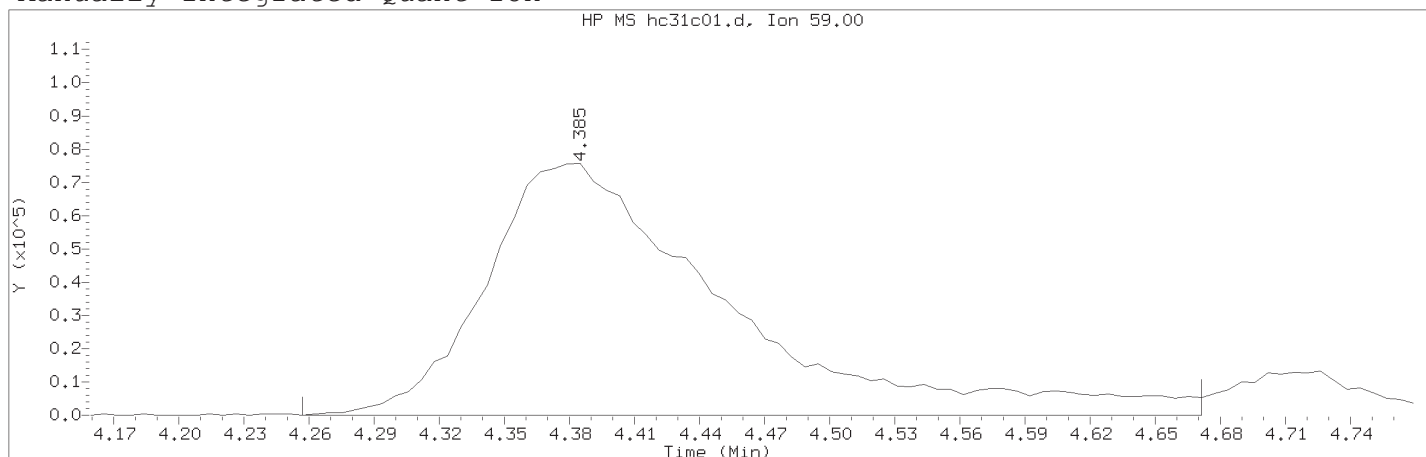
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
148) 1,2,3-Trichlorobenzene	(4)	14.816	180	717139	8.811

page 4 of 4

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct31a.b/hc31c01.d

Instrument ID: HP19094.i

Injection date and time: 31-OCT-2016 08:33

Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 31-OCT-2016 08:52

Date, time and analyst ID of latest file update: 31-Oct-2016 09:05 kas02648

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 28	
Compound Name	: t-Butyl Alcohol	
Scan Number	: 459	
Retention Time (minutes)	: 4.385	
Quant Ion	: 59.00	
Area (flag)	: 582289M	
On-Column Amount (ng)	: 187.8623	
Integration start scan	: 437	Integration stop scan: 505
Y at integration start	: 0	Y at integration end: 0

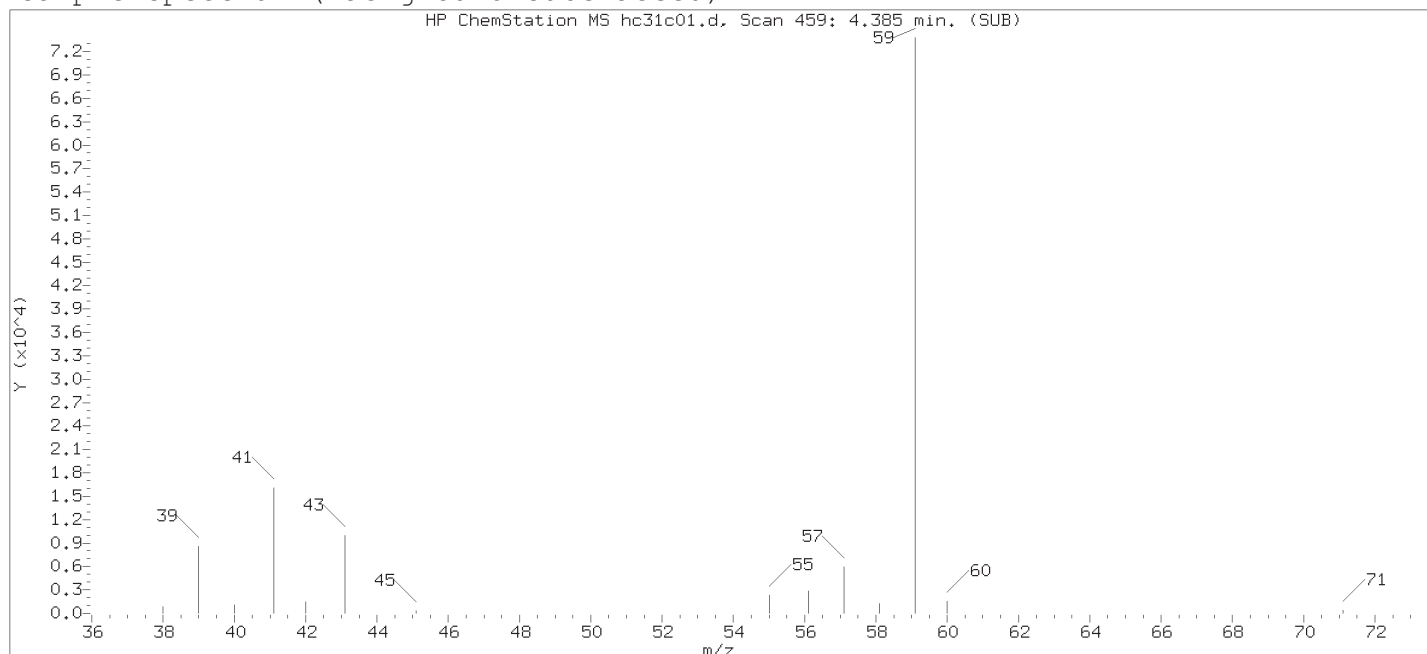
Reason for manual integration: improper integration

Analyst responsible for change:

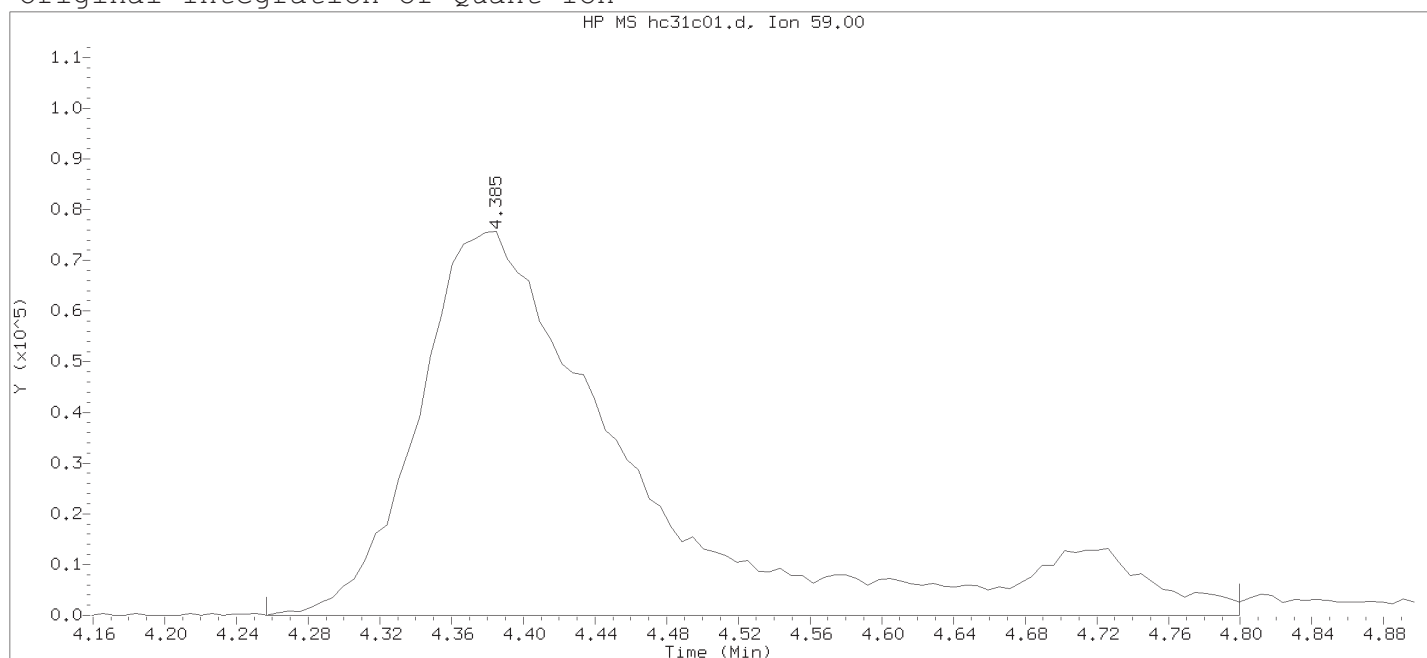
Digitally signed by Kevin A. Sposito
on 10/31/2016 at 09:05.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Neil A. Kohler on 10/31/2016 at 21:52.
PARALLAX ID: nak10185

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct31a.b/hc31c01.d

Instrument ID: HP19094.i

Injection date and time: 31-OCT-2016 08:33

Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 31-OCT-2016 08:52

Date, time and analyst ID of latest file update: 31-Oct-2016 08:52 Automation

Sample Name: VSTD010

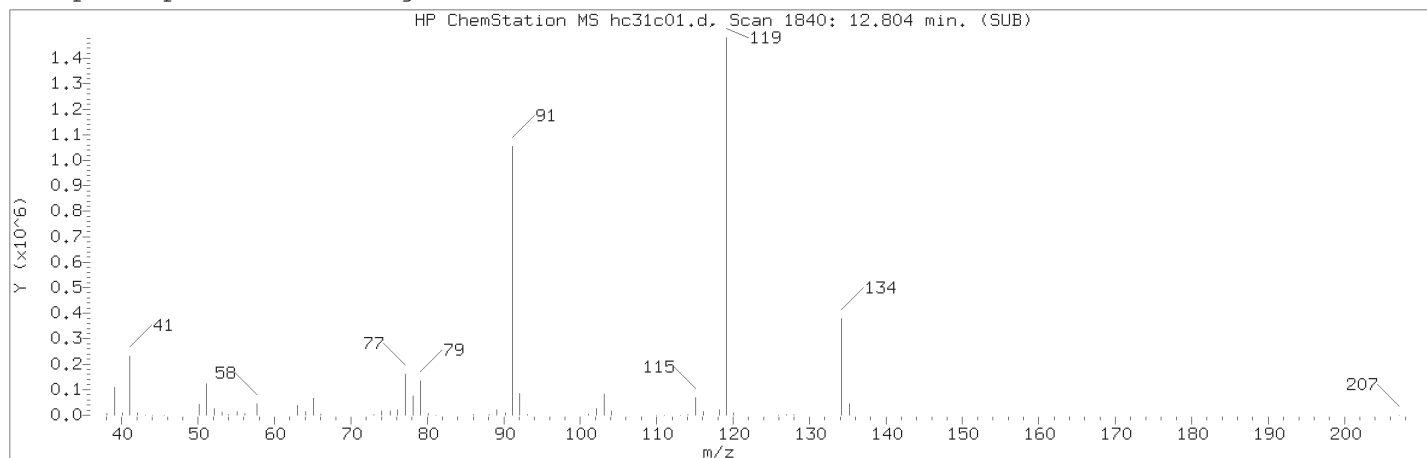
Lab Sample ID: VSTD010

Compound Number	: 28	
Compound Name	: t-Butyl Alcohol	
Scan Number	: 459	
Retention Time (minutes)	: 4.385	
Quant Ion	: 59.00	
Area	: 641531	
On-column Amount (ng)	: 206.9747	
Integration start scan	: 437	Integration stop scan: 526
Y at integration start	: 0	Y at integration end: 0

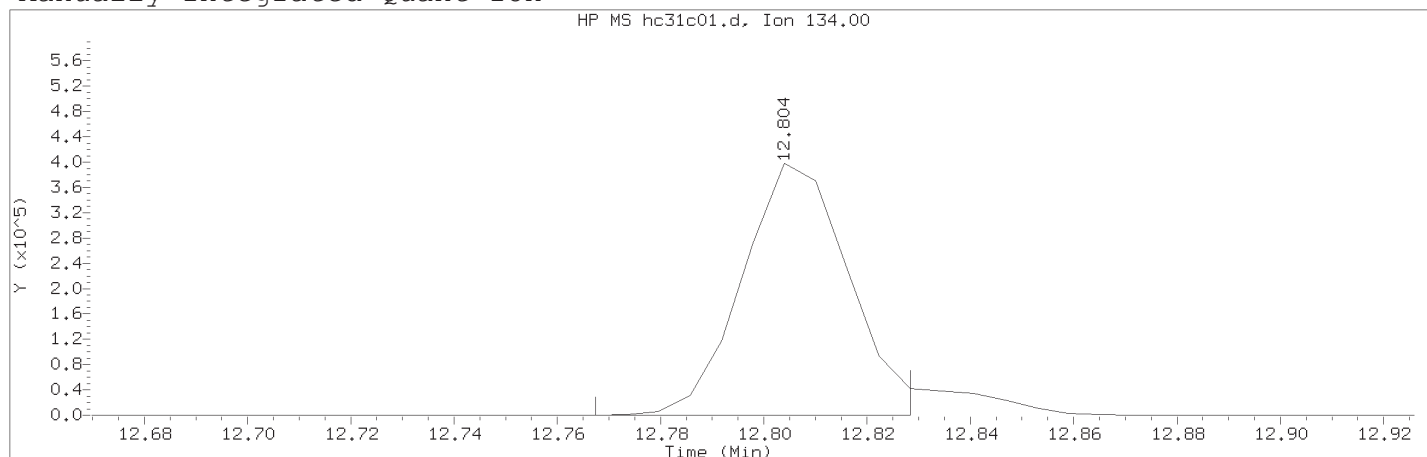
Digitally signed by Kevin A. Sposito on 10/31/2016 at 09:05.

Target 3.5 esignature RAE73 Page 325 of 346

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct31a.b/hc31c01.d Instrument ID: HP19094.i
Injection date and time: 31-OCT-2016 08:33 Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 31-OCT-2016 08:52
Date, time and analyst ID of latest file update: 31-Oct-2016 09:05 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

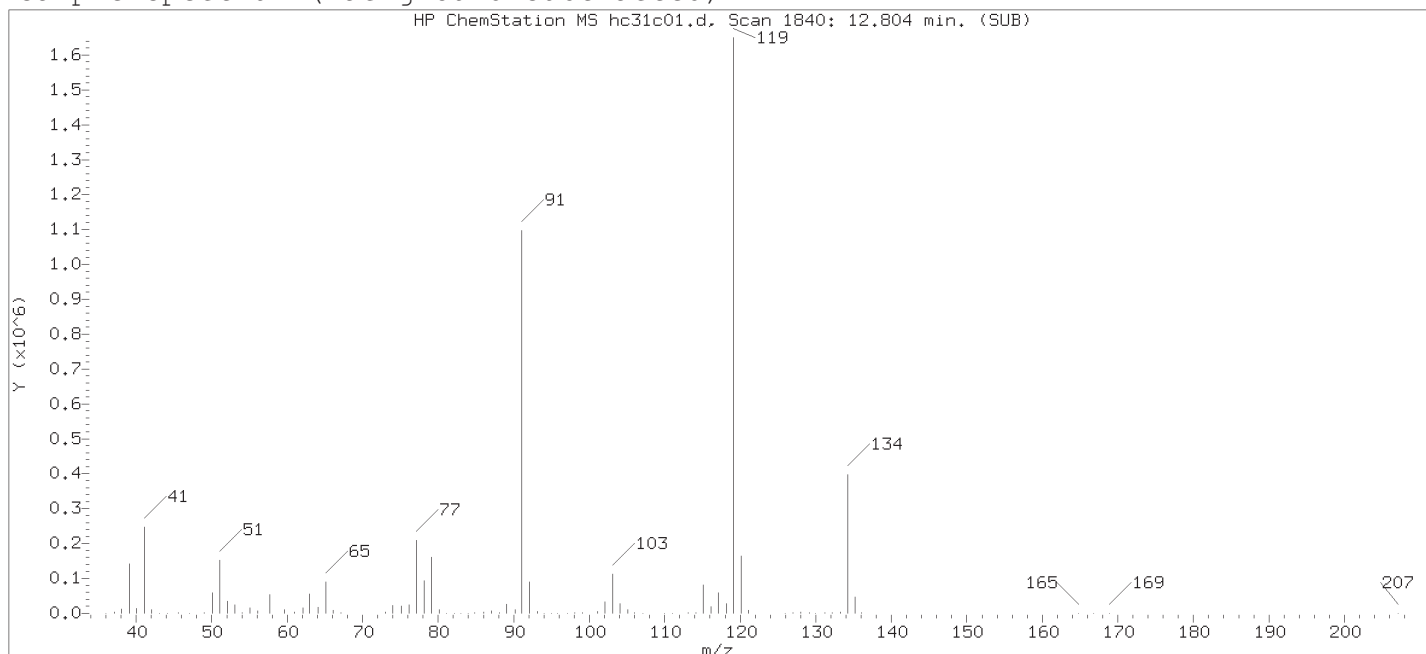
Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area (flag) : 570911M
On-Column Amount (ng) : 9.1458
Integration start scan : 1833 Integration stop scan: 1843
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

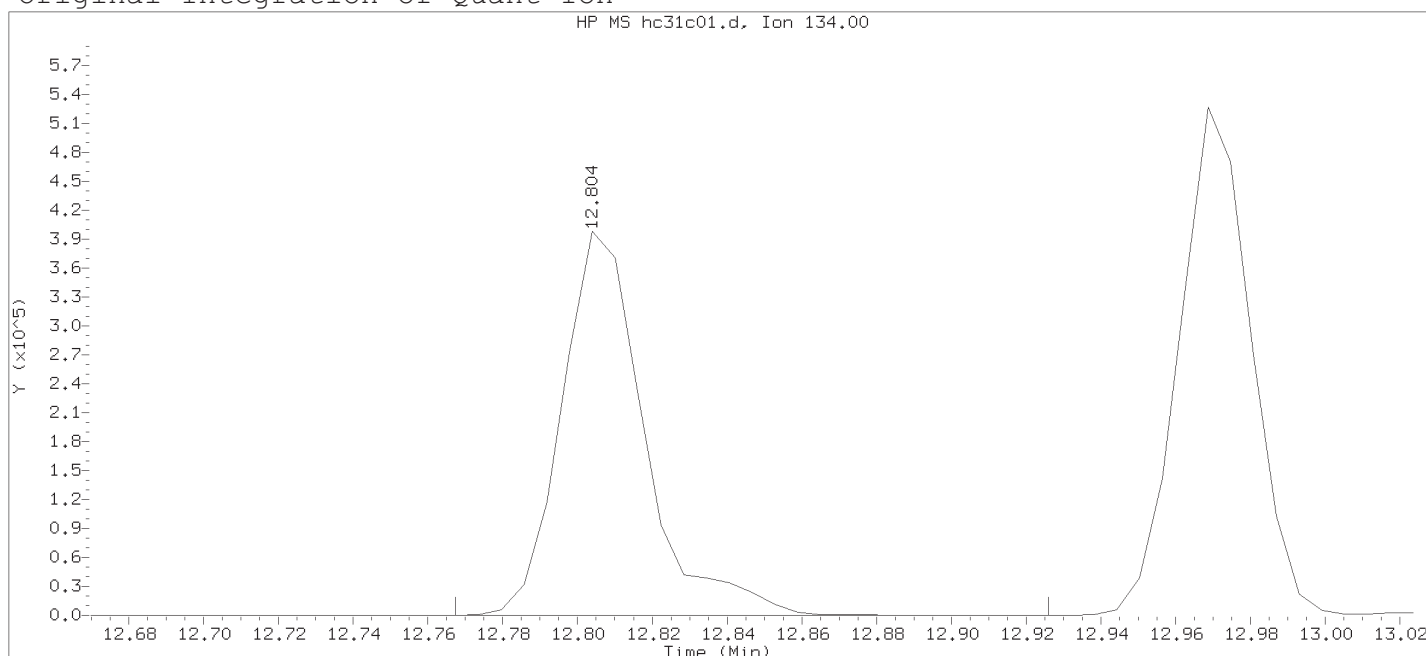
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 10/31/2016 at 09:05.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Neil A. Kohler on 10/31/2016 at 21:52.
PARALLAX ID: nak10185

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct31a.b/hc31c01.d

Instrument ID: HP19094.i

Injection date and time: 31-OCT-2016 08:33

Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 31-OCT-2016 08:52

Date, time and analyst ID of latest file update: 31-Oct-2016 08:52 Automation

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number : 125

Compound Name : tert-Butylbenzene

Scan Number : 1840

Retention Time (minutes): 12.804

Quant Ion : 134.00

Area : 612157

On-column Amount (ng) : 9.8065

Integration start scan : 1833 Integration stop scan: 1859

Y at integration start : 0 Y at integration end: 0

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Target 3.5 esignature RAE73 Page 327 of 346

Raw QC Data

Volatiles by GC/MS

VBLKH57

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

VBLKH57

Data file: /chem2/HP19094.i/16oct31a.b/hc31b21.d

Injection date and time: 31-OCT-2016 09:54

Data file Sample Info. Line: VBLKH57;VBLKH57;1;3;;;DAA3178;;;

Instrument ID: HP19094.i Batch: H163052AA

Date, time and analyst ID of latest file update: 31-Oct-2016 10:20 kas02648

Blank Data file reference: /chem2/HP19094.i/16oct31a.b/hc31b21.d

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025

Calibration date and time (Last Method Edit): 31-OCT-2016 09:07

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16oct31a.b/hc31c01.d

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.251(0.012)	437	65	95229 (-20)	50.00	
63) Fluorobenzene	7.781(0.006)	1016	96	2277577 (-5)	10.00	
97) Chlorobenzene-d5	11.243(0.000)	1584	117	1576492 (-9)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(0.000)	1893	152	654608 (-17)	10.00	

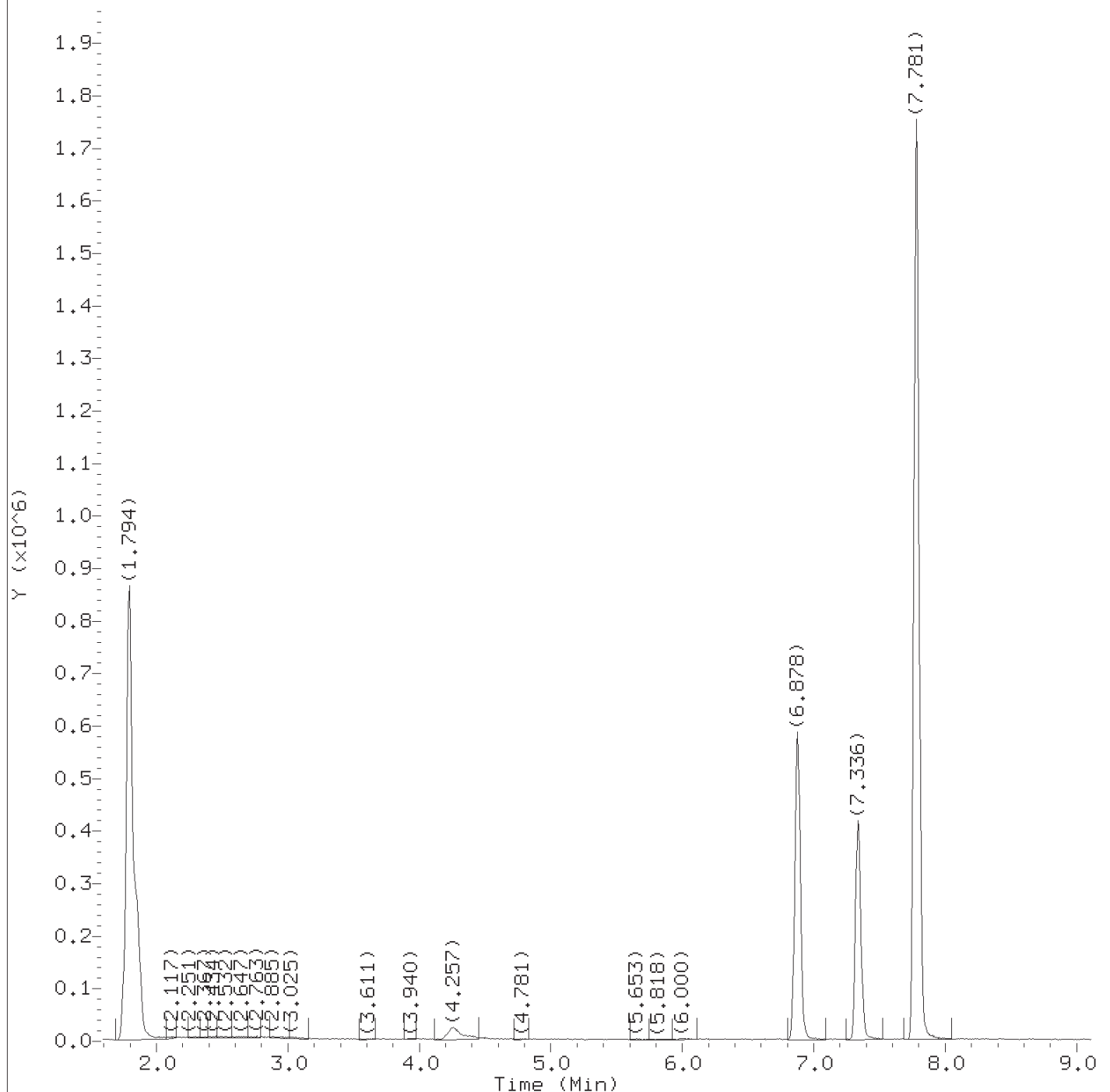
Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.878(-0.001)	113	520420	9.963	100%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.336(0.000)	102	87024	10.370	104%		74 - 113
82) Toluene-d8	(3)	9.792(0.000)	98	2250563	9.451	95%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249(-0.001)	95	666686	9.523	95%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Reporting Limit (in sample)	LOQ
5) Vinyl Chloride	(2)			Not Detected				0.1	1
15) 1,1-Dichloroethene	(2)			Not Detected				0.4	1
31) trans-1,2-Dichloroethene	(2)			Not Detected				0.8	1
39) cis-1,2-Dichloroethene	(2)			Not Detected				0.1	1
67) Trichloroethene	(2)			Not Detected				0.2	1

Total number of targets = 5

Digitally signed by Kevin A. Sposito on 10/31/2016 at 10:22. Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Neil A. Kohler on 10/31/2016 at 21:52. PARALLAX ID: nak10185



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31b21.d
Injection date and time: 31-OCT-2016 09:54

Instrument ID: HP19094.i
Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m
Calibration date and time: 31-OCT-2016 09:07

Sublist used: 12025

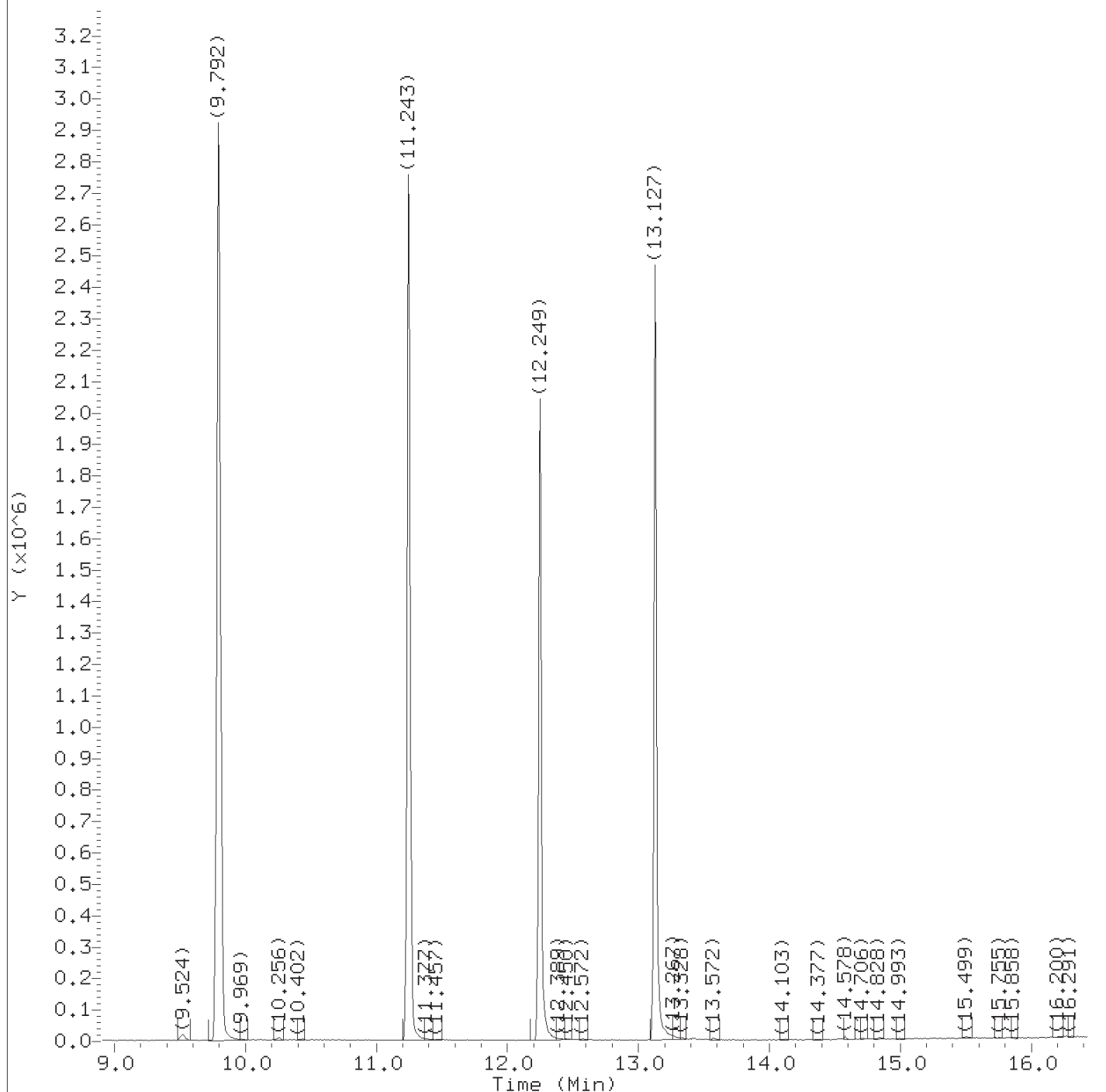
Date, time and analyst ID of latest file update: 31-Oct-2016 10:20 kas02648

Sample Name: VBLKH57

Lab Sample ID: VBLKH57

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 10:22.

Target 3.5 esignature User ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31b21.d Instrument ID: HP19094.i
Injection date and time: 31-OCT-2016 09:54 Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 10:20 kas02648

Sample Name: VBLKH57 Lab Sample ID: VBLKH57

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 10:22.

Target 3.5 esignature User ID: kas02648
RAE73 Page 331 of 346

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31b21.d
Injection date and time: 31-OCT-2016 09:54

Instrument ID: HP19094.i
Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 10:20 kas02648

Sample Name: VBLKH57

Lab Sample ID: VBLKH57

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26) *t-Butyl Alcohol-d10	(1)	4.251	65	95229	50.000
50) \$Dibromofluoromethane	(2)	6.878	113	520420	9.963
57) \$1,2-Dichloroethane-d4	(2)	7.336	102	87024	10.370
63) *Fluorobenzene	(2)	7.781	96	2277577	10.000
82) \$Toluene-d8	(3)	9.792	98	2250563	9.451
97) *Chlorobenzene-d5	(3)	11.243	117	1576492	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	666686	9.523
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	654608	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

page 1 of 1

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 10:22.

Target 3.5 esignature user ID: kas02648

R7303MS

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8656004MS

Data file: /chem2/HP19094.i/16oct31a.b/hc31s25.d

Injection date and time: 31-OCT-2016 12:00

Data file Sample Info. Line: R7303MS;8656004MS;1;3;MS;RAE73;DAA3178;;hc31b21; Instrument ID: HP19094.i Batch: H163052AA

Date, time and analyst ID of latest file update: 31-Oct-2016 12:19 Automation

Blank Data file reference: /chem2/HP19094.i/16oct31a.b/hc31b21.d

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025

Calibration date and time (Last Method Edit): 31-OCT-2016 09:07

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16oct31a.b/hc31c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.257 (0.006)	438	65	86523 (-27)	50.00	
63) Fluorobenzene	7.781 (0.006)	1016	96	2292493 (-4)	10.00	
97) Chlorobenzene-d5	11.243 (0.000)	1584	117	1550540 (-10)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127 (0.000)	1893	152	693949 (-12)	10.00	

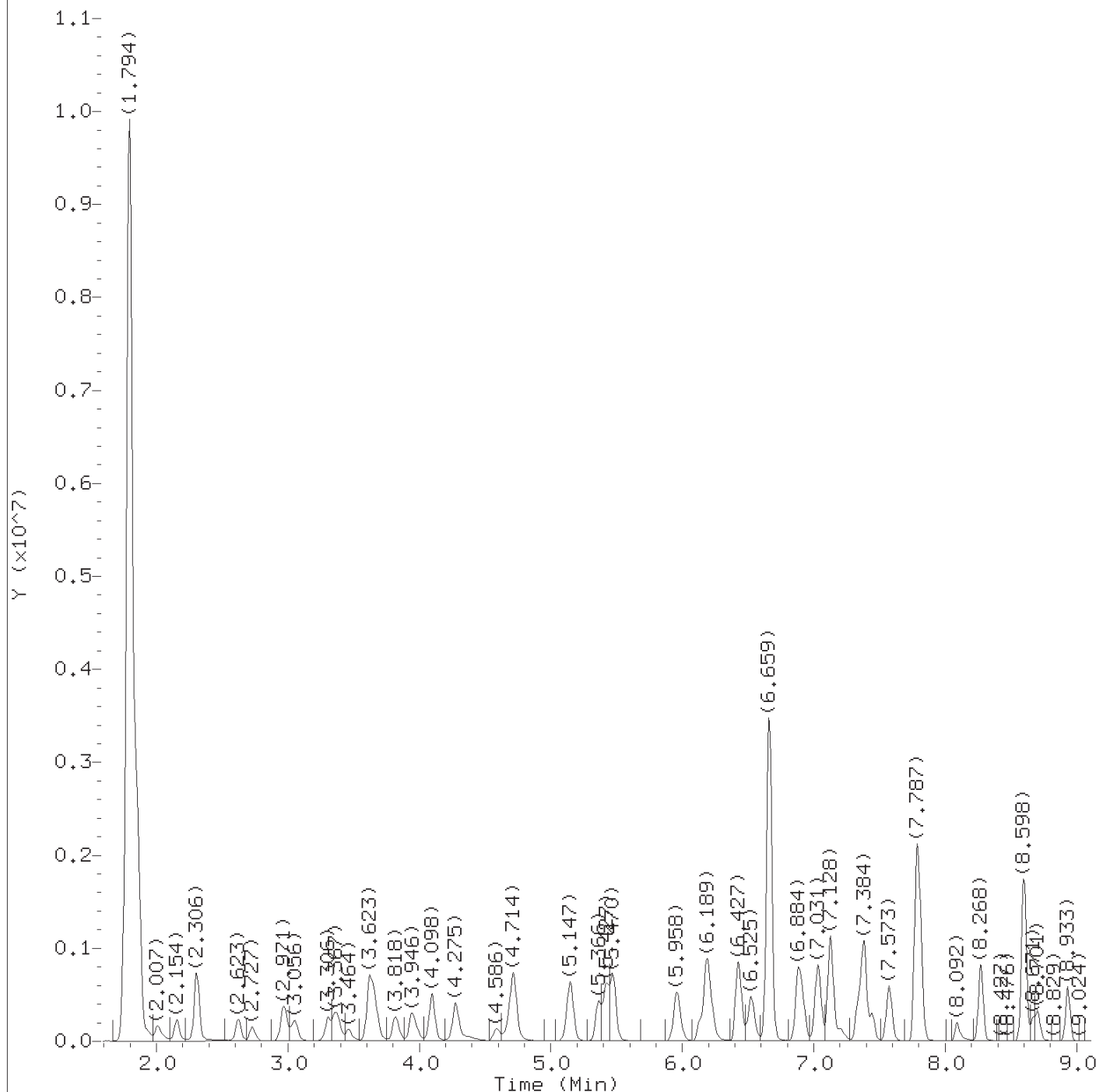
Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.878 (-0.001)	113	504797	9.601	96%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.342 (-0.001)	102	87780	10.392	104%		74 - 113
82) Toluene-d8	(3)	9.792 (0.000)	98	2244230	9.582	96%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243 (0.000)	95	682914	9.918	99%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Reporting Limit LOQ (in sample)
5) Vinyl Chloride	(2)	2.300 (-0.000)	62	359076	3.862	3.86		0.1 1
15) 1,1-Dichloroethene	(2)	3.617 (-0.000)	96	309053	5.878	5.88		0.4 1
31) trans-1,2-Dichloroethene	(2)	4.720 (-0.001)	96	344775	5.785	5.79		0.8 1
39) cis-1,2-Dichloroethene	(2)	6.183 (-0.000)	96	352124	5.390	5.39		0.1 1
67) Trichloroethene	(2)	8.268 (-0.000)	95	378534	5.618	5.62		0.2 1

Total number of targets = 5

Digitally signed by Kevin A. Sposito on 10/31/2016 at 12:26. Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Neil A. Kohler on 10/31/2016 at 21:52. PARALLAX ID: nak10185



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s25.d
Injection date and time: 31-OCT-2016 12:00

Instrument ID: HP19094.i
Analyst ID: KAS02648

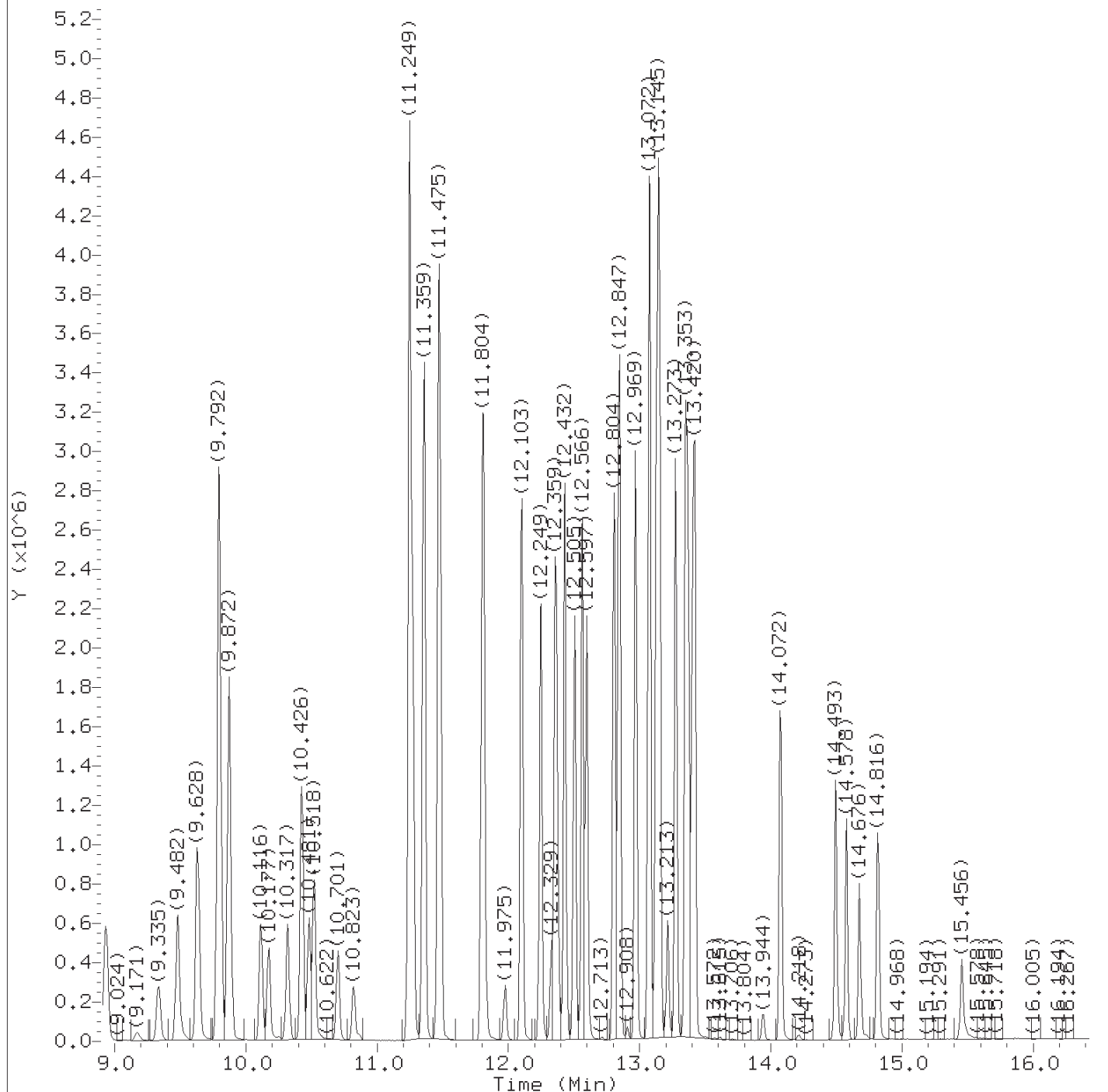
Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 12:19 Automation

Sample Name: R7303MS

Lab Sample ID: 8656004MS

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 12:26.

Target 3.5 esignature User ID: kas02648
RAE73 Page 334 of 346



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s25.d
Injection date and time: 31-OCT-2016 12:00

Instrument ID: HP19094.i
Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 12:19 Automation

Sample Name: R7303MS

Lab Sample ID: 8656004MS

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 12:26.

Target 3.5 esignature User ID: kas02648
RAE73 Page 335 of 346

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s25.d

Instrument ID: HP19094.i

Injection date and time: 31-OCT-2016 12:00

Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m

Sublist used: 12025

Calibration date and time: 31-OCT-2016 09:07

Date, time and analyst ID of latest file update: 31-Oct-2016 12:19 Automation

Sample Name: R7303MS

Lab Sample ID: 8656004MS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
5) Vinyl Chloride	(2)	2.300	62	359076	3.862
15) 1,1-Dichloroethene	(2)	3.617	96	309053	5.878
26) *t-Butyl Alcohol-d10	(1)	4.257	65	86523	50.000
31) trans-1,2-Dichloroethene	(2)	4.720	96	344775	5.785
39) cis-1,2-Dichloroethene	(2)	6.183	96	352124	5.390
50) \$Dibromofluoromethane	(2)	6.878	113	504797	9.601
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	87780	10.392
63) *Fluorobenzene	(2)	7.781	96	2292493	10.000
67) Trichloroethene	(2)	8.268	95	378534	5.618
82) \$Toluene-d8	(3)	9.792	98	2244230	9.582
97) *Chlorobenzene-d5	(3)	11.243	117	1550540	10.000
111) \$4-Bromofluorobenzene	(3)	12.243	95	682914	9.918
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	693949	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

page 1 of 1

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on 10/31/2016 at 12:26.

Target 3.5 esignature user ID: kas02648

RAE73 Page 336 of 346

R7303MSD

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8656005MSD

Data file: /chem2/HP19094.i/16oct31a.b/hc31s26.d

Injection date and time: 31-OCT-2016 12:20

Data file Sample Info. Line: R7303MSD;8656005MSD;1;3;MSD;RAE73;DAA3178;;hc31b21; Instrument ID: HP19094.i Batch: H163052AA
Date, time and analyst ID of latest file update: 31-Oct-2016 12:39 Automation

Blank Data file reference: /chem2/HP19094.i/16oct31a.b/hc31b21.d

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025

Calibration date and time (Last Method Edit): 31-OCT-2016 09:07

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16oct31a.b/hc31c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.263(0.000)	439	65	73375 (-38)	50.00	
63) Fluorobenzene	7.787(0.000)	1017	96	2284807 (-5)	10.00	
97) Chlorobenzene-d5	11.243(0.000)	1584	117	1557575 (-10)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(0.000)	1893	152	698942 (-11)	10.00	

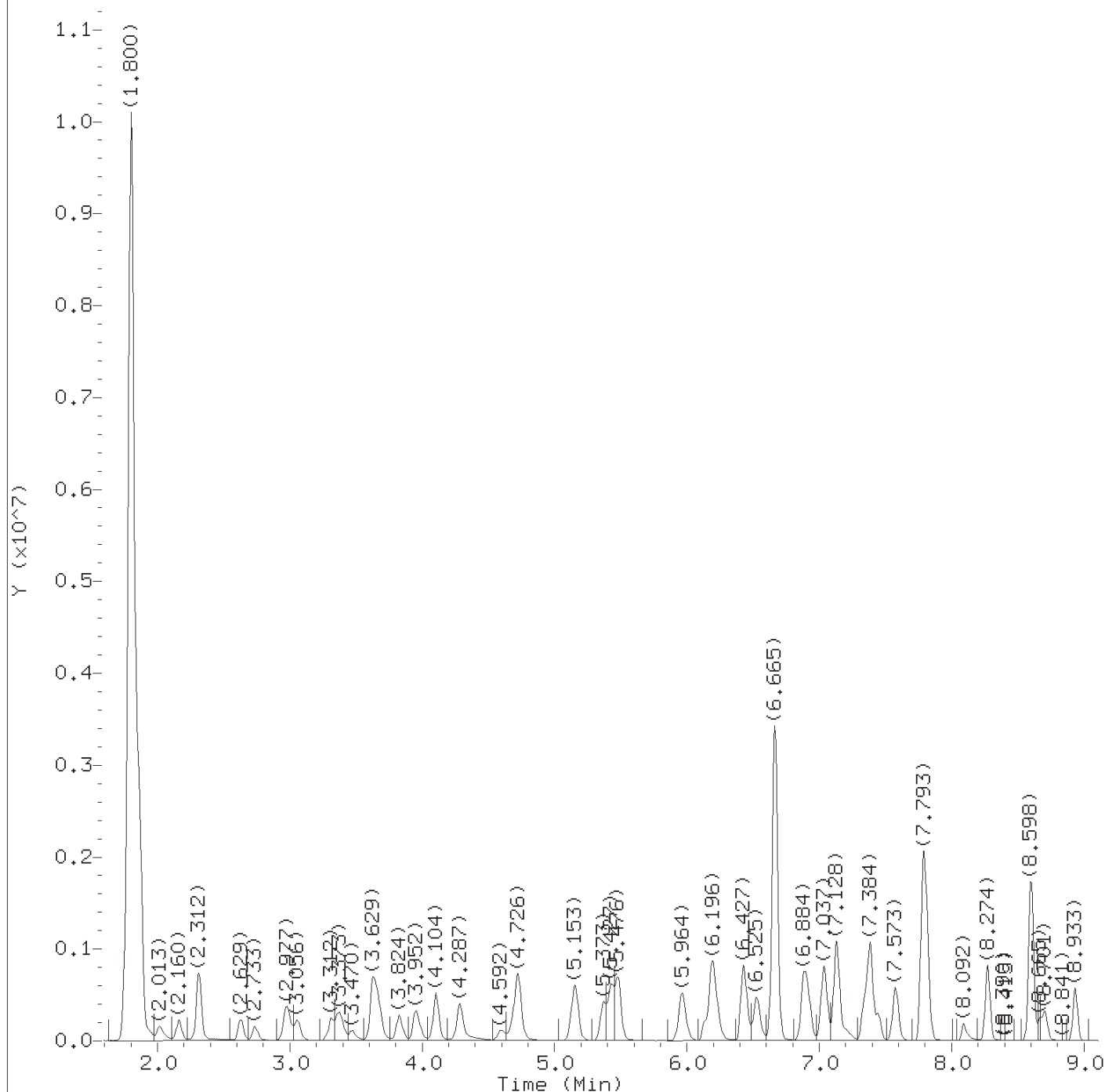
Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.884(-0.001)	113	502738	9.594	96%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.336(0.001)	102	86597	10.287	103%		74 - 113
82) Toluene-d8	(3)	9.799(-0.001)	98	2257869	9.597	96%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249(-0.001)	95	682212	9.863	99%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Reporting Limit (in sample)	LOQ
5) Vinyl Chloride	(2)	2.306(-0.000)	62	357974	3.863	3.86		0.1	1
15) 1,1-Dichloroethene	(2)	3.623(-0.000)	96	306851	5.856	5.86		0.4	1
31) trans-1,2-Dichloroethene	(2)	4.726(-0.001)	96	340127	5.727	5.73		0.8	1
39) cis-1,2-Dichloroethene	(2)	6.189(-0.000)	96	355045	5.453	5.45		0.1	1
67) Trichloroethene	(2)	8.274(-0.000)	95	379514	5.651	5.65		0.2	1

Total number of targets = 5

Digitally signed by Kevin A. Sposito on 10/31/2016 at 13:26. Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Neil A. Kohler on 10/31/2016 at 21:52. PARALLAX ID: nak10185



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s26.d
Injection date and time: 31-OCT-2016 12:20

Instrument ID: HP19094.i
Analyst ID: KAS02648

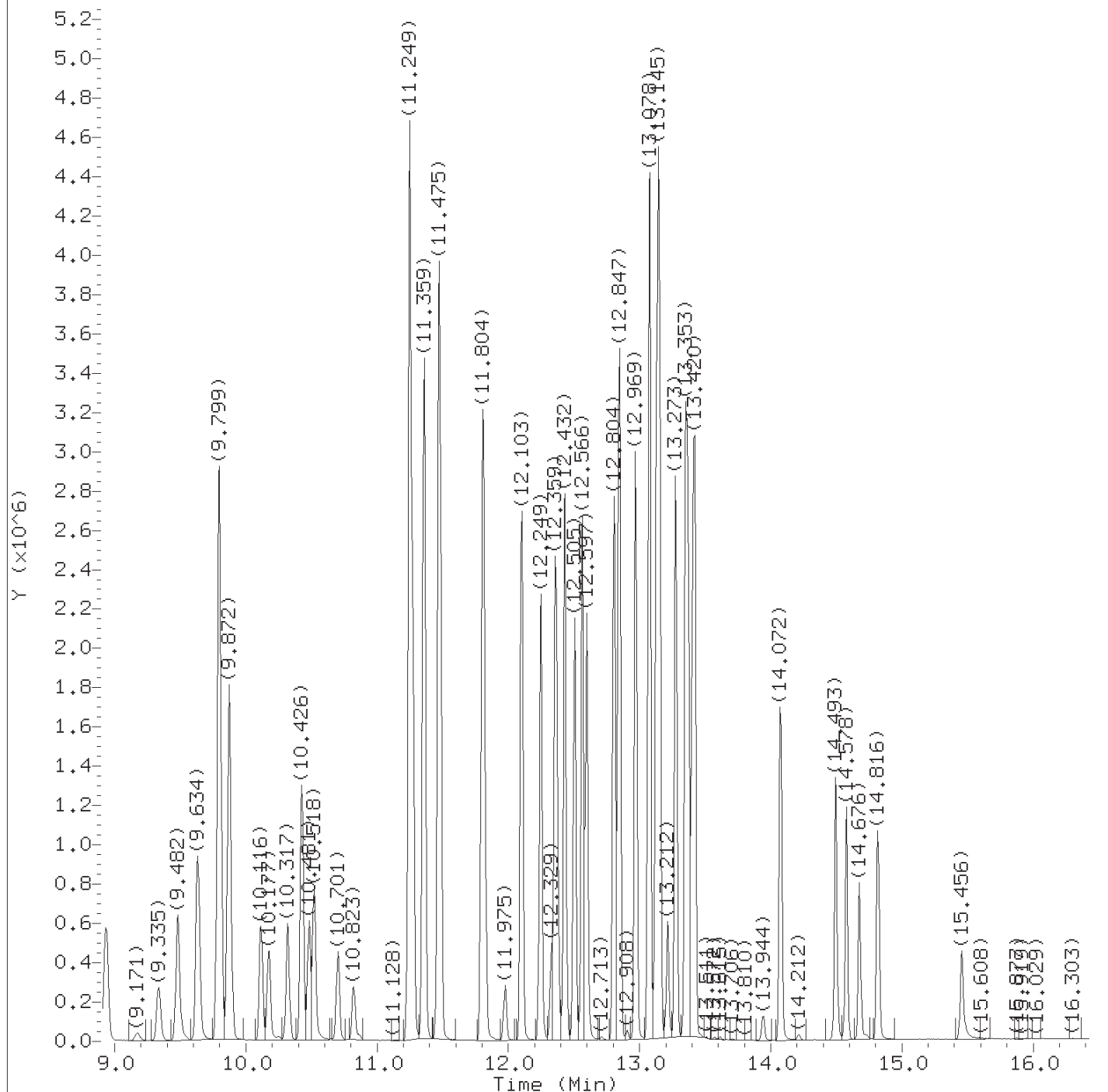
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Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 12:39 Automation

Sample Name: R7303MSD

Lab Sample ID: 8656005MSD

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 13:26.

Target 3.5 esignature user ID: kas02648
RAE73 Page 338 of 346



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s26.d
Injection date and time: 31-OCT-2016 12:20

Instrument ID: HP19094.i
Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 12:39 Automation

Sample Name: R7303MSD

Lab Sample ID: 8656005MSD

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 13:26.

Target 3.5 esignature User ID: kas02648
RAE73 Page 339 of 346

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s26.d

Instrument ID: HP19094.i

Injection date and time: 31-OCT-2016 12:20

Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m

Sublist used: 12025

Calibration date and time: 31-OCT-2016 09:07

Date, time and analyst ID of latest file update: 31-Oct-2016 12:39 Automation

Sample Name: R7303MSD

Lab Sample ID: 8656005MSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
5) Vinyl Chloride	(2)	2.306	62	357974	3.863
15) 1,1-Dichloroethene	(2)	3.623	96	306851	5.856
26) *t-Butyl Alcohol-d10	(1)	4.263	65	73375	50.000
31) trans-1,2-Dichloroethene	(2)	4.726	96	340127	5.727
39) cis-1,2-Dichloroethene	(2)	6.189	96	355045	5.453
50) \$Dibromofluoromethane	(2)	6.884	113	502738	9.594
57) \$1,2-Dichloroethane-d4	(2)	7.336	102	86597	10.287
63) *Fluorobenzene	(2)	7.787	96	2284807	10.000
67) Trichloroethene	(2)	8.274	95	379514	5.651
82) \$Toluene-d8	(3)	9.799	98	2257869	9.597
97) *Chlorobenzene-d5	(3)	11.243	117	1557575	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	682212	9.863
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	698942	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

page 1 of 1

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on 10/31/2016 at 13:26.

Target 3.5 esignature user ID: kas02648

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LCSH57

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

LCSH57

Data file: /chem2/HP19094.i/16oct31a.b/hc31s21.d Injection date and time: 31-OCT-2016 08:53
Data file Sample Info. Line: LCSH57;LCSH57;1;3;LCS;;DAA3178;;hc31b21; Instrument ID: HP19094.i Batch: H163052AA
Date, time and analyst ID of latest file update: 31-Oct-2016 10:21 kas02648

Blank Data file reference: /chem2/HP19094.i/16oct31a.b/hc31b21.d

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time (Last Method Edit): 31-OCT-2016 09:07
Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16oct31a.b/hc31c01.d

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.257 (0.006)	438	65	127618 (7)	50.00	
63) Fluorobenzene	7.787 (0.000)	1017	96	2399572 (0)	10.00	
97) Chlorobenzene-d5	11.243 (0.000)	1584	117	1717658 (-1)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127 (0.000)	1893	152	770129 (-2)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.878 (0.000)	113	555185	10.088	101%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.336 (0.001)	102	94708M	10.712	107%		74 - 113
82) Toluene-d8	(3)	9.799 (-0.001)	98	2401234	9.255	93%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243 (0.000)	95	761356	9.981	100%		78 - 110

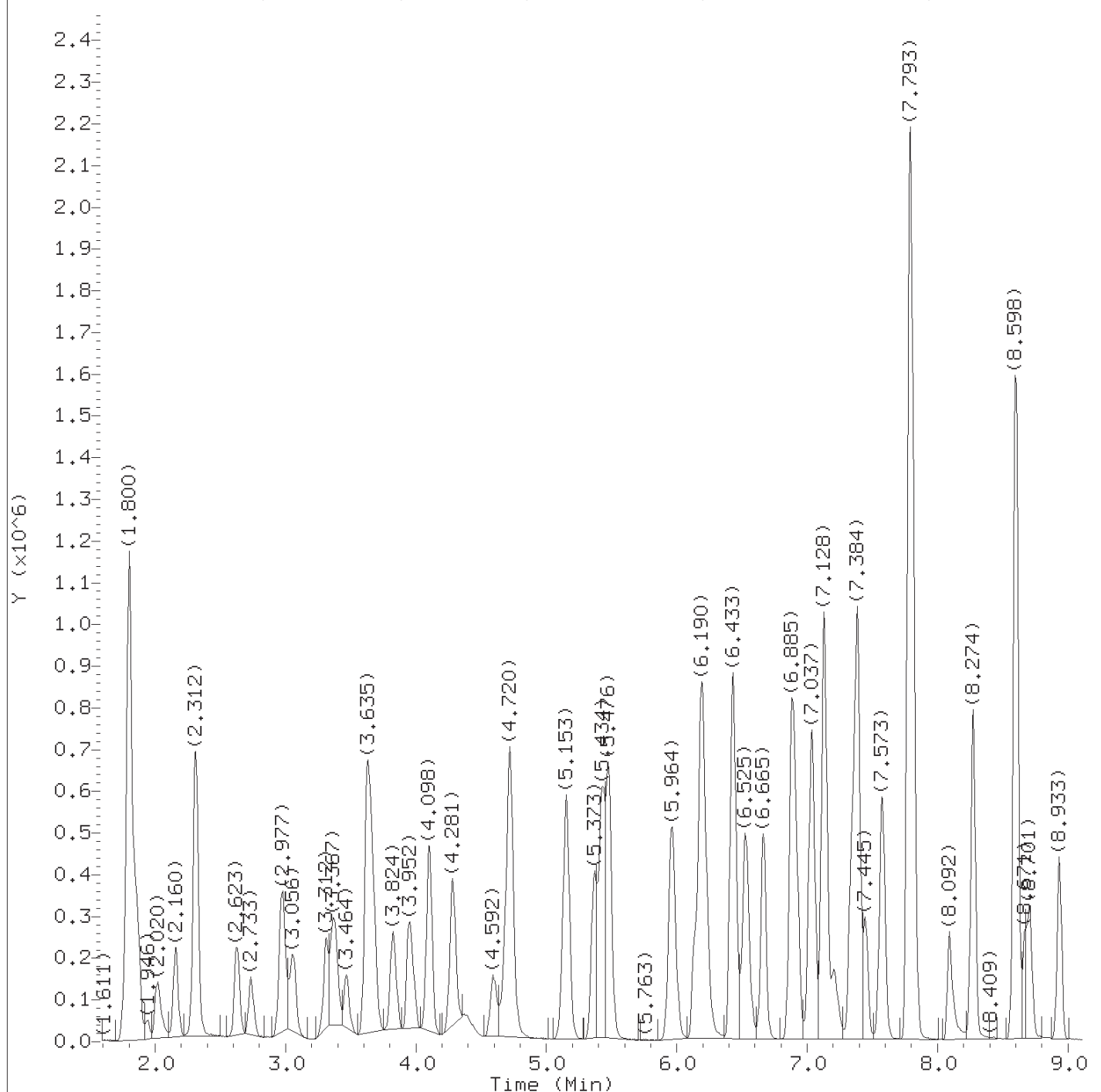
M = Surrogate Standard was manually integrated.

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Reporting Limit LOQ (in sample)
5) Vinyl Chloride	(2)	2.300 (-0.000)	62	335614	3.449	3.45		0.1 1
15) 1,1-Dichloroethene	(2)	3.623 (-0.000)	96	282411	5.132	5.13		0.4 1
31) trans-1,2-Dichloroethene	(2)	4.726 (-0.001)	96	314747	5.046	5.05		0.8 1
39) cis-1,2-Dichloroethene	(2)	6.183 (-0.000)	96	338815	4.954	4.95		0.1 1
67) Trichloroethene	(2)	8.274 (-0.000)	95	348081	4.935	4.94		0.2 1

Total number of targets = 5

Digitally signed by Kevin A. Sposito on 10/31/2016 at 10:22. Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Neil A. Kohler on 10/31/2016 at 21:52. PARALLAX ID: nak10185



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s21.d
Injection date and time: 31-OCT-2016 08:53

Instrument ID: HP19094.i
Analyst ID: KAS02648

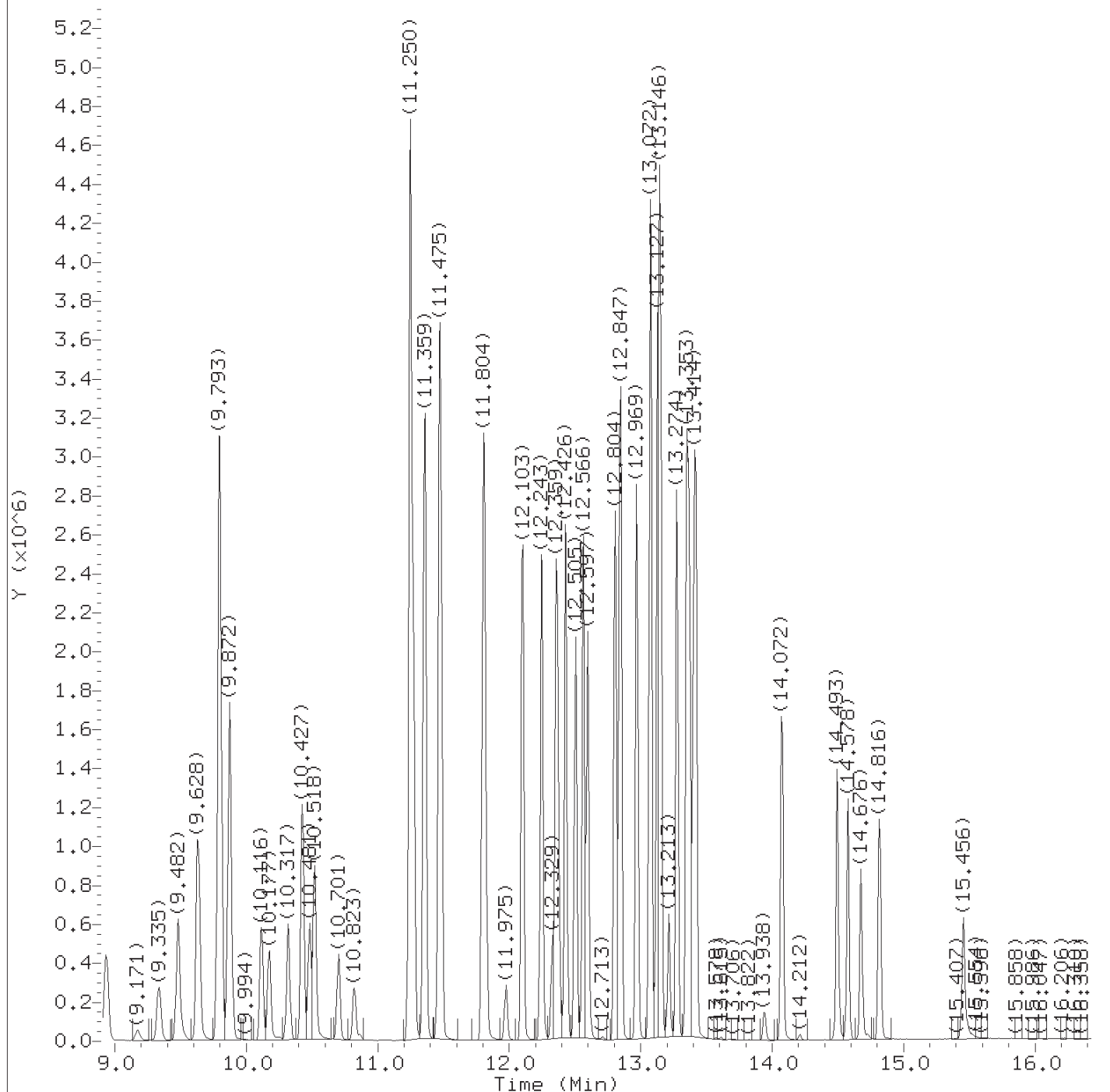
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Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 10:21 kas02648

Sample Name: LCSH57

Lab Sample ID: LCSH57

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 10:22.

Target 3.5 esignature user ID: kas02648
RAE73 Page 342 of 346



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s21.d Instrument ID: HP19094.i
Injection date and time: 31-OCT-2016 08:53 Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025
Calibration date and time: 31-OCT-2016 09:07
Date, time and analyst ID of latest file update: 31-Oct-2016 10:21 kas02648

Sample Name: LCSH57 Lab Sample ID: LCSH57

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 10:22.

Target 3.5 esignature User ID: kas02648
RAE73 Page 343 of 346

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct31a.b/hc31s21.d

Instrument ID: HP19094.i

Injection date and time: 31-OCT-2016 08:53

Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m

Sublist used: 12025

Calibration date and time: 31-OCT-2016 09:07

Date, time and analyst ID of latest file update: 31-Oct-2016 10:21 kas02648

Sample Name: LCSH57

Lab Sample ID: LCSH57

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
5) Vinyl Chloride	(2)	2.300	62	335614	3.449
15) 1,1-Dichloroethene	(2)	3.623	96	282411	5.132
26) *t-Butyl Alcohol-d10	(1)	4.257	65	127618	50.000
31) trans-1,2-Dichloroethene	(2)	4.726	96	314747	5.046
39) cis-1,2-Dichloroethene	(2)	6.183	96	338815	4.954
50) \$Dibromofluoromethane	(2)	6.878	113	555185	10.088
57) \$1,2-Dichloroethane-d4	(2)	7.336	102	94708M	10.712
63) *Fluorobenzene	(2)	7.787	96	2399572	10.000
67) Trichloroethene	(2)	8.274	95	348081	4.935
82) \$Toluene-d8	(3)	9.799	98	2401234	9.255
97) *Chlorobenzene-d5	(3)	11.243	117	1717658	10.000
111) \$4-Bromofluorobenzene	(3)	12.243	95	761356	9.981
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	770129	10.000

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

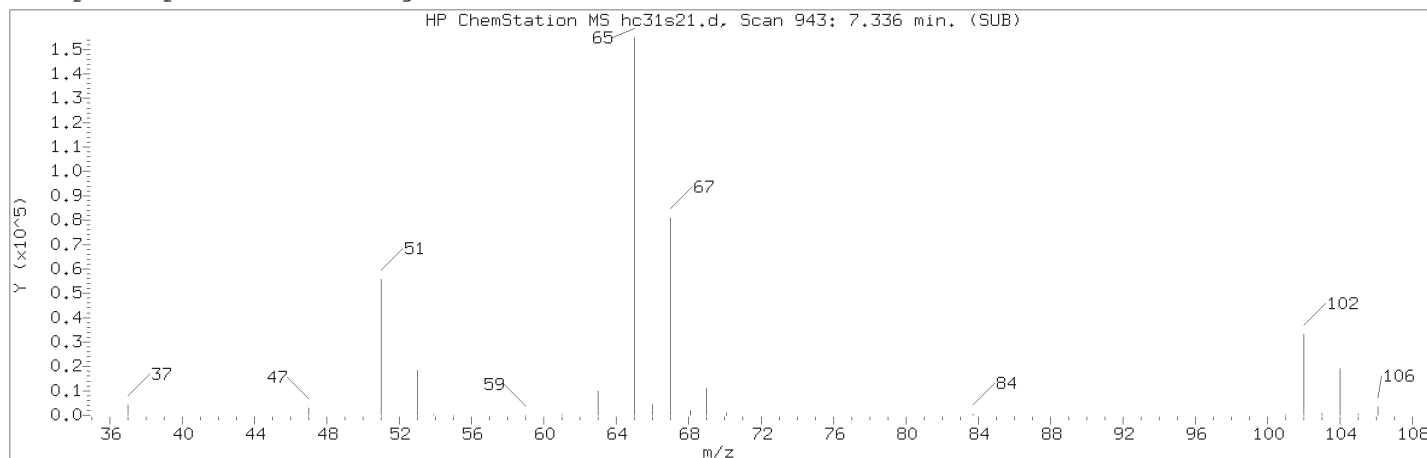
page 1 of 1

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 10:22.

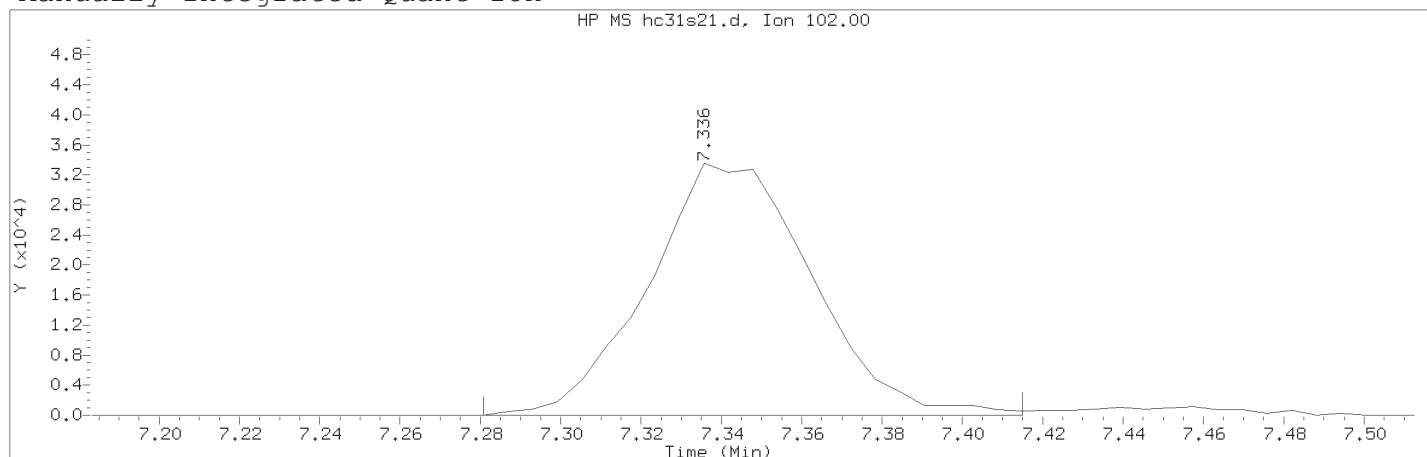
Target 3.5 esignature user ID: kas02648

RAE73 Page 344 of 346

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct31a.b/hc31s21.d

Instrument ID: HP19094.i

Injection date and time: 31-OCT-2016 08:53

Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m

Sublist used: 12025

Calibration date and time: 31-OCT-2016 09:07

Date, time and analyst ID of latest file update: 31-Oct-2016 10:21 kas02648

Sample Name: LCSH57

Lab Sample ID: LCSH57

Compound Number	: 57	
Compound Name	: 1,2-Dichloroethane-d4	
Scan Number	: 943	
Retention Time (minutes)	: 7.336	
Quant Ion	: 102.00	
Area (flag)	: 94708M	
On-Column Amount (ng)	: 10.7119	
Integration start scan	: 933	Integration stop scan: 955
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

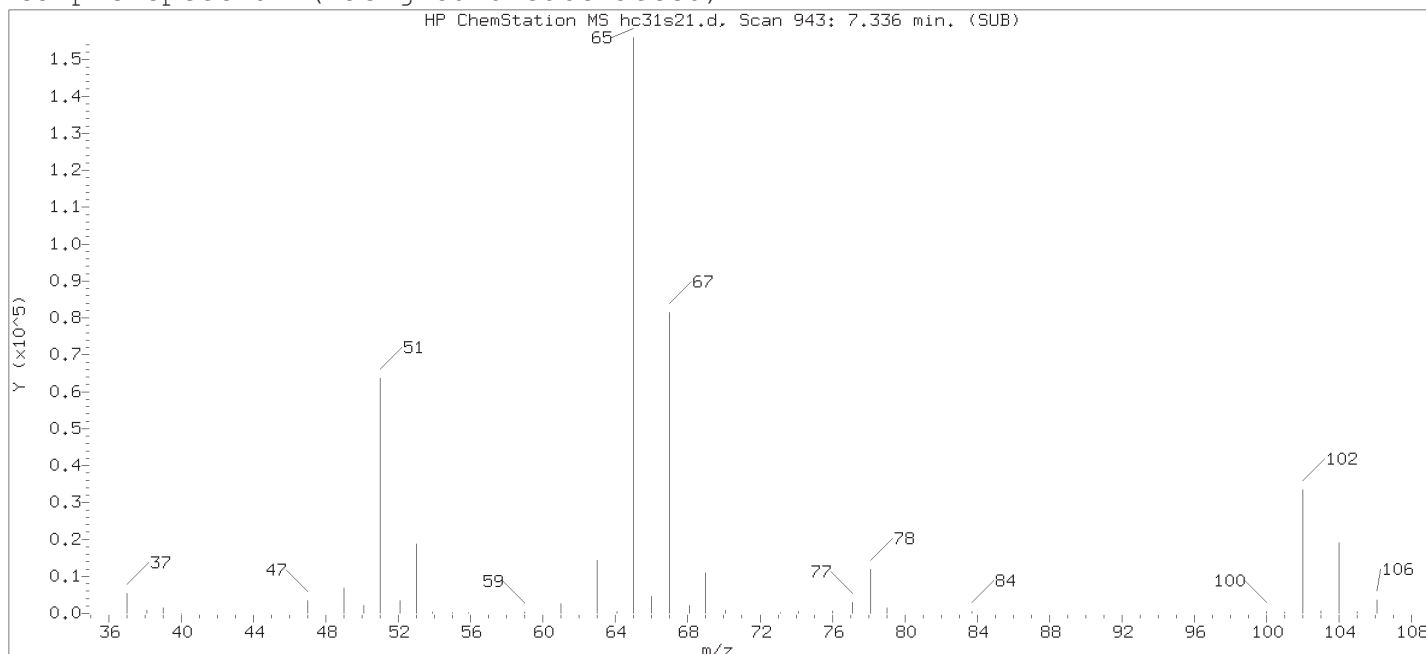
Analyst responsible for change:

Digitally signed by Kevin A. Sposito
on 10/31/2016 at 10:22.
Target 3.5 esignature user ID: kas02648

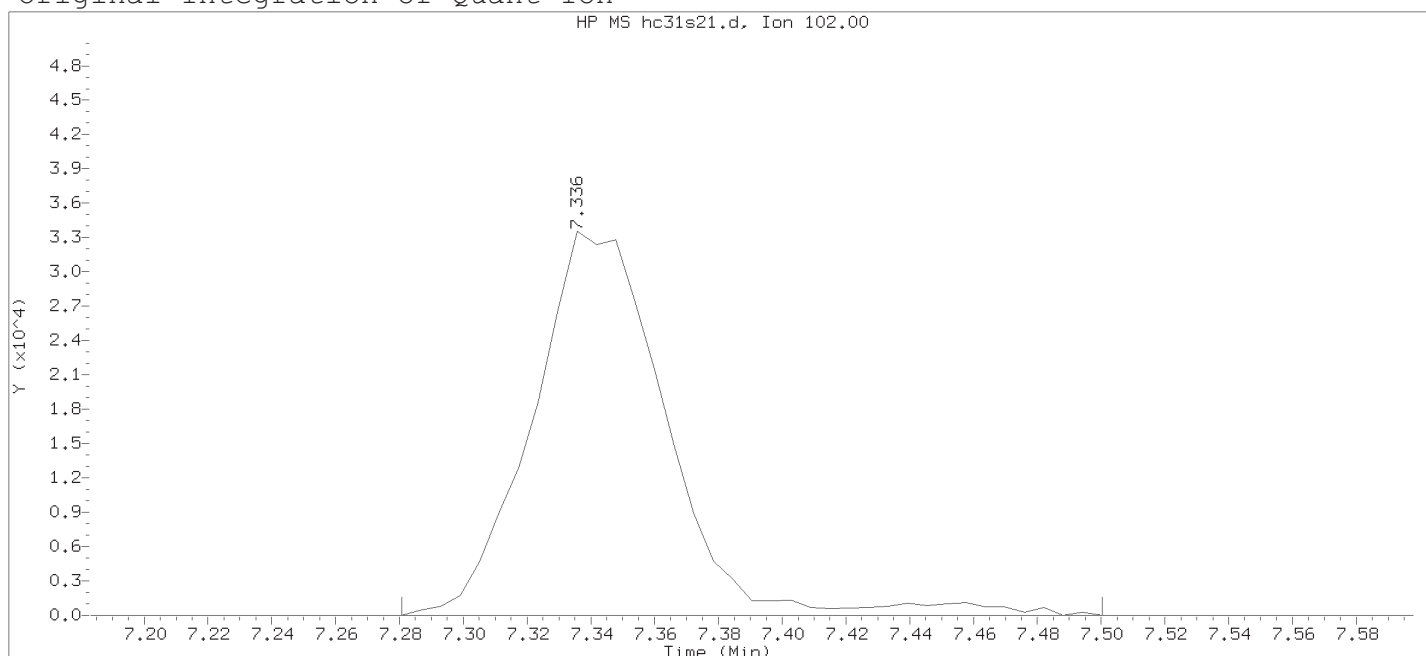
Secondary review performed and digitally signed by Neil A. Kohler on 10/31/2016 at 21:52.

PARALLAX ID: nak10185

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct31a.b/hc31s21.d

Instrument ID: HP19094.i

Injection date and time: 31-OCT-2016 08:53

Analyst ID: KAS02648

Method used: /chem2/HP19094.i/16oct31a.b/m8260c25.m Sublist used: 12025

Calibration date and time: 31-OCT-2016 09:07

Date, time and analyst ID of latest file update: 31-Oct-2016 09:32 kas02648

Sample Name: LCSH57

Lab Sample ID: LCSH57

Compound Number	: 57	
Compound Name	: 1,2-Dichloroethane-d4	
Scan Number	: 943	
Retention Time (minutes)	: 7.336	
Quant Ion	: 102.00	
Area	: 97903	
On-column Amount (ng)	: 11.0733	
Integration start scan	: 933	Integration stop scan: 969
Y at integration start	: 0	Y at integration end: 0

Digitally signed by Kevin A. Sposito on 10/31/2016 at 10:22.

Target 3.5 esignature RAE73 Page 346 of 346

Type I Data Package

Prepared for:

Draper Aden Associates, Inc.

2206 South Main Street
Blacksburg VA 24060

Project: RAAP - Radford, VA - HWMU-5
Groundwater Samples
Collected on 10/19/16-10/20/16

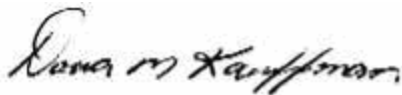
SDG# RAE74

GROUP
1723782

SAMPLE NUMBERS
8656013-8656023

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by:



Dana M. Kauffman
Manager

Date: 12/05/2016

Any questions or concerns you might have regarding this data package should be directed to your client representative, Barbara Weyandt at (717) 556-7264.

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**Sample Reference List for SDG Number RAE74
with a Data Package Type of I**

11200 - Draper Aden Associates, Inc.

Project: RAAP - Radford, VA - HWMU-5

Lab Sample Number	Client Sample ID	Collection Date	Date Received
8656013	5W8B	10/19/2016 09:30	10/21/2016 09:30
8656014	5W5B	10/19/2016 12:05	10/21/2016 09:30
8656015	5W7B	10/19/2016 11:15	10/21/2016 09:30
8656016	5W7B Matrix Spike	10/19/2016 11:15	10/21/2016 09:30
8656017	5W7B Matrix Spike Dup	10/19/2016 11:15	10/21/2016 09:30
8656018	5W7B Duplicate	10/19/2016 11:15	10/21/2016 09:30
8656019	5WC21	10/20/2016 11:45	10/21/2016 09:30
8656020	5WDUP	10/20/2016 11:50	10/21/2016 09:30
8656021	5WC22	10/20/2016 10:15	10/21/2016 09:30
8656022	5WC23	10/20/2016 11:00	10/21/2016 09:30
8656023	5W12A	10/19/2016 10:25	10/21/2016 09:30

Sample pH Log

SDG: RAE74

<u>LLI Sample</u> <u>Number</u>	<u>Bottle</u> <u>Code</u>	<u>Actual</u> <u>pH</u>	<u>Exp.</u> <u>pH</u>	<u>pH Check</u> <u>Code</u>	<u>Adj.</u> <u>pH</u>	<u>Adjusted</u> <u>Date</u>	<u>Adjusted</u> <u>Time</u>	<u>Preservative</u> <u>Added</u>	<u>Preservative</u> <u>Lot #</u>	<u>LLI</u> <u>Supplied</u> <u>Bottle?</u>	<u>Sulfide</u> <u>Present?</u>	<u>Corrective</u> <u>Substance</u>	<u>CS Lot #</u>	<u>Res. Cl.</u> <u>Present?</u>	<u>Corrective</u> <u>Substance</u>	<u>CS Lot #</u>	<u>Record Date</u>	<u>Employee</u>
8656013	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	10/22/2016 9:02:32PM	1201
8656014	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	10/22/2016 9:05:24PM	1201
8656015	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	10/22/2016 9:05:20PM	1201
8656016	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	10/22/2016 9:02:45PM	1201
8656017	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	10/22/2016 9:02:31PM	1201
8656019	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	10/22/2016 9:02:49PM	1201
8656020	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	10/22/2016 9:02:46PM	1201
8656021	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	10/22/2016 9:02:48PM	1201
8656022	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	10/22/2016 9:02:30PM	1201
8656023	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	10/22/2016 9:05:22PM	1201

Check Code Key

PK = Original container checked - pH is within the correct range. (No preservative was added)
PA = Original container checked - pH adjusted to correct range. (Preservative was added)
PV = Volatile container checked
PC = pH checked (unpreserved container)
SPK = Subsampled from an original container. Original container checked - pH is within correct range
SPA = Subsampled from an original container. Subsample container checked - pH adjusted to correct range.
SPC = Subsampled from an original container. pH checked (unpreserved container).
SUP = Subsampled from original container. Unable to be preserved due to the matrix of the sample.
UP = Unable to preserve due to matrix of the sample.
NA = Not applicable

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 · 717-656-2300 Fax: 717-656-2681 · www.lancasterlabs.com

10639 ICPMS - Water, 3020A - U4

The sample is digested with nitric and hydrochloric acid.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3020A, July 1992

06032 Cobalt

The solution resulting from the metals digestion is analyzed by ICP/MS.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 6020A, February 2007.

Analysis Reports / Field Chain of Custody

ANALYTICAL RESULTS

Prepared by:

Prepared for:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

Report Date: December 02, 2016

Project: RAAP - Radford, VA - HWMU-5

Submittal Date: 10/21/2016

Group Number: 1723782

SDG: RAE74

State of Sample Origin: VA

Client Sample Description

5W8B Grab Groundwater
5W5B Grab Groundwater
5W7B Grab Groundwater
5W7B Matrix Spike Grab Groundwater
5W7B Matrix Spike Dup Grab Groundwater
5W7B Duplicate Grab Groundwater
5WC21 Grab Groundwater
5WDUP Grab Groundwater
5WC22 Grab Groundwater
5WC23 Grab Groundwater
5W12A Grab Groundwater

Lancaster Labs

(LL)

8656013
8656014
8656015
8656016
8656017
8656018
8656019
8656020
8656021
8656022
8656023

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

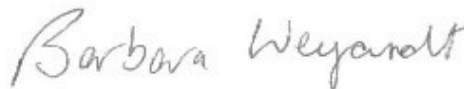
Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To Draper Aden Associates, Inc.
Electronic Copy To Draper Aden Associates, Inc.

Attn: Kathy Olsen
Attn: Janet Frazier

REVISED

Respectfully Submitted,

Barbara A. Weyandt
Specialist

(717) 556-7264

Project Name: RAAP - Radford, VA - HWMU-5
LL Group #: 1723782

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

No additional comments are necessary.

REVISED

Sample Description: 5W8B Grab Groundwater
2016 - 2nd Semiannual Groundwater Corrective
RAAP - Radford, VA - HWMU-5

LL Sample # WW 8656013
LL Group # 1723782
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 10/19/2016 09:30 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/21/2016 09:30

Reported: 12/02/2016 10:50

R7401 SDG#: RAE74-01

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals						
06032	Cobalt	SW-846 6020A 7440-48-4	ug/l N.D.	ug/l 1.0	ug/l 5.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06032	Cobalt	SW-846 6020A	1	163000639002A	11/15/2016 08:17	Choon Y Tian	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	163000639002	10/26/2016 07:13	James L Mertz	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 5W5B Grab Groundwater
2016 - 2nd Semiannual Groundwater Corrective
RAAP - Radford, VA - HWMU-5

LL Sample # WW 8656014
LL Group # 1723782
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 10/19/2016 12:05 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/21/2016 09:30

Reported: 12/02/2016 10:50

R7402 SDG#: RAE74-02

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals						
06032	Cobalt	SW-846 6020A 7440-48-4	ug/l N.D.	ug/l 1.0	ug/l 5.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06032	Cobalt	SW-846 6020A	1	163000639002A	11/15/2016 08:19	Choon Y Tian	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	163000639002	10/26/2016 07:13	James L Mertz	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 5W7B Grab Groundwater
2016 - 2nd Semiannual Groundwater Corrective
RAAP - Radford, VA - HWMU-5

LL Sample # WW 8656015
LL Group # 1723782
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 10/19/2016 11:15 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/21/2016 09:30

Reported: 12/02/2016 10:50

R7403 SDG#: RAE74-03BKG

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals						
06032	Cobalt	SW-846 6020A 7440-48-4	ug/l 1.5 J	ug/l 1.0	ug/l 5.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06032	Cobalt	SW-846 6020A	1	163000639002A	11/15/2016 08:07	Choon Y Tian	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	163000639002	10/26/2016 07:13	James L Mertz	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 5W7B Matrix Spike Grab Groundwater
2016 - 2nd Semiannual Groundwater Corrective
RAAP - Radford, VA - HWMU-5

LL Sample # WW 8656016
LL Group # 1723782
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 10/19/2016 11:15 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/21/2016 09:30

Reported: 12/02/2016 10:50

R7403 SDG#: RAE74-03MS

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals						
06032	Cobalt	SW-846 6020A 7440-48-4	ug/l 260	ug/l 1.0	ug/l 5.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06032	Cobalt	SW-846 6020A	1	163000639002A	11/15/2016 08:12	Choon Y Tian	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	163000639002	10/26/2016 07:13	James L Mertz	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 5W7B Matrix Spike Dup Grab Groundwater
2016 - 2nd Semiannual Groundwater Corrective
RAAP - Radford, VA - HWMU-5

LL Sample # WW 8656017
LL Group # 1723782
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 10/19/2016 11:15 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/21/2016 09:30

Reported: 12/02/2016 10:50

R7403 SDG#: RAE74-03MSD

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals						
06032	Cobalt	SW-846 6020A 7440-48-4	ug/l 254	ug/l 1.0	ug/l 5.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06032	Cobalt	SW-846 6020A	1	163000639002A	11/15/2016 08:14	Choon Y Tian	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	163000639002	10/26/2016 07:13	James L Mertz	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 5W7B Duplicate Grab Groundwater
2016 - 2nd Semiannual Groundwater Corrective
RAAP - Radford, VA - HWMU-5

LL Sample # WW 8656018
LL Group # 1723782
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 10/19/2016 11:15 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/21/2016 09:30

Reported: 12/02/2016 10:50

R7403 SDG#: RAE74-03DUP

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals						
06032	Cobalt	SW-846 6020A 7440-48-4	ug/l 1.5 J	ug/l 1.0	ug/l 5.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06032	Cobalt	SW-846 6020A	1	163000639002A	11/15/2016 08:11	Choon Y Tian	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	163000639002	10/26/2016 07:13	James L Mertz	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 5WC21 Grab Groundwater
2016 - 2nd Semiannual Groundwater Corrective
RAAP - Radford, VA - HWMU-5

LL Sample # WW 8656019
LL Group # 1723782
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 10/20/2016 11:45 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/21/2016 09:30

Reported: 12/02/2016 10:50

R7404 SDG#: RAE74-04

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals						
06032	Cobalt	SW-846 6020A 7440-48-4	ug/l 71.6	ug/l 1.0	ug/l 5.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06032	Cobalt	SW-846 6020A	1	163000639002A	11/15/2016 08:24	Choon Y Tian	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	163000639002	10/26/2016 07:13	James L Mertz	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 5WDUP Grab Groundwater
2016 - 2nd Semiannual Groundwater Corrective
RAAP - Radford, VA - HWMU-5

LL Sample # WW 8656020
LL Group # 1723782
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 10/20/2016 11:50 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/21/2016 09:30

Reported: 12/02/2016 10:50

R7405 SDG#: RAE74-05FD

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals						
06032	Cobalt	SW-846 6020A 7440-48-4	ug/l 69.1	ug/l 1.0	ug/l 5.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06032	Cobalt	SW-846 6020A	1	163000639002A	11/15/2016 08:26	Choon Y Tian	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	163000639002	10/26/2016 07:13	James L Mertz	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 5WC22 Grab Groundwater
2016 - 2nd Semiannual Groundwater Corrective
RAAP - Radford, VA - HWMU-5

LL Sample # WW 8656021
LL Group # 1723782
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 10/20/2016 10:15 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/21/2016 09:30

Reported: 12/02/2016 10:50

R7406 SDG#: RAE74-06

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals						
06032	Cobalt	SW-846 6020A 7440-48-4	ug/l 6.9	ug/l 1.0	ug/l 5.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06032	Cobalt	SW-846 6020A	1	163000639002A	11/15/2016 08:28	Choon Y Tian	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	163000639002	10/26/2016 07:13	James L Mertz	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 5WC23 Grab Groundwater
2016 - 2nd Semiannual Groundwater Corrective
RAAP - Radford, VA - HWMU-5

LL Sample # WW 8656022
LL Group # 1723782
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 10/20/2016 11:00 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/21/2016 09:30

Reported: 12/02/2016 10:50

R7407 SDG#: RAE74-07

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals						
06032	Cobalt	SW-846 6020A 7440-48-4	ug/l 2.2 J	ug/l 1.0	ug/l 5.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06032	Cobalt	SW-846 6020A	1	163000639002A	11/15/2016 08:29	Choon Y Tian	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	163000639002	10/26/2016 07:13	James L Mertz	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 5W12A Grab Groundwater
2016 - 2nd Semiannual Groundwater Corrective
RAAP - Radford, VA - HWMU-5

LL Sample # WW 8656023
LL Group # 1723782
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 10/19/2016 10:25 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/21/2016 09:30

Reported: 12/02/2016 10:50

R7408 SDG#: RAE74-08

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals						
06032	Cobalt	SW-846 6020A 7440-48-4	ug/l N.D.	ug/l 1.0	ug/l 5.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06032	Cobalt	SW-846 6020A	1	163000639002A	11/15/2016 08:31	Choon Y Tian	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	163000639002	10/26/2016 07:13	James L Mertz	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Draper Aden Associates, Inc.
Reported: 12/02/2016 10:50

Group Number: 1723782

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result ug/l	MDL** ug/l	LOQ ug/l
Batch number: 163000639002A Cobalt	Sample number(s): 8656013-8656023 N.D.	1.0	1.0

LCS/LCSD

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 163000639002A Cobalt	Sample number(s): 8656013-8656023 250	254.8			102		80-120		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 163000639002A Cobalt	Sample number(s): 8656013-8656023 1.53	250	260.4	250	253.7	104	101	75-125	3	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc ug/l	DUP Conc ug/l	DUP RPD	DUP RPD Max
Batch number: 163000639002A Cobalt	Sample number(s): 8656013-8656023 1.53	1.50	BKG: 8656015 2 (1)	20

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

11200/1723782/8656013-23

CHAIN OF CUSTODY RECORD

Laboratory: Eurofins Lancaster Laboratories Environmental LLC, 2425 New Holland Pike, Lancaster, PA, 17605-2425/ Barb Weyandt, Manager									
Client: Draper Aden Associates Attn: 0 Address: 0 Phone: 0 Fax: 0		Consultant: Draper Aden Associates Attn: Janet C. Frazier Address: 2206 South Main Street Blacksburg, Virginia 24060 (540) 552-0444 Fax: (540) 552-0291		Sample Site: RFAAP, Radford, Virginia Location: HWMU5 Event: 2015 - 2nd Semiannual Groundwater Corrective Action DAA JN: Monitoring Event Lab JN: B03204-16A		Project Specific (PS) or Batch (B) QC: Sample Collection for Project Complete? YES WPS: 12.754-02X-40-4117-362 Carrier: 12.754-02X-40-4117-362 Tracking Number:			
Box 1: Matrix SW Surface Water T Trip Blank GW Groundwater E Equipment Blank L Leachate P Product S Soil O Other		Box 2: Preservative A HCL E NaOH B HNO ₃ F ZnAc C H ₂ SO ₄ G Other (Specify) D Na ₂ S ₂ O ₃ H None		Box 3: Filtered/Unfiltered F Filtered U Unfiltered Box 5: Sample Container Type P Plastic V VOA AG Amber Glass CG Clear Glass		Box 4: Sample Type G Grab C Composite		Invoice Copy to Consultant: YES Bill: CLIENT OTHER Preserved and shipped on ice: YES	
GENERAL NOTES: 1. See attached analyte list. 2. Report Results to MDL with "J" Flags. 3. 1 trip blank per day of sampling. Delete Trip blank 2 if not required. 3. Cobalt QL / DL 5ug/l 1 ug/l									
USE FOR QC									
Clients Special Instructions: level 1 with add.									
Received by lab in Good Condition Yes No Custody Seal Intact Yes No Temperature upon arrival Yes No Received on Ice Yes No									
Describe problems, if any:									
Sampler Name (Print): Ken Coddington Date: 10/19/16 Time: 0700		#1 Relinquished by (Signature): [Signature] Company: DAA Name: [Signature]		Date: 10/20/16 Time: 1700		#2 Relinquished by (Signature): [Signature] Company: [Signature] Name: [Signature]		Date: 10/20/16 Time: 0938	
Sampler Name (Print): Will Mason-Deese Date: 10-19-16 Time: 0700		#1 Received by (Signature): [Signature] Company: [Signature] Name: [Signature]		Date: [Signature] Time: [Signature]		#2 Received by (Signature): [Signature] Company: [Signature] Name: [Signature]		Date: [Signature] Time: [Signature]	

1/2 10/21/16

Client: Draper**Delivery and Receipt Information**

Delivery Method:	<u>UPS</u>	Arrival Timestamp:	<u>10/21/2016 9:30</u>
Number of Packages:	<u>3</u>	Number of Projects:	<u>1</u>

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	No
Custody Seal Intact:	Yes	VOA Vial Headspace $\geq$ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	8
Paperwork Enclosed:	Yes	Trip Blank Type:	HCL
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	Yes		

*Unpacked by Krista Abel (3058) at 13:48 on 10/21/2016***Samples Chilled Details**

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	1.9	DT	Wet	Y	Bagged	N
2	DT146	0.9	DT	Wet	Y	Bagged	N
3	DT146	2.2	DT	Wet	Y	Bagged	N

Container Quantity Discrepancy Details

Sample ID on COC	Container Qty. Received	Container Qty. on COC	Comments
SW7B	12	7	

Sample Date/Time Discrepancy Details

Sample ID on COC	Date/Time on Label	Comments
SW8B	10/19/2016 09:30	
SW8B	10/19/2016 12:05	
SW7B	10/19/2016 12:05	

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	none detected
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m3	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Laboratory Data Qualifiers:

- B - Analyte detected in the blank
- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value $\geq$ the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...
- W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Metals in Liquid Data

Case Narrative/Conformance Summary

Metals in Liquid

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE74

ICP Metals

Fraction: Metals in Liquid

Sample #	Client ID	Matrix		DF	Comments
		Liquid	Solid		
8656013	5W8B	X		1	
8656014	5W5B	X		1	
8656015	5W7B	X		1	Background/Unspiked
8656016	5W7B Matrix Spike	X		1	Matrix Spike
8656017	5W7B Matrix Spike Dup	X		1	Matrix Spike Duplicate
8656018	5W7B Duplicate	X		1	Duplicate
8656019	5WC21	X		1	
8656020	5WDUP	X		1	Field Duplicate Sample
8656021	5WC22	X		1	
8656022	5WC23	X		1	
8656023	5W12A	X		1	

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

All QC is within specification.

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE74

ICP Metals

Fraction: Metals in Liquid

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

The instrument detection limits (IDLs) are used for determining the U flags on the initial and continuing calibration blanks. The highest IDL is selected when multiple instruments are used for an analysis. The method detection limits (MDLs) are used for determining all other U flags.

Abbreviation Key

BKG – Background	AF - Cold Vapor Atomic Fluorescence
DUP – Duplicate	U - Below MDL
MS - Matrix Spike	B - Below LOQ
MSD - Matrix Spike Dup	N - Matrix Spike out of specifications
B – Blank	* - Duplicate out of specifications
Q - Laboratory Control Sample	E - Matrix Effects exist as proven by Serial Dilution or Spiked Dilution
Y - Laboratory Control Sample Duplicate	A - Post Digestion Spike
P - ICP Atomic Emission Spectrometer	L - Serial Dilution
MS - ICP Mass Spectrometry	R - Internal Standard Relative Intensity OOS
CV - Cold Vapor	NR - Not Required

Sample Data

Metals in Liquid



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: RAE74

Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8656013

% Solids: 0.0

Concentration Units: UG/L

Date Received: 10/21/2016

CAS No.	Analyte	Concentration	C	Q	M
7440-48-4	Cobalt	1.0	U		MS

Comments:

METHODS:

P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence
NR = Not Required

CONCENTRATION QUALIFIERS:

U = Below MDL,
B = Below LOQ



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: RAE74

Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8656014

% Solids: 0.0

Concentration Units: UG/L

Date Received: 10/21/2016

CAS No.	Analyte	Concentration	C	Q	M
7440-48-4	Cobalt	1.0	U		MS

Comments:

METHODS:

P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence
NR = Not Required

CONCENTRATION QUALIFIERS:

U = Below MDL,
B = Below LOQ



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: RAE74

Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8656015BKG

% Solids: 0.0

Concentration Units: UG/L

Date Received: 10/21/2016

CAS No.	Analyte	Concentration	C	Q	M
7440-48-4	Cobalt	1.5			MS

Comments:

METHODS:

P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence
NR = Not Required

CONCENTRATION QUALIFIERS:

U = Below MDL,
B = Below LOQ



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: RAE74

Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8656016MS

% Solids: 0.0

Concentration Units: UG/L

Date Received: 10/21/2016

CAS No.	Analyte	Concentration	C	Q	M
7440-48-4	Cobalt	260			MS

Comments:

METHODS:

P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence
NR = Not Required

CONCENTRATION QUALIFIERS:

U = Below MDL,
B = Below LOQ



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: RAE74

Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8656017MSD

% Solids: 0.0

Concentration Units: UG/L

Date Received: 10/21/2016

CAS No.	Analyte	Concentration	C	Q	M
7440-48-4	Cobalt	254			MS

Comments:

METHODS:

P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence
NR = Not Required

CONCENTRATION QUALIFIERS:

U = Below MDL,
B = Below LOQ



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: RAE74

Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8656018DUP

% Solids: 0.0

Concentration Units: UG/L

Date Received: 10/21/2016

CAS No.	Analyte	Concentration	C	Q	M
7440-48-4	Cobalt	1.5			MS

Comments:

METHODS:

P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence
NR = Not Required

CONCENTRATION QUALIFIERS:

U = Below MDL,
B = Below LOQ



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: RAE74

Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8656019

% Solids: 0.0

Concentration Units: UG/L

Date Received: 10/21/2016

CAS No.	Analyte	Concentration	C	Q	M
7440-48-4	Cobalt	71.6			MS

Comments:

METHODS:

P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence
NR = Not Required

CONCENTRATION QUALIFIERS:

U = Below MDL,
B = Below LOQ



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: RAE74

Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8656020

% Solids: 0.0

Concentration Units: UG/L

Date Received: 10/21/2016

CAS No.	Analyte	Concentration	C	Q	M
7440-48-4	Cobalt	69.1			MS

Comments:

METHODS:

P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence
NR = Not Required

CONCENTRATION QUALIFIERS:

U = Below MDL,
B = Below LOQ



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: RAE74

Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8656021

% Solids: 0.0

Concentration Units: UG/L

Date Received: 10/21/2016

CAS No.	Analyte	Concentration	C	Q	M
7440-48-4	Cobalt	6.9			MS

Comments:

METHODS:

P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence
NR = Not Required

CONCENTRATION QUALIFIERS:

U = Below MDL,
B = Below LOQ



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: RAE74

Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8656022

% Solids: 0.0

Concentration Units: UG/L

Date Received: 10/21/2016

CAS No.	Analyte	Concentration	C	Q	M
7440-48-4	Cobalt	2.2			MS

Comments:

METHODS:

P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence
NR = Not Required

CONCENTRATION QUALIFIERS:

U = Below MDL,
B = Below LOQ



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: RAE74

Matrix: WATER Level (low/med): LOW

Lab Sample ID: 8656023

% Solids: 0.0

Concentration Units: UG/L

Date Received: 10/21/2016

CAS No.	Analyte	Concentration	C	Q	M
7440-48-4	Cobalt	1.0	U		MS

Comments:

METHODS:

P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence
NR = Not Required

CONCENTRATION QUALIFIERS:

U = Below MDL,
B = Below LOQ

Quality Control and Calibration Summary Forms

Metals in Liquid

SDG No.: RAE74

Matrix: WATER

<u>Analyte</u>	<u>Batch Number</u>	<u>Lab Sample ID</u>
Cobalt	163000639002	8656013
		8656014
		8656015BKG
		8656016MS
		8656017MSD
		8656018DUP
		8656019
		8656020
		8656021
		8656022
		8656023
		P30039BB
		P30039BQ

LEGEND:

BKG = Background

DUP = Duplicate

MS = Matrix Spike

MSD = Matrix Spike Duplicate

B = Blank

Q = Laboratory Control Sample

Y = Laboratory Control Sample Duplicate

Method: MS
Run Name: 1632004E03
Calibration Date(s): 11/15/2016
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Cobalt	59	500.0	522.70	104.5	250.0	245.30	98.1	250.0	239.40	95.8

(1) Control Limits: 90 - 110

(2) Control Limits: 90 - 110

* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:

P = ICP Atomic Emission Spectrometer

MS = ICP Mass Spectrometry

CV = Cold Vapor

AF = Cold Vapor Atomic Fluorescence

Method: MS
Run Name: 1632004E03
Calibration Date(s): 11/15/2016
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Cobalt	59				250.0	239.70	95.9			

(1) Control Limits: 90 - 110

(2) Control Limits: 90 - 110

* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:

P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: MS

Run Name: 1632004E03

Calibration Date(s): 11/15/2016

Concentration Units: UG/L

Analyte	Mass	Initial			Final	
		True	Found	%R	Found	%R
Cobalt	59	1.0	1.00	100.0	0.91	91.0

Control limits: 70% - 130%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.

For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:

P = ICP Atomic Emission Spectrometer

MS = ICP Mass Spectrometry

CV = Cold Vapor

AF = Cold Vapor Atomic Fluorescence



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: RAE74

Method: MS

Run Name: 1632004E03

Calibration Date(s): 11/15/2016

Preparation Blank Matrix: WATER

Analyte	Mass	Initial Calibration Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)				
			C	1	C	2	C	3	C	Mass		C	Batch Number
Cobalt	59	0.10	U	0.10	U	0.10	U	0.10	U	59	1.000	U	163000639002A

METHODS:

P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:

U= Below IDL/MDL
B= Below LOQ

Instrument ID: 11332
Run Name: 1632004E03
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000	100000	98300	98.3	100600.0	100.6
Calcium	44	300000	300000	321700	107.2	325000.0	108.3
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Cobalt	59	0	205	3		188.4	91.9
Iron	57	250000	250000	258100	103.2	262700.0	105.1
Magnesium	24	100000	100000	103900	103.9	105400.0	105.4
Molybdenum	98	2000	2000	2170	108.5	2169.0	108.5
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	100000	100000	105300	105.3	107300.0	107.3
Sodium	23	250000	250000	280500	112.2	283400.0	113.4
Sulfur	34	10000	10000	NA		NA	
Titanium	47	2000	2000	2337	116.9	2318.0	115.9

Control Limits: All Metals 80%-120%

Instrument ID: 11332
Run Name: 1632004E03
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000	100000	101200	101.2	98420.0	98.4
Calcium	44	300000	300000	329100	109.7	323900.0	108.0
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Cobalt	59	0	205	3		183.4	89.5
Iron	57	250000	250000	265500	106.2	260700.0	104.3
Magnesium	24	100000	100000	105100	105.1	102600.0	102.6
Molybdenum	98	2000	2000	2180	109.0	2170.0	108.5
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	100000	100000	109500	109.5	106500.0	106.5
Sodium	23	250000	250000	283300	113.3	277100.0	110.8
Sulfur	34	10000	10000	NA		NA	
Titanium	47	2000	2000	2406	120.3	2305.0	115.3

Control Limits: All Metals 80%-120%



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 5A (MS/MSD)

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

SDG No.: RAE74

Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 8656015BKG Matrix Spike Lab Sample ID: 8656016MS Matrix Spike Duplicate Lab Sample ID: 8656017MSD

Batch Number(s): 163000639002

Analyte	Mass	BKG Sample		MS Sample		MSD Sample		MS Spike Added	MSD Spike Added	Units	MS		MSD		RPD	Q	Control Limit		
		Result	C	Result	C	Result	C				%R	Q	%R	Q			%R	RPD	M
Cobalt	59	1.5320		260.4000		253.7000		250.0000	250.0000	UG/L	104		101		3		75 - 125	20	MS

Note: Results shown are reported on an as-received basis.

METHODS: P = ICP Atomic Emission Spectrometer CV = Cold Vapor MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence		CONCENTRATION QUALIFIERS: U= Below MDL, B= Below LOQ FLAGS: N = Matrix Spike OOS, * = Duplicate OOS



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 6

DUPLICATES

SDG No.: RAE74

Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 8656015BKG

Duplicate Lab Sample ID: 8656018DUP

Batch Number(s): 163000639002

Concentration Units: UG/L

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Q	M
Cobalt	59	1.0	1.5320		1.5020		2		MS

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR $|S - D| > LOQ$ for values < 5x LOQ).

The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

Note: Results shown are reported on an as-received basis.

METHODS: P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	CONCENTRATION QUALIFIERS: U= Below MDL B= Below LOQ FLAGS: * = Duplicate Out of Spec



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY
FORM 7
LABORATORY CONTROL SAMPLE
SDG No.: RAE74
Matrix: WATER

Analyte	Mass	Batch Number	Units	True	Found	C	Control Limits (%)	%R	M	In Spec
Cobalt	59	163000639002	UG/L	250.000	254.800		80 - 120	102	MS	Yes

METHODS:

P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:

U= Below MDL
B= Below LOQ

QUALITY ASSURANCE SUMMARY

FORM 9

SERIAL DILUTIONS

SDG No.: RAE74

Matrix: WATER

Level (low/med): LOW

Background Lab Sample ID: 8656015BKG

Serial Dilution Lab Sample ID: 8656015L

Batch Number(s): 163000639002

Concentration Units: UG/L

Analyte	Mass	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Diff.	Q	M
Cobalt	59	1.5320		5.0000	U	100		MS

NOTE: An E in column Q indicates the presence of a chemical or physical interference in the matrix when the % difference is greater than 10%. This applies only when (I) is greater than or equal to 50x MDL for ICP, 100x MDL for ICP-MS (6020), 50x MDL for ICP-MS (200.8), or 25x MDL for GFAA.

METHODS:

P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry

CONCENTRATION QUALIFIERS:

U= Below MDL
B= Below LOQ

FLAGS:

E = Matrix Effects exist as proven by
Serial Dilution or Spiked Dilution

Method: MS
Instrument ID: 11332
Date: 10/2016

Analyte	MASS (amu)	Background	IDL (UG/L)
Cobalt	59		0.10

Comments:

METHODS:

P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence



Method: MS
Date: 04/2016

Analyte	Mass	Background	LOQ (UG/L)	MDL (UG/L)
Cobalt	59		1.0	1.0

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

METHODS:

P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: MS
Batch Number: 163000639002

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
8656013	10/26/2016	50.00	50
8656014	10/26/2016	50.00	50
8656019	10/26/2016	50.00	50
8656020	10/26/2016	50.00	50
8656021	10/26/2016	50.00	50
8656022	10/26/2016	50.00	50
8656023	10/26/2016	50.00	50
8656015BKG	10/26/2016	50.00	50
8656018DUP	10/26/2016	50.00	50
8656017MSD	10/26/2016	50.00	50
8656016MS	10/26/2016	50.00	50
P30039BB	10/26/2016	50.00	50
P30039BQ	10/26/2016	1.00	1

METHODS: P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	LEGEND: BKG = Background DUP = Duplicate MS = Matrix Spike MSD = Matrix Spike Duplicate B = Blank Q = Laboratory Control Sample Y = Laboratory Control Sample Duplicate



Method: MS
Instrument ID: 11332
Run Name: 1632004E03

Run Start Date: 11/15/2016
Run End Date: 11/15/2016

Lab Sample ID	D/F	Time	Analytes																											
			C	O																										
S0	1.00	07:44	X																											
S	1.00	07:45	X																											
CCS	1.00	07:47	X																											
CCS	1.00	07:49	X																											
ICV	1.00	07:50	X																											
ICB	1.00	07:52	X																											
LLC	1.00	07:54	X																											
ICSA	1.00	07:56	X																											
ICSAB	1.00	07:57	X																											
ZZZZZZ	1.00	07:59																												
CCV	1.00	08:01	X																											
CCB	1.00	08:02	X																											
P30039BB	1.00	08:04	X																											
P30039BQ	1.00	08:06	X																											
8656015BKG	1.00	08:07	X																											
8656015A	1.00	08:09																												
8656018DUP	1.00	08:11	X																											
8656016MS	1.00	08:12	X																											
8656017MSD	1.00	08:14	X																											
8656015L	5.00	08:16	X																											
8656013	1.00	08:17	X																											
8656014	1.00	08:19	X																											
CCV	1.00	08:21	X																											
CCB	1.00	08:23	X																											
8656019	1.00	08:24	X																											
8656020	1.00	08:26	X																											
8656021	1.00	08:28	X																											
8656022	1.00	08:29	X																											
8656023	1.00	08:31	X																											
8656023	10.00	08:33																												
LLC	1.00	08:34	X																											
ICSA	1.00	08:36	X																											
ICSAB	1.00	08:38	X																											
ZZZZZZ	1.00	08:39																												
CCV	1.00	08:41	X																											
CCB	1.00	08:43	X																											

METHODS:

P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:

BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

Instrument ID: 11332
Date: 11/15/2016

Analyte	Mass	Avg. Measured Mass (amu)	Avg. Peak Width at 5% Peak Height (amu)	%RSD
Lithium	6.000	6.05	0.65	1.3
Magnesium	24.000	24.05	0.65	3.8
Rhodium	103.000	103.05	0.65	0.7
Indium	115.000	115.05	0.65	0.4
Cerium	140.000	140.05	0.65	1.3
Lead	208.000	208.00	0.60	1.2
Uranium	238.000	237.95	0.60	1.3

Comments:

Instrument ID: 11332

Start Date: 11/15/2016

Run Name: 1632004E03

End Date: 11/15/2016

Standard	Elements Applies to	Standard	Elements Applies to
IN-1-115	CO		

Lab Sample ID	Time	Internal Standards %RI For:											
		Element IN-1-115	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
S0	07:44	100											
S	07:45	93											
CCS	07:47	98											
CCS	07:49	99											
ICV	07:50	95											
ICB	07:52	97											
LLC	07:54	98											
ICSA	07:56	77											
ICSAB	07:57	78											
ZZZZZZ	07:59												
CCV	08:01	98											
CCB	08:02	100											
P30039BB	08:04	102											
P30039BQ	08:06	99											
8656015BKG	08:07	101											
8656015A	08:09	103											
8656018DUP	08:11	103											
8656016MS	08:12	98											
8656017MSD	08:14	98											
8656015L	08:16	102											
8656013	08:17	105											
8656014	08:19	96											
CCV	08:21	98											
CCB	08:23	97											
8656019	08:24	90											
8656020	08:26	90											
8656021	08:28	90											
8656022	08:29	90											
8656023	08:31	94											
8656023	08:33												
LLC	08:34	97											
ICSA	08:36	75											
ICSAB	08:38	77											

LEGEND:

BKG = Background MS = Matrix Spike
 DUP = Duplicate MSD = Matrix Spike Duplicate
 L = Serial Dilution A = Post Digest Spike
 B = Blank
 Q = Laboratory Control Sample
 Y = Laboratory Control Sample Duplicate

FLAG:

R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:

BE = Beryllium LI = Lithium
 BI = Bismuth SC = Scandium
 GE = Germanium TB = Terbium
 HO = Holmium Y = Yttrium
 IN = Indium

Instrument ID: 11332

Start Date: 11/15/2016

Run Name: 1632004E03

End Date: 11/15/2016

Standard	Elements Applies to	Standard	Elements Applies to
IN-1-115	CO		

Lab Sample ID	Time	Internal Standards %RI For:											
		Element IN-1-115	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
ZZZZZZ	08:39												
CCV	08:41	96											
CCB	08:43	98											

LEGEND: BKG = Background MS = Matrix Spike DUP = Duplicate MSD = Matrix Spike Duplicate L = Serial Dilution A = Post Digest Spike B = Blank Q = Laboratory Control Sample Y = Laboratory Control Sample Duplicate FLAG: R = Internal Standard Relative Intensity OOS					INTERNAL STANDARD ELEMENTS: BE = Beryllium LI = Lithium BI = Bismuth SC = Scandium GE = Germanium TB = Terbium HO = Holmium Y = Yttrium IN = Indium				

Raw Data

Metals in Liquid

ICP-MS Data

Metals in Liquid



Date File Name: 16K15D00.E03

Method Reference Name(s):

Run Name: 1632004E03

Analyst: 1242

Reviewed By: Choon Y Tian
Reviewed Date: 11/15/2016 08:55

Verified By: Deborah A Krady
Robert Strocko
Verified Date: 11/15/2016 11:27
12/02/2016 10:09

Instrument Parameters:

Rinse Time (sec): 25.00

INTERNAL STD.	ELEMENT	MASS
SC-1		45
	NA	23
	MG	24
	AL	27
	K	39
	CA	44
	TI	47
	V	51
	CR	52
	MN	55
	FE	57
IN-1		115
	CO	59
	NI	60
	CU	63
	ZN	66
	AS	75
	SR	88
	MO	98
	AG	107
	CD	111
	SN	120
	SB	121
	BA	137
BI-1		209
	TL	203
	PB	208
	U	238

Run Name: 1632004E03
 Tube Number: 1
 Sample Number: S0

Date/Time: 11/15/2016 7:44:00

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
NA	23	0.00000	142240.00000	-112148000	0.49768	3.39242	-3.88715
MG	24	0.00000	433.36100	-2128160000	0.38727	-0.27625	-0.11102
AL	27	0.00000	170.00800	196049000	0.01935	-0.08321	0.06386
K	39	0.00000	20403.10000	-122727000	0.56279	-1.56936	1.00605
CA	44	0.00000	1263.46000	191397000	10.56136	-2.47759	-8.08474
SC-1	45	122737.00000	0.00000	1.828	121412.00000	121471.00000	125328.00000
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.00000	56.66980	-883430000	0.00842	-0.00968	0.00126
CR	52	0.00000	156.67400	748565000	0.00730	-0.03030	0.02301
MN	55	0.00000	23.33420	555237000	-0.00264	0.00580	-0.00316
FE	57	0.00000	160.00800	-140565000	-0.19081	0.04001	0.15084
CO	59	0.00000	106.67100	678052000	0.00708	-0.01234	0.00526
NI	60	0.00000	56.66910	182090000000	-0.01639	0.02495	-0.00856
CU	63	0.00000	203.34600	-1595030000	-0.00670	-0.01435	0.02105
ZN	66	0.00000	66.67020	844691000	-0.04549	-0.01639	0.06188
GE-1	72	236329.00000	0.00000	0.529	234917.00000	237301.00000	236768.00000
AS	75	0.00000	164.66900	625682000	0.09753	0.12689	-0.22441
SR	88	0.00000	26.66770	-3101800000	-0.00553	0.01196	-0.00643
MO	98	0.00000	96.67040	-25657800000	0.00353	-0.02713	0.02360
AG	107	0.00000	16.66730	-852288000	0.00087	-0.00150	0.00063
CD	111	0.00000	27.33360	996066000	-0.00989	0.01427	-0.00438
IN-1	115	121105.00000	0.00000	2.845	118740.00000	119517.00000	125059.00000
SN	120	0.00000	53.33540	1381160000	-0.00161	0.00495	-0.00334
SB	121	0.00000	16.66730	-4763950000	-0.00767	0.00437	0.00330
BA	137	0.00000	13.33410	1845300000	-0.03083	0.01646	0.01437
TB-1	159	471791.00000	0.00000	0.166	472695.00000	471356.00000	471320.00000
TL	203	0.00000	26.66800	-458987000	0.00075	-0.00149	0.00073
PB	208	0.00000	180.00800	-137484000	0.00068	0.00012	-0.00080
BI-1	209	403885.00000	0.00000	0.807	405173.00000	400176.00000	406305.00000
U	238	0.00000	13.33390	12441800000	0.00036	-0.00072	0.00036

Run Name: 1632004E03
 Tube Number: 2
 Sample Number: S1

Date/Time: 11/15/2016 7:45:00

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	115199.00000	0.00000	2.137	115377.00000	117567.00000	112653.00000
AL	27	10000.00000	932076.00000	3.958	10109.03270	9561.15605	10329.78202
CA	44	10000.00000	81625.30000	3.233	10122.39777	9633.39785	10244.16193
CR	52	1000.00000	2019310.00000	3.199	977.16797	986.27521	1036.54997
FE	57	10000.00000	407964.00000	3.064	10070.77387	9664.41142	10264.80081
K	39	10000.00000	1621950.00000	2.220	10079.17915	9749.30769	10171.62472
MG	24	10000.00000	2718870.00000	3.266	10128.76061	9628.65655	10242.60050
MN	55	1000.00000	1122350.00000	3.284	1015.82444	962.23794	1021.92672
NA	23	10000.00000	5895070.00000	3.365	9952.34068	9689.89915	10357.72380
TI	47	1000.00000	44972.10000	2.559	1005.17331	972.21796	1022.60516
V	51	1000.00000	1573330.00000	1.508	992.22821	990.39546	1017.37829
IN-1	115	112433.00000	0.00000	1.037	111181.00000	112634.00000	113486.00000
AG	107	100.00000	402547.00000	1.074	101.15850	99.80339	99.03686
AS	75	1000.00000	155059.00000	1.424	1015.67987	996.43695	987.88076
BA	137	1000.00000	397800.00000	2.917	1031.39433	994.84612	973.75131
CD	111	100.00000	46187.40000	1.789	102.04809	99.20791	98.74274
CO	59	1000.00000	3432820.00000	1.855	1021.40061	988.55693	990.02905
CU	63	1000.00000	2605040.00000	1.164	1009.83442	1003.01405	987.14696
MO	98	100.00000	155466.00000	3.384	103.71782	99.18109	97.09991
NI	60	1000.00000	904195.00000	1.333	1015.38338	992.80875	991.79729
SB	121	100.00000	77664.30000	2.028	102.15579	99.71300	98.13031
SN	120	100.00000	138774.00000	3.051	103.42799	98.98541	97.58440
SR	88	100.00000	106898.00000	3.336	103.84313	98.31227	97.84371
ZN	66	1000.00000	312685.00000	1.370	1015.79783	992.82893	991.35956
BI-1	209	374412.00000	0.00000	1.745	381954.00000	370800.00000	370481.00000
PB	208	100.00000	1278030.00000	0.879	98.99095	100.41180	100.59711
TL	203	100.00000	402399.00000	0.153	100.14113	100.02055	99.83768
U	238	100.00000	1702600.00000	2.811	96.83982	100.93921	102.22060
GE-1	72	222579.00000	0.00000	2.061	226830.00000	217715.00000	223192.00000
TB-1	159	440157.00000	0.00000	1.146	445923.00000	437986.00000	436563.00000

Run Name: 1632004E03
 Tube Number: 3
 Sample Number: CCS

Date/Time: 11/15/2016 7:47:00

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	120510.00000	0.00000	1.393	122118.00000	120646.00000	118768.00000
AL	27	0.97010	263.35300	227.399	3.44954	0.23518	-0.77438
CA	44	3.78100	1273.46000	198.096	11.99235	-2.67517	2.02344
CR	52	0.25850	700.04700	11.195	0.27305	0.27728	0.22518
FE	57	2.86300	280.01800	89.067	5.80135	1.23570	1.55116
K	39	2.31200	20419.80000	36.864	2.40383	3.11374	1.41677
MG	24	4.90000	1837.39000	156.551	13.73779	0.99616	-0.03448
MN	55	0.07954	116.67300	38.773	0.11490	0.06551	0.05821
NA	23	28.80000	157251.00000	146.007	77.35030	5.33592	3.72716
TI	47	0.28160	13.33380	113.530	0.62908	0.00000	0.21561
V	51	0.06724	166.67500	35.753	0.08611	0.07544	0.04018
IN-1	115	119084.00000	0.00000	1.423	120889.00000	118837.00000	117526.00000
AG	107	0.01260	70.00430	38.286	0.01234	0.00792	0.01755
AS	75	0.47120	240.00400	30.327	0.54646	0.56079	0.30637
BA	137	0.06322	40.00160	147.912	0.15619	0.06429	-0.03083
CD	111	0.00772	30.66700	33.908	0.00542	0.01057	0.00715
CO	59	0.07099	363.35500	27.398	0.09313	0.05665	0.06318
CU	63	0.14610	603.37400	33.238	0.18851	0.15669	0.09314
MO	98	0.03143	146.67300	93.000	0.06230	0.02784	0.00416
NI	60	0.12230	173.34200	39.959	0.17831	0.08821	0.10043
SB	121	0.45860	393.35400	18.092	0.47119	0.37001	0.53451
SN	120	0.12090	230.01300	35.732	0.08493	0.16884	0.10906
SR	88	0.02926	60.00280	207.416	0.09857	-0.01440	0.00360
ZN	66	0.35530	183.34300	46.693	0.54680	0.25700	0.26207
BI-1	209	392730.00000	0.00000	0.970	396506.00000	392794.00000	388890.00000
PB	208	0.01052	316.68200	65.171	0.01576	0.01305	0.00276
TL	203	0.00724	56.66900	103.865	0.01264	0.01045	-0.00135
U	238	0.00949	183.34400	78.582	0.01702	0.00935	0.00210
GE-1	72	228566.00000	0.00000	1.068	231345.00000	226760.00000	227594.00000
TB-1	159	457453.00000	0.00000	0.975	462504.00000	455791.00000	454065.00000

Run Name: 1632004E03
 Tube Number: 4
 Sample Number: CCS

Date/Time: 11/15/2016 7:49:00

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	119525.00000	0.00000	1.324	120270.00000	120597.00000	117708.00000
AL	27	-0.77960	90.00380	-35.300	-1.09428	-0.58369	-0.66098
CA	44	13.37000	1343.53000	210.770	-9.36530	44.89571	4.58565
CR	52	0.19620	563.37000	18.185	0.16455	0.23485	0.18909
FE	57	-1.55100	90.00370	-16.828	-1.80116	-1.57209	-1.28049
K	39	-1.86400	19551.80000	-266.202	-0.15282	-7.45672	2.01550
MG	24	-0.22310	360.02300	-129.942	0.05295	-0.19715	-0.52514
MN	55	0.03176	60.00280	79.377	0.03165	0.05703	0.00661
NA	23	-3.99300	136126.00000	-131.430	-6.31427	-7.67927	2.01645
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.02543	96.67160	36.960	0.01491	0.03299	0.02841
IN-1	115	119973.00000	0.00000	0.416	120473.00000	119970.00000	119476.00000
AG	107	0.00004	16.66730	9437.070	0.00080	0.00315	-0.00384
AS	75	0.23570	202.67000	25.312	0.17826	0.23156	0.29736
BA	137	0.03984	30.00150	102.410	0.01609	0.08695	0.01648
CD	111	-0.00764	23.33350	-82.173	-0.00650	-0.01441	-0.00201
CO	59	0.02859	210.01000	67.016	0.01743	0.01763	0.05071
CU	63	0.04774	333.35000	32.928	0.06401	0.04659	0.03263
MO	98	-0.02127	60.00290	-101.410	0.00266	-0.02724	-0.03923
NI	60	0.07995	133.34000	39.912	0.08623	0.04537	0.10825
SB	121	0.12090	116.67200	14.971	0.12436	0.13703	0.10132
SN	120	0.06339	146.67300	40.953	0.05171	0.04532	0.09313
SR	88	-0.01154	13.33380	-44.315	-0.01452	-0.01448	-0.00564
ZN	66	0.45200	216.67800	44.624	0.60906	0.52251	0.22448
BI-1	209	396489.00000	0.00000	0.704	398984.00000	393471.00000	397012.00000
PB	208	0.00470	240.01200	116.053	0.00310	0.01077	0.00022
TL	203	0.00168	33.33470	77.870	0.00319	0.00096	0.00089
U	238	0.00149	40.00170	73.561	0.00258	0.00151	0.00039
GE-1	72	232482.00000	0.00000	1.573	235128.00000	234011.00000	228309.00000
TB-1	159	457332.00000	0.00000	1.068	460427.00000	459868.00000	451702.00000

Run Name: 1632004E03
 Tube Number: 5
 Sample Number: ICV

Date/Time: 11/15/2016 7:50:00

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	120448.00000	0.00000	2.174	117505.00000	122521.00000	121319.00000
AL	27	4822.00000	470116.00000	2.082	4931.95908	4735.42032	4798.34323
CA	44	4937.00000	42781.00000	1.655	4932.38831	4858.09564	5021.30827
CR	52	493.90000	1043250.00000	0.923	497.70545	488.87508	495.27547
FE	57	4973.00000	212225.00000	1.898	5081.09507	4928.25801	4908.69624
K	39	4764.00000	818392.00000	2.725	4890.28300	4630.92135	4771.97855
MG	24	4991.00000	1419690.00000	1.635	4958.63732	4930.61018	5083.83725
MN	55	480.60000	564133.00000	1.599	487.87423	472.57099	481.43281
NA	23	4928.00000	3108480.00000	2.338	5060.02714	4849.69902	4873.15983
TI	47	506.80000	23829.30000	3.102	524.16023	493.48646	502.82090
V	51	455.60000	749454.00000	2.116	466.58879	451.73004	448.51283
IN-1	115	115313.00000	0.00000	0.947	115044.00000	116514.00000	114380.00000
AG	107	52.04000	214864.00000	1.061	52.60993	51.50770	52.00140
AS	75	506.10000	80569.70000	1.142	509.19396	499.46216	509.73061
BA	137	503.50000	205457.00000	2.222	499.59555	494.83455	516.16100
CD	111	50.40000	23887.30000	0.572	50.48437	50.07289	50.62851
CO	59	522.70000	1840560.00000	1.015	524.56588	516.76117	526.87827
CU	63	512.40000	1369330.00000	1.938	500.96050	518.18720	518.14753
MO	98	50.46000	80516.10000	0.521	50.75838	50.33632	50.27598
NI	60	510.80000	473758.00000	1.075	512.13496	504.81165	515.55297
SB	121	53.01000	42239.20000	1.260	52.24374	53.46722	53.32127
SN	120	50.01000	71212.60000	1.381	50.51908	49.22363	50.28591
SR	88	48.83000	53553.80000	1.984	48.35972	48.18477	49.94343
ZN	66	505.80000	162234.00000	1.152	503.46024	501.45461	512.40170
BI-1	209	387489.00000	0.00000	0.932	391305.00000	387036.00000	384124.00000
PB	208	50.47000	667743.00000	0.895	50.19654	50.99469	50.22933
TL	203	49.42000	205844.00000	0.414	49.65907	49.32934	49.28402
U	238	47.82000	842972.00000	0.781	47.92369	47.41144	48.13886
GE-1	72	231330.00000	0.00000	0.632	229643.00000	232097.00000	232248.00000
TB-1	159	462236.00000	0.00000	0.310	460791.00000	463656.00000	462262.00000

Run Name: 1632004E03
 Tube Number: 6
 Sample Number: ICB

Date/Time: 11/15/2016 7:52:00

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	118965.00000	0.00000	0.746	118696.00000	118242.00000	119956.00000
AL	27	-0.56930	110.00500	-101.423	-0.04516	-1.18819	-0.47467
CA	44	9.01200	1300.13000	297.048	39.50862	-10.62902	-1.84362
CR	52	0.19620	560.03500	34.689	0.15808	0.27474	0.15566
FE	57	-2.17500	63.33570	-6.460	-2.01415	-2.24656	-2.26704
K	39	-1.52800	19522.00000	-128.141	-3.72259	-0.90534	0.04141
MG	24	-0.54700	266.68100	-47.422	-0.24774	-0.70866	-0.68460
MN	55	0.02661	53.33560	123.375	0.04962	0.04120	-0.01099
NA	23	-15.63000	128587.00000	-10.429	-15.32092	-17.40418	-14.19114
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.02987	103.33900	86.475	0.05873	0.02194	0.00893
IN-1	115	117181.00000	0.00000	1.924	119465.00000	114955.00000	117125.00000
AG	107	0.00171	23.33420	212.266	0.00084	-0.00141	0.00570
AS	75	0.25270	200.67000	24.551	0.26102	0.31012	0.18688
BA	137	0.02468	23.33450	240.964	0.08745	-0.03083	0.01743
CD	111	0.00608	29.33360	249.383	-0.01016	0.00854	0.01984
CO	59	0.01855	170.00800	88.086	0.02879	-0.00029	0.02714
CU	63	0.02111	253.34700	32.743	0.02903	0.01798	0.01631
MO	98	-0.02034	60.00230	-3.504	-0.02106	-0.01963	-0.02033
NI	60	0.04766	100.00500	34.515	0.06663	0.03907	0.03727
SB	121	0.21830	193.34300	26.853	0.28313	0.16906	0.20265
SN	120	0.08900	180.01000	29.663	0.05923	0.09820	0.10956
SR	88	-0.00535	20.00100	-166.480	-0.00564	-0.01410	0.00370
ZN	66	0.04826	80.00380	53.813	0.07400	0.02206	0.04871
BI-1	209	392222.00000	0.00000	0.967	392736.00000	388201.00000	395730.00000
PB	208	0.00461	236.67800	63.964	0.00783	0.00204	0.00397
TL	203	0.00015	26.66780	4381.880	-0.00377	-0.00374	0.00797
U	238	0.00266	60.00310	85.725	0.00264	0.00494	0.00039
GE-1	72	229166.00000	0.00000	1.259	226104.00000	231836.00000	229559.00000
TB-1	159	453575.00000	0.00000	1.010	448586.00000	457588.00000	454551.00000

Run Name: 1632004E03
 Tube Number: 7
 Sample Number: LLC

Date/Time: 11/15/2016 7:54:00

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	120772.00000	0.00000	1.283	119019.00000	121339.00000	121957.00000
AL	27	196.30000	19351.40000	3.415	203.67429	190.57020	194.66515
CA	44	392.20000	4551.00000	12.137	408.36046	429.58840	338.59820
CR	52	4.06400	8759.98000	0.925	4.10266	4.02750	4.06293
FE	57	203.20000	8849.95000	1.875	205.16768	198.84819	205.69792
K	39	380.10000	83968.20000	1.531	381.83726	384.94777	373.67406
MG	24	200.80000	57676.40000	2.598	206.73824	198.93597	196.83874
MN	55	3.75900	4447.60000	1.174	3.73980	3.72715	3.80911
NA	23	358.10000	356358.00000	2.746	369.48025	352.51696	352.38517
TI	47	32.39000	1526.82000	7.129	34.64229	32.50228	30.02755
V	51	0.90600	1550.15000	8.901	0.90740	0.98595	0.82469
IN-1	115	118111.00000	0.00000	1.220	116567.00000	119420.00000	118348.00000
AG	107	1.04200	4420.96000	5.483	1.03146	0.99035	1.10322
AS	75	3.79400	778.69600	3.569	3.75396	3.94449	3.68255
BA	137	4.05200	1706.85000	4.588	3.87263	4.03972	4.24381
CD	111	0.96100	492.68000	3.391	0.99380	0.96059	0.92863
CO	59	0.99950	3707.35000	3.685	1.04184	0.97512	0.98144
CU	63	4.04100	11255.40000	1.060	4.03225	4.00293	4.08733
MO	98	1.01400	1750.21000	4.909	0.97296	1.06953	1.00026
NI	60	4.12900	3977.44000	2.064	4.04930	4.11786	4.21871
SB	121	2.13900	1760.19000	9.252	2.35265	2.10196	1.96212
SN	120	3.79000	5578.12000	7.280	3.53121	3.75828	4.08034
SR	88	2.04000	2316.98000	10.378	1.99820	1.85298	2.27001
ZN	66	30.39000	10047.70000	2.867	29.52401	30.38118	31.26648
BI-1	209	393523.00000	0.00000	0.363	393951.00000	391930.00000	394688.00000
PB	208	2.03900	27564.00000	1.708	2.04649	2.00096	2.06936
TL	203	0.97130	4134.23000	7.562	0.91760	0.94137	1.05503
U	238	0.91450	16382.10000	1.210	0.90675	0.92715	0.90950
GE-1	72	232696.00000	0.00000	0.910	230653.00000	234880.00000	232555.00000
TB-1	159	460763.00000	0.00000	2.316	449678.00000	470958.00000	461653.00000

Run Name: 1632004E03
 Tube Number: 8
 Sample Number: ICSA

Date/Time: 11/15/2016 7:56:00

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	89160.00000	0.00000	0.678	89193.40000	88539.40000	89747.30000
AL	27	98300.00000	7093700.00000	1.073	97140.86449	99208.46972	98541.70013
CA	44	321700.00000	2004760.00000	0.854	318564.79797	323492.95624	323134.33009
CR	52	3.13200	5011.21000	3.838	3.24681	3.00712	3.14369
FE	57	258100.00000	8148760.00000	2.396	252111.75275	264456.57260	257658.55651
K	39	105300.00000	13084000.00000	0.646	104632.67048	105991.54042	105347.19963
MG	24	103900.00000	21863200.00000	0.723	104614.22422	103880.44575	103111.45228
MN	55	38.98000	33888.40000	3.171	37.55217	39.73513	39.64662
NA	23	280500.00000	125236000.00000	0.782	278800.04171	282969.32238	279694.40648
TI	47	2337.00000	81377.20000	0.872	2354.63095	2314.73086	2341.84771
V	51	0.14420	216.67900	28.252	0.09754	0.17293	0.16199
IN-1	115	93642.80000	0.00000	0.527	93192.60000	94170.40000	93565.40000
AG	107	0.16120	553.37100	9.169	0.15202	0.15336	0.17826
AS	75	1.08100	267.33800	13.719	0.90977	1.16749	1.16593
BA	137	3.76100	1256.78000	6.514	3.79023	3.99068	3.50315
CD	111	0.47560	204.00300	5.324	0.49377	0.44670	0.48638
CO	59	2.78100	8032.87000	4.545	2.91719	2.66734	2.75836
CU	63	1.62800	3687.35000	9.853	1.60932	1.47725	1.79640
MO	98	2170.00000	2809170.00000	1.015	2151.32230	2164.82960	2194.40015
NI	60	1.40300	1100.09000	12.951	1.56966	1.20940	1.43025
SB	121	0.16570	120.00700	40.809	0.13550	0.11852	0.24320
SN	120	0.16030	226.68000	46.937	0.07731	0.17940	0.22409
SR	88	3.18900	2860.44000	5.666	3.20508	3.36154	3.00113
ZN	66	3.32400	916.73800	13.442	3.04470	3.08743	3.83901
BI-1	209	278895.00000	0.00000	1.135	281851.00000	279278.00000	275555.00000
PB	208	0.32820	3246.98000	10.521	0.28841	0.34994	0.34634
TL	203	0.01507	63.33650	101.460	0.01367	0.00053	0.03101
U	238	0.01267	170.00900	75.493	0.00786	0.02368	0.00646
GE-1	72	176150.00000	0.00000	0.350	175777.00000	176862.00000	175810.00000
TB-1	159	313533.00000	0.00000	1.125	317546.00000	312133.00000	310919.00000

Run Name: 1632004E03
 Tube Number: 9
 Sample Number: ICSAB

Date/Time: 11/15/2016 7:57:00

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	87562.90000	0.00000	1.078	88318.70000	86505.10000	87864.80000
AL	27	100600.00000	7127430.00000	0.863	99664.12244	100638.76911	101395.42128
CA	44	325000.00000	1988730.00000	0.504	326861.04053	324088.98267	323967.29809
CR	52	210.80000	323817.00000	0.870	210.08272	212.93936	209.52229
FE	57	262700.00000	8146940.00000	2.171	260771.66271	269171.34049	258289.81805
K	39	107300.00000	13096000.00000	1.951	107088.15923	109570.02556	105409.49153
MG	24	105400.00000	21782100.00000	2.020	103903.10952	107824.21215	104425.40679
MN	55	246.80000	210656.00000	1.599	247.34596	250.49794	242.65215
NA	23	283400.00000	124270000.00000	1.375	282627.06822	287651.64813	279978.25529
TI	47	2318.00000	79291.20000	1.954	2358.12534	2269.08954	2328.09624
V	51	214.80000	256993.00000	0.519	213.71747	215.94515	214.84751
IN-1	115	93892.40000	0.00000	2.311	96388.30000	92841.60000	92447.30000
AG	107	44.41000	149253.00000	2.817	42.98347	44.94574	45.30845
AS	75	93.48000	12219.80000	1.191	92.20863	93.95387	94.28032
BA	137	4.03400	1350.12000	5.280	3.92743	3.89599	4.27961
CD	111	87.12000	33605.30000	1.593	86.25330	86.38905	88.72293
CO	59	188.40000	540173.00000	1.835	184.56400	189.52219	191.21982
CU	63	171.20000	372446.00000	1.759	168.22412	174.24096	171.03948
MO	98	2169.00000	2814150.00000	2.066	2119.69140	2179.80931	2207.31671
NI	60	180.10000	135972.00000	2.130	175.64095	182.39849	182.16659
SB	121	0.13990	103.33800	45.926	0.10031	0.21406	0.10543
SN	120	0.13200	193.34400	43.871	0.06515	0.16502	0.16587
SR	88	3.28300	2953.78000	6.095	3.51284	3.18330	3.15147
ZN	66	82.05000	21465.10000	2.820	79.60021	84.20066	82.33871
BI-1	209	276582.00000	0.00000	1.626	281572.00000	275328.00000	272846.00000
PB	208	0.33830	3316.99000	7.786	0.34178	0.31045	0.36279
TL	203	0.01513	63.33680	31.864	0.02030	0.01076	0.01433
U	238	0.01389	183.34300	35.097	0.01021	0.01205	0.01942
GE-1	72	174643.00000	0.00000	1.097	176579.00000	172748.00000	174601.00000
TB-1	159	310571.00000	0.00000	1.271	315127.00000	308145.00000	308441.00000

Run Name: 1632004E03
 Tube Number: 10
 Sample Number: RINSE

Date/Time: 11/15/2016 7:59:00

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	118011.00000	0.00000	0.400	118535.00000	117879.00000	117617.00000
AL	27	5.16000	656.71400	38.779	7.46228	3.84466	4.17213
CA	44	22.80000	1403.47000	4.500	22.85263	23.79793	21.74640
CR	52	0.21110	586.70500	24.898	0.18246	0.17904	0.27174
FE	57	16.33000	836.72600	18.083	19.66699	14.04720	15.28720
K	39	13.11000	21768.90000	13.959	11.30880	14.96769	13.06477
MG	24	6.18100	2140.30000	25.643	8.01023	5.33155	5.20249
MN	55	0.02107	46.66870	126.388	-0.00223	0.05010	0.01536
NA	23	-22.30000	123622.00000	-25.928	-15.68632	-24.88901	-26.35189
TI	47	0.36140	16.66730	34.422	0.43207	0.43447	0.21772
V	51	0.00139	56.66880	1364.680	-0.01526	0.02211	-0.00267
IN-1	115	118558.00000	0.00000	2.215	120184.00000	119961.00000	115527.00000
AG	107	0.00088	20.00080	265.357	0.00314	-0.00151	0.00100
AS	75	-0.05100	153.33500	-161.569	-0.02425	-0.14345	0.01470
BA	137	-0.00668	10.00040	-366.153	-0.00732	-0.03083	0.01809
CD	111	0.00242	28.00030	297.934	0.00173	0.00995	-0.00442
CO	59	0.01466	156.67400	101.705	0.01754	-0.00148	0.02792
CU	63	0.07202	396.69000	39.225	0.06075	0.10417	0.05116
MO	98	0.61680	1106.76000	14.765	0.70715	0.61810	0.52502
NI	60	0.06333	116.67200	96.605	0.12796	0.05574	0.00630
SB	121	0.02065	33.33460	64.746	0.02833	0.02842	0.00521
SN	120	0.23700	391.07300	157.595	0.03843	0.00480	0.66792
SR	88	-0.00257	23.33420	-189.977	-0.00574	0.00306	-0.00504
ZN	66	0.22740	140.00600	46.526	0.34169	0.13284	0.20775
BI-1	209	397696.00000	0.00000	1.356	401789.00000	399711.00000	391588.00000
PB	208	0.00240	210.01000	84.217	0.00444	0.00233	0.00041
TL	203	0.00090	30.00120	269.789	-0.00151	0.00085	0.00337
U	238	0.00057	23.33430	59.432	0.00037	0.00038	0.00096
GE-1	72	231140.00000	0.00000	0.679	232321.00000	231739.00000	229360.00000
TB-1	159	466629.00000	0.00000	1.893	466044.00000	475742.00000	458101.00000

Run Name: 1632004E03
 Tube Number: 11
 Sample Number: **CCV**

Date/Time: 11/15/2016 8:01:00

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	119658.00000	0.00000	0.862	120139.00000	120362.00000	118473.00000
AL	27	2453.00000	237732.00000	1.518	2439.82935	2424.35331	2495.16579
CA	44	2409.00000	21371.40000	2.317	2472.68615	2367.74812	2387.27429
CR	52	240.70000	505184.00000	0.907	240.53702	238.63372	242.98905
FE	57	2514.00000	106687.00000	2.323	2473.21332	2488.23623	2581.04557
K	39	2414.00000	421850.00000	1.423	2376.19106	2421.84411	2443.47762
MG	24	2513.00000	710281.00000	1.541	2495.63537	2486.17688	2557.46950
MN	55	248.50000	289801.00000	1.825	243.29607	251.71230	250.42511
NA	23	2512.00000	1642670.00000	2.042	2466.35456	2502.53374	2567.56918
TI	47	262.20000	12252.90000	0.356	261.22996	263.08830	262.31195
V	51	232.80000	380472.00000	1.040	230.06467	233.42399	234.76673
IN-1	115	119014.00000	0.00000	1.713	121157.00000	117098.00000	118786.00000
AG	107	25.85000	110164.00000	0.900	25.72550	26.11935	25.70792
AS	75	245.80000	40470.60000	1.352	242.58001	249.21941	245.71392
BA	137	246.80000	103932.00000	0.443	245.51991	247.58082	247.18099
CD	111	25.05000	12268.00000	1.411	24.64462	25.27181	25.24035
CO	59	245.30000	891269.00000	2.288	239.37705	250.54344	245.94882
CU	63	243.90000	672535.00000	2.248	239.63037	250.06668	241.93509
MO	98	25.12000	41405.60000	2.290	24.87237	25.77346	24.70369
NI	60	251.90000	241101.00000	1.640	248.45469	256.47113	250.72276
SB	121	25.23000	20747.90000	2.593	24.79716	25.97885	24.90152
SN	120	25.07000	36872.30000	2.195	24.82846	25.70369	24.68823
SR	88	25.24000	28583.00000	2.467	24.56406	25.78568	25.38315
ZN	66	250.30000	82895.30000	2.381	246.14471	257.16051	247.71256
BI-1	209	395484.00000	0.00000	1.346	396077.00000	400484.00000	389890.00000
PB	208	25.24000	340862.00000	1.771	25.15623	24.84327	25.72522
TL	203	24.82000	105505.00000	1.305	24.78265	24.51754	25.16194
U	238	22.98000	413435.00000	1.703	23.14031	22.53852	23.27308
GE-1	72	231674.00000	0.00000	1.047	229939.00000	234446.00000	230638.00000
TB-1	159	461168.00000	0.00000	1.609	469557.00000	458469.00000	455477.00000

Run Name: 1632004E03
 Tube Number: 12
 Sample Number: CCB

Date/Time: 11/15/2016 8:02:00

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	121916.00000	0.00000	0.694	122884.00000	121543.00000	121320.00000
AL	27	-0.26000	143.34000	-231.731	0.30026	-0.89742	-0.18304
CA	44	55.97000	1736.51000	190.638	178.65635	-15.52506	4.77904
CR	52	0.18940	560.03900	14.799	0.20128	0.15738	0.20951
FE	57	1.18300	210.01000	49.772	1.60574	1.43174	0.51010
K	39	-0.44070	20189.50000	-323.803	-1.34239	1.20435	-1.18457
MG	24	0.24090	500.02800	55.210	0.12337	0.38522	0.21409
MN	55	0.02251	50.00190	36.286	0.03056	0.01423	0.02275
NA	23	-57.41000	106290.00000	-2.365	-57.37800	-56.06860	-58.78512
TI	47	0.28130	13.33380	114.646	0.00000	0.21069	0.63322
V	51	0.00817	70.00290	216.891	0.02579	0.00837	-0.00965
IN-1	115	120745.00000	0.00000	0.491	121119.00000	120061.00000	121054.00000
AG	107	0.00311	30.00120	129.187	-0.00153	0.00547	0.00539
AS	75	0.09972	181.33600	146.009	-0.06766	0.17018	0.19663
BA	137	0.03155	26.66800	153.851	-0.00750	0.01625	0.08590
CD	111	0.01355	34.00040	50.162	0.02140	0.00990	0.00937
CO	59	0.01007	143.33900	76.078	0.01448	0.00123	0.01451
CU	63	0.03160	290.01500	69.399	0.00983	0.05369	0.03127
MO	98	0.04441	170.00900	47.782	0.06804	0.02697	0.03823
NI	60	0.04822	103.33800	81.501	0.00332	0.07636	0.06499
SB	121	0.08796	90.00350	35.562	0.11163	0.05250	0.09974
SN	120	0.06273	146.67300	34.641	0.03786	0.07226	0.07806
SR	88	-0.01161	13.33380	-86.736	-0.02325	-0.00573	-0.00587
ZN	66	0.12030	106.67200	121.197	0.18907	-0.04716	0.21898
BI-1	209	398157.00000	0.00000	0.075	398482.00000	397897.00000	398093.00000
PB	208	0.00902	300.01500	43.347	0.00606	0.01345	0.00755
TL	203	0.00165	33.33470	215.809	0.00554	-0.00146	0.00088
U	238	0.00314	70.00290	35.137	0.00314	0.00204	0.00425
GE-1	72	236619.00000	0.00000	1.204	237941.00000	233349.00000	238568.00000
TB-1	159	464991.00000	0.00000	0.967	463999.00000	469901.00000	461072.00000

Run Name: 1632004E03
 Tube Number: 13
 Sample Number: **PBW**

Date/Time: 11/15/2016 8:04:00
 Batch: 163000639002A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	123942.00000	0.00000	1.167	123268.00000	125602.00000	122955.00000
AL	27	0.51660	223.34500	46.884	0.79516	0.35515	0.39958
CA	44	6.69200	1333.47000	463.240	-13.88493	-8.38877	42.34913
CR	52	0.30830	827.10400	42.102	0.45544	0.25893	0.21040
FE	57	0.72850	193.34400	133.809	-0.01423	0.36732	1.83235
K	39	0.62110	20707.00000	252.938	0.27392	-0.74749	2.33647
MG	24	0.69290	640.04300	54.626	1.08059	0.32441	0.67370
MN	55	0.16530	223.34500	5.152	0.17191	0.16835	0.15571
NA	23	-67.43000	101832.00000	-2.847	-66.35140	-69.64891	-66.29308
TI	47	0.13720	6.66692	86.589	0.20774	0.20388	0.00000
V	51	0.00358	63.33600	503.489	0.01966	0.00701	-0.01593
IN-1	115	123456.00000	0.00000	0.288	123049.00000	123705.00000	123613.00000
AG	107	-0.00308	3.33346	-42.579	-0.00157	-0.00384	-0.00384
AS	75	-0.02635	164.00300	-276.888	-0.04674	-0.08695	0.05464
BA	137	0.02258	23.33430	154.606	0.01510	-0.00798	0.06062
CD	111	-0.00633	24.66690	-202.908	0.00832	-0.01170	-0.01561
CO	59	-0.01108	66.67000	-77.256	-0.00483	-0.02084	-0.00759
CU	63	0.01642	253.34700	192.509	0.01205	0.04999	-0.01277
MO	98	0.01486	123.33800	80.821	0.00140	0.02448	0.01869
NI	60	0.13640	193.34200	25.579	0.10341	0.17292	0.13285
SB	121	0.02709	40.00160	75.600	0.05074	0.01525	0.01528
SN	120	0.06720	156.67400	81.875	0.12891	0.02322	0.04949
SR	88	0.02506	56.66910	78.771	0.03659	0.00226	0.03632
ZN	66	0.62860	283.34800	26.599	0.76754	0.67522	0.44312
BI-1	209	410484.00000	0.00000	0.811	413746.00000	410611.00000	407094.00000
PB	208	0.00049	190.00900	485.551	0.00181	0.00193	-0.00226
TL	203	-0.00082	23.33430	-704.751	-0.00614	-0.00160	0.00529
U	238	0.00070	26.66810	218.978	0.00247	-0.00019	-0.00018
GE-1	72	240082.00000	0.00000	0.357	240121.00000	239206.00000	240917.00000
TB-1	159	474858.00000	0.00000	0.978	480102.00000	473218.00000	471255.00000

Run Name: 1632004E03
 Tube Number: 14
 Sample Number: LCSW

Date/Time: 11/15/2016 8:06:00
 Batch: 163000639002A
 Class: *****

Initial Vol: 1.00

Final Vol: 1.00

DF: 1.00

Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	122149.00000	0.00000	1.198	123411.00000	122489.00000	120545.00000
AL	27	2020.00000	199837.00000	0.520	2016.03678	2011.40480	2031.45808
CA	44	4157.00000	36722.50000	2.644	4035.44931	4249.78882	4184.91845
CR	52	48.52000	104058.00000	1.366	47.83740	48.55375	49.16194
FE	57	1046.00000	45400.70000	2.659	1017.39577	1072.96737	1047.31496
K	39	10060.00000	1730190.00000	0.578	9991.82778	10086.53267	10097.57579
MG	24	2036.00000	587472.00000	0.254	2031.53446	2041.51196	2034.16497
MN	55	50.99000	60722.80000	1.078	50.52250	50.85192	51.59588
NA	23	10010.00000	6258950.00000	1.404	9865.91458	10016.85884	10146.67196
TI	47	256.20000	12219.50000	4.075	247.45472	253.49631	267.79131
V	51	48.26000	80563.10000	1.772	47.37292	48.31876	49.08019
IN-1	115	119306.00000	0.00000	0.567	119781.00000	118531.00000	119605.00000
AG	107	52.51000	224325.00000	0.962	52.71192	52.88589	51.93693
AS	75	10.00000	1806.81000	3.752	10.12252	10.30095	9.58057
BA	137	51.12000	21596.30000	1.268	50.80870	51.87077	50.69496
CD	111	5.32400	2634.96000	3.494	5.33345	5.50535	5.13365
CO	59	254.80000	928268.00000	1.666	252.05292	259.68738	252.65222
CU	63	51.05000	141301.00000	1.976	50.73481	52.17618	50.23293
MO	98	51.96000	85787.00000	0.599	51.79437	52.32281	51.77316
NI	60	52.89000	50800.70000	2.577	51.49929	54.22289	52.95347
SB	121	6.59100	5448.07000	1.123	6.62957	6.63867	6.50616
SN	120	50.50000	74401.70000	2.246	51.32383	50.96437	49.20530
SR	88	40.42000	45870.30000	0.625	40.69029	40.36229	40.19408
ZN	66	535.30000	177668.00000	0.105	534.94938	535.98138	535.06637
BI-1	209	390710.00000	0.00000	1.078	394674.00000	386285.00000	391170.00000
PB	208	15.70000	209604.00000	1.061	15.63884	15.57891	15.89274
TL	203	2.06100	8680.17000	2.010	2.02228	2.05670	2.10474
U	238	0.00227	53.33580	36.384	0.00318	0.00155	0.00209
GE-1	72	234231.00000	0.00000	0.952	234600.00000	236254.00000	231840.00000
TB-1	159	470322.00000	0.00000	0.668	471816.00000	466712.00000	472438.00000

Run Name: 1632004E03
 Tube Number: 15
 Sample Number: **8656015**

Date/Time: 11/15/2016 8:07:00
 Batch: 163000639002A
 Class: U*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	125341.00000	0.00000	1.091	124773.00000	124349.00000	126901.00000
AL	27	375.90000	38309.90000	0.781	373.92177	379.29110	374.55276
CA	44	4448.00000	40233.10000	1.853	4400.60377	4543.12490	4400.14338
CR	52	0.90570	2150.27000	6.643	0.96515	0.84483	0.90728
FE	57	6.00700	430.02500	18.662	7.18357	4.94986	5.88878
K	39	930.50000	183137.00000	1.601	930.56589	945.37913	915.59135
MG	24	2554.00000	756122.00000	1.383	2564.60340	2582.88095	2514.64968
MN	55	32.68000	39945.80000	1.640	33.10574	32.07634	32.85023
NA	23	9225.00000	5930670.00000	1.170	9215.00554	9337.73166	9122.75395
TI	47	0.06726	3.33346	173.208	0.00000	0.00000	0.20179
V	51	0.05762	156.67400	34.276	0.03662	0.06041	0.07582
IN-1	115	122635.00000	0.00000	1.577	124868.00000	121503.00000	121534.00000
AG	107	0.00606	43.33500	59.238	0.00287	0.00536	0.00995
AS	75	0.13330	190.00300	59.797	0.20687	0.14446	0.04863
BA	137	63.65000	27638.40000	1.270	63.90806	64.30569	62.74977
CD	111	0.00577	30.66700	315.014	0.01910	0.01314	-0.01493
CO	59	1.53200	5848.23000	4.954	1.60563	1.45406	1.53724
CU	63	1.32700	3974.12000	5.827	1.31417	1.40943	1.25628
MO	98	-0.00821	83.33740	-47.094	-0.01104	-0.00381	-0.00977
NI	60	0.93020	973.41100	20.415	0.76831	1.13916	0.88305
SB	121	0.03113	43.33500	55.124	0.04971	0.01589	0.02779
SN	120	0.15590	290.01500	8.756	0.15247	0.14434	0.17097
SR	88	14.59000	17032.00000	4.941	13.84235	14.65113	15.28037
ZN	66	5.64100	1990.24000	7.688	5.44843	6.13761	5.33687
BI-1	209	400497.00000	0.00000	1.140	403377.00000	395232.00000	402882.00000
PB	208	1.24100	17138.80000	1.896	1.24964	1.25859	1.21410
TL	203	0.06431	303.35200	20.588	0.07922	0.05979	0.05392
U	238	0.04523	836.73400	18.256	0.03579	0.04879	0.05112
GE-1	72	242400.00000	0.00000	0.773	240451.00000	242563.00000	244186.00000
TB-1	159	475344.00000	0.00000	0.916	480336.00000	472321.00000	473376.00000

Run Name: 1632004E03
 Tube Number: 16
 Sample Number: **8656015**

Date/Time: 11/15/2016 8:09:00
 Batch: 163000639002A
 Class: UP*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	128448.00000	0.00000	1.551	130729.00000	127054.00000	127560.00000
AL	27	546.60000	57010.60000	1.952	549.06917	534.93242	555.84653
CA	44	4657.00000	43105.40000	2.968	4642.64219	4801.63257	4526.31083
CR	52	4.33300	9924.15000	2.682	4.43593	4.20694	4.35552
FE	57	199.10000	9226.97000	2.120	201.16030	201.97090	194.28825
K	39	1248.00000	244333.00000	1.841	1221.12936	1259.03948	1262.56706
MG	24	2664.00000	808596.00000	1.811	2710.49973	2614.31047	2668.94967
MN	55	35.41000	44350.10000	1.841	34.86375	36.13269	35.23844
NA	23	9327.00000	6142910.00000	1.180	9210.36749	9341.37513	9429.11368
TI	47	27.33000	1370.14000	7.472	25.46631	27.00908	29.51218
V	51	0.88520	1613.50000	7.079	0.95751	0.84788	0.85012
IN-1	115	124196.00000	0.00000	1.183	123957.00000	122861.00000	125770.00000
AG	107	0.97620	4357.60000	2.592	0.99903	0.98070	0.94903
AS	75	4.17400	883.37000	8.088	4.45479	4.26707	3.79920
BA	137	69.45000	30528.60000	2.880	69.72737	71.29384	67.32379
CD	111	0.93930	506.68100	11.147	0.92342	1.05108	0.84347
CO	59	2.39900	9206.95000	1.727	2.35787	2.39782	2.44075
CU	63	5.23200	15262.80000	1.804	5.33164	5.14413	5.21936
MO	98	1.02900	1863.56000	12.167	0.95239	1.17343	0.96085
NI	60	4.94300	4994.49000	6.049	5.27958	4.84118	4.70811
SB	121	1.95000	1690.19000	2.000	1.90747	1.98361	1.96031
SN	120	3.98800	6168.44000	6.141	4.23418	3.74442	3.98574
SR	88	15.80000	18684.30000	3.963	16.40851	15.84343	15.15824
ZN	66	36.79000	12776.80000	3.596	36.89882	35.41297	38.05277
BI-1	209	399297.00000	0.00000	0.392	401039.00000	398844.00000	398008.00000
PB	208	3.21000	43930.60000	1.842	3.21542	3.14865	3.26656
TL	203	1.06100	4581.09000	2.613	1.08234	1.02997	1.07191
U	238	9.24500	167944.00000	0.556	9.30322	9.22810	9.20500
GE-1	72	244596.00000	0.00000	0.724	245916.00000	242584.00000	245287.00000
TB-1	159	478294.00000	0.00000	0.189	479263.00000	478146.00000	477471.00000

Run Name: 1632004E03
 Tube Number: 17
 Sample Number: **8656018**

Date/Time: 11/15/2016 8:11:00
 Batch: 163000639002A
 Class: D*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	127976.00000	0.00000	1.220	128437.00000	129255.00000	126237.00000
AL	27	360.20000	37480.80000	3.626	350.08406	355.62399	374.96302
CA	44	4361.00000	40303.20000	1.298	4387.08627	4296.25737	4400.12482
CR	52	0.76280	1873.54000	7.572	0.77566	0.69967	0.81302
FE	57	3.61500	330.02200	54.412	1.81696	3.31161	5.71554
K	39	899.30000	181432.00000	1.726	892.90847	888.08054	917.05121
MG	24	2487.00000	751908.00000	1.058	2478.72120	2466.58391	2517.00603
MN	55	31.84000	39735.40000	3.684	30.64632	31.89360	32.99061
NA	23	8999.00000	5910340.00000	1.934	8874.81026	8924.99311	9198.07916
TI	47	0.13520	6.66692	173.225	0.00000	0.00000	0.40571
V	51	0.06726	176.67500	3.200	0.06881	0.06816	0.06480
IN-1	115	125143.00000	0.00000	0.829	123947.00000	125676.00000	125807.00000
AG	107	0.00287	30.00120	79.659	0.00518	0.00283	0.00060
AS	75	0.09948	188.00300	97.115	0.02839	0.06058	0.20948
BA	137	63.55000	28156.20000	1.614	63.53868	62.52875	64.57999
CD	111	0.00601	31.33360	169.912	0.01572	-0.00463	0.00693
CO	59	1.50200	5848.19000	2.149	1.48559	1.48041	1.53874
CU	63	1.26300	3870.74000	3.040	1.30705	1.23655	1.24547
MO	98	-0.01494	73.33700	-182.999	-0.00486	0.00593	-0.04589
NI	60	1.01500	1080.09000	9.809	1.06539	1.07961	0.90051
SB	121	0.01485	30.00120	1.948	0.01518	0.01470	0.01467
SN	120	0.07443	170.00800	53.245	0.09502	0.02874	0.09953
SR	88	14.28000	17018.60000	2.237	14.03890	14.64184	14.15747
ZN	66	5.36000	1933.56000	6.657	5.54840	5.58382	4.94886
BI-1	209	403626.00000	0.00000	0.720	402774.00000	401241.00000	406863.00000
PB	208	1.20000	16712.00000	3.915	1.16492	1.25345	1.18192
TL	203	0.05303	256.68400	46.144	0.07935	0.03097	0.04876
U	238	0.05085	946.74700	2.881	0.05059	0.05243	0.04953
GE-1	72	246557.00000	0.00000	0.997	244921.00000	249385.00000	245366.00000
TB-1	159	483741.00000	0.00000	0.690	483472.00000	480544.00000	487207.00000

Run Name: 1632004E03
 Tube Number: 18
 Sample Number: **8656016**

Date/Time: 11/15/2016 8:12:00
 Batch: 163000639002A
 Class: R*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	122559.00000	0.00000	2.148	123269.00000	119645.00000	124763.00000
AL	27	2385.00000	236673.00000	1.342	2379.27795	2418.91073	2355.56911
CA	44	8600.00000	74874.80000	1.657	8498.68280	8762.93973	8538.36559
CR	52	50.11000	107808.00000	2.872	49.65578	51.72784	48.96202
FE	57	1044.00000	45470.50000	2.346	1022.25301	1070.60792	1039.69006
K	39	11150.00000	1922190.00000	1.708	11257.68396	11265.68552	10932.02892
MG	24	4805.00000	1390450.00000	1.811	4735.43192	4902.70278	4777.47261
MN	55	83.12000	99288.70000	2.898	85.23880	83.61182	80.49756
NA	23	18930.00000	11748300.00000	2.333	18747.10359	19435.71319	18612.42437
TI	47	269.10000	12873.40000	3.537	269.56587	278.37511	259.35558
V	51	48.48000	81216.30000	1.326	49.13021	48.47027	47.84416
IN-1	115	118941.00000	0.00000	3.160	119821.00000	122181.00000	114821.00000
AG	107	53.34000	227043.00000	3.241	53.75396	51.44578	54.83004
AS	75	10.50000	1880.82000	5.348	10.44595	9.96369	11.08308
BA	137	118.60000	49928.00000	2.175	119.52845	115.73261	120.65817
CD	111	5.29600	2610.96000	5.245	5.12836	5.14385	5.61715
CO	59	260.40000	945179.00000	2.899	261.67273	252.25169	267.18066
CU	63	52.75000	145462.00000	3.718	52.50518	50.92619	54.82553
MO	98	52.50000	86351.50000	4.248	54.05630	49.94227	53.48911
NI	60	53.55000	51252.80000	3.324	54.26383	51.52876	54.86948
SB	121	6.72000	5531.47000	8.326	7.13518	6.08408	6.94208
SN	120	51.97000	76296.40000	2.467	51.63332	50.88931	53.38606
SR	88	56.45000	63803.80000	4.464	55.56664	54.49263	59.29417
ZN	66	529.00000	174914.00000	3.900	536.08528	505.78897	545.20049
BI-1	209	385523.00000	0.00000	1.479	391198.00000	385576.00000	379795.00000
PB	208	17.17000	226065.00000	1.297	16.95212	17.15603	17.39692
TL	203	2.21600	9207.23000	5.090	2.16408	2.34547	2.13855
U	238	0.05168	920.08100	13.264	0.05660	0.05459	0.04385
GE-1	72	237005.00000	0.00000	1.293	240491.00000	234735.00000	235790.00000
TB-1	159	465984.00000	0.00000	2.157	476941.00000	463817.00000	457194.00000

Run Name: 1632004E03
 Tube Number: 19
 Sample Number: **8656017**

Date/Time: 11/15/2016 8:14:00
 Batch: 163000639002A
 Class: M*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	121374.00000	0.00000	1.587	123482.00000	119705.00000	120936.00000
AL	27	2374.00000	233358.00000	1.589	2343.95404	2361.34428	2416.20974
CA	44	8506.00000	73366.50000	1.654	8467.45738	8662.43282	8389.28371
CR	52	49.31000	105079.00000	1.469	48.54929	49.99196	49.38710
FE	57	1041.00000	44922.40000	0.809	1042.05105	1049.47238	1032.67494
K	39	11090.00000	1893420.00000	2.134	10833.41520	11142.15055	11298.68353
MG	24	4595.00000	1316850.00000	2.029	4489.77854	4666.80479	4628.91847
MN	55	82.54000	97673.20000	0.718	83.12334	81.93890	82.55803
NA	23	18870.00000	11598300.00000	1.371	18681.51179	18755.54627	19161.97561
TI	47	254.20000	12049.40000	3.310	251.04925	247.83201	263.74735
V	51	46.87000	77768.90000	0.354	46.76009	46.79710	47.06408
IN-1	115	119014.00000	0.00000	1.178	118918.00000	117662.00000	120461.00000
AG	107	51.86000	221005.00000	1.288	52.25626	52.24538	51.09346
AS	75	9.96400	1796.14000	2.220	10.11773	10.06360	9.71036
BA	137	116.80000	49188.50000	2.824	117.07238	119.93852	113.35832
CD	111	5.38900	2660.97000	2.860	5.52005	5.21934	5.42840
CO	59	253.70000	922117.00000	1.498	256.36141	255.47686	249.37932
CU	63	51.38000	141869.00000	1.269	52.12701	51.06364	50.94066
MO	98	51.22000	84344.00000	2.114	51.76580	51.92284	49.97317
NI	60	51.80000	49625.60000	2.983	52.15639	53.13774	50.11006
SB	121	6.56900	5418.06000	3.918	6.58048	6.30617	6.82052
SN	120	50.22000	73808.30000	1.366	50.64795	50.58618	49.43033
SR	88	54.56000	61753.60000	1.692	54.99329	55.18475	53.49873
ZN	66	519.50000	171976.00000	1.255	526.57963	518.04291	513.77493
BI-1	209	384989.00000	0.00000	1.881	391437.00000	386378.00000	377153.00000
PB	208	16.98000	223308.00000	1.201	16.82635	16.90838	17.21352
TL	203	2.19600	9113.88000	3.627	2.20085	2.27312	2.11406
U	238	0.03829	683.37900	14.738	0.03522	0.04480	0.03484
GE-1	72	232232.00000	0.00000	1.192	235375.00000	230153.00000	231168.00000
TB-1	159	466246.00000	0.00000	0.624	469592.00000	464331.00000	464814.00000

Run Name: 1632004E03
 Tube Number: 20
 Sample Number: **8656015**

Date/Time: 11/15/2016 8:16:00
 Batch: 163000639002A
 Class: UL*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 5.00

Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	125372.00000	0.00000	0.994	125388.00000	124119.00000	126610.00000
AL	27	75.28000	7812.60000	1.772	73.98795	76.65386	75.20965
CA	44	866.00000	8876.69000	1.759	879.31300	849.40778	869.40076
CR	52	0.32070	863.39900	26.249	0.29588	0.41454	0.25179
FE	57	0.59800	190.01000	59.465	0.82462	0.18813	0.78115
K	39	178.60000	52003.50000	2.429	182.07646	180.04684	173.75574
MG	24	493.80000	146583.00000	0.213	493.42914	494.93664	492.91456
MN	55	6.30200	7726.00000	8.881	6.93832	5.88455	6.08457
NA	23	1818.00000	1286060.00000	1.843	1782.19298	1848.26902	1824.94741
TI	47	0.20500	10.00040	100.634	0.00000	0.41263	0.20226
V	51	0.06946	176.67600	30.204	0.08883	0.07238	0.04716
IN-1	115	123471.00000	0.00000	0.203	123293.00000	123758.00000	123362.00000
AG	107	0.00296	30.00120	132.893	0.00523	-0.00158	0.00522
AS	75	0.13420	191.33600	11.244	0.15153	0.12378	0.12736
BA	137	12.24000	5361.38000	2.594	12.60146	12.00584	12.11316
CD	111	-0.01557	20.00020	-50.173	-0.02341	-0.00778	-0.01553
CO	59	0.26480	1106.76000	10.015	0.23421	0.27821	0.28185
CU	63	0.25410	933.40600	23.085	0.18693	0.28013	0.29525
MO	98	-0.00466	90.00400	-377.011	-0.02219	-0.00478	0.01298
NI	60	0.24040	296.68200	15.599	0.22412	0.28334	0.21388
SB	121	0.02705	40.00180	114.861	0.00363	0.01524	0.06230
SN	120	0.09989	206.67700	7.306	0.09572	0.10832	0.09564
SR	88	2.72800	3230.53000	8.006	2.63877	2.97736	2.56911
ZN	66	1.58000	610.03600	11.620	1.78656	1.51757	1.43562
BI-1	209	401633.00000	0.00000	0.619	403357.00000	402756.00000	398784.00000
PB	208	0.23220	3363.66000	5.431	0.23537	0.24301	0.21838
TL	203	0.01317	83.33730	26.515	0.01693	0.01004	0.01253
U	238	0.00767	153.34100	8.519	0.00800	0.00692	0.00810
GE-1	72	241279.00000	0.00000	1.565	244221.00000	242595.00000	237020.00000
TB-1	159	475605.00000	0.00000	1.330	468501.00000	477692.00000	480621.00000

Run Name: 1632004E03
 Tube Number: 21
 Sample Number: **8656013**

Date/Time: 11/15/2016 8:17:00
 Batch: 163000639002A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	126700.00000	0.00000	0.868	126317.00000	125842.00000	127941.00000
AL	27	85.76000	8970.07000	1.423	86.34956	86.58505	84.36326
CA	44	1772.00000	16988.30000	1.383	1775.89403	1745.56900	1794.07662
CR	52	0.57900	1446.81000	14.649	0.67249	0.55744	0.50698
FE	57	3.45900	320.01600	51.662	2.35623	5.52061	2.50032
K	39	1526.00000	290195.00000	0.228	1523.78809	1524.77756	1530.22980
MG	24	1649.00000	493757.00000	0.459	1640.52510	1654.21240	1652.95242
MN	55	39.93000	49338.40000	0.567	40.13463	39.68816	39.97875
NA	23	3497.00000	2363790.00000	2.902	3613.59208	3450.04912	3427.62044
TI	47	0.33440	16.66750	124.462	0.20272	0.00000	0.80062
V	51	0.12990	283.34900	31.093	0.16907	0.08838	0.13216
IN-1	115	127139.00000	0.00000	1.498	125746.00000	126360.00000	129310.00000
AG	107	0.00273	30.00170	137.811	-0.00161	0.00501	0.00480
AS	75	-0.04171	166.00200	-307.360	0.09462	-0.05999	-0.15979
BA	137	74.16000	33372.60000	3.153	73.28481	76.80757	72.38258
CD	111	0.02161	40.00040	17.779	0.01858	0.02594	0.02032
CO	59	0.80060	3220.53000	8.687	0.84386	0.72035	0.83752
CU	63	0.29070	1066.75000	23.791	0.33978	0.32069	0.21159
MO	98	-0.01563	73.33620	-23.845	-0.01137	-0.01732	-0.01823
NI	60	1.32000	1410.14000	6.589	1.30643	1.24077	1.41310
SB	121	0.05229	63.33610	88.793	0.09528	0.00306	0.05852
SN	120	0.09813	210.00900	36.472	0.06737	0.13742	0.08960
SR	88	9.54300	11559.00000	3.439	9.75135	9.71210	9.16424
ZN	66	3.55800	1326.79000	6.782	3.69280	3.70233	3.27966
BI-1	209	405681.00000	0.00000	1.499	404826.00000	400073.00000	412143.00000
PB	208	0.06040	1016.73000	4.818	0.06076	0.06310	0.05732
TL	203	0.01835	106.67100	9.025	0.01915	0.01945	0.01644
U	238	0.01427	276.68100	31.885	0.00905	0.01741	0.01635
GE-1	72	242964.00000	0.00000	2.012	237409.00000	244872.00000	246611.00000
TB-1	159	481085.00000	0.00000	0.341	482658.00000	481216.00000	479382.00000

Run Name: 1632004E03
 Tube Number: 22
 Sample Number: **8656014**

Date/Time: 11/15/2016 8:19:00
 Batch: 163000639002A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	119336.00000	0.00000	1.778	121602.00000	119010.00000	117396.00000
AL	27	12.20000	1343.46000	0.961	12.31158	12.20172	12.07706
CA	44	37040.00000	310022.00000	0.255	36938.14330	37120.97049	37069.25664
CR	52	0.79460	1813.53000	10.219	0.72014	0.88119	0.78254
FE	57	4.44700	343.35300	13.076	3.98363	5.09965	4.25820
K	39	2599.00000	451506.00000	1.441	2571.23324	2641.78335	2584.67539
MG	24	16210.00000	4568220.00000	0.478	16226.21820	16130.72566	16284.14202
MN	55	191.20000	222452.00000	0.407	190.74483	192.13567	190.83499
NA	23	8304.00000	5097090.00000	1.077	8269.35423	8405.85509	8237.60742
TI	47	0.28480	13.33380	41.468	0.42117	0.21517	0.21813
V	51	0.09066	203.34300	42.290	0.10468	0.12000	0.04728
IN-1	115	116114.00000	0.00000	2.590	118454.00000	117165.00000	112722.00000
AG	107	0.00094	20.00100	245.225	0.00324	0.00093	-0.00136
AS	75	0.01648	161.33600	896.845	0.18593	-0.08607	-0.05043
BA	137	32.81000	13491.20000	2.577	32.76731	31.99334	33.68228
CD	111	0.03595	43.33380	38.887	0.04367	0.01982	0.04437
CO	59	0.12290	536.70800	16.037	0.10947	0.11378	0.14555
CU	63	0.86430	2520.36000	2.737	0.88628	0.86733	0.83926
MO	98	-0.02828	46.66850	-13.784	-0.02686	-0.03270	-0.02530
NI	60	1.38000	1340.13000	12.775	1.21199	1.36395	1.56343
SB	121	0.05557	60.00290	63.667	0.02903	0.04193	0.09574
SN	120	0.08809	176.67500	46.748	0.08740	0.04726	0.12961
SR	88	71.95000	79448.40000	0.209	71.84435	71.87519	72.11914
ZN	66	7.21100	2390.32000	4.371	6.93834	7.13955	7.55643
BI-1	209	382095.00000	0.00000	1.738	388197.00000	383064.00000	375024.00000
PB	208	0.15420	2180.18000	3.615	0.14846	0.15445	0.15960
TL	203	0.00768	56.66930	20.745	0.00585	0.00844	0.00875
U	238	0.01845	333.35200	16.331	0.02136	0.01535	0.01862
GE-1	72	226869.00000	0.00000	1.572	230783.00000	226021.00000	223805.00000
TB-1	159	467164.00000	0.00000	2.380	473561.00000	473610.00000	454320.00000

Run Name: 1632004E03
 Tube Number: 23
 Sample Number: **CCV**

Date/Time: 11/15/2016 8:21:00

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	116799.00000	0.00000	1.620	116808.00000	118686.00000	114902.00000
AL	27	2443.00000	231152.00000	0.928	2469.39910	2427.65401	2433.21915
CA	44	2438.00000	21087.70000	2.494	2381.67518	2428.64319	2502.27978
CR	52	235.30000	481933.00000	2.423	240.66403	229.30913	235.88095
FE	57	2499.00000	103502.00000	2.392	2527.50559	2430.38043	2539.29152
K	39	2383.00000	406806.00000	1.354	2404.66207	2346.33059	2399.35645
MG	24	2505.00000	690911.00000	2.048	2539.83684	2445.76908	2528.27305
MN	55	243.20000	276836.00000	2.806	246.95396	235.35395	247.38077
NA	23	2493.00000	1591820.00000	2.375	2503.22339	2428.89873	2545.89360
TI	47	262.70000	11982.70000	3.540	273.28960	255.79155	259.08302
V	51	231.20000	368776.00000	1.852	232.51496	226.35997	234.59042
IN-1	115	118365.00000	0.00000	1.288	119855.00000	116808.00000	118431.00000
AG	107	24.91000	105588.00000	0.718	24.76390	25.11062	24.86196
AS	75	240.30000	39345.10000	1.250	236.81890	242.25061	241.75630
BA	137	241.20000	101008.00000	2.566	237.11059	248.29234	238.10627
CD	111	24.67000	12017.80000	2.496	23.96526	25.05094	25.01142
CO	59	239.40000	865289.00000	0.675	237.82199	241.05005	239.31638
CU	63	237.00000	650121.00000	0.686	237.24654	238.47261	235.25020
MO	98	24.36000	39960.60000	3.274	25.22751	24.20344	23.65631
NI	60	246.40000	234623.00000	1.430	247.15705	249.52661	242.59429
SB	121	24.91000	20387.20000	2.507	25.55041	24.88886	24.30240
SN	120	24.24000	35464.80000	3.213	25.13229	23.71546	23.86323
SR	88	24.97000	28128.40000	1.463	25.31451	25.01009	24.58719
ZN	66	250.10000	82400.10000	2.427	257.06972	247.33018	245.92296
BI-1	209	381938.00000	0.00000	1.930	390426.00000	378251.00000	377137.00000
PB	208	25.59000	333809.00000	1.067	25.28063	25.76730	25.73865
TL	203	25.37000	104186.00000	1.512	25.79090	25.03771	25.28835
U	238	23.55000	409174.00000	1.733	23.18578	23.48580	23.99323
GE-1	72	219626.00000	0.00000	2.361	225188.00000	218766.00000	214923.00000
TB-1	159	450886.00000	0.00000	1.598	458962.00000	445113.00000	448583.00000

Run Name: 1632004E03
 Tube Number: 24
 Sample Number: CCB

Date/Time: 11/15/2016 8:23:00

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	119639.00000	0.00000	1.780	117467.00000	119726.00000	121724.00000
AL	27	-0.81730	86.67010	-30.907	-1.07957	-0.57549	-0.79712
CA	44	-21.72000	1050.08000	-32.459	-17.04074	-18.30561	-29.83487
CR	52	0.19540	563.36800	41.806	0.11194	0.27520	0.19920
FE	57	-1.70900	83.33730	-35.260	-1.75635	-1.08504	-2.28754
K	39	-6.78000	18754.10000	-27.935	-4.59413	-7.90419	-7.84297
MG	24	-0.63160	243.34700	-50.348	-0.27072	-0.75380	-0.87042
MN	55	0.02060	46.66870	51.602	0.03287	0.01474	0.01418
NA	23	-103.30000	76787.30000	-3.039	-103.83477	-100.01628	-106.24052
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.04370	126.67300	5.556	0.04100	0.04570	0.04440
IN-1	115	117163.00000	0.00000	1.411	116264.00000	116154.00000	119071.00000
AG	107	0.00177	23.33420	282.393	0.00337	0.00578	-0.00384
AS	75	0.08377	173.33600	68.497	0.09573	0.13424	0.02135
BA	137	-0.01480	6.66693	-93.784	-0.03083	-0.00650	-0.00710
CD	111	-0.01756	18.00020	-86.617	-0.00055	-0.02985	-0.02229
CO	59	0.00373	116.67200	431.556	0.01066	-0.01468	0.01523
CU	63	0.01518	236.68000	180.369	-0.00160	0.04678	0.00036
MO	98	-0.03061	43.33550	-31.346	-0.03873	-0.02002	-0.03309
NI	60	0.03743	90.00420	59.658	0.03798	0.05948	0.01482
SB	121	0.13670	126.67200	6.781	0.14203	0.14218	0.12605
SN	120	0.02879	93.33780	49.496	0.04093	0.01310	0.03232
SR	88	-0.00529	20.00100	-170.937	0.00389	-0.01419	-0.00558
ZN	66	0.01794	70.00320	344.816	0.08146	-0.04212	0.01449
BI-1	209	391007.00000	0.00000	0.482	391477.00000	388932.00000	392610.00000
PB	208	0.00291	213.34400	216.541	-0.00183	0.00050	0.01008
TL	203	-0.00375	10.00040	-63.779	-0.00614	-0.00135	-0.00377
U	238	0.00171	43.33540	18.787	0.00209	0.00154	0.00152
GE-1	72	226454.00000	0.00000	0.654	226722.00000	227783.00000	224857.00000
TB-1	159	451685.00000	0.00000	1.321	457798.00000	445870.00000	451388.00000

Run Name: 1632004E03
 Tube Number: 25
 Sample Number: **8656019**

Date/Time: 11/15/2016 8:24:00
 Batch: 163000639002A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	108509.00000	0.00000	1.098	107200.00000	108800.00000	109528.00000
AL	27	4559.00000	400485.00000	1.286	4623.34088	4543.49291	4509.06354
CA	44	50680.00000	385196.00000	1.743	51613.30403	50557.78601	49858.33448
CR	52	2.98800	5824.90000	2.887	2.89681	3.00001	3.06814
FE	57	97.23000	3877.41000	2.147	99.06562	94.95710	97.65493
K	39	2228.00000	354534.00000	1.062	2242.44964	2241.56864	2201.01262
MG	24	21620.00000	5538410.00000	0.698	21790.77761	21506.35445	21561.75554
MN	55	6117.00000	6467920.00000	2.433	6257.96103	6131.03064	5961.27894
NA	23	20210.00000	11099000.00000	1.078	20326.32076	20347.28275	19959.79553
TI	47	1.10800	46.66890	82.157	2.14992	0.70609	0.46760
V	51	0.16650	296.68400	17.538	0.17793	0.18827	0.13332
IN-1	115	109451.00000	0.00000	1.034	110391.00000	108194.00000	109768.00000
AG	107	0.00299	26.66770	101.439	0.00122	0.00649	0.00125
AS	75	2.60700	542.68300	10.779	2.90169	2.57823	2.34192
BA	137	13.84000	5371.39000	5.118	14.18049	14.31202	13.02473
CD	111	0.45860	230.67100	13.253	0.39063	0.50772	0.47747
CO	59	71.57000	239286.00000	1.238	71.40422	72.53298	70.78570
CU	63	3.30100	8556.53000	4.586	3.26408	3.17217	3.46800
MO	98	-0.00011	86.67130	-29373.400	0.02781	0.00947	-0.03762
NI	60	35.05000	30897.80000	1.791	34.84612	35.75095	34.54455
SB	121	0.02866	36.66810	27.108	0.03260	0.03367	0.01971
SN	120	0.09995	183.34400	7.258	0.10374	0.09159	0.10453
SR	88	68.32000	71109.80000	1.445	67.74795	69.45757	67.74826
ZN	66	31.41000	9620.65000	1.746	31.96941	31.39166	30.87328
BI-1	209	359310.00000	0.00000	1.522	363562.00000	361227.00000	353140.00000
PB	208	0.08534	1206.74000	0.354	0.08526	0.08508	0.08567
TL	203	0.13240	533.36900	32.341	0.08601	0.14070	0.17042
U	238	0.26370	4320.99000	4.460	0.25028	0.26894	0.27200
GE-1	72	212259.00000	0.00000	1.339	213887.00000	213915.00000	208977.00000
TB-1	159	431473.00000	0.00000	1.723	440049.00000	427537.00000	426834.00000

Run Name: 1632004E03
 Tube Number: 26
 Sample Number: 8656020

Date/Time: 11/15/2016 8:26:00
 Batch: 163000639002A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	105894.00000	0.00000	0.937	106442.00000	104749.00000	106492.00000
AL	27	4457.00000	382126.00000	0.791	4453.95314	4493.42591	4423.06576
CA	44	49730.00000	368938.00000	0.871	49917.91035	50035.30515	49233.16543
CR	52	2.94600	5608.10000	7.081	2.97153	2.72663	3.14159
FE	57	40.40000	1653.52000	4.094	40.62576	38.64598	41.93149
K	39	2209.00000	343124.00000	0.967	2227.46136	2213.42540	2185.51178
MG	24	21530.00000	5382710.00000	1.079	21474.19690	21786.68160	21332.53383
MN	55	5956.00000	6146450.00000	1.646	5932.09390	6063.61508	5871.83824
NA	23	20080.00000	10764200.00000	0.874	20223.19434	20140.35616	19886.48916
TI	47	0.48500	20.00100	50.804	0.24058	0.73340	0.48095
V	51	0.17130	296.68100	14.209	0.14504	0.17589	0.19308
IN-1	115	108952.00000	0.00000	2.289	111511.00000	106527.00000	108818.00000
AG	107	0.00125	20.00080	195.056	0.00368	-0.00121	0.00130
AS	75	2.17000	474.01300	10.493	2.00346	2.42968	2.07755
BA	137	13.01000	5024.57000	5.781	12.26279	13.76709	13.00884
CD	111	0.43410	218.67000	6.132	0.40362	0.45252	0.44630
CO	59	69.13000	229970.00000	2.916	66.91638	70.86257	69.60390
CU	63	3.11000	8029.45000	2.777	3.04080	3.20671	3.08210
MO	98	-0.03967	26.66800	-48.399	-0.05091	-0.05060	-0.01750
NI	60	34.30000	30099.30000	2.803	34.01484	35.37531	33.51818
SB	121	0.04608	50.00220	100.304	0.09700	0.03451	0.00675
SN	120	0.07633	150.01000	45.212	0.03694	0.10120	0.09086
SR	88	64.99000	67366.00000	1.639	66.19507	64.16143	64.62677
ZN	66	29.58000	9016.83000	4.314	28.67691	31.04142	29.02786
BI-1	209	357461.00000	0.00000	0.693	358544.00000	354628.00000	359212.00000
PB	208	0.07710	1100.06000	1.418	0.07765	0.07782	0.07585
TL	203	0.11700	473.36300	22.863	0.14440	0.09095	0.11562
U	238	0.26130	4260.94000	3.265	0.25194	0.26342	0.26862
GE-1	72	208506.00000	0.00000	0.148	208542.00000	208182.00000	208794.00000
TB-1	159	427646.00000	0.00000	1.605	431153.00000	432047.00000	419739.00000

Run Name: 1632004E03
 Tube Number: 27
 Sample Number: 8656021

Date/Time: 11/15/2016 8:28:00
 Batch: 163000639002A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	111635.00000	0.00000	0.490	112260.00000	111242.00000	111403.00000
AL	27	18.14000	1793.52000	7.370	16.67042	19.28257	18.47569
CA	44	118900.00000	928524.00000	3.146	123158.83731	117441.43297	116123.09354
CR	52	0.24240	616.70900	37.075	0.25260	0.14790	0.32678
FE	57	14.12000	703.38500	24.922	11.66457	18.15126	12.54311
K	39	3305.00000	532082.00000	1.524	3256.00859	3303.42042	3356.68298
MG	24	34050.00000	8973630.00000	0.600	33822.68523	34101.98397	34220.64414
MN	55	2777.00000	3021600.00000	2.074	2715.55733	2786.45966	2829.62405
NA	23	21560.00000	12172300.00000	0.266	21516.21091	21537.01515	21624.49240
TI	47	0.38290	16.66750	69.600	0.22811	0.69061	0.22986
V	51	0.17160	313.35000	15.035	0.19447	0.17681	0.14365
IN-1	115	108401.00000	0.00000	0.093	108325.00000	108364.00000	108515.00000
AG	107	0.00046	16.66730	648.867	-0.00126	0.00390	-0.00126
AS	75	0.11210	164.66900	110.972	0.25572	0.04096	0.03952
BA	137	30.46000	11696.00000	2.518	31.34243	30.07862	29.95807
CD	111	0.20860	117.33500	13.730	0.19679	0.18771	0.24123
CO	59	6.94900	23098.00000	3.550	7.19162	6.69852	6.95825
CU	63	0.14550	546.69800	9.746	0.15897	0.14694	0.13072
MO	98	0.06721	186.67600	70.570	0.07618	0.10951	0.01594
NI	60	4.67600	4127.49000	6.349	5.01641	4.54388	4.46870
SB	121	0.02910	36.66840	69.966	0.00687	0.03358	0.04685
SN	120	0.11130	196.67600	7.632	0.10640	0.10635	0.12109
SR	88	112.30000	115800.00000	0.563	112.87924	111.64281	112.48383
ZN	66	1.40700	483.36400	17.377	1.59585	1.13056	1.49329
BI-1	209	350784.00000	0.00000	1.373	356302.00000	347409.00000	348642.00000
PB	208	0.01398	323.34900	30.515	0.00914	0.01561	0.01719
TL	203	0.03450	153.34000	14.815	0.03826	0.02868	0.03657
U	238	0.55240	8823.70000	5.867	0.53938	0.58929	0.52852
GE-1	72	208289.00000	0.00000	1.817	211346.00000	204057.00000	209464.00000
TB-1	159	434759.00000	0.00000	1.118	439091.00000	429501.00000	435685.00000

Run Name: 1632004E03
 Tube Number: 28
 Sample Number: **8656022**

Date/Time: 11/15/2016 8:29:00
 Batch: 163000639002A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	108458.00000	0.00000	1.458	109417.00000	106633.00000	109324.00000
AL	27	22.76000	2150.26000	11.542	24.94087	19.84225	23.49417
CA	44	131500.00000	997401.00000	1.191	131733.63235	129809.05936	132910.38871
CR	52	0.36220	826.72800	4.365	0.37573	0.36604	0.34481
FE	57	27.56000	1200.11000	3.294	27.03247	27.03991	28.60853
K	39	3502.00000	546588.00000	0.101	3499.83354	3499.41055	3505.69910
MG	24	37180.00000	9520420.00000	0.853	36965.74746	37547.68308	37037.91674
MN	55	2007.00000	2120900.00000	3.071	1938.47851	2058.22238	2023.66364
NA	23	23100.00000	12659100.00000	2.141	22528.77878	23328.23556	23432.54761
TI	47	0.15600	6.66692	173.205	0.46807	0.00000	0.00000
V	51	0.21160	363.35300	18.563	0.16694	0.22711	0.24078
IN-1	115	108447.00000	0.00000	1.200	109938.00000	107852.00000	107550.00000
AG	107	-0.00040	13.33380	-379.849	-0.00130	0.00134	-0.00124
AS	75	0.12030	166.00300	55.345	0.13181	0.18044	0.04876
BA	137	20.31000	7802.78000	3.738	19.51140	20.38741	21.02332
CD	111	0.13380	84.00100	18.296	0.10891	0.13467	0.15784
CO	59	2.24500	7529.10000	1.340	2.26276	2.26152	2.21003
CU	63	0.14670	550.03500	7.573	0.15950	0.13997	0.14057
MO	98	0.09173	223.34700	19.983	0.07422	0.09019	0.11078
NI	60	2.18500	1956.89000	5.359	2.27192	2.05175	2.23115
SB	121	0.03817	43.33530	142.468	0.00648	0.10096	0.00707
SN	120	0.09397	173.34200	24.433	0.06746	0.10702	0.10742
SR	88	114.00000	117533.00000	1.774	111.68484	114.79041	115.47954
ZN	66	0.86290	320.01600	19.886	1.04613	0.83676	0.70590
BI-1	209	346925.00000	0.00000	1.673	351604.00000	340431.00000	348741.00000
PB	208	0.02016	393.35300	31.741	0.02527	0.02223	0.01298
TL	203	0.04486	190.00900	18.324	0.03621	0.04580	0.05257
U	238	0.59360	9374.13000	4.909	0.57600	0.62724	0.57758
GE-1	72	206256.00000	0.00000	0.897	208162.00000	206138.00000	204467.00000
TB-1	159	435038.00000	0.00000	1.638	436215.00000	427397.00000	441500.00000

Run Name: 1632004E03
 Tube Number: 29
 Sample Number: **8656023**

Date/Time: 11/15/2016 8:31:00
 Batch: 163000639002A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	114499.00000	0.00000	0.645	114226.00000	113935.00000	115335.00000
AL	27	16.92000	1726.85000	2.173	17.32794	16.83405	16.60906
CA	44	62460.00000	500723.00000	0.445	62621.67508	62613.00205	62135.41271
CR	52	0.99510	2143.60000	0.496	0.99105	0.99376	1.00061
FE	57	18.51000	900.07700	6.715	19.55874	17.14023	18.84542
K	39	1981.00000	334638.00000	1.715	2011.42061	1986.41548	1944.20724
MG	24	26900.00000	7271050.00000	1.166	26535.49121	27061.18793	27094.51570
MN	55	0.53600	620.04300	11.830	0.59130	0.46677	0.54984
NA	23	7732.00000	4562400.00000	0.836	7748.87482	7786.41249	7660.56350
TI	47	0.22440	10.00060	99.911	0.44838	0.22476	0.00000
V	51	0.14960	286.68200	26.257	0.19054	0.14613	0.11221
IN-1	115	113543.00000	0.00000	1.348	113105.00000	112279.00000	115244.00000
AG	107	0.00686	43.33580	84.771	0.00357	0.01358	0.00343
AS	75	-0.01084	153.33500	-1457.560	0.13889	-0.17599	0.00457
BA	137	55.74000	22407.70000	1.123	56.33794	55.08849	55.78286
CD	111	0.01382	32.00030	166.498	0.02681	0.02741	-0.01275
CO	59	0.03842	233.34500	28.735	0.03492	0.02956	0.05079
CU	63	0.10680	470.02700	32.762	0.12631	0.12776	0.06644
MO	98	-0.02332	53.33540	-69.683	-0.00622	-0.02518	-0.03856
NI	60	0.31010	336.68500	16.462	0.26055	0.30720	0.36253
SB	121	0.01418	26.66770	104.866	0.03134	0.00593	0.00527
SN	120	0.12360	223.34500	14.442	0.14338	0.10861	0.11896
SR	88	72.06000	77797.60000	2.334	73.19293	72.85493	70.12648
ZN	66	1.37700	496.69600	25.410	1.77447	1.24442	1.11371
BI-1	209	367866.00000	0.00000	0.659	370612.00000	366010.00000	366977.00000
PB	208	0.01509	353.35000	22.644	0.01382	0.01896	0.01249
TL	203	0.00230	33.33470	65.289	0.00140	0.00403	0.00147
U	238	0.14810	2490.39000	4.662	0.14107	0.15487	0.14846
GE-1	72	215611.00000	0.00000	0.272	214975.00000	215725.00000	216132.00000
TB-1	159	447929.00000	0.00000	0.858	452213.00000	446800.00000	444775.00000

Run Name: 1632004E03
 Tube Number: 30
 Sample Number: **8656023**

Date/Time: 11/15/2016 8:33:00
 Batch: 163000639002A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 10.00

Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	117146.00000	0.00000	1.745	117405.00000	114985.00000	119049.00000
AL	27	2.29200	380.02000	28.394	2.91983	1.62038	2.33697
CA	44	6282.00000	52610.00000	1.238	6242.35667	6371.94522	6232.66205
CR	52	0.30830	783.39600	15.598	0.28694	0.27466	0.36342
FE	57	-0.06359	150.00800	-650.731	0.40937	-0.24136	-0.35877
K	39	183.90000	49443.90000	3.102	186.48260	187.84065	177.35239
MG	24	2908.00000	804606.00000	1.193	2879.99755	2946.92305	2897.57612
MN	55	0.11180	150.00700	20.233	0.13777	0.09647	0.10112
NA	23	656.30000	520381.00000	1.991	651.55098	671.03227	646.20032
TI	47	0.21610	10.00060	99.537	0.21811	0.00000	0.43022
V	51	0.06842	163.34300	16.633	0.06598	0.08082	0.05846
IN-1	115	115502.00000	0.00000	1.993	116224.00000	112925.00000	117356.00000
AG	107	0.00100	20.00080	9.707	0.00097	0.00111	0.00092
AS	75	-0.17730	129.33500	-28.071	-0.22861	-0.12924	-0.17412
BA	137	5.24400	2153.60000	8.255	5.24604	5.67552	4.80977
CD	111	-0.00582	23.33350	-80.182	-0.00053	-0.00757	-0.00936
CO	59	-0.00982	66.66920	-47.566	-0.00906	-0.00558	-0.01483
CU	63	0.02896	270.01200	61.533	0.03556	0.04253	0.00878
MO	98	-0.02802	46.66870	-57.994	-0.04495	-0.01255	-0.02657
NI	60	0.08836	136.67400	75.679	0.03801	0.06285	0.16424
SB	121	0.00937	23.33480	75.424	0.01751	0.00578	0.00482
SN	120	0.05283	126.67400	43.574	0.05490	0.02885	0.07475
SR	88	7.16500	7889.40000	4.117	6.98355	7.50521	7.00578
ZN	66	0.43710	203.34300	23.702	0.32910	0.53555	0.44660
BI-1	209	388577.00000	0.00000	0.882	389438.00000	384800.00000	391495.00000
PB	208	0.00755	273.34800	30.225	0.00500	0.00826	0.00939
TL	203	-0.00217	16.66760	-167.697	-0.00136	-0.00614	0.00099
U	238	0.01420	263.35000	24.007	0.01226	0.01813	0.01219
GE-1	72	226169.00000	0.00000	0.459	225481.00000	227363.00000	225662.00000
TB-1	159	451126.00000	0.00000	1.006	454457.00000	445955.00000	452967.00000

Run Name: 1632004E03
 Tube Number: 31
 Sample Number: LLC

Date/Time: 11/15/2016 8:34:00

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	115467.00000	0.00000	0.295	115578.00000	115084.00000	115739.00000
AL	27	189.20000	17842.60000	0.886	187.30767	190.48407	189.82444
CA	44	395.20000	4377.59000	3.889	402.60748	377.57682	405.54051
CR	52	3.93200	8106.21000	5.173	3.82698	4.16611	3.80186
FE	57	198.90000	8286.28000	1.786	197.20786	196.59708	203.03384
K	39	367.00000	78166.30000	1.462	370.55485	369.58572	360.81432
MG	24	197.80000	54315.90000	1.973	197.44508	194.01144	201.79730
MN	55	4.01800	4544.30000	4.139	3.93165	3.91296	4.20989
NA	23	263.70000	286198.00000	2.002	261.67993	269.70701	259.75563
TI	47	29.28000	1320.13000	5.372	30.79885	29.37331	27.65793
V	51	0.88980	1456.81000	5.756	0.94809	0.86961	0.85183
IN-1	115	116982.00000	0.00000	1.563	115265.00000	116775.00000	118906.00000
AG	107	0.94420	3970.79000	5.666	0.98498	0.88366	0.96410
AS	75	3.68800	754.02900	2.953	3.74459	3.75793	3.56297
BA	137	3.93400	1640.18000	8.271	4.30906	3.76893	3.72455
CD	111	0.95440	484.68000	7.246	0.95916	1.02113	0.88305
CO	59	0.91110	3357.25000	2.076	0.92889	0.89125	0.91334
CU	63	3.79000	10468.00000	4.332	3.93246	3.61065	3.82799
MO	98	0.93680	1606.84000	6.537	0.95949	0.98351	0.86749
NI	60	3.92700	3747.35000	6.341	4.16046	3.95675	3.66515
SB	121	2.09800	1710.19000	7.531	2.26639	2.07562	1.95283
SN	120	3.99800	5821.65000	5.468	4.04275	4.19142	3.76108
SR	88	1.90400	2143.59000	1.789	1.86585	1.91350	1.93187
ZN	66	28.46000	9317.04000	5.914	30.35938	27.86855	27.15341
BI-1	209	388528.00000	0.00000	0.899	384776.00000	389119.00000	391688.00000
PB	208	1.99200	26592.70000	1.748	2.03155	1.96500	1.98046
TL	203	0.91630	3850.78000	3.826	0.95414	0.90994	0.88491
U	238	0.90250	15961.40000	2.902	0.91065	0.92366	0.87320
GE-1	72	221615.00000	0.00000	1.679	217739.00000	225157.00000	221950.00000
TB-1	159	448702.00000	0.00000	0.525	451227.00000	448317.00000	446561.00000

Run Name: 1632004E03
 Tube Number: 32
 Sample Number: ICSA

Date/Time: 11/15/2016 8:36:00

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	84147.70000	0.00000	1.900	82752.30000	85892.20000	83798.70000
AL	27	101200.00000	6890030.00000	1.380	100818.76950	99979.48222	102707.25975
CA	44	329100.00000	1935190.00000	1.908	332174.48608	321919.34421	333322.15814
CR	52	3.25800	4914.44000	1.164	3.27071	3.28799	3.21537
FE	57	265500.00000	7912040.00000	1.688	265905.78075	260869.64021	269807.89844
K	39	109500.00000	12833600.00000	1.849	109830.50620	107307.71961	111313.69228
MG	24	105100.00000	20883800.00000	1.972	104598.36763	103385.36929	107425.02224
MN	55	38.82000	31853.30000	1.084	39.30803	38.55316	38.60856
NA	23	283300.00000	119357000.00000	1.321	286852.09575	279391.45027	283613.06777
TI	47	2406.00000	79042.80000	2.600	2456.06610	2335.94431	2426.28931
V	51	0.15480	216.67700	31.350	0.12546	0.12816	0.21084
IN-1	115	91175.60000	0.00000	0.494	90966.80000	91692.60000	90867.50000
AG	107	0.18410	613.37600	15.937	0.15583	0.18198	0.21441
AS	75	0.78780	223.33700	26.225	1.00413	0.59258	0.76669
BA	137	3.91700	1273.45000	12.007	3.85269	3.48287	4.41674
CD	111	0.45950	192.67000	11.906	0.41082	0.51869	0.44885
CO	59	2.62900	7399.07000	3.077	2.65421	2.69376	2.53811
CU	63	1.54400	3413.91000	3.547	1.49859	1.52852	1.60481
MO	98	2180.00000	2747130.00000	0.992	2189.78286	2154.95705	2194.55643
NI	60	1.31900	1010.09000	1.276	1.30875	1.33861	1.31023
SB	121	0.10190	76.67050	23.827	0.07564	0.10647	0.12354
SN	120	0.13620	193.34300	26.792	0.11570	0.11451	0.17830
SR	88	3.42200	2987.13000	7.355	3.18002	3.68245	3.40348
ZN	66	2.70800	736.72000	18.623	2.88678	3.09774	2.13819
BI-1	209	273077.00000	0.00000	1.342	268845.00000	275190.00000	275197.00000
PB	208	0.32200	3123.61000	3.326	0.31062	0.32339	0.33190
TL	203	0.00975	46.66860	105.652	0.00771	0.00063	0.02091
U	238	0.01000	133.34000	54.051	0.00827	0.01605	0.00567
GE-1	72	170599.00000	0.00000	0.328	171237.00000	170193.00000	170366.00000
TB-1	159	306480.00000	0.00000	0.965	304025.00000	309762.00000	305653.00000

Run Name: 1632004E03
 Tube Number: 33
 Sample Number: ICSAB

Date/Time: 11/15/2016 8:38:00

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	87063.00000	0.00000	0.945	87856.30000	87119.20000	86213.60000
AL	27	98420.00000	6934900.00000	1.236	97592.86628	97843.53433	99813.26018
CA	44	323900.00000	1970380.00000	2.038	316901.02980	324683.94091	330027.10443
CR	52	207.40000	316650.00000	1.609	203.55422	209.75805	208.78953
FE	57	260700.00000	8036540.00000	1.005	257656.60261	261765.71348	262529.01102
K	39	106500.00000	12917400.00000	0.381	106192.56126	106324.19577	106952.24145
MG	24	102600.00000	21088900.00000	1.073	101845.48532	102108.66576	103870.07709
MN	55	245.00000	207928.00000	0.711	243.74769	247.00317	244.30328
NA	23	277100.00000	120820000.00000	1.132	273531.49819	279339.18307	278485.79529
TI	47	2305.00000	78352.90000	0.750	2309.26003	2285.34726	2318.93154
V	51	211.90000	251970.00000	2.133	207.42553	216.45882	211.66714
IN-1	115	93139.60000	0.00000	1.235	91993.40000	93132.90000	94292.60000
AG	107	43.31000	144433.00000	1.212	43.75352	43.44785	42.73128
AS	75	92.24000	11963.00000	2.458	93.15521	93.90627	89.65813
BA	137	3.77100	1253.44000	6.240	3.80929	3.51956	3.98550
CD	111	86.98000	33284.40000	1.616	88.25294	87.23053	85.47310
CO	59	183.40000	521540.00000	2.196	185.62554	185.78809	178.73302
CU	63	166.90000	360183.00000	1.868	169.18466	168.07027	163.31455
MO	98	2170.00000	2793910.00000	1.999	2161.92445	2217.11286	2131.54933
NI	60	177.60000	133074.00000	1.498	180.66381	175.75438	176.42726
SB	121	0.05781	50.00200	26.258	0.04310	0.07342	0.05691
SN	120	0.16390	230.01600	35.662	0.10521	0.16439	0.22210
SR	88	3.19700	2853.76000	9.184	2.85835	3.36534	3.36827
ZN	66	81.55000	21167.90000	2.235	83.41167	81.46122	79.76891
BI-1	209	278173.00000	0.00000	1.076	280110.00000	279683.00000	274726.00000
PB	208	0.31580	3123.63000	10.725	0.35409	0.28970	0.30369
TL	203	0.01061	50.00320	55.410	0.00383	0.01383	0.01419
U	238	0.01350	180.00900	29.037	0.01733	0.00950	0.01368
GE-1	72	174962.00000	0.00000	0.952	173906.00000	176881.00000	174098.00000
TB-1	159	314167.00000	0.00000	1.055	314817.00000	317110.00000	310575.00000

Run Name: 1632004E03
 Tube Number: 34
 Sample Number: RINSE

Date/Time: 11/15/2016 8:39:00

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	113007.00000	0.00000	1.112	113079.00000	111716.00000	114227.00000
AL	27	5.11000	623.37200	18.483	5.71941	5.58890	4.02217
CA	44	14.61000	1280.12000	120.602	28.53512	-5.20194	20.50158
CR	52	0.21840	576.70400	6.223	0.20485	0.21844	0.23202
FE	57	17.23000	836.72600	10.575	19.29495	16.54194	15.85006
K	39	6.14000	19752.30000	45.309	8.26177	2.99053	7.16712
MG	24	4.90300	1706.85000	12.091	5.47138	4.94970	4.28864
MN	55	0.04700	73.33690	61.894	0.08027	0.02638	0.03436
NA	23	-97.77000	75688.00000	-6.806	-91.12341	-97.75866	-104.43157
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	-0.01651	26.66770	-45.239	-0.00789	-0.02068	-0.02097
IN-1	115	114748.00000	0.00000	1.265	113077.00000	115689.00000	115479.00000
AG	107	0.00102	20.00100	627.701	-0.00137	-0.00384	0.00826
AS	75	-0.07001	145.33500	-215.683	0.10067	-0.12472	-0.18599
BA	137	-0.02249	3.33347	-64.162	-0.00584	-0.03083	-0.03083
CD	111	-0.00976	21.33350	-88.119	-0.01194	-0.00028	-0.01705
CO	59	-0.00502	83.33670	-82.082	-0.00851	-0.00047	-0.00609
CU	63	0.06610	366.69000	65.280	0.11109	0.06218	0.02505
MO	98	0.51390	906.73500	11.864	0.46087	0.58050	0.50021
NI	60	0.08992	136.67300	50.367	0.10667	0.12444	0.03863
SB	121	0.00113	16.66730	2314.390	-0.00705	-0.01986	0.03029
SN	120	0.01401	70.00300	272.948	0.05743	-0.00071	-0.01468
SR	88	-0.01090	13.33410	-130.550	0.00466	-0.02325	-0.01414
ZN	66	0.23130	136.67200	5.530	0.21652	0.23827	0.23906
BI-1	209	387524.00000	0.00000	0.545	389072.00000	385119.00000	388381.00000
PB	208	0.00306	213.34300	122.295	0.00351	-0.00089	0.00655
TL	203	0.00027	26.66780	521.707	-0.00135	0.00111	0.00105
U	238	0.00155	40.00280	73.027	0.00267	0.00156	0.00041
GE-1	72	220581.00000	0.00000	2.079	215431.00000	222093.00000	224220.00000
TB-1	159	448153.00000	0.00000	0.275	447402.00000	449573.00000	447484.00000

Run Name: 1632004E03
 Tube Number: 35
 Sample Number: **CCV**

Date/Time: 11/15/2016 8:41:00

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	114974.00000	0.00000	0.686	115034.00000	115731.00000	114157.00000
AL	27	2465.00000	229569.00000	0.844	2466.86654	2443.73648	2485.25754
CA	44	2460.00000	20940.70000	1.520	2455.59695	2425.02713	2499.43302
CR	52	242.40000	488809.00000	1.847	242.59622	237.85223	246.79806
FE	57	2526.00000	103008.00000	2.482	2561.36116	2453.93247	2563.62907
K	39	2417.00000	405913.00000	0.928	2434.63668	2425.12788	2391.90790
MG	24	2495.00000	677701.00000	2.191	2551.45900	2442.23903	2492.43786
MN	55	247.90000	277791.00000	0.607	248.33487	246.20436	249.10948
NA	23	2480.00000	1560030.00000	1.165	2474.48253	2454.50647	2511.46560
TI	47	264.80000	11889.20000	2.127	258.34275	268.74150	267.28554
V	51	232.10000	364588.00000	0.978	232.76837	229.60016	233.99892
IN-1	115	116243.00000	0.00000	1.182	117366.00000	116652.00000	114710.00000
AG	107	25.43000	105873.00000	0.246	25.41362	25.50407	25.38394
AS	75	241.00000	38760.00000	0.369	241.81269	241.12754	240.04865
BA	137	243.90000	100346.00000	3.354	243.90458	235.80454	252.16399
CD	111	25.02000	11971.10000	0.685	25.15588	25.08451	24.83011
CO	59	239.70000	850887.00000	1.731	243.50094	235.26791	240.30347
CU	63	240.90000	649120.00000	1.738	244.18648	236.21465	242.42388
MO	98	24.78000	39900.30000	1.366	24.39100	25.02599	24.91255
NI	60	245.80000	229902.00000	0.766	248.00415	245.03280	244.51776
SB	121	25.39000	20397.30000	2.708	24.82027	25.19571	26.15370
SN	120	24.79000	35608.40000	2.193	24.21155	24.86864	25.29048
SR	88	24.89000	27533.90000	0.713	24.70252	24.91725	25.05469
ZN	66	253.40000	81953.60000	1.129	252.35032	251.13579	256.58487
BI-1	209	387151.00000	0.00000	1.228	386310.00000	382872.00000	392271.00000
PB	208	25.52000	337436.00000	1.247	25.88464	25.39570	25.28751
TL	203	25.29000	105226.00000	3.044	25.50429	25.93192	24.43725
U	238	23.09000	406657.00000	1.384	23.37410	23.15824	22.74535
GE-1	72	223046.00000	0.00000	0.301	223684.00000	222346.00000	223109.00000
TB-1	159	449952.00000	0.00000	0.818	453500.00000	450201.00000	446155.00000

Run Name: 1632004E03
 Tube Number: 36
 Sample Number: CCB

Date/Time: 11/15/2016 8:43:00

Note: All Analyte values are in ppb, except Internal Standards.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	45	119127.00000	0.00000	0.293	119281.00000	118727.00000	119372.00000
AL	27	0.40020	203.37600	203.248	0.15382	1.30829	-0.26161
CA	44	-9.64900	1146.77000	-114.001	-19.02395	-12.39366	2.46755
CR	52	0.15390	473.36200	44.321	0.18086	0.07636	0.20456
FE	57	0.27050	166.67500	129.797	0.34495	-0.11187	0.57851
K	39	-5.42100	18901.00000	-128.740	-13.21856	0.24570	-3.29319
MG	24	0.50650	563.36900	27.167	0.34989	0.60827	0.56141
MN	55	0.01494	40.00150	115.997	0.01487	0.03231	-0.00235
NA	23	-128.60000	61414.30000	-3.026	-125.51624	-127.33855	-132.98157
TI	47	0.21490	10.00060	99.814	0.00000	0.21568	0.42905
V	51	0.00511	63.33650	301.252	0.02145	-0.00912	0.00301
IN-1	115	118386.00000	0.00000	0.896	119557.00000	118114.00000	117488.00000
AG	107	0.00168	23.33420	83.821	0.00084	0.00089	0.00330
AS	75	0.07086	173.33600	315.270	0.29649	0.06642	-0.15033
BA	137	0.00092	13.33390	1457.230	0.01645	-0.00690	-0.00678
CD	111	0.00807	30.66700	262.147	0.00202	0.03159	-0.00941
CO	59	0.00348	116.67200	83.525	0.00683	0.00172	0.00188
CU	63	0.02274	260.01400	155.189	0.01812	-0.01001	0.06012
MO	98	0.03841	156.67500	26.451	0.02732	0.04061	0.04729
NI	60	0.04334	96.67140	38.533	0.02493	0.05753	0.04756
SB	121	0.17590	160.00800	19.090	0.16179	0.15175	0.21429
SN	120	0.05324	130.00800	12.553	0.05238	0.06032	0.04703
SR	88	-0.01436	10.00040	-0.553	-0.01445	-0.01434	-0.01429
ZN	66	-0.07546	40.00230	-40.048	-0.07661	-0.04469	-0.10510
BI-1	209	400165.00000	0.00000	0.523	400437.00000	397949.00000	402108.00000
PB	208	0.00329	223.34300	32.969	0.00450	0.00240	0.00297
TL	203	-0.00150	20.00080	-310.695	0.00316	-0.00614	-0.00151
U	238	0.00221	53.33560	57.408	0.00367	0.00149	0.00146
GE-1	72	228049.00000	0.00000	1.207	230237.00000	224957.00000	228951.00000
TB-1	159	461711.00000	0.00000	1.507	469733.00000	458083.00000	457316.00000



Instrument Tuning Report

(ICPMS #11332)

File Name: default.tun
 File Path: C:\elandata\Tuning
 Sample Date/Time: 11/15/2016 3:12:00AM
 Number of Replicates: 6
 Method File: c:\elandata\Method\dailytune.mth

Measured Mass must be within +/- 0.1 amu of the Exact Mass.

Measured Peak Width must be > or = to 0.640 AND < or = to 0.660.

Analyte	EXACT MASS	MEAS. MASS	Mass DAC	RES. DAC	MEAS. PK. WIDTH
Ce	140.000	140.050	0	0	0.650
In	115.000	115.050	0	0	0.650
Li	6.000	6.050	0	0	0.650
Mg	24.000	24.050	0	0	0.650
Pb	208.000	208.000	0	0	0.600
Rh	103.000	103.050	0	0	0.650
U	238.000	237.950	0	0	0.600

Summary: Verify that the RSD is less than 5 for the following masses.

Mass	Meas. Intens. Mean	Meas. Intens. RSD
140.000	73109.000	1.330
115.000	72383.000	0.370
6.000	43097.000	1.330
24.000	32819.000	3.770
208.000	51239.000	1.190
103.000	59992.000	0.710
238.000	111921.000	1.290

Extraction/Distillation/Digestion Logs

Metals in Liquid

Balance ID#: CLEAR Start Time: 10/26/16 7:13 End Time: 10/27/16 11:35 Hot Block: 15

Pipette ID: JU06758

Reflux Cap Lot#: 15123296157TK

<u>Spike/Reagent</u>	<u>Lot#</u>	<u>Volume Added(mL)</u>
HNO3	137345	3.00
ICP/MS Spike	1626528#2	0.50
LCS	1626528#2	0.50

Method Ref: SW-846 3020A

SampleID	Date Due	C	ST	P	H	PH<2	BC	Vessel Lot#	Comments
1) PBW	.							1605323	
2) LCSW	.							1605323	
3) 8656013	11/02/16 09:30		WW	N8			008a	1605323	
4) 8656014	11/02/16 09:30		WW	N8			008a	1605323	
5) 8656015U	11/02/16 09:30		WW	N8			008a	1605323	
6) 8656016R	11/02/16 09:30		WW	N8			008a	1605323	
7) 8656017M	11/02/16 09:30		WW	N8			008a	1605323	
8) 8656018D	11/02/16 09:30		WW	N8			008a	1605323	
9) 8656019	11/02/16 09:30		WW	N8			008a	1605323	
10) 8656020FD	11/02/16 09:30		WW	N8			008a	1605323	
11) 8656021	11/02/16 09:30		WW	N8			008a	1605323	
12) 8656022	11/02/16 09:30		WW	N8			008a	1605323	
13) 8656023	11/02/16 09:30		WW	N8			008a	1605323	

Prep Employee: 1184

10/27/2016

v 1.0.1



Batch# 16 300 0639 002

LLENS Batch Chronology and Change Log - ICP/MS SW846 Water

	<u>Operation</u>	<u>Instrument</u>	<u>Operation Date</u>	<u>ANALYST</u>
1)	Batch Creation		10/26/16 16:25	1184
2)	Sample Vol		10/26/16 21:00	8163
3)	Final Vol	CLEAR	10/26/16 21:00	8163
4)	Trial		10/26/16 21:00	8163
5)	Trial		10/26/16 21:00	8163
6)	Upload Prep	US19PCC0678	10/27/16 11:35	1184

<u>Sample ID</u>	<u>Analysis</u>	<u>D</u>	<u>Operation</u>	<u>Measurement</u>	<u>Original Entry</u>				<u>Data Changed</u>	
					<u>Date/Time</u>	<u>Data</u>	<u>Units</u>	<u>Analyst</u>	<u>Date/Time</u>	<u>Analyst Reason</u>

Analysis: 0639 ICP/MS SW846 Water

Batch# 16 300 0639 002

<u>Sample ID</u>	<u>Due Date</u>	<u>P</u>	<u>EPA#</u>	<u>SDG#</u>	<u>Initial Volume</u>	<u>Final Volume</u>	<u>Trial</u>
PBW					50.0000	50.0000	1
LCSW					1.0000	1.0000	1
8656013	11/02/16	N8	R7401	RAE74-01	50.0000	50.0000	1
8656014	11/02/16	N8	R7402	RAE74-02	50.0000	50.0000	1
8656015U	11/02/16	N8	R7403	RAE74-03BKG	50.0000	50.0000	1
8656016R	11/02/16	N8	R7403	RAE74-03MS	50.0000	50.0000	1
8656017M	11/02/16	N8	R7403	RAE74-03MSD	50.0000	50.0000	1
8656018D	11/02/16	N8	R7403	RAE74-03DUP	50.0000	50.0000	1
8656019	11/02/16	N8	R7404	RAE74-04	50.0000	50.0000	1
8656020FD	11/02/16	N8	R7405	RAE74-05FD	50.0000	50.0000	1
8656021	11/02/16	N8	R7406	RAE74-06	50.0000	50.0000	1
8656022	11/02/16	N8	R7407	RAE74-07	50.0000	50.0000	1
8656023	11/02/16	N8	R7408	RAE74-08	50.0000	50.0000	1

Type I Data Package

Prepared for:

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

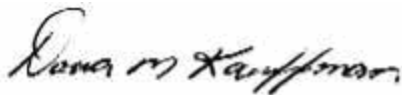
Project: RAAP - Radford, VA - HWMU16
Groundwater and Water Samples
Collected on 10/24/16-10/25/16

SDG# RAE76

GROUP	SAMPLE NUMBERS
1726011	8666264-8666278

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by:



Date: 12/07/2016

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Barbara Weyandt at (717) 556-7264.

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f. Extraction/Distillation/Digestion Logs	882

**Sample Reference List for SDG Number RAE76
with a Data Package Type of I**

11200 - Draper Aden Associates, Inc.
Project: RAAP - Radford, VA - HWMU16

Lab Sample Number	Client Sample ID	Collection Date	Date Received
8666264	16C1	10/25/2016 14:30	10/27/2016 09:30
8666265	16MW8	10/24/2016 12:50	10/27/2016 09:30
8666266	16MW9	10/25/2016 13:00	10/27/2016 09:30
8666267	16WC1A	10/25/2016 11:45	10/27/2016 09:30
8666268	16WC1A MS	10/25/2016 11:45	10/27/2016 09:30
8666269	16WC1A MSD	10/25/2016 11:45	10/27/2016 09:30
8666270	16WDUP	10/25/2016 12:00	10/27/2016 09:30
8666271	16WC1B	10/25/2016 10:55	10/27/2016 09:30
8666272	16-2	10/24/2016 11:55	10/27/2016 09:30
8666273	16-3	10/24/2016 13:55	10/27/2016 09:30
8666274	16-5	10/24/2016 09:40	10/27/2016 09:30
8666275	16WC2B	10/24/2016 10:50	10/27/2016 09:30
8666276	16SPRING	10/24/2016 10:00	10/27/2016 09:30
8666277	Trip Blank_1	10/24/2016 00:00	10/27/2016 09:30
8666278	Trip Blank_2	10/24/2016 00:00	10/27/2016 09:30

Sample pH Log

SDG: RAE76

<u>LLI Sample Number</u>	<u>Bottle Code</u>	<u>Actual pH</u>	<u>Exp. pH</u>	<u>pH Check Code</u>	<u>Adj. pH</u>	<u>Adjusted Date</u>	<u>Adjusted Time</u>	<u>Preservative Added</u>	<u>Preservative Lot #</u>	<u>LLI Supplied Bottle?</u>	<u>Sulfide Present?</u>	<u>Corrective Substance</u>	<u>CS Lot #</u>	<u>Res. Cl. Present?</u>	<u>Corrective Substance</u>	<u>CS Lot #</u>	<u>Record Date</u>	<u>Employee</u>
8666264	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	11/7/2016 11:40:53AM	1973
8666264	038B	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	11/7/2016 3:49:20PM	1973
8666265	038B	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	11/7/2016 3:49:17PM	1973
8666266	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	11/7/2016 11:40:46AM	1973
8666266	038B	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	11/7/2016 3:49:17PM	1973
8666267	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	11/7/2016 11:40:46AM	1973
8666268	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	11/7/2016 11:40:46AM	1973
8666268	038B	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	11/7/2016 11:40:46AM	1973
8666269	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	11/7/2016 11:40:46AM	1973
8666269	038B	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	11/7/2016 11:40:46AM	1973
8666270	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	11/7/2016 11:40:46AM	1973
8666271	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	11/7/2016 11:40:46AM	1973
8666272	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	11/7/2016 11:40:46AM	1973
8666273	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	11/7/2016 11:40:46AM	1973
8666274	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	11/7/2016 11:40:46AM	1973
8666275	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	11/7/2016 11:40:46AM	1973
8666276	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	11/7/2016 11:40:46AM	1973
8666277	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	11/7/2016 11:40:46AM	1973
8666278	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	11/7/2016 11:40:46AM	1973

Check Code Key

PK = Original container checked - pH is within the correct range. (No preservative was added)
PA = Original container checked - pH adjusted to correct range. (Preservative was added)
PV = Volatile container checked
PC = pH checked (unpreserved container)
SPK = Subsampled from an original container. Original container checked - pH is within correct range
SPA = Subsampled from an original container. Subsample container checked - pH adjusted to correct range.
SPC = Subsampled from an original container. pH checked (unpreserved container).
SUP = Subsampled from original container. Unable to be preserved due to the matrix of the sample.
UP = Unable to preserve due to matrix of the sample.
NA = Not applicable

01163 GC/MS VOA Water Prep

An undiluted aliquot of the water sample or a dilution of the sample is purged with an inert gas and the volatiles are collected on an adsorbent trap that is subsequently desorbed onto a gas chromatographic column.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5030C, May 2003.

11996 VOCs- 25ml Water by 8260C

The water sample is purged and the volatile compounds are collected on a sorbent trap that is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Volatile Organic Compounds by Gas Chromatography/ Mass Spectrometry (GC/MS), SW-846 Method 8260C, August 2006.

11010 8270D BNA Extraction

The sample aliquot is extracted with methylene chloride by either separatory funnel or liquid/liquid apparatus. Extraction is performed at both a pH of 11 and 2. The extract is concentrated prior to analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3510C, Rev 3, December 1996

14241 SVOAs 8270D MINI

The sample extract is analyzed by capillary column Gas Chromatography/Mass Spectrometry.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8270D, February 2007.

Analysis Reports / Field Chain of Custody

ANALYTICAL RESULTS

Prepared by:

Prepared for:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

Report Date: November 09, 2016

Project: RAAP - Radford, VA - HWMU16

Submittal Date: 10/27/2016

Group Number: 1726011

SDG: RAE76

State of Sample Origin: VA

Client Sample Description

16C1 Grab Groundwater
16MW8 Grab Groundwater
16MW9 Grab Groundwater
16WC1A Grab Groundwater
16WC1A MS Grab Groundwater
16WC1A MSD Grab Groundwater
16WDUP Grab Groundwater
16WC1B Grab Groundwater
16-2 Grab Groundwater
16-3 Grab Groundwater
16-5 Grab Groundwater
16WC2B Grab Groundwater
16SPRING Grab Groundwater
Trip Blank_1 Water
Trip Blank_2 Water

Lancaster Labs

(LL) #

8666264
8666265
8666266
8666267
8666268
8666269
8666270
8666271
8666272
8666273
8666274
8666275
8666276
8666277
8666278

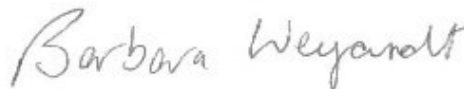
The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To Draper Aden Associates, Inc.
Electronic Copy To Draper Aden Associates, Inc.

Attn: Kathy Olsen
Attn: Janet Frazier

Respectfully Submitted,



Barbara A. Weyandt
Specialist

(717) 556-7264

Project Name: RAAP - Radford, VA - HWMU16
LL Group #: 1726011

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:**SW-846 8260C, GC/MS Volatiles**

Sample #s: 8666264, 8666266, 8666267, 8666270, 8666271, 8666272, 8666273, 8666274, 8666275, 8666276, 8666277, 8666278

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

SW-846 8270D, GC/MS Semivolatiles

Sample #s: 8666264, 8666265, 8666266, 8666267, 8666268, 8666269, 8666270, 8666271, 8666272, 8666273, 8666274, 8666275, 8666276

The surrogate QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

Batch #: 16302WAF026 (Sample number(s): 8666264-8666276 UNSPK: 8666267)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 8666265, 8666271, Blank

Sample Description: 16C1 Grab Groundwater
2016 - 2nd Semiannual Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8666264
LL Group # 1726011
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 10/25/2016 14:30 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/27/2016 09:30

Reported: 11/09/2016 12:40

R7601 SDG#: RAE76-01

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	< 1.0	1.0	1
11996	2-Butanone	78-93-3	< 10	10	1
11996	Carbon Tetrachloride	56-23-5	< 1.0	1.0	1
11996	Chloroethane	75-00-3	3.9	1.0	1
11996	Chloromethane	74-87-3	< 1.0	1.0	1
11996	Dichlorodifluoromethane	75-71-8	< 1.0	1.0	1
11996	1,1-Dichloroethane	75-34-3	6.7	1.0	1
11996	1,1-Dichloroethene	75-35-4	< 1.0	1.0	1
11996	Dimethyl ether	115-10-6	< 13	13	1
11996	Ethyl ether	60-29-7	51	50	4
11996	Ethylbenzene	100-41-4	< 1.0	1.0	1
11996	Freon 113	76-13-1	< 1.0	1.0	1
11996	Methylene Chloride	75-09-2	1.7	1.0	1
11996	Tetrachloroethene	127-18-4	< 1.0	1.0	1
11996	Tetrahydrofuran	109-99-9	< 25	25	1
11996	Toluene	108-88-3	< 1.0	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	< 1.0	1.0	1
11996	Trichloroethene	79-01-6	< 1.0	1.0	1
11996	Trichlorofluoromethane	75-69-4	< 1.0	1.0	1
11996	Xylene (Total)	1330-20-7	< 3.0	3.0	1

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20% criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

GC/MS	Semivolatiles	SW-846 8270D	ug/l	ug/l	
14241	Diethylphthalate	84-66-2	< 5.0	5.0	1
14241	2,4-Dinitrotoluene	121-14-2	< 5.0	5.0	1
14241	2,6-Dinitrotoluene	606-20-2	< 5.0	5.0	1

The surrogate QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H163101AA	11/05/2016 13:31	Matthew S Krause	1
11996	8260C (25 ml)	SW-846 8260C	1	H163122AA	11/07/2016 14:40	Kerri E Legerlotz	4
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163101AA	11/05/2016 13:31	Matthew S Krause	1
01163	GC/MS VOA Water Prep	SW-846 5030C	2	H163122AA	11/07/2016 14:40	Kerri E Legerlotz	4
14241	3 SVOCs	SW-846 8270D	1	16302WAF026	10/31/2016 12:00	Holly B Ziegler	1

Sample Description: 16C1 Grab Groundwater
2016 - 2nd Semiannual Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8666264
LL Group # 1726011
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 10/25/2016 14:30 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/27/2016 09:30

Reported: 11/09/2016 12:40

R7601 SDG#: RAE76-01

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11010	8270D BNA Extraction	SW-846 3510C	1	16302WAF026	10/30/2016 08:00	Bradley W VanLeuven	1

Sample Description: 16MW8 Grab Groundwater
2016 - 2nd Semiannual Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8666265
LL Group # 1726011
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 10/24/2016 12:50 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/27/2016 09:30

Reported: 11/09/2016 12:40

R7602 SDG#: RAE76-02

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	< 1.0	1.0	1
11996	2-Butanone	78-93-3	< 10	10	1
11996	Carbon Tetrachloride	56-23-5	< 1.0	1.0	1
11996	Chloroethane	75-00-3	< 1.0	1.0	1
11996	Chloromethane	74-87-3	< 1.0	1.0	1
11996	Dichlorodifluoromethane	75-71-8	< 1.0	1.0	1
11996	1,1-Dichloroethane	75-34-3	< 1.0	1.0	1
11996	1,1-Dichloroethene	75-35-4	< 1.0	1.0	1
11996	Dimethyl ether	115-10-6	< 13	13	1
11996	Ethyl ether	60-29-7	< 13	13	1
11996	Ethylbenzene	100-41-4	< 1.0	1.0	1
11996	Freon 113	76-13-1	< 1.0	1.0	1
11996	Methylene Chloride	75-09-2	< 1.0	1.0	1
11996	Tetrachloroethene	127-18-4	< 1.0	1.0	1
11996	Tetrahydrofuran	109-99-9	< 25	25	1
11996	Toluene	108-88-3	< 1.0	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	< 1.0	1.0	1
11996	Trichloroethene	79-01-6	< 1.0	1.0	1
11996	Trichlorofluoromethane	75-69-4	< 1.0	1.0	1
11996	Xylene (Total)	1330-20-7	< 3.0	3.0	1
GC/MS	Semivolatiles	SW-846 8270D	ug/l	ug/l	
14241	Diethylphthalate	84-66-2	< 5.1	5.1	1
14241	2,4-Dinitrotoluene	121-14-2	< 5.1	5.1	1
14241	2,6-Dinitrotoluene	606-20-2	< 5.1	5.1	1

The surrogate QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H163122AA	11/07/2016 12:39	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163122AA	11/07/2016 12:39	Kerri E Legerlotz	1
14241	3 SVOCs	SW-846 8270D	1	16302WAF026	10/31/2016 12:28	Holly B Ziegler	1
11010	8270D BNA Extraction	SW-846 3510C	1	16302WAF026	10/30/2016 08:00	Bradley W VanLeuven	1

Sample Description: 16MW9 Grab Groundwater
2016 - 2nd Semiannual Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8666266
LL Group # 1726011
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 10/25/2016 13:00 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/27/2016 09:30

Reported: 11/09/2016 12:40

R7603 SDG#: RAE76-03

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	< 1.0	1.0	1
11996	2-Butanone	78-93-3	< 10	10	1
11996	Carbon Tetrachloride	56-23-5	< 1.0	1.0	1
11996	Chloroethane	75-00-3	2.0	1.0	1
11996	Chloromethane	74-87-3	< 1.0	1.0	1
11996	Dichlorodifluoromethane	75-71-8	< 1.0	1.0	1
11996	1,1-Dichloroethane	75-34-3	6.9	1.0	1
11996	1,1-Dichloroethene	75-35-4	< 1.0	1.0	1
11996	Dimethyl ether	115-10-6	< 13	13	1
11996	Ethyl ether	60-29-7	54	50	4
11996	Ethylbenzene	100-41-4	< 1.0	1.0	1
11996	Freon 113	76-13-1	< 1.0	1.0	1
11996	Methylene Chloride	75-09-2	< 1.0	1.0	1
11996	Tetrachloroethene	127-18-4	< 1.0	1.0	1
11996	Tetrahydrofuran	109-99-9	< 25	25	1
11996	Toluene	108-88-3	< 1.0	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	< 1.0	1.0	1
11996	Trichloroethene	79-01-6	< 1.0	1.0	1
11996	Trichlorofluoromethane	75-69-4	< 1.0	1.0	1
11996	Xylene (Total)	1330-20-7	< 3.0	3.0	1

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20% criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

GC/MS	Semivolatiles	SW-846 8270D	ug/l	ug/l	
14241	Diethylphthalate	84-66-2	< 5.0	5.0	1
14241	2,4-Dinitrotoluene	121-14-2	< 5.0	5.0	1
14241	2,6-Dinitrotoluene	606-20-2	< 5.0	5.0	1

The surrogate QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H163101AA	11/05/2016 14:11	Matthew S Krause	1
11996	8260C (25 ml)	SW-846 8260C	1	H163122AA	11/07/2016 15:01	Kerri E Legerlotz	4
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163101AA	11/05/2016 14:11	Matthew S Krause	1
01163	GC/MS VOA Water Prep	SW-846 5030C	2	H163122AA	11/07/2016 15:01	Kerri E Legerlotz	4
14241	3 SVOCs	SW-846 8270D	1	16302WAF026	10/31/2016 12:56	Holly B Ziegler	1

Sample Description: 16MW9 Grab Groundwater
2016 - 2nd Semiannual Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8666266
LL Group # 1726011
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 10/25/2016 13:00 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/27/2016 09:30

Reported: 11/09/2016 12:40

R7603 SDG#: RAE76-03

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11010	8270D BNA Extraction	SW-846 3510C	1	16302WAF026	10/30/2016 08:00	Bradley W VanLeuven	1

Sample Description: 16WC1A Grab Groundwater
2016 - 2nd Semiannual Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8666267
LL Group # 1726011
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 10/25/2016 11:45 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/27/2016 09:30

Reported: 11/09/2016 12:40

R7604 SDG#: RAE76-04BKG

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	< 1.0	1.0	1
11996	2-Butanone	78-93-3	< 10	10	1
11996	Carbon Tetrachloride	56-23-5	< 1.0	1.0	1
11996	Chloroethane	75-00-3	1.1	1.0	1
11996	Chloromethane	74-87-3	< 1.0	1.0	1
11996	Dichlorodifluoromethane	75-71-8	< 1.0	1.0	1
11996	1,1-Dichloroethane	75-34-3	3.6	1.0	1
11996	1,1-Dichloroethene	75-35-4	< 1.0	1.0	1
11996	Dimethyl ether	115-10-6	< 13	13	1
11996	Ethyl ether	60-29-7	24	13	1
11996	Ethylbenzene	100-41-4	< 1.0	1.0	1
11996	Freon 113	76-13-1	< 1.0	1.0	1
11996	Methylene Chloride	75-09-2	< 1.0	1.0	1
11996	Tetrachloroethene	127-18-4	< 1.0	1.0	1
11996	Tetrahydrofuran	109-99-9	< 25	25	1
11996	Toluene	108-88-3	< 1.0	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	< 1.0	1.0	1
11996	Trichloroethene	79-01-6	< 1.0	1.0	1
11996	Trichlorofluoromethane	75-69-4	< 1.0	1.0	1
11996	Xylene (Total)	1330-20-7	< 3.0	3.0	1

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20% criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

GC/MS	Semivolatiles	SW-846 8270D	ug/l	ug/l	
14241	Diethylphthalate	84-66-2	< 5.0	5.0	1
14241	2,4-Dinitrotoluene	121-14-2	< 5.0	5.0	1
14241	2,6-Dinitrotoluene	606-20-2	< 5.0	5.0	1

The surrogate QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H163101AA	11/05/2016 11:49	Matthew S Krause	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163101AA	11/05/2016 11:49	Matthew S Krause	1
14241	3 SVOCs	SW-846 8270D	1	16302WAF026	10/31/2016 13:24	Holly B Ziegler	1
11010	8270D BNA Extraction	SW-846 3510C	1	16302WAF026	10/30/2016 08:00	Bradley W VanLeuven	1

Sample Description: 16WC1A MS Grab Groundwater
2016 - 2nd Semiannual Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8666268
LL Group # 1726011
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 10/25/2016 11:45 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/27/2016 09:30

Reported: 11/09/2016 12:40

R7604 SDG#: RAE76-04MS

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	5.5	1.0	1
11996	2-Butanone	78-93-3	31	10	1
11996	Carbon Tetrachloride	56-23-5	5.0	1.0	1
11996	Chloroethane	75-00-3	5.5	1.0	1
11996	Chloromethane	74-87-3	4.1	1.0	1
11996	Dichlorodifluoromethane	75-71-8	4.2	1.0	1
11996	1,1-Dichloroethane	75-34-3	8.7	1.0	1
11996	1,1-Dichloroethene	75-35-4	5.4	1.0	1
11996	Dimethyl ether	115-10-6	< 13	13	1
11996	Ethyl ether	60-29-7	28 E	13	1
11996	Ethylbenzene	100-41-4	5.2	1.0	1
11996	Freon 113	76-13-1	5.1	1.0	1
11996	Methylene Chloride	75-09-2	5.3	1.0	1
11996	Tetrachloroethene	127-18-4	5.3	1.0	1
11996	Tetrahydrofuran	109-99-9	< 25	25	1
11996	Toluene	108-88-3	5.2	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	4.8	1.0	1
11996	Trichloroethene	79-01-6	5.4	1.0	1
11996	Trichlorofluoromethane	75-69-4	4.5	1.0	1
11996	Xylene (Total)	1330-20-7	16	3.0	1
GC/MS	Semivolatiles	SW-846 8270D	ug/l	ug/l	
14241	Diethylphthalate	84-66-2	48	5.0	1
14241	2,4-Dinitrotoluene	121-14-2	53	5.0	1
14241	2,6-Dinitrotoluene	606-20-2	54	5.0	1

The surrogate QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H163101AA	11/05/2016 12:09	Matthew S Krause	1
11996	8260C (25 ml)	SW-846 8260C	1	H163101AA	11/05/2016 12:50	Matthew S Krause	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163101AA	11/05/2016 12:09	Matthew S Krause	1
01163	GC/MS VOA Water Prep	SW-846 5030C	2	H163101AA	11/05/2016 12:50	Matthew S Krause	1
14241	3 SVOCs	SW-846 8270D	1	16302WAF026	10/31/2016 15:16	Holly B Ziegler	1
11010	8270D BNA Extraction	SW-846 3510C	1	16302WAF026	10/30/2016 08:00	Bradley W VanLeuven	1

Sample Description: 16WC1A MSD Grab Groundwater
2016 - 2nd Semiannual Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8666269
LL Group # 1726011
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 10/25/2016 11:45 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/27/2016 09:30

Reported: 11/09/2016 12:40

R7604 SDG#: RAE76-04MSD

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	5.3	1.0	1
11996	2-Butanone	78-93-3	30	10	1
11996	Carbon Tetrachloride	56-23-5	4.9	1.0	1
11996	Chloroethane	75-00-3	5.5	1.0	1
11996	Chloromethane	74-87-3	4.1	1.0	1
11996	Dichlorodifluoromethane	75-71-8	4.0	1.0	1
11996	1,1-Dichloroethane	75-34-3	8.6	1.0	1
11996	1,1-Dichloroethene	75-35-4	5.2	1.0	1
11996	Dimethyl ether	115-10-6	< 13	13	1
11996	Ethyl ether	60-29-7	27 E	13	1
11996	Ethylbenzene	100-41-4	5.0	1.0	1
11996	Freon 113	76-13-1	4.9	1.0	1
11996	Methylene Chloride	75-09-2	5.1	1.0	1
11996	Tetrachloroethene	127-18-4	5.1	1.0	1
11996	Tetrahydrofuran	109-99-9	< 25	25	1
11996	Toluene	108-88-3	5.1	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	4.6	1.0	1
11996	Trichloroethene	79-01-6	5.3	1.0	1
11996	Trichlorofluoromethane	75-69-4	4.5	1.0	1
11996	Xylene (Total)	1330-20-7	15	3.0	1
GC/MS	Semivolatiles	SW-846 8270D	ug/l	ug/l	
14241	Diethylphthalate	84-66-2	47	5.0	1
14241	2,4-Dinitrotoluene	121-14-2	53	5.0	1
14241	2,6-Dinitrotoluene	606-20-2	54	5.0	1

The surrogate QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H163101AA	11/05/2016 12:30	Matthew S Krause	1
11996	8260C (25 ml)	SW-846 8260C	1	H163101AA	11/05/2016 13:10	Matthew S Krause	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163101AA	11/05/2016 12:30	Matthew S Krause	1
01163	GC/MS VOA Water Prep	SW-846 5030C	2	H163101AA	11/05/2016 13:10	Matthew S Krause	1
14241	3 SVOCs	SW-846 8270D	1	16302WAF026	10/31/2016 15:44	Holly B Ziegler	1
11010	8270D BNA Extraction	SW-846 3510C	1	16302WAF026	10/30/2016 08:00	Bradley W VanLeuven	1

Sample Description: 16WDUP Grab Groundwater
2016 - 2nd Semiannual Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8666270
LL Group # 1726011
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 10/25/2016 12:00 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/27/2016 09:30

Reported: 11/09/2016 12:40

R7605 SDG#: RAE76-05FD

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	< 1.0	1.0	1
11996	2-Butanone	78-93-3	< 10	10	1
11996	Carbon Tetrachloride	56-23-5	< 1.0	1.0	1
11996	Chloroethane	75-00-3	1.1	1.0	1
11996	Chloromethane	74-87-3	< 1.0	1.0	1
11996	Dichlorodifluoromethane	75-71-8	< 1.0	1.0	1
11996	1,1-Dichloroethane	75-34-3	3.5	1.0	1
11996	1,1-Dichloroethene	75-35-4	< 1.0	1.0	1
11996	Dimethyl ether	115-10-6	< 13	13	1
11996	Ethyl ether	60-29-7	23	13	1
11996	Ethylbenzene	100-41-4	< 1.0	1.0	1
11996	Freon 113	76-13-1	< 1.0	1.0	1
11996	Methylene Chloride	75-09-2	< 1.0	1.0	1
11996	Tetrachloroethene	127-18-4	< 1.0	1.0	1
11996	Tetrahydrofuran	109-99-9	< 25	25	1
11996	Toluene	108-88-3	< 1.0	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	< 1.0	1.0	1
11996	Trichloroethene	79-01-6	< 1.0	1.0	1
11996	Trichlorofluoromethane	75-69-4	< 1.0	1.0	1
11996	Xylene (Total)	1330-20-7	< 3.0	3.0	1

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20% criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

GC/MS	Semivolatiles	SW-846 8270D	ug/l	ug/l	
14241	Diethylphthalate	84-66-2	< 5.0	5.0	1
14241	2,4-Dinitrotoluene	121-14-2	< 5.0	5.0	1
14241	2,6-Dinitrotoluene	606-20-2	< 5.0	5.0	1

The surrogate QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H163101AA	11/05/2016 14:32	Matthew S Krause	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163101AA	11/05/2016 14:32	Matthew S Krause	1
14241	3 SVOCs	SW-846 8270D	1	16302WAF026	10/31/2016 16:12	Holly B Ziegler	1
11010	8270D BNA Extraction	SW-846 3510C	1	16302WAF026	10/30/2016 08:00	Bradley W VanLeuven	1

Sample Description: 16WC1B Grab Groundwater
2016 - 2nd Semiannual Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8666271
LL Group # 1726011
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 10/25/2016 10:55 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/27/2016 09:30

Reported: 11/09/2016 12:40

R7606 SDG#: RAE76-06

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	< 1.0	1.0	1
11996	2-Butanone	78-93-3	< 10	10	1
11996	Carbon Tetrachloride	56-23-5	< 1.0	1.0	1
11996	Chloroethane	75-00-3	< 1.0	1.0	1
11996	Chloromethane	74-87-3	< 1.0	1.0	1
11996	Dichlorodifluoromethane	75-71-8	< 1.0	1.0	1
11996	1,1-Dichloroethane	75-34-3	< 1.0	1.0	1
11996	1,1-Dichloroethene	75-35-4	< 1.0	1.0	1
11996	Dimethyl ether	115-10-6	< 13	13	1
11996	Ethyl ether	60-29-7	< 13	13	1
11996	Ethylbenzene	100-41-4	< 1.0	1.0	1
11996	Freon 113	76-13-1	< 1.0	1.0	1
11996	Methylene Chloride	75-09-2	< 1.0	1.0	1
11996	Tetrachloroethene	127-18-4	< 1.0	1.0	1
11996	Tetrahydrofuran	109-99-9	< 25	25	1
11996	Toluene	108-88-3	< 1.0	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	< 1.0	1.0	1
11996	Trichloroethene	79-01-6	< 1.0	1.0	1
11996	Trichlorofluoromethane	75-69-4	< 1.0	1.0	1
11996	Xylene (Total)	1330-20-7	< 3.0	3.0	1

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20% criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

GC/MS	Semivolatiles	SW-846 8270D	ug/l	ug/l	
14241	Diethylphthalate	84-66-2	< 5.1	5.1	1
14241	2,4-Dinitrotoluene	121-14-2	< 5.1	5.1	1
14241	2,6-Dinitrotoluene	606-20-2	< 5.1	5.1	1

The surrogate QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H163101AA	11/05/2016 14:52	Matthew S Krause	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163101AA	11/05/2016 14:52	Matthew S Krause	1
14241	3 SVOCs	SW-846 8270D	1	16302WAF026	10/31/2016 16:40	Holly B Ziegler	1
11010	8270D BNA Extraction	SW-846 3510C	1	16302WAF026	10/30/2016 08:00	Bradley W VanLeuven	1

Sample Description: 16-2 Grab Groundwater
2016 - 2nd Semiannual Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8666272
LL Group # 1726011
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 10/24/2016 11:55 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/27/2016 09:30

Reported: 11/09/2016 12:40

R7607 SDG#: RAE76-07

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	< 1.0	1.0	1
11996	2-Butanone	78-93-3	< 10	10	1
11996	Carbon Tetrachloride	56-23-5	< 1.0	1.0	1
11996	Chloroethane	75-00-3	< 1.0	1.0	1
11996	Chloromethane	74-87-3	< 1.0	1.0	1
11996	Dichlorodifluoromethane	75-71-8	< 1.0	1.0	1
11996	1,1-Dichloroethane	75-34-3	< 1.0	1.0	1
11996	1,1-Dichloroethene	75-35-4	< 1.0	1.0	1
11996	Dimethyl ether	115-10-6	< 13	13	1
11996	Ethyl ether	60-29-7	< 13	13	1
11996	Ethylbenzene	100-41-4	< 1.0	1.0	1
11996	Freon 113	76-13-1	< 1.0	1.0	1
11996	Methylene Chloride	75-09-2	< 1.0	1.0	1
11996	Tetrachloroethene	127-18-4	< 1.0	1.0	1
11996	Tetrahydrofuran	109-99-9	< 25	25	1
11996	Toluene	108-88-3	< 1.0	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	< 1.0	1.0	1
11996	Trichloroethene	79-01-6	< 1.0	1.0	1
11996	Trichlorofluoromethane	75-69-4	< 1.0	1.0	1
11996	Xylene (Total)	1330-20-7	< 3.0	3.0	1

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20% criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

GC/MS	Semivolatiles	SW-846 8270D	ug/l	ug/l	
14241	Diethylphthalate	84-66-2	< 5.0	5.0	1
14241	2,4-Dinitrotoluene	121-14-2	< 5.0	5.0	1
14241	2,6-Dinitrotoluene	606-20-2	< 5.0	5.0	1

The surrogate QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H163101AA	11/05/2016 15:13	Matthew S Krause	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163101AA	11/05/2016 15:13	Matthew S Krause	1
14241	3 SVOCs	SW-846 8270D	1	16302WAF026	10/31/2016 17:08	Holly B Ziegler	1
11010	8270D BNA Extraction	SW-846 3510C	1	16302WAF026	10/30/2016 08:00	Bradley W VanLeuven	1

Sample Description: 16-3 Grab Groundwater
2016 - 2nd Semiannual Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8666273
LL Group # 1726011
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 10/24/2016 13:55 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/27/2016 09:30

Reported: 11/09/2016 12:40

R7608 SDG#: RAE76-08

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	< 1.0	1.0	1
11996	2-Butanone	78-93-3	< 10	10	1
11996	Carbon Tetrachloride	56-23-5	< 1.0	1.0	1
11996	Chloroethane	75-00-3	< 1.0	1.0	1
11996	Chloromethane	74-87-3	< 1.0	1.0	1
11996	Dichlorodifluoromethane	75-71-8	< 1.0	1.0	1
11996	1,1-Dichloroethane	75-34-3	< 1.0	1.0	1
11996	1,1-Dichloroethene	75-35-4	< 1.0	1.0	1
11996	Dimethyl ether	115-10-6	< 13	13	1
11996	Ethyl ether	60-29-7	< 13	13	1
11996	Ethylbenzene	100-41-4	< 1.0	1.0	1
11996	Freon 113	76-13-1	< 1.0	1.0	1
11996	Methylene Chloride	75-09-2	< 1.0	1.0	1
11996	Tetrachloroethene	127-18-4	< 1.0	1.0	1
11996	Tetrahydrofuran	109-99-9	< 25	25	1
11996	Toluene	108-88-3	< 1.0	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	< 1.0	1.0	1
11996	Trichloroethene	79-01-6	< 1.0	1.0	1
11996	Trichlorofluoromethane	75-69-4	< 1.0	1.0	1
11996	Xylene (Total)	1330-20-7	< 3.0	3.0	1

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20% criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

GC/MS	Semivolatiles	SW-846 8270D	ug/l	ug/l	
14241	Diethylphthalate	84-66-2	< 5.1	5.1	1
14241	2,4-Dinitrotoluene	121-14-2	< 5.1	5.1	1
14241	2,6-Dinitrotoluene	606-20-2	< 5.1	5.1	1

The surrogate QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H163101AA	11/05/2016 15:33	Matthew S Krause	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163101AA	11/05/2016 15:33	Matthew S Krause	1
14241	3 SVOCs	SW-846 8270D	1	16302WAF026	10/31/2016 17:36	Holly B Ziegler	1
11010	8270D BNA Extraction	SW-846 3510C	1	16302WAF026	10/30/2016 08:00	Bradley W VanLeuven	1

Sample Description: 16-5 Grab Groundwater
2016 - 2nd Semiannual Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8666274
LL Group # 1726011
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 10/24/2016 09:40 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/27/2016 09:30

Reported: 11/09/2016 12:40

R7609 SDG#: RAE76-09

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	< 1.0	1.0	1
11996	2-Butanone	78-93-3	< 10	10	1
11996	Carbon Tetrachloride	56-23-5	< 1.0	1.0	1
11996	Chloroethane	75-00-3	< 1.0	1.0	1
11996	Chloromethane	74-87-3	< 1.0	1.0	1
11996	Dichlorodifluoromethane	75-71-8	< 1.0	1.0	1
11996	1,1-Dichloroethane	75-34-3	< 1.0	1.0	1
11996	1,1-Dichloroethene	75-35-4	< 1.0	1.0	1
11996	Dimethyl ether	115-10-6	< 13	13	1
11996	Ethyl ether	60-29-7	< 13	13	1
11996	Ethylbenzene	100-41-4	< 1.0	1.0	1
11996	Freon 113	76-13-1	< 1.0	1.0	1
11996	Methylene Chloride	75-09-2	< 1.0	1.0	1
11996	Tetrachloroethene	127-18-4	< 1.0	1.0	1
11996	Tetrahydrofuran	109-99-9	< 25	25	1
11996	Toluene	108-88-3	< 1.0	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	< 1.0	1.0	1
11996	Trichloroethene	79-01-6	< 1.0	1.0	1
11996	Trichlorofluoromethane	75-69-4	< 1.0	1.0	1
11996	Xylene (Total)	1330-20-7	< 3.0	3.0	1

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20% criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

GC/MS	Semivolatiles	SW-846 8270D	ug/l	ug/l	
14241	Diethylphthalate	84-66-2	< 5.0	5.0	1
14241	2,4-Dinitrotoluene	121-14-2	< 5.0	5.0	1
14241	2,6-Dinitrotoluene	606-20-2	< 5.0	5.0	1

The surrogate QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H163101AA	11/05/2016 15:53	Matthew S Krause	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163101AA	11/05/2016 15:53	Matthew S Krause	1
14241	3 SVOCs	SW-846 8270D	1	16302WAF026	10/31/2016 18:04	Holly B Ziegler	1
11010	8270D BNA Extraction	SW-846 3510C	1	16302WAF026	10/30/2016 08:00	Bradley W VanLeuven	1

Sample Description: 16WC2B Grab Groundwater
2016 - 2nd Semiannual Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8666275
LL Group # 1726011
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 10/24/2016 10:50 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/27/2016 09:30

Reported: 11/09/2016 12:40

R7610 SDG#: RAE76-10

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	< 1.0	1.0	1
11996	2-Butanone	78-93-3	< 10	10	1
11996	Carbon Tetrachloride	56-23-5	< 1.0	1.0	1
11996	Chloroethane	75-00-3	< 1.0	1.0	1
11996	Chloromethane	74-87-3	< 1.0	1.0	1
11996	Dichlorodifluoromethane	75-71-8	< 1.0	1.0	1
11996	1,1-Dichloroethane	75-34-3	< 1.0	1.0	1
11996	1,1-Dichloroethene	75-35-4	< 1.0	1.0	1
11996	Dimethyl ether	115-10-6	< 13	13	1
11996	Ethyl ether	60-29-7	< 13	13	1
11996	Ethylbenzene	100-41-4	< 1.0	1.0	1
11996	Freon 113	76-13-1	< 1.0	1.0	1
11996	Methylene Chloride	75-09-2	< 1.0	1.0	1
11996	Tetrachloroethene	127-18-4	< 1.0	1.0	1
11996	Tetrahydrofuran	109-99-9	< 25	25	1
11996	Toluene	108-88-3	< 1.0	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	< 1.0	1.0	1
11996	Trichloroethene	79-01-6	< 1.0	1.0	1
11996	Trichlorofluoromethane	75-69-4	< 1.0	1.0	1
11996	Xylene (Total)	1330-20-7	< 3.0	3.0	1

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20% criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

GC/MS	Semivolatiles	SW-846 8270D	ug/l	ug/l	
14241	Diethylphthalate	84-66-2	< 5.0	5.0	1
14241	2,4-Dinitrotoluene	121-14-2	< 5.0	5.0	1
14241	2,6-Dinitrotoluene	606-20-2	< 5.0	5.0	1

The surrogate QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H163101AA	11/05/2016 16:13	Matthew S Krause	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163101AA	11/05/2016 16:13	Matthew S Krause	1
14241	3 SVOCs	SW-846 8270D	1	16302WAF026	10/31/2016 18:32	Holly B Ziegler	1
11010	8270D BNA Extraction	SW-846 3510C	1	16302WAF026	10/30/2016 08:00	Bradley W VanLeuven	1

Sample Description: 16SPRING Grab Groundwater
2016 - 2nd Semiannual Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8666276
LL Group # 1726011
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 10/24/2016 10:00 by KC

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/27/2016 09:30

Reported: 11/09/2016 12:40

R7611 SDG#: RAE76-11

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	< 1.0	1.0	1
11996	2-Butanone	78-93-3	< 10	10	1
11996	Carbon Tetrachloride	56-23-5	< 1.0	1.0	1
11996	Chloroethane	75-00-3	< 1.0	1.0	1
11996	Chloromethane	74-87-3	< 1.0	1.0	1
11996	Dichlorodifluoromethane	75-71-8	< 1.0	1.0	1
11996	1,1-Dichloroethane	75-34-3	< 1.0	1.0	1
11996	1,1-Dichloroethene	75-35-4	< 1.0	1.0	1
11996	Dimethyl ether	115-10-6	< 13	13	1
11996	Ethyl ether	60-29-7	< 13	13	1
11996	Ethylbenzene	100-41-4	< 1.0	1.0	1
11996	Freon 113	76-13-1	< 1.0	1.0	1
11996	Methylene Chloride	75-09-2	< 1.0	1.0	1
11996	Tetrachloroethene	127-18-4	< 1.0	1.0	1
11996	Tetrahydrofuran	109-99-9	< 25	25	1
11996	Toluene	108-88-3	< 1.0	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	< 1.0	1.0	1
11996	Trichloroethene	79-01-6	< 1.0	1.0	1
11996	Trichlorofluoromethane	75-69-4	< 1.0	1.0	1
11996	Xylene (Total)	1330-20-7	< 3.0	3.0	1

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20% criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

GC/MS	Semivolatiles	SW-846 8270D	ug/l	ug/l	
14241	Diethylphthalate	84-66-2	< 5.0	5.0	1
14241	2,4-Dinitrotoluene	121-14-2	< 5.0	5.0	1
14241	2,6-Dinitrotoluene	606-20-2	< 5.0	5.0	1

The surrogate QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H163101AA	11/05/2016 16:34	Matthew S Krause	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163101AA	11/05/2016 16:34	Matthew S Krause	1
14241	3 SVOCs	SW-846 8270D	1	16302WAF026	10/31/2016 18:59	Holly B Ziegler	1
11010	8270D BNA Extraction	SW-846 3510C	1	16302WAF026	10/30/2016 08:00	Bradley W VanLeuven	1

Sample Description: Trip Blank_1 Water
2016 - 2nd Semiannual Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8666277
LL Group # 1726011
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 10/24/2016

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/27/2016 09:30

Reported: 11/09/2016 12:40

R7612 SDG#: RAE76-12TB

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	< 1.0	1.0	1
11996	2-Butanone	78-93-3	< 10	10	1
11996	Carbon Tetrachloride	56-23-5	< 1.0	1.0	1
11996	Chloroethane	75-00-3	< 1.0	1.0	1
11996	Chloromethane	74-87-3	< 1.0	1.0	1
11996	Dichlorodifluoromethane	75-71-8	< 1.0	1.0	1
11996	1,1-Dichloroethane	75-34-3	< 1.0	1.0	1
11996	1,1-Dichloroethene	75-35-4	< 1.0	1.0	1
11996	Dimethyl ether	115-10-6	< 13	13	1
11996	Ethyl ether	60-29-7	< 13	13	1
11996	Ethylbenzene	100-41-4	< 1.0	1.0	1
11996	Freon 113	76-13-1	< 1.0	1.0	1
11996	Methylene Chloride	75-09-2	< 1.0	1.0	1
11996	Tetrachloroethene	127-18-4	< 1.0	1.0	1
11996	Tetrahydrofuran	109-99-9	< 25	25	1
11996	Toluene	108-88-3	< 1.0	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	< 1.0	1.0	1
11996	Trichloroethene	79-01-6	< 1.0	1.0	1
11996	Trichlorofluoromethane	75-69-4	< 1.0	1.0	1
11996	Xylene (Total)	1330-20-7	< 3.0	3.0	1

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20% criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H163101AA	11/05/2016 11:09	Matthew S Krause	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163101AA	11/05/2016 11:09	Matthew S Krause	1

Sample Description: Trip Blank_2 Water
2016 - 2nd Semiannual Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8666278
LL Group # 1726011
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 10/24/2016

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 10/27/2016 09:30

Reported: 11/09/2016 12:40

R7613 SDG#: RAE76-13TB

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Benzene	71-43-2	< 1.0	1.0	1
11996	2-Butanone	78-93-3	< 10	10	1
11996	Carbon Tetrachloride	56-23-5	< 1.0	1.0	1
11996	Chloroethane	75-00-3	< 1.0	1.0	1
11996	Chloromethane	74-87-3	< 1.0	1.0	1
11996	Dichlorodifluoromethane	75-71-8	< 1.0	1.0	1
11996	1,1-Dichloroethane	75-34-3	< 1.0	1.0	1
11996	1,1-Dichloroethene	75-35-4	< 1.0	1.0	1
11996	Dimethyl ether	115-10-6	< 13	13	1
11996	Ethyl ether	60-29-7	< 13	13	1
11996	Ethylbenzene	100-41-4	< 1.0	1.0	1
11996	Freon 113	76-13-1	< 1.0	1.0	1
11996	Methylene Chloride	75-09-2	< 1.0	1.0	1
11996	Tetrachloroethene	127-18-4	< 1.0	1.0	1
11996	Tetrahydrofuran	109-99-9	< 25	25	1
11996	Toluene	108-88-3	< 1.0	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	< 1.0	1.0	1
11996	Trichloroethene	79-01-6	< 1.0	1.0	1
11996	Trichlorofluoromethane	75-69-4	< 1.0	1.0	1
11996	Xylene (Total)	1330-20-7	< 3.0	3.0	1

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20% criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H163101AA	11/05/2016 11:29	Matthew S Krause	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H163101AA	11/05/2016 11:29	Matthew S Krause	1

Quality Control Summary

Client Name: Draper Aden Associates, Inc.
Reported: 11/09/2016 12:40

Group Number: 1726011

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result ug/l	LOQ ug/l
Batch number: H163101AA	Sample number(s): 8666264, 8666266-8666278	
Benzene	< 1.0	1.0
2-Butanone	< 10	10
Carbon Tetrachloride	< 1.0	1.0
Chloroethane	< 1.0	1.0
Chloromethane	< 1.0	1.0
Dichlorodifluoromethane	< 1.0	1.0
1,1-Dichloroethane	< 1.0	1.0
1,1-Dichloroethene	< 1.0	1.0
Dimethyl ether	< 13	13
Ethyl ether	< 13	13
Ethylbenzene	< 1.0	1.0
Freon 113	< 1.0	1.0
Methylene Chloride	< 1.0	1.0
Tetrachloroethene	< 1.0	1.0
Tetrahydrofuran	< 25	25
Toluene	< 1.0	1.0
1,1,1-Trichloroethane	< 1.0	1.0
Trichloroethene	< 1.0	1.0
Trichlorofluoromethane	< 1.0	1.0
Xylene (Total)	< 3.0	3.0
Batch number: H163122AA	Sample number(s): 8666264-8666266	
Benzene	< 1.0	1.0
2-Butanone	< 10	10
Carbon Tetrachloride	< 1.0	1.0
Chloroethane	< 1.0	1.0
Chloromethane	< 1.0	1.0
Dichlorodifluoromethane	< 1.0	1.0
1,1-Dichloroethane	< 1.0	1.0
1,1-Dichloroethene	< 1.0	1.0
Dimethyl ether	< 13	13
Ethyl ether	< 13	13
Ethylbenzene	< 1.0	1.0
Freon 113	< 1.0	1.0
Methylene Chloride	< 1.0	1.0
Tetrachloroethene	< 1.0	1.0
Tetrahydrofuran	< 25	25
Toluene	< 1.0	1.0
1,1,1-Trichloroethane	< 1.0	1.0
Trichloroethene	< 1.0	1.0
Trichlorofluoromethane	< 1.0	1.0

*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Draper Aden Associates, Inc.
Reported: 11/09/2016 12:40

Group Number: 1726011

Method Blank (continued)

Analysis Name	Result ug/l	LOQ ug/l
Xylene (Total)	< 3.0	3.0
Batch number: 16302WAF026	Sample number(s): 8666264-8666276	
Diethylphthalate	< 5.0	5.0
2,4-Dinitrotoluene	< 5.0	5.0
2,6-Dinitrotoluene	< 5.0	5.0

LCS/LCSD

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: H163101AA	Sample number(s): 8666264, 8666266-8666278								
Benzene	5.00	4.84			97		80-120		
2-Butanone	37.5	33.8			90		66-135		
Carbon Tetrachloride	5.00	4.44			89		79-124		
Chloroethane	5.00	4.09			82		63-125		
Chloromethane	5.00	3.76			75		55-126		
Dichlorodifluoromethane	5.00	3.74			75		35-142		
1,1-Dichloroethane	5.00	4.55			91		75-120		
1,1-Dichloroethene	5.00	4.55			91		76-120		
Dimethyl ether	5.00	4.77			95		80-120		
Ethyl ether	5.00	4.65			93		68-128		
Ethylbenzene	5.00	4.70			94		80-120		
Freon 113	5.00	4.30			86		75-120		
Methylene Chloride	5.00	4.76			95		80-120		
Tetrachloroethene	5.00	4.59			92		80-120		
Tetrahydrofuran	25	21.12			84		64-132		
Toluene	5.00	4.78			96		80-120		
1,1,1-Trichloroethane	5.00	4.26			85		79-120		
Trichloroethene	5.00	4.80			96		80-120		
Trichlorofluoromethane	5.00	3.99			80		71-131		
Xylene (Total)	15	14.18			95		80-120		
Batch number: H163122AA	Sample number(s): 8666264-8666266								
Benzene	5.00	5.02	5.00	4.72	100	94	80-120	6	30
2-Butanone	37.5	32.98	37.5	27.37	88	73	66-135	19	30
Carbon Tetrachloride	5.00	4.65	5.00	4.34	93	87	79-124	7	30
Chloroethane	5.00	4.08	5.00	3.79	82	76	63-125	7	30
Chloromethane	5.00	3.70	5.00	3.48	74	70	55-126	6	30
Dichlorodifluoromethane	5.00	3.77	5.00	3.37	75	67	35-142	11	30
1,1-Dichloroethane	5.00	4.80	5.00	4.47	96	89	75-120	7	30
1,1-Dichloroethene	5.00	4.61	5.00	4.23	92	85	76-120	9	30
Dimethyl ether	5.00	4.50	5.00	4.59	90	92	80-120	2	30
Ethyl ether	5.00	4.69	5.00	4.50	94	90	68-128	4	30
Ethylbenzene	5.00	4.90	5.00	4.69	98	94	80-120	4	30

*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Draper Aden Associates, Inc.
Reported: 11/09/2016 12:40

Group Number: 1726011

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Freon 113	5.00	4.53	5.00	4.14	91	83	75-120	9	30
Methylene Chloride	5.00	4.75	5.00	4.52	95	90	80-120	5	30
Tetrachloroethene	5.00	4.76	5.00	4.54	95	91	80-120	5	30
Tetrahydrofuran	25	20.88	25	18.13	84	73	64-132	14	30
Toluene	5.00	4.97	5.00	4.69	99	94	80-120	6	30
1,1,1-Trichloroethane	5.00	4.41	5.00	4.10	88	82	79-120	7	30
Trichloroethene	5.00	5.01	5.00	4.67	100	93	80-120	7	30
Trichlorofluoromethane	5.00	4.19	5.00	3.95	84	79	71-131	6	30
Xylene (Total)	15	14.88	15	14.03	99	94	80-120	6	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 16302WAF026	Sample number(s): 8666264-8666276								
Diethylphthalate	50	41.5			83		70-130		
2,4-Dinitrotoluene	50	53.36			107		70-130		
2,6-Dinitrotoluene	50	53			106		70-130		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: H163101AA	Sample number(s): 8666264,8666266-8666278 UNSPK: 8666267									
Benzene	0.197	5.00	5.53	5.00	5.33	107	103	80-120	4	30
2-Butanone	< 10	37.5	30.62	37.5	29.83	82	80	66-135	3	30
Carbon Tetrachloride	< 1.0	5.00	5.04	5.00	4.92	101	98	79-124	3	30
Chloroethane	1.12	5.00	5.52	5.00	5.49	88	87	63-125	0	30
Chloromethane	< 1.0	5.00	4.14	5.00	4.11	83	82	55-126	1	30
Dichlorodifluoromethane	< 1.0	5.00	4.17	5.00	4.05	83	81	35-142	3	30
1,1-Dichloroethane	3.58	5.00	8.68	5.00	8.57	102	100	75-120	1	30
1,1-Dichloroethene	0.145	5.00	5.39	5.00	5.23	105	102	76-120	3	30
Dimethyl ether	0.673	5.00	5.25	5.00	4.75	91	82	80-120	10	30
Ethyl ether	23.76	5.00	27.71	5.00	27.45	79 (2)	74 (2)	68-128	1	30
Ethylbenzene	< 1.0	5.00	5.20	5.00	4.96	104	99	80-120	5	30
Freon 113	< 1.0	5.00	5.06	5.00	4.91	101	98	75-120	3	30
Methylene Chloride	< 1.0	5.00	5.32	5.00	5.12	106	102	80-120	4	30
Tetrachloroethene	0.174	5.00	5.31	5.00	5.10	103	98	80-120	4	30
Tetrahydrofuran	< 25	25	21.21	25	20.68	85	83	64-132	3	30
Toluene	< 1.0	5.00	5.23	5.00	5.09	105	102	80-120	3	30
1,1,1-Trichloroethane	< 1.0	5.00	4.84	5.00	4.62	97	92	79-120	5	30
Trichloroethene	0.109	5.00	5.38	5.00	5.28	105	103	80-120	2	30
Trichlorofluoromethane	< 1.0	5.00	4.53	5.00	4.50	91	90	71-131	1	30
Xylene (Total)	< 3.0	15	15.6	15	15	104	100	80-120	4	30

*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Draper Aden Associates, Inc.
Reported: 11/09/2016 12:40

Group Number: 1726011

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 16302WAF026	Sample number(s): 8666264-8666276 UNSPK: 8666267									
Diethylphthalate	< 5.0	50.2	47.64	50.4	46.62	95	92	70-130	2	30
2,4-Dinitrotoluene	< 5.0	50.2	53.23	50.4	53.04	106	105	70-130	0	30
2,6-Dinitrotoluene	< 5.0	50.2	53.9	50.4	53.63	107	106	70-130	1	30

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 8260C (25 ml)

Batch number: H163101AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8666264	97	103	100	95
8666266	97	103	100	96
8666267	97	107	102	96
8666268	100	103	99	100
8666269	101	105	96	99
8666270	97	104	99	95
8666271	97	104	101	95
8666272	100	105	99	95
8666273	100	107	100	95
8666274	97	107	100	95
8666275	98	102	100	95
8666276	99	107	99	95
8666277	101	109	98	96
8666278	98	106	100	98
Blank	99	107	98	97
LCS	97	106	99	100
MS	100	103	99	100
MSD	101	105	96	99
Limits:	77-114	74-113	77-110	78-110

Analysis Name: 8260C (25 ml)

Batch number: H163122AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8666265	101	111	98	99
Blank	100	104	100	97
LCS	98	102	98	101
LCSD	98	104	98	102

*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Draper Aden Associates, Inc.
Reported: 11/09/2016 12:40

Group Number: 1726011

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Limits: 77-114 74-113 77-110 78-110

Analysis Name: 3 SVOCs
Batch number: 16302WAF026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8666264	75	90	97
8666265	67*	79	83
8666266	74	88	100
8666267	75	91	96
8666268	76	92	93
8666269	78	89	91
8666270	73	86	80
8666271	67*	80	89
8666272	75	90	99
8666273	72	86	98
8666274	74	89	103
8666275	72	87	98
8666276	73	89	102
Blank	63*	73	92
LCS	76	88	92
MS	76	92	93
MSD	78	89	91
Limits:	70-130	70-130	70-130

*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

11200/1726011/8660264-78

CHAIN OF CUSTODY RECORD

Laboratory: Eurofins Lancaster Laboratories Environmental, LLC, 2425 New Holland Pike, Lancaster, PA, 17605-2425/ Barb Weyandt, Manager/ (717) 656-2300

dcd 10/11/24

Client: 0	Consultant: Draper Aden Associates	Sample Site: RAAP, Radford, Virginia	Project Specific (PS) or Batch (B) QC: Sample Collection for Project Complete? YES KPS: 12-757-02X-70-4332-1832 Carrier: 12-757-02X-70-4305-3622 Tracking Number: _____
Attn: 0	Attn: Janet C. Frazier	Location: HWMU16	
Address: 0	Address: 2206 South Main Street Blacksburg, Virginia 24060	Event: 2016 - 2nd Semiannual Monitoring Event	
Phone: 0	Phone: (540) 552-0444	DAA JN: B03204-16A	
Fax: 0	Fax: (540) 552-0291	Lab JN:	

Box 1: Matrix SW Surface Water T Trip Blank GW Groundwater E Equipment Blank L Leachate P Product S Soil O Other	Box 2: Preservative A HCL E NaOH B HNO ₃ F ZnAc C H ₂ SO ₄ G Other (Specify) D Na ₂ S ₂ O ₃ H None	Box 3: Filtered/Unfiltered F Filtered U Unfiltered Box 5: Sample Container Type P Plastic V VOA AG Amber Glass CG Clear Glass	Box 4: Sample Type G Grab C Composite	Invoice Copy to Consultant: YES Bill: CLIENT OTHER _____ Preserved and shipped on ice: YES

Box 4 - Sample Type					G	G													
Box 3 - Filtered/Unfiltered					U	U													
Required pH of Sample					<2	.													
Box 2 - Preservative					A	H													
Box 5 - Sample Container Type					3-40ml V	2-250 ML AG													
Sample ID	Date: 2015	Time	Box 1: Matrix	Number of Bottles	8260C/5030C - 25 ml purge	8270D/3510C (Semivolatiles)													
16C1	10/28	1430	GW	5	X	X													
16MW8	10/24	1250	GW	5	X	X													
16MW9	10/25	1300	GW	5	X	X													
16WC1A	10/25	1145	GW	15	X	X													
16WDUP	10/25	1200	GW	5	X	X													
16WC1B	10/25	1055	GW	5	X	X													
16-2	10/24	1155	GW	5	X	X													
16-3	10/24	1355	GW	5	X	X													
16-5	10/24	0740	GW	5	X	X													
16WC2B	10/24	1050	GW	5	X	X													
16SPRING	10/24	1000	GW	5	X	X													
Trip Blank1	10/24	-	GW	3	X														
Trip Blank2	10/24	-	GW	3	X														
Trip Blank3			GW	3	X														

GENERAL NOTES:

1. DAA EDD required.
2. Level 1 deliverables required.
3. See attached target analyte list.
4. 1 Trip Blank to be analyzed per day of sample collection.
5. Project required LOQs attached. Please report these LOQs.
6. Report to at or above project QL's.

USE FOR QC

NOT REQUIRED - 704C 10/25/16

Clients Special Instructions: Level 1 with edd. See attached target analyte list. See Genral Notes block.

Received by lab in Good Condition ____ Yes ____ No Custody Seal Intact ____ Yes ____ No Temperature upon arrival ____ Received on Ice ____ Yes ____ No

Describe problems, if any:

Sampler Name (Print): Ken Cuddington Sampler Signature: <i>Ken Cuddington</i> Date: 10/24/16 Time: 0700	#1 Relinquished by (Signature): <i>Ken Cuddington</i> Company Name: DAA Date: 10/26/16 Time: 1700	#2 Relinquished by (Signature): <i>Will Mason-Deese</i> Company Name: ELL Date: 10/27/16 Time: 0948	Sample Storage Time Requested: 30 DYS ORG/6 MTHS INORG
Sampler Name (Print): Will Mason-Deese Sampler Signature: <i>Will Mason-Deese</i> Date: 10/24/16 Time: 0700	#1 Received by (Signature): Company Name: Date: Time:	#2 Received by (Signature): Company Name: Date: Time:	

RAE76 Page 32 of 883

0930 1/3 JUV 10.11.16

1726011

HWMU16
Radford Army Ammunition Plant
Semiannual Monitoring Event
DAA JN: B03204-16A

2/2

ANALYTICAL METHOD: 8260C/5030C 25 ml purge volume
TYPE METHOD: GCMS
CLASS: VOLATILE

No.	ANALYTE	CAS RN	Required LOQ (µg/l)
1.	~Carbon tetrachloride	56-23-5	1
2.	~chloromethane ; (Methyl chloride)	74-87-3	1
3.	~2-butanone (methyl ethyl ketone - MEK)	78-93-3	10
4.	~1,1-dichloroethane	75-34-3	1
5.	~Dichlorodifluoromethane	75-71-8	1
6.	~Ethylbenzene	100-41-4	1
7.	~Tetrachloroethene	127-18-4	1
8.	~Toluene (methyl benzene)	108-88-3	1
9.	~1,1,1-trichloroethane (methyl chloroform)	71-55-6	1
10.	~Trichloroethene	79-01-6	1
11.	~Trichlorofluoromethane (CFC-11)	75-69-4	1
12.	~Xylenes (total)	1330-20-7	3
13.	~Chloroethane	75-00-3	1
14.	~Diethyl ether ✓	60-29-7	12.5
15.	~Dimethyl ether ✓	115-10-6	12.5
16.	~Methylene chloride	75-09-2	1
17.	1,1,2-Trichloro-1,2,2-Trifluoroethane ✓	76-13-1	1
18.	~Benzene	71-43-2	1
19.	1,1-Dichloroethene	75-35-4	1
✓ 20.	Tetrahydrofuran ✓		25

Notes

13-16 added 10/03. JCF
Revised 10/31/03 JCF

17 added 0704. Revised 7/28/2004
10/2008 JCF
18 added 04 2011. JCF
19 added 04 2014 KPO
20 added 04 2016 JCF

✓
Oct 2016
JCF

✓ BLMD
10/11/2017

25 ml purge volume

.t:\environmental\bbg\databases\raap\sample event set up\semi-annual events\hwmu-16\hwmu16-target analyte list-q.doc

JCF 11/04/2004

1726011

3/3

HWMU16
Radford Army Ammunition Plant
Semiannual Monitoring Event
DAA JN: B03204-16A

ANALYTICAL METHOD: 8270D/3510C

TYPE METHOD: GCMS

CLASS: SEMIVOLATILE

No.	ANALYTE	CAS RN	Required LOQ (µg/l)
1.	2,4-dinitrotoluene	121-14-2	10
2.	2,6-dinitrotoluene	606-20-2	10
3.	Diethylphthalate		5

10/13 – diethylphthate added

Client: Draper**Delivery and Receipt Information**

Delivery Method:	<u>UPS</u>	Arrival Timestamp:	<u>10/27/2016 9:30</u>
Number of Packages:	<u>2</u>	Number of Projects:	<u>1</u>

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace $\geq$ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	6
Paperwork Enclosed:	Yes	Trip Blank Type:	HCL
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

*Unpacked by Krista Abel (3058) at 13:41 on 10/27/2016***Samples Chilled Details***Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.*

<u>Cooler #</u>	<u>Thermometer ID</u>	<u>Corrected Temp</u>	<u>Therm. Type</u>	<u>Ice Type</u>	<u>Ice Present?</u>	<u>Ice Container</u>	<u>Elevated Temp?</u>
1	DT146	0.7	DT	Wet	Y	Bagged	N
2	DT146	0.8	DT	Wet	Y	Bagged	N

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	none detected
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m3	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Laboratory Data Qualifiers:

- B - Analyte detected in the blank
- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value $\geq$ the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...
- W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Volatiles by GC/MS Data

Case Narrative/Conformance Summary

Volatiles by GC/MS

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE76

GC/MS Volatiles

Fraction: Volatiles by GC/MS

Sample #	Client ID	Matrix		DF	Comments
		Liquid	Solid		
8666264	16C1	X		1; 4	
8666265	16MW8	X		1	
8666266	16MW9	X		1; 4	
8666267	16WC1A	X		1	Unspiked
8666268	16WC1A MS	X		1	Matrix Spike
8666269	16WC1A MSD	X		1	Matrix Spike Duplicate
8666270	16WDUP	X		1	Field Duplicate Sample
8666271	16WC1B	X		1	
8666272	16-2	X		1	
8666273	16-3	X		1	
8666274	16-5	X		1	
8666275	16WC2B	X		1	
8666276	16SPRING	X		1	
8666277	Trip Blank_1	X		1	Trip Blank
8666278	Trip Blank_2	X		1	Trip Blank

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

(Sample number(s): 8666267: Analysis: 11996)

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE76

GC/MS Volatiles

Fraction: Volatiles by GC/MS

(Sample number(s): 8666264, 8666266, 8666270-8666278: Analysis: 11996)
A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

MS/MSD

All QC is within specification.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
+MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Quality Control and Calibration Summary Forms

Volatiles by GC/MS

Quality Control Reference List GC/MS Volatiles

CLIENT: Draper Aden Associates, Inc.
SDG: RAE76

Fraction: Volatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
8260C (25 ml)	H163101AA	VBLKH73	11/05/2016 10:34:00
		LCSH73	11/05/2016 09:12:00
		LCSH74	11/05/2016 10:13:00
		8666264	11/05/2016 13:31:00
		8666266	11/05/2016 14:11:00
		8666267 UNSPK	11/05/2016 11:49:00
		8666268 MS	11/05/2016 12:09:00
		8666268 MS	11/05/2016 12:50:00
		8666269 MSD	11/05/2016 12:30:00
		8666269 MSD	11/05/2016 13:10:00
		8666270	11/05/2016 14:32:00
		8666271	11/05/2016 14:52:00
		8666272	11/05/2016 15:13:00
		8666273	11/05/2016 15:33:00
		8666274	11/05/2016 15:53:00
		8666275	11/05/2016 16:13:00
		8666276	11/05/2016 16:34:00
		8666277	11/05/2016 11:09:00
		8666278	11/05/2016 11:29:00
8260C (25 ml)	H163122AA	VBLKH78	11/07/2016 11:53:00
		LCSH78	11/07/2016 10:32:00
		LCDH78	11/07/2016 10:52:00
		LCSH79	11/07/2016 11:12:00
		LCDH79	11/07/2016 11:33:00
		8666264	11/07/2016 14:40:00
		8666265	11/07/2016 12:39:00
		8666266	11/07/2016 15:01:00

Fraction: Volatiles by GC/MS

H163101AA / VBLKH73					
Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Dichlorodifluoromethane	11/05/16	N.D.	ug/l	0.1	1.0
Chloromethane	11/05/16	N.D.	ug/l	0.2	1.0
Chloroethane	11/05/16	N.D.	ug/l	0.1	1.0
Trichlorofluoromethane	11/05/16	N.D.	ug/l	0.1	1.0
Ethyl ether	11/05/16	N.D.	ug/l	0.1	13
1,1-Dichloroethene	11/05/16	N.D.	ug/l	0.1	1.0
Freon 113	11/05/16	N.D.	ug/l	0.2	1.0
Methylene Chloride	11/05/16	N.D.	ug/l	0.2	1.0
1,1-Dichloroethane	11/05/16	N.D.	ug/l	0.1	1.0
2-Butanone	11/05/16	N.D.	ug/l	1.0	10
Tetrahydrofuran	11/05/16	N.D.	ug/l	2.0	25
1,1,1-Trichloroethane	11/05/16	N.D.	ug/l	0.1	1.0
Carbon Tetrachloride	11/05/16	N.D.	ug/l	0.1	1.0
Benzene	11/05/16	N.D.	ug/l	0.1	1.0
Trichloroethene	11/05/16	N.D.	ug/l	0.1	1.0
Toluene	11/05/16	N.D.	ug/l	0.1	1.0
Tetrachloroethene	11/05/16	N.D.	ug/l	0.1	1.0
Ethylbenzene	11/05/16	N.D.	ug/l	0.1	1.0
Xylene (Total)	11/05/16	N.D.	ug/l	0.1	3.0
Dimethyl ether	11/05/16	N.D.	ug/l	0.1	13

H163122AA / VBLKH78					
Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Dichlorodifluoromethane	11/07/16	N.D.	ug/l	0.1	1.0
Chloromethane	11/07/16	N.D.	ug/l	0.2	1.0
Chloroethane	11/07/16	N.D.	ug/l	0.1	1.0
Trichlorofluoromethane	11/07/16	N.D.	ug/l	0.1	1.0
Ethyl ether	11/07/16	N.D.	ug/l	0.1	13
1,1-Dichloroethene	11/07/16	N.D.	ug/l	0.1	1.0
Freon 113	11/07/16	N.D.	ug/l	0.2	1.0
Methylene Chloride	11/07/16	N.D.	ug/l	0.2	1.0
1,1-Dichloroethane	11/07/16	N.D.	ug/l	0.1	1.0
2-Butanone	11/07/16	N.D.	ug/l	1.0	10
Tetrahydrofuran	11/07/16	N.D.	ug/l	2.0	25
1,1,1-Trichloroethane	11/07/16	N.D.	ug/l	0.1	1.0
Carbon Tetrachloride	11/07/16	N.D.	ug/l	0.1	1.0
Benzene	11/07/16	N.D.	ug/l	0.1	1.0
Trichloroethene	11/07/16	N.D.	ug/l	0.1	1.0
Toluene	11/07/16	N.D.	ug/l	0.1	1.0
Tetrachloroethene	11/07/16	N.D.	ug/l	0.1	1.0
Ethylbenzene	11/07/16	N.D.	ug/l	0.1	1.0
Xylene (Total)	11/07/16	N.D.	ug/l	0.1	3.0
Dimethyl ether	11/07/16	N.D.	ug/l	0.1	13

Fraction: Volatiles by GC/MS

H163101AA	1,2-Dichloroethane-d4		4-Bromofluorobenzene		Dibromofluoromethane		Toluene-d8	
	Spike Added	10 ug/l	Spike Added	10 ug/l	Spike Added	10 ug/l	Spike Added	10 ug/l
	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
Sample								
VBLKH73	107	74 - 113	97	78 - 110	99	77 - 114	98	77 - 110
LCSH73	106	74 - 113	100	78 - 110	97	77 - 114	99	77 - 110
8666264	103	74 - 113	95	78 - 110	97	77 - 114	100	77 - 110
8666266	103	74 - 113	96	78 - 110	97	77 - 114	100	77 - 110
8666267 UNSPK	107	74 - 113	96	78 - 110	97	77 - 114	102	77 - 110
8666268 MS	103	74 - 113	100	78 - 110	100	77 - 114	99	77 - 110
8666269 MSD	105	74 - 113	99	78 - 110	101	77 - 114	96	77 - 110
8666270	104	74 - 113	95	78 - 110	97	77 - 114	99	77 - 110
8666271	104	74 - 113	95	78 - 110	97	77 - 114	101	77 - 110
8666272	105	74 - 113	95	78 - 110	100	77 - 114	99	77 - 110
8666273	107	74 - 113	95	78 - 110	100	77 - 114	100	77 - 110
8666274	107	74 - 113	95	78 - 110	97	77 - 114	100	77 - 110
8666275	102	74 - 113	95	78 - 110	98	77 - 114	100	77 - 110
8666276	107	74 - 113	95	78 - 110	99	77 - 114	99	77 - 110
8666277	109	74 - 113	96	78 - 110	101	77 - 114	98	77 - 110
8666278	106	74 - 113	98	78 - 110	98	77 - 114	100	77 - 110

H163122AA	1,2-Dichloroethane-d4		4-Bromofluorobenzene		Dibromofluoromethane		Toluene-d8	
	Spike Added	10 ug/l	Spike Added	10 ug/l	Spike Added	10 ug/l	Spike Added	10 ug/l
	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
Sample								
VBLKH78	104	74 - 113	97	78 - 110	100	77 - 114	100	77 - 110
LCSH78	102	74 - 113	101	78 - 110	98	77 - 114	98	77 - 110
LCDH78	104	74 - 113	102	78 - 110	98	77 - 114	98	77 - 110
8666265	111	74 - 113	99	78 - 110	101	77 - 114	98	77 - 110

GC/MS Volatiles

Fraction: Volatiles by GC/MS

UNSPK: 8666267 MS: 8666268 MSD: 8666269 Analyte	Batch: H163101AA (Sample number(s): 8666264, 8666266-8666278)								
	Spike Added ug/l	Unspiked Conc ug/l	MS Conc ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	%Rec Limits	%RPD	%RPD Limits
Dichlorodifluoromethane	5.00	N.D.	4.17	4.05	83	81	35-142	3	30
Chloromethane	5.00	N.D.	4.14	4.11	83	82	55-126	1	30
Chloroethane	5.00	1.12	5.52	5.49	88	87	63-125	0	30
Trichlorofluoromethane	5.00	N.D.	4.53	4.50	91	90	71-131	1	30
Ethyl ether	5.00	23.76	27.71	27.45	79 (2)	74 (2)	68-128	1	30
1,1-Dichloroethene	5.00	0.145 J	5.39	5.23	105	102	76-120	3	30
Freon 113	5.00	N.D.	5.06	4.91	101	98	75-120	3	30
Methylene Chloride	5.00	N.D.	5.32	5.12	106	102	80-120	4	30
1,1-Dichloroethane	5.00	3.58	8.68	8.57	102	100	75-120	1	30
2-Butanone	37.5	N.D.	30.62	29.83	82	80	66-135	3	30
Tetrahydrofuran	25	N.D.	21.21 J	20.68 J	85	83	64-132	3	30
1,1,1-Trichloroethane	5.00	N.D.	4.84	4.62	97	92	79-120	5	30
Carbon Tetrachloride	5.00	N.D.	5.04	4.92	101	98	79-124	3	30
Benzene	5.00	0.197 J	5.53	5.33	107	103	80-120	4	30
Trichloroethene	5.00	0.109 J	5.38	5.28	105	103	80-120	2	30
Toluene	5.00	N.D.	5.23	5.09	105	102	80-120	3	30
Tetrachloroethene	5.00	0.174 J	5.31	5.10	103	98	80-120	4	30
Ethylbenzene	5.00	N.D.	5.20	4.96	104	99	80-120	5	30
Xylene (Total)	15	N.D.	15.6	15.	104	100	80-120	4	30
Dimethyl ether	5.00	0.673 J	5.25 J	4.75 J	91	82	80-120	10	30

Comments:

(2) The unspiked sample result is greater than four times the spike added.

* = Out of Specification

Results are being reported on an as received basis.

SDG: RAE76
Matrix: LIQUID

GC/MS Volatiles
Fraction: Volatiles by GC/MS

LCS: LCSH73	Batch: H163101AA (Sample number(s): 8666264, 8666266-8666278)							
Analyte	Spike Added ug/l	LCS Conc ug/l	LCSD Conc ug/l	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Dichlorodifluoromethane	5.00	3.74	NA	75	NA	35-142	NA	NA
Chloromethane	5.00	3.76	NA	75	NA	55-126	NA	NA
Chloroethane	5.00	4.09	NA	82	NA	63-125	NA	NA
Trichlorofluoromethane	5.00	3.99	NA	80	NA	71-131	NA	NA
Ethyl ether	5.00	4.65 J	NA	93	NA	68-128	NA	NA
1,1-Dichloroethene	5.00	4.55	NA	91	NA	76-120	NA	NA
Freon 113	5.00	4.30	NA	86	NA	75-120	NA	NA
Methylene Chloride	5.00	4.76	NA	95	NA	80-120	NA	NA
1,1-Dichloroethane	5.00	4.55	NA	91	NA	75-120	NA	NA
2-Butanone	37.5	33.8	NA	90	NA	66-135	NA	NA
Tetrahydrofuran	25	21.12 J	NA	84	NA	64-132	NA	NA
1,1,1-Trichloroethane	5.00	4.26	NA	85	NA	79-120	NA	NA
Carbon Tetrachloride	5.00	4.44	NA	89	NA	79-124	NA	NA
Benzene	5.00	4.84	NA	97	NA	80-120	NA	NA
Trichloroethene	5.00	4.80	NA	96	NA	80-120	NA	NA
Toluene	5.00	4.78	NA	96	NA	80-120	NA	NA
Tetrachloroethene	5.00	4.59	NA	92	NA	80-120	NA	NA
Ethylbenzene	5.00	4.70	NA	94	NA	80-120	NA	NA
Xylene (Total)	15	14.18	NA	95	NA	80-120	NA	NA

LCS: LCSH74	Batch: H163101AA (Sample number(s): 8666264, 8666266-8666278)							
Analyte	Spike Added ug/l	LCS Conc ug/l	LCSD Conc ug/l	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Dimethyl ether	5.00	4.77 J	NA	95	NA	80-120	NA	NA

LCS: LCSH78 LCSD: LCDH78	Batch: H163122AA (Sample number(s): 8666264-8666266)							
Analyte	Spike Added ug/l	LCS Conc ug/l	LCSD Conc ug/l	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Dichlorodifluoromethane	5.00	3.77	3.37	75	67	35-142	11	30
Chloromethane	5.00	3.70	3.48	74	70	55-126	6	30
Chloroethane	5.00	4.08	3.79	82	76	63-125	7	30
Trichlorofluoromethane	5.00	4.19	3.95	84	79	71-131	6	30
Ethyl ether	5.00	4.69 J	4.50 J	94	90	68-128	4	30
1,1-Dichloroethene	5.00	4.61	4.23	92	85	76-120	9	30
Freon 113	5.00	4.53	4.14	91	83	75-120	9	30
Methylene Chloride	5.00	4.75	4.52	95	90	80-120	5	30
1,1-Dichloroethane	5.00	4.80	4.47	96	89	75-120	7	30
2-Butanone	37.5	32.98	27.37	88	73	66-135	19	30
Tetrahydrofuran	25	20.88 J	18.13 J	84	73	64-132	14	30
1,1,1-Trichloroethane	5.00	4.41	4.10	88	82	79-120	7	30

SDG: RAE76
Matrix: LIQUID

GC/MS Volatiles

Fraction: Volatiles by GC/MS

LCS: LCSH78 LCSD: LCDH78	Batch: H163122AA (Sample number(s): 8666264-8666266)							
Analyte	Spike Added ug/l	LCS Conc ug/l	LCSD Conc ug/l	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Carbon Tetrachloride	5.00	4.65	4.34	93	87	79-124	7	30
Benzene	5.00	5.02	4.72	100	94	80-120	6	30
Trichloroethene	5.00	5.01	4.67	100	93	80-120	7	30
Toluene	5.00	4.97	4.69	99	94	80-120	6	30
Tetrachloroethene	5.00	4.76	4.54	95	91	80-120	5	30
Ethylbenzene	5.00	4.90	4.69	98	94	80-120	4	30
Xylene (Total)	15	14.88	14.03	99	94	80-120	6	30

LCS: LCSH79 LCSD: LCDH79	Batch: H163122AA (Sample number(s): 8666264-8666266)							
Analyte	Spike Added ug/l	LCS Conc ug/l	LCSD Conc ug/l	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Dimethyl ether	5.00	4.50 J	4.59 J	90	92	80-120	2	30

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE76_

Lab File ID: hc04t02.d BFB Injection Date: 10/04/16

Instrument ID: HP19094 BFB Injection Time: 09:29

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	22.33
75	30.0 - 60.0% of mass 95	53.14
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.99
173	Less than 2.0% of mass 174	1.00 (1.13)1
174	Greater than 50.0% of mass 95	88.41
175	5.0 - 9.0% of mass 174	6.21 (7.03)1
176	Greater than 95.0%, but less than 101.0% of mass 174	84.86 (95.98)1
177	5.0 - 9.0% of mass 176	5.09 (6.00)2
1-Value is % mass 174		2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD25	hc04i01.d	10/04/16	10:34
02	VSTD10	hc04i02.d	10/04/16	10:54
03	VSTD5	hc04i03.d	10/04/16	11:14
04	VSTD2	hc04i04.d	10/04/16	11:35
05	VSTD1	hc04i05.d	10/04/16	11:55
06	VSTD.5	hc04i06.d	10/04/16	12:15
07	VSTD.2	hc04i07.d	10/04/16	12:36
08	MDL0.1 - MDL0.1	hc04m01.d	10/04/16	12:56
09	MDL0.4 - MDL0.4	hc04m02.d	10/04/16	13:17
10	VSTD10	hc04c02.d	10/04/16	13:45
11	LCSH73	hc04l01.d	10/04/16	14:05
12	LCDH73	hc04l02.d	10/04/16	14:26
13	LCSHLG	hc04l02a.d	10/04/16	14:26
14	LCSH74	hc04l03.d	10/04/16	14:46
15	LCDH74	hc04l04.d	10/04/16	15:06
16	VBLKH73	hc04b01.d	10/04/16	15:47
17	8608538	hc04s03.d	10/04/16	16:07
18	8608485	hc04s04.d	10/04/16	16:28
19	8608485DL	hc04s05.d	10/04/16	16:48
20	8608535	hc04s06.d	10/04/16	17:09
21	8608535DL	hc04s07.d	10/04/16	17:29
22	8608534	hc04s08.d	10/04/16	17:49

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE76____

Lab File ID: hc04t02.d BFB Injection Date: 10/04/16

Instrument ID: HP19094 BFB Injection Time: 09:29

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	22.33
75	30.0 - 60.0% of mass 95	53.14
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.99
173	Less than 2.0% of mass 174	1.00 (1.13)1
174	Greater than 50.0% of mass 95	88.41
175	5.0 - 9.0% of mass 174	6.21 (7.03)1
176	Greater than 95.0%, but less than 101.0% of mass 174	84.86 (95.98)1
177	5.0 - 9.0% of mass 176	5.09 (6.00)2
1-Value is % mass 174		2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	8608534DL	hc04s09.d	10/04/16	18:09
24	8612710	hc04s01.d	10/04/16	18:30
25	8612718	hc04s02.d	10/04/16	18:50
26	8608536	hc04s10.d	10/04/16	19:11
27	8608536DL	hc04s11.d	10/04/16	19:31
28	8608537	hc04s12.d	10/04/16	19:51
29	8608542	hc04s13.d	10/04/16	20:12
30	8608543	hc04s14.d	10/04/16	20:32

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE76_

Lab File ID: hn04t01.d BFB Injection Date: 11/04/16

Instrument ID: HP19094 BFB Injection Time: 11:01

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.16
75	30.0 - 60.0% of mass 95	50.43
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.20
173	Less than 2.0% of mass 174	0.98 (1.16)1
174	Greater than 50.0% of mass 95	84.34
175	5.0 - 9.0% of mass 174	7.14 (8.46)1
176	Greater than 95.0%, but less than 101.0% of mass 174	80.89 (95.92)1
177	5.0 - 9.0% of mass 176	5.90 (7.29)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD25	hn04i01.d	11/04/16	11:52
02	VSTD10	hn04i02.d	11/04/16	12:12
03	VSTD5	hn04i03.d	11/04/16	12:33
04	VSTD2	hn04i04.d	11/04/16	12:53
05	VSTD1	hn04i05.d	11/04/16	13:13
06	VSTD.5	hn04i06.d	11/04/16	13:34
07	VSTD.2	hn04i07.d	11/04/16	13:54
08	MDL0.1 - MDL0.1	hn04m01.d	11/04/16	14:15
09	LCSH72	hn04l03.d	11/04/16	14:36
10	LCSHSM	hn04l03a.d	11/04/16	14:36
11	VSTD10	hn04c01.d	11/04/16	14:57
12	LCSH71	hn04l01.d	11/04/16	15:17
13	LCDH71	hn04l02.d	11/04/16	15:37
14	LCDH72	hn04l04.d	11/04/16	15:57
15	MDLH71	hn04m01a.d	11/04/16	16:58
16	BLK	hn04b01a.d	11/04/16	17:39
17	8663210	hn04s01.d	11/04/16	18:19
18	8662723	hn04s02.d	11/04/16	18:40
19	8663199	hn04s03.d	11/04/16	19:00
20	8663202	hn04s04.d	11/04/16	19:20
21	8663205	hn04s05.d	11/04/16	19:41
22	8662721DL	hn04s06.d	11/04/16	20:01

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE76_

Lab File ID: hn05t01.d BFB Injection Date: 11/05/16

Instrument ID: HP19094 BFB Injection Time: 07:50

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.55
75	30.0 - 60.0% of mass 95	48.41
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.99
173	Less than 2.0% of mass 174	0.79 (0.95)1
174	Greater than 50.0% of mass 95	83.55
175	5.0 - 9.0% of mass 174	6.35 (7.60)1
176	Greater than 95.0%, but less than 101.0% of mass 174	79.58 (95.25)1
177	5.0 - 9.0% of mass 176	6.00 (7.54)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD10	hn05c01.d	11/05/16	08:32
02	VSTD10	hn05c02.d	11/05/16	08:52
03	LCSH73	hn05s01.d	11/05/16	09:12
04	LCSH75	hn05s31.d	11/05/16	09:12
05	LCDH75	hn05s32.d	11/05/16	09:33
06	MDLH010 - MDLH010	hn05m01.d	11/05/16	09:53
07	MDLH010 - MDLH010	hn05m02.d	11/05/16	09:53
08	LCSH74	hn05s02.d	11/05/16	10:13
09	VBLKH73	hn05b01.d	11/05/16	10:34
10	VBLKH75	hn05b05.d	11/05/16	10:34
11	8666277	hn05s03.d	11/05/16	11:09
12	8666278	hn05s04.d	11/05/16	11:29
13	8666267	hn05s05.d	11/05/16	11:49
14	8666268MS	hn05s06.d	11/05/16	12:09
15	8666269MSD	hn05s07.d	11/05/16	12:30
16	8666268MSMS1	hn05s08.d	11/05/16	12:50
17	8666269MSDMS	hn05s09.d	11/05/16	13:10
18	8666264	hn05s10.d	11/05/16	13:31
19	8666266	hn05s12.d	11/05/16	14:11
20	8666270	hn05s13.d	11/05/16	14:32
21	8666271	hn05s14.d	11/05/16	14:52
22	8666272	hn05s15.d	11/05/16	15:13

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE76____

Lab File ID: hn05t01.d BFB Injection Date: 11/05/16

Instrument ID: HP19094 BFB Injection Time: 07:50

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.55
75	30.0 - 60.0% of mass 95	48.41
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.99
173	Less than 2.0% of mass 174	0.79 (0.95)1
174	Greater than 50.0% of mass 95	83.55
175	5.0 - 9.0% of mass 174	6.35 (7.60)1
176	Greater than 95.0%, but less than 101.0% of mass 174	79.58 (95.25)1
177	5.0 - 9.0% of mass 176	6.00 (7.54)2
1-Value is % mass 174		2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	8666273	hn05s16.d	11/05/16	15:33
24	8666274	hn05s17.d	11/05/16	15:53
25	8666275	hn05s18.d	11/05/16	16:13
26	8666276	hn05s19.d	11/05/16	16:34
27	8665585	hn05s33.d	11/05/16	16:54
28	8665586	hn05s34.d	11/05/16	17:14
29	8665587	hn05s35.d	11/05/16	17:35
30	8665588	hn05s36.d	11/05/16	17:55
31	8665589	hn05s37.d	11/05/16	18:16
32	8665590	hn05s38.d	11/05/16	18:36
33	8665591	hn05s39.d	11/05/16	18:56

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE76_

Lab File ID: hn07t03.d BFB Injection Date: 11/07/16

Instrument ID: HP19094 BFB Injection Time: 08:52

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.61
75	30.0 - 60.0% of mass 95	49.05
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.95
173	Less than 2.0% of mass 174	1.18 (1.41)1
174	Greater than 50.0% of mass 95	84.03
175	5.0 - 9.0% of mass 174	6.27 (7.46)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.35 (96.81)1
177	5.0 - 9.0% of mass 176	5.55 (6.82)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD10	hn07c01.d	11/07/16	09:51
02	VSTD10	hn07c02.d	11/07/16	10:11
03	LCSH76	hn07l01.d	11/07/16	10:32
04	LCSH78	hn07l01a.d	11/07/16	10:32
05	LCDH76	hn07l02.d	11/07/16	10:52
06	LCDH78	hn07l02a.d	11/07/16	10:52
07	LCSH77	hn07l03.d	11/07/16	11:12
08	LCSH79	hn07l03a.d	11/07/16	11:12
09	LCDH77	hn07l04.d	11/07/16	11:33
10	LCDH79	hn07l04a.d	11/07/16	11:33
11	VBLKH76	hn07b01.d	11/07/16	11:53
12	VBLKH78	hn07b01a.d	11/07/16	11:53
13	8666265	hn07s31.d	11/07/16	12:39
14	8665549DL	hn07s01.d	11/07/16	13:39
15	8665562DL	hn07s02.d	11/07/16	14:00
16	8665573DL	hn07s03.d	11/07/16	14:20
17	8666264DL	hn07s34.d	11/07/16	14:40
18	8666266DL	hn07s35.d	11/07/16	15:01
19	8665582	hn07s04.d	11/07/16	15:21
20	8665582DL	hn07s05.d	11/07/16	15:42
21	8665583DL	hn07s06.d	11/07/16	16:02
22	8668561	hn07s11.d	11/07/16	16:23

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE76____

Lab File ID: hn07t03.d BFB Injection Date: 11/07/16

Instrument ID: HP19094 BFB Injection Time: 08:52

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.61
75	30.0 - 60.0% of mass 95	49.05
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.95
173	Less than 2.0% of mass 174	1.18 (1.41)1
174	Greater than 50.0% of mass 95	84.03
175	5.0 - 9.0% of mass 174	6.27 (7.46)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.35 (96.81)1
177	5.0 - 9.0% of mass 176	5.55 (6.82)2
1-Value is % mass 174		2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	8668565	hn07s12.d	11/07/16	16:43
24	8668563	hn07s13.d	11/07/16	17:03
25	8668563DL	hn07s14.d	11/07/16	17:24
26	8668564	hn07s15.d	11/07/16	17:44
27	8668564DL	hn07s16.d	11/07/16	18:04
28	8668566	hn07s17.d	11/07/16	18:25
29	8668566DL	hn07s18.d	11/07/16	18:45
30	8671286	hn07s19.d	11/07/16	19:06
31	8671287DL	hn07s20.d	11/07/16	19:26

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP19094 Calibration Date(s): 10/04/16 10/04/16
Heated Purge: (Y/N) Y Calibration Times: 10:34 12:36
Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

LAB FILE ID:	RRF0.2= hc04i07.d	RRF0.5= hc04i06.d	RRF 1 = hc04i05.d	RRF 2 = hc04i04.d	RRF 5 = hc04i03.d	RRF 10= hc04i02.d	RRF 25= hc04i01.d		%	CAL.
COMPOUND	RRF0.2	RRF0.5	RRF 1	RRF 2	RRF 5	RRF 10	RRF 25	RRF	RSD	METHOD
Dichlorodifluoromethane	#0.4112	0.4641	0.4464	0.3954	0.3959	0.4284	0.4338	0.4250	6	AVG #
Chloromethane	#0.5232	0.5200	0.4832	0.4111	0.3979	0.4237	0.4254	0.4549	12	AVG #
Vinyl Chloride	#0.4347	0.4523	0.4348	0.3734	0.3632	0.3884	0.3921	0.4055	9	AVG #
1,3-Butadiene	#0.6591	0.7126	0.6401	0.6247	0.5873	0.5676	0.5597	0.6216	9	AVG #
Bromomethane	#0.2803	0.3039	0.2775	0.2411	0.2315	0.2437	0.2431	0.2602	10	AVG #
Chloroethane	#0.2507	0.2623	0.2427	0.2146	0.2045	0.2139	0.2163	0.2293	10	AVG #
Dichlorofluoromethane	#0.5801	0.6200	0.5830	0.5051	0.4985	0.5217	0.5227	0.5473	9	AVG #
Trichlorofluoromethane	#0.4989	0.5464	0.5214	0.4543	0.4580	0.4846	0.4816	0.4922	7	AVG #
Ethyl ether	#0.1730	0.1913	0.1909	0.1866	0.1789	0.1782	0.1724	0.1816	4	AVG #
Freon 123a	#0.3451	0.3879	0.3673	0.3177	0.3114	0.3351	0.3272	0.3417	8	AVG #
Acrolein	#3.8707	3.8724	3.3185	3.4261	3.2187	4.0018	3.4625	3.5958	9	AVG #
1,1-Dichloroethene	#0.2284	0.2509	0.2315	0.2332	0.2236	0.2222	0.2157	0.2293	5	AVG #
Freon 113	#0.2496	0.2565	0.2507	0.2594	0.2478	0.2488	0.2419	0.2507	2	AVG #
Acetone	#5.6547	4.9525	4.5436	5.0697	4.6995	4.7015	4.0763	4.8140	10	AVG #
Methyl Iodide	#0.4482	0.4638	0.4411	0.4513	0.4290	0.4223	0.4126	0.4383	4	AVG #
Carbon Disulfide	#0.7824	0.7451	0.7036	0.6882	0.6580	0.6504	0.6402	0.6954	8	AVG #
Allyl Chloride	#0.5135	0.5434	0.5015	0.5063	0.4842	0.4739	0.4699	0.4990	5	AVG #
Methyl Acetate	#21.270	21.268	12.952	13.404	11.959	15.505	12.792	15.592	26	2NDEG #
Methylene Chloride	#0.2571	0.2703	0.2505	0.2503	0.2369	0.2311	0.2263	0.2461	6	AVG #
t-Butyl Alcohol	#1.1336	1.2089	1.2297	1.6093	1.5226	1.2463	1.1526	1.3004	14	AVG #
Acrylonitrile	#5.5069	5.0326	5.3023	5.8247	5.5163	6.7959	5.6717	5.6644	10	AVG #
trans-1,2-Dichloroethene	#0.2822	0.2723	0.2648	0.2630	0.2505	0.2463	0.2406	0.2600	6	AVG #
Methyl Tertiary Butyl Ether	#0.5310	0.5628	0.5407	0.5510	0.5330	0.5189	0.5078	0.5350	3	AVG #
n-Hexane	#0.3596	0.4010	0.4020	0.4133	0.4042	0.4003	0.3936	0.3963	4	AVG #
1,1-Dichloroethane	#0.5175	0.5530	0.5288	0.5092	0.5003	0.4930	0.4812	0.5119	5	AVG #
di-Isopropyl Ether	#0.8835	0.9716	0.9349	0.9459	0.9126	0.8964	0.8798	0.9178	4	AVG #
2-Chloro-1,3-Butadiene	#0.4581	0.5032	0.4858	0.4790	0.4669	0.4665	0.4579	0.4739	3	AVG #
Ethyl t-butyl ether	#0.7338	0.7728	0.7642	0.7602	0.7383	0.7298	0.7132	0.7446	3	AVG #
cis-1,2-Dichloroethene	#0.2911	0.2968	0.2958	0.2899	0.2779	0.2742	0.2692	0.2850	4	AVG #
2,2-Dichloropropane	#0.4166	0.4312	0.4322	0.4222	0.4046	0.4047	0.3963	0.4154	3	AVG #
2-Butanone	#9.0499	8.9765	8.1427	8.1142	7.7596	9.5854	8.0001	8.5183	8	AVG #
Propionitrile	#1.8647	1.7248	1.7570	2.0509	1.9772	1.9798	1.7972	1.8788	7	AVG #
Methacrylonitrile	#8.3871	9.2349	7.2113	7.3037	7.0158	9.2485	7.7496	8.0216	12	AVG #
Bromochloromethane	#0.1122	0.1169	0.1140	0.1173	0.1167	0.1125	0.1104	0.1143	2	AVG #
Tetrahydrofuran	#2.3464	2.3287	2.0893	2.0657	1.9633	2.4865	2.0897	2.1957	9	AVG #
Chloroform	#0.5029	0.5274	0.5049	0.5043	0.4832	0.4746	0.4639	0.4944	4	AVG #
1,1,1-Trichloroethane	#0.4439	0.4837	0.4564	0.4576	0.4289	0.4273	0.4182	0.4451	5	AVG #
Cyclohexane	#0.5116	0.6038	0.5162	0.5178	0.5123	0.5025	0.4924	0.5224	7	AVG #
Cyclohexane (2)	#0.4509	0.4892	0.4819	0.4144	0.3975	0.3963	0.3875	0.4311	10	AVG #
Cyclohexane (3)	#0.1439	0.1539	0.1486	0.1485	0.1469	0.1460	0.1435	0.1473	2	AVG #
1,1-Dichloropropene	#0.3994	0.4202	0.4177	0.4006	0.3977	0.3963	0.3849	0.4024	3	AVG #
Carbon Tetrachloride	#0.3788	0.4004	0.3897	0.3925	0.3797	0.3792	0.3713	0.3845	3	AVG #
Isobutyl Alcohol	#0.5728	0.5162	0.4372	0.5432	0.5483	0.5294	0.4536	0.5144	10	AVG #
Benzene	#1.0957	1.1234	1.1074	1.0907	1.0408	1.0364	1.0154	1.0728	4	AVG #
1,2-Dichloroethane	#0.3309	0.3175	0.3122	0.2995	0.2837	0.2753	0.2716	0.2987	8	AVG #
t-Amyl methyl ether	#0.6014	0.6012	0.6137	0.6309	0.6048	0.5937	0.5821	0.6040	3	AVG #
n-Heptane	#0.4667	0.4901	0.4861	0.4915	0.4811	0.4613	0.4627	0.4771	3	AVG #
n-Butanol	#0.2956	0.3865	0.3215	0.4513	0.4504	0.4019	0.3227	0.3757	17	AVG #
Trichloroethene	#0.2982	0.3102	0.2995	0.2978	0.2879	0.2853	0.2787	0.2939	4	AVG #
Methylcyclohexane	#0.4655	0.5038	0.5237	0.5332	0.5364	0.5157	0.5145	0.5132	5	AVG #
1,2-Dichloropropane	#0.2660	0.2871	0.2795	0.2810	0.2679	0.2659	0.2640	0.2731	3	AVG #
Methyl Methacrylate	#10.993	16.037	13.645	14.210	13.142	19.162	16.191	14.768	18	AVG #

Compounds with required minimum RRF.
All compounds must meet a maximum %RSD of 20.

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP19094 Calibration Date(s): 10/04/16 10/04/16
 Heated Purge: (Y/N) Y Calibration Times: 10:34 12:36
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

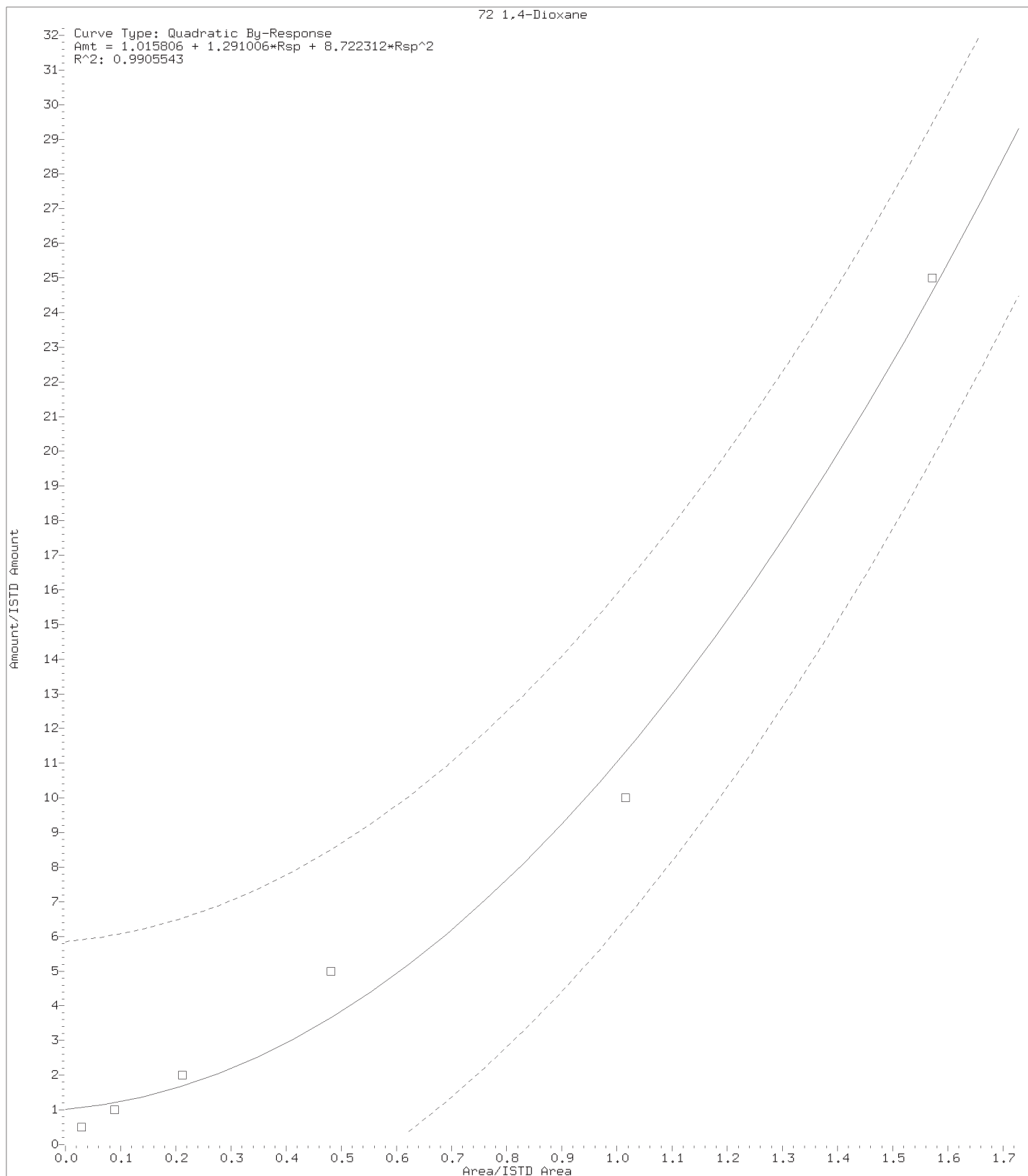
LAB FILE ID:		RRF0.2= hc04i07.d		RRF0.5= hc04i06.d		RRF 1 = hc04i05.d					
RRF 2 = hc04i04.d		RRF 5 = hc04i03.d		RRF 10= hc04i02.d		RRF 25= hc04i01.d					
COMPOUND		RRF0.2	RRF0.5	RRF 1	RRF 2	RRF 5	RRF 10	RRF 25	RRF	%	CAL.
										RSD	METHOD
=====		=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
1,2-Dichloroethane-d4 (3)		0.0240	0.0245	0.0232	0.0233	0.0232	0.0229	0.0240	0.0236	2	AVG
Toluene-d8		1.5139	1.5397	1.5142	1.5106	1.5147	1.5073	1.4734	1.5105	1	AVG
Toluene-d8 (2)		0.9721	0.9809	0.9623	0.9758	0.9825	0.9645	0.9611	0.9713	1	AVG
4-Bromofluorobenzene		0.4464	0.4410	0.4505	0.4389	0.4484	0.4409	0.4425	0.4441	1	AVG
4-Bromofluorobenzene (2)		0.3960	0.3966	0.4005	0.3939	0.4000	0.3985	0.3964	0.3974	1	AVG

Average %RSD 6

Compounds with required minimum RRF.
 All compounds must meet a maximum %RSD of 20.



Digitally signed by Kerri E. Koch Legerlotz on 10/04/2016 at 15:53.
Target 3.5 esignature user ID: kel01973



Digitally signed by Kerri E. Koch Legerlotz on 10/04/2016 at 15:53.
Target 3.5 esignature user ID: kel01973

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem2/HP19094.i/16oct04a.b/hc04i01.d	VSTD025
/chem2/HP19094.i/16oct04a.b/hc04i02.d	VSTD010
/chem2/HP19094.i/16oct04a.b/hc04i03.d	VSTD005
/chem2/HP19094.i/16oct04a.b/hc04i04.d	VSTD002
/chem2/HP19094.i/16oct04a.b/hc04i05.d	VSTD001
/chem2/HP19094.i/16oct04a.b/hc04i06.d	VSTD0.5
/chem2/HP19094.i/16oct04a.b/hc04i07.d	VSTD0.2

Area Summary

File ID:

=====

Internal Standard Name	hc04i01.d	hc04i02.d	hc04i03.d	hc04i04.d	hc04i05.d	hc04i06.d	hc04i07.d	Avg. Area	%RSD	In Spec
t-Butyl Alcohol-d10	71956	60829	85386	84598	83869	59277	65291	73029	16	Yes
Fluorobenzene	2273569	2235292	2240146	2270009	2267516	2092367	2200643	2225649	3	Yes
Chlorobenzene-d5	1542326	1455786	1450338	1467187	1470132	1334284	1416303	1448051	4	Yes
1,4-Dichlorobenzene-d4	719928	661919	665336	653236	676960	602014	636044	659348	5	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

=====

Internal Standard Name	hc04i01.d	hc04i02.d	hc04i03.d	hc04i04.d	hc04i05.d	hc04i06.d	hc04i07.d	Avg. RT
t-Butyl Alcohol-d10	4.269	4.287	4.275	4.269	4.293	4.294	4.312	4.286
Fluorobenzene	7.787	7.787	7.787	7.787	7.787	7.781	7.787	7.786
Chlorobenzene-d5	11.243	11.243	11.243	11.250	11.243	11.243	11.244	11.244
1,4-Dichlorobenzene-d4	13.127	13.127	13.127	13.127	13.127	13.127	13.127	13.127

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 10/04/2016 at 15:31.

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP19094 ICV Date: 10/04/16 Time: 14:26
 Lab File ID: hc04102a.d Init. Calib. Date(s): 10/04/16 10/04/16
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
# Dichlorodifluoromethane	0.4250	0.4503	5.30	5	6 #
# Chloromethane	0.4549	0.4469	4.91	5	-2 #
# Vinyl Chloride	0.4055	0.4053	5.00	5	0 #
# 1,3-Butadiene	0.6216	0.4437	3.57	5	-29 #
# Bromomethane	0.2602	0.2540	4.88	5	-2 #
# Chloroethane	0.2293	0.2266	4.94	5	-1 #
# Dichlorofluoromethane	0.5473	0.5585	5.10	5	2 #
# Trichlorofluoromethane	0.4922	0.4886	4.96	5	-1 #
# Ethyl ether	0.1816	0.1648	4.54	5	-9 #
# Freon 123a	0.3417	0.3366	4.93	5	-1 #
# Acrolein	3.5958	3.6561	38.13	37.5	2 #
# 1,1-Dichloroethene	0.2293	0.2291	5.00	5	0 #
# Freon 113	0.2507	0.2498	4.98	5	0 #
# Acetone	4.8140	4.3174	33.63	37.5	-10 #
# Methyl Iodide	0.4383	0.4158	4.74	5	-5 #
# Carbon Disulfide	0.6954	0.6696	4.81	5	-4 #
# Allyl Chloride	0.4990	0.4440	4.45	5	-11 #
# Methyl Acetate	15.5920	15.1589	4.97	5	-1 #
# Methylene Chloride	0.2461	0.2368	4.81	5	-4 #
# t-Butyl Alcohol	1.3004	1.1049	42.48	50	-15 #
# Acrylonitrile	5.6644	6.4373	28.41	25	14 #
# trans-1,2-Dichloroethene	0.2600	0.2593	4.99	5	0 #
# Methyl Tertiary Butyl Ether	0.5350	0.5173	4.83	5	-3 #
# n-Hexane	0.3963	0.4203	5.30	5	6 #
# 1,1-Dichloroethane	0.5119	0.5044	4.93	5	-1 #
# di-Isopropyl Ether	0.9178	0.8922	4.86	5	-3 #
# 2-Chloro-1,3-Butadiene	0.4739	0.4630	4.89	5	-2 #
# Ethyl t-butyl ether	0.7446	0.7136	4.79	5	-4 #
# cis-1,2-Dichloroethene	0.2850	0.2784	4.88	5	-2 #
# 2,2-Dichloropropane	0.4154	0.3988	4.80	5	-4 #
# 2-Butanone	8.5183	9.0469	39.83	37.5	6 #
# Propionitrile	1.8788	2.0091	40.10	37.5	7 #
# Methacrylonitrile	8.0216	8.5611	40.02	37.5	7 #
# Bromochloromethane	0.1143	0.1098	4.80	5	-4 #
# Tetrahydrofuran	2.1957	2.2213	25.29	25	1 #
# Chloroform	0.4944	0.4749	4.80	5	-4 #

Compounds with required minimum RRF.
 Maximum % Drift = 30 %

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP19094 ICV Date: 10/04/16 Time: 14:26
 Lab File ID: hc04102a.d Init. Calib. Date(s): 10/04/16 10/04/16
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
# 1,1,1-Trichloroethane	0.4451	0.4231	4.75	5	-5 #
# Cyclohexane	0.5224	0.5008	4.79	5	-4 #
# 1,1-Dichloropropene	0.4024	0.3669	4.56	5	-9 #
# Carbon Tetrachloride	0.3845	0.3783	4.92	5	-2 #
# Isobutyl Alcohol	0.5144	0.5133	124.75	125	0 #
# Benzene	1.0728	1.0412	4.85	5	-3 #
# 1,2-Dichloroethane	0.2987	0.2867	4.80	5	-4 #
# t-Amyl methyl ether	0.6040	0.5719	4.73	5	-5 #
# n-Heptane	0.4771	0.4715	4.94	5	-1 #
# n-Butanol	0.3757	0.2963	197.16	250	-21 #
# Trichloroethene	0.2939	0.2882	4.90	5	-2 #
# Methylcyclohexane	0.5132	0.4813	4.69	5	-6 #
# 1,2-Dichloropropane	0.2731	0.2700	4.94	5	-1 #
# Methyl Methacrylate	14.7680	16.4850	5.58	5	12 #
# Dibromomethane	0.1143	0.1121	4.90	5	-2 #
# 1,4-Dioxane	0.0856	0.0850	84.21	125	-33 # <-
# Bromodichloromethane	0.3128	0.3069	4.91	5	-2 #
# 2-Nitropropane	5.4634	5.7957	5.30	5	6 #
# cis-1,3-Dichloropropene	0.3550	0.3468	4.88	5	-2 #
# 4-Methyl-2-Pentanone	22.7690	24.0385	26.39	25	6 #
# Toluene	1.0380	0.9927	4.78	5	-4 #
# trans-1,3-Dichloropropene	0.4212	0.4192	4.98	5	0 #
# Ethyl Methacrylate	0.3248	0.3255	5.01	5	0 #
# 1,1,2-Trichloroethane	0.2389	0.2306	4.82	5	-4 #
# Tetrachloroethene	0.4968	0.4749	4.78	5	-4 #
# 1,3-Dichloropropane	0.4343	0.4089	4.71	5	-6 #
# 2-Hexanone	15.7600	16.7994	26.65	25	7 #
# Dibromochloromethane	0.2963	0.2857	4.82	5	-4 #
# 1,2-Dibromoethane	0.2260	0.2231	4.94	5	-1 #
# Chlorobenzene	1.1060	1.0487	4.74	5	-5 #
# 1,1,1,2-Tetrachloroethane	0.3801	0.3626	4.77	5	-5 #
# Ethylbenzene	2.0426	1.9420	4.75	5	-5 #
# m+p-Xylene	0.7675	0.7432	9.68	10	-3 #
# o-Xylene	0.7486	0.7109	4.75	5	-5 #
# Styrene	1.1454	1.1400	4.98	5	0 #
# Bromoform	0.1622	0.1525	4.70	5	-6 #

Compounds with required minimum RRF.
 Maximum % Drift = 30 %

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP19094 ICV Date: 10/04/16 Time: 14:26
 Lab File ID: hc04102a.d Init. Calib. Date(s): 10/04/16 10/04/16
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
# Isopropylbenzene	2.0182	1.9599	4.86	5	-3 #
# 1,1,2,2-Tetrachloroethane	0.6185	0.5773	4.67	5	-7 #
Bromobenzene	0.9974	0.9589	4.81	5	-4
trans-1,4-Dichloro-2-butene	6.7472	7.2085	26.71	25	7
1,2,3-Trichloropropane	0.1651	0.1665	5.04	5	1
n-Propylbenzene	5.2878	5.1860	4.90	5	-2
2-Chlorotoluene	0.9996	0.9597	4.80	5	-4
1,3,5-Trimethylbenzene	3.6372	3.5543	4.89	5	-2
4-Chlorotoluene	1.0221	0.9840	4.81	5	-4
tert-Butylbenzene	0.7935	0.7475	4.71	5	-6
Pentachloroethane	0.6140	0.5691	4.63	5	-7
1,2,4-Trimethylbenzene	3.6721	3.5522	4.84	5	-3
sec-Butylbenzene	4.7734	4.6604	4.88	5	-2
# 1,3-Dichlorobenzene	1.9397	1.8633	4.80	5	-4 #
p-Isopropyltoluene	3.9827	3.8335	4.81	5	-4
# 1,4-Dichlorobenzene	2.0175	1.8589	4.61	5	-8 #
1,2,3-Trimethylbenzene	1.5893	1.4910	4.69	5	-6
Benzyl Chloride	0.2104	0.2134	5.07	5	1
n-Butylbenzene	1.9119	1.9104	5.00	5	0
# 1,2-Dichlorobenzene	1.7256	1.6634	4.82	5	-4 #
# 1,2-Dibromo-3-chloropropane	3.3157	3.6057	5.44	5	9 #
# 1,2,4-Trichlorobenzene	1.2290	1.0938	4.45	5	-11 #
Hexachlorobutadiene	0.5847	0.5670	4.85	5	-3
Naphthalene	1.8659	1.6509	4.42	5	-12
1,2,3-Trichlorobenzene	1.0346	0.8603	4.16	5	-17

Average %Drift 5

Compounds with required minimum RRF.
 Maximum % Drift = 30 %

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: HP19094 Calibration Date(s): 11/04/16 11/04/16

Heated Purge: (Y/N) Y Calibration Times: 11:52 13:54

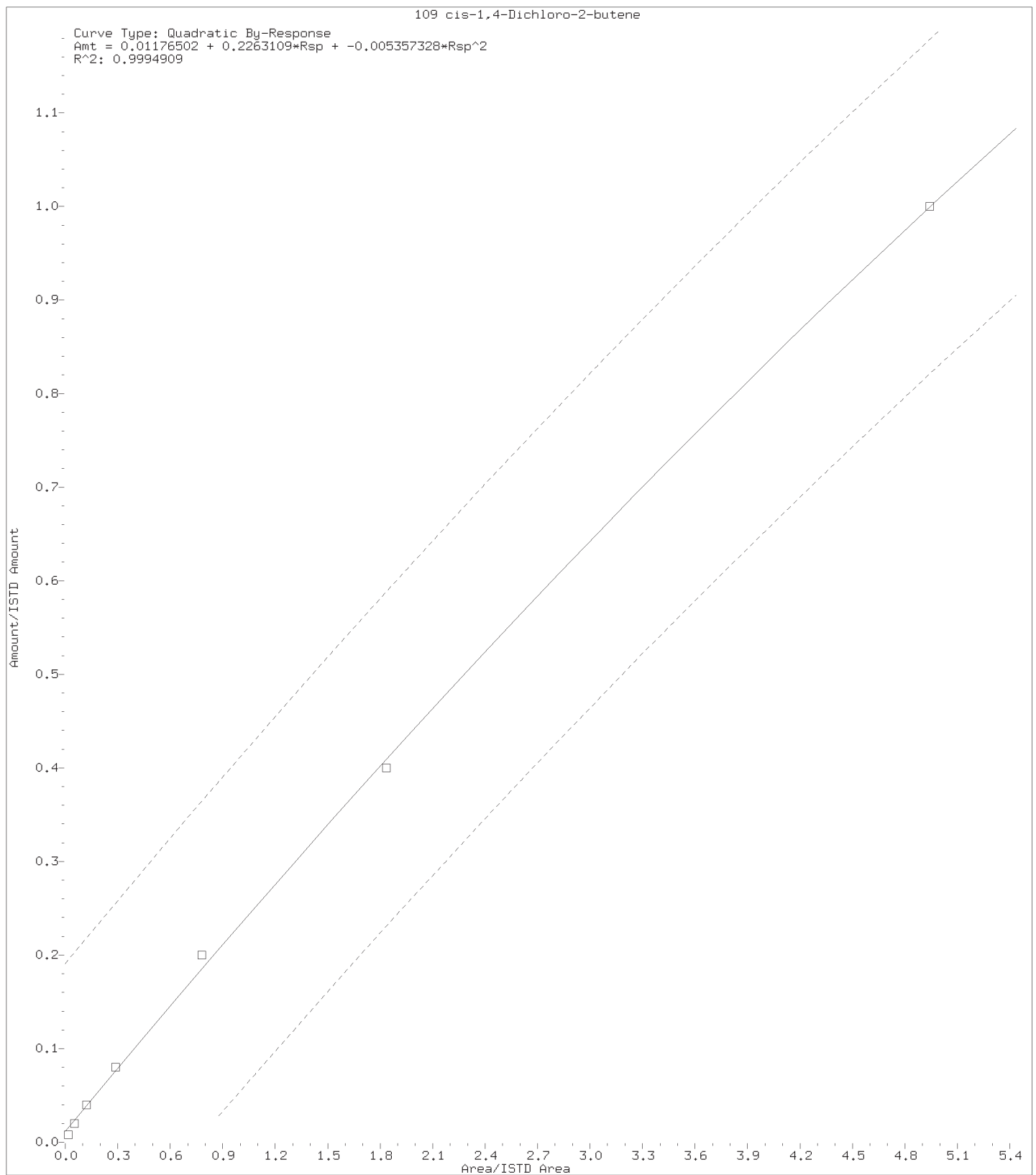
Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

LAB FILE ID:	RRF0.2= hn04i07.d	RRF0.5= hn04i06.d	RRF 1 = hn04i05.d
RRF 2 = hn04i04.d	RRF 5 = hn04i03.d	RRF 10= hn04i02.d	RRF 25= hn04i01.d

COMPOUND	RRF0.2	RRF0.5	RRF 1	RRF 2	RRF 5	RRF 10	RRF 25	RRF	% RSD	CAL. METHOD
1-Chlorobutane	0.4984	0.4888	0.5178	0.5500	0.5171	0.5630	0.5750	0.5300	6	AVG
2-Chloroethyl vinyl ether	0.0925	0.0855	0.0994	0.1057	0.1076	0.1163	0.1176	0.1035	11	AVG
Acetonitrile	2.3330	1.9024	1.8323	1.9814	1.8224	1.9220	1.7495	1.9347	10	AVG
Chloroacetonitrile	0.0059	0.0055	0.0060	0.0068	0.0063	0.0070	0.0065	0.0063	8	AVG
Cyclohexanone	0.4588	0.4393	0.5022	0.5676	0.6596	0.6973	0.6243	0.5642	18	AVG
Hexachloroethane	0.7068	0.6997	0.7013	0.7324	0.6586	0.7414	0.7421	0.7118	4	AVG
Methyl Acrylate	0.0909	0.0899	0.0983	0.1117	0.1096	0.1249	0.1278	0.1076	14	AVG
Vinyl Acetate	0.2293	0.2591	0.2778	0.2883	0.3153	0.3534	0.3760	0.2999	17	AVG
cis-1,4-Dichloro-2-butene	2.1076	2.6292	3.0344	3.5842	3.9016	4.5897	4.9407	3.5410	29	2NDDEG
Dimethyl ether		0.3048	0.3031	0.3270	0.3307	0.3382	0.3487	0.3254	6	AVG

Average %RSD 12

Compounds with required minimum RRF.
All compounds must meet a maximum %RSD of 20.



Digitally signed by Kerri E. Koch Legerlotz on 11/04/2016 at 15:27.
Target 3.5 esignature user ID: kel01973

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem2/HP19094.i/16nov04a.b/hn04i01.d	VSTD025
/chem2/HP19094.i/16nov04a.b/hn04i02.d	VSTD010
/chem2/HP19094.i/16nov04a.b/hn04i03.d	VSTD005
/chem2/HP19094.i/16nov04a.b/hn04i04.d	VSTD002
/chem2/HP19094.i/16nov04a.b/hn04i05.d	VSTD001
/chem2/HP19094.i/16nov04a.b/hn04i06.d	VSTD0.5
/chem2/HP19094.i/16nov04a.b/hn04i07.d	VSTD0.2

Area Summary

File ID:

=====

Internal Standard Name	hn04i01.d	hn04i02.d	hn04i03.d	hn04i04.d	hn04i05.d	hn04i06.d	hn04i07.d	Avg. Area	%RSD	In Spec
t-Butyl Alcohol-d10	99116	96724	95560	94813	101800	103453	89377	97263	5	Yes
Fluorobenzene	2236038	2242683	2202517	2225940	2287808	2300257	2202196	2242491	2	Yes
1,4-Dichlorobenzene-d4	671487	641693	619337	605130	627344	630516	598038	627649	4	Yes
Chlorobenzene-d5	1543200	1523957	1457113	1483645	1513085	1538466	1442473	1500277	3	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

=====

Internal Standard Name	hn04i01.d	hn04i02.d	hn04i03.d	hn04i04.d	hn04i05.d	hn04i06.d	hn04i07.d	Avg. RT
t-Butyl Alcohol-d10	4.257	4.269	4.251	4.269	4.269	4.269	4.257	4.263
Fluorobenzene	7.787	7.787	7.781	7.787	7.787	7.787	7.787	7.786
1,4-Dichlorobenzene-d4	13.127	13.127	13.127	13.127	13.127	13.127	13.127	13.127
Chlorobenzene-d5	11.243	11.243	11.244	11.243	11.244	11.243	11.244	11.243

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 11/04/2016 at 15:30.

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP19094 ICV Date: 11/04/16 Time: 14:36
 Lab File ID: hn04103a.d Init. Calib. Date(s): 11/04/16 11/04/16
 Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
1-Chlorobutane	0.5300	0.5730	5.41	5	8
2-Chloroethyl vinyl ether	0.1035	0.1125	5.44	5	9
Acetonitrile	1.9347	2.2382	43.38	37.5	16
Chloroacetonitrile	0.0063	0.0063	248.54	250	-1
Cyclohexanone	0.5642	0.5241	116.13	125	-7
Hexachloroethane	0.7118	0.7302	5.13	5	3
Methyl Acrylate	0.1076	0.1236	28.73	25	15
Vinyl Acetate	0.2999	0.3256	13.57	12.5	9
cis-1,4-Dichloro-2-butene	3.5410	4.5852	13.21	12.5	6
Dimethyl ether	0.3254	0.3167	4.87	5	-3

Average %Drift 8

Compounds with required minimum RRF.
 Maximum % Drift = 30 %

page 1 of 1

FORM VII VOA

Lancaster Laboratories

Continuing Calibration Internal Standard Check

Initial Calibration Standards:

```

/chem2/HP19094.i/16oct04a.b/hc04i07.d
/chem2/HP19094.i/16oct04a.b/hc04i06.d
/chem2/HP19094.i/16oct04a.b/hc04i05.d
/chem2/HP19094.i/16oct04a.b/hc04i04.d
/chem2/HP19094.i/16oct04a.b/hc04i03.d
/chem2/HP19094.i/16oct04a.b/hc04i02.d
/chem2/HP19094.i/16oct04a.b/hc04i01.d

```

File /chem2/HP19094.i/16oct04a.b/hc04i02.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

```

/chem2/HP19094.i/16nov05a.b/hn05c01.d

```

RT Summary

File ID:

=====

Internal Standard Name	hn05c01.d	ICAL RT	In Spec
t-Butyl Alcohol-d10	4.263	4.287	Yes
Fluorobenzene	7.781	7.787	Yes
Chlorobenzene-d5	11.243	11.243	Yes
1,4-Dichlorobenzene-d4	13.127	13.127	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

File ID:

=====

Internal Standard Name	hn05c01.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl Alcohol-d10	108917	60829	30414	121658	Yes
Fluorobenzene	2402580	2235292	1117646	4470584	Yes
Chlorobenzene-d5	1649583	1455786	727893	2911572	Yes
1,4-Dichlorobenzene-d4	752131	661919	330960	1323838	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

Comments:

report generated on 11/05/2016 at 08:56

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: HP19094 Calibration Date: 11/05/16 Time: 08:32

Lab File ID: hn05c01.d Init. Calib. Date(s): 10/04/16 10/04/16

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF10	ACTUAL CONC.	TRUE CONC.	% DRIFT
# Dichlorodifluoromethane	0.4250	0.3244	7.63	10	-24 #<-
# Chloromethane	0.4549	0.3468	7.62	10	-24 #<-
# Vinyl Chloride	0.4055	0.3340	8.24	10	-18 #
1,3-Butadiene	0.6216	0.4009	6.45	10	-36 <-
# Bromomethane	0.2602	0.2120	8.15	10	-19 #
# Chloroethane	0.2293	0.1899	8.28	10	-17 #
Dichlorofluoromethane	0.5473	0.4391	8.02	10	-20
# Trichlorofluoromethane	0.4922	0.4065	8.26	10	-17 #
Ethyl ether	0.1816	0.1569	8.64	10	-14
Freon 123a	0.3417	0.3068	8.98	10	-10
Acrolein	3.5958	2.6541	369.06	500	-26 <-
# 1,1-Dichloroethene	0.2293	0.2172	9.47	10	-5 #
# Freon 113	0.2507	0.2365	9.43	10	-6 #
# Acetone	4.8140	3.5451	73.64	100	-26 #<-
Methyl Iodide	0.4383	0.4073	9.29	10	-7
# Carbon Disulfide	0.6954	0.6538	9.40	10	-6 #
Allyl Chloride	0.4990	0.3572	7.16	10	-28 <-
# Methyl Acetate	15.5920	9.6593	6.38	10	-36 #<-
# Methylene Chloride	0.2461	0.2398	9.74	10	-3 #
t-Butyl Alcohol	1.3004	1.2928	198.83	200	-1
Acrylonitrile	5.6644	4.8567	42.87	50	-14
# trans-1,2-Dichloroethene	0.2600	0.2488	9.57	10	-4 #
# Methyl Tertiary Butyl Ether	0.5350	0.5064	9.46	10	-5 #
n-Hexane	0.3963	0.4009	10.12	10	1
# 1,1-Dichloroethane	0.5119	0.4921	9.61	10	-4 #
di-Isopropyl Ether	0.9178	0.8616	9.39	10	-6
2-Chloro-1,3-Butadiene	0.4739	0.4431	9.35	10	-6
Ethyl t-butyl ether	0.7446	0.6907	9.28	10	-7
# cis-1,2-Dichloroethene	0.2850	0.2783	9.77	10	-2 #
2,2-Dichloropropane	0.4154	0.3826	9.21	10	-8
# 2-Butanone	8.5183	6.6377	77.92	100	-22 #<-
Propionitrile	1.8788	1.8393	195.79	200	-2
Methacrylonitrile	8.0216	6.3052	78.60	100	-21 <-
Bromochloromethane	0.1143	0.0997	8.72	10	-13
Tetrahydrofuran	2.1957	1.6934	77.12	100	-23 <-
# Chloroform	0.4944	0.4608	9.32	10	-7 #

Compounds with required minimum RRF.

All compounds must meet a maximum % Drift of 20.

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: HP19094 Calibration Date: 11/05/16 Time: 08:32

Lab File ID: hn05c01.d Init. Calib. Date(s): 10/04/16 10/04/16

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF10	ACTUAL CONC.	TRUE CONC.	% DRIFT
=====					
# 1,1,1-Trichloroethane	0.4451	0.3927	8.82	10	-12 #
# Cyclohexane	0.5224	0.4862	9.31	10	-7 #
# Cyclohexane(2)	0.4311	0.3844	8.92	10	-11 #
# Cyclohexane(3)	0.1473	0.1407	9.55	10	-4 #
1,1-Dichloropropene	0.4024	0.3858	9.59	10	-4 #
# Carbon Tetrachloride	0.3845	0.3524	9.16	10	-8 #
Isobutyl Alcohol	0.5144	0.5106	496.37	500	-1 #
# Benzene	1.0728	1.0712	9.99	10	0 #
# 1,2-Dichloroethane	0.2987	0.2829	9.47	10	-5 #
t-Amyl methyl ether	0.6040	0.5825	9.64	10	-4 #
n-Heptane	0.4771	0.4750	9.96	10	0 #
n-Butanol	0.3757	0.4072	1083.95	1000	8 #
# Trichloroethene	0.2939	0.2851	9.70	10	-3 #
# Methylcyclohexane	0.5132	0.4100	7.99	10	-20 #
# 1,2-Dichloropropane	0.2731	0.2823	10.34	10	3 #
Methyl Methacrylate	14.7680	12.0225	8.14	10	-19 #
Dibromomethane	0.1143	0.1154	10.09	10	1 #
1,4-Dioxane	0.0856	0.0974	527.56	500	6 #
# Bromodichloromethane	0.3128	0.3199	10.23	10	2 #
2-Nitropropane	5.4634	3.9552	72.40	100	-28 # <-
# cis-1,3-Dichloropropene	0.3550	0.3803	10.71	10	7 #
# 4-Methyl-2-Pentanone	22.7690	16.6677	73.20	100	-27 # <-
# Toluene	1.0380	0.9846	9.49	10	-5 #
# trans-1,3-Dichloropropene	0.4212	0.4213	10.00	10	0 #
Ethyl Methacrylate	0.3248	0.3318	10.22	10	2 #
# 1,1,2-Trichloroethane	0.2389	0.2397	10.03	10	0 #
# Tetrachloroethene	0.4968	0.4579	9.22	10	-8 #
1,3-Dichloropropane	0.4343	0.4347	10.01	10	0 #
# 2-Hexanone	15.7600	11.7465	74.53	100	-25 # <-
# Dibromochloromethane	0.2963	0.2929	9.88	10	-1 #
# 1,2-Dibromoethane	0.2260	0.2305	10.20	10	2 #
# Chlorobenzene	1.1060	1.0811	9.77	10	-2 #
1,1,1,2-Tetrachloroethane	0.3801	0.3554	9.35	10	-6 #
# Ethylbenzene	2.0426	1.9331	9.46	10	-5 #
# m+p-Xylene	0.7675	0.7461	19.44	20	-3 #
# o-Xylene	0.7486	0.7182	9.59	10	-4 #

Compounds with required minimum RRF.
All compounds must meet a maximum % Drift of 20.

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: HP19094 Calibration Date: 11/05/16 Time: 08:32

Lab File ID: hn05c01.d Init. Calib. Date(s): 10/04/16 10/04/16

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF10	ACTUAL CONC.	TRUE CONC.	% DRIFT	
# Styrene	1.1454	1.1667	10.19	10	2	#
# Bromoform	0.1622	0.1550	9.56	10	-4	#
# Isopropylbenzene	2.0182	1.8672	9.25	10	-7	#
# 1,1,2,2-Tetrachloroethane	0.6185	0.6315	10.21	10	2	#
Bromobenzene	0.9974	0.9319	9.34	10	-7	
trans-1,4-Dichloro-2-butene	6.7472	4.9359	73.16	100	-27	<-
1,2,3-Trichloropropane	0.1651	0.1603	9.71	10	-3	
n-Propylbenzene	5.2878	5.1257	9.69	10	-3	
2-Chlorotoluene	0.9996	0.9689	9.69	10	-3	
1,3,5-Trimethylbenzene	3.6372	3.4963	9.61	10	-4	
4-Chlorotoluene	1.0221	0.9711	9.50	10	-5	
tert-Butylbenzene	0.7935	0.7794	9.82	10	-2	
Pentachloroethane	0.6140	0.5372	8.75	10	-13	
1,2,4-Trimethylbenzene	3.6721	3.4748	9.46	10	-5	
sec-Butylbenzene	4.7734	4.5519	9.54	10	-5	
# 1,3-Dichlorobenzene	1.9397	1.8411	9.49	10	-5	#
p-Isopropyltoluene	3.9827	3.8508	9.67	10	-3	
# 1,4-Dichlorobenzene	2.0175	1.8389	9.11	10	-9	#
1,2,3-Trimethylbenzene	1.5893	1.3533	8.52	10	-15	
Benzyl Chloride	0.2104	0.2401	11.41	10	14	
n-Butylbenzene	1.9119	1.9689	10.30	10	3	
# 1,2-Dichlorobenzene	1.7256	1.6134	9.35	10	-7	#
# 1,2-Dibromo-3-chloropropane	3.3157	2.6764	8.07	10	-19	#
# 1,2,4-Trichlorobenzene	1.2290	1.0889	8.86	10	-11	#
Hexachlorobutadiene	0.5847	0.5603	9.58	10	-4	
Naphthalene	1.8659	1.6791	9.00	10	-10	
1,2,3-Trichlorobenzene	1.0346	0.8639	8.35	10	-16	
Dibromofluoromethane	0.2294	0.2275	9.92	10	-1	
Dibromofluoromethane(2)	0.2345	0.2317	9.88	10	-1	
1,2-Dichloroethane-d4	0.0368	0.0391	10.61	10	6	
1,2-Dichloroethane-d4(2)	0.2028	0.1963	9.68	10	-3	
1,2-Dichloroethane-d4(3)	0.0236	0.0247	10.46	10	5	
Toluene-d8	1.5105	1.4502	9.60	10	-4	
Toluene-d8(2)	0.9713	0.9382	9.66	10	-3	
4-Bromofluorobenzene	0.4441	0.4473	10.07	10	1	

Compounds with required minimum RRF.

All compounds must meet a maximum % Drift of 20.

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
Instrument ID: HP19094 Calibration Date: 11/05/16 Time: 08:32
Lab File ID: hn05c01.d Init. Calib. Date(s): 10/04/16 10/04/16
Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF10	ACTUAL CONC.	TRUE CONC.	% DRIFT
=====	=====	=====	=====	=====	=====
4-Bromofluorobenzene (2)	0.3974	0.3874	9.75	10	-3

Average %Drift 9

Compounds with required minimum RRF.
All compounds must meet a maximum % Drift of 20.

Lancaster Laboratories

Continuing Calibration Internal Standard Check

Initial Calibration Standards:

```

/chem2/HP19094.i/16nov04a.b/hn04i07.d
/chem2/HP19094.i/16nov04a.b/hn04i06.d
/chem2/HP19094.i/16nov04a.b/hn04i05.d
/chem2/HP19094.i/16nov04a.b/hn04i04.d
/chem2/HP19094.i/16nov04a.b/hn04i03.d
/chem2/HP19094.i/16nov04a.b/hn04i02.d
/chem2/HP19094.i/16nov04a.b/hn04i01.d

```

File /chem2/HP19094.i/16nov04a.b/hn04i02.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP19094.i/16nov05a.b/hn05c02.d

RT Summary

File ID:

=====

Internal Standard Name	hn05c02.d	ICAL RT	In Spec
=====	=====	=====	=====
t-Butyl Alcohol-d10	4.257	4.269	Yes
Fluorobenzene	7.781	7.787	Yes
1,4-Dichlorobenzene-d4	13.127	13.127	Yes
Chlorobenzene-d5	11.244	11.243	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

File ID:

=====

Internal Standard Name	hn05c02.d	ICAL Area	Low Limit	High Limit	In Spec
=====	=====	=====	=====	=====	=====
t-Butyl Alcohol-d10	107346	96724	48362	193448	Yes
Fluorobenzene	2362062	2242683	1121342	4485366	Yes
1,4-Dichlorobenzene-d4	665817	641693	320846	1283386	Yes
Chlorobenzene-d5	1578502	1523957	761978	3047914	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

Comments:

report generated on 11/05/2016 at 09:14

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: HP19094 Calibration Date: 11/05/16 Time: 08:52

Lab File ID: hn05c02.d Init. Calib. Date(s): 11/04/16 11/04/16

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF10	ACTUAL CONC.	TRUE CONC.	% DRIFT
=====	=====	=====	=====	=====	=====
2-Chloroethyl vinyl ether	0.1035	0.0989	9.55	10	-4
Vinyl Acetate	0.2999	0.3403	11.35	10	13
cis-1,4-Dichloro-2-butene	3.5410	4.6545	20.73	20	4
Acetonitrile	1.9347	1.6638	343.99	400	-14
Cyclohexanone	0.5642	0.4032	357.32	500	-29
Dimethyl ether	0.3254	0.3276	10.07	10	1

Average %Drift 11

Compounds with required minimum RRF.
All compounds must meet a maximum % Drift of 20.

Lancaster Laboratories

Continuing Calibration Internal Standard Check

Initial Calibration Standards:

```

/chem2/HP19094.i/16oct04a.b/hc04i07.d
/chem2/HP19094.i/16oct04a.b/hc04i06.d
/chem2/HP19094.i/16oct04a.b/hc04i05.d
/chem2/HP19094.i/16oct04a.b/hc04i04.d
/chem2/HP19094.i/16oct04a.b/hc04i03.d
/chem2/HP19094.i/16oct04a.b/hc04i02.d
/chem2/HP19094.i/16oct04a.b/hc04i01.d

```

File /chem2/HP19094.i/16oct04a.b/hc04i02.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

```

/chem2/HP19094.i/16nov07a.b/hn07c01.d

```

RT Summary

File ID:

=====

Internal Standard Name	hn07c01.d	ICAL RT	In Spec
t-Butyl Alcohol-d10	4.263	4.287	Yes
Fluorobenzene	7.787	7.787	Yes
Chlorobenzene-d5	11.244	11.243	Yes
1,4-Dichlorobenzene-d4	13.127	13.127	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

File ID:

=====

Internal Standard Name	hn07c01.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl Alcohol-d10	102741	60829	30414	121658	Yes
Fluorobenzene	2382061	2235292	1117646	4470584	Yes
Chlorobenzene-d5	1618017	1455786	727893	2911572	Yes
1,4-Dichlorobenzene-d4	741635	661919	330960	1323838	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

Comments:

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: HP19094 Calibration Date: 11/07/16 Time: 09:51

Lab File ID: hn07c01.d Init. Calib. Date(s): 10/04/16 10/04/16

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF10	ACTUAL CONC.	TRUE CONC.	% DRIFT
# Dichlorodifluoromethane	0.4250	0.4125	9.70	10	-3 #
# Chloromethane	0.4549	0.3798	8.35	10	-17 #
# Vinyl Chloride	0.4055	0.3482	8.59	10	-14 #
1,3-Butadiene	0.6216	0.3187	5.13	10	-49 <-
# Bromomethane	0.2602	0.2189	8.41	10	-16 #
# Chloroethane	0.2293	0.1978	8.63	10	-14 #
Dichlorofluoromethane	0.5473	0.4547	8.31	10	-17
# Trichlorofluoromethane	0.4922	0.4329	8.80	10	-12 #
Ethyl ether	0.1816	0.1627	8.96	10	-10
Freon 123a	0.3417	0.3135	9.17	10	-8
Acrolein	3.5958	2.8621	397.98	500	-20
# 1,1-Dichloroethene	0.2293	0.2108	9.19	10	-8 #
# Freon 113	0.2507	0.2289	9.13	10	-9 #
# Acetone	4.8140	4.0610	84.36	100	-16 #
Methyl Iodide	0.4383	0.4034	9.20	10	-8
# Carbon Disulfide	0.6954	0.6318	9.09	10	-9 #
Allyl Chloride	0.4990	0.3668	7.35	10	-26 <-
# Methyl Acetate	15.5920	10.0422	6.65	10	-34 # <-
# Methylene Chloride	0.2461	0.2408	9.78	10	-2 #
t-Butyl Alcohol	1.3004	1.3836	212.79	200	6
Acrylonitrile	5.6644	5.2648	46.47	50	-7
# trans-1,2-Dichloroethene	0.2600	0.2429	9.34	10	-7 #
# Methyl Tertiary Butyl Ether	0.5350	0.5124	9.58	10	-4 #
n-Hexane	0.3963	0.3915	9.88	10	-1
# 1,1-Dichloroethane	0.5119	0.4847	9.47	10	-5 #
di-Isopropyl Ether	0.9178	0.8649	9.42	10	-6
2-Chloro-1,3-Butadiene	0.4739	0.4333	9.14	10	-9
Ethyl t-butyl ether	0.7446	0.6969	9.36	10	-6
# cis-1,2-Dichloroethene	0.2850	0.2748	9.64	10	-4 #
2,2-Dichloropropane	0.4154	0.3746	9.02	10	-10
# 2-Butanone	8.5183	7.2644	85.28	100	-15 #
Propionitrile	1.8788	1.9280	205.23	200	3
Methacrylonitrile	8.0216	6.7830	84.56	100	-15
Bromochloromethane	0.1143	0.1015	8.88	10	-11
Tetrahydrofuran	2.1957	1.8119	82.52	100	-17
# Chloroform	0.4944	0.4550	9.20	10	-8 #

Compounds with required minimum RRF.
All compounds must meet a maximum % Drift of 20.

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: HP19094 Calibration Date: 11/07/16 Time: 09:51

Lab File ID: hn07c01.d Init. Calib. Date(s): 10/04/16 10/04/16

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF10	ACTUAL CONC.	TRUE CONC.	% DRIFT
# 1,1,1-Trichloroethane	0.4451	0.3856	8.66	10	-13 #
# Cyclohexane	0.5224	0.4758	9.11	10	-9 #
# Cyclohexane(2)	0.4311	0.3743	8.68	10	-13 #
# Cyclohexane(3)	0.1473	0.1396	9.47	10	-5 #
1,1-Dichloropropene	0.4024	0.3797	9.44	10	-6
# Carbon Tetrachloride	0.3845	0.3474	9.03	10	-10 #
Isobutyl Alcohol	0.5144	0.5336	518.74	500	4
# Benzene	1.0728	1.0581	9.86	10	-1 #
# 1,2-Dichloroethane	0.2987	0.2809	9.41	10	-6 #
t-Amyl methyl ether	0.6040	0.5874	9.72	10	-3
n-Heptane	0.4771	0.4727	9.91	10	-1
n-Butanol	0.3757	0.4311	1147.49	1000	15
# Trichloroethene	0.2939	0.2782	9.46	10	-5 #
# Methylcyclohexane	0.5132	0.4113	8.01	10	-20 #
# 1,2-Dichloropropane	0.2731	0.2862	10.48	10	5 #
Methyl Methacrylate	14.7680	13.0169	8.81	10	-12
Dibromomethane	0.1143	0.1183	10.34	10	3
1,4-Dioxane	0.0856	0.0988	540.36	500	8
# Bromodichloromethane	0.3128	0.3243	10.37	10	4 #
2-Nitropropane	5.4634	4.2860	78.45	100	-22 <-
# cis-1,3-Dichloropropene	0.3550	0.3857	10.86	10	9 #
# 4-Methyl-2-Pentanone	22.7690	18.0178	79.13	100	-21 # <-
# Toluene	1.0380	0.9887	9.53	10	-5 #
# trans-1,3-Dichloropropene	0.4212	0.4548	10.80	10	8 #
Ethyl Methacrylate	0.3248	0.3378	10.40	10	4
# 1,1,2-Trichloroethane	0.2389	0.2472	10.35	10	3 #
# Tetrachloroethene	0.4968	0.4504	9.07	10	-9 #
1,3-Dichloropropane	0.4343	0.4505	10.37	10	4
# 2-Hexanone	15.7600	12.5030	79.33	100	-21 # <-
# Dibromochloromethane	0.2963	0.3064	10.34	10	3 #
# 1,2-Dibromoethane	0.2260	0.2358	10.43	10	4 #
# Chlorobenzene	1.1060	1.0891	9.85	10	-2 #
1,1,1,2-Tetrachloroethane	0.3801	0.3633	9.56	10	-4
# Ethylbenzene	2.0426	1.9336	9.47	10	-5 #
# m+p-Xylene	0.7675	0.7418	19.33	20	-3 #
# o-Xylene	0.7486	0.7097	9.48	10	-5 #

Compounds with required minimum RRF.

All compounds must meet a maximum % Drift of 20.

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: HP19094 Calibration Date: 11/07/16 Time: 09:51

Lab File ID: hn07c01.d Init. Calib. Date(s): 10/04/16 10/04/16

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF10	ACTUAL CONC.	TRUE CONC.	% DRIFT
=====	=====	=====	=====	=====	=====
# Styrene	1.1454	1.1647	10.17	10	2 #
# Bromoform	0.1622	0.1675	10.33	10	3 #
# Isopropylbenzene	2.0182	1.8579	9.21	10	-8 #
# 1,1,2,2-Tetrachloroethane	0.6185	0.6428	10.39	10	4 #
Bromobenzene	0.9974	0.9327	9.35	10	-6
trans-1,4-Dichloro-2-butene	6.7472	5.9174	87.70	100	-12
1,2,3-Trichloropropane	0.1651	0.1653	10.01	10	0
n-Propylbenzene	5.2878	5.0356	9.52	10	-5
2-Chlorotoluene	0.9996	0.9502	9.51	10	-5
1,3,5-Trimethylbenzene	3.6372	3.4557	9.50	10	-5
4-Chlorotoluene	1.0221	0.9828	9.62	10	-4
tert-Butylbenzene	0.7935	0.7145	9.00	10	-10
Pentachloroethane	0.6140	0.5500	8.96	10	-10
1,2,4-Trimethylbenzene	3.6721	3.4657	9.44	10	-6
sec-Butylbenzene	4.7734	4.5046	9.44	10	-6
# 1,3-Dichlorobenzene	1.9397	1.8569	9.57	10	-4 #
p-Isopropyltoluene	3.9827	3.8042	9.55	10	-4
# 1,4-Dichlorobenzene	2.0175	1.8475	9.16	10	-8 #
1,2,3-Trimethylbenzene	1.5893	1.3917	8.76	10	-12
Benzyl Chloride	0.2104	0.2477	11.77	10	18
n-Butylbenzene	1.9119	1.9430	10.16	10	2
# 1,2-Dichlorobenzene	1.7256	1.6128	9.35	10	-7 #
# 1,2-Dibromo-3-chloropropane	3.3157	2.8458	8.58	10	-14 #
# 1,2,4-Trichlorobenzene	1.2290	1.0779	8.77	10	-12 #
Hexachlorobutadiene	0.5847	0.5312	9.08	10	-9
Naphthalene	1.8659	1.7202	9.22	10	-8
1,2,3-Trichlorobenzene	1.0346	0.8722	8.43	10	-16
=====	=====	=====	=====	=====	=====
Dibromofluoromethane	0.2294	0.2280	9.94	10	-1
Dibromofluoromethane(2)	0.2345	0.2302	9.82	10	-2
1,2-Dichloroethane-d4	0.0368	0.0386	10.47	10	5
1,2-Dichloroethane-d4(2)	0.2028	0.1973	9.73	10	-3
1,2-Dichloroethane-d4(3)	0.0236	0.0242	10.28	10	3
Toluene-d8	1.5105	1.4860	9.84	10	-2
Toluene-d8(2)	0.9713	0.9715	10.00	10	0
4-Bromofluorobenzene	0.4441	0.4503	10.14	10	1

Compounds with required minimum RRF.

All compounds must meet a maximum % Drift of 20.

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: HP19094 Calibration Date: 11/07/16 Time: 09:51

Lab File ID: hn07c01.d Init. Calib. Date(s): 10/04/16 10/04/16

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF10	ACTUAL CONC.	TRUE CONC.	% DRIFT
=====	=====	=====	=====	=====	=====
4-Bromofluorobenzene (2)	0.3974	0.3818	9.61	10	-4

Average %Drift 9

Compounds with required minimum RRF.
All compounds must meet a maximum % Drift of 20.

Lancaster Laboratories

Continuing Calibration Internal Standard Check

Initial Calibration Standards:

```

/chem2/HP19094.i/16nov04a.b/hn04i07.d
/chem2/HP19094.i/16nov04a.b/hn04i06.d
/chem2/HP19094.i/16nov04a.b/hn04i05.d
/chem2/HP19094.i/16nov04a.b/hn04i04.d
/chem2/HP19094.i/16nov04a.b/hn04i03.d
/chem2/HP19094.i/16nov04a.b/hn04i02.d
/chem2/HP19094.i/16nov04a.b/hn04i01.d

```

File /chem2/HP19094.i/16nov04a.b/hn04i02.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

```

/chem2/HP19094.i/16nov07a.b/hn07c02.d

```

RT Summary

File ID:

=====

Internal Standard Name	hn07c02.d	ICAL RT	In Spec
=====	=====	=====	=====
t-Butyl Alcohol-d10	4.275	4.269	Yes
Fluorobenzene	7.787	7.787	Yes
1,4-Dichlorobenzene-d4	13.127	13.127	Yes
Chlorobenzene-d5	11.249	11.243	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

File ID:

=====

Internal Standard Name	hn07c02.d	ICAL Area	Low Limit	High Limit	In Spec
=====	=====	=====	=====	=====	=====
t-Butyl Alcohol-d10	103965	96724	48362	193448	Yes
Fluorobenzene	2491699	2242683	1121342	4485366	Yes
1,4-Dichlorobenzene-d4	743077	641693	320846	1283386	Yes
Chlorobenzene-d5	1712783	1523957	761978	3047914	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

Comments:

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: HP19094 Calibration Date: 11/07/16 Time: 10:11

Lab File ID: hn07c02.d Init. Calib. Date(s): 11/04/16 11/04/16

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF10	ACTUAL CONC.	TRUE CONC.	% DRIFT
=====	=====	=====	=====	=====	=====
Hexachloroethane	0.7118	0.7101	9.98	10	0
2-Chloroethyl vinyl ether	0.1035	0.1096	10.59	10	6
1-Chlorobutane	0.5300	0.5677	10.71	10	7
Vinyl Acetate	0.2999	0.3376	11.26	10	13
cis-1,4-Dichloro-2-butene	3.5410	6.2790	27.32	20	37 <-
Methyl Acrylate	0.1076	0.1257	58.40	50	17
Acetonitrile	1.9347	1.6575	342.68	400	-14
Cyclohexanone	0.5642	0.4029	357.06	500	-29 <-
Chloroacetonitrile	0.0063	0.0063	497.35	500	-1
Dimethyl ether	0.3254	0.2997	9.21	10	-8

Average %Drift 13

Compounds with required minimum RRF.
All compounds must meet a maximum % Drift of 20.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _RAE76_
 Lab File ID (Standard): hn05c01.d Date Analyzed: 11/05/16
 Instrument ID: HP19094 Time Analyzed: 08:32
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	108917	4.263	2402580	7.781	1649583	11.243	752131	13.127
UPPER LIMIT	217834	4.763	4805160	8.281	3299166	11.743	1504262	13.627
LOWER LIMIT	54458	3.763	1201290	7.281	824792	10.743	376066	12.627
=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE								
ID								
=====	=====	=====	=====	=====	=====	=====	=====	=====
01 LASH73	93437	4.239	2383710	7.781	1586902	11.244	712029	13.127
02 LASH75	93437	4.239	2383710	7.781	1586902	11.244	712029	13.127
03 LCDH75	102265	4.257	2314943	7.787	1508306	11.244	679777	13.127
04 MDLH010 - M	103725	4.269	2394203	7.787	1590369	11.250	691869	13.127
05 MDLH010 - M	103725	4.269	2394203	7.787	1590369	11.250	691869	13.127
06 LASH74	95389	4.263	2245900	7.787	1428890	11.250	602424	13.127
07 VBLKH73	106832	4.263	2359786	7.787	1556460	11.250	651831	13.127
08 VBLKH75	106832	4.263	2359786	7.787	1556460	11.250	651831	13.127
09 8666277	110616	4.245	2425611	7.781	1637415	11.249	682619	13.133
10 8666278	105191	4.257	2314577	7.781	1509899	11.250	629369	13.127
11 8666267	99589	4.269	2268535	7.787	1469176	11.250	612325	13.127
12 8666268MS	102754	4.257	2340569	7.787	1561983	11.250	692687	13.127
13 8666269MSD	106626	4.269	2379670	7.787	1610629	11.250	719596	13.127
14 8666268MSMS1	95625	4.269	2287932	7.787	1478206	11.250	599835	13.127
15 8666269MSDMS	109053	4.263	2352426	7.787	1553501	11.243	643260	13.127
16 8666264	95624	4.269	2271015	7.787	1459839	11.244	592568	13.127
17 8666266	98684	4.257	2315746	7.781	1503387	11.250	623602	13.127
18 8666270	99102	4.263	2278508	7.787	1487569	11.243	613536	13.127
19 8666271	94264	4.257	2242412	7.781	1458515	11.244	602841	13.127
20 8666272	105967	4.257	2278104	7.781	1521456	11.243	625721	13.127
21 8666273	93479	4.257	2245767	7.781	1472616	11.244	620012	13.127
22 8666274	93592	4.251	2222680	7.781	1437857	11.243	605558	13.127

IS1 (TBA)=t-Butyl Alcohol-d10
 IS2 (FBZ)=Fluorobenzene
 IS3 (CBZ)=Chlorobenzene-d5
 IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _RAE76_
 Lab File ID (Standard): hn05c01.d Date Analyzed: 11/05/16
 Instrument ID: HP19094 Time Analyzed: 08:32
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

		IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD		108917	4.263	2402580	7.781	1649583	11.243	752131	13.127
UPPER LIMIT		217834	4.763	4805160	8.281	3299166	11.743	1504262	13.627
LOWER LIMIT		54458	3.763	1201290	7.281	824792	10.743	376066	12.627
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE									
ID									
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
23	8666275	91919	4.275	2197243	7.780	1442134	11.243	578867	13.127
24	8666276	90519	4.275	2212947	7.787	1439423	11.243	609037	13.127
25	8665585	110436	4.263	2190905	7.781	1420529	11.250	621064	13.127
26	8665586	102203	4.275	2292353	7.787	1492826	11.249	636820	13.127
27	8665587	93329	4.269	2264716	7.781	1484392	11.249	623513	13.127
28	8665588	104092	4.282	2180531	7.787	1404355	11.244	604595	13.127
29	8665589	99134	4.251	2265566	7.781	1484716	11.243	629590	13.127
30	8665590	80262	4.257	2233314	7.781	1458343	11.244	611661	13.127
31	8665591	78414	4.257	2250322	7.781	1465879	11.244	603850	13.127
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====

IS1 (TBA)=t-Butyl Alcohol-d10
 IS2 (FBZ)=Fluorobenzene
 IS3 (CBZ)=Chlorobenzene-d5
 IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _RAE76_
 Lab File ID (Standard): hn07c01.d Date Analyzed: 11/07/16
 Instrument ID: HP19094 Time Analyzed: 09:51
 Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	102741	4.263	2382061	7.787	1618017	11.244	741635	13.127
UPPER LIMIT	205482	4.763	4764122	8.287	3236034	11.744	1483270	13.627
LOWER LIMIT	51370	3.763	1191030	7.287	809008	10.744	370818	12.627
=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE								
ID								
=====	=====	=====	=====	=====	=====	=====	=====	=====
01 LCSH76	101940	4.251	2421198	7.780	1639972	11.243	723934	13.127
02 LCSH78	101940	4.251	2421198	7.780	1639972	11.243	723934	13.127
03 LCDH76	120141	4.269	2501327	7.787	1679939	11.250	746863	13.127
04 LCDH78	120141	4.269	2501327	7.787	1679939	11.250	746863	13.127
05 LCSH77	94703	4.251	2369381	7.787	1563316	11.250	649763	13.127
06 LCSH79	94703	4.251	2369381	7.787	1563316	11.250	649763	13.127
07 LCDH77	113496	4.263	2391829	7.781	1605101	11.243	678063	13.127
08 LCDH79	113496	4.263	2391829	7.781	1605101	11.243	678063	13.127
09 VBLKH76	112630	4.263	2408843	7.787	1599881	11.250	674619	13.127
10 VBLKH78	112630	4.263	2408843	7.787	1599881	11.250	674619	13.127
11 8666265	120912	4.251	2453379	7.787	1672307	11.250	718583	13.133
12 8665549DL	113402	4.257	2385158	7.787	1644169	11.243	683687	13.127
13 8665562DL	99562	4.269	2342554	7.787	1579625	11.250	661070	13.127
14 8665573DL	97560	4.269	2274307	7.787	1512790	11.250	628183	13.127
15 8666264DL	103906	4.263	2377908	7.781	1633800	11.243	688968	13.127
16 8666266DL	77333	4.269	2263037	7.781	1492497	11.250	626909	13.127
17 8665582	80747	4.275	2369280	7.787	1559466	11.244	652717	13.127
18 8665582DL	106673	4.257	2352826	7.787	1556497	11.249	655089	13.127
19 8665583DL	90317	4.263	2217901	7.781	1461157	11.250	608979	13.127
20 8668561	95746	4.263	2269903	7.781	1499500	11.243	623369	13.127
21 8668565	89489	4.269	2295094	7.787	1516796	11.249	633492	13.127
22 8668563	101392	4.245	2263595	7.781	1496128	11.243	627269	13.127

IS1 (TBA)=t-Butyl Alcohol-d10
 IS2 (FBZ)=Fluorobenzene
 IS3 (CBZ)=Chlorobenzene-d5
 IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE76_

Lab File ID (Standard): hn07c01.d Date Analyzed: 11/07/16

Instrument ID: HP19094 Time Analyzed: 09:51

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

		IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD		102741	4.263	2382061	7.787	1618017	11.244	741635	13.127
UPPER LIMIT		205482	4.763	4764122	8.287	3236034	11.744	1483270	13.627
LOWER LIMIT		51370	3.763	1191030	7.287	809008	10.744	370818	12.627
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
LAB SAMPLE									
ID									
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
23	8668563DL	97611	4.251	2289764	7.781	1531095	11.243	621396	13.127
24	8668564	89081	4.269	2297277	7.781	1521325	11.244	629907	13.127
25	8668564DL	82808	4.275	2264655	7.787	1497457	11.250	616730	13.127
26	8668566	98099	4.257	2289146	7.781	1576507	11.243	653674	13.127
27	8668566DL	98882	4.257	2203550	7.787	1464912	11.243	613111	13.127
28	8671286	86616	4.288	2233911	7.787	1479626	11.250	609583	13.127
29	8671287DL	81649	4.269	2136540	7.787	1401747	11.250	578145	13.133

IS1 (TBA)=t-Butyl Alcohol-d10
 IS2 (FBZ)=Fluorobenzene
 IS3 (CBZ)=Chlorobenzene-d5
 IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
 of internal standard area.
 LOWER LIMIT = - 50%
 of internal standard area.

Column used to flag values outside QC limits with an asterisk
 * Values outside of QC limits.

Sample Data

Volatiles by GC/MS

Fraction: Volatiles by GC/MS

11996: 8260C (25 ml) Analyte Name	Default MDL	Default LOQ	Units
Dichlorodifluoromethane	0.1	1.0	ug/l
Chloromethane	0.2	1.0	ug/l
Chloroethane	0.1	1.0	ug/l
Trichlorofluoromethane	0.1	1.0	ug/l
Ethyl ether	0.1	13	ug/l
1,1-Dichloroethene	0.1	1.0	ug/l
Freon 113	0.2	1.0	ug/l
Methylene Chloride	0.2	1.0	ug/l
1,1-Dichloroethane	0.1	1.0	ug/l
2-Butanone	1.0	10	ug/l
Tetrahydrofuran	2.0	25	ug/l
1,1,1-Trichloroethane	0.1	1.0	ug/l
Carbon Tetrachloride	0.1	1.0	ug/l
Benzene	0.1	1.0	ug/l
Trichloroethene	0.1	1.0	ug/l
Toluene	0.1	1.0	ug/l
Tetrachloroethene	0.1	1.0	ug/l
Ethylbenzene	0.1	1.0	ug/l
Xylene (Total)	0.1	3.0	ug/l
Dimethyl ether	0.1	13	ug/l

R7601

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666264

Data file: /chem2/HP19094.i/16nov05a.b/hn05s10.d

Injection date and time: 05-NOV-2016 13:31

Data file Sample Info. Line: R7601;8666264;1;0;;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA

Date, time and analyst ID of latest file update: 05-Nov-2016 13:49 Automation

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469

Calibration date and time (Last Method Edit): 05-NOV-2016 09:41

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments: 9274 9179

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.269(-0.006)	440	65	95624 (-12)	50.00	
63) Fluorobenzene	7.787(-0.006)	1017	96	2271015 (-5)	10.00	
97) Chlorobenzene-d5	11.244(0.000)	1584	117	1459839 (-12)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(0.000)	1893	152	592568 (-21)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.885(0.000)	113	507512	9.744	97%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.348(0.000)	102	86319	10.316	103%		74 - 113
82) Toluene-d8	(3)	9.799(-0.001)	98	2213051	10.036	100%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249(-0.001)	95	615901	9.500	95%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit LOQ (in sample)
1) Dichlorodifluoromethane	(2)	2.038(-0.003)	85	14968	0.155	0.16		J	0.1 1
4) Dimethyl ether	(2)	2.111(-0.001)	45	653379	8.841	8.84		J	0.1 13
2) Chloromethane	(2)			Not Detected					0.2 1
8) Chloroethane	(2)	2.733(0.000)	64	205267	3.942	3.94			0.1 1
10) Trichlorofluoromethane	(2)			Not Detected					0.1 1
11) Ethyl ether	(2)	3.312(-0.000)	59	2336147	56.641	56.64		E	0.1 13
15) 1,1-Dichloroethene	(2)	3.635(-0.001)	96	13091	0.251	0.25		J	0.1 1
16) Freon 113	(2)			Not Detected					0.2 1
23) Methylene Chloride	(2)	4.288(-0.000)	84	93769	1.678	1.68			0.2 1
33) 1,1-Dichloroethane	(2)	5.367(-0.000)	63	780002	6.710	6.71			0.1 1
38) 2-Butanone	(1)			Not Detected					1 10
48) Tetrahydrofuran	(1)	6.549(-0.002)	71	53848	12.823	12.82		J	2 25
51) 1,1,1-Trichloroethane	(2)	6.909(0.000)	97	17416	0.172	0.17		J	0.1 1
54) Carbon Tetrachloride	(2)			Not Detected					0.1 1
58) Benzene	(2)	7.391(-0.000)	78	79269	0.325	0.33		J	0.1 1
67) Trichloroethene	(2)	8.281(-0.000)	95	16477	0.247	0.25		J	0.1 1
83) Toluene	(3)			Not Detected					0.1 1
89) Tetrachloroethene	(3)	10.433(-0.000)	166	20318	0.280	0.28		J	0.1 1
100) Ethylbenzene	(3)			Not Detected					0.1 1
101) m+p-Xylene	(3)			Not Detected					0.1 0.5
104) o-Xylene	(3)			Not Detected					0.1 0.5
105) Xylene (Total)	(3)			Not Detected					0.1 3

E = Compound concentration above calibration range.

R7601

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666264

Data file: /chem2/HP19094.i/16nov05a.b/hn05s10.d Injection date and time: 05-NOV-2016 13:31
Data file Sample Info. Line: R7601;8666264;1;0;;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA
Date, time and analyst ID of latest file update: 05-Nov-2016 13:49 Automation

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time (Last Method Edit): 05-NOV-2016 09:41
Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

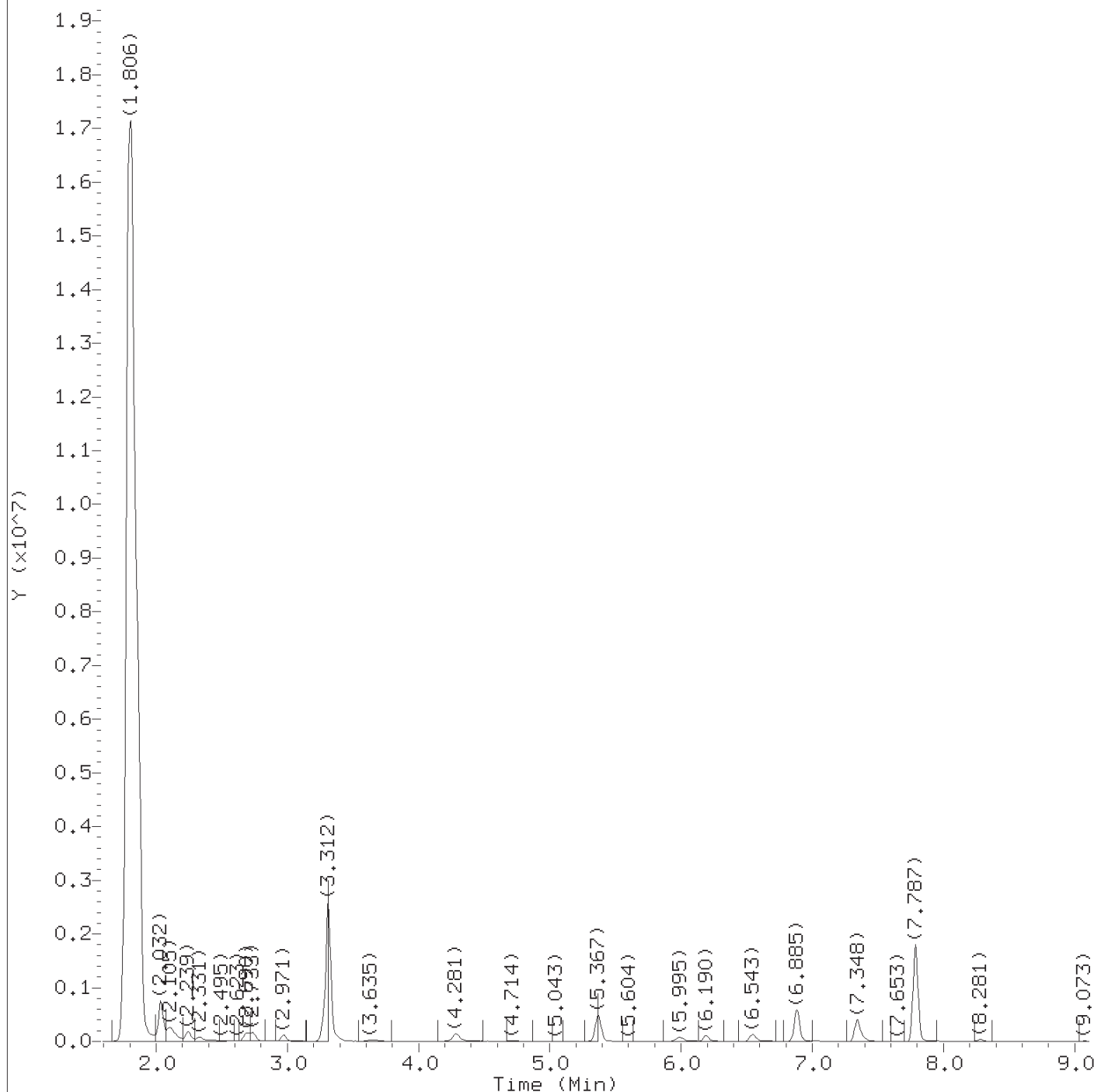
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

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WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 22

Digitally signed by Kerri E. Koch Legerlotz on 11/07/2016 at 09:21. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 20:11. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s10.d
Injection date and time: 05-NOV-2016 13:31

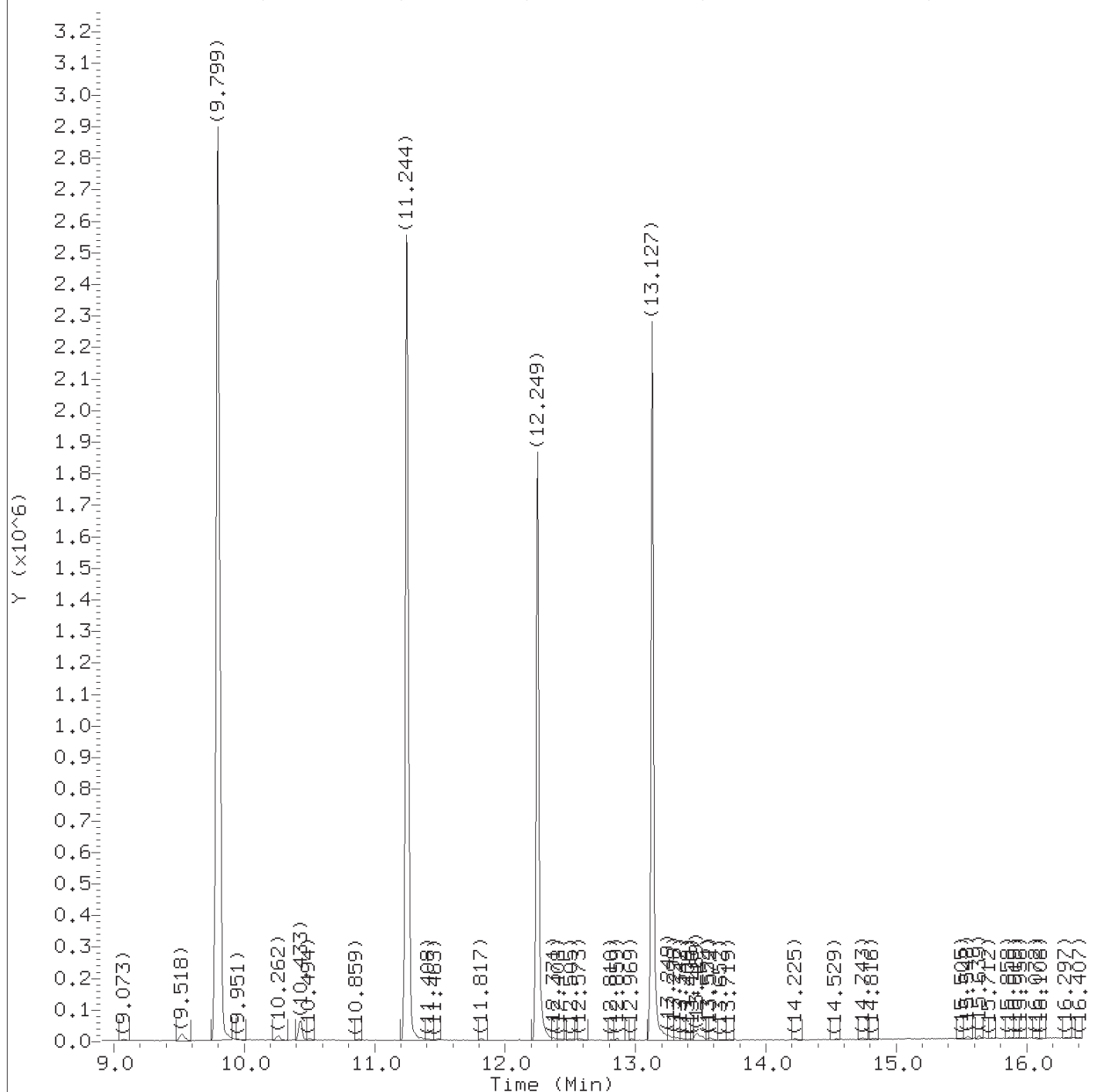
Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 13:49 Automation

Sample Name: R7601

Lab Sample ID: 8666264

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:21.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s10.d Instrument ID: HP19094.i
Injection date and time: 05-NOV-2016 13:31 Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 13:49 Automation

Sample Name: R7601 Lab Sample ID: 8666264

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:21.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s10.d
Injection date and time: 05-NOV-2016 13:31

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 13:49 Automation

Sample Name: R7601

Lab Sample ID: 8666264

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.038	85	14968	0.155
4) Dimethyl ether	(2)	2.111	45	653379	8.841
8) Chloroethane	(2)	2.733	64	205267	3.942
11) Ethyl ether	(2)	3.312	59	2336147	56.641
15) 1,1-Dichloroethene	(2)	3.635	96	13091	0.251
26)*t-Butyl Alcohol-d10	(1)	4.269	65	95624	50.000
23) Methylene Chloride	(2)	4.288	84	93769	1.678
33) 1,1-Dichloroethane	(2)	5.367	63	780002	6.710
48) Tetrahydrofuran	(1)	6.549	71	53848	12.823
50)\$Dibromofluoromethane	(2)	6.885	113	507512	9.744
51) 1,1,1-Trichloroethane	(2)	6.909	97	17416	0.172
57)\$1,2-Dichloroethane-d4	(2)	7.348	102	86319	10.316
58) Benzene	(2)	7.391	78	79269	0.325
63)*Fluorobenzene	(2)	7.787	96	2271015	10.000
67) Trichloroethene	(2)	8.281	95	16477	0.247
82)\$Toluene-d8	(3)	9.799	98	2213051	10.036
89) Tetrachloroethene	(3)	10.433	166	20318	0.280
97)*Chlorobenzene-d5	(3)	11.244	117	1459839	10.000
111)\$4-Bromofluorobenzene	(3)	12.249	95	615901	9.500
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	592568	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

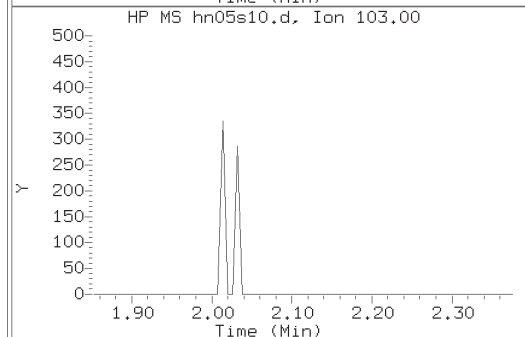
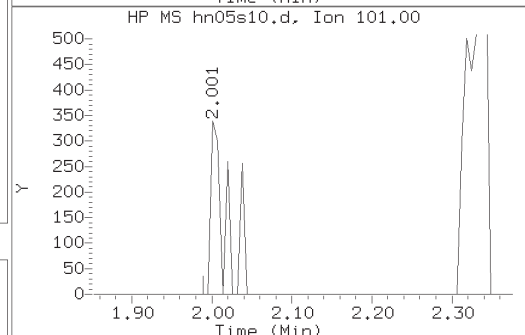
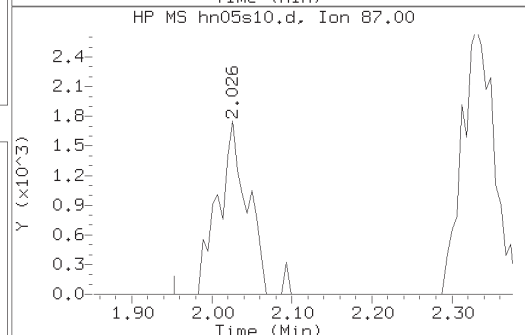
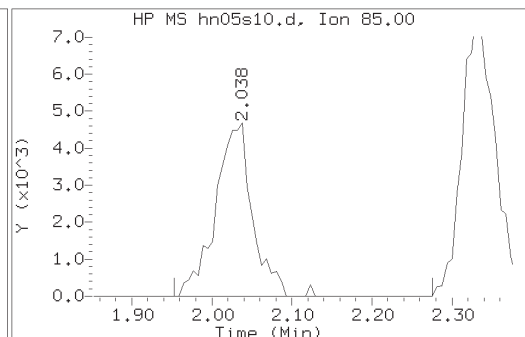
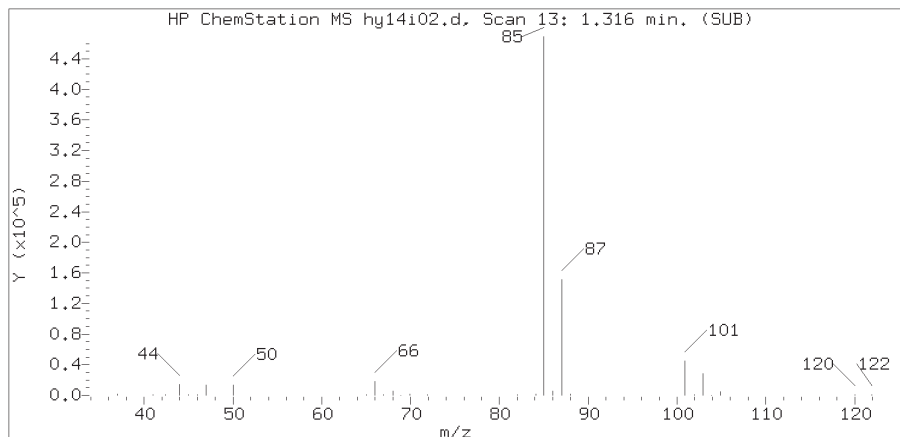
page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:21.

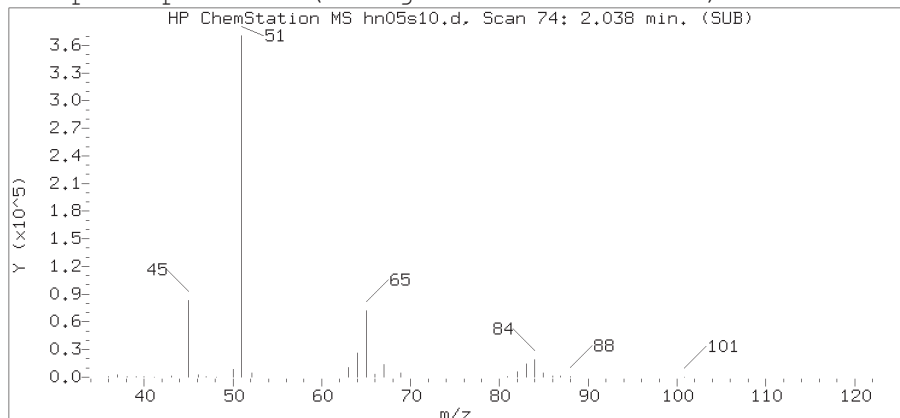
Target 3.5 esignature user ID: kel01973

RAE76 Page 94 of 883

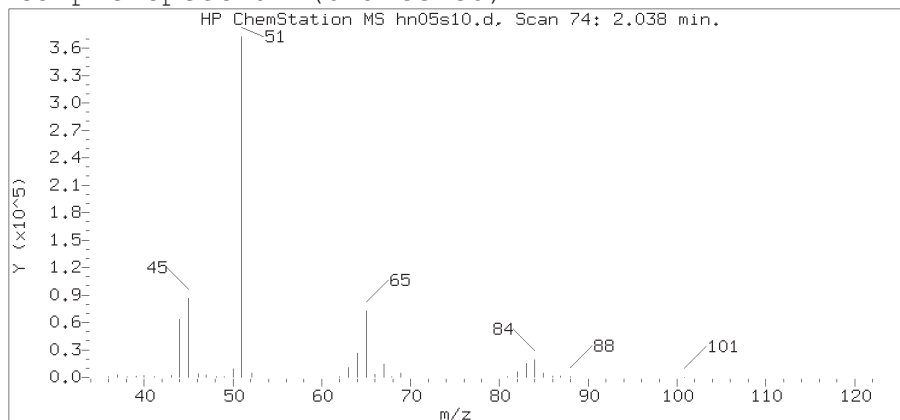
Reference Standard Spectrum for Dichlorodifluoromethane



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s10.d
Injection date and time: 05-NOV-2016 13:31

Instrument ID: HP19094.i
Analyst ID: msk07970

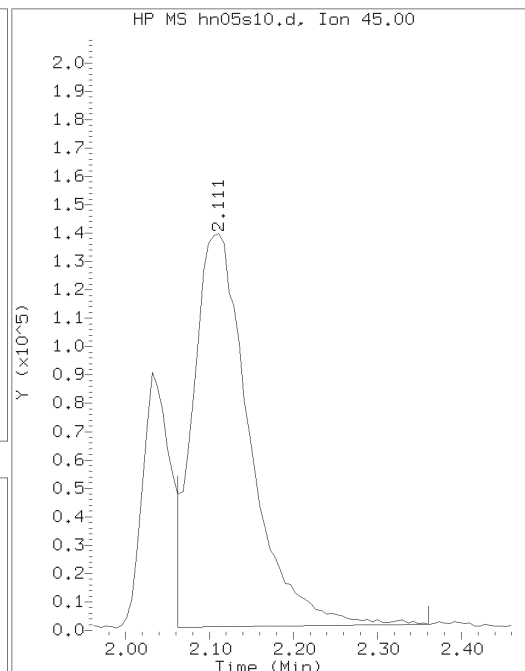
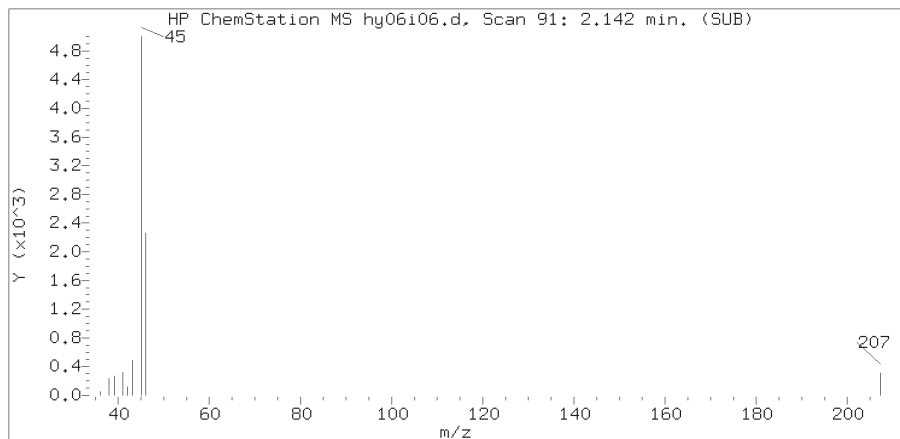
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 13:49 Automation

Sample Name: R7601

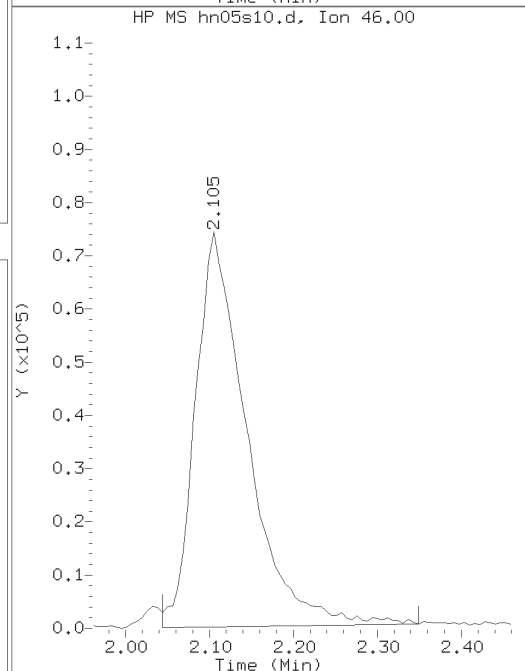
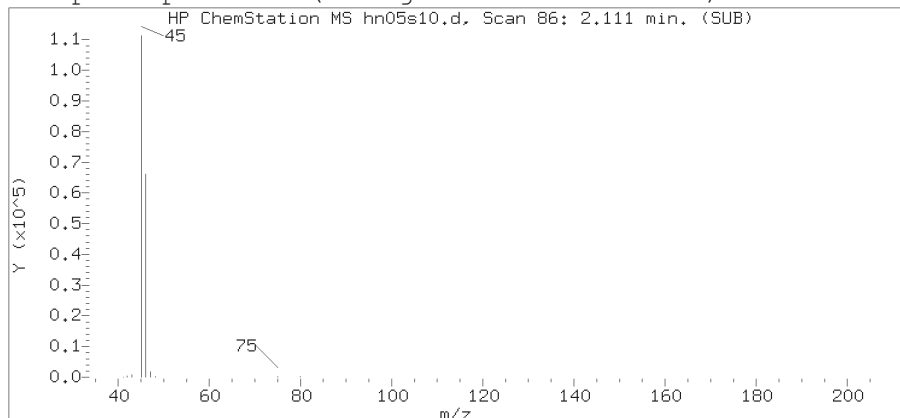
Lab Sample ID: 8666264

Compound Number : 1
Compound Name : Dichlorodifluoromethane
Scan Number : 74
Retention Time (minutes): 2.038
Relative Retention Time :-0.00371
Quant Ion : 85.00
Area (flag) : 14968
On-Column Amount (ng) : 0.1551

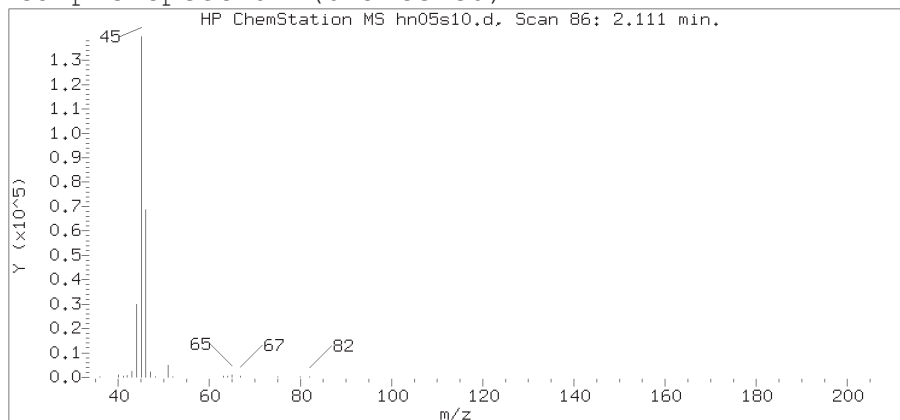
Reference Standard Spectrum for Dimethyl ether



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s10.d
Injection date and time: 05-NOV-2016 13:31

Instrument ID: HP19094.i
Analyst ID: msk07970

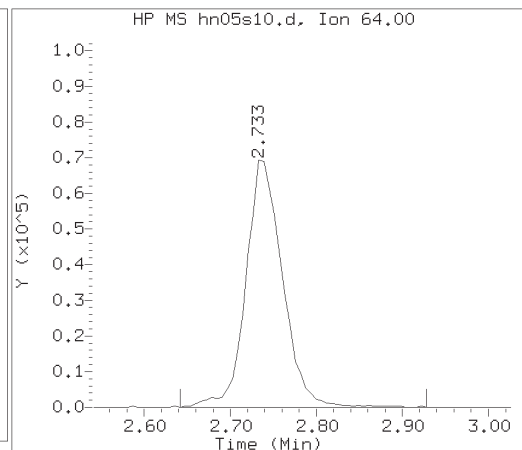
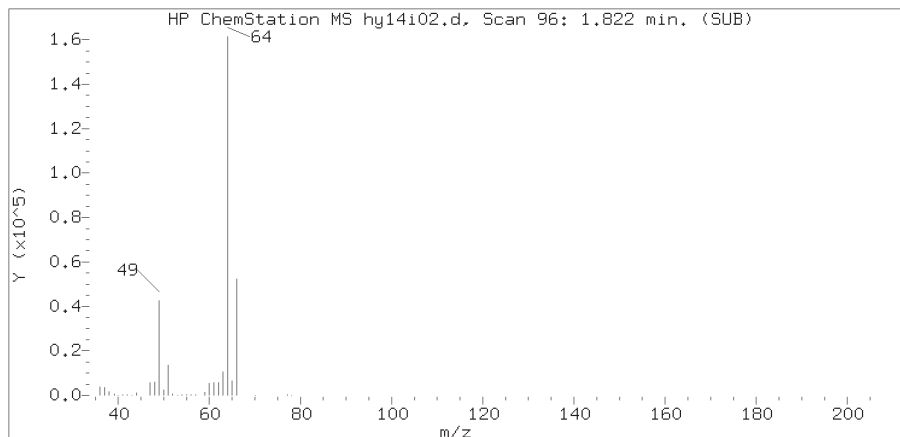
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 13:49 Automation

Sample Name: R7601

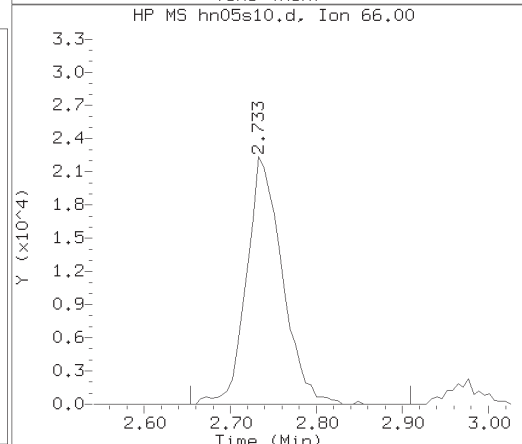
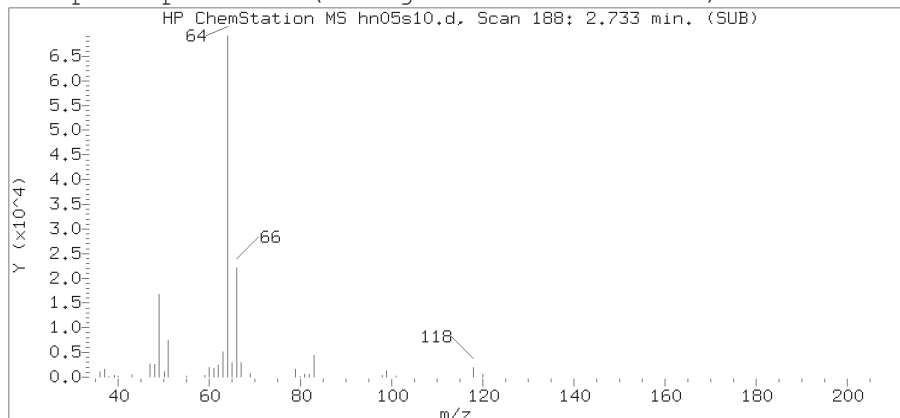
Lab Sample ID: 8666264

Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 86
Retention Time (minutes): 2.111
Relative Retention Time :-0.00135
Quant Ion : 45.00
Area (flag) : 653379
On-Column Amount (ng) : 8.8408

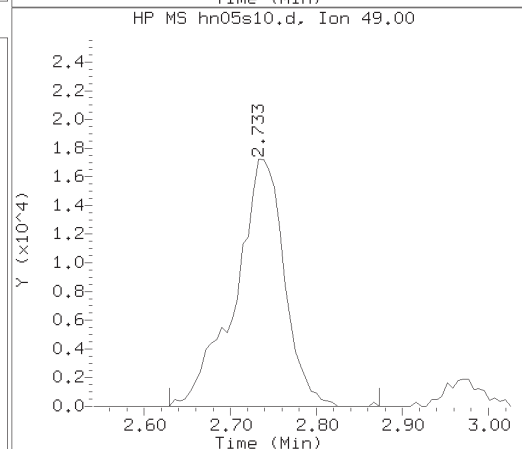
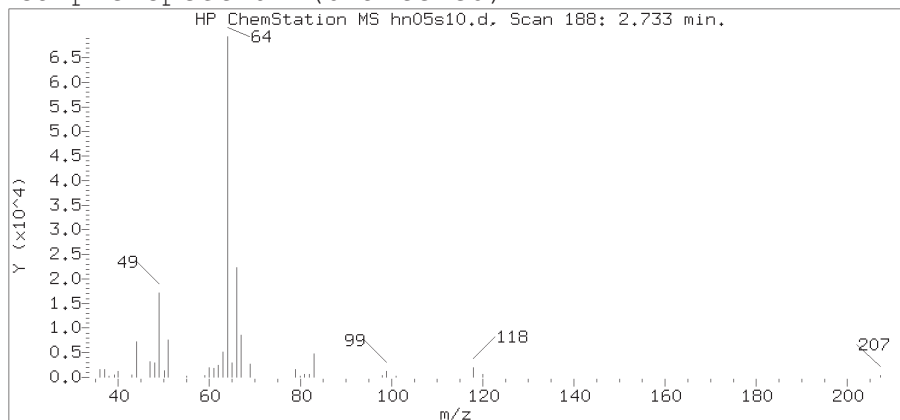
Reference Standard Spectrum for Chloroethane



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s10.d
Injection date and time: 05-NOV-2016 13:31

Instrument ID: HP19094.i
Analyst ID: msk07970

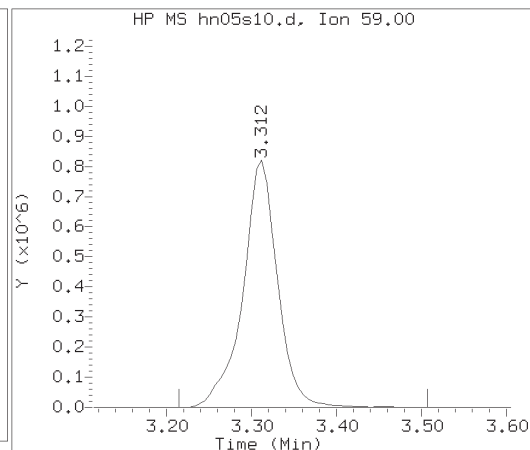
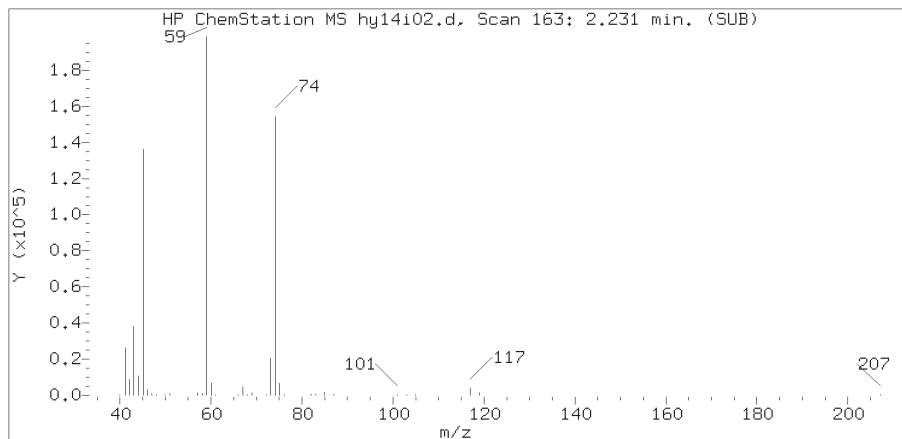
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 13:49 Automation

Sample Name: R7601

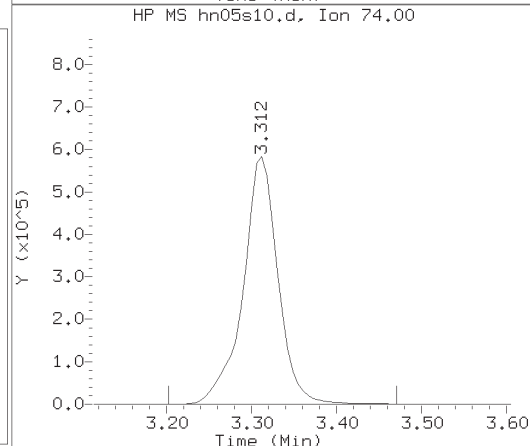
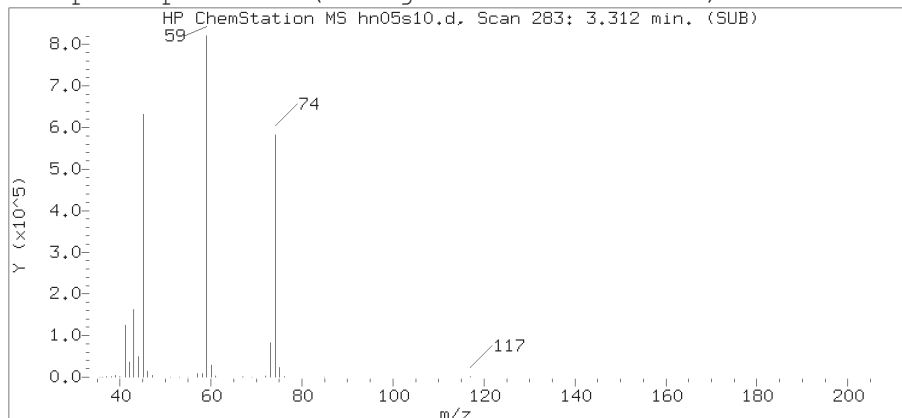
Lab Sample ID: 8666264

Compound Number : 8
Compound Name : Chloroethane
Scan Number : 188
Retention Time (minutes): 2.733
Relative Retention Time : 0.00028
Quant Ion : 64.00
Area (flag) : 205267
On-Column Amount (ng) : 3.9423

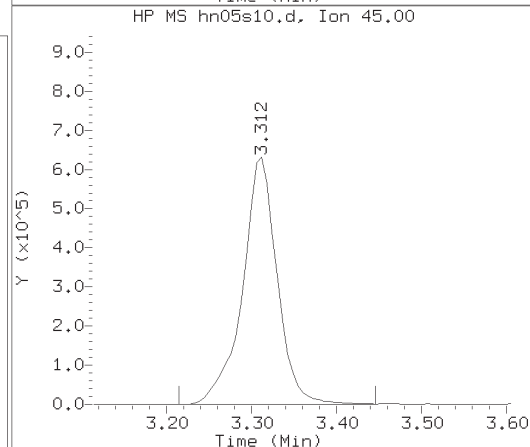
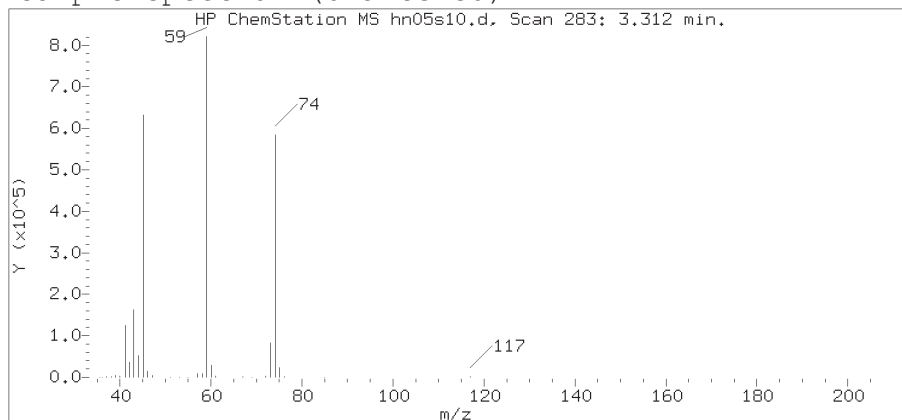
Reference Standard Spectrum for Ethyl ether



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s10.d
Injection date and time: 05-NOV-2016 13:31

Instrument ID: HP19094.i
Analyst ID: msk07970

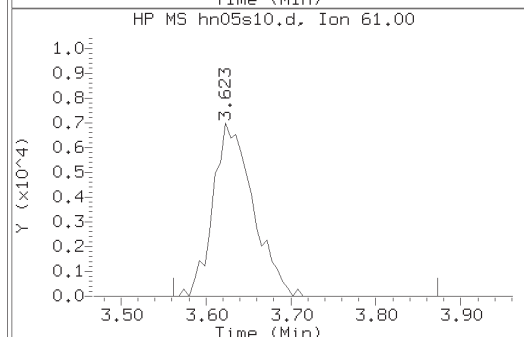
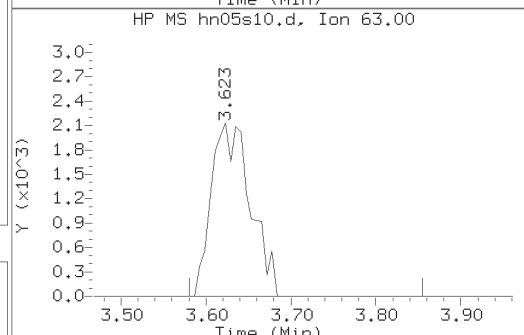
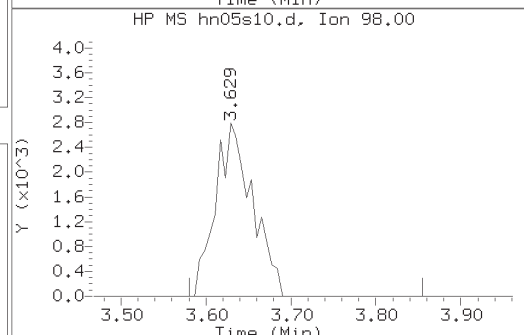
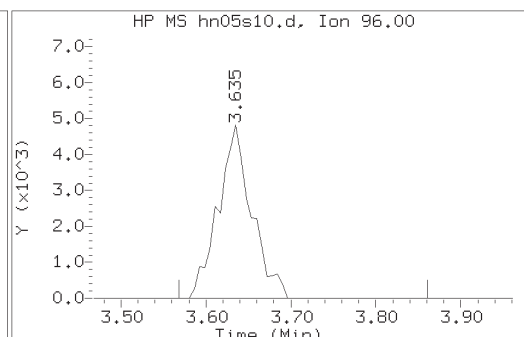
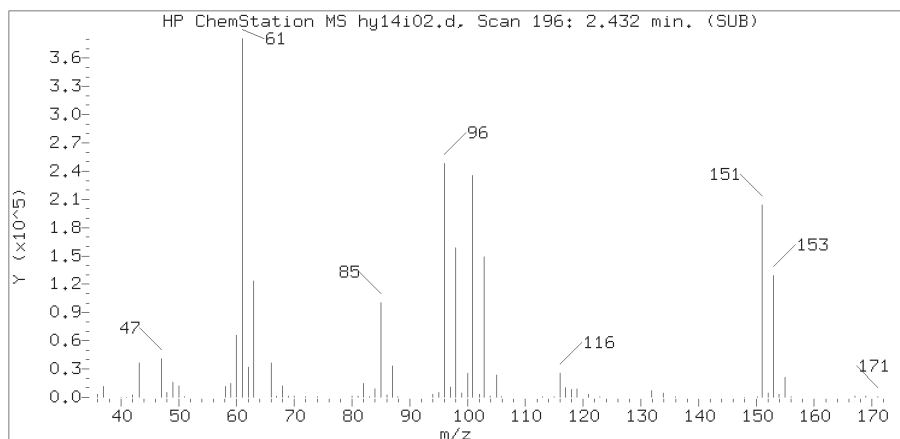
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 13:49 Automation

Sample Name: R7601

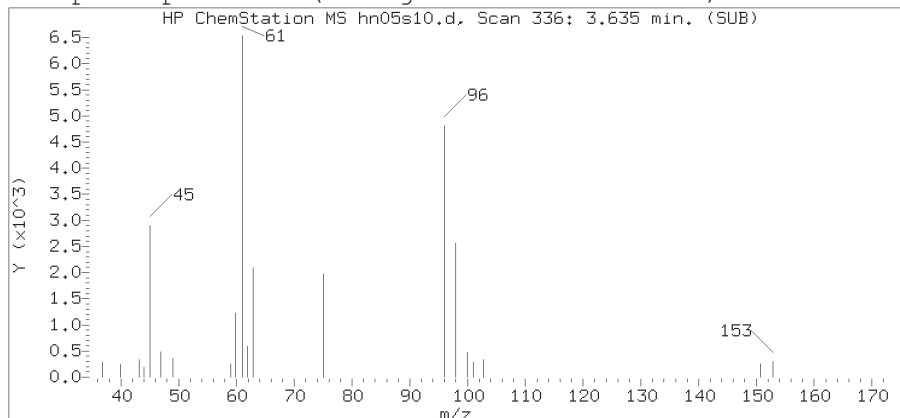
Lab Sample ID: 8666264

Compound Number : 11
Compound Name : Ethyl ether
Scan Number : 283
Retention Time (minutes): 3.312
Relative Retention Time :-0.00045
Quant Ion : 59.00
Area (flag) : 2336147
On-Column Amount (ng) : 56.6414

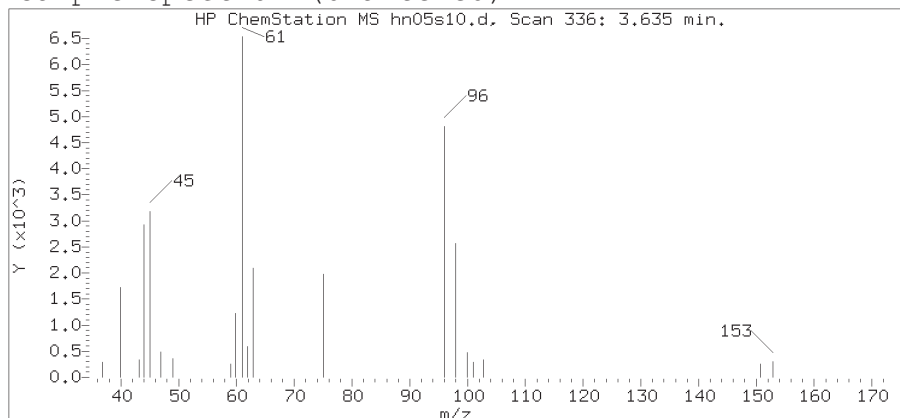
Reference Standard Spectrum for 1,1-Dichloroethene



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s10.d
Injection date and time: 05-NOV-2016 13:31

Instrument ID: HP19094.i
Analyst ID: msk07970

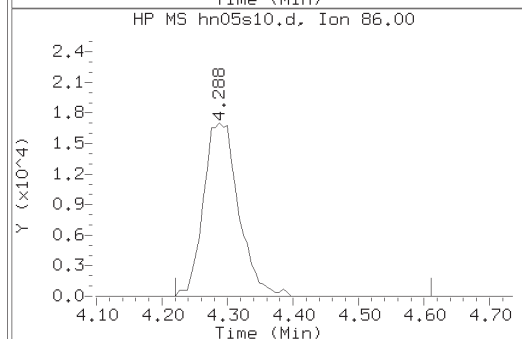
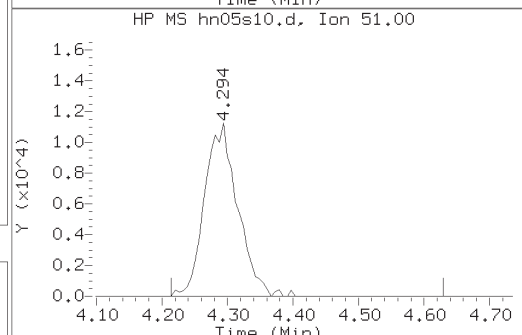
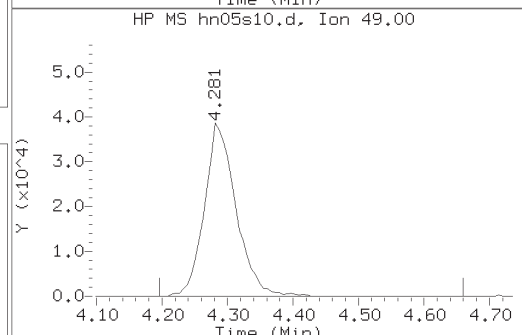
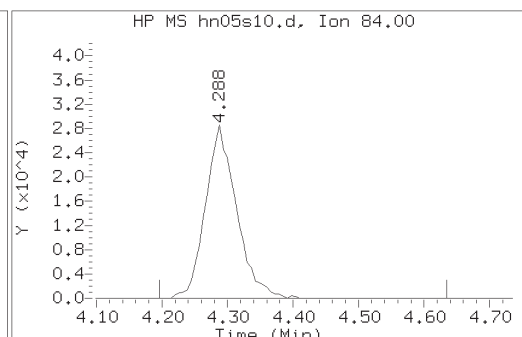
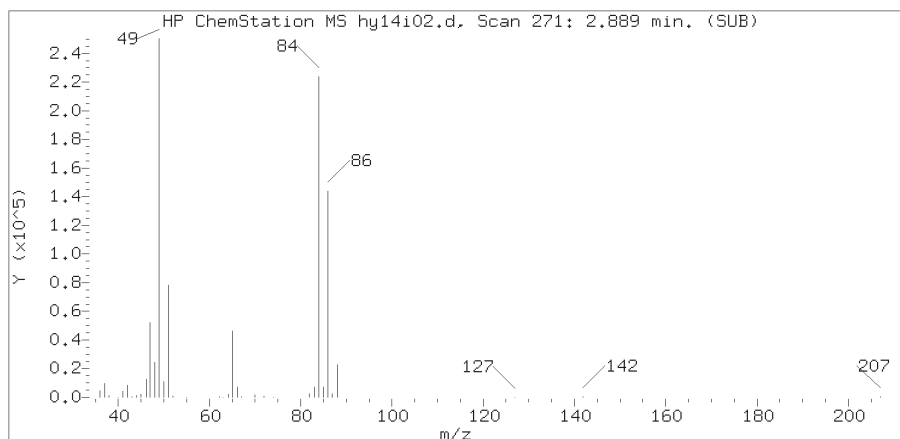
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 13:49 Automation

Sample Name: R7601

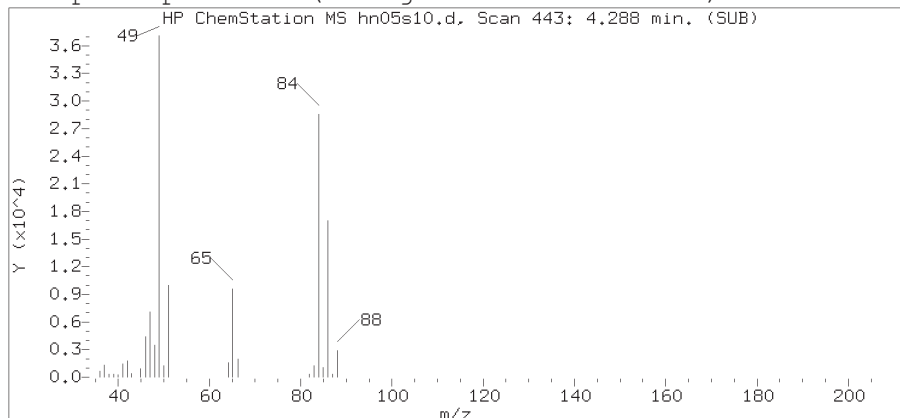
Lab Sample ID: 8666264

Compound Number : 15
Compound Name : 1,1-Dichloroethene
Scan Number : 336
Retention Time (minutes): 3.635
Relative Retention Time :-0.00198
Quant Ion : 96.00
Area (flag) : 13091
On-Column Amount (ng) : 0.2513

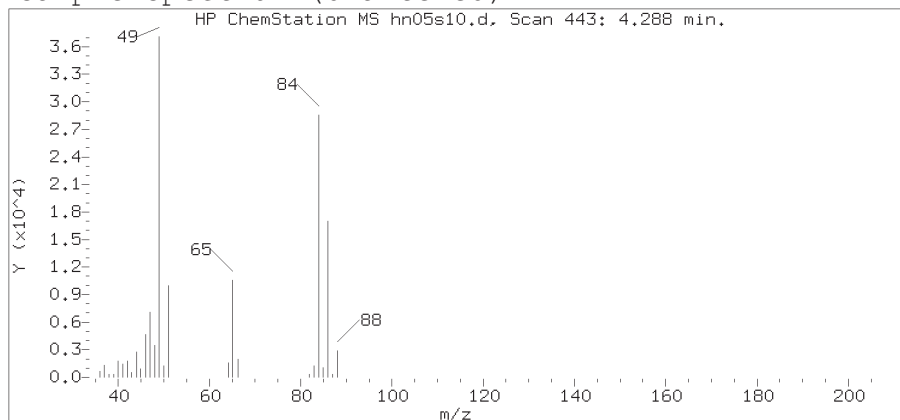
Reference Standard Spectrum for Methylene Chloride



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s10.d
Injection date and time: 05-NOV-2016 13:31

Instrument ID: HP19094.i
Analyst ID: msk07970

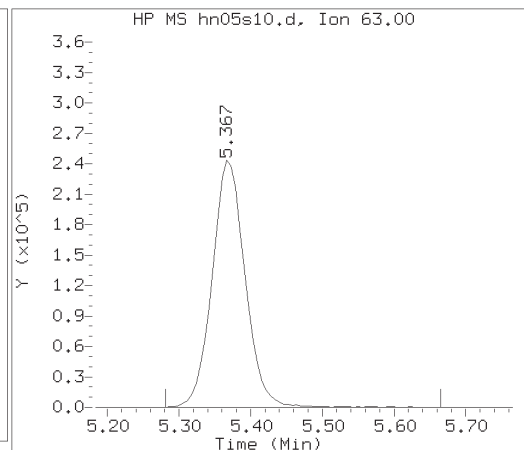
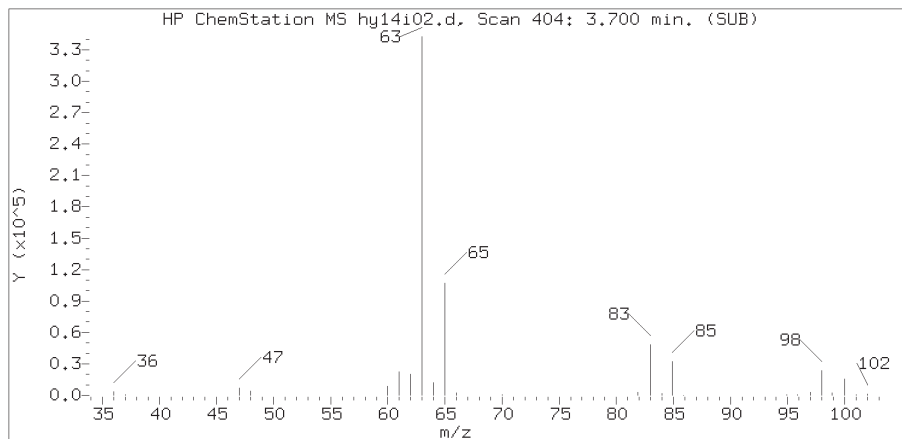
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 13:49 Automation

Sample Name: R7601

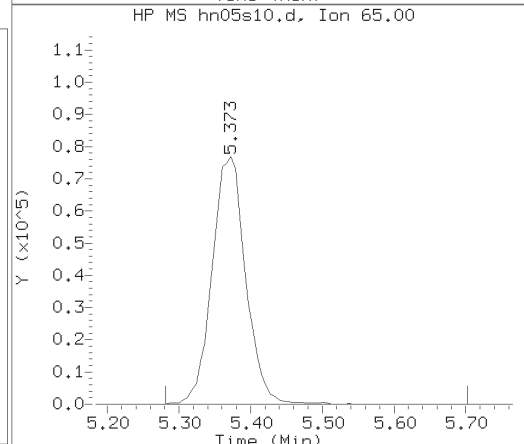
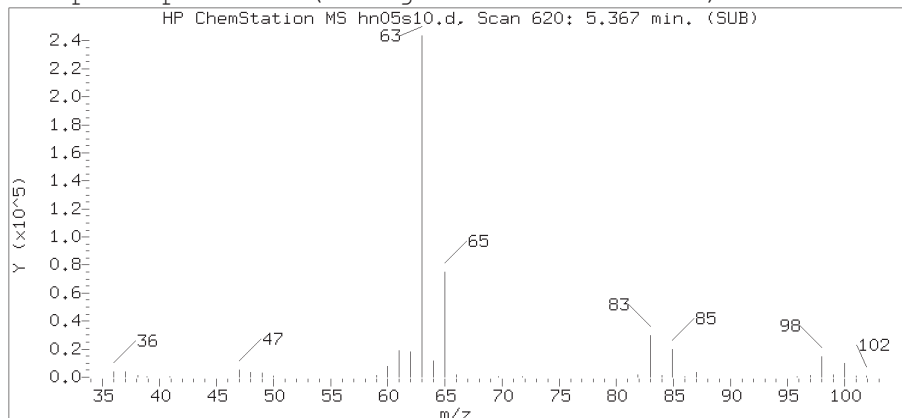
Lab Sample ID: 8666264

Compound Number : 23
Compound Name : Methylene Chloride
Scan Number : 443
Retention Time (minutes): 4.288
Relative Retention Time :-0.00035
Quant Ion : 84.00
Area (flag) : 93769
On-Column Amount (ng) : 1.6780

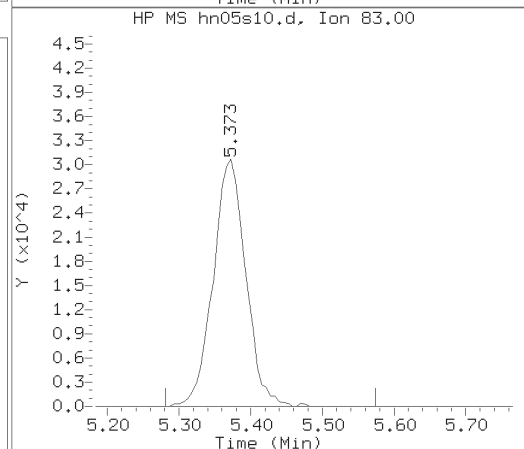
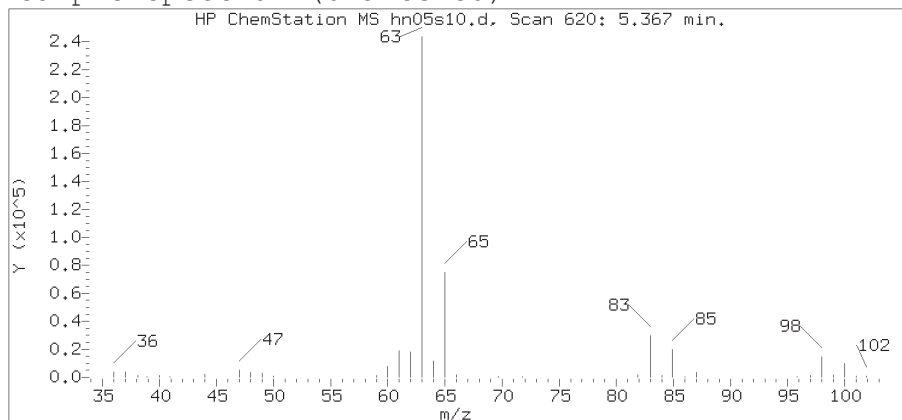
Reference Standard Spectrum for 1,1-Dichloroethane



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s10.d
Injection date and time: 05-NOV-2016 13:31

Instrument ID: HP19094.i
Analyst ID: msk07970

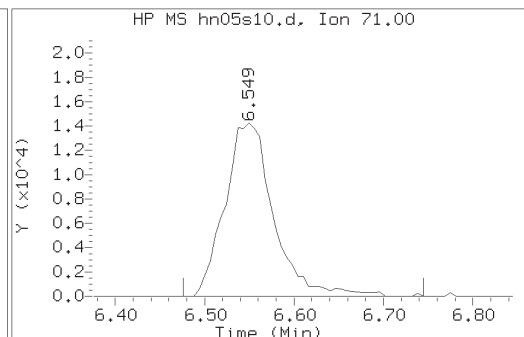
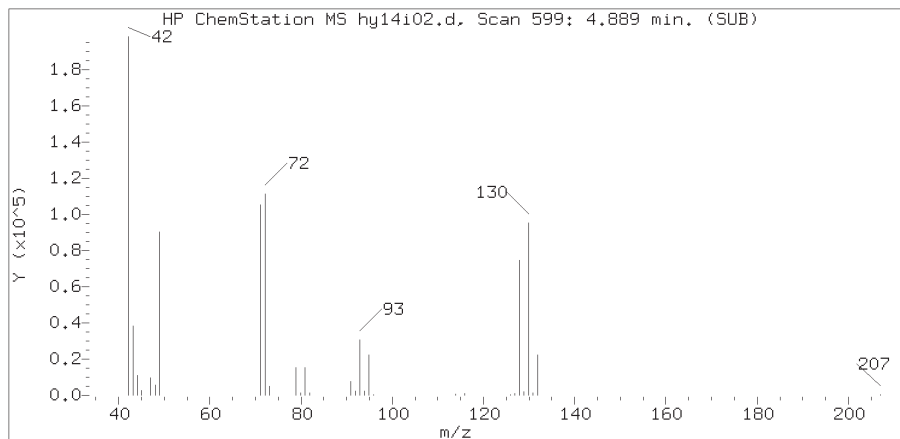
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Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 13:49 Automation

Sample Name: R7601

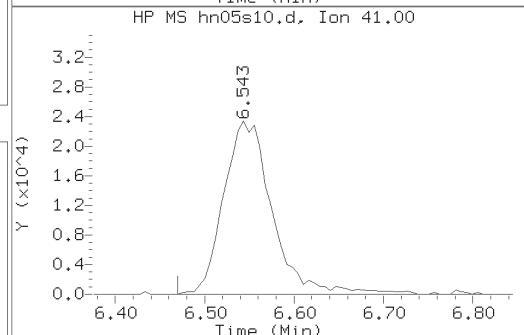
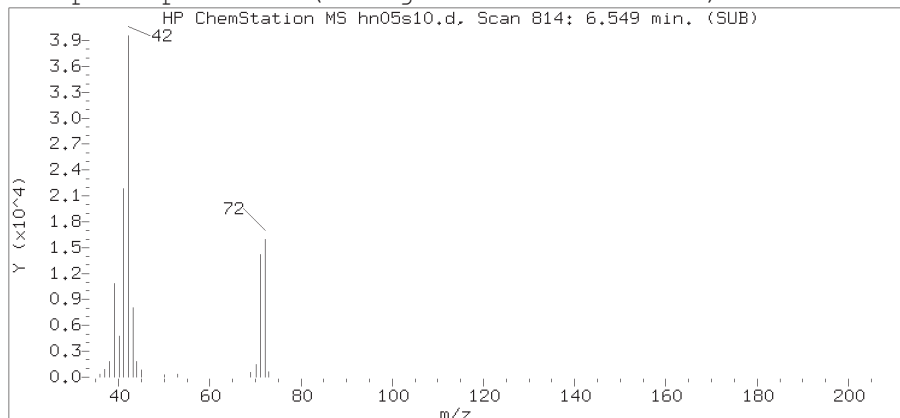
Lab Sample ID: 8666264

Compound Number : 33
Compound Name : 1,1-Dichloroethane
Scan Number : 620
Retention Time (minutes): 5.367
Relative Retention Time :-0.00024
Quant Ion : 63.00
Area (flag) : 780002
On-Column Amount (ng) : 6.7100

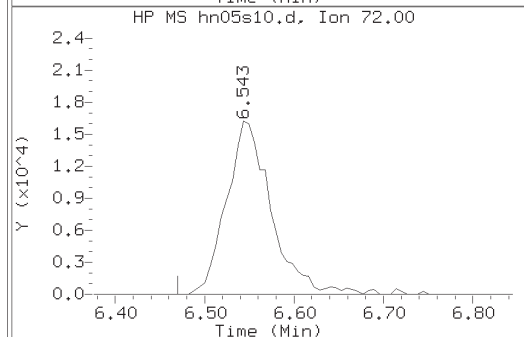
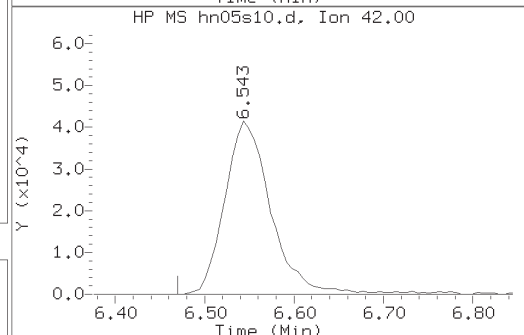
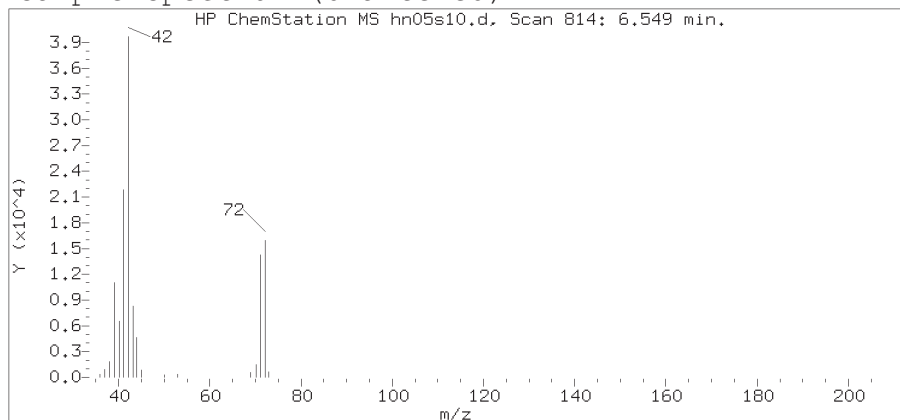
Reference Standard Spectrum for Tetrahydrofuran



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s10.d
Injection date and time: 05-NOV-2016 13:31

Instrument ID: HP19094.i
Analyst ID: msk07970

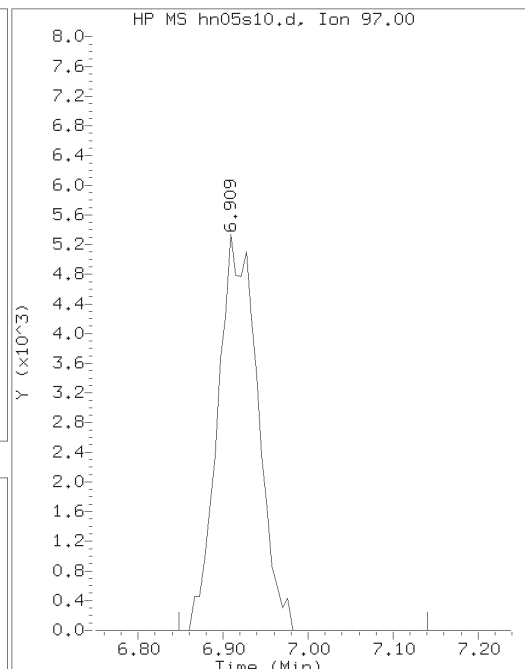
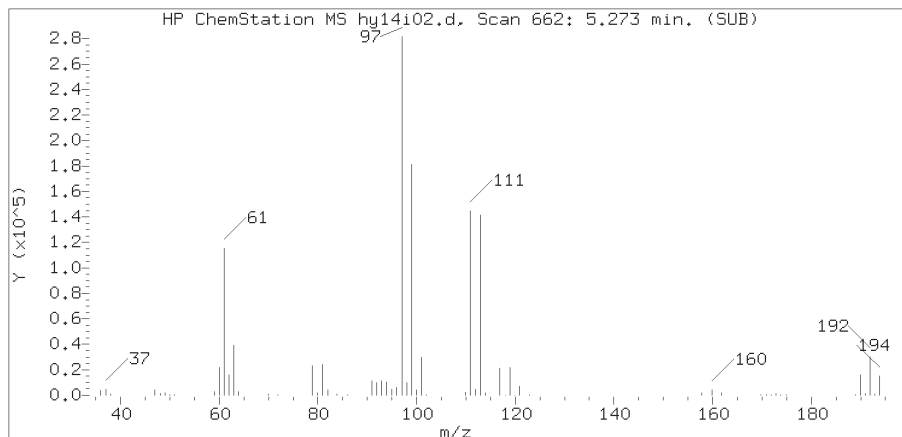
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 13:49 Automation

Sample Name: R7601

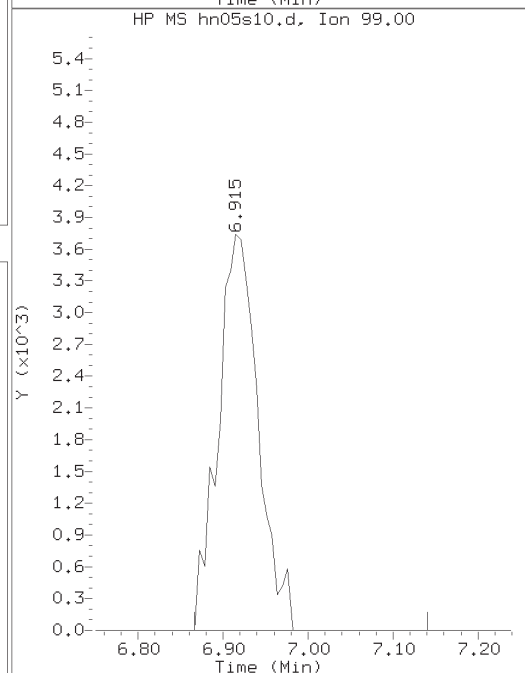
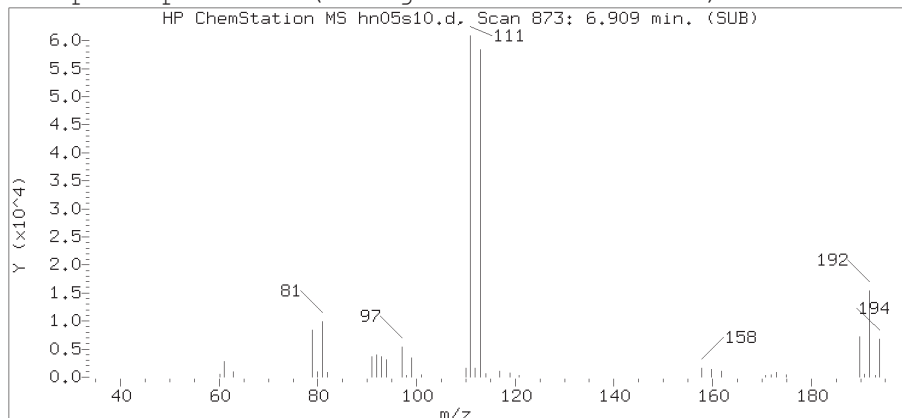
Lab Sample ID: 8666264

Compound Number : 48
Compound Name : Tetrahydrofuran
Scan Number : 814
Retention Time (minutes): 6.549
Relative Retention Time :-0.00209
Quant Ion : 71.00
Area (flag) : 53848
On-Column Amount (ng) : 12.8234

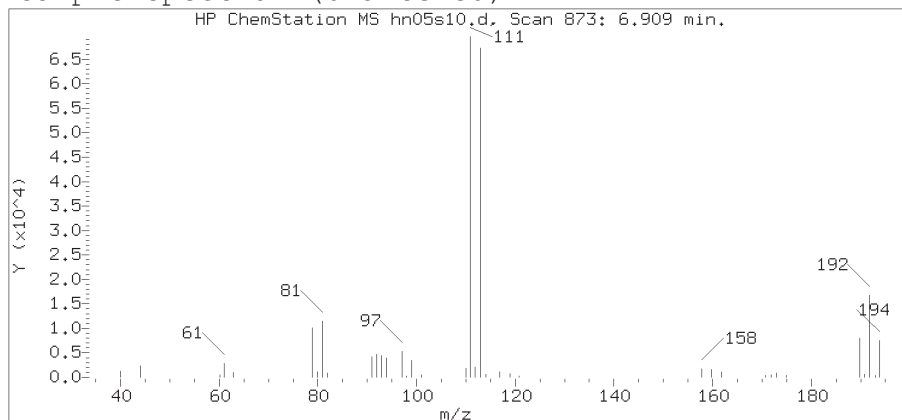
Reference Standard Spectrum for 1,1,1-Trichloroethane



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s10.d
Injection date and time: 05-NOV-2016 13:31

Instrument ID: HP19094.i
Analyst ID: msk07970

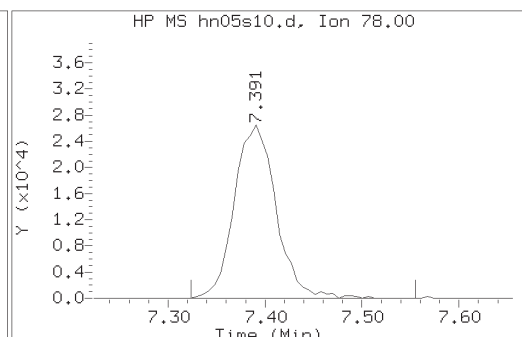
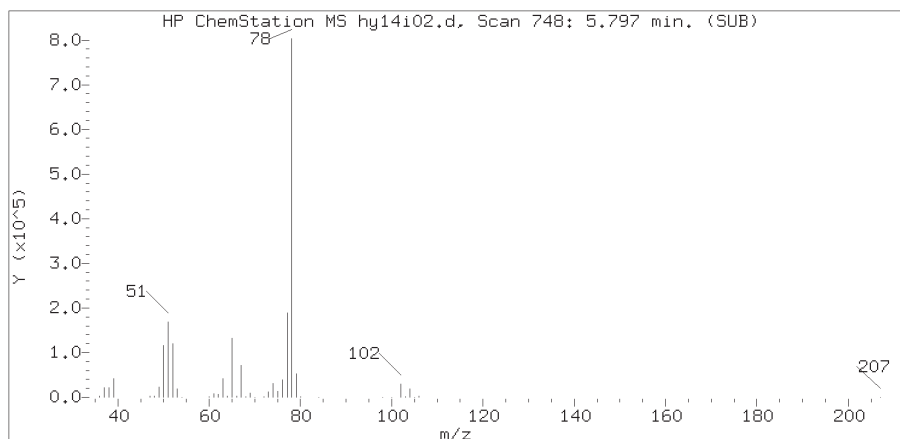
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 13:49 Automation

Sample Name: R7601

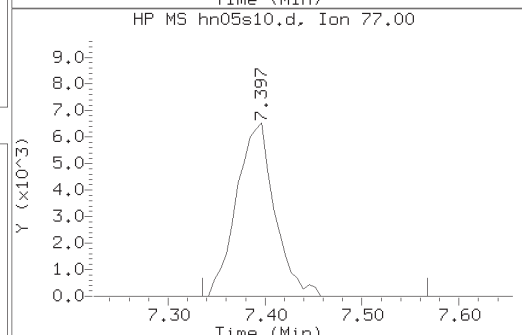
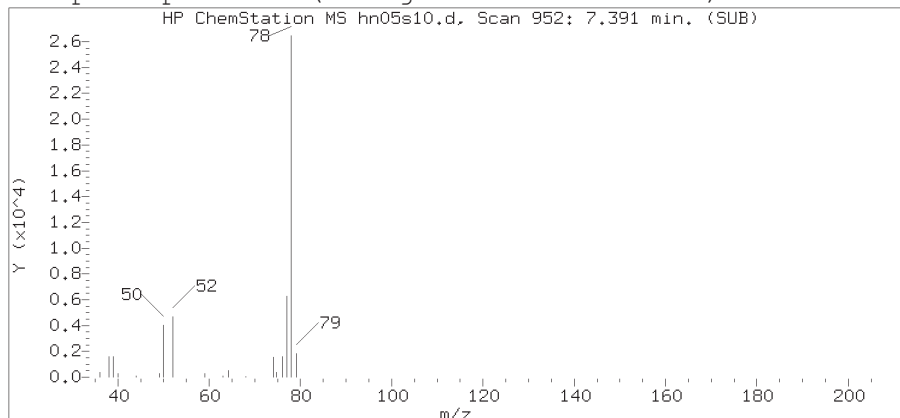
Lab Sample ID: 8666264

Compound Number : 51
Compound Name : 1,1,1-Trichloroethane
Scan Number : 873
Retention Time (minutes): 6.909
Relative Retention Time : 0.00070
Quant Ion : 97.00
Area (flag) : 17416
On-Column Amount (ng) : 0.1723

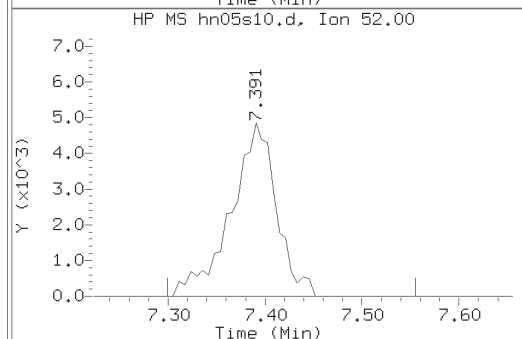
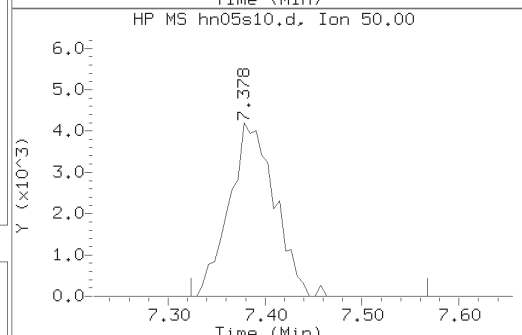
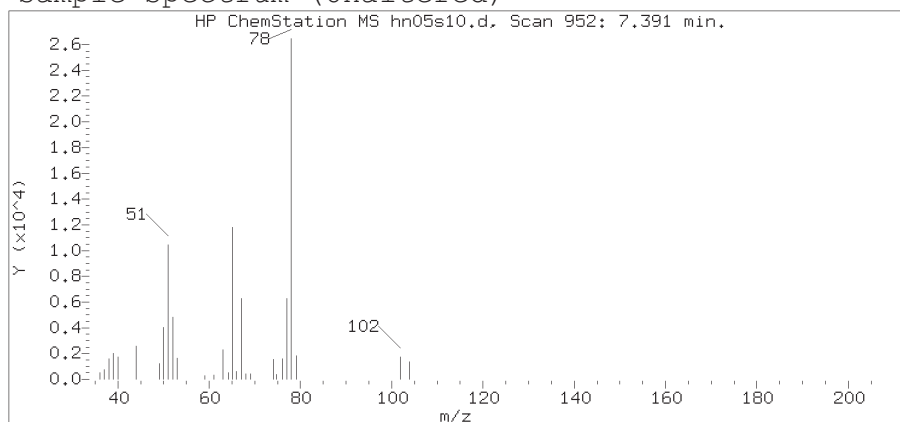
Reference Standard Spectrum for Benzene



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s10.d
Injection date and time: 05-NOV-2016 13:31

Instrument ID: HP19094.i
Analyst ID: msk07970

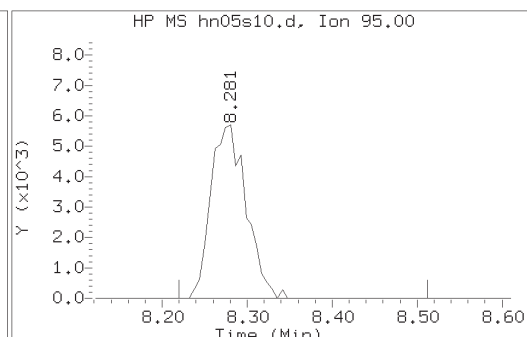
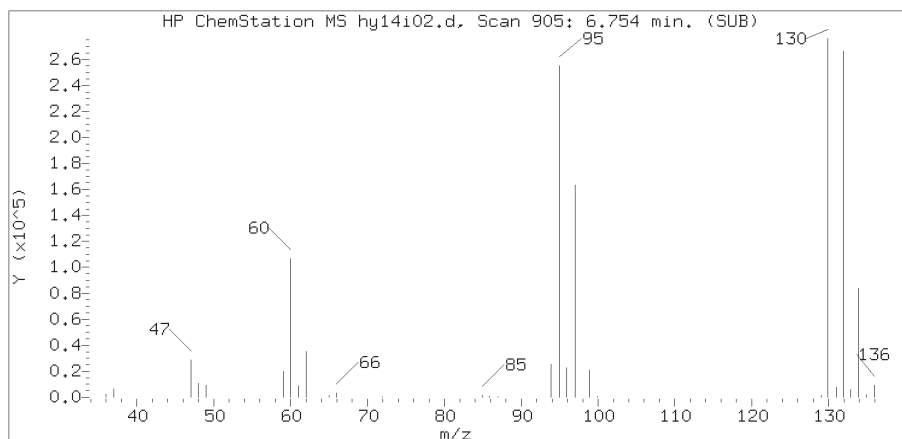
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 13:49 Automation

Sample Name: R7601

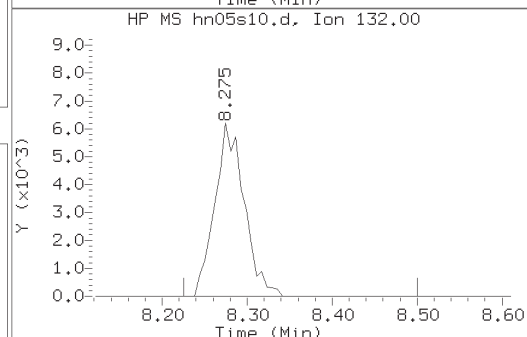
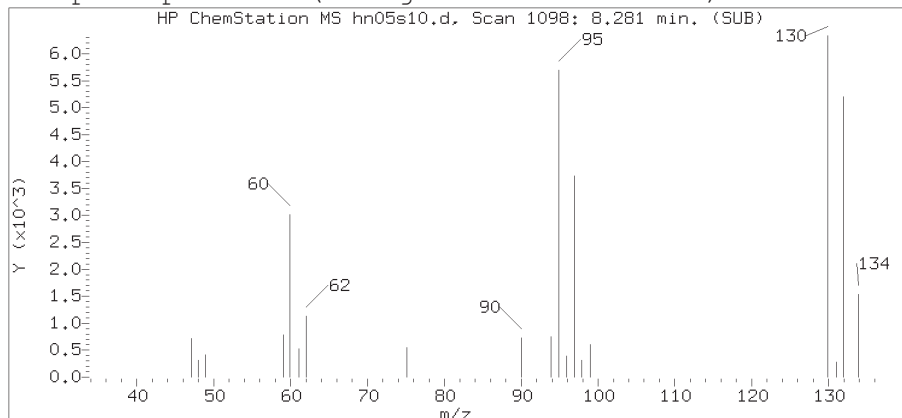
Lab Sample ID: 8666264

Compound Number : 58
Compound Name : Benzene
Scan Number : 952
Retention Time (minutes): 7.391
Relative Retention Time :-0.00004
Quant Ion : 78.00
Area (flag) : 79269
On-Column Amount (ng) : 0.3253

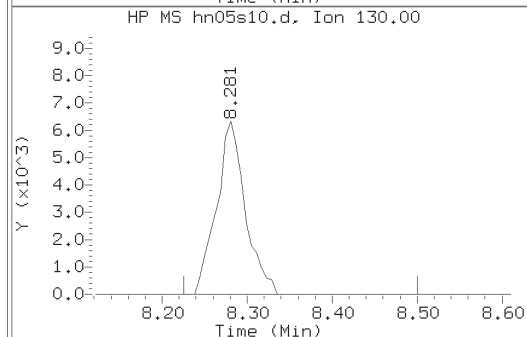
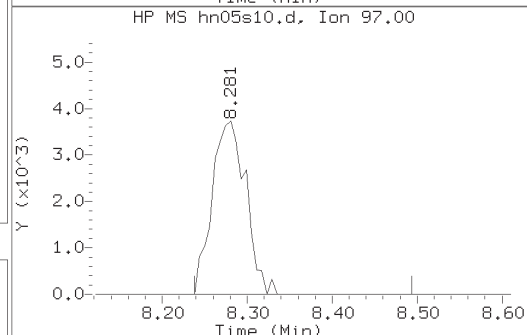
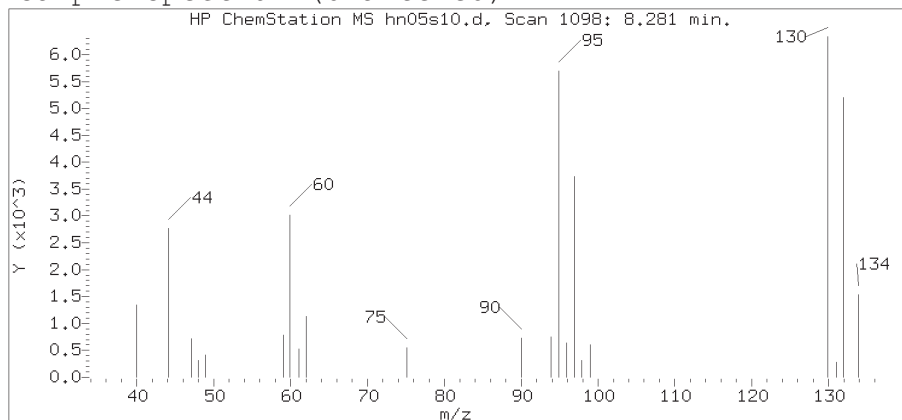
Reference Standard Spectrum for Trichloroethene



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s10.d
Injection date and time: 05-NOV-2016 13:31

Instrument ID: HP19094.i
Analyst ID: msk07970

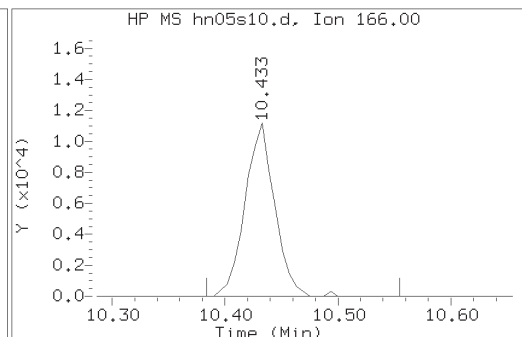
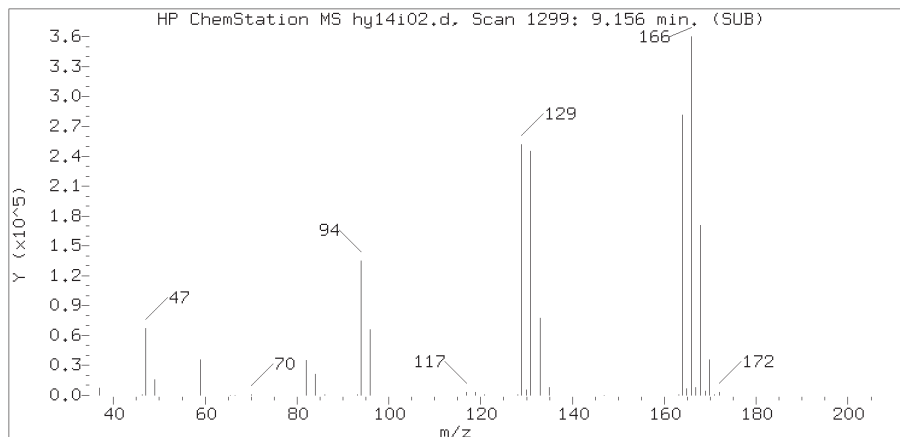
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 13:49 Automation

Sample Name: R7601

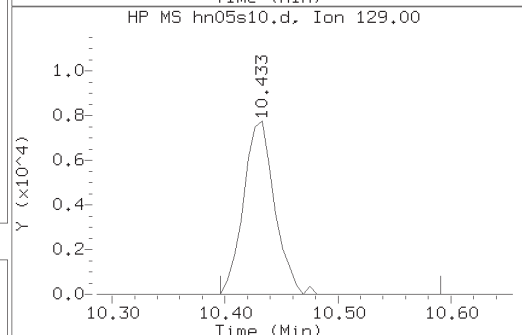
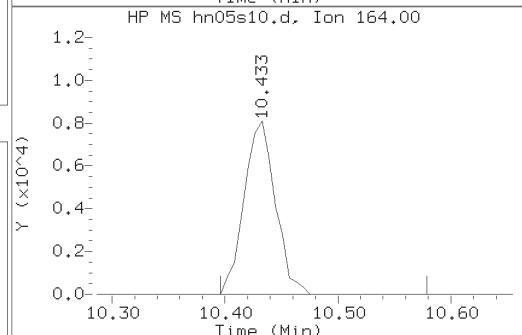
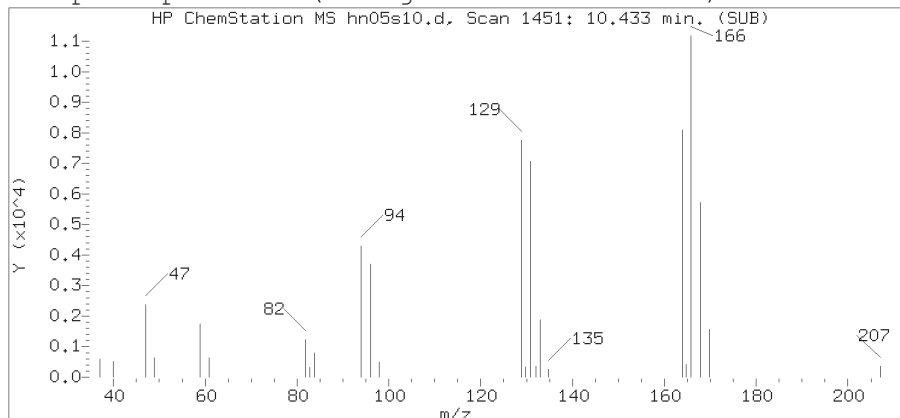
Lab Sample ID: 8666264

Compound Number : 67
Compound Name : Trichloroethene
Scan Number : 1098
Retention Time (minutes): 8.281
Relative Retention Time :-0.00073
Quant Ion : 95.00
Area (flag) : 16477
On-Column Amount (ng) : 0.2468

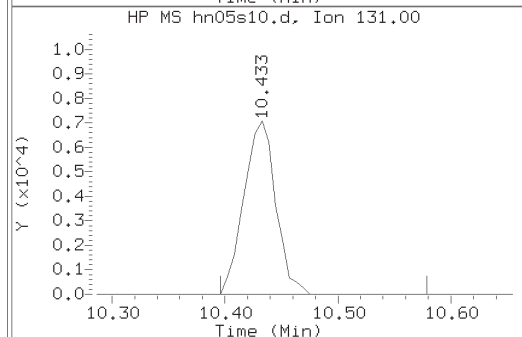
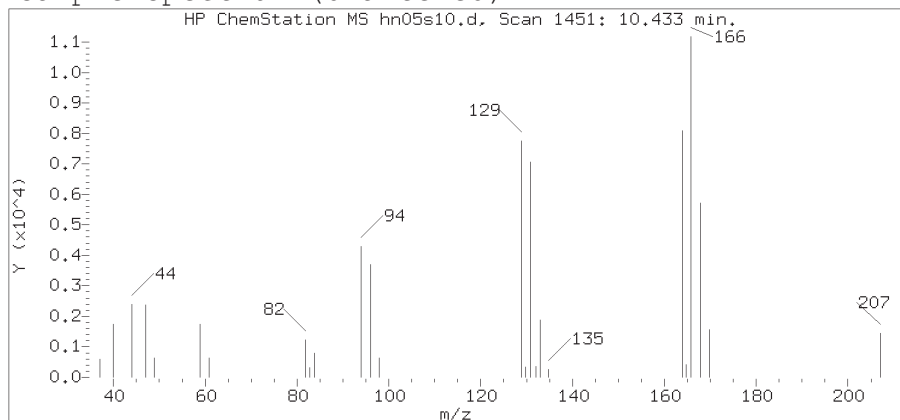
Reference Standard Spectrum for Tetrachloroethene



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s10.d
Injection date and time: 05-NOV-2016 13:31

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 13:49 Automation

Sample Name: R7601

Lab Sample ID: 8666264

Compound Number : 89
Compound Name : Tetrachloroethene
Scan Number : 1451
Retention Time (minutes): 10.433
Relative Retention Time : -0.00054
Quant Ion : 166.00
Area (flag) : 20318
On-Column Amount (ng) : 0.2801

R7601DL

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666264DL

Data file: /chem2/HP19094.i/16nov07a.b/hn07s34.d

Injection date and time: 07-NOV-2016 14:40

Data file Sample Info. Line: R7601DL;8666264DL;1;0;;RAE76;DRAPERLOQ;;hn07b01a; Instrument ID: HP19094.i Batch: H163122AA

Date, time and analyst ID of latest file update: 07-Nov-2016 15:10 kel01973

Blank Data file reference: /chem2/HP19094.i/16nov07a.b/hn07b01a.d

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469

Calibration date and time (Last Method Edit): 07-NOV-2016 12:19

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov07a.b/hn07c01.d

Bottle Code: 038B Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 4.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 6.25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.263(0.000)	439	65	103906 (1)	50.00	
63) Fluorobenzene	7.781(0.006)	1016	96	2377908 (0)	10.00	
97) Chlorobenzene-d5	11.243(0.000)	1584	117	1633800 (1)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(0.000)	1893	152	688968 (-7)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.878(0.000)	113	555853	10.192	102%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.342(-0.001)	102	93129	10.629	106%		74 - 113
82) Toluene-d8	(3)	9.793(0.001)	98	2382302	9.653	97%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249(-0.001)	95	702935	9.688	97%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
1) Dichlorodifluoromethane	(2)			Not Detected					0.4	4
4) Dimethyl ether	(2)	2.093(0.001)	45	152877M	1.976	7.90		J	0.4	50
2) Chloromethane	(2)			Not Detected					0.8	4
8) Chloroethane	(2)	2.727(0.001)	64	42073	0.772	3.09		J	0.4	4
10) Trichlorofluoromethane	(2)			Not Detected					0.4	4
11) Ethyl ether	(2)	3.300(0.001)	59	555144	12.855	51.42			0.4	50
15) 1,1-Dichloroethene	(2)			Not Detected					0.4	4
16) Freon 113	(2)			Not Detected					0.8	4
23) Methylene Chloride	(2)	4.281(0.000)	84	28183	0.482	1.93		J	0.8	4
33) 1,1-Dichloroethane	(2)	5.360(0.000)	63	166675	1.369	5.48			0.4	4
38) 2-Butanone	(1)			Not Detected					4	40
48) Tetrahydrofuran	(1)	6.555(-0.001)	71	12660	2.775	11.10		J	8	100
51) 1,1,1-Trichloroethane	(2)			Not Detected					0.4	4
54) Carbon Tetrachloride	(2)			Not Detected					0.4	4
58) Benzene	(2)			Not Detected					0.4	4
67) Trichloroethene	(2)			Not Detected					0.4	4
83) Toluene	(3)			Not Detected					0.4	4
89) Tetrachloroethene	(3)			Not Detected					0.4	4
100) Ethylbenzene	(3)			Not Detected					0.4	4
101) m+p-Xylene	(3)			Not Detected					0.4	2
104) o-Xylene	(3)			Not Detected					0.4	2
105) Xylene (Total)	(3)			Not Detected					0.4	12

M = Compound was manually integrated.

R7601DL

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666264DL

Data file: /chem2/HP19094.i/16nov07a.b/hn07s34.d

Injection date and time: 07-NOV-2016 14:40

Data file Sample Info. Line: R7601DL;8666264DL;1;0;;RAE76;DRAPERLOQ;;hn07b01a; Instrument ID: HP19094.i Batch: H163122AA
Date, time and analyst ID of latest file update: 07-Nov-2016 15:10 kel01973

Blank Data file reference: /chem2/HP19094.i/16nov07a.b/hn07b01a.d

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469

Calibration date and time (Last Method Edit): 07-NOV-2016 12:19

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov07a.b/hn07c01.d

Bottle Code: 038B Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 4.00

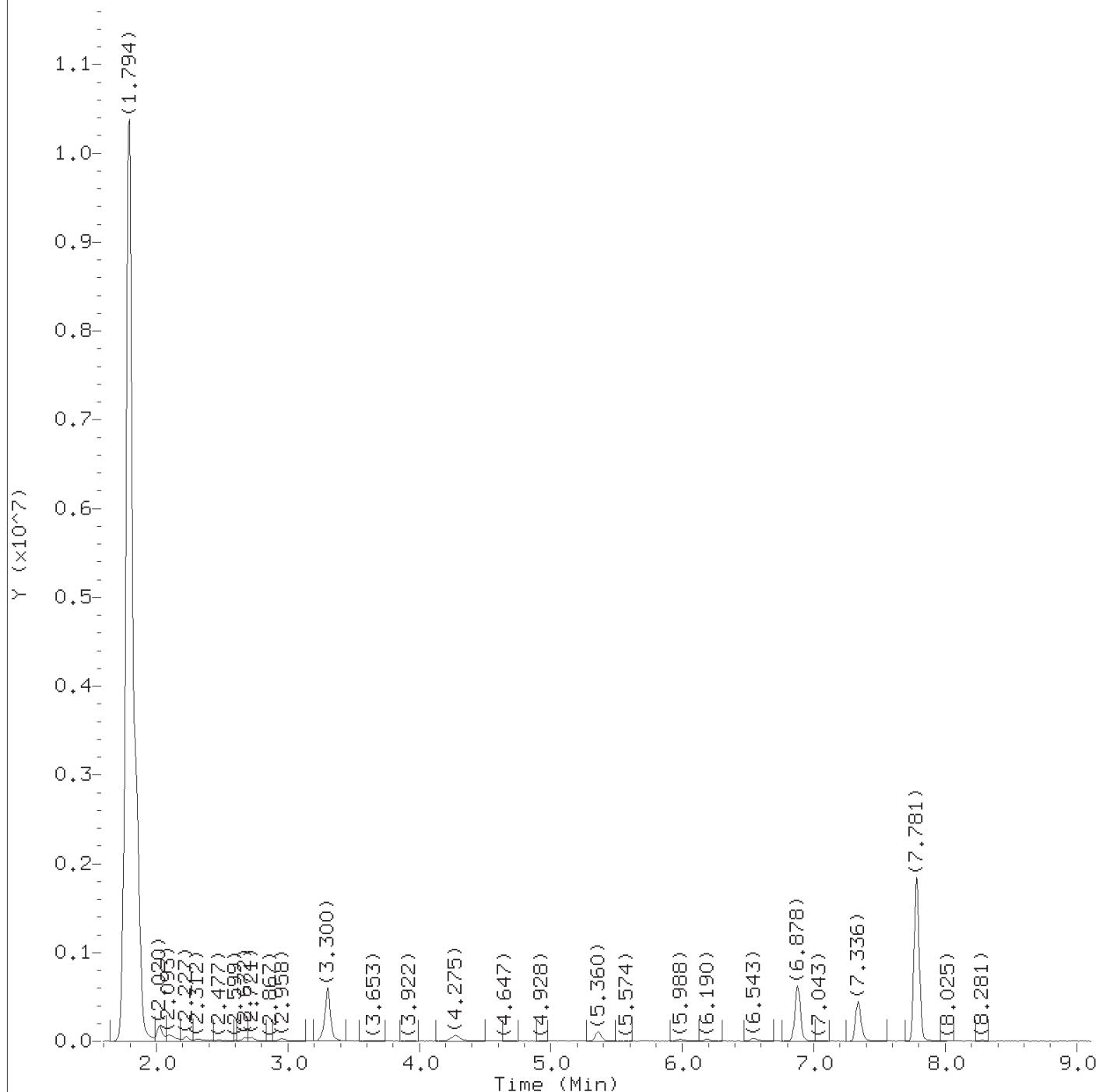
Volume Purged (Vt): 25 ml Sample Volume (Vo): 6.25 ml

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WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 22

Digitally signed by Kerri E. Koch Legerlotz on 11/07/2016 at 15:10. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 18:09. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07s34.d
Injection date and time: 07-NOV-2016 14:40

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m
Calibration date and time: 07-NOV-2016 12:19

Sublist used: 22469

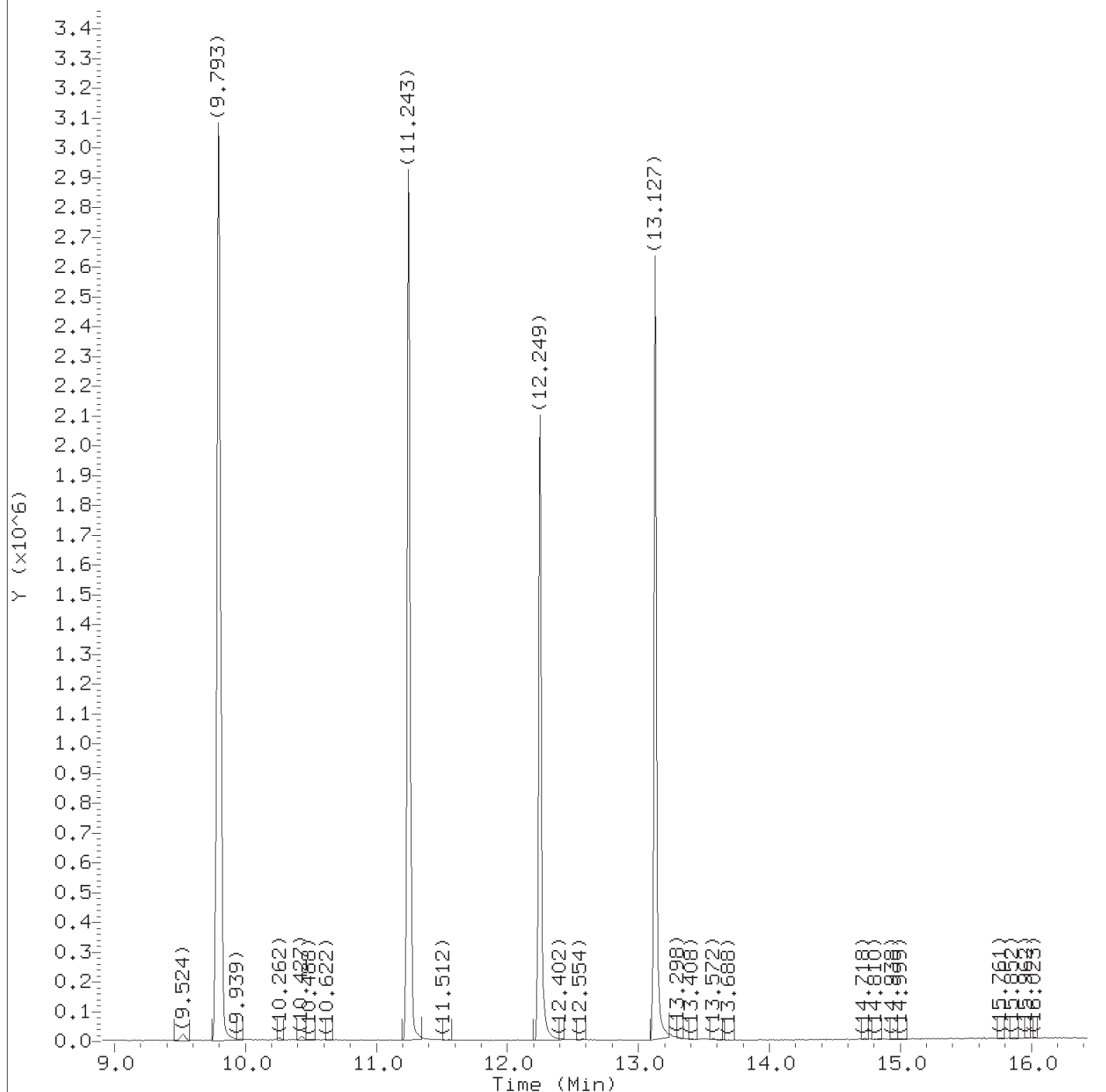
Date, time and analyst ID of latest file update: 07-Nov-2016 15:10 kel01973

Sample Name: R7601DL

Lab Sample ID: 8666264DL

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 15:10.

Target 3.5 esignature User ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07s34.d
Injection date and time: 07-NOV-2016 14:40

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m
Calibration date and time: 07-NOV-2016 12:19

Sublist used: 22469

Date, time and analyst ID of latest file update: 07-Nov-2016 15:10 kel01973

Sample Name: R7601DL

Lab Sample ID: 8666264DL

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 15:10.

Target 3.5 esignature User ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07s34.d

Instrument ID: HP19094.i

Injection date and time: 07-NOV-2016 14:40

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m

Sublist used: 22469

Calibration date and time: 07-NOV-2016 12:19

Date, time and analyst ID of latest file update: 07-Nov-2016 15:10 kel01973

Sample Name: R7601DL

Lab Sample ID: 8666264DL

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
4) Dimethyl ether	(2)	2.093	45	152877M	1.976
8) Chloroethane	(2)	2.727	64	42073	0.772
11) Ethyl ether	(2)	3.300	59	555144	12.855
26) *t-Butyl Alcohol-d10	(1)	4.263	65	103906	50.000
23) Methylene Chloride	(2)	4.281	84	28183	0.482
33) 1,1-Dichloroethane	(2)	5.360	63	166675	1.369
48) Tetrahydrofuran	(1)	6.555	71	12660	2.775
50) \$Dibromofluoromethane	(2)	6.878	113	555853	10.192
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	93129	10.629
63) *Fluorobenzene	(2)	7.781	96	2377908	10.000
82) \$Toluene-d8	(3)	9.793	98	2382302	9.653
97) *Chlorobenzene-d5	(3)	11.243	117	1633800	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	702935	9.688
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	688968	10.000

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

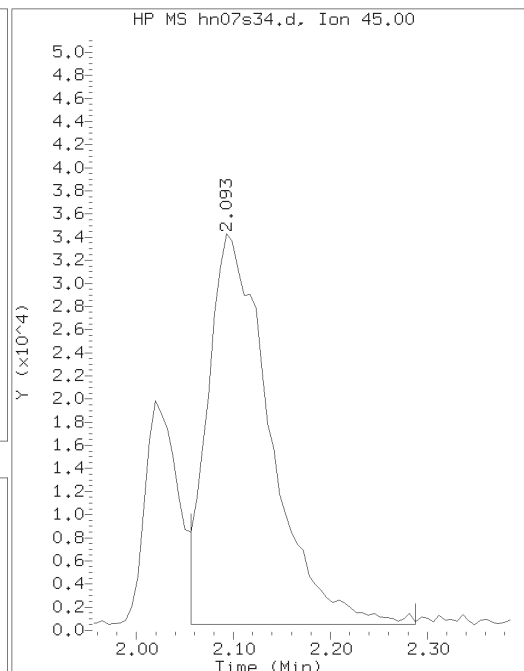
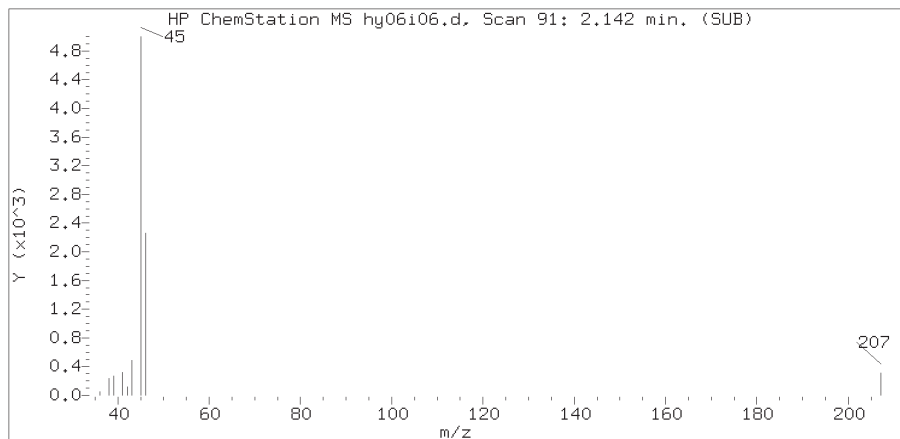
page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 15:10.

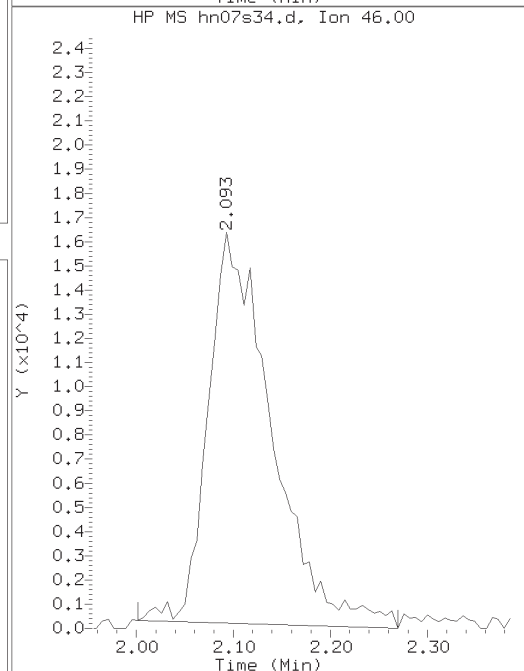
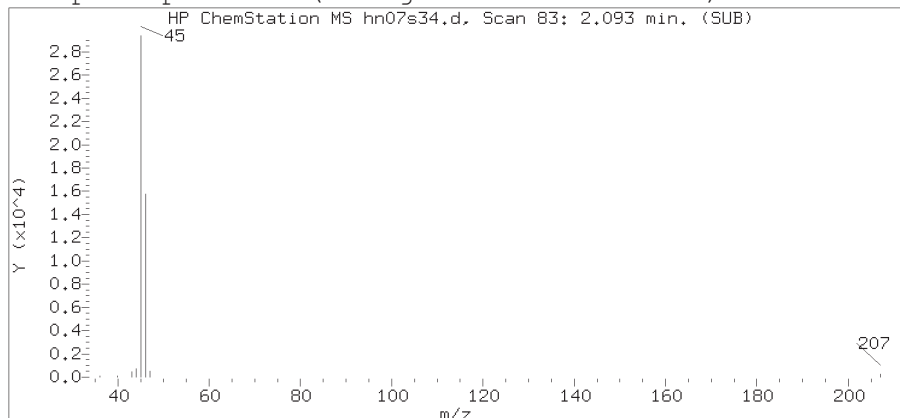
Target 3.5 esignature user ID: kel01973

RAE76 Page 111 of 883

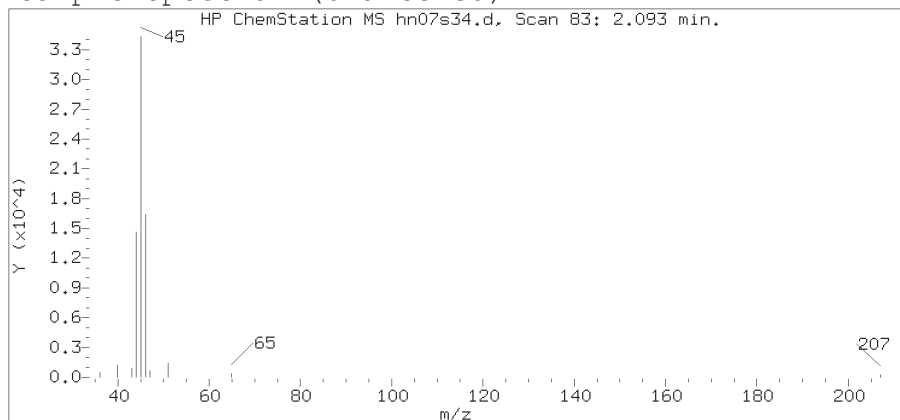
Reference Standard Spectrum for Dimethyl ether



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov07a.b/hn07s34.d
Injection date and time: 07-NOV-2016 14:40

Instrument ID: HP19094.i
Analyst ID: kel01973

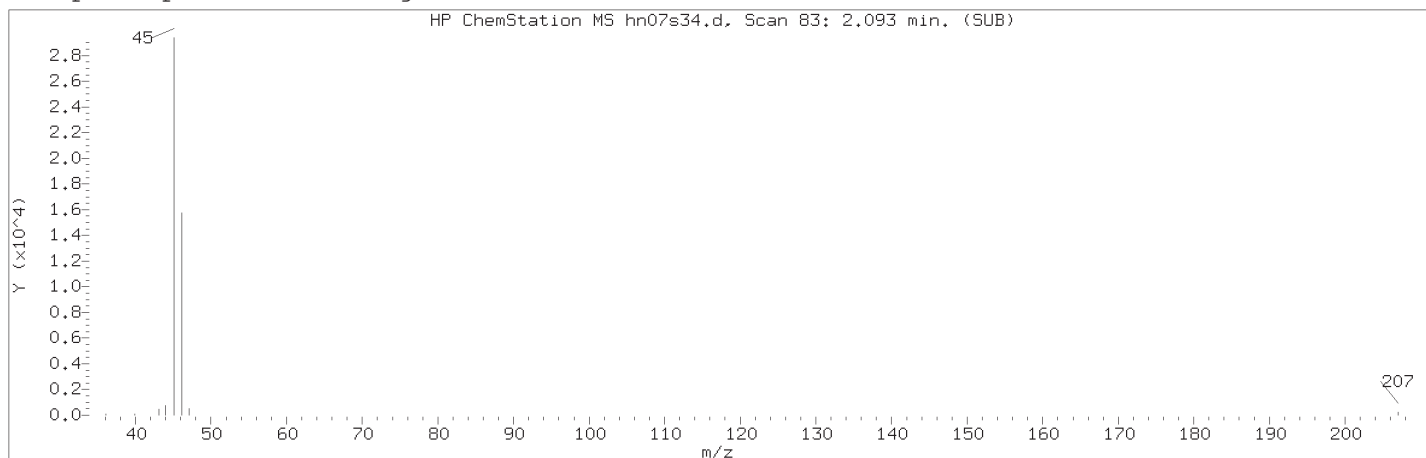
Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 15:10 kel01973

Sample Name: R7601DL

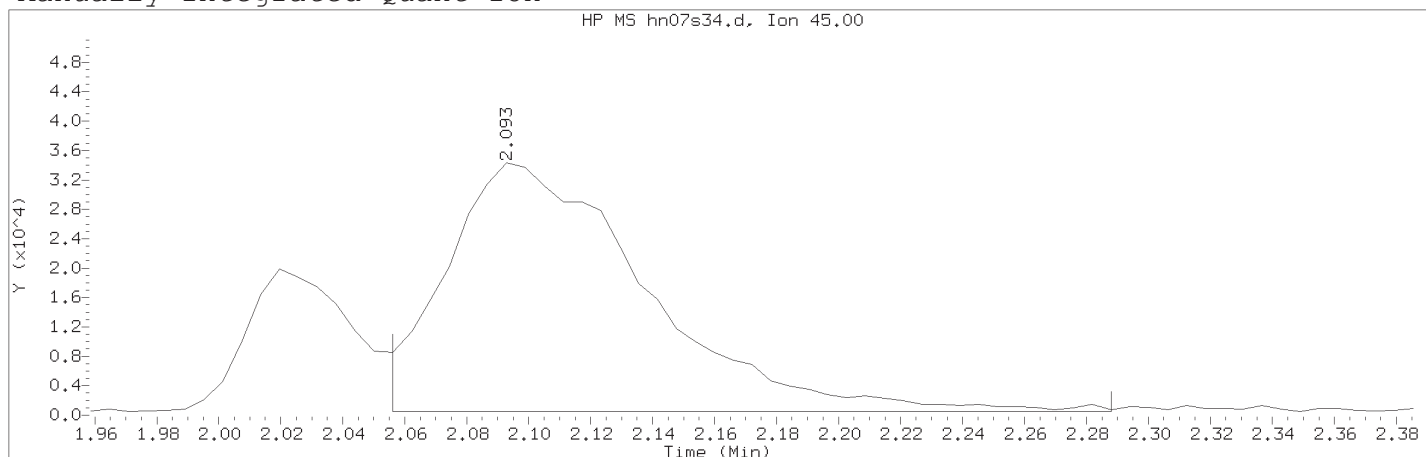
Lab Sample ID: 8666264DL

Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 83
Retention Time (minutes): 2.093
Relative Retention Time : 0.00134
Quant Ion : 45.00
Area (flag) : 152877M
On-Column Amount (ng) : 1.9756

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07s34.d

Instrument ID: HP19094.i

Injection date and time: 07-NOV-2016 14:40

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m

Sublist used: 22469

Calibration date and time: 07-NOV-2016 12:19

Date, time and analyst ID of latest file update: 07-Nov-2016 15:10 kel01973

Sample Name: R7601DL

Lab Sample ID: 8666264DL

Compound Number	: 4	
Compound Name	: Dimethyl ether	
Scan Number	: 83	
Retention Time (minutes)	: 2.093	
Quant Ion	: 45.00	
Area (flag)	: 152877M	
On-Column Amount (ng)	: 1.9756	
Integration start scan	: 76	Integration stop scan: 114
Y at integration start	: 528	Y at integration end: 528

Reason for manual integration: improper integration

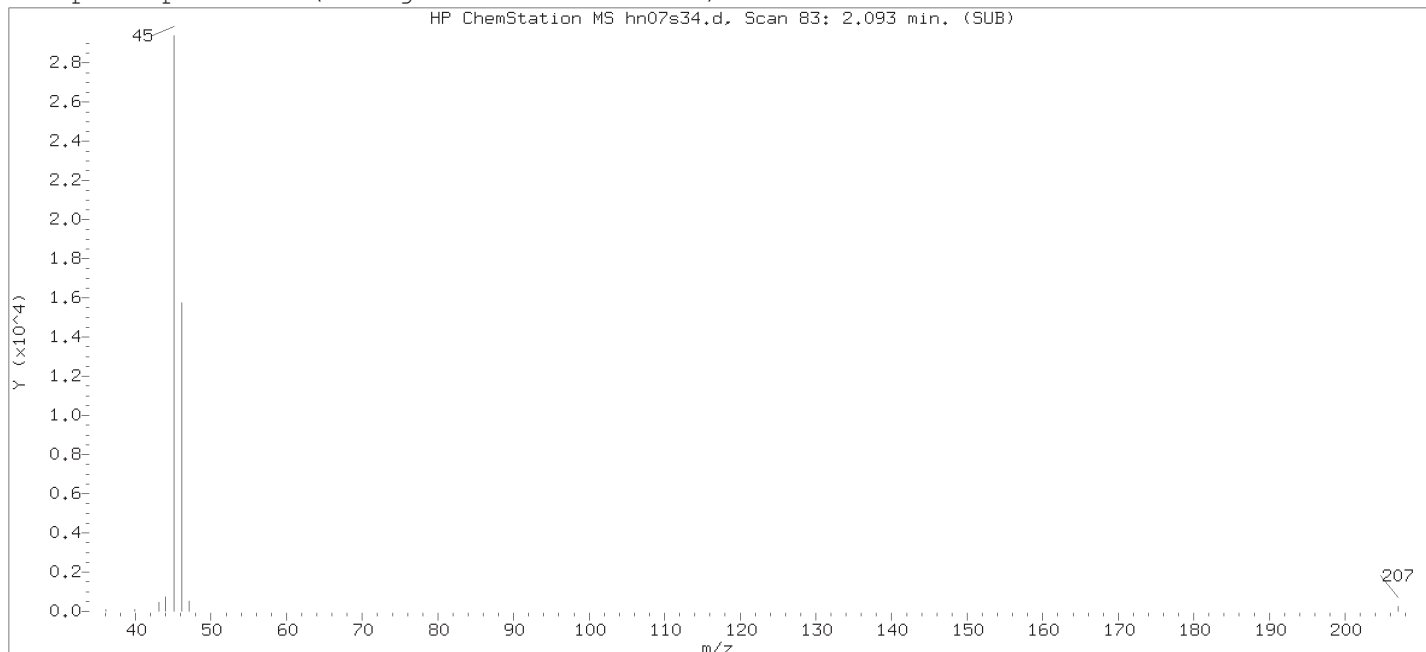
Analyst responsible for change:

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 15:10.
Target 3.5 esignature user ID: kel01973

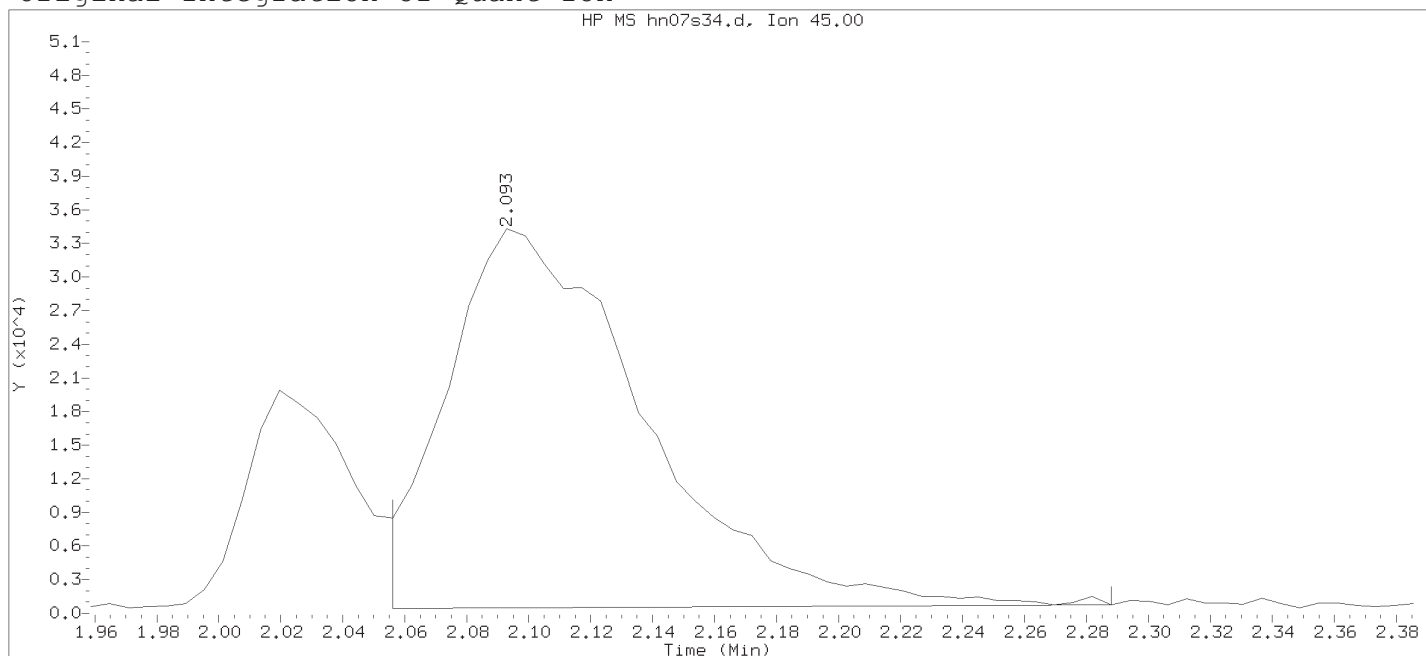
Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 18:09.

PARALLAX ID: sej02002

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07s34.d

Instrument ID: HP19094.i

Injection date and time: 07-NOV-2016 14:40

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m

Sublist used: 22469

Calibration date and time: 07-NOV-2016 12:19

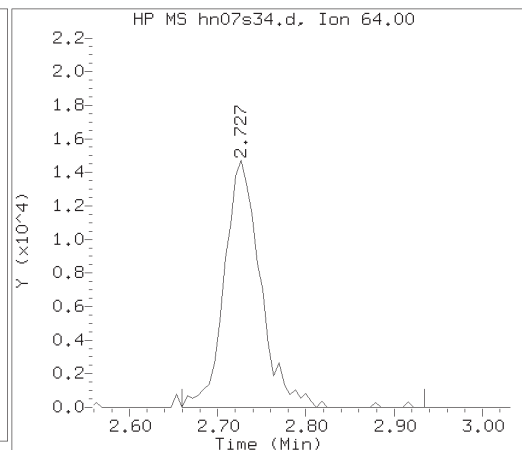
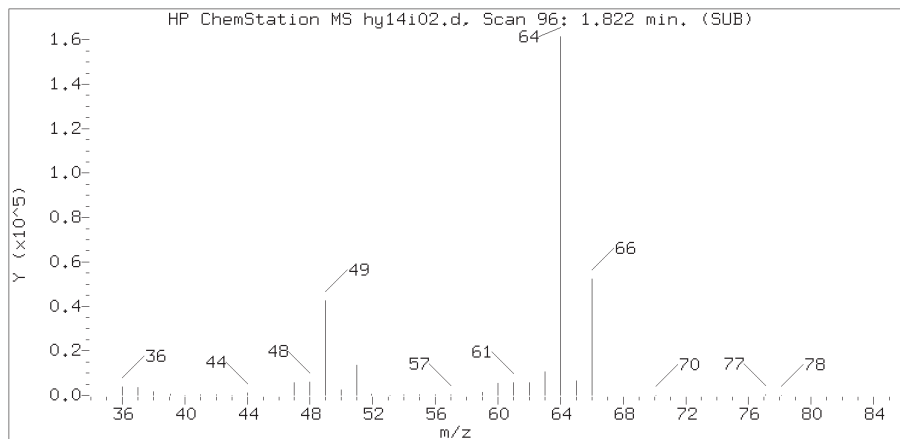
Date, time and analyst ID of latest file update: 07-Nov-2016 15:00 Automation

Sample Name: R7601DL

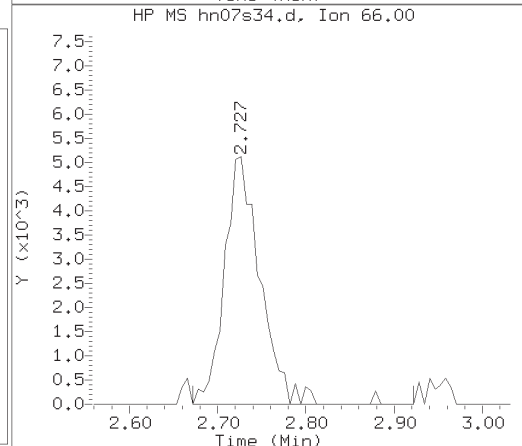
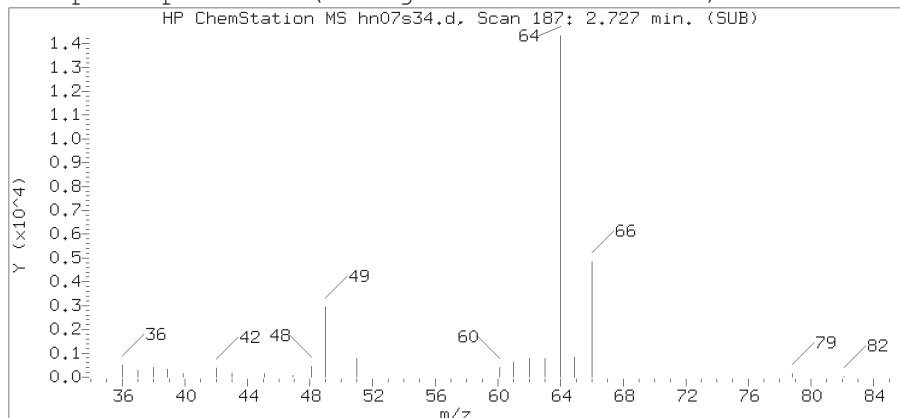
Lab Sample ID: 8666264DL

Compound Number	: 4	
Compound Name	: Dimethyl ether	
Scan Number	: 83	
Retention Time (minutes)	: 2.093	
Quant Ion	: 45.00	
Area	: 150523	
On-column Amount (ng)	: 1.9452	
Integration start scan	: 76	Integration stop scan: 114
Y at integration start	: 444	Y at integration end: 735

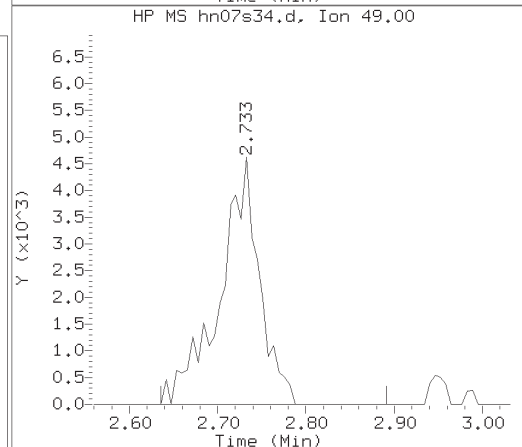
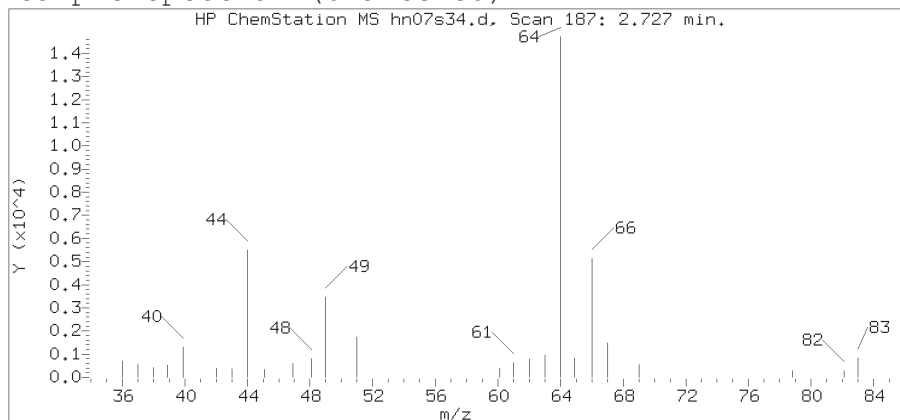
Reference Standard Spectrum for Chloroethane



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov07a.b/hn07s34.d
Injection date and time: 07-NOV-2016 14:40

Instrument ID: HP19094.i
Analyst ID: kel01973

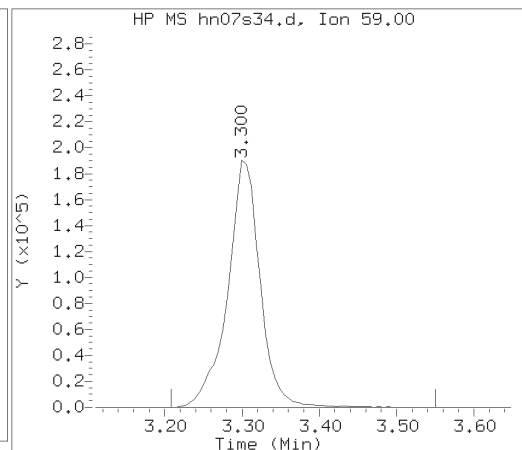
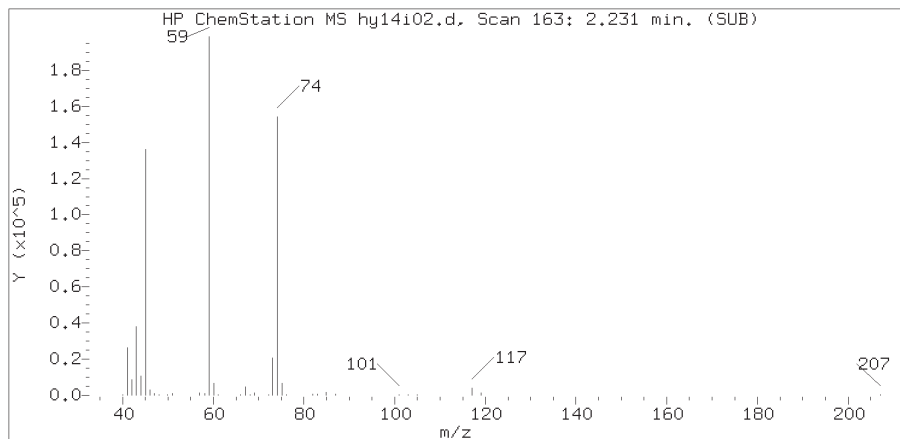
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Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 15:10 kel01973

Sample Name: R7601DL

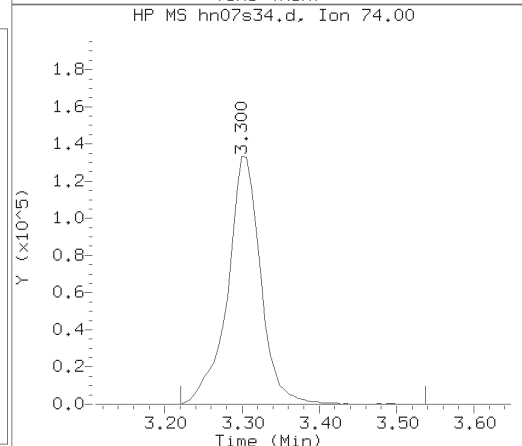
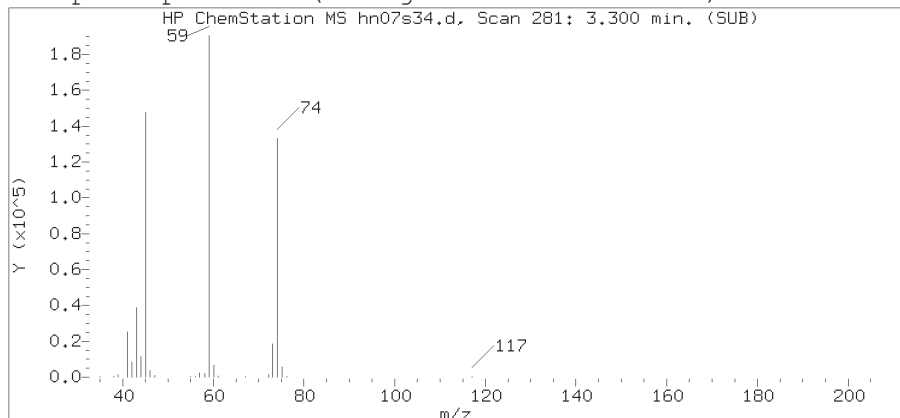
Lab Sample ID: 8666264DL

Compound Number : 8
Compound Name : Chloroethane
Scan Number : 187
Retention Time (minutes): 2.727
Relative Retention Time : 0.00130
Quant Ion : 64.00
Area (flag) : 42073
On-Column Amount (ng) : 0.7717

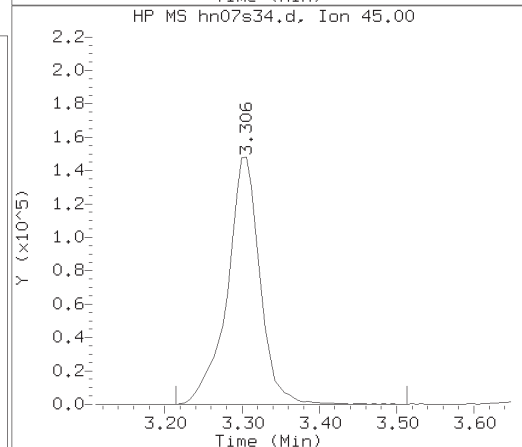
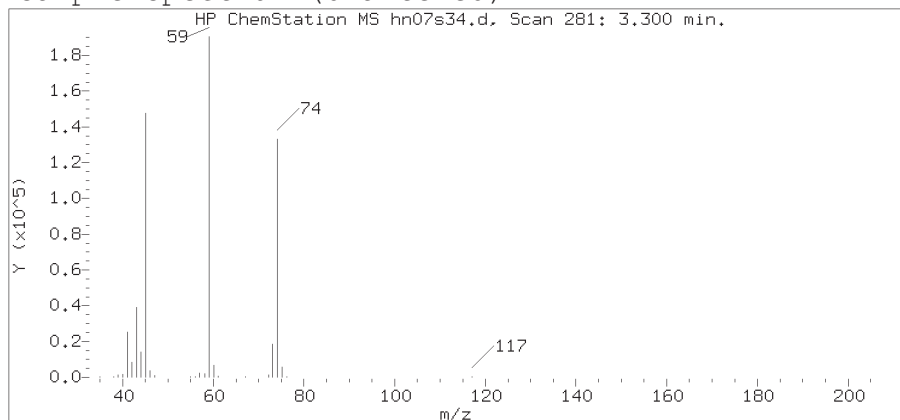
Reference Standard Spectrum for Ethyl ether



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov07a.b/hn07s34.d
Injection date and time: 07-NOV-2016 14:40

Instrument ID: HP19094.i
Analyst ID: kel01973

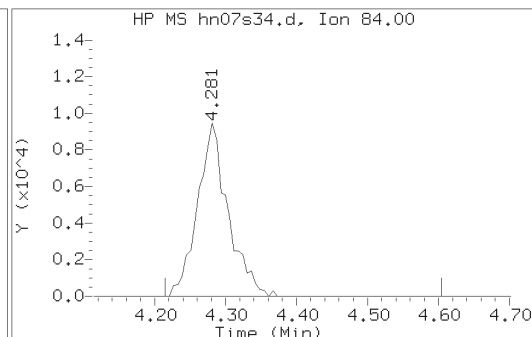
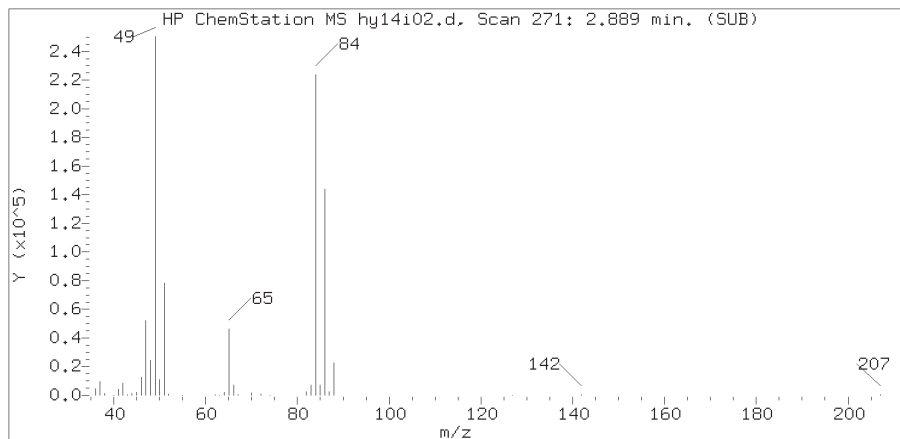
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Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 15:10 kel01973

Sample Name: R7601DL

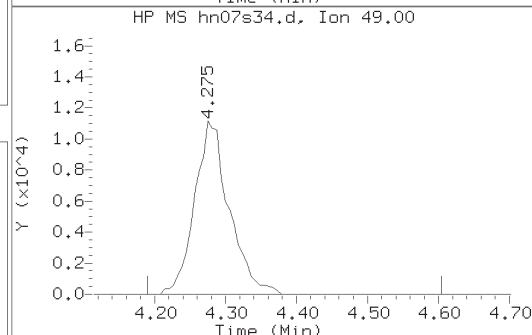
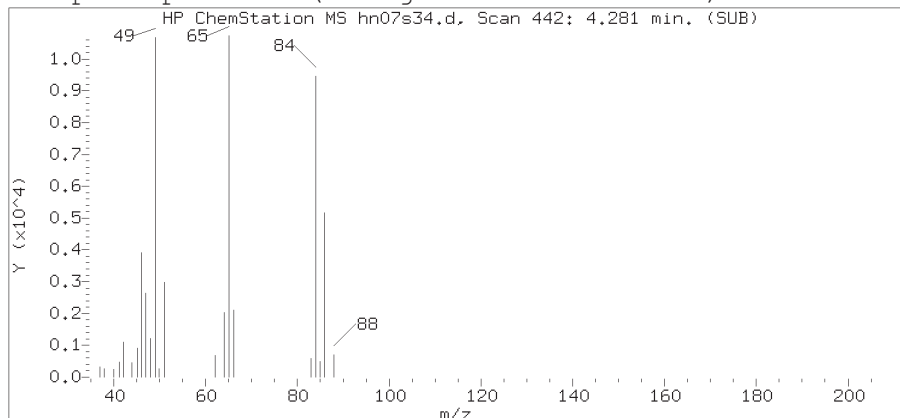
Lab Sample ID: 8666264DL

Compound Number : 11
Compound Name : Ethyl ether
Scan Number : 281
Retention Time (minutes): 3.300
Relative Retention Time : 0.00124
Quant Ion : 59.00
Area (flag) : 555144
On-Column Amount (ng) : 12.8548

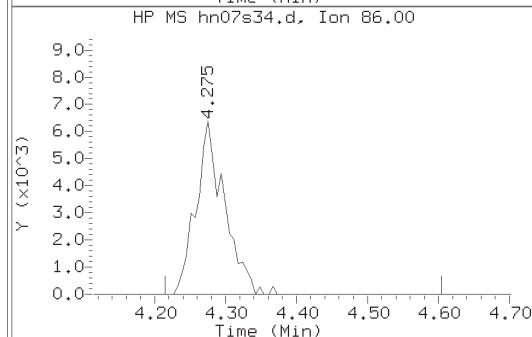
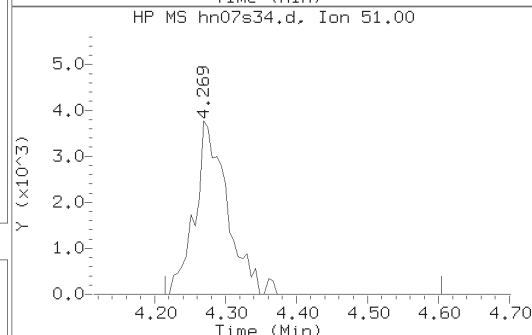
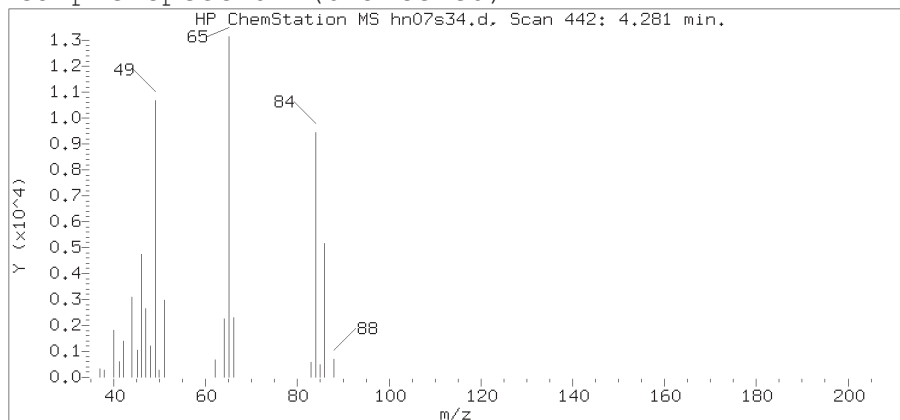
Reference Standard Spectrum for Methylene Chloride



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov07a.b/hn07s34.d
Injection date and time: 07-NOV-2016 14:40

Instrument ID: HP19094.i
Analyst ID: kel01973

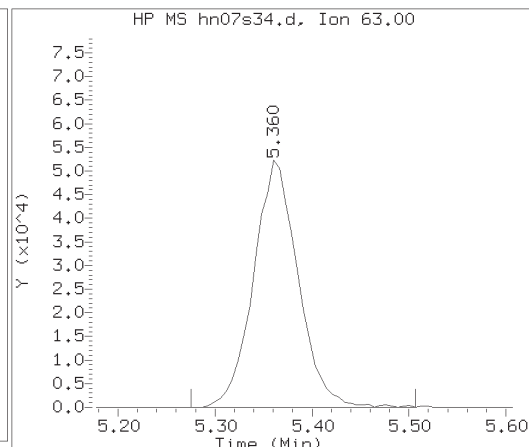
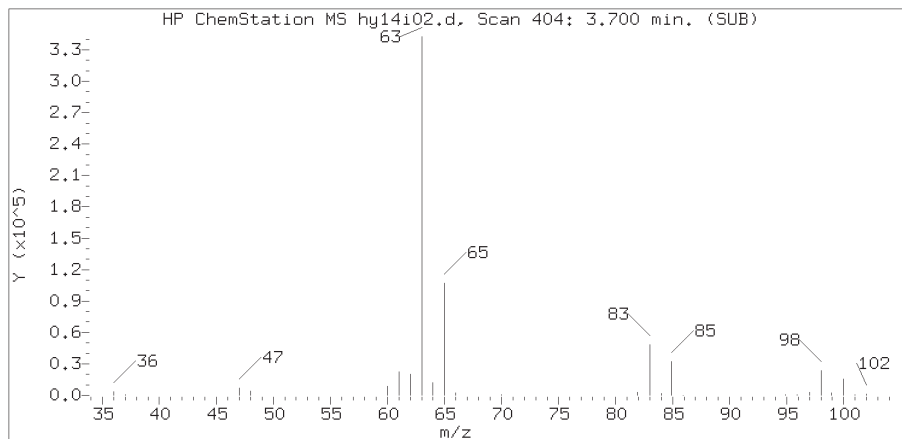
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Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 15:10 kel01973

Sample Name: R7601DL

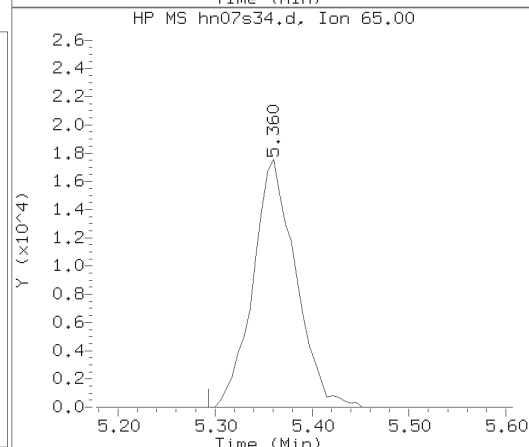
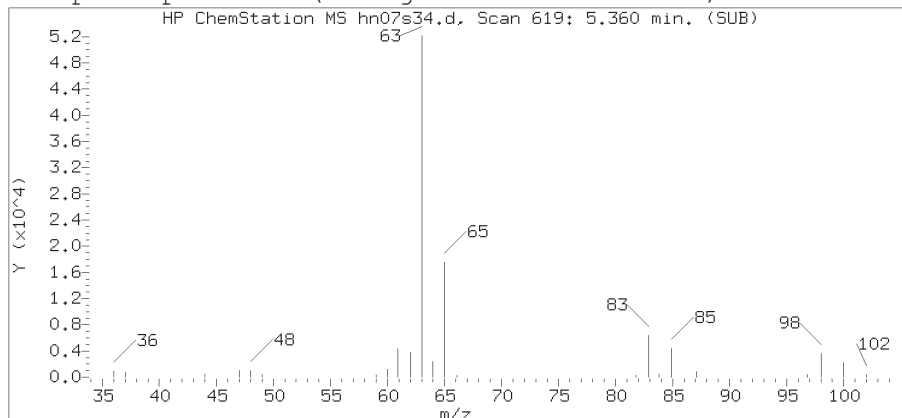
Lab Sample ID: 8666264DL

Compound Number : 23
Compound Name : Methylene Chloride
Scan Number : 442
Retention Time (minutes): 4.281
Relative Retention Time : 0.00036
Quant Ion : 84.00
Area (flag) : 28183
On-Column Amount (ng) : 0.4817

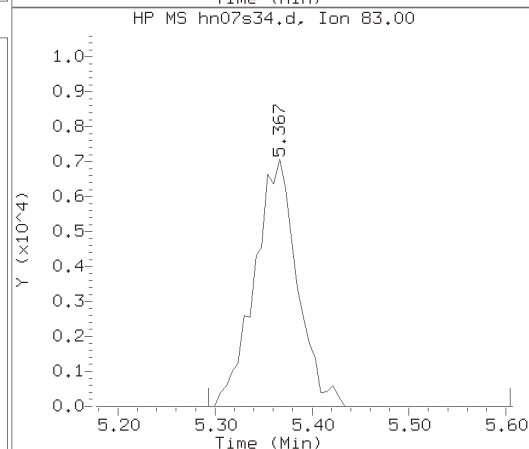
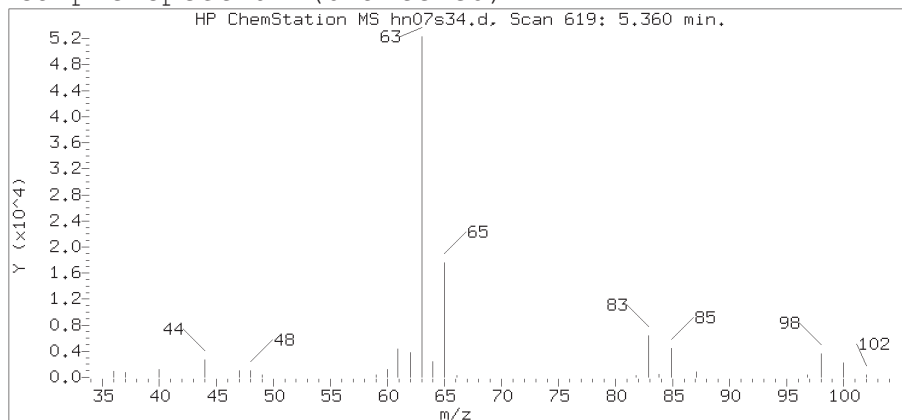
Reference Standard Spectrum for 1,1-Dichloroethane



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov07a.b/hn07s34.d
Injection date and time: 07-NOV-2016 14:40

Instrument ID: HP19094.i
Analyst ID: kel01973

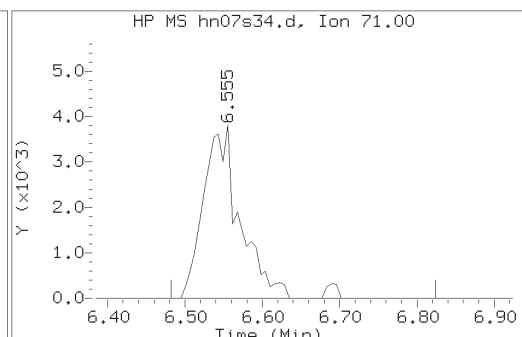
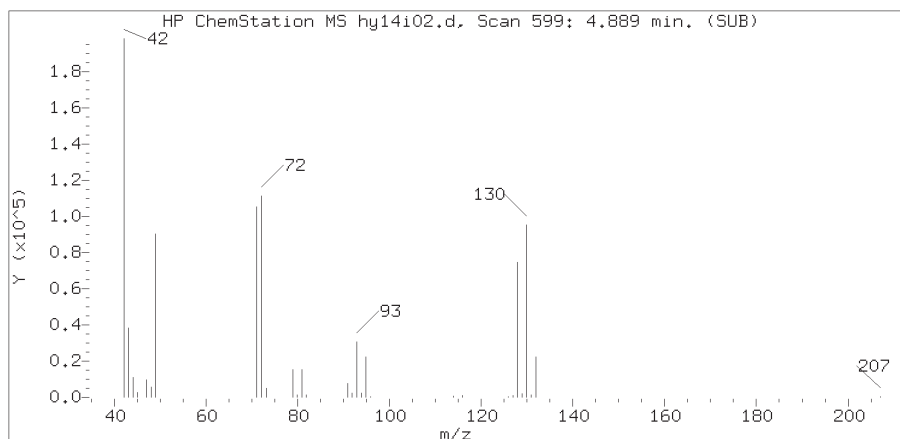
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Date, time and analyst ID of latest file update: 07-Nov-2016 15:10 kel01973

Sample Name: R7601DL

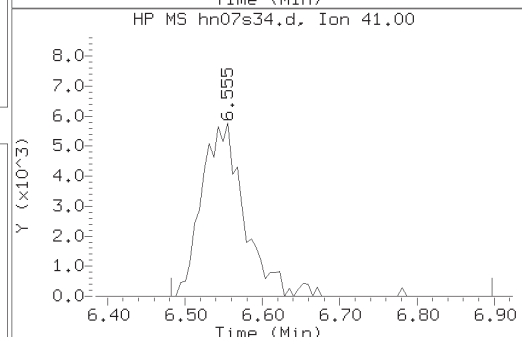
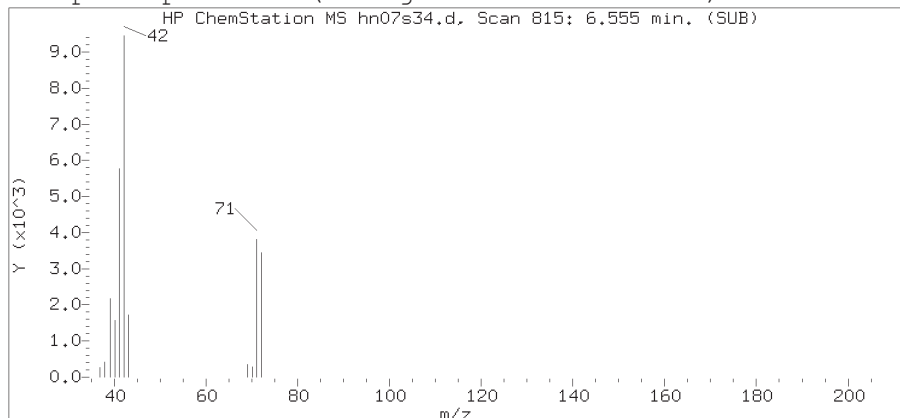
Lab Sample ID: 8666264DL

Compound Number : 33
Compound Name : 1,1-Dichloroethane
Scan Number : 619
Retention Time (minutes): 5.360
Relative Retention Time : 0.00025
Quant Ion : 63.00
Area (flag) : 166675
On-Column Amount (ng) : 1.3694

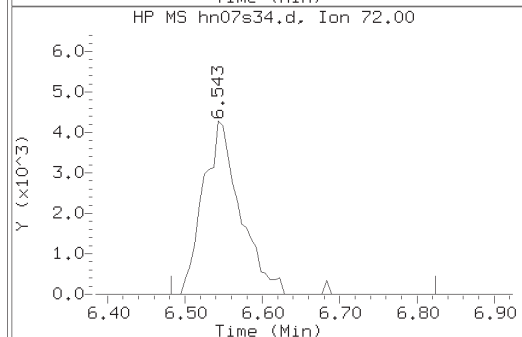
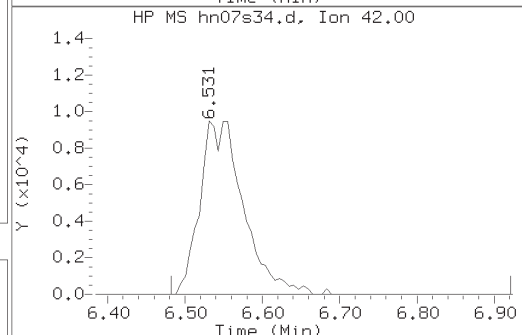
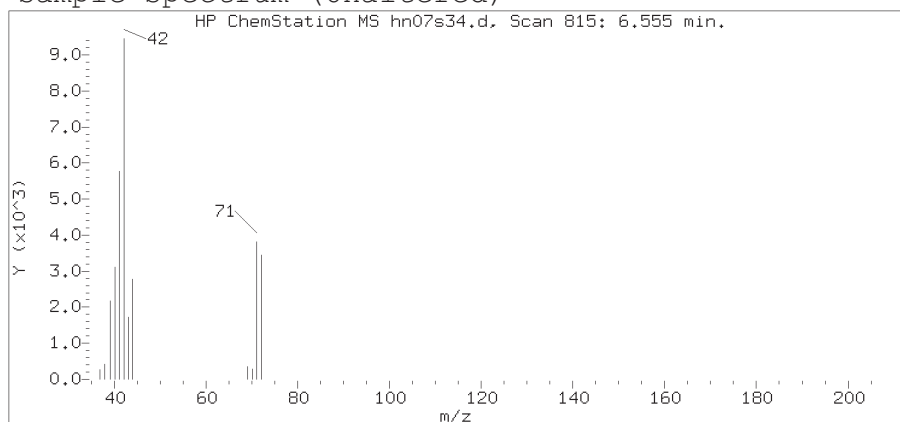
Reference Standard Spectrum for Tetrahydrofuran



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov07a.b/hn07s34.d
Injection date and time: 07-NOV-2016 14:40

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 15:10 kel01973

Sample Name: R7601DL

Lab Sample ID: 8666264DL

Compound Number : 48
Compound Name : Tetrahydrofuran
Scan Number : 815
Retention Time (minutes): 6.555
Relative Retention Time :-0.00145
Quant Ion : 71.00
Area (flag) : 12660
On-Column Amount (ng) : 2.7746

R7602

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666265

Data file: /chem2/HP19094.i/16nov07a.b/hn07s31.d

Injection date and time: 07-NOV-2016 12:39

Data file Sample Info. Line: R7602;8666265;1;0;;RAE76;DRAPERLOQ;;hn07b01a; Instrument ID: HP19094.i Batch: H163122AA

Date, time and analyst ID of latest file update: 07-Nov-2016 12:58 Automation

Blank Data file reference: /chem2/HP19094.i/16nov07a.b/hn07b01a.d

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469

Calibration date and time (Last Method Edit): 07-NOV-2016 12:19

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov07a.b/hn07c01.d

Bottle Code: 038B Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.251(0.012)	437	65	120912 (18)	50.00	
63) Fluorobenzene	7.787(0.000)	1017	96	2453379 (3)	10.00	
97) Chlorobenzene-d5	11.250(-0.006)	1585	117	1672307 (3)	10.00	
133) 1,4-Dichlorobenzene-d4	13.133(-0.006)	1894	152	718583 (-3)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.885(0.000)	113	565949	10.058	101%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.342(0.000)	102	100112	11.075	111%		74 - 113
82) Toluene-d8	(3)	9.799(0.000)	98	2471791	9.785	98%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249(0.000)	95	737149	9.926	99%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
1) Dichlorodifluoromethane	(2)			Not Detected					0.1	1
4) Dimethyl ether	(2)	2.105(-0.000)	45	14453	0.181	0.18		J	0.1	13
2) Chloromethane	(2)			Not Detected					0.2	1
8) Chloroethane	(2)			Not Detected					0.1	1
10) Trichlorofluoromethane	(2)			Not Detected					0.1	1
11) Ethyl ether	(2)	3.306(0.000)	59	165635	3.717	3.72		J	0.1	13
15) 1,1-Dichloroethene	(2)			Not Detected					0.1	1
16) Freon 113	(2)			Not Detected					0.2	1
23) Methylene Chloride	(2)			Not Detected					0.2	1
33) 1,1-Dichloroethane	(2)	5.366(0.000)	63	20653	0.164	0.16		J	0.1	1
38) 2-Butanone	(1)			Not Detected					1	10
48) Tetrahydrofuran	(1)			Not Detected					2	25
51) 1,1,1-Trichloroethane	(2)			Not Detected					0.1	1
54) Carbon Tetrachloride	(2)			Not Detected					0.1	1
58) Benzene	(2)			Not Detected					0.1	1
67) Trichloroethene	(2)			Not Detected					0.1	1
83) Toluene	(3)			Not Detected					0.1	1
89) Tetrachloroethene	(3)			Not Detected					0.1	1
100) Ethylbenzene	(3)			Not Detected					0.1	1
101) m+p-Xylene	(3)			Not Detected					0.1	0.5
104) o-Xylene	(3)			Not Detected					0.1	0.5
105) Xylene (Total)	(3)			Not Detected					0.1	3

R7602

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666265

Data file: /chem2/HP19094.i/16nov07a.b/hn07s31.d Injection date and time: 07-NOV-2016 12:39
Data file Sample Info. Line: R7602;8666265;1;0;;RAE76;DRAPERLOQ;;hn07b01a; Instrument ID: HP19094.i Batch: H163122AA
Date, time and analyst ID of latest file update: 07-Nov-2016 12:58 Automation

Blank Data file reference: /chem2/HP19094.i/16nov07a.b/hn07b01a.d

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469
Calibration date and time (Last Method Edit): 07-NOV-2016 12:19
Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov07a.b/hn07c01.d

Bottle Code: 038B Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

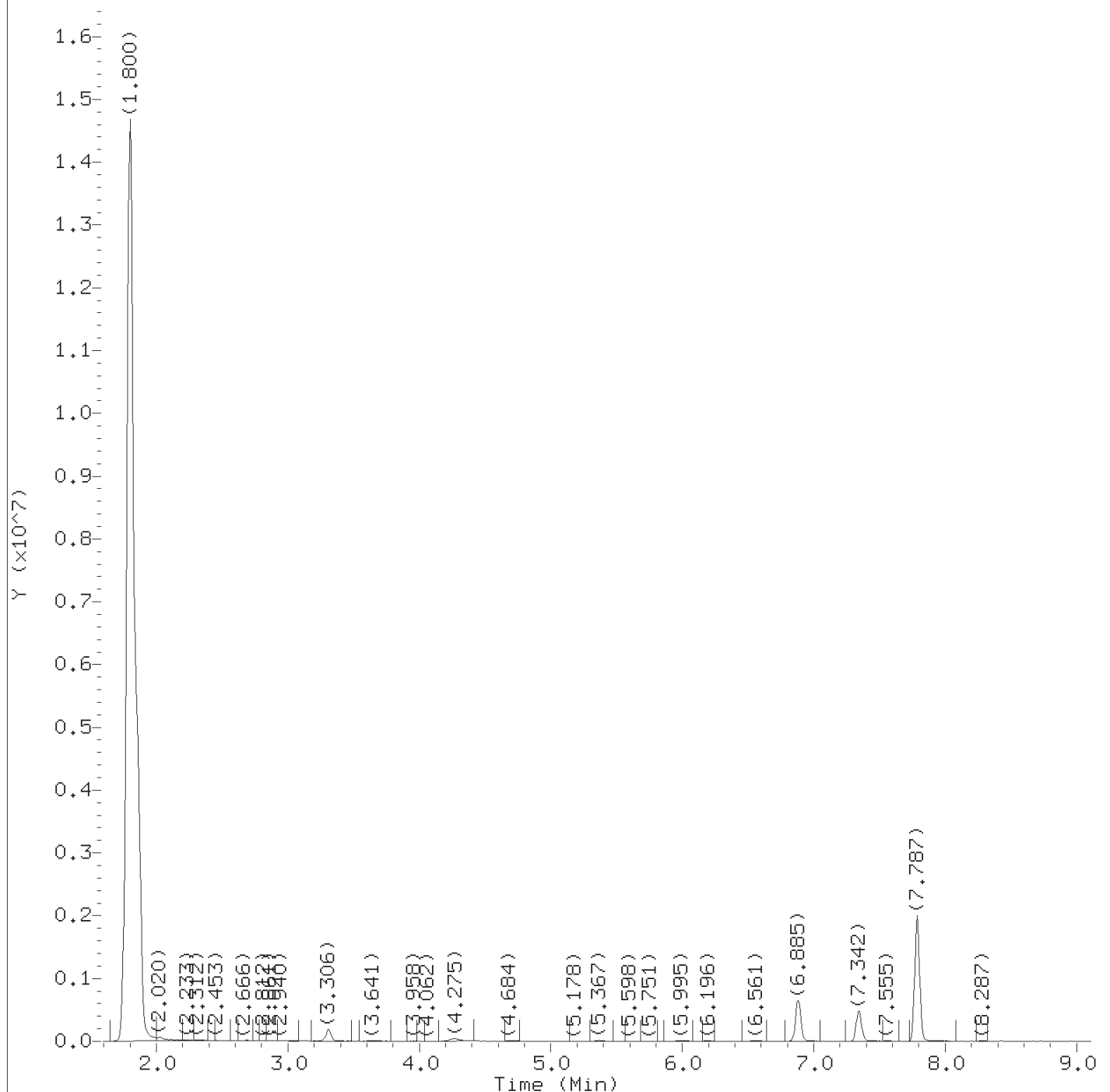
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

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Total number of targets = 22

Digitally signed by Kerri E. Koch Legerlotz on 11/07/2016 at 14:04. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 18:09. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07s31.d
Injection date and time: 07-NOV-2016 12:39

Instrument ID: HP19094.i
Analyst ID: kel01973

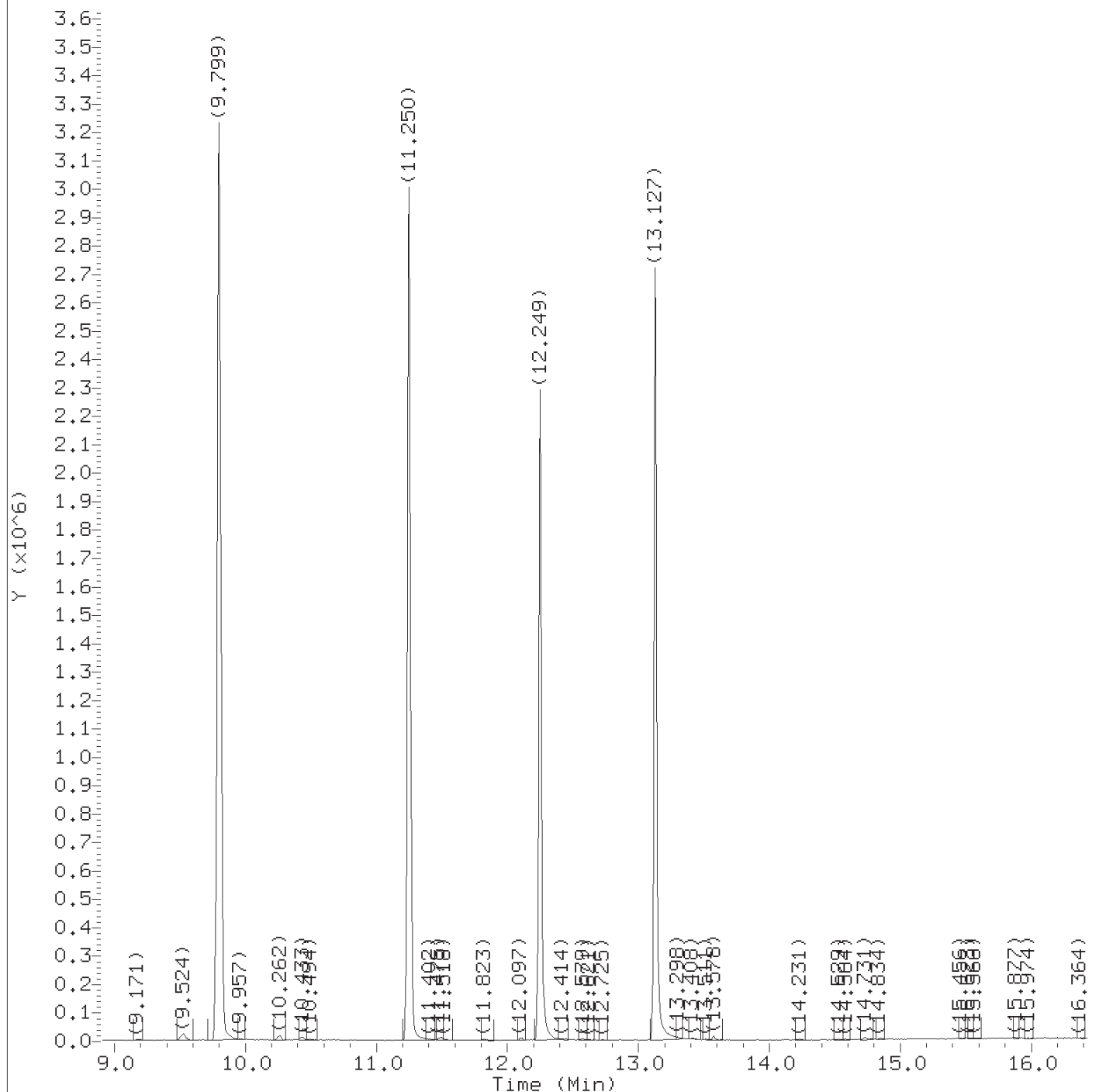
Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 12:58 Automation

Sample Name: R7602

Lab Sample ID: 8666265

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 14:04.

Target 3.5 esignature User ID: kel01973
RAE76 Page 122 of 883



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07s31.d
Injection date and time: 07-NOV-2016 12:39

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m
Calibration date and time: 07-NOV-2016 12:19

Sublist used: 22469

Date, time and analyst ID of latest file update: 07-Nov-2016 12:58 Automation

Sample Name: R7602

Lab Sample ID: 8666265

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 14:04.

Target 3.5 esignature user ID: kel01973
RAE76 Page 123 of 883

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07s31.d

Instrument ID: HP19094.i

Injection date and time: 07-NOV-2016 12:39

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m

Sublist used: 22469

Calibration date and time: 07-NOV-2016 12:19

Date, time and analyst ID of latest file update: 07-Nov-2016 12:58 Automation

Sample Name: R7602

Lab Sample ID: 8666265

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.105	45	14453	0.181
11) Ethyl ether	(2)	3.306	59	165635	3.717
26) *t-Butyl Alcohol-d10	(1)	4.251	65	120912	50.000
33) 1,1-Dichloroethane	(2)	5.367	63	20653	0.164
50) \$Dibromofluoromethane	(2)	6.885	113	565949	10.058
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	100112	11.075
63) *Fluorobenzene	(2)	7.787	96	2453379	10.000
82) \$Toluene-d8	(3)	9.799	98	2471791	9.785
97) *Chlorobenzene-d5	(3)	11.250	117	1672307	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	737149	9.926
133) *1,4-Dichlorobenzene-d4	(4)	13.133	152	718583	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

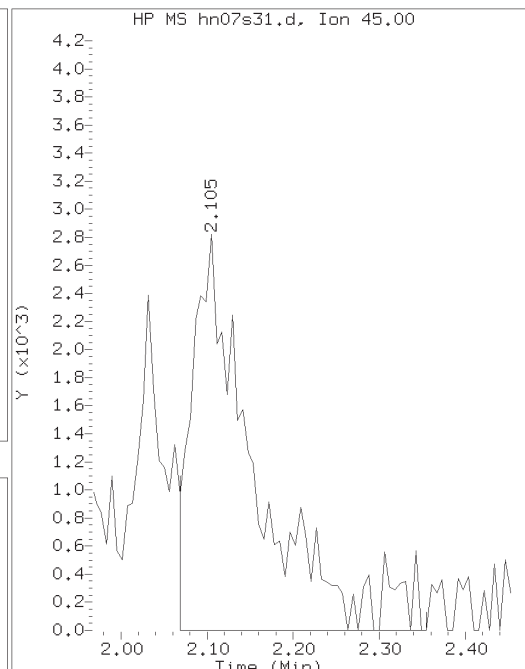
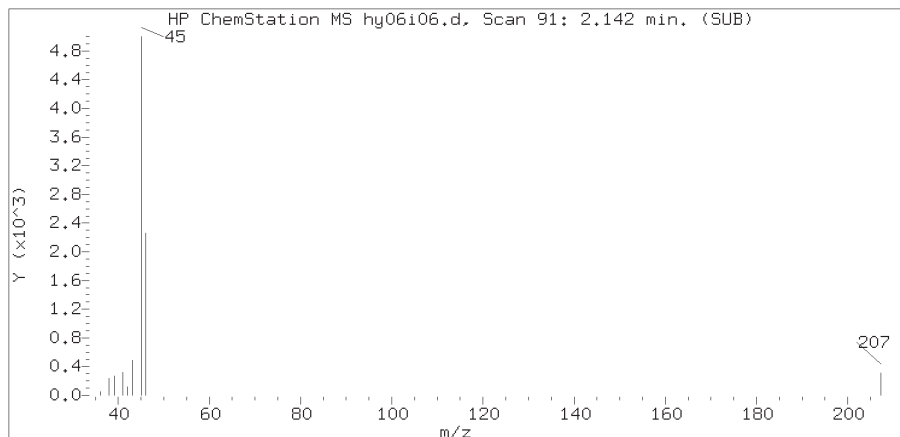
page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 14:04.

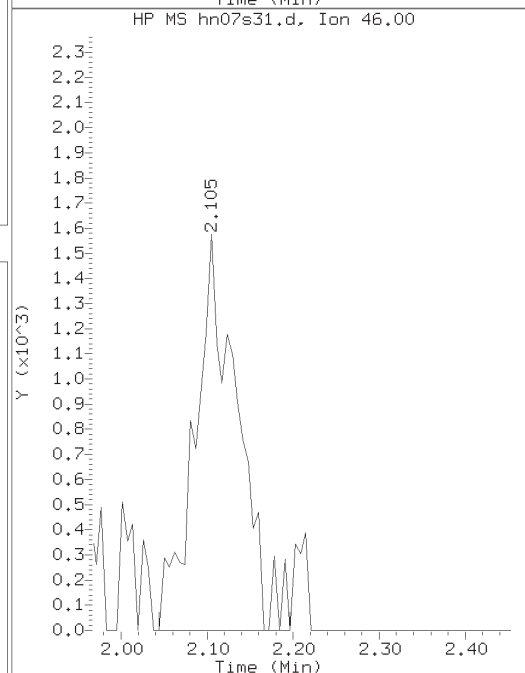
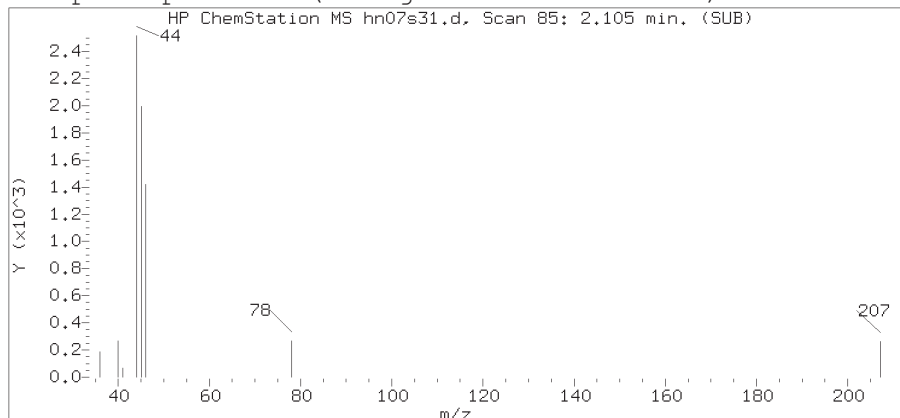
Target 3.5 esignature user ID: kel01973

RAE76 Page 124 of 883

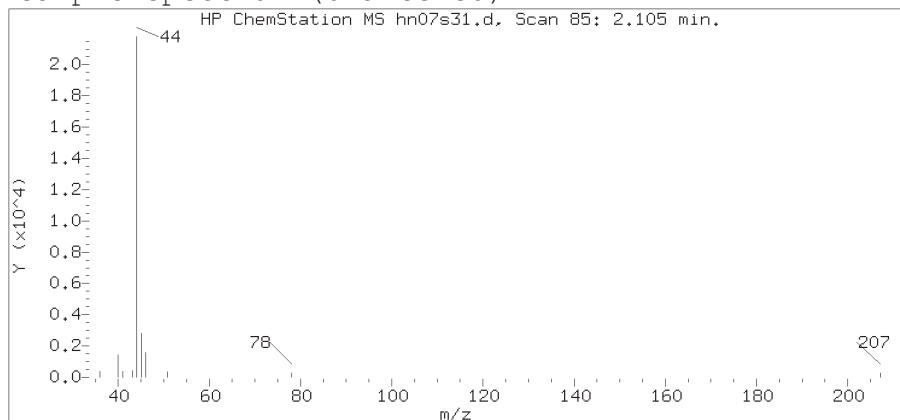
Reference Standard Spectrum for Dimethyl ether



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov07a.b/hn07s31.d
Injection date and time: 07-NOV-2016 12:39

Instrument ID: HP19094.i
Analyst ID: kel01973

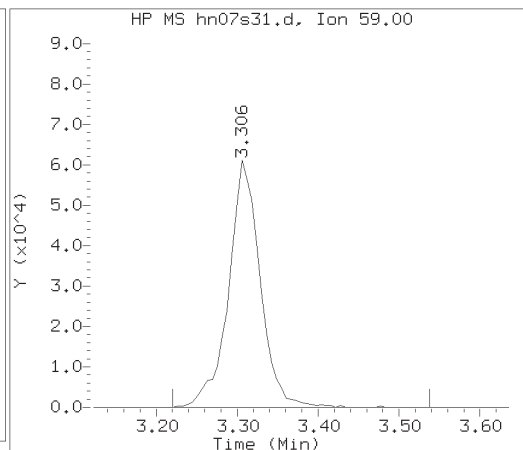
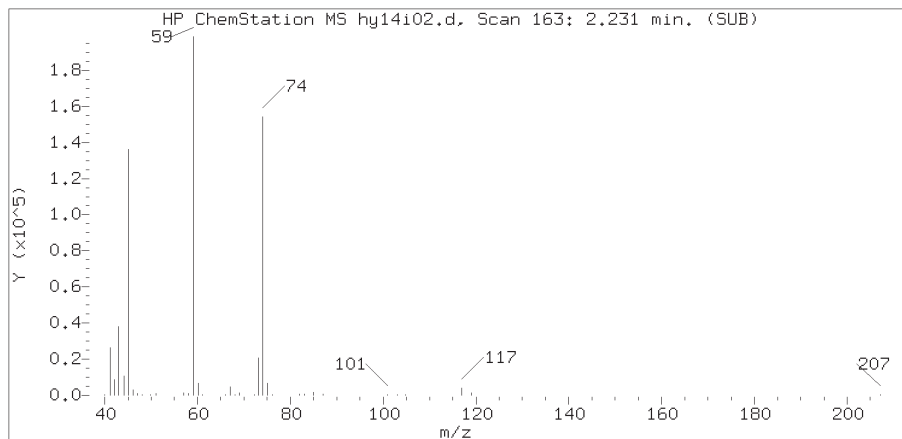
Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 12:58 Automation

Sample Name: R7602

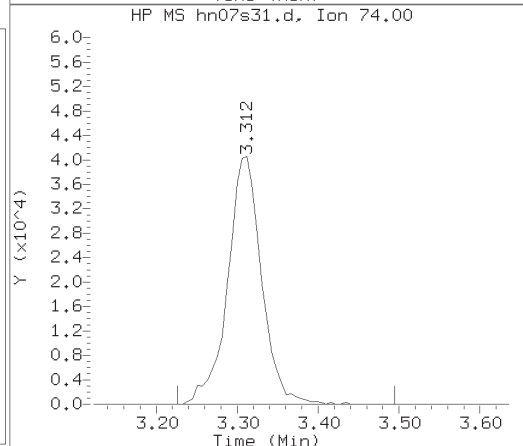
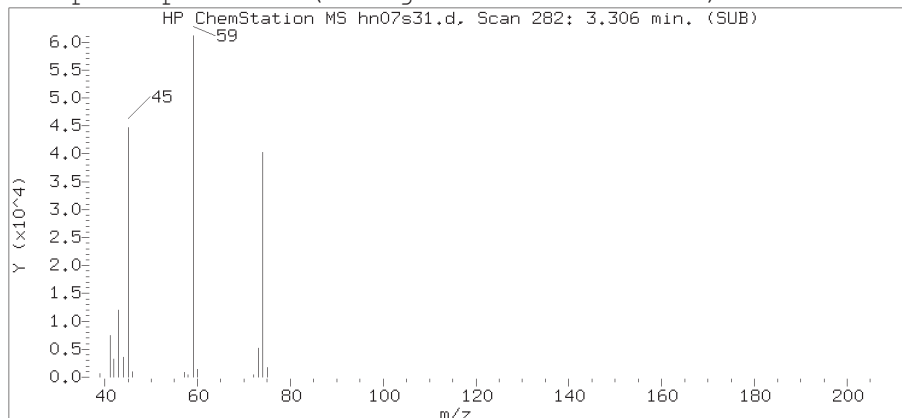
Lab Sample ID: 8666265

Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 85
Retention Time (minutes): 2.105
Relative Retention Time :-0.00002
Quant Ion : 45.00
Area (flag) : 14453
On-Column Amount (ng) : 0.1810

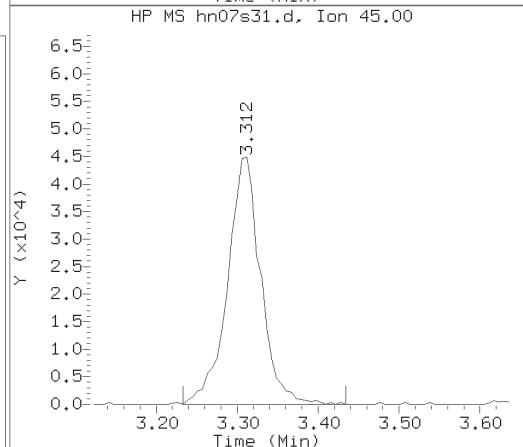
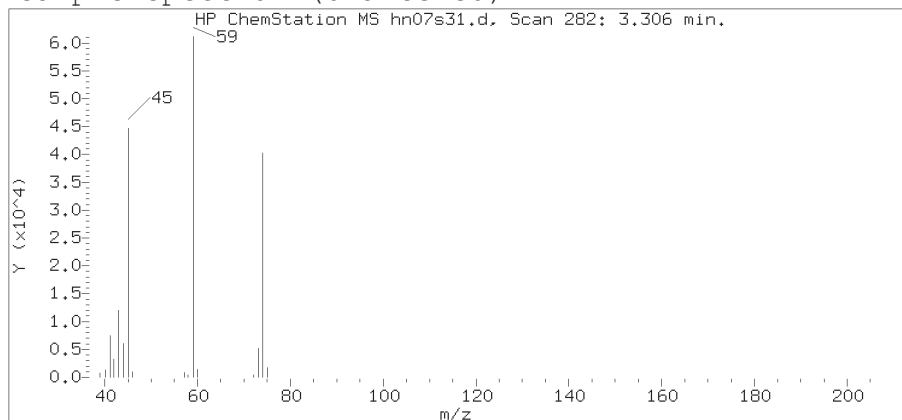
Reference Standard Spectrum for Ethyl ether



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov07a.b/hn07s31.d
Injection date and time: 07-NOV-2016 12:39

Instrument ID: HP19094.i
Analyst ID: kel01973

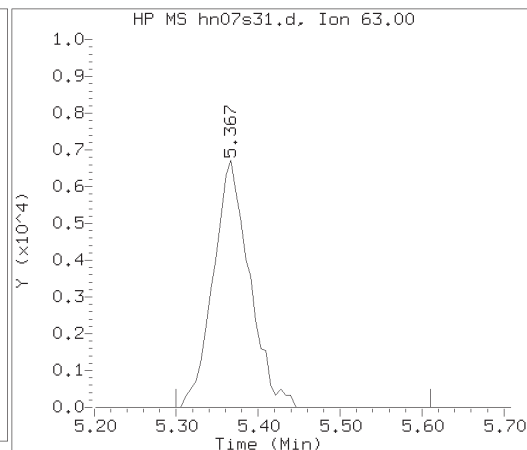
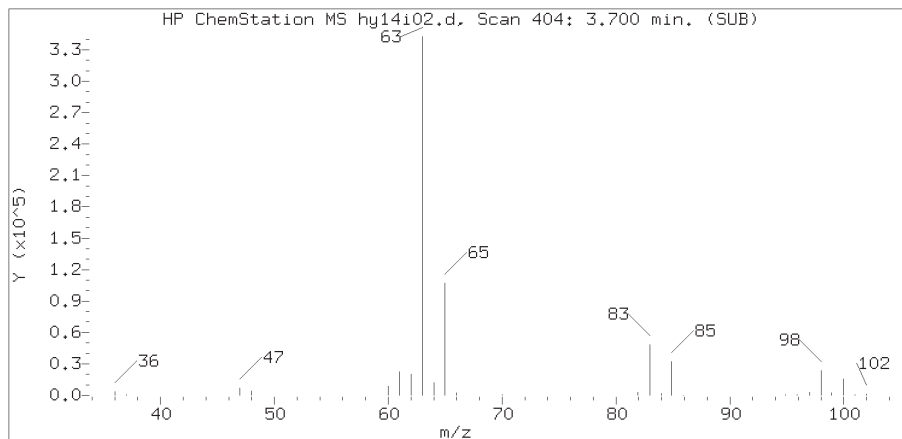
Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 12:58 Automation

Sample Name: R7602

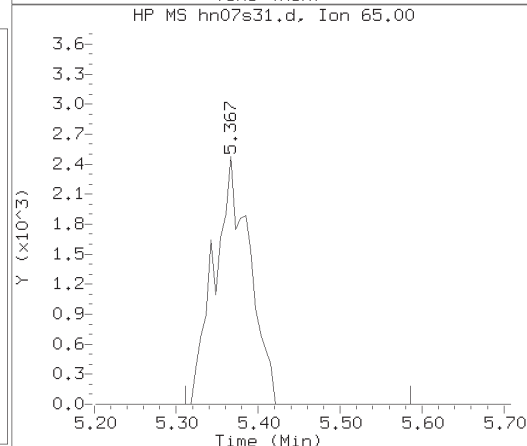
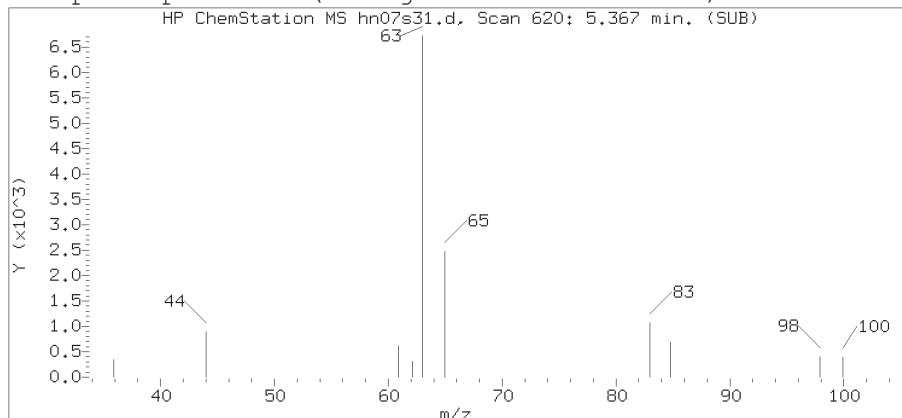
Lab Sample ID: 8666265

Compound Number : 11
Compound Name : Ethyl ether
Scan Number : 282
Retention Time (minutes): 3.306
Relative Retention Time : 0.00079
Quant Ion : 59.00
Area (flag) : 165635
On-Column Amount (ng) : 3.7174

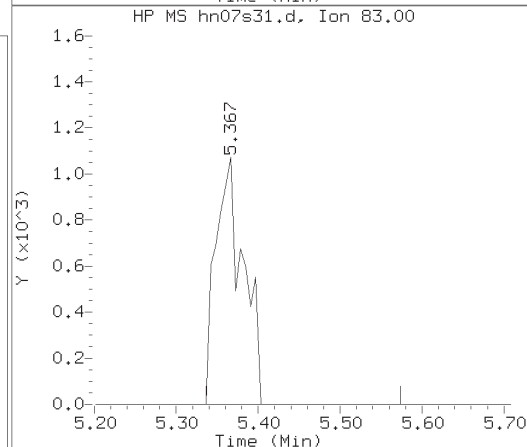
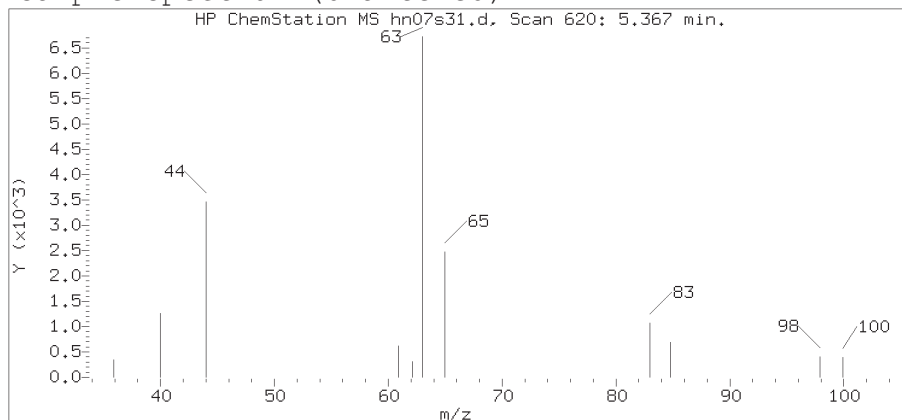
Reference Standard Spectrum for 1,1-Dichloroethane



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov07a.b/hn07s31.d
Injection date and time: 07-NOV-2016 12:39

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 12:58 Automation

Sample Name: R7602

Lab Sample ID: 8666265

Compound Number : 33
Compound Name : 1,1-Dichloroethane
Scan Number : 620
Retention Time (minutes): 5.367
Relative Retention Time : 0.00000
Quant Ion : 63.00
Area (flag) : 20653
On-Column Amount (ng) : 0.1645

R7603

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666266

Data file: /chem2/HP19094.i/16nov05a.b/hn05s12.d

Injection date and time: 05-NOV-2016 14:11

Data file Sample Info. Line: R7603;8666266;1;0;;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA

Date, time and analyst ID of latest file update: 07-Nov-2016 09:22 kel01973

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469

Calibration date and time (Last Method Edit): 05-NOV-2016 09:41

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.257(0.006)	438	65	98684 (-9)	50.00	
63) Fluorobenzene	7.781(0.000)	1016	96	2315746 (-4)	10.00	
97) Chlorobenzene-d5	11.250(-0.006)	1585	117	1503387 (-9)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(0.000)	1893	152	623602 (-17)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.879(0.000)	113	515402	9.704	97%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.342(0.000)	102	87979	10.311	103%		74 - 113
82) Toluene-d8	(3)	9.799(0.000)	98	2268144	9.988	100%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249(0.000)	95	641391	9.607	96%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit LOQ (in sample)
1) Dichlorodifluoromethane	(2)			Not Detected					0.1 1
4) Dimethyl ether	(2)	2.032(0.008)	45	88805M	1.178	1.18		J	0.1 13
2) Chloromethane	(2)			Not Detected					0.2 1
8) Chloroethane	(2)	2.733(-0.000)	64	104899	1.976	1.98			0.1 1
10) Trichlorofluoromethane	(2)			Not Detected					0.1 1
11) Ethyl ether	(2)	3.306(-0.000)	59	2353189	55.952	55.95		E	0.1 13
15) 1,1-Dichloroethene	(2)	3.611(0.000)	96	11548	0.217	0.22		J	0.1 1
16) Freon 113	(2)			Not Detected					0.2 1
23) Methylene Chloride	(2)			Not Detected					0.2 1
33) 1,1-Dichloroethane	(2)	5.367(-0.000)	63	813440	6.863	6.86			0.1 1
38) 2-Butanone	(1)			Not Detected					1 10
48) Tetrahydrofuran	(1)			Not Detected					2 25
51) 1,1,1-Trichloroethane	(2)			Not Detected					0.1 1
54) Carbon Tetrachloride	(2)			Not Detected					0.1 1
58) Benzene	(2)	7.384(-0.000)	78	76041	0.306	0.31		J	0.1 1
67) Trichloroethene	(2)			Not Detected					0.1 1
83) Toluene	(3)			Not Detected					0.1 1
89) Tetrachloroethene	(3)			Not Detected					0.1 1
100) Ethylbenzene	(3)			Not Detected					0.1 1
101) m+p-Xylene	(3)			Not Detected					0.1 0.5
104) o-Xylene	(3)			Not Detected					0.1 0.5
105) Xylene (Total)	(3)			Not Detected					0.1 3

M = Compound was manually integrated. E = Compound concentration above calibration range.

R7603

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles 8666266

Data file: /chem2/HP19094.i/16nov05a.b/hn05s12.d Injection date and time: 05-NOV-2016 14:11
Data file Sample Info. Line: R7603;8666266;1;0;;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA
Date, time and analyst ID of latest file update: 07-Nov-2016 09:22 kel01973

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time (Last Method Edit): 05-NOV-2016 09:41
Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

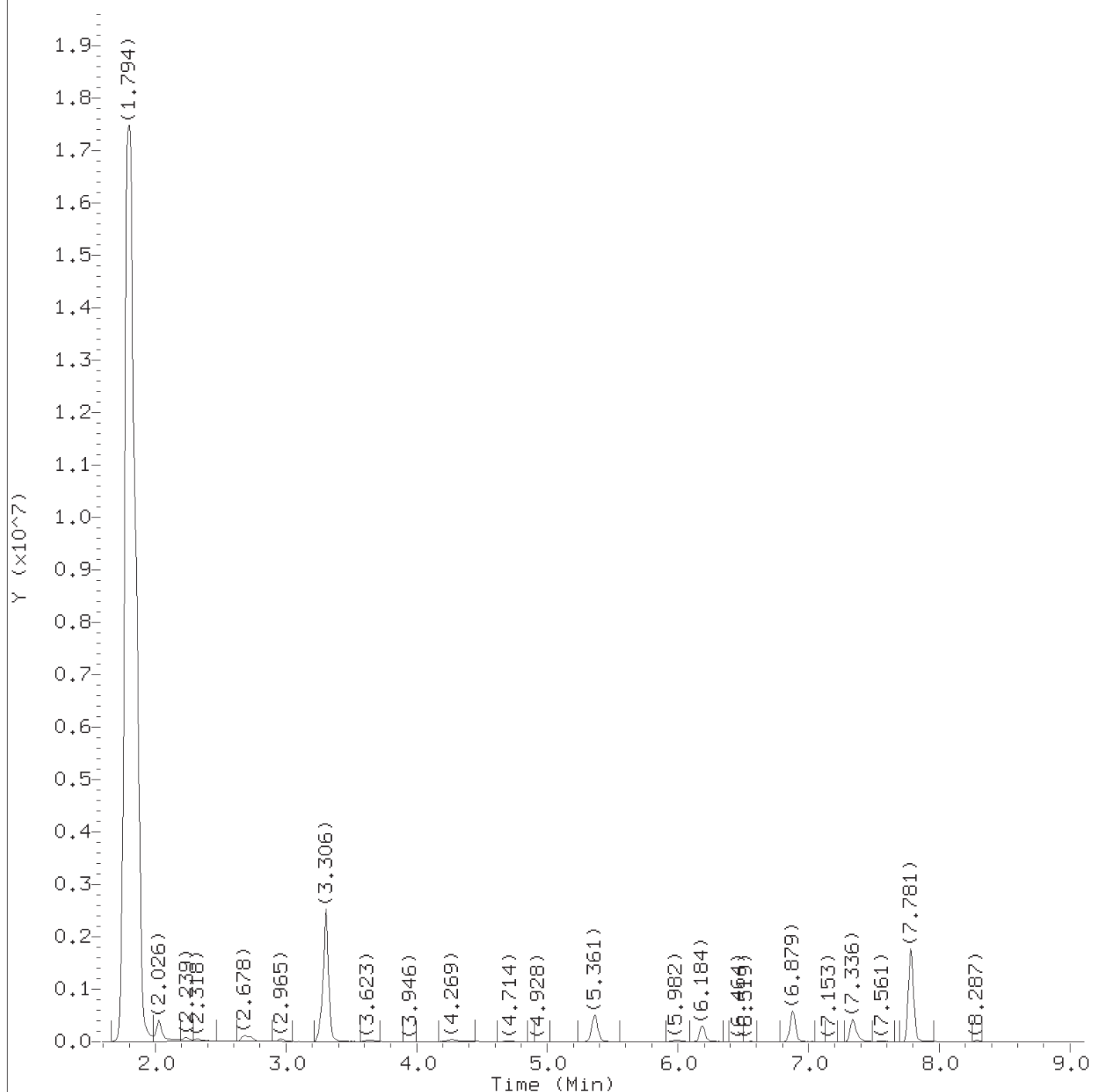
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

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Total number of targets = 22

Digitally signed by Kerri E. Koch Legerlotz on 11/07/2016 at 09:23. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 20:11. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s12.d
Injection date and time: 05-NOV-2016 14:11

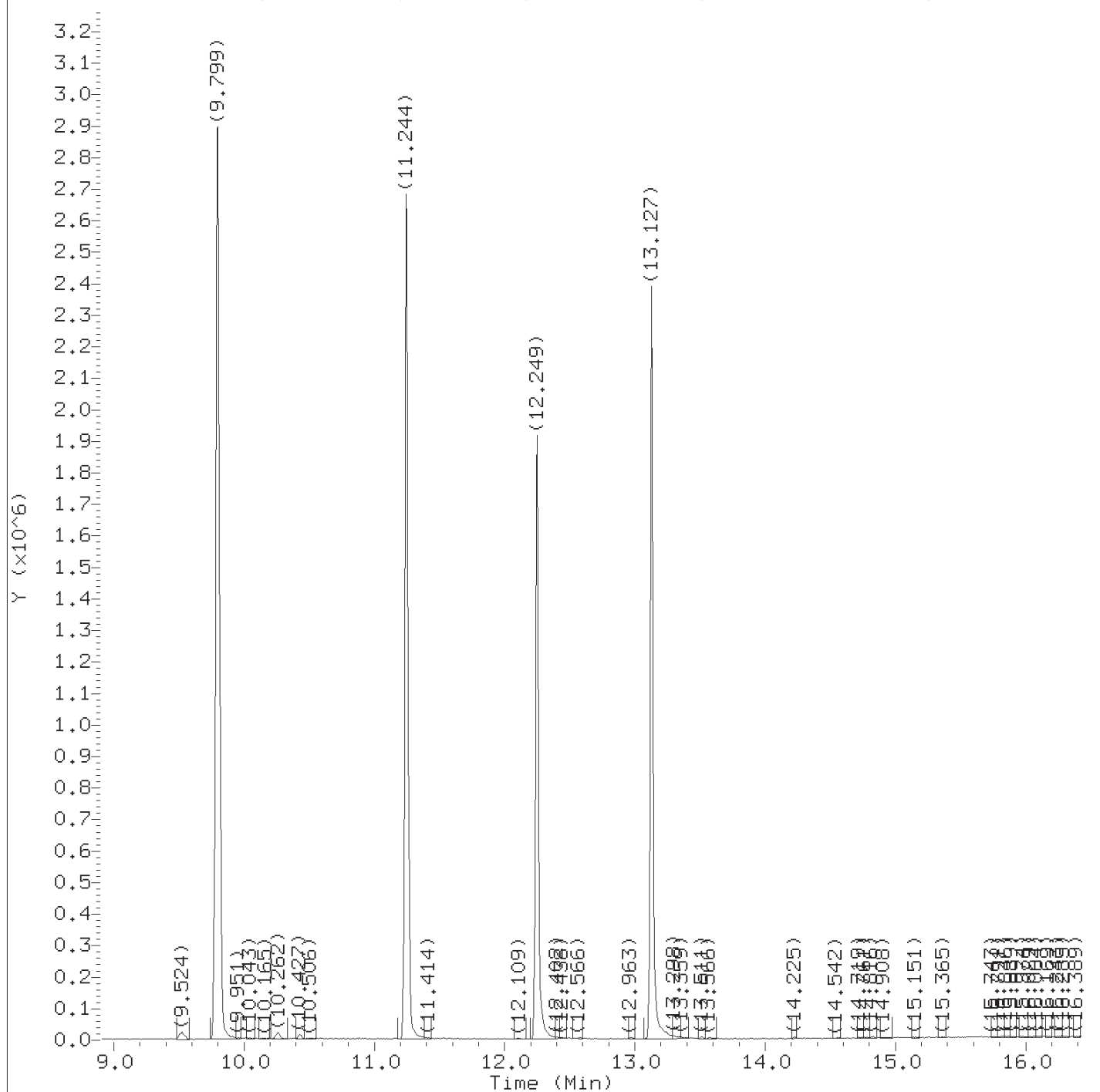
Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 07-Nov-2016 09:22 kel01973

Sample Name: R7603

Lab Sample ID: 8666266

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:23.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s12.d
Injection date and time: 05-NOV-2016 14:11

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m
Calibration date and time: 05-NOV-2016 09:41

Sublist used: 22469

Date, time and analyst ID of latest file update: 07-Nov-2016 09:22 kel01973

Sample Name: R7603

Lab Sample ID: 8666266

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:23.

Target 3.5 esignature user ID: kel01973
RAE76 Page 131 of 883

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s12.d

Instrument ID: HP19094.i

Injection date and time: 05-NOV-2016 14:11

Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m

Sublist used: 22469

Calibration date and time: 05-NOV-2016 09:41

Date, time and analyst ID of latest file update: 07-Nov-2016 09:22 kel01973

Sample Name: R7603

Lab Sample ID: 8666266

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
4) Dimethyl ether	(2)	2.032	45	88805M	1.178
8) Chloroethane	(2)	2.733	64	104899	1.976
11) Ethyl ether	(2)	3.306	59	2353189	55.952
15) 1,1-Dichloroethene	(2)	3.611	96	11548	0.217
26) *t-Butyl Alcohol-d10	(1)	4.257	65	98684	50.000
33) 1,1-Dichloroethane	(2)	5.367	63	813440	6.863
50) \$Dibromofluoromethane	(2)	6.879	113	515402	9.704
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	87979	10.311
58) Benzene	(2)	7.385	78	76041	0.306
63) *Fluorobenzene	(2)	7.781	96	2315746	10.000
82) \$Toluene-d8	(3)	9.799	98	2268144	9.988
97) *Chlorobenzene-d5	(3)	11.250	117	1503387	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	641391	9.607
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	623602	10.000

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

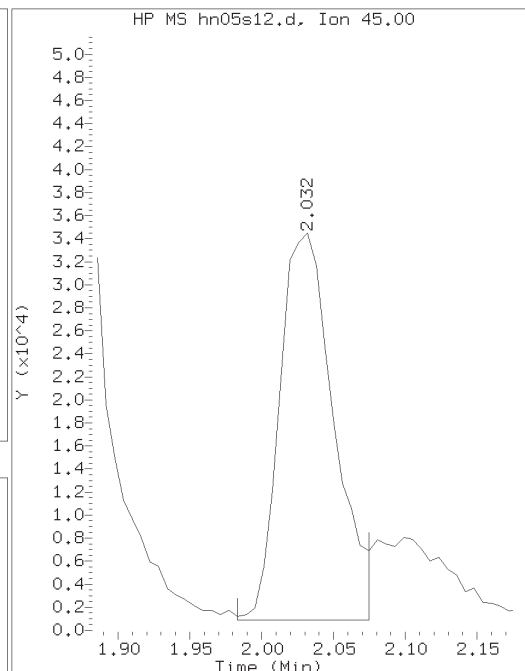
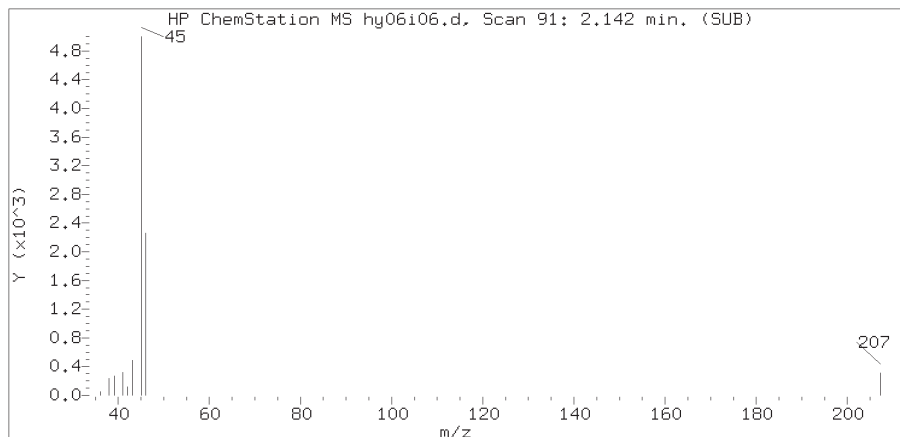
page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:23.

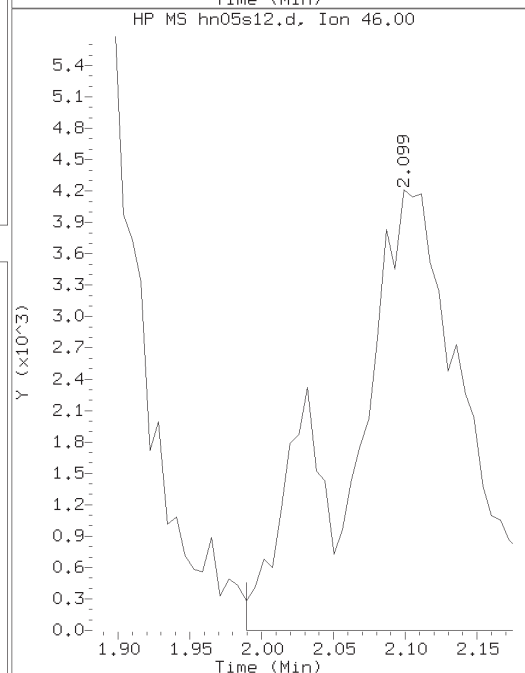
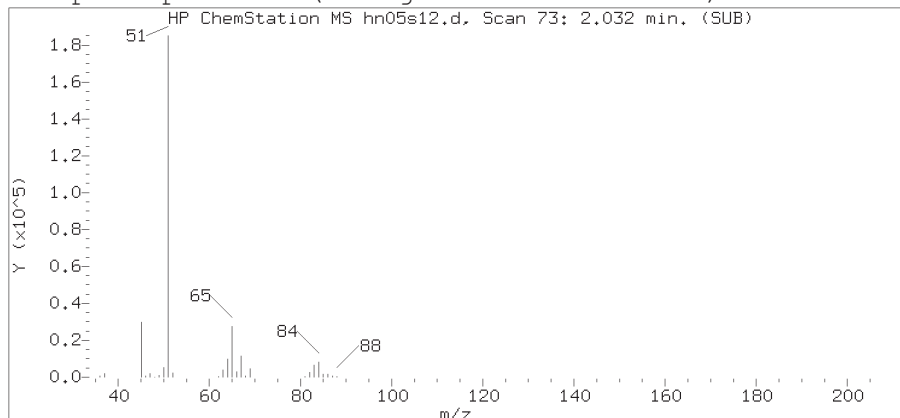
Target 3.5 esignature user ID: kel01973

RAE76 Page 132 of 883

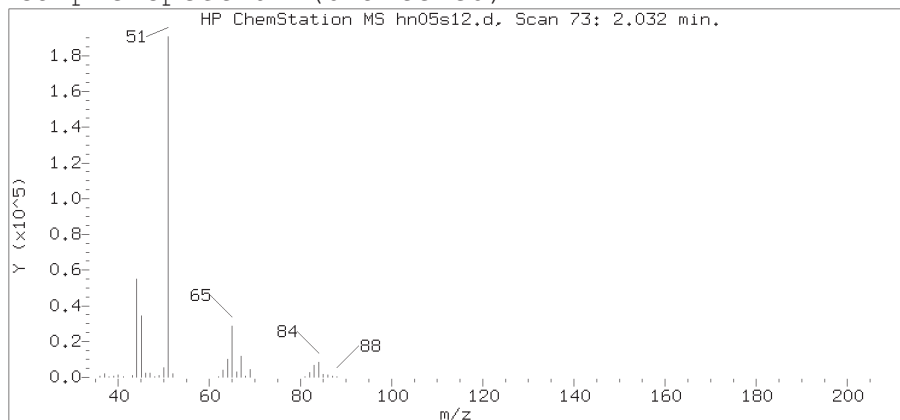
Reference Standard Spectrum for Dimethyl ether



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s12.d
Injection date and time: 05-NOV-2016 14:11

Instrument ID: HP19094.i
Analyst ID: msk07970

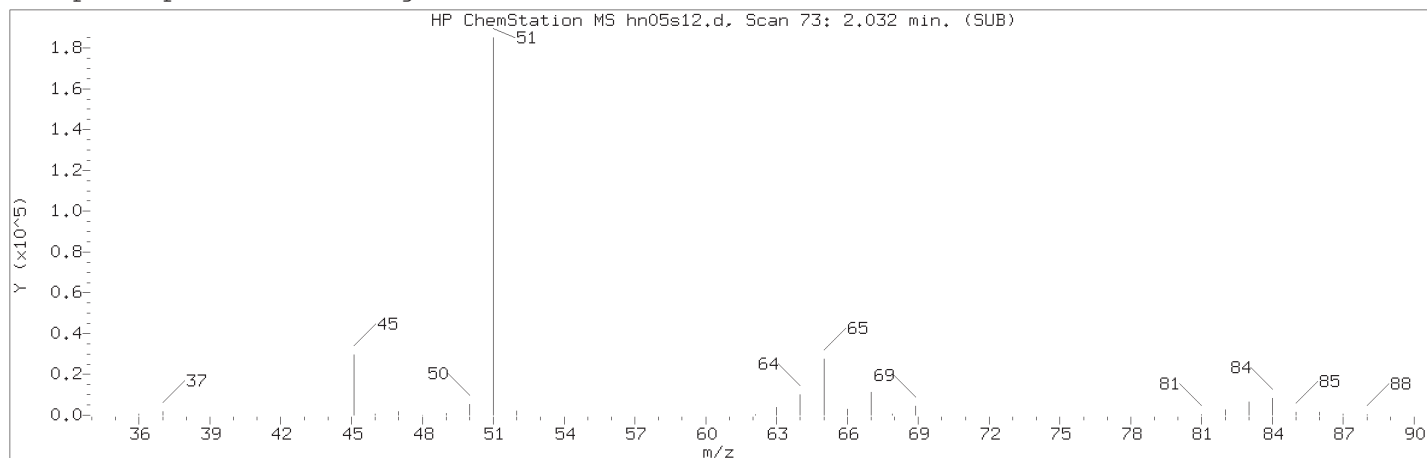
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Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 07-Nov-2016 09:22 kel01973

Sample Name: R7603

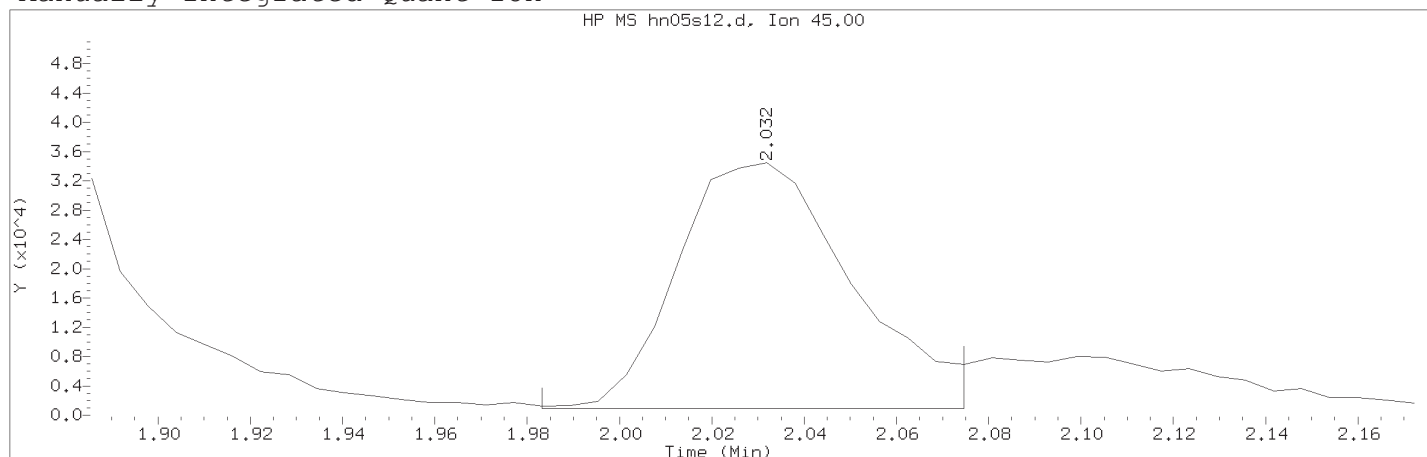
Lab Sample ID: 8666266

Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 73
Retention Time (minutes): 2.032
Relative Retention Time : 0.00862
Quant Ion : 45.00
Area (flag) : 88805M
On-Column Amount (ng) : 1.1784

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov05a.b/hn05s12.d

Instrument ID: HP19094.i

Injection date and time: 05-NOV-2016 14:11

Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m

Sublist used: 22469

Calibration date and time: 05-NOV-2016 09:41

Date, time and analyst ID of latest file update: 07-Nov-2016 09:22 kel01973

Sample Name: R7603

Lab Sample ID: 8666266

Compound Number	: 4	
Compound Name	: Dimethyl ether	
Scan Number	: 73	
Retention Time (minutes)	: 2.032	
Quant Ion	: 45.00	
Area (flag)	: 88805M	
On-Column Amount (ng)	: 1.1784	
Integration start scan	: 64	Integration stop scan: 79
Y at integration start	: 881	Y at integration end: 881

Reason for manual integration: improper integration

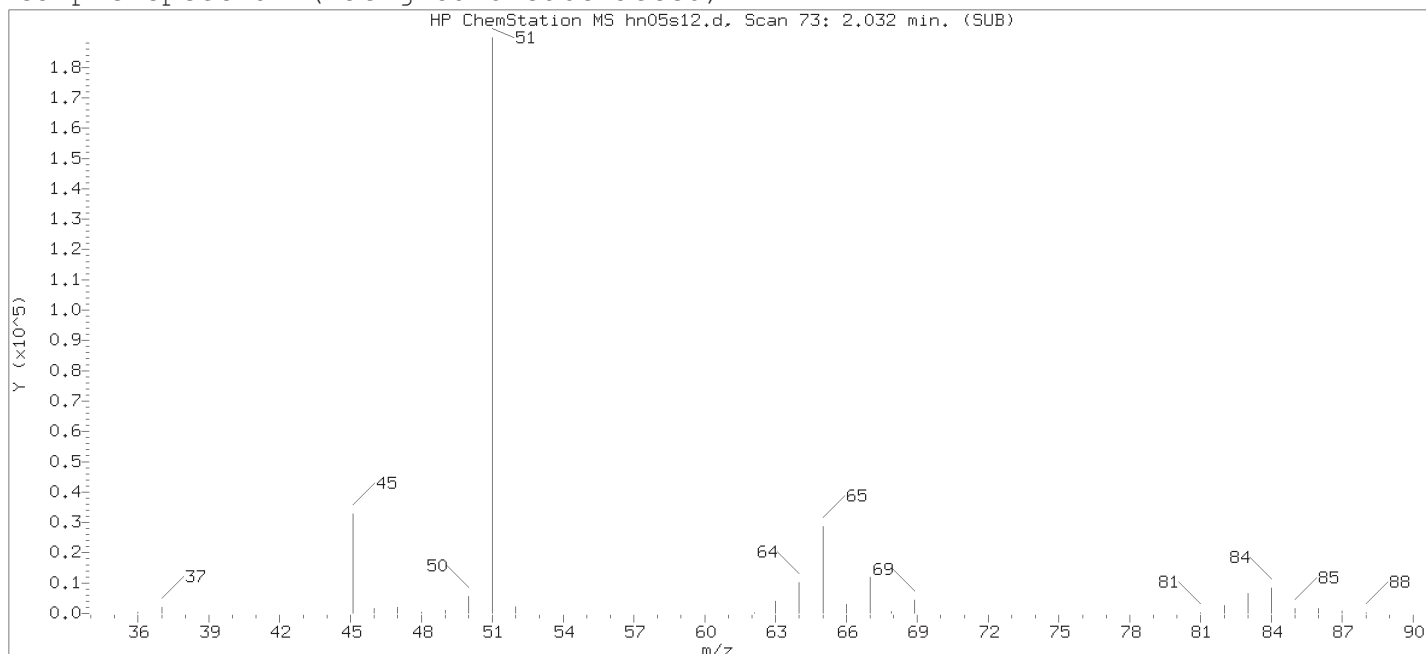
Analyst responsible for change:

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:23.
Target 3.5 esignature user ID: kel01973

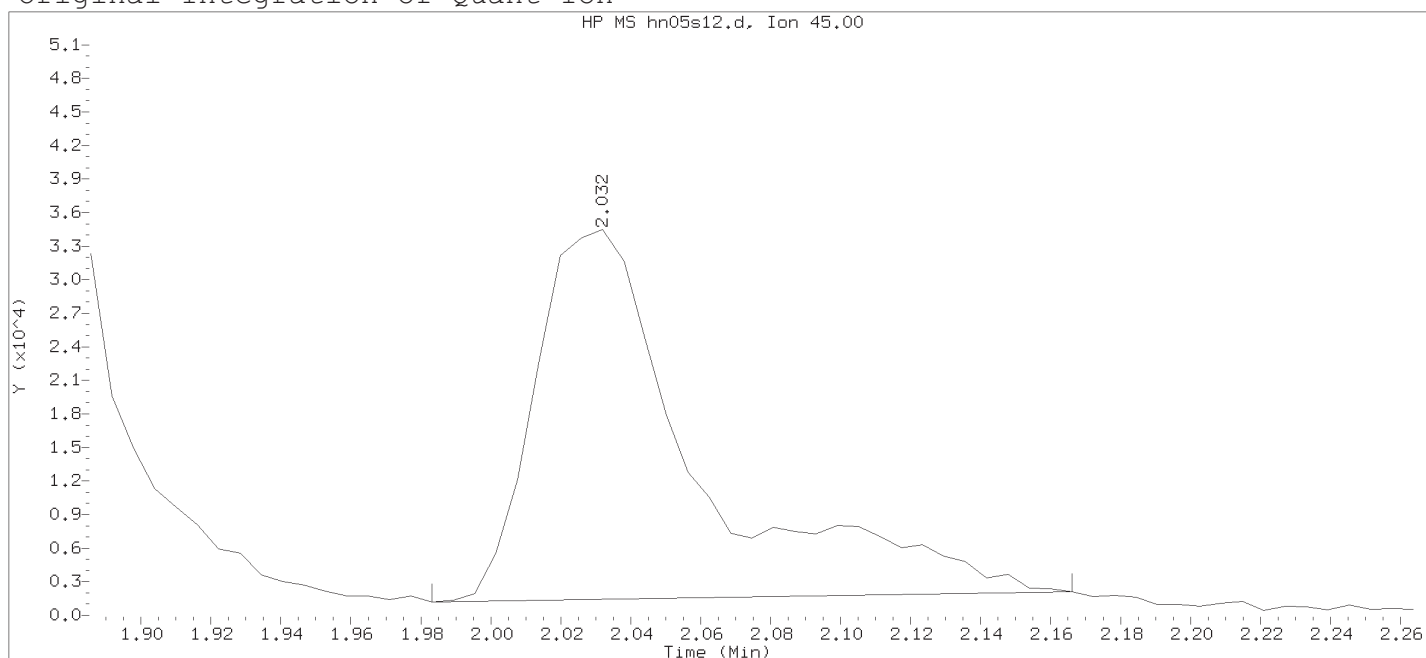
Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 20:11.

PARALLAX ID: sej02002

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov05a.b/hn05s12.d

Instrument ID: HP19094.i

Injection date and time: 05-NOV-2016 14:11

Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m

Sublist used: 22469

Calibration date and time: 05-NOV-2016 09:41

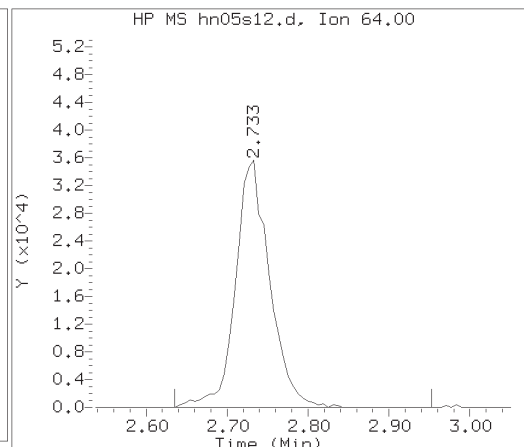
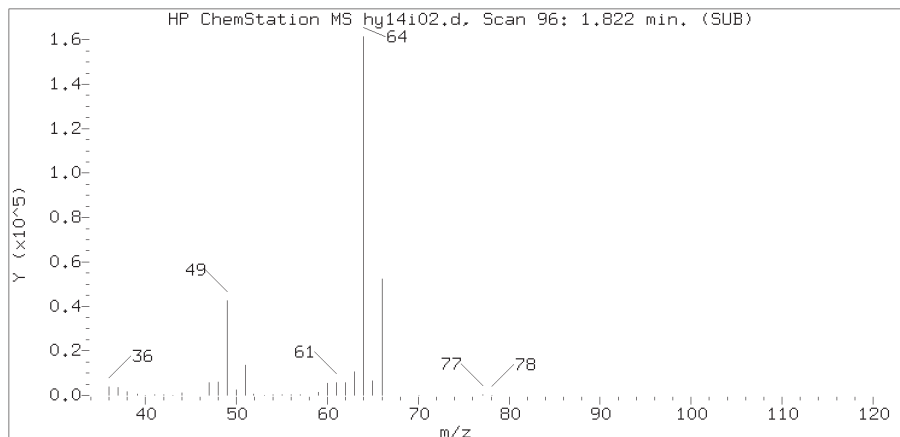
Date, time and analyst ID of latest file update: 05-Nov-2016 14:30 Automation

Sample Name: R7603

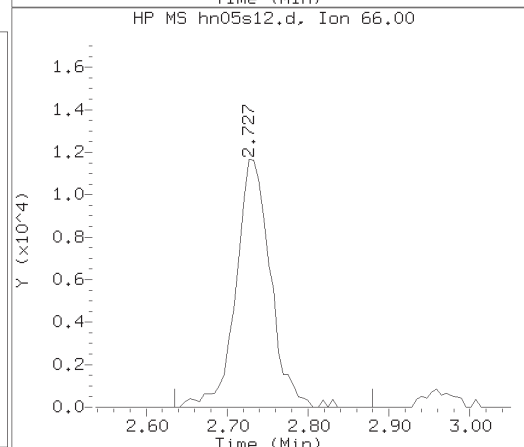
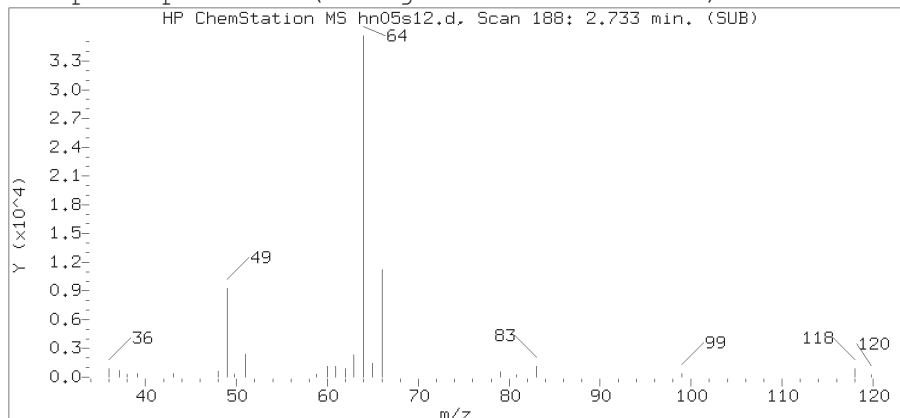
Lab Sample ID: 8666266

Compound Number	: 4	
Compound Name	: Dimethyl ether	
Scan Number	: 73	
Retention Time (minutes)	: 2.032	
Quant Ion	: 45.00	
Area	: 105308	
On-column Amount (ng)	: 1.3974	
Integration start scan	: 64	Integration stop scan: 94
Y at integration start	: 1204	Y at integration end: 2081

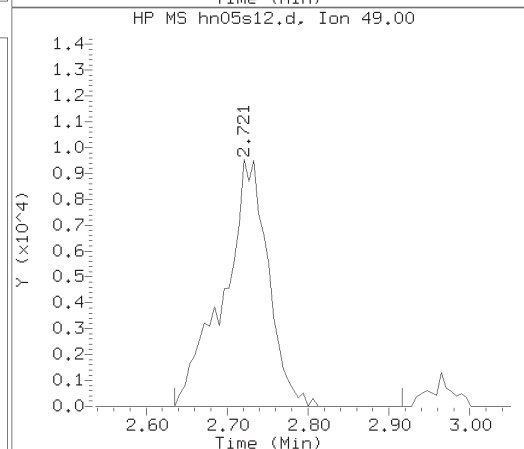
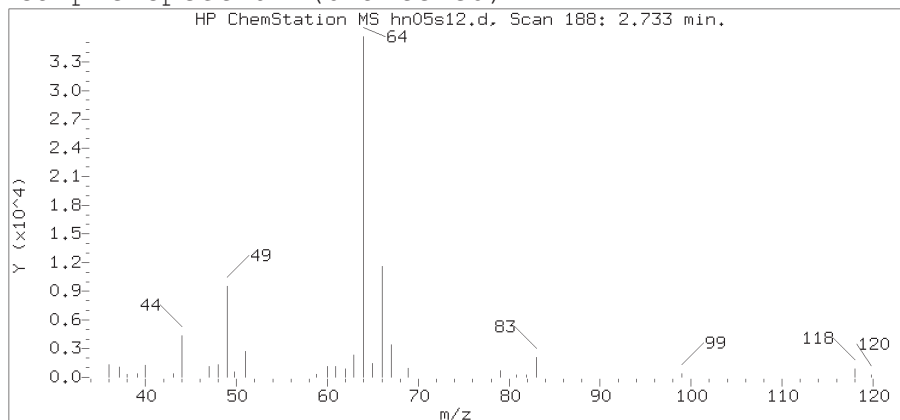
Reference Standard Spectrum for Chloroethane



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s12.d
Injection date and time: 05-NOV-2016 14:11

Instrument ID: HP19094.i
Analyst ID: msk07970

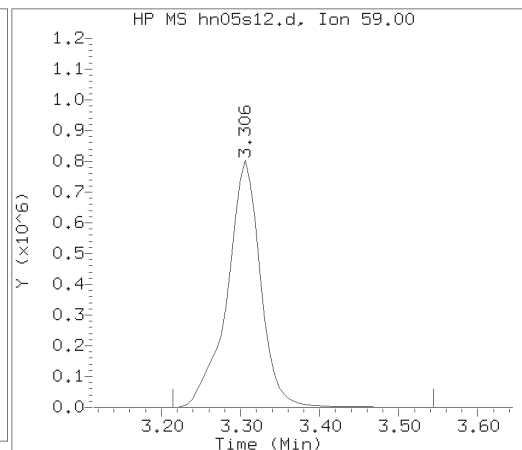
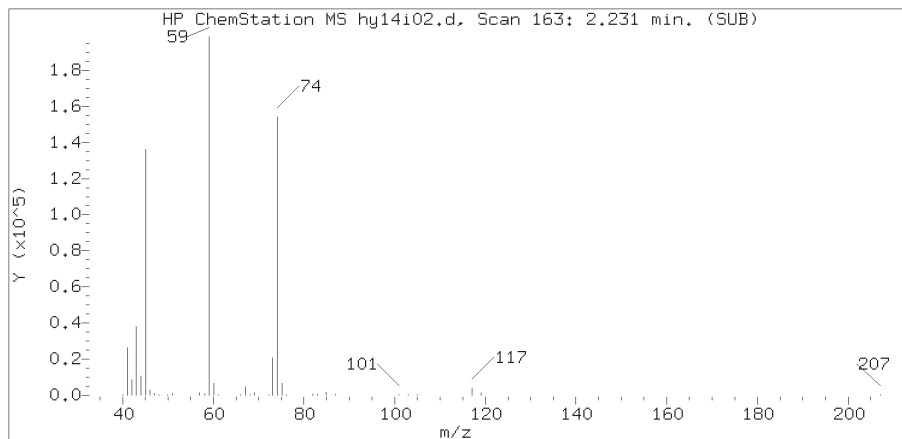
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Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 07-Nov-2016 09:22 kel01973

Sample Name: R7603

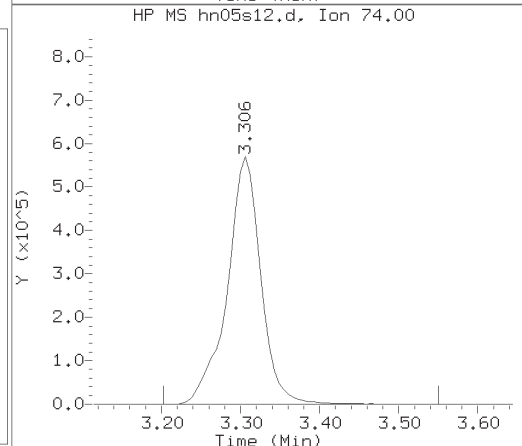
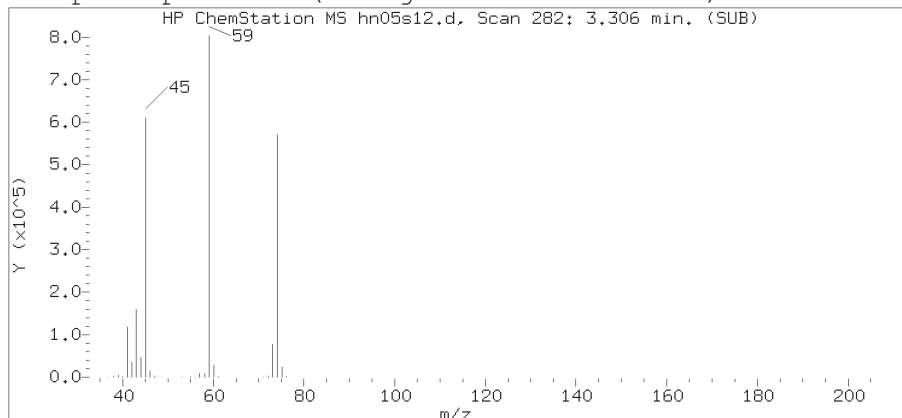
Lab Sample ID: 8666266

Compound Number : 8
Compound Name : Chloroethane
Scan Number : 188
Retention Time (minutes): 2.733
Relative Retention Time :-0.00001
Quant Ion : 64.00
Area (flag) : 104899
On-Column Amount (ng) : 1.9758

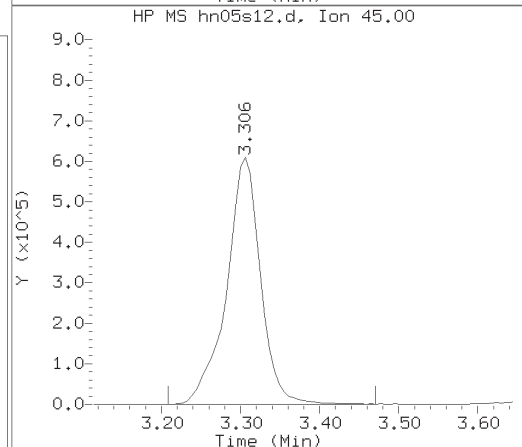
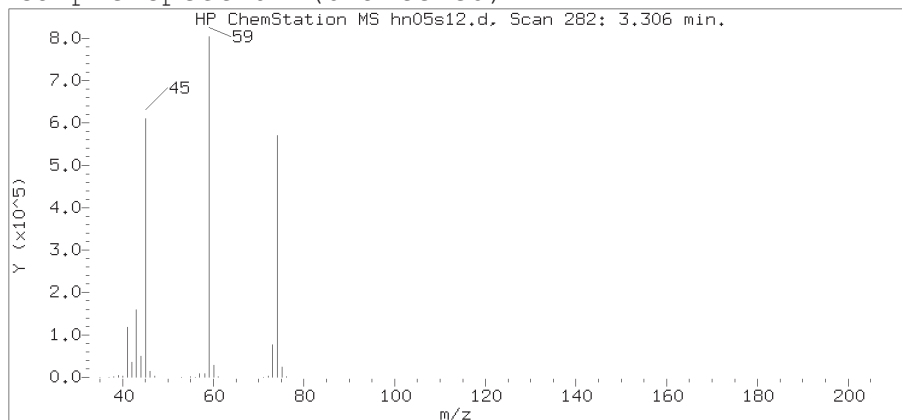
Reference Standard Spectrum for Ethyl ether



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s12.d
Injection date and time: 05-NOV-2016 14:11

Instrument ID: HP19094.i
Analyst ID: msk07970

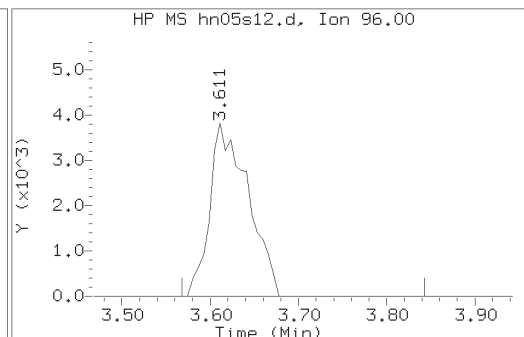
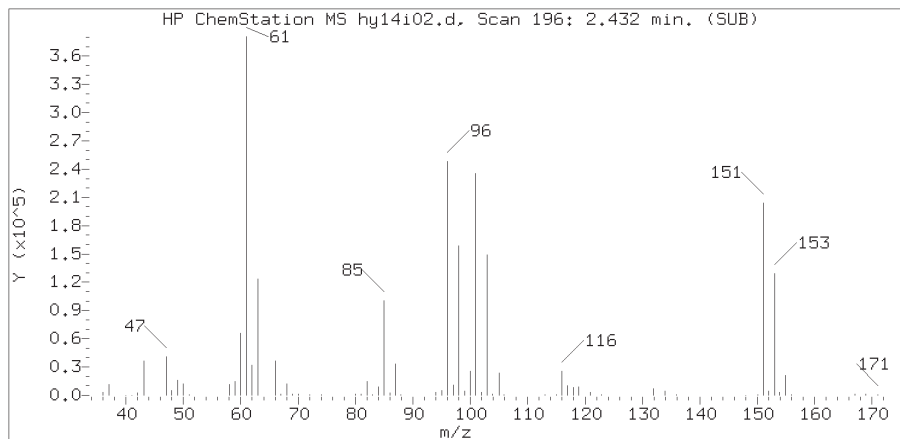
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Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 07-Nov-2016 09:22 kel01973

Sample Name: R7603

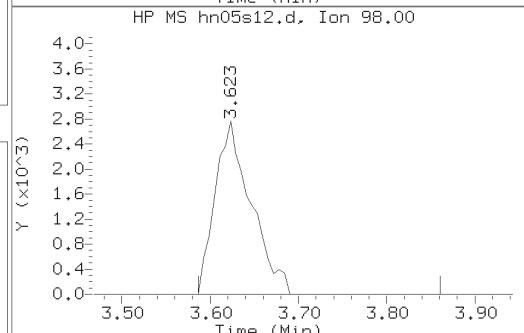
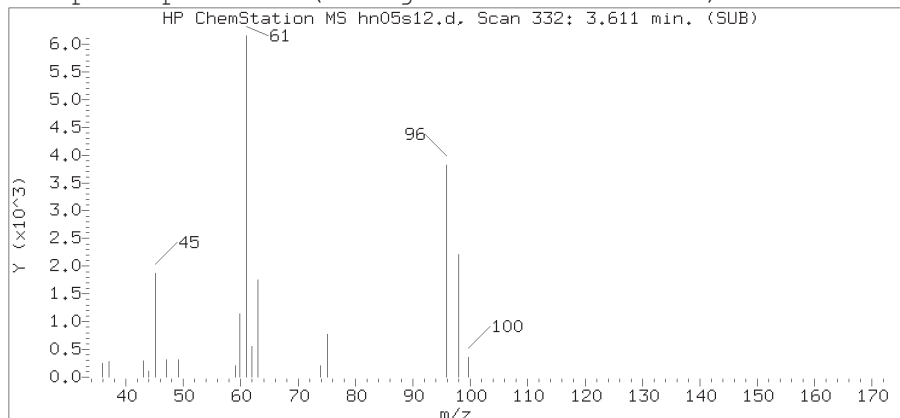
Lab Sample ID: 8666266

Compound Number : 11
Compound Name : Ethyl ether
Scan Number : 282
Retention Time (minutes): 3.306
Relative Retention Time :-0.00001
Quant Ion : 59.00
Area (flag) : 2353189
On-Column Amount (ng) : 55.9525

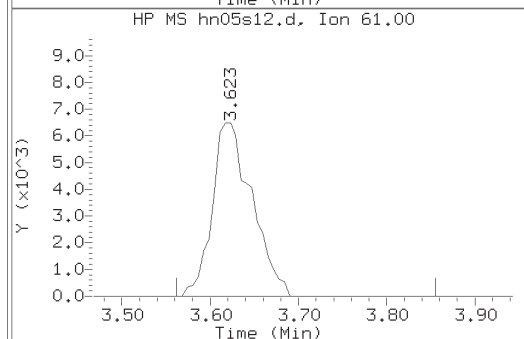
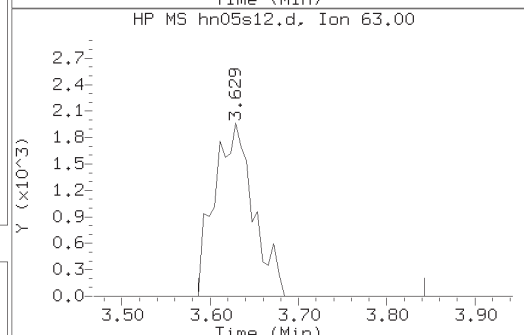
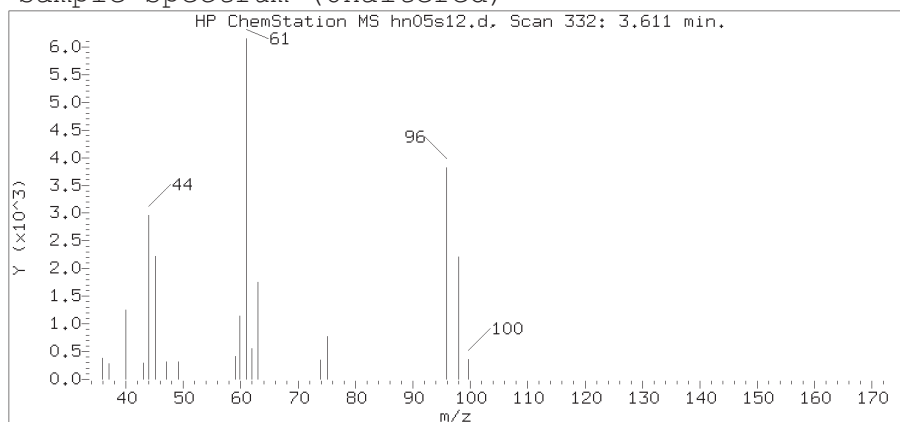
Reference Standard Spectrum for 1,1-Dichloroethene



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s12.d
Injection date and time: 05-NOV-2016 14:11

Instrument ID: HP19094.i
Analyst ID: msk07970

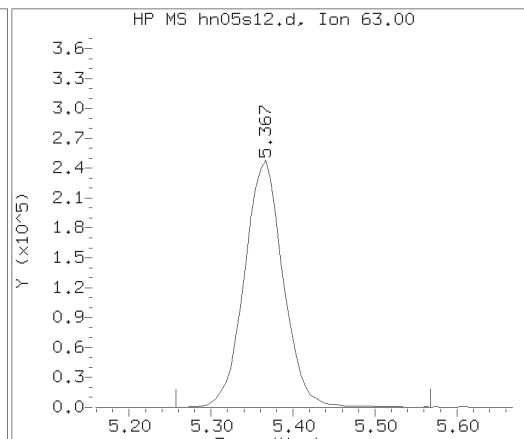
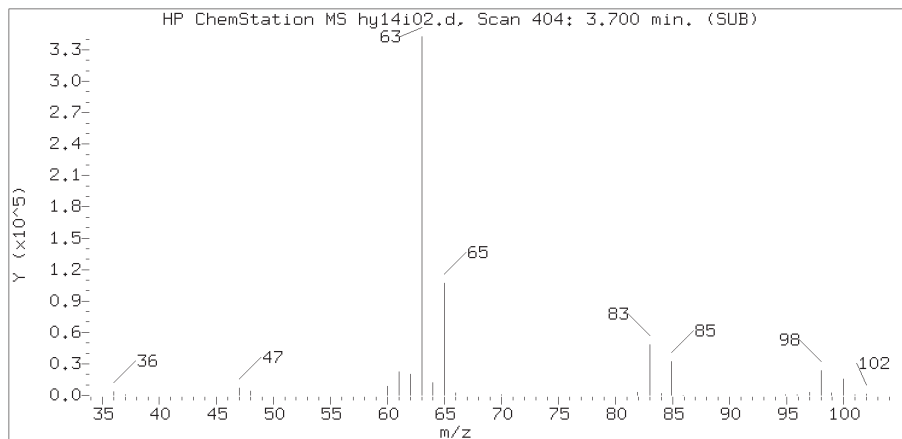
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Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 07-Nov-2016 09:22 kel01973

Sample Name: R7603

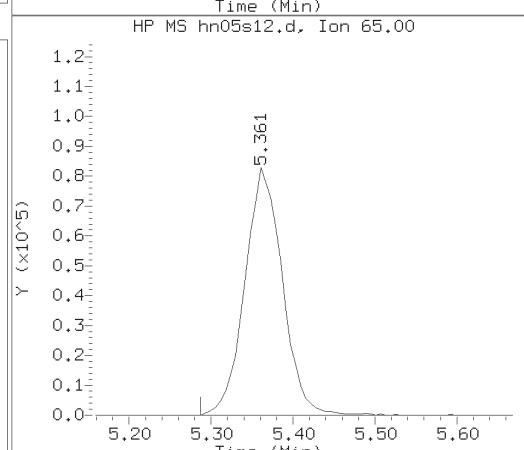
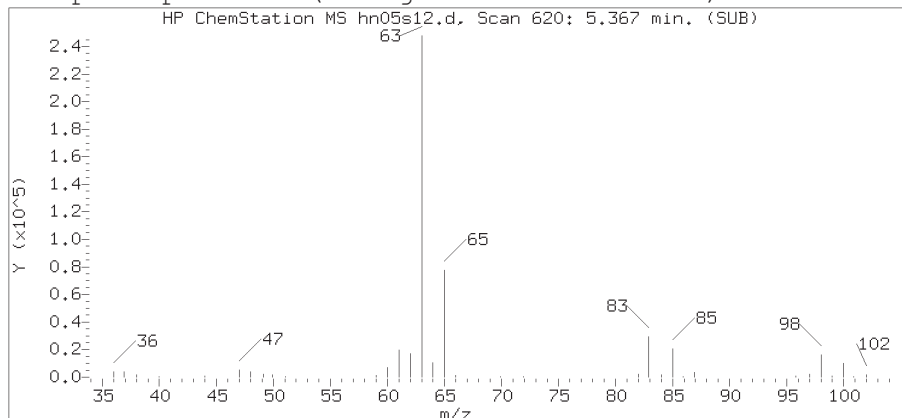
Lab Sample ID: 8666266

Compound Number : 15
Compound Name : 1,1-Dichloroethene
Scan Number : 332
Retention Time (minutes): 3.611
Relative Retention Time : 0.00078
Quant Ion : 96.00
Area (flag) : 11548
On-Column Amount (ng) : 0.2174

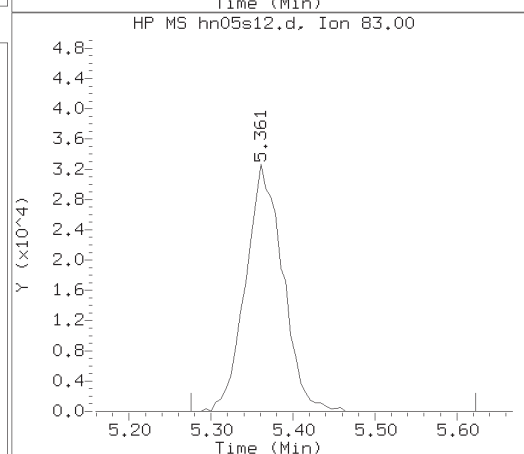
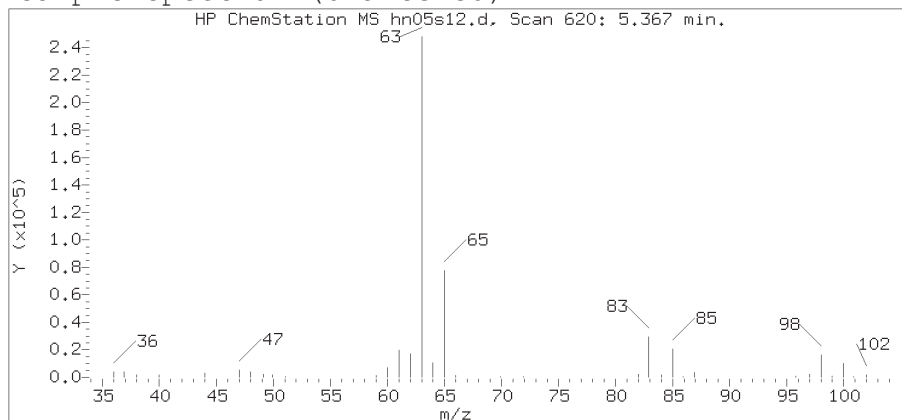
Reference Standard Spectrum for 1,1-Dichloroethane



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s12.d
Injection date and time: 05-NOV-2016 14:11

Instrument ID: HP19094.i
Analyst ID: msk07970

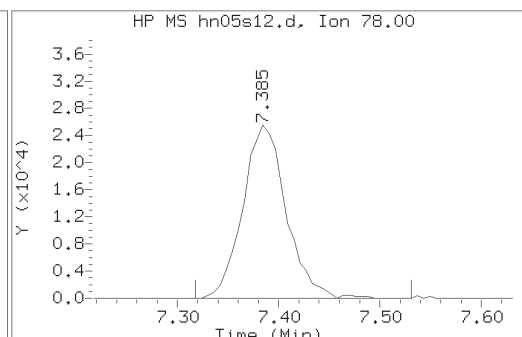
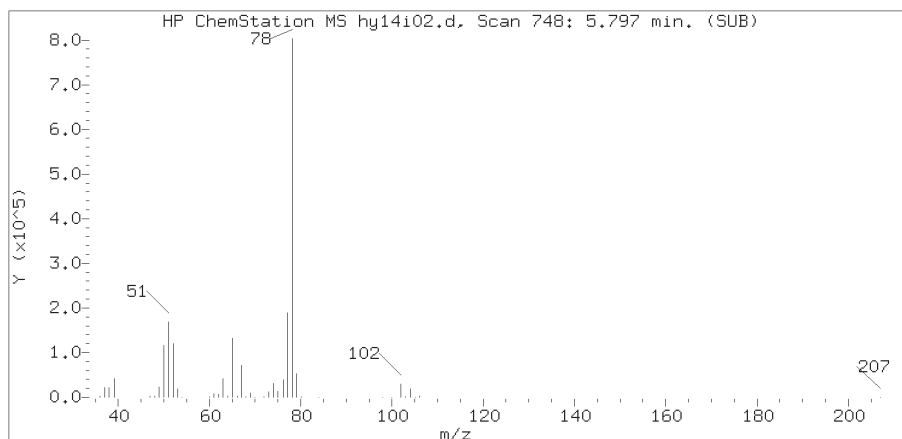
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Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 07-Nov-2016 09:22 kel01973

Sample Name: R7603

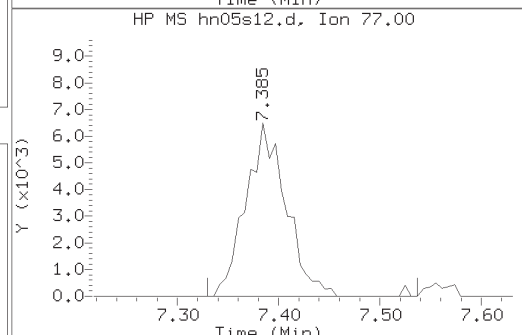
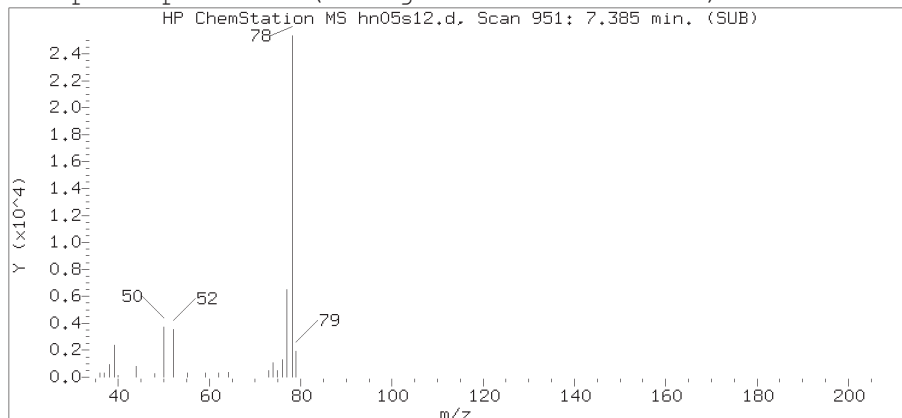
Lab Sample ID: 8666266

Compound Number : 33
Compound Name : 1,1-Dichloroethane
Scan Number : 620
Retention Time (minutes): 5.367
Relative Retention Time :-0.00079
Quant Ion : 63.00
Area (flag) : 813440
On-Column Amount (ng) : 6.8625

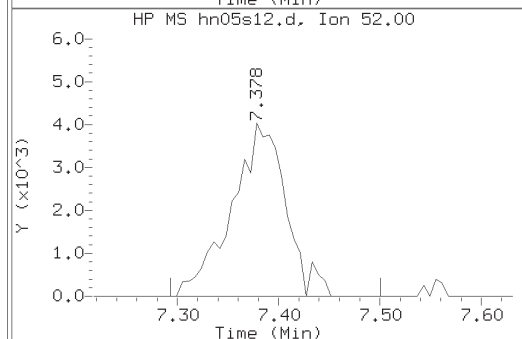
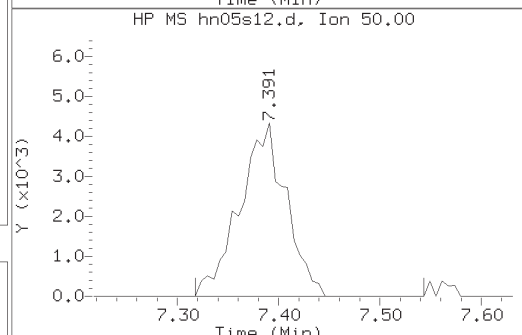
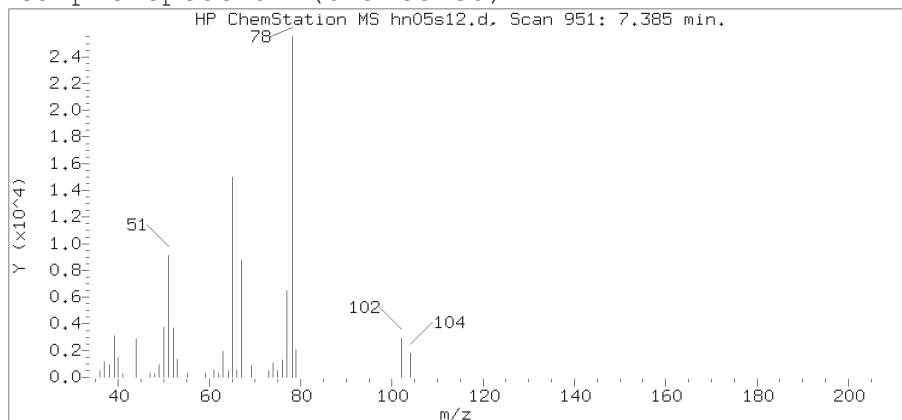
Reference Standard Spectrum for Benzene



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s12.d
Injection date and time: 05-NOV-2016 14:11

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 07-Nov-2016 09:22 kel01973

Sample Name: R7603

Lab Sample ID: 8666266

Compound Number : 58
Compound Name : Benzene
Scan Number : 951
Retention Time (minutes): 7.385
Relative Retention Time :-0.00000
Quant Ion : 78.00
Area (flag) : 76041
On-Column Amount (ng) : 0.3061

R7603DL

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666266DL

Data file: /chem2/HP19094.i/16nov07a.b/hn07s35.d

Injection date and time: 07-NOV-2016 15:01

Data file Sample Info. Line: R7603DL;8666266DL;1;0;;RAE76;DRAPERLOQ;;hn07b01a; Instrument ID: HP19094.i Batch: H163122AA

Date, time and analyst ID of latest file update: 08-Nov-2016 18:10 sej02002

Blank Data file reference: /chem2/HP19094.i/16nov07a.b/hn07b01a.d

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469

Calibration date and time (Last Method Edit): 07-NOV-2016 12:19

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov07a.b/hn07c01.d

Bottle Code: 038B Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 4.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 6.25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.269(-0.006)	440	65	77333 (-25)	50.00	
63) Fluorobenzene	7.781(0.006)	1016	96	2263037 (-5)	10.00	
97) Chlorobenzene-d5	11.250(-0.006)	1585	117	1492497 (-8)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(0.000)	1893	152	626909 (-15)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.878(0.000)	113	515661	9.935	99%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.336(0.000)	102	85979	10.311	103%		74 - 113
82) Toluene-d8	(3)	9.799(0.000)	98	2258126	10.016	100%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249(0.000)	95	631008	9.520	95%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
1) Dichlorodifluoromethane	(2)			Not Detected					0.4	4
4) Dimethyl ether	(2)			Not Detected					0.4	50
2) Chloromethane	(2)			Not Detected					0.8	4
8) Chloroethane	(2)	2.733(0.000)	64	20837	0.402	1.61		J	0.4	4
10) Trichlorofluoromethane	(2)			Not Detected					0.4	4
11) Ethyl ether	(2)	3.306(0.000)	59	551720	13.424	53.70			0.4	50
15) 1,1-Dichloroethene	(2)			Not Detected					0.4	4
16) Freon 113	(2)			Not Detected					0.8	4
23) Methylene Chloride	(2)			Not Detected					0.8	4
33) 1,1-Dichloroethane	(2)	5.360(0.000)	63	172968	1.493	5.97			0.4	4
38) 2-Butanone	(1)			Not Detected					4	40
48) Tetrahydrofuran	(1)			Not Detected					8	100
51) 1,1,1-Trichloroethane	(2)			Not Detected					0.4	4
54) Carbon Tetrachloride	(2)			Not Detected					0.4	4
58) Benzene	(2)			Not Detected					0.4	4
67) Trichloroethene	(2)			Not Detected					0.4	4
83) Toluene	(3)			Not Detected					0.4	4
89) Tetrachloroethene	(3)			Not Detected					0.4	4
100) Ethylbenzene	(3)			Not Detected					0.4	4
101) m+p-Xylene	(3)			Not Detected					0.4	2
104) o-Xylene	(3)			Not Detected					0.4	2
105) Xylene (Total)	(3)			Not Detected					0.4	12

R7603DL

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666266DL

Data file: /chem2/HP19094.i/16nov07a.b/hn07s35.d

Injection date and time: 07-NOV-2016 15:01

Data file Sample Info. Line: R7603DL;8666266DL;1;0;;RAE76;DRAPERLOQ;;hn07b01a; Instrument ID: HP19094.i Batch: H163122AA
Date, time and analyst ID of latest file update: 08-Nov-2016 18:10 sej02002

Blank Data file reference: /chem2/HP19094.i/16nov07a.b/hn07b01a.d

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469

Calibration date and time (Last Method Edit): 07-NOV-2016 12:19

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov07a.b/hn07c01.d

Bottle Code: 038B Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 4.00

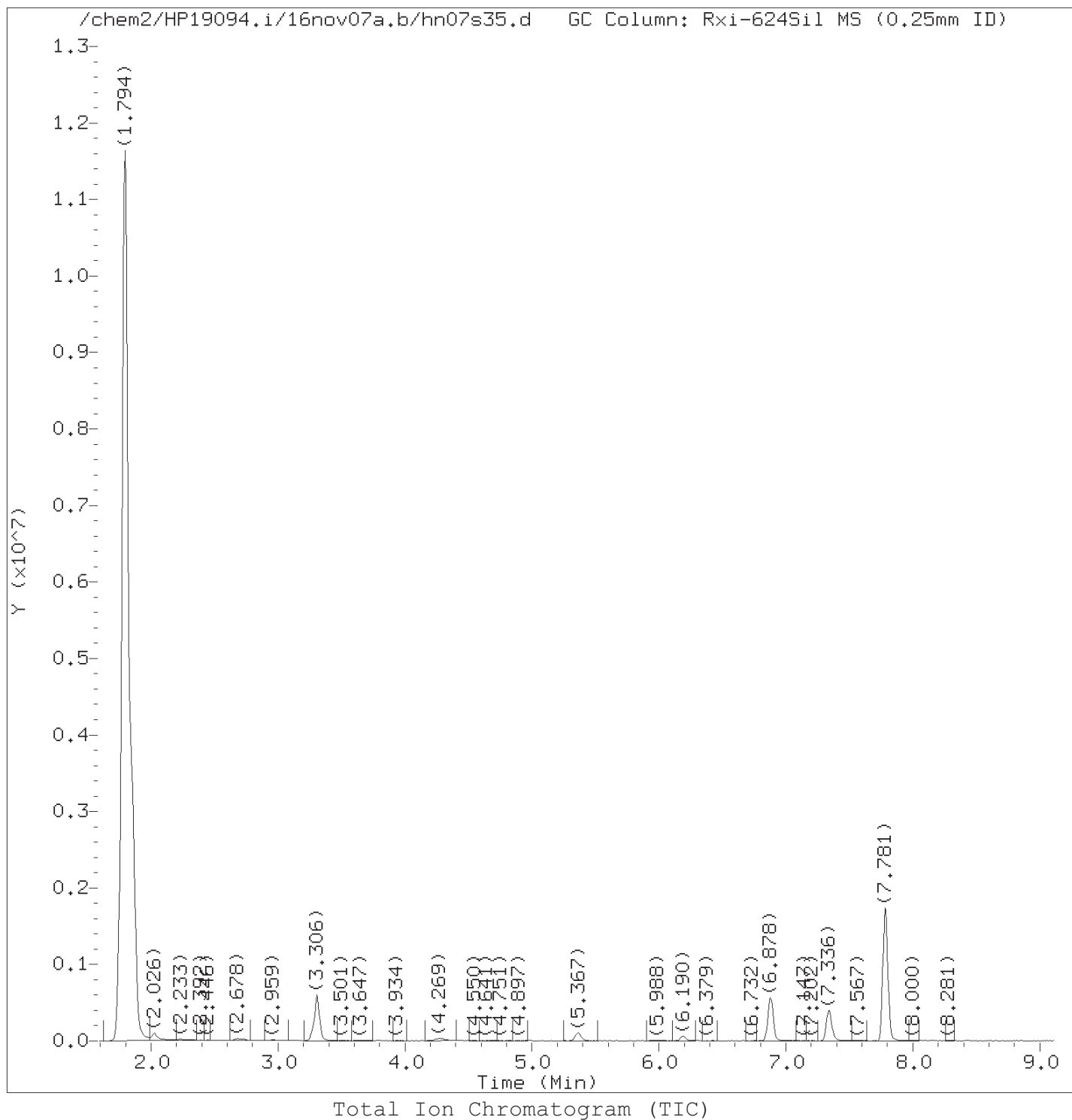
Volume Purged (Vt): 25 ml Sample Volume (Vo): 6.25 ml

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BLANK INTENTIONALLY

Total number of targets = 22

Digitally signed by Matthew S. Krause on 11/08/2016 at 19:06. Target 3.5 esignature user ID: msk07970

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 19:18. PARALLAX ID: sej02002



Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07s35.d
Injection date and time: 07-NOV-2016 15:01

Instrument ID: HP19094.i
Analyst ID: kel01973

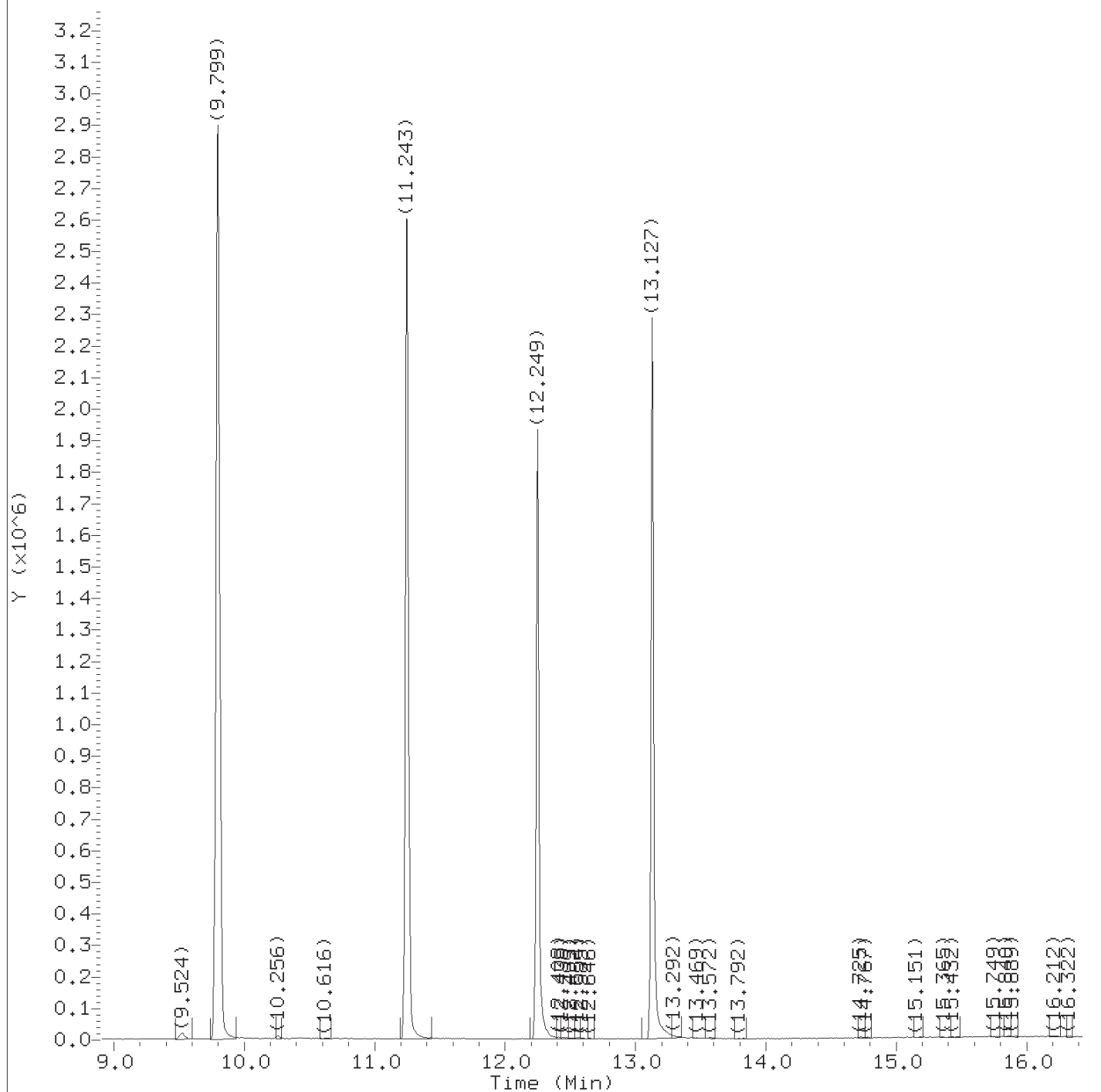
Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 08-Nov-2016 18:10 sej02002

Sample Name: R7603DL

Lab Sample ID: 8666266DL

Digitally signed by Matthew S. Krause
on 11/08/2016 at 19:06.

Target 3.5 esignature User ID: msk07070
RAE76 Page 143 of 883



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07s35.d
Injection date and time: 07-NOV-2016 15:01

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m
Calibration date and time: 07-NOV-2016 12:19

Sublist used: 22469

Date, time and analyst ID of latest file update: 08-Nov-2016 18:10 sej02002

Sample Name: R7603DL

Lab Sample ID: 8666266DL

Digitally signed by Matthew S. Krause
on 11/08/2016 at 19:06.

Target 3.5 esignature user ID: msk07070
RAE76 Page 144 of 883

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07s35.d
Injection date and time: 07-NOV-2016 15:01

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 08-Nov-2016 18:10 sej02002

Sample Name: R7603DL

Lab Sample ID: 8666266DL

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
8) Chloroethane	(2)	2.733	64	20837	0.402
11) Ethyl ether	(2)	3.306	59	551720	13.424
26) *t-Butyl Alcohol-d10	(1)	4.269	65	77333	50.000
33) 1,1-Dichloroethane	(2)	5.360	63	172968	1.493
50) \$Dibromofluoromethane	(2)	6.878	113	515661	9.935
57) \$1,2-Dichloroethane-d4	(2)	7.336	102	85979	10.311
63) *Fluorobenzene	(2)	7.781	96	2263037	10.000
82) \$Toluene-d8	(3)	9.799	98	2258126	10.016
97) *Chlorobenzene-d5	(3)	11.250	117	1492497	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	631008	9.520
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	626909	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

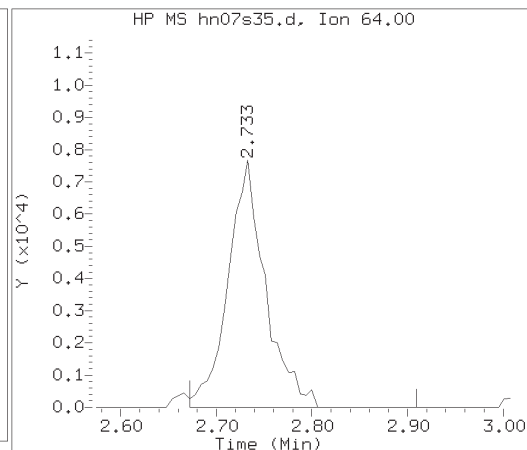
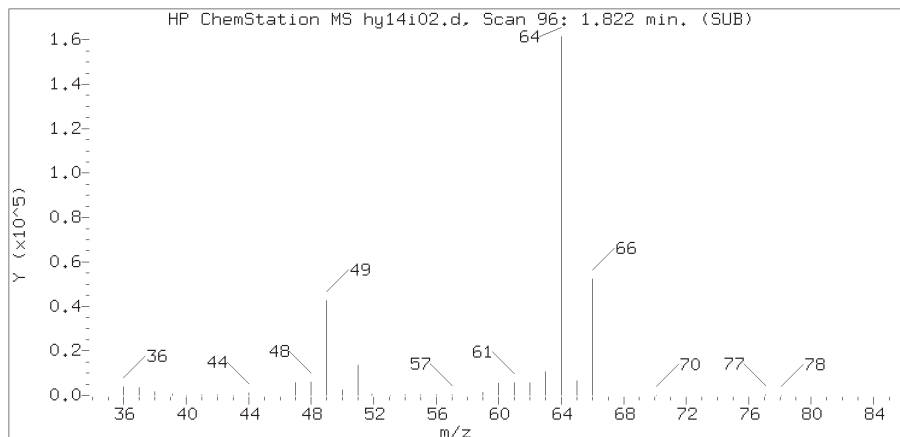
page 1 of 1

Digitally signed by Matthew S. Krause
on 11/08/2016 at 19:06.

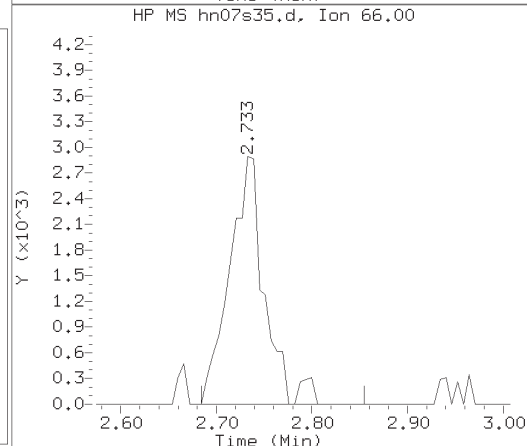
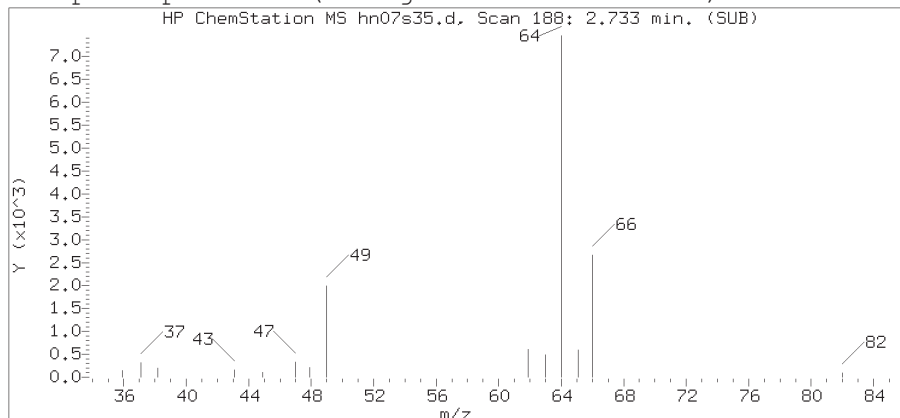
Target 3.5 esignature user ID: msk07970

RAE76 Page 145 of 883

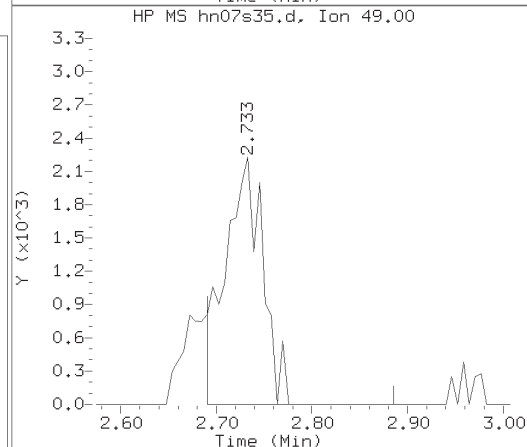
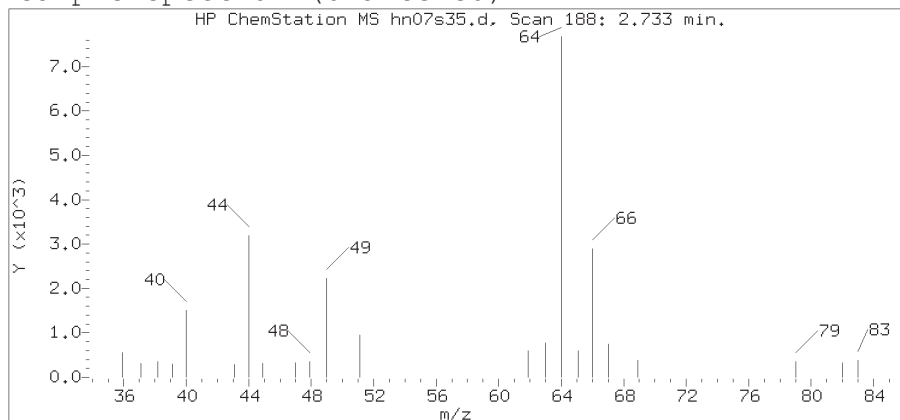
Reference Standard Spectrum for Chloroethane



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov07a.b/hn07s35.d
Injection date and time: 07-NOV-2016 15:01

Instrument ID: HP19094.i
Analyst ID: kel01973

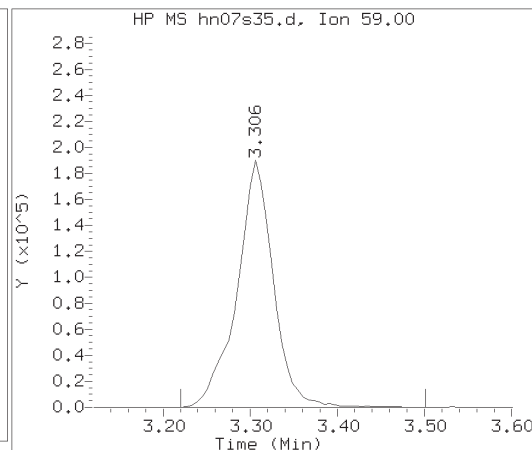
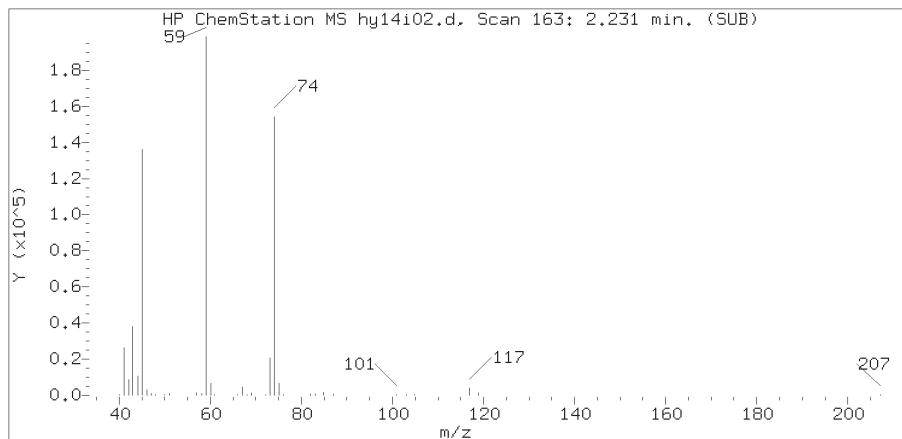
Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 08-Nov-2016 18:10 sej02002

Sample Name: R7603DL

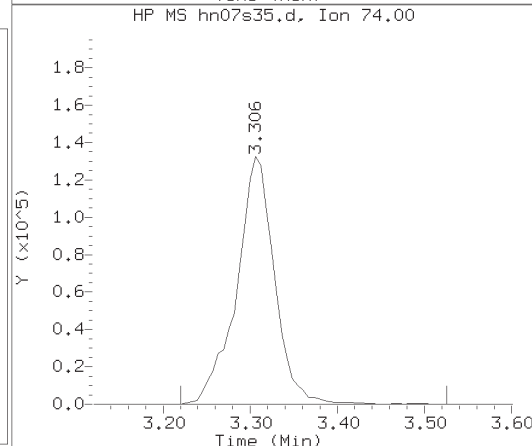
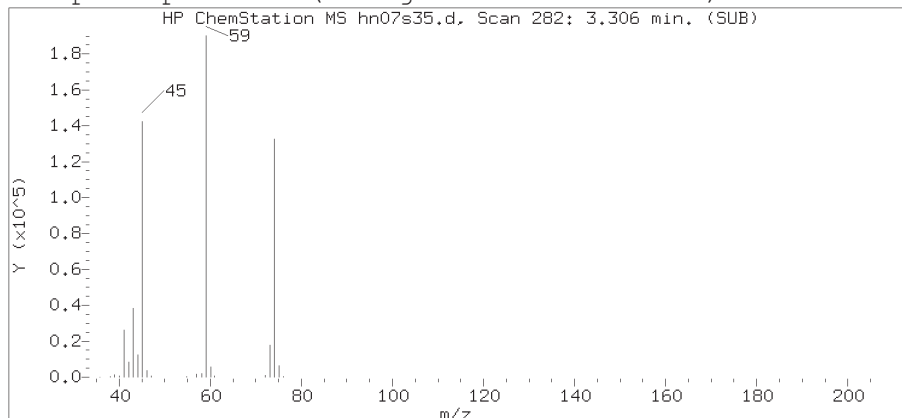
Lab Sample ID: 8666266DL

Compound Number : 8
Compound Name : Chloroethane
Scan Number : 188
Retention Time (minutes): 2.733
Relative Retention Time : 0.00051
Quant Ion : 64.00
Area (flag) : 20837
On-Column Amount (ng) : 0.4016

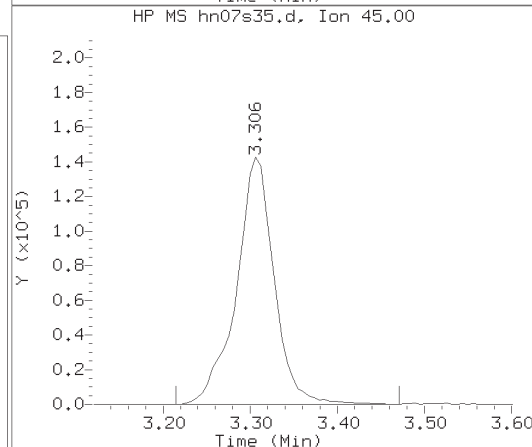
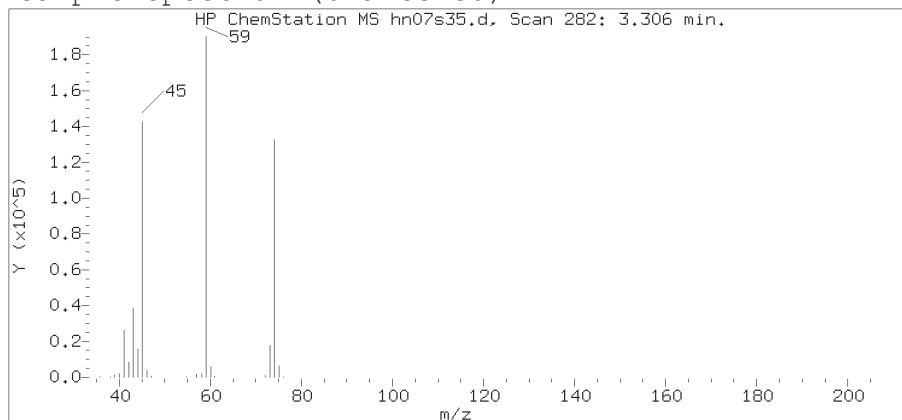
Reference Standard Spectrum for Ethyl ether



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov07a.b/hn07s35.d
Injection date and time: 07-NOV-2016 15:01

Instrument ID: HP19094.i
Analyst ID: kel01973

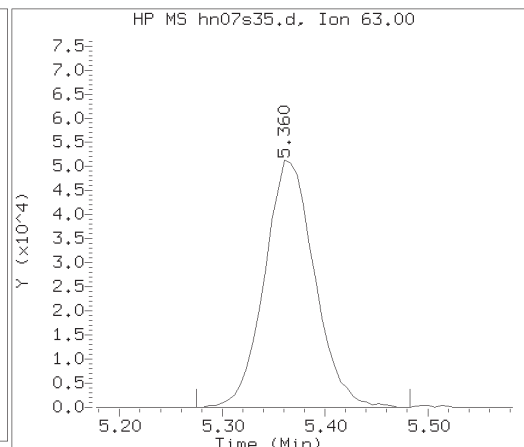
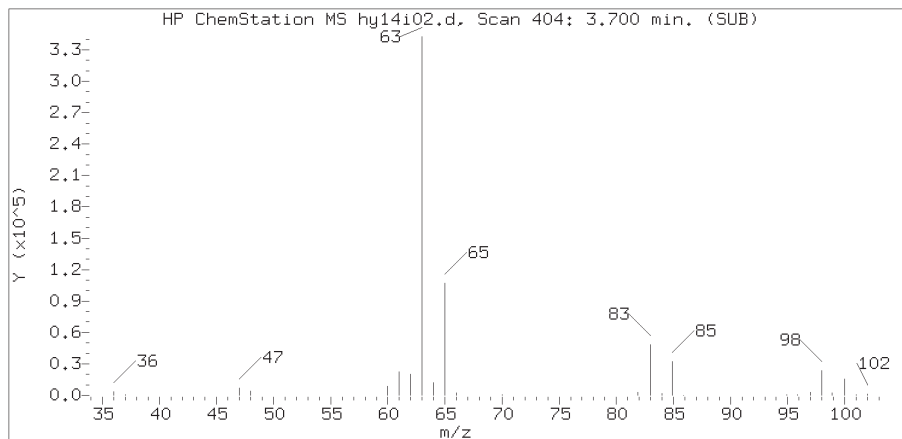
Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 08-Nov-2016 18:10 sej02002

Sample Name: R7603DL

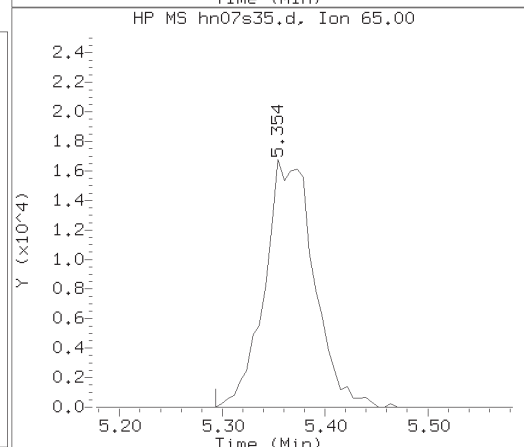
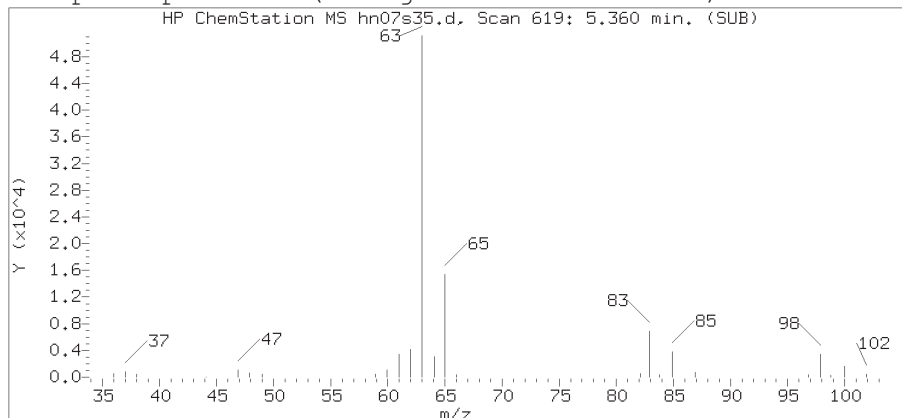
Lab Sample ID: 8666266DL

Compound Number : 11
Compound Name : Ethyl ether
Scan Number : 282
Retention Time (minutes): 3.306
Relative Retention Time : 0.00046
Quant Ion : 59.00
Area (flag) : 551720
On-Column Amount (ng) : 13.4240

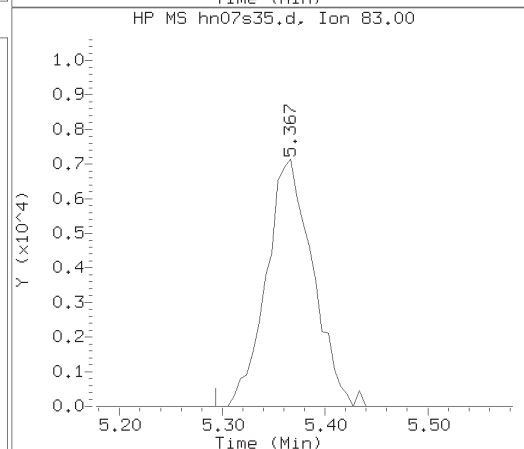
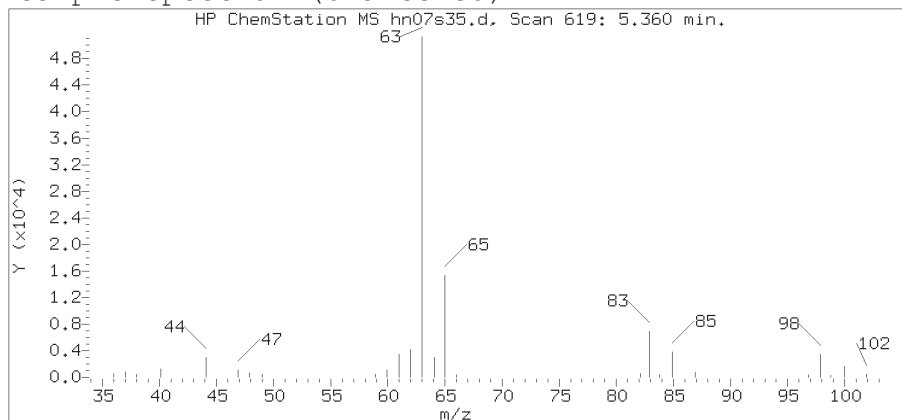
Reference Standard Spectrum for 1,1-Dichloroethane



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov07a.b/hn07s35.d
Injection date and time: 07-NOV-2016 15:01

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 08-Nov-2016 18:10 sej02002

Sample Name: R7603DL

Lab Sample ID: 8666266DL

Compound Number : 33
Compound Name : 1,1-Dichloroethane
Scan Number : 619
Retention Time (minutes): 5.360
Relative Retention Time : 0.00025
Quant Ion : 63.00
Area (flag) : 172968
On-Column Amount (ng) : 1.4932

Digitally signed by Matthew S. Krause on 11/08/2016 at 19:06.

Target 3.5 esignature RAE76 Page 148 of 883

R7604

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666267

Data file: /chem2/HP19094.i/16nov05a.b/hn05s05.d

Injection date and time: 05-NOV-2016 11:49

Data file Sample Info. Line: R7604;8666267;1;0;;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA

Date, time and analyst ID of latest file update: 05-Nov-2016 12:08 Automation

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469

Calibration date and time (Last Method Edit): 05-NOV-2016 09:41

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo)

VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml

Sample Volume (Vo): 25 ml

Analysis Comments:9274

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.269(-0.006)	440	65	99589 (-9)	50.00	
63) Fluorobenzene	7.787(-0.006)	1017	96	2268535 (-6)	10.00	
97) Chlorobenzene-d5	11.250(-0.006)	1585	117	1469176 (-11)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(0.000)	1893	152	612325 (-19)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.879(0.001)	113	506488	9.735	97%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.342(0.001)	102	89060	10.655	107%		74 - 113
82) Toluene-d8	(3)	9.799(0.000)	98	2253387	10.154	102%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249(0.000)	95	623229	9.552	96%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit LOQ (in sample)
1) Dichlorodifluoromethane	(2)			Not Detected					0.1 1
4) Dimethyl ether	(2)	2.111(-0.001)	45	49668	0.673	0.67		J	0.1 13
2) Chloromethane	(2)			Not Detected					0.2 1
8) Chloroethane	(2)	2.733(0.000)	64	58337	1.122	1.12			0.1 1
10) Trichlorofluoromethane	(2)			Not Detected					0.1 1
11) Ethyl ether	(2)	3.312(-0.000)	59	978969	23.762	23.76			0.1 13
15) 1,1-Dichloroethene	(2)	3.617(0.000)	96	7549	0.145	0.15		J	0.1 1
16) Freon 113	(2)			Not Detected					0.2 1
23) Methylene Chloride	(2)			Not Detected					0.2 1
33) 1,1-Dichloroethane	(2)	5.367(-0.000)	63	415672	3.580	3.58			0.1 1
38) 2-Butanone	(1)			Not Detected					1 10
48) Tetrahydrofuran	(1)			Not Detected					2 25
51) 1,1,1-Trichloroethane	(2)			Not Detected					0.1 1
54) Carbon Tetrachloride	(2)			Not Detected					0.1 1
58) Benzene	(2)	7.391(-0.000)	78	48039	0.197	0.20		J	0.1 1
67) Trichloroethene	(2)	8.275(0.000)	95	7285	0.109	0.11		J	0.1 1
83) Toluene	(3)			Not Detected					0.1 1
89) Tetrachloroethene	(3)	10.427(0.000)	166	12685	0.174	0.17		J	0.1 1
100) Ethylbenzene	(3)			Not Detected					0.1 1
101) m+p-Xylene	(3)			Not Detected					0.1 0.5
104) o-Xylene	(3)			Not Detected					0.1 0.5
105) Xylene (Total)	(3)			Not Detected					0.1 3

R7604

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666267

Data file: /chem2/HP19094.i/16nov05a.b/hn05s05.d Injection date and time: 05-NOV-2016 11:49
Data file Sample Info. Line: R7604;8666267;1;0;;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA
Date, time and analyst ID of latest file update: 05-Nov-2016 12:08 Automation

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time (Last Method Edit): 05-NOV-2016 09:41
Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

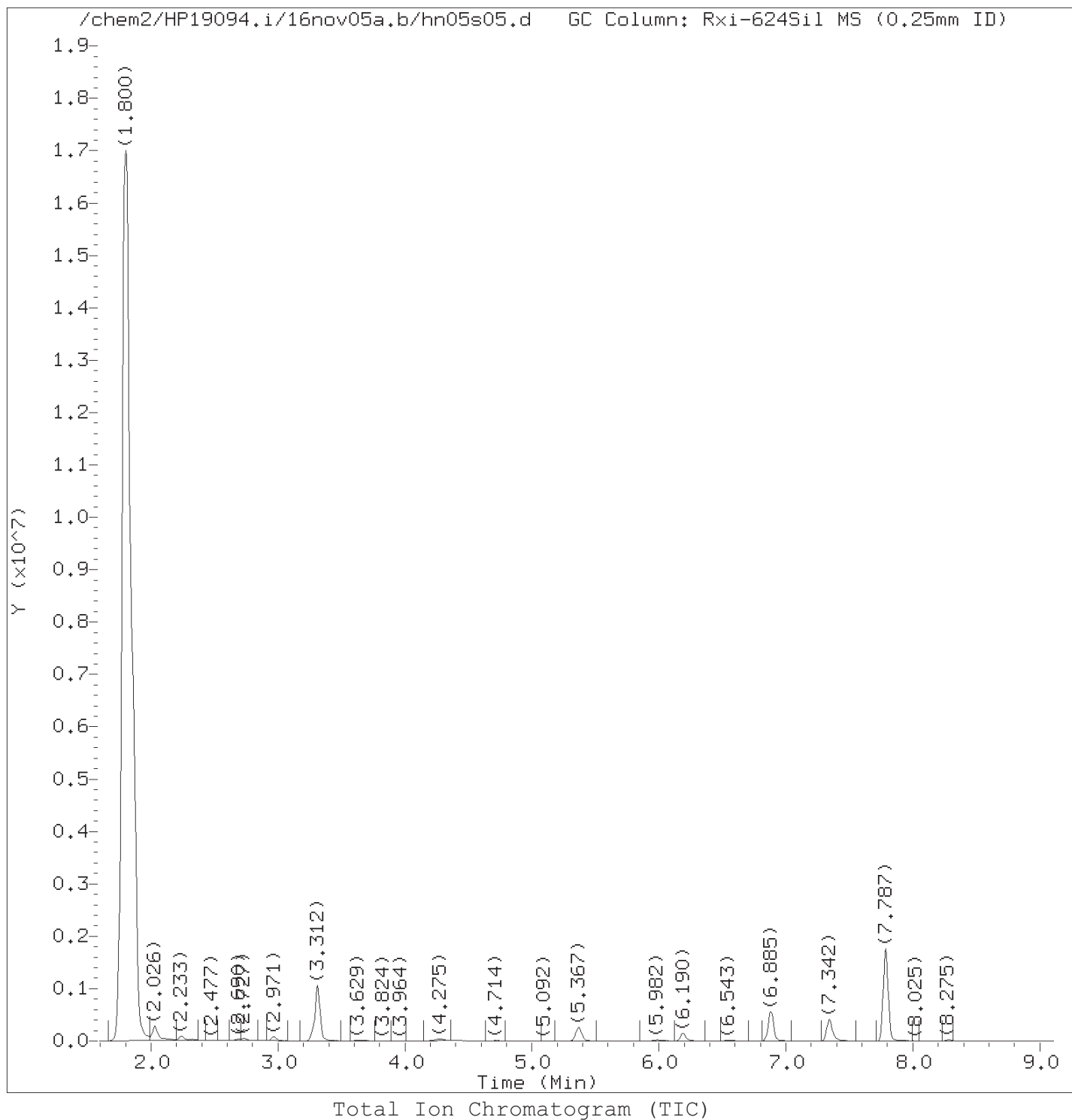
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

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Total number of targets = 22

Digitally signed by Matthew S. Krause on 11/05/2016 at 12:51. Target 3.5 esignature user ID: msk07970

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 20:01. PARALLAX ID: sej02002



Target Revision 3.5

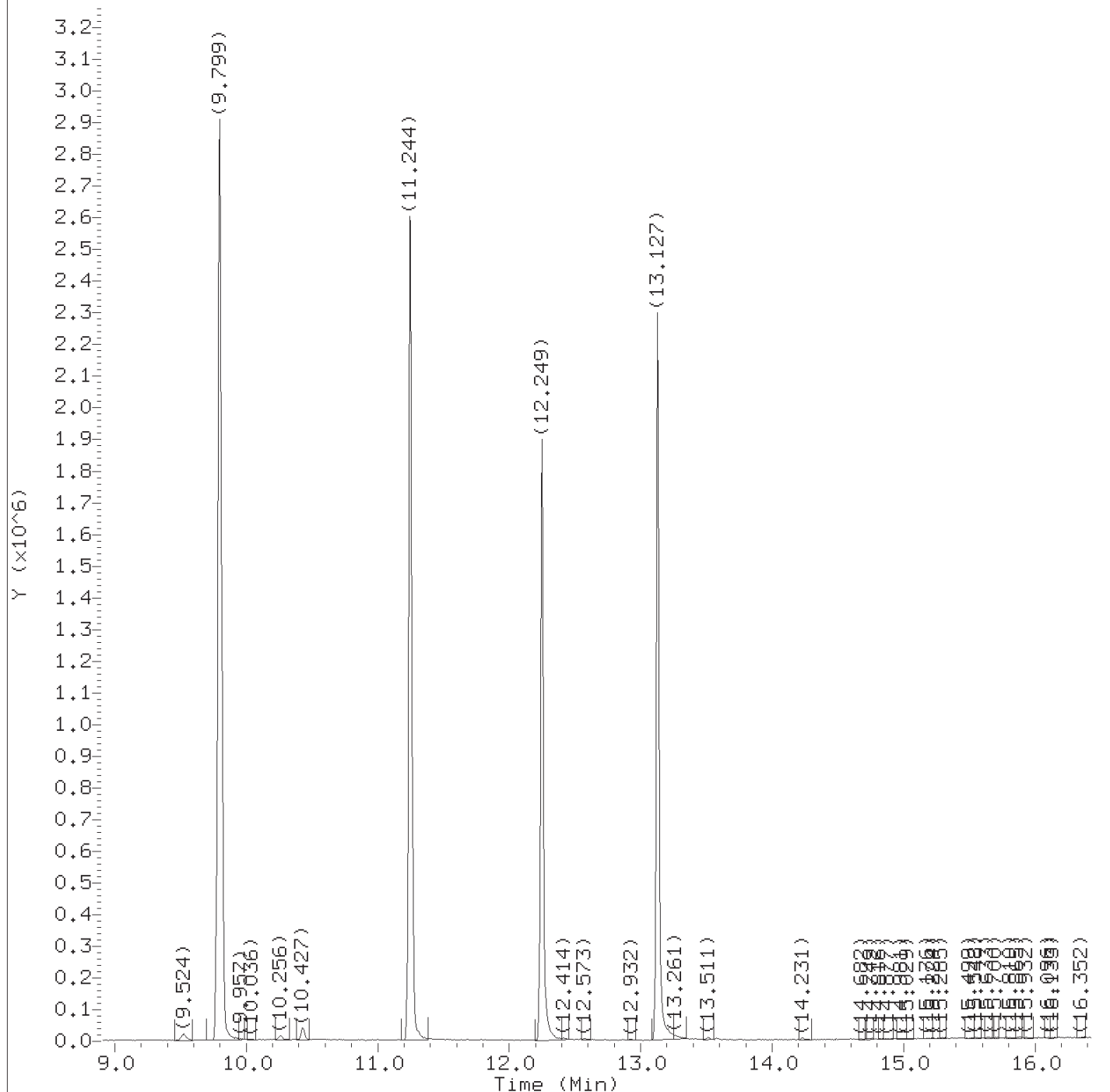
Data File: /chem2/HP19094.i/16nov05a.b/hn05s05.d Instrument ID: HP19094.i
Injection date and time: 05-NOV-2016 11:49 Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 12:08 Automation

Sample Name: R7604 Lab Sample ID: 8666267

Digitally signed by Matthew S. Krause
on 11/05/2016 at 12:51.

Target 3.5 esignature user ID: msk07970
RAE76 Page 151 of 883



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s05.d
Injection date and time: 05-NOV-2016 11:49

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 12:08 Automation

Sample Name: R7604

Lab Sample ID: 8666267

Digitally signed by Matthew S. Krause
on 11/05/2016 at 12:51.

Target 3.5 esignature User ID: msk07970
RAE76 Page 152 of 883

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s05.d

Instrument ID: HP19094.i

Injection date and time: 05-NOV-2016 11:49

Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m

Sublist used: 22469

Calibration date and time: 05-NOV-2016 09:41

Date, time and analyst ID of latest file update: 05-Nov-2016 12:08 Automation

Sample Name: R7604

Lab Sample ID: 8666267

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
4) Dimethyl ether	(2)	2.111	45	49668	0.673
8) Chloroethane	(2)	2.733	64	58337	1.122
11) Ethyl ether	(2)	3.312	59	978969	23.762
15) 1,1-Dichloroethene	(2)	3.617	96	7549	0.145
26) *t-Butyl Alcohol-d10	(1)	4.269	65	99589	50.000
33) 1,1-Dichloroethane	(2)	5.367	63	415672	3.580
50) \$Dibromofluoromethane	(2)	6.879	113	506488	9.735
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	89060	10.655
58) Benzene	(2)	7.391	78	48039	0.197
63) *Fluorobenzene	(2)	7.787	96	2268535	10.000
67) Trichloroethene	(2)	8.275	95	7285	0.109
82) \$Toluene-d8	(3)	9.799	98	2253387	10.154
89) Tetrachloroethene	(3)	10.427	166	12685	0.174
97) *Chlorobenzene-d5	(3)	11.250	117	1469176	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	623229	9.552
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	612325	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

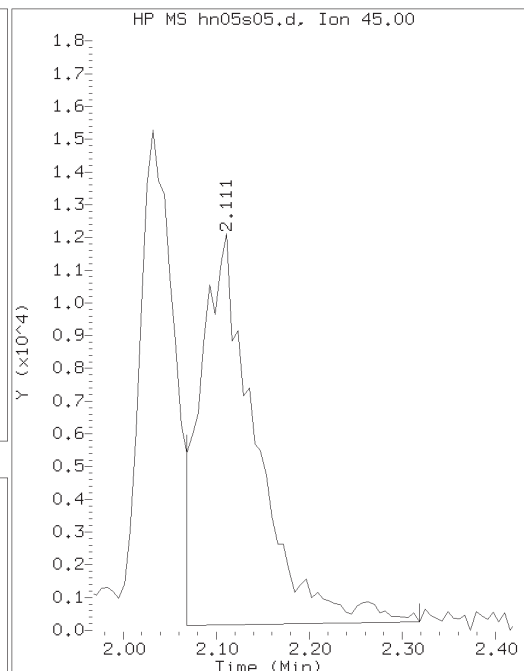
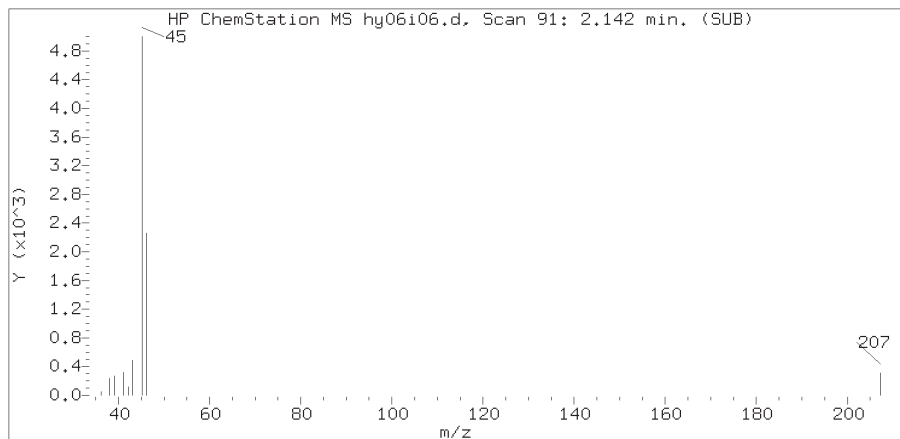
page 1 of 1

Digitally signed by Matthew S. Krause
on 11/05/2016 at 12:51.

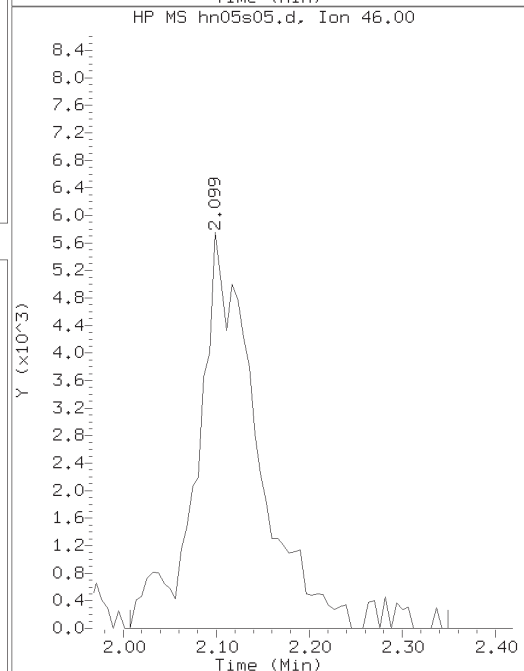
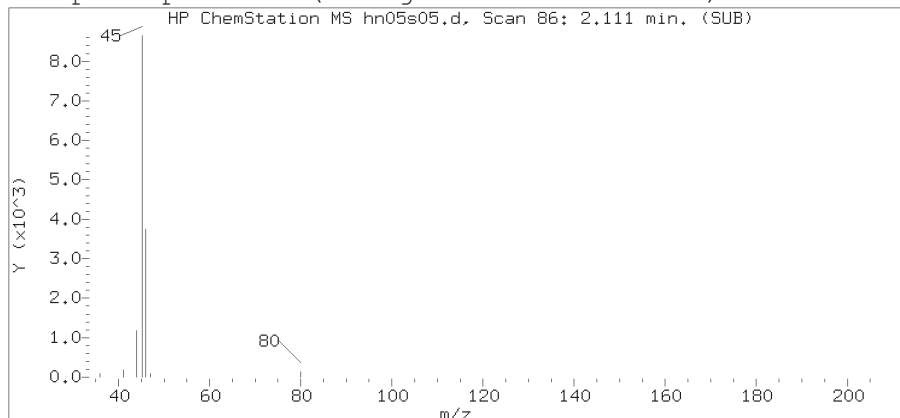
Target 3.5 esignature user ID: msk07970

RAE76 Page 153 of 883

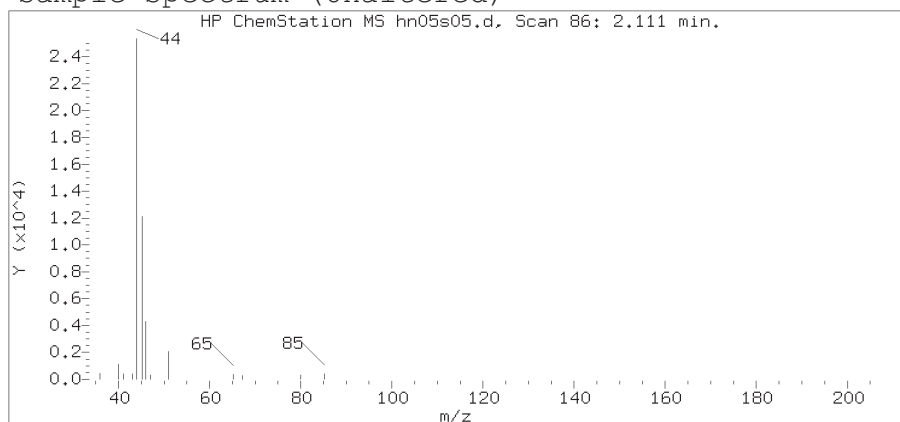
Reference Standard Spectrum for Dimethyl ether



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s05.d
Injection date and time: 05-NOV-2016 11:49

Instrument ID: HP19094.i
Analyst ID: msk07970

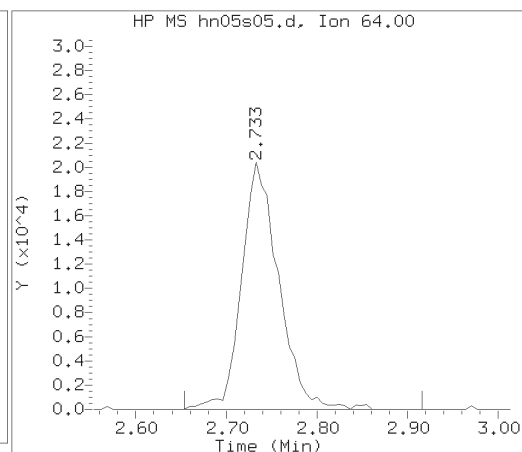
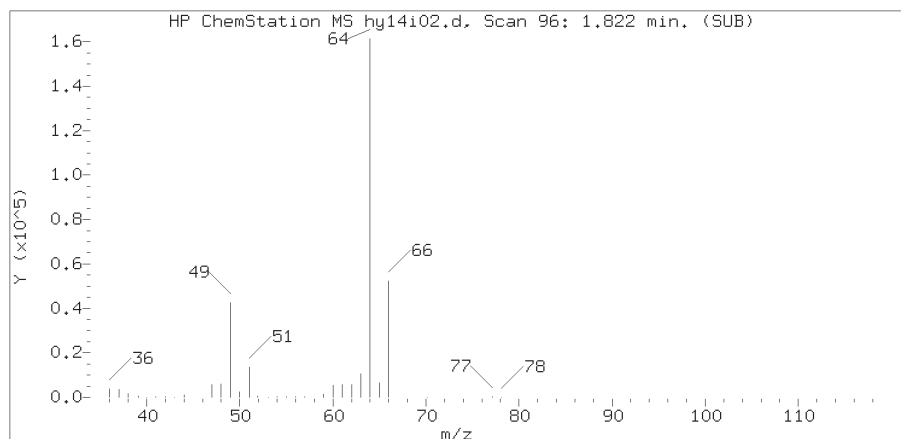
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 12:08 Automation

Sample Name: R7604

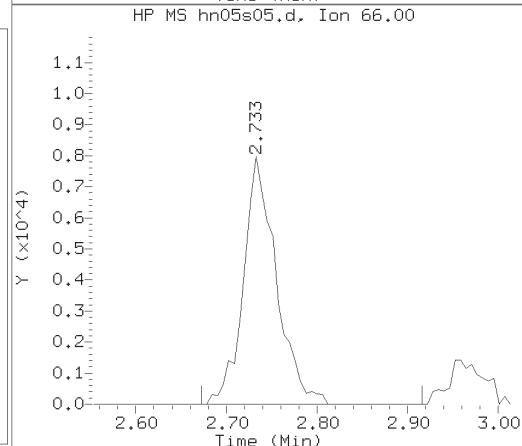
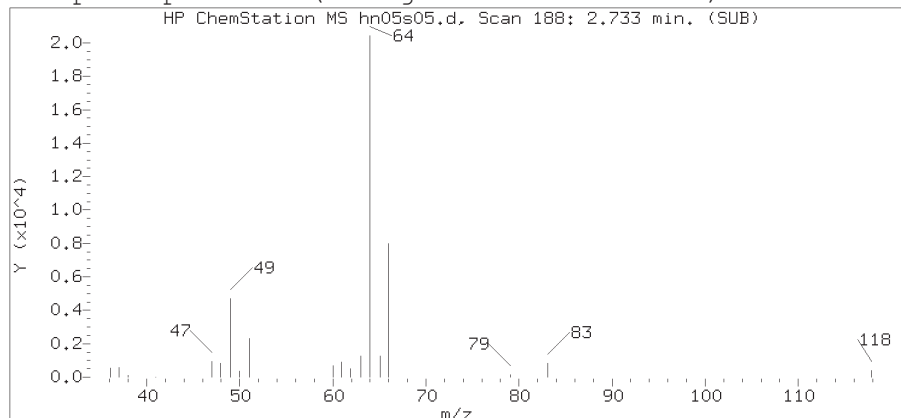
Lab Sample ID: 8666267

Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 86
Retention Time (minutes): 2.111
Relative Retention Time :-0.00135
Quant Ion : 45.00
Area (flag) : 49668
On-Column Amount (ng) : 0.6728

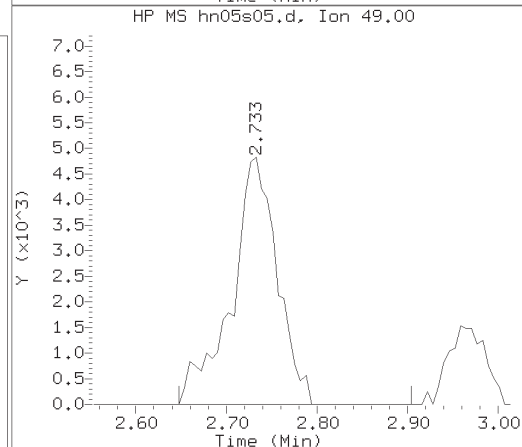
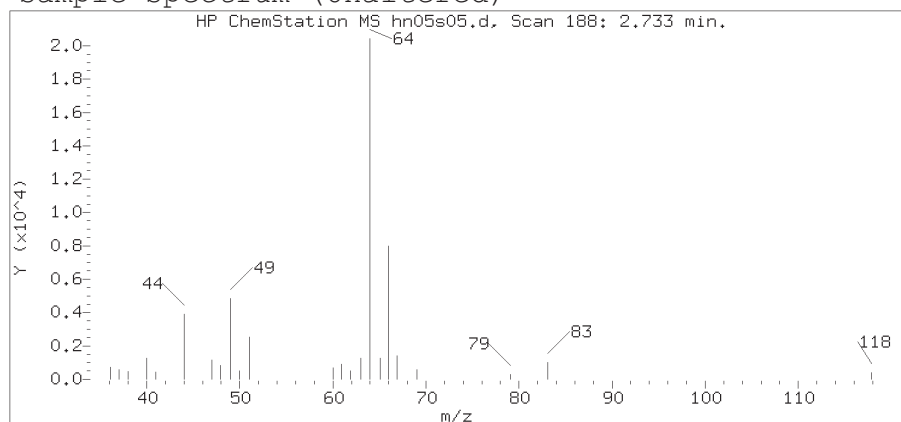
Reference Standard Spectrum for Chloroethane



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s05.d
Injection date and time: 05-NOV-2016 11:49

Instrument ID: HP19094.i
Analyst ID: msk07970

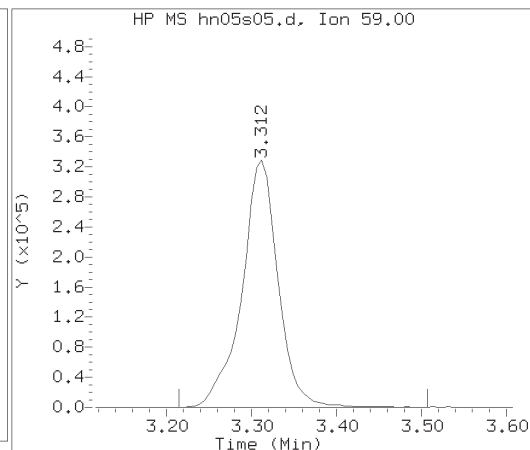
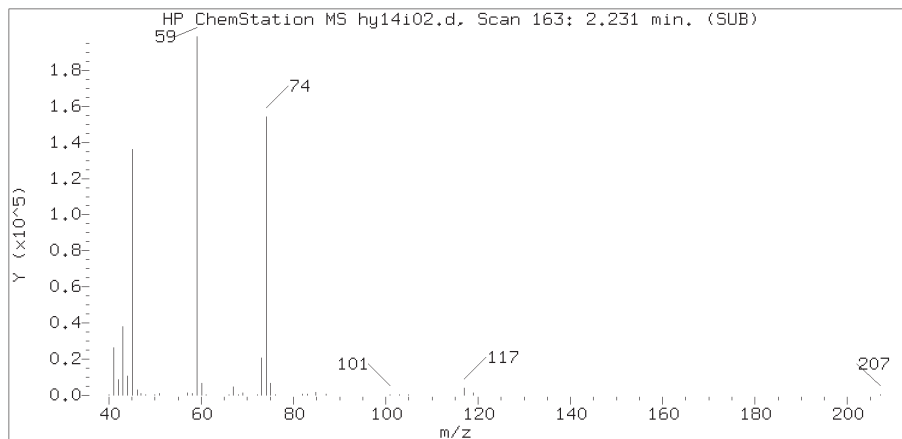
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 12:08 Automation

Sample Name: R7604

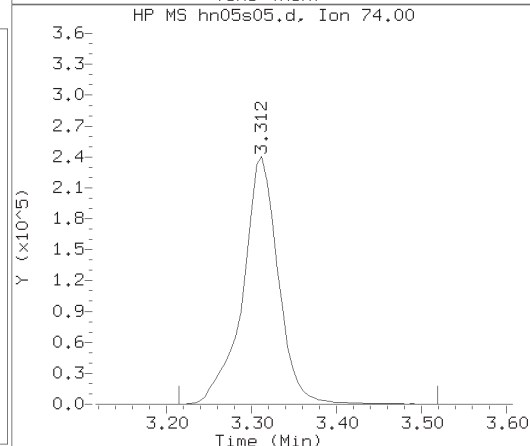
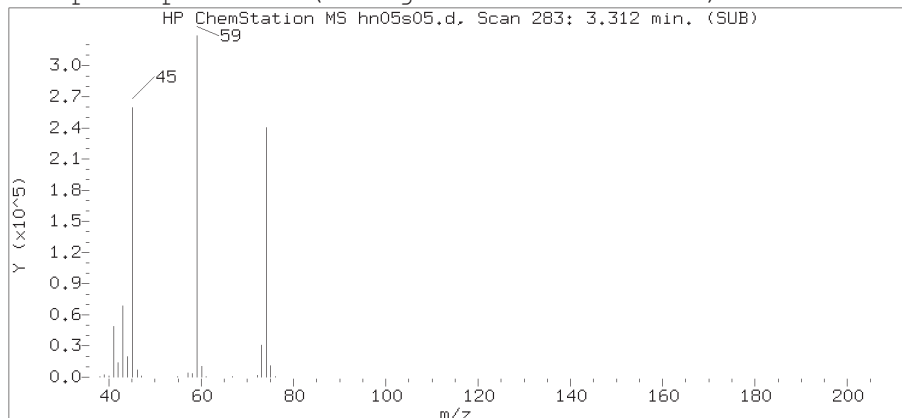
Lab Sample ID: 8666267

Compound Number : 8
Compound Name : Chloroethane
Scan Number : 188
Retention Time (minutes): 2.733
Relative Retention Time : 0.00027
Quant Ion : 64.00
Area (flag) : 58337
On-Column Amount (ng) : 1.1216

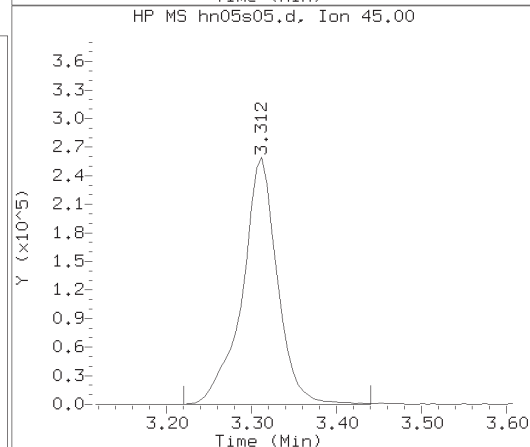
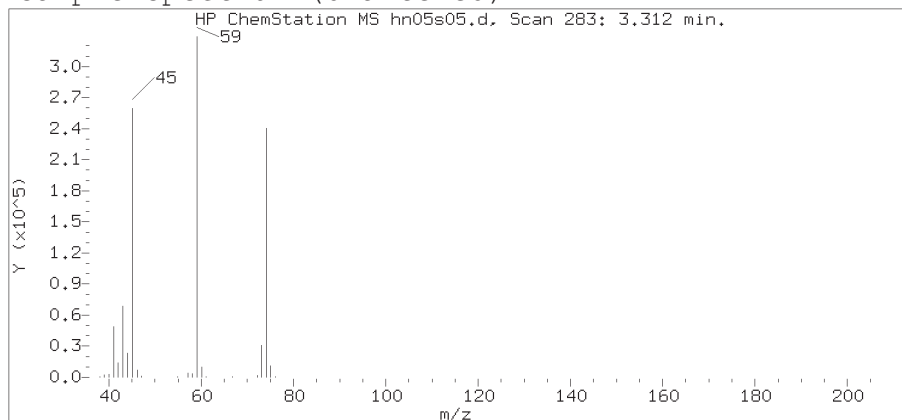
Reference Standard Spectrum for Ethyl ether



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s05.d
Injection date and time: 05-NOV-2016 11:49

Instrument ID: HP19094.i
Analyst ID: msk07970

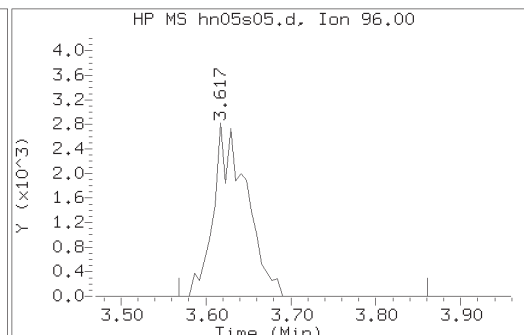
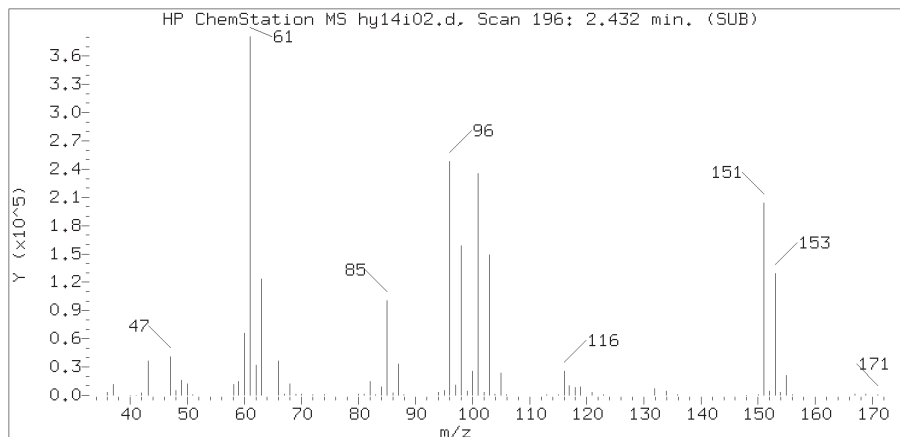
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Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 12:08 Automation

Sample Name: R7604

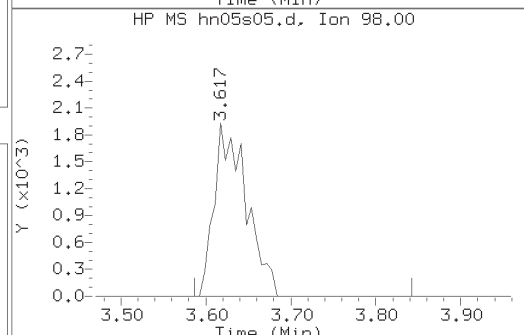
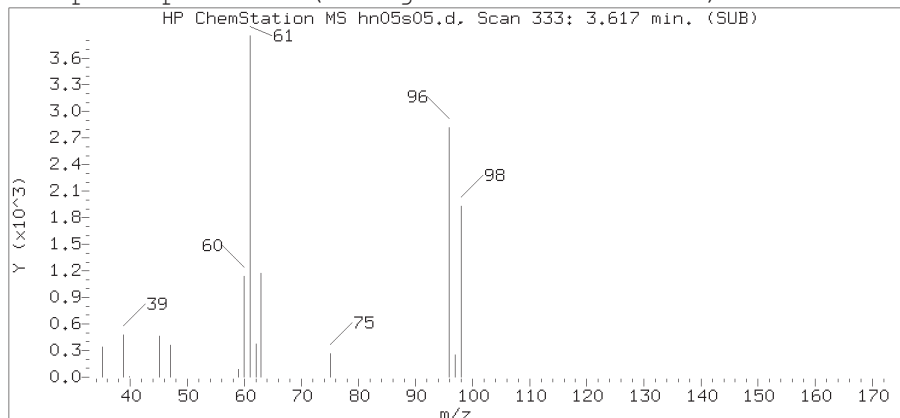
Lab Sample ID: 8666267

Compound Number : 11
Compound Name : Ethyl ether
Scan Number : 283
Retention Time (minutes): 3.312
Relative Retention Time :-0.00045
Quant Ion : 59.00
Area (flag) : 978969
On-Column Amount (ng) : 23.7617

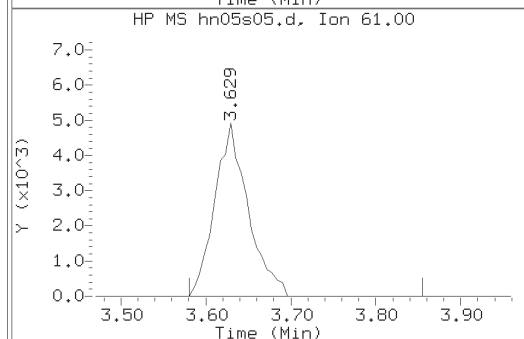
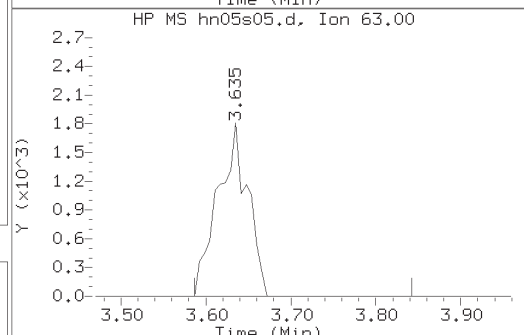
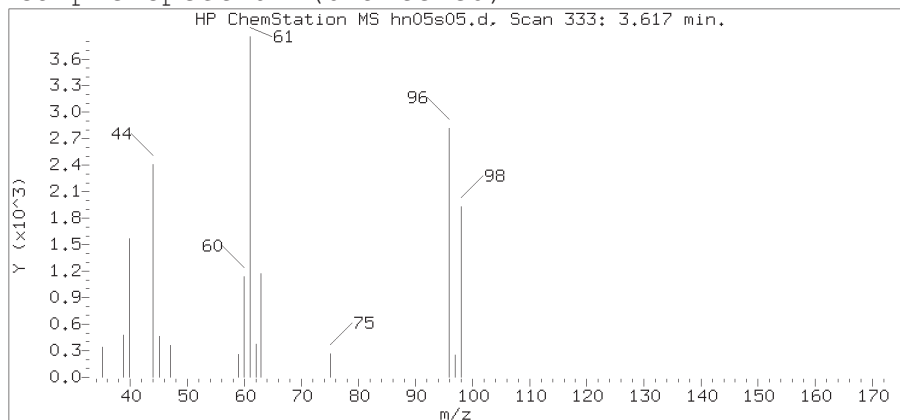
Reference Standard Spectrum for 1,1-Dichloroethene



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s05.d
Injection date and time: 05-NOV-2016 11:49

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 12:08 Automation

Sample Name: R7604

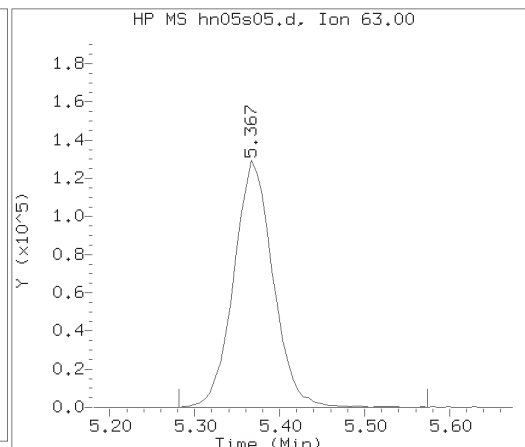
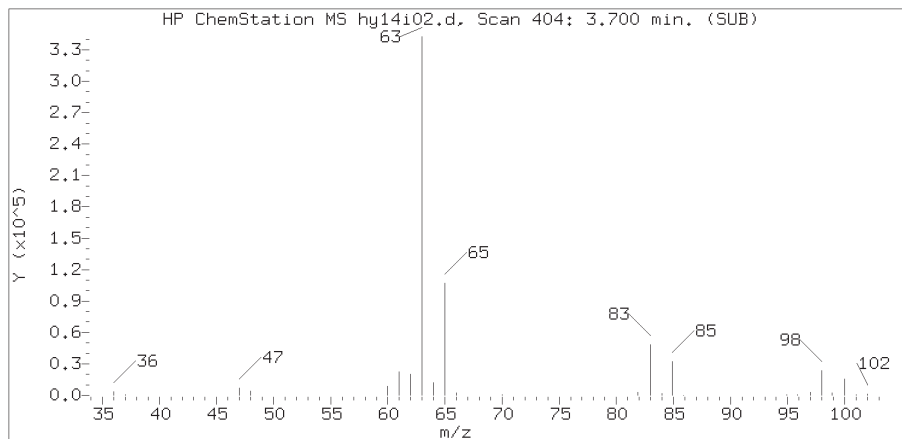
Lab Sample ID: 8666267

Compound Number : 15
Compound Name : 1,1-Dichloroethene
Scan Number : 333
Retention Time (minutes): 3.617
Relative Retention Time : 0.00036
Quant Ion : 96.00
Area (flag) : 7549
On-Column Amount (ng) : 0.1451

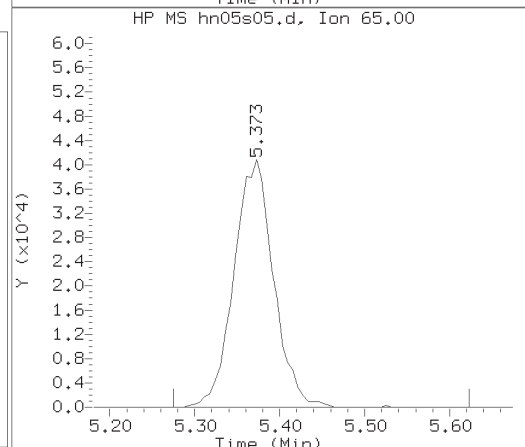
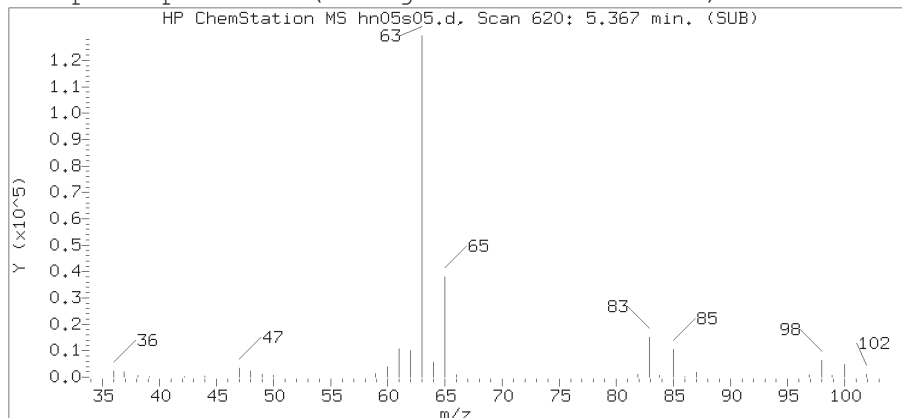
Digitally signed by Matthew S. Krause on 11/05/2016 at 12:51.

Target 3.5 esignature RAE76 Page 157 of 883

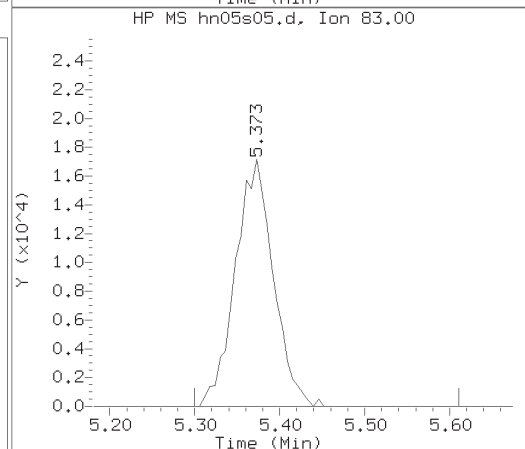
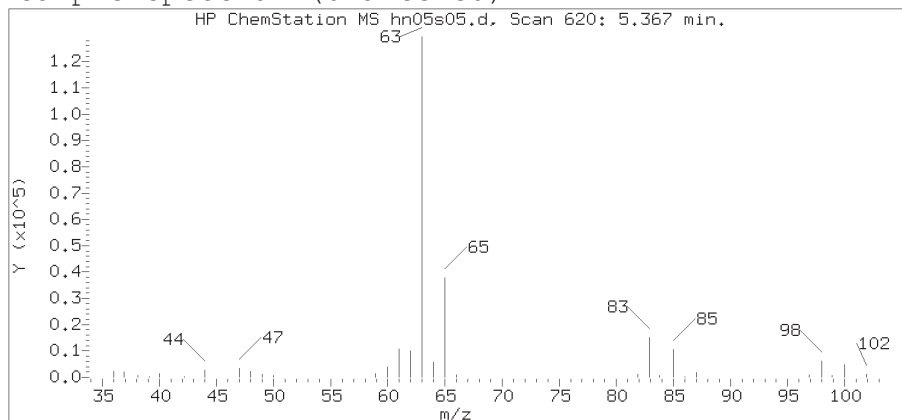
Reference Standard Spectrum for 1,1-Dichloroethane



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s05.d
Injection date and time: 05-NOV-2016 11:49

Instrument ID: HP19094.i
Analyst ID: msk07970

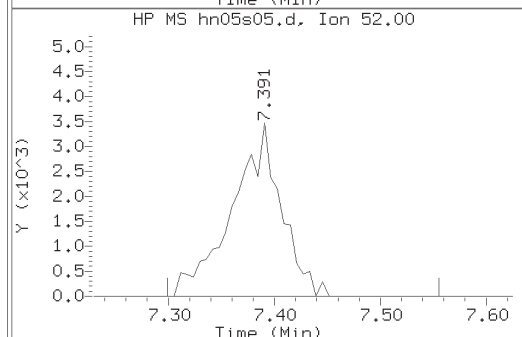
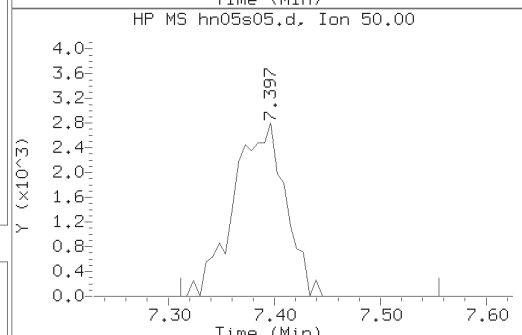
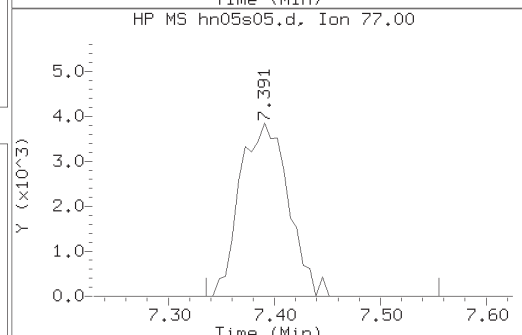
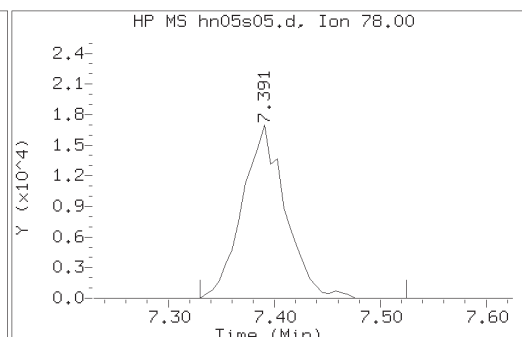
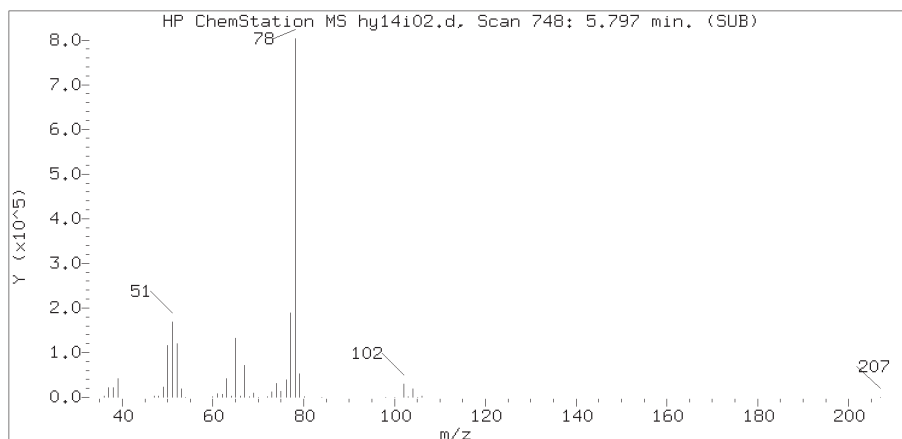
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 12:08 Automation

Sample Name: R7604

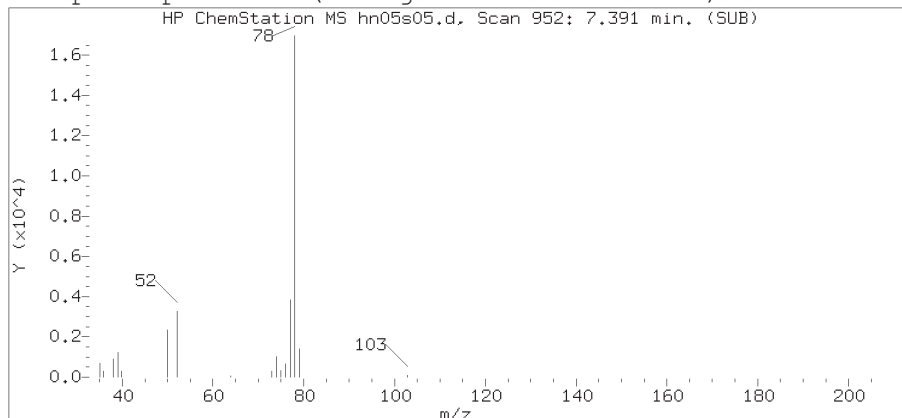
Lab Sample ID: 8666267

Compound Number : 33
Compound Name : 1,1-Dichloroethane
Scan Number : 620
Retention Time (minutes): 5.367
Relative Retention Time :-0.00024
Quant Ion : 63.00
Area (flag) : 415672
On-Column Amount (ng) : 3.5798

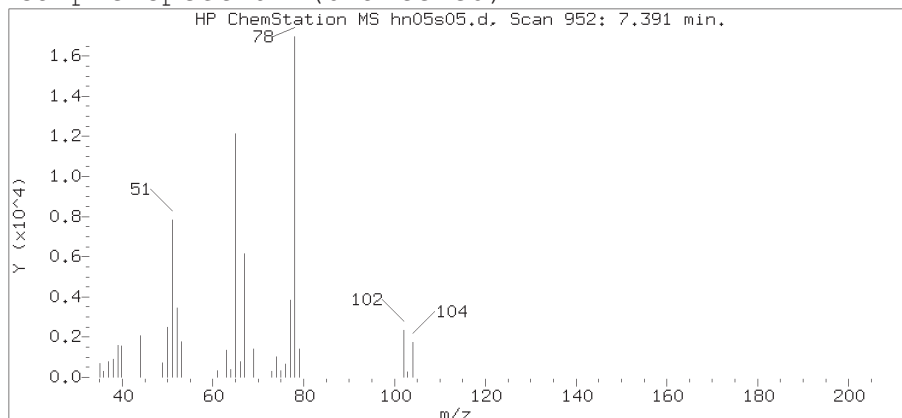
Reference Standard Spectrum for Benzene



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s05.d
Injection date and time: 05-NOV-2016 11:49

Instrument ID: HP19094.i
Analyst ID: msk07970

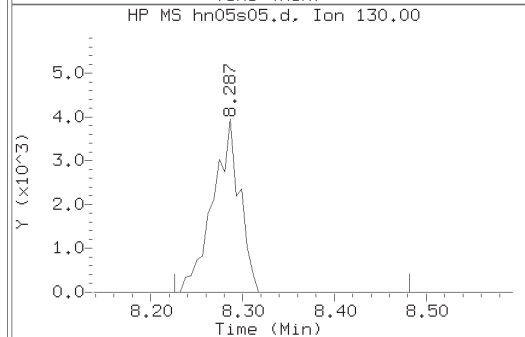
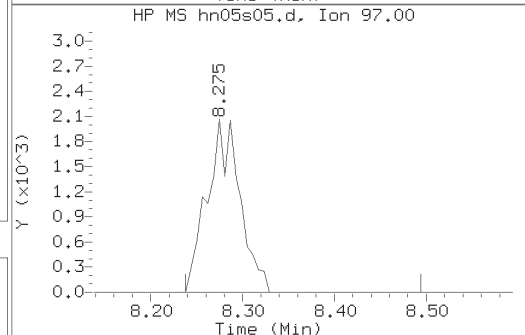
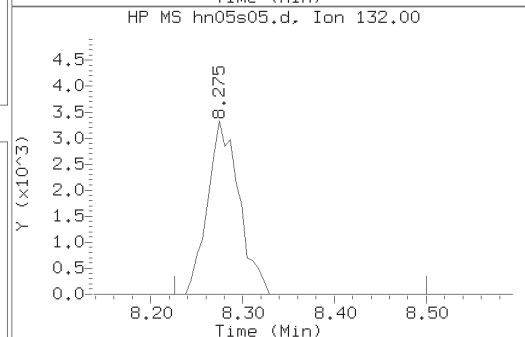
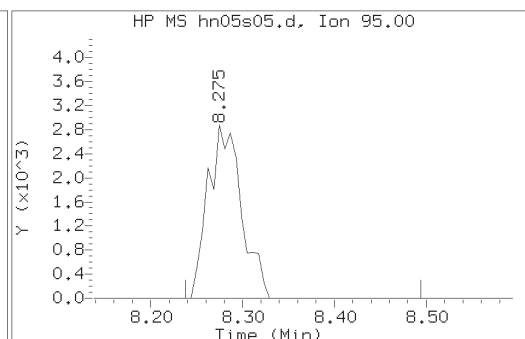
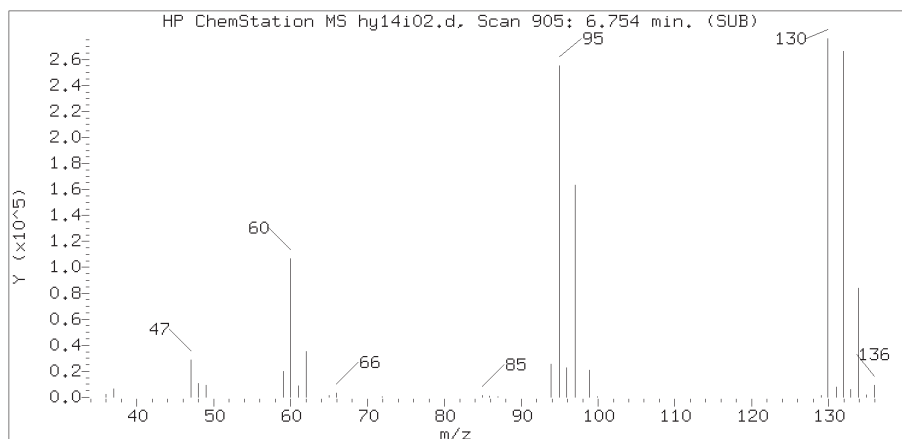
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 12:08 Automation

Sample Name: R7604

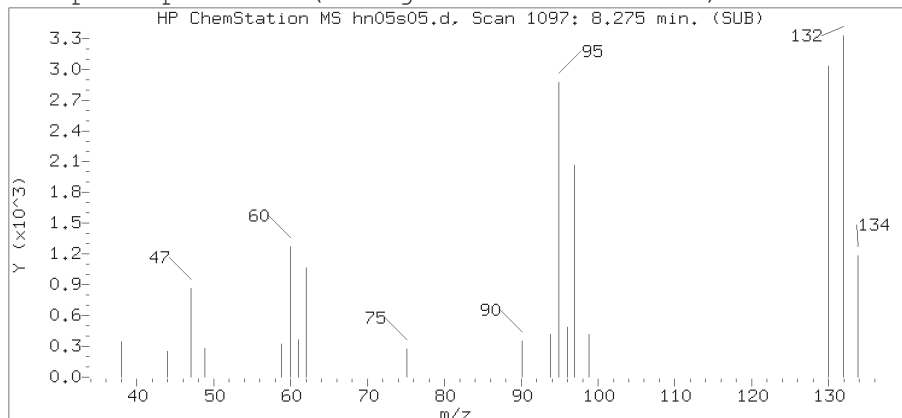
Lab Sample ID: 8666267

Compound Number : 58
Compound Name : Benzene
Scan Number : 952
Retention Time (minutes): 7.391
Relative Retention Time :-0.00004
Quant Ion : 78.00
Area (flag) : 48039
On-Column Amount (ng) : 0.1974

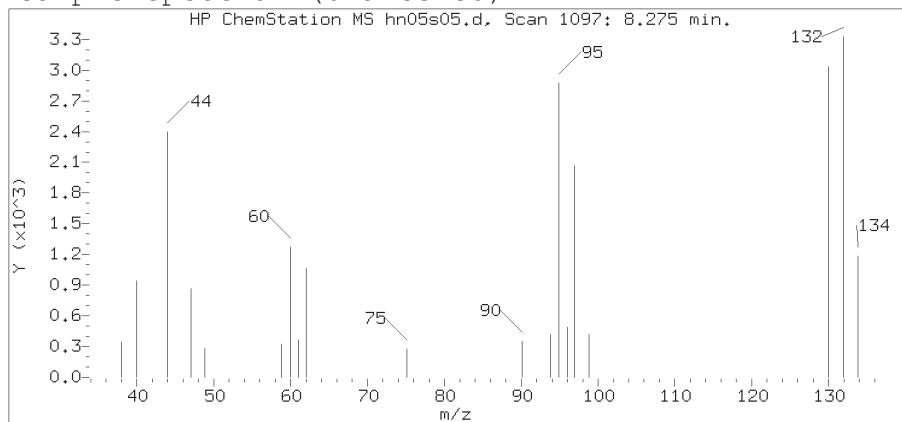
Reference Standard Spectrum for Trichloroethene



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s05.d
Injection date and time: 05-NOV-2016 11:49

Instrument ID: HP19094.i
Analyst ID: msk07970

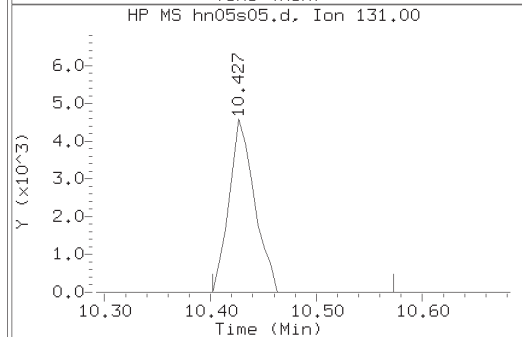
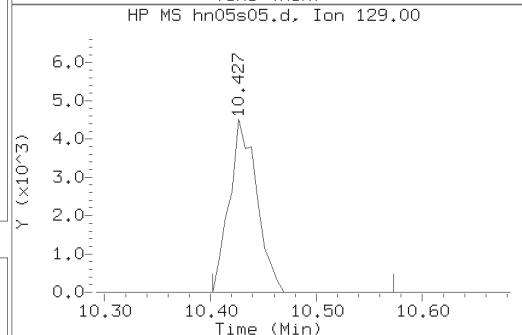
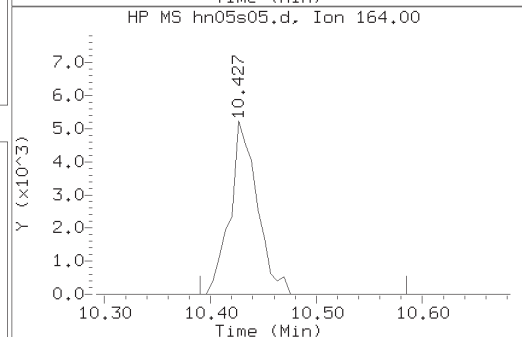
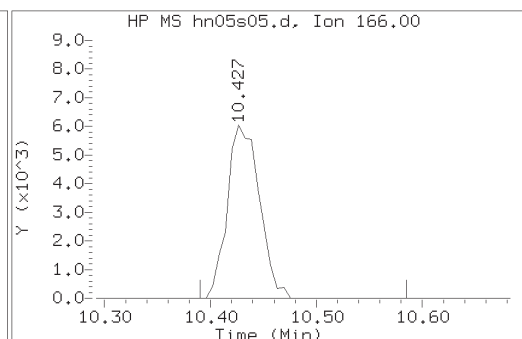
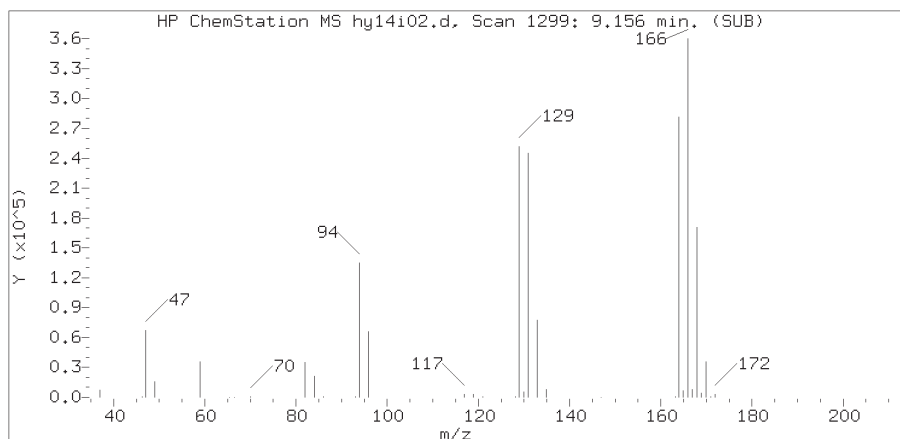
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 12:08 Automation

Sample Name: R7604

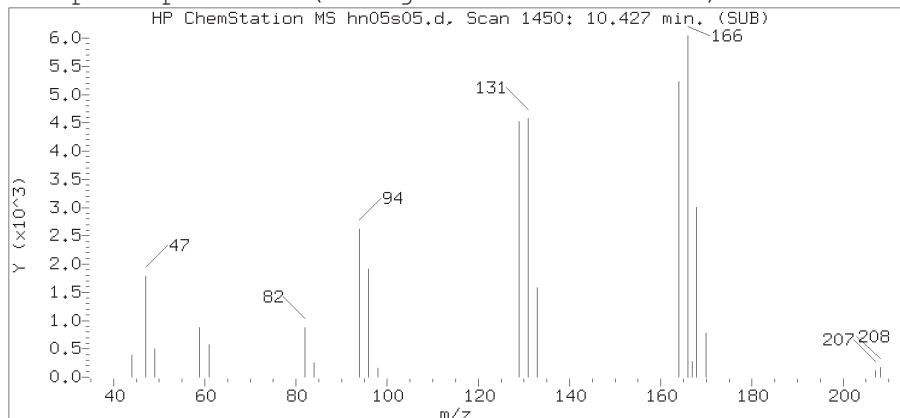
Lab Sample ID: 8666267

Compound Number : 67
Compound Name : Trichloroethene
Scan Number : 1097
Retention Time (minutes): 8.275
Relative Retention Time : 0.00005
Quant Ion : 95.00
Area (flag) : 7285
On-Column Amount (ng) : 0.1093

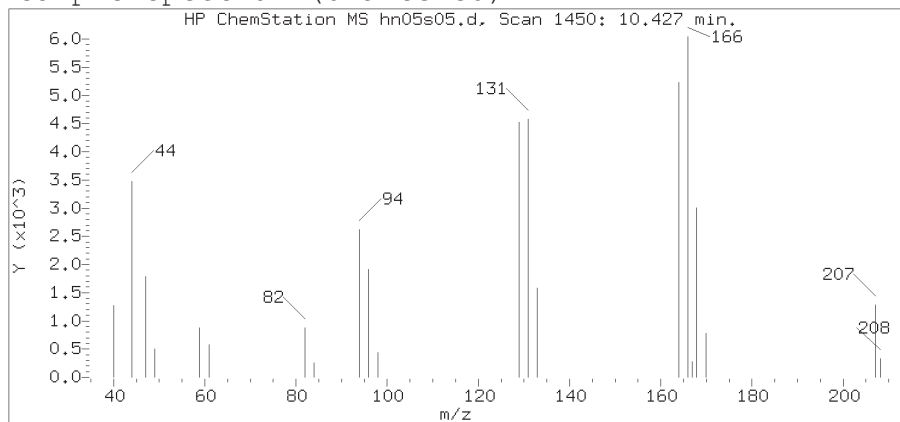
Reference Standard Spectrum for Tetrachloroethene



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s05.d
Injection date and time: 05-NOV-2016 11:49

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 12:08 Automation

Sample Name: R7604

Lab Sample ID: 8666267

Compound Number : 89
Compound Name : Tetrachloroethene
Scan Number : 1450
Retention Time (minutes): 10.427
Relative Retention Time : 0.00050
Quant Ion : 166.00
Area (flag) : 12685
On-Column Amount (ng) : 0.1738

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Target 3.5 esignature RAE76 Page 161 of 883

R7605

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666270

Data file: /chem2/HP19094.i/16nov05a.b/hn05s13.d

Injection date and time: 05-NOV-2016 14:32

Data file Sample Info. Line: R7605;8666270;1;0;;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA

Date, time and analyst ID of latest file update: 05-Nov-2016 14:51 Automation

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469

Calibration date and time (Last Method Edit): 05-NOV-2016 09:41

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.263(0.000)	439	65	99102 (-9)	50.00	
63) Fluorobenzene	7.787(-0.006)	1017	96	2278508 (-5)	10.00	
97) Chlorobenzene-d5	11.243(0.000)	1584	117	1487569 (-10)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(0.000)	1893	152	613536 (-18)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.878(0.001)	113	508397	9.728	97%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.336(0.002)	102	87054	10.369	104%		74 - 113
82) Toluene-d8	(3)	9.799(-0.001)	98	2225375	9.904	99%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249(-0.001)	95	627434	9.498	95%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit LOQ (in sample)
1) Dichlorodifluoromethane	(2)			Not Detected					0.1 1
4) Dimethyl ether	(2)	2.099(0.000)	45	50781	0.685	0.68		J	0.1 13
2) Chloromethane	(2)			Not Detected					0.2 1
8) Chloroethane	(2)	2.733(0.000)	64	58007	1.110	1.11			0.1 1
10) Trichlorofluoromethane	(2)			Not Detected					0.1 1
11) Ethyl ether	(2)	3.306(0.000)	59	968066	23.394	23.39			0.1 13
15) 1,1-Dichloroethene	(2)	3.635(-0.001)	96	7780	0.149	0.15		J	0.1 1
16) Freon 113	(2)			Not Detected					0.2 1
23) Methylene Chloride	(2)			Not Detected					0.2 1
33) 1,1-Dichloroethane	(2)	5.367(-0.000)	63	408301	3.501	3.50			0.1 1
38) 2-Butanone	(1)			Not Detected					1 10
48) Tetrahydrofuran	(1)			Not Detected					2 25
51) 1,1,1-Trichloroethane	(2)			Not Detected					0.1 1
54) Carbon Tetrachloride	(2)			Not Detected					0.1 1
58) Benzene	(2)	7.390(-0.000)	78	47778	0.195	0.20		J	0.1 1
67) Trichloroethene	(2)	8.268(0.000)	95	7001	0.105	0.10		J	0.1 1
83) Toluene	(3)			Not Detected					0.1 1
89) Tetrachloroethene	(3)	10.433(-0.000)	166	11973	0.162	0.16		J	0.1 1
100) Ethylbenzene	(3)			Not Detected					0.1 1
101) m+p-Xylene	(3)			Not Detected					0.1 0.5
104) o-Xylene	(3)			Not Detected					0.1 0.5
105) Xylene (Total)	(3)			Not Detected					0.1 3

R7605

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666270

Data file: /chem2/HP19094.i/16nov05a.b/hn05s13.d Injection date and time: 05-NOV-2016 14:32
Data file Sample Info. Line: R7605;8666270;1;0;;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA
Date, time and analyst ID of latest file update: 05-Nov-2016 14:51 Automation

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time (Last Method Edit): 05-NOV-2016 09:41
Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

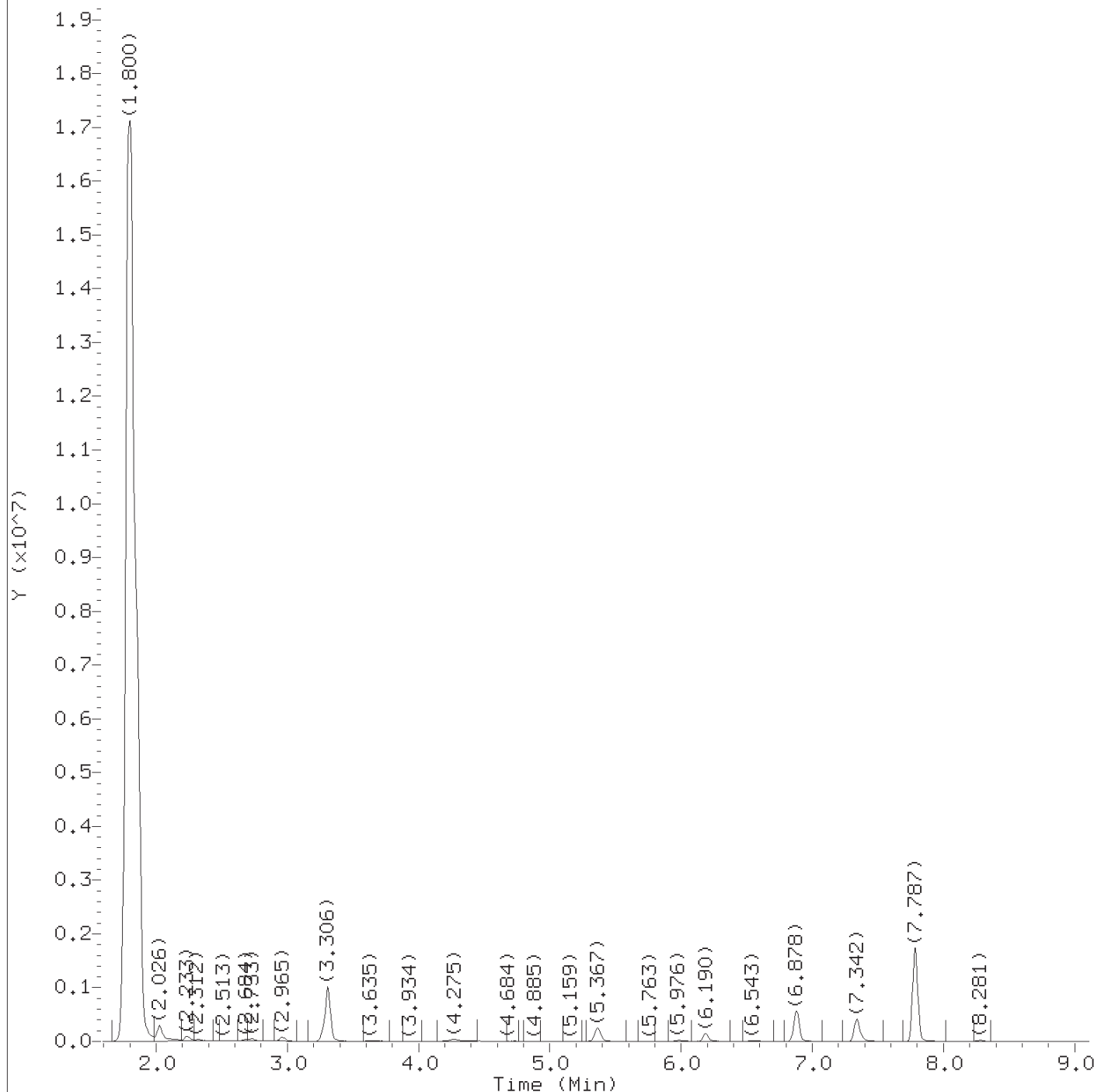
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

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WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 22

Digitally signed by Kerri E. Koch Legerlotz on 11/07/2016 at 09:25. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 20:11. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s13.d
Injection date and time: 05-NOV-2016 14:32

Instrument ID: HP19094.i
Analyst ID: msk07970

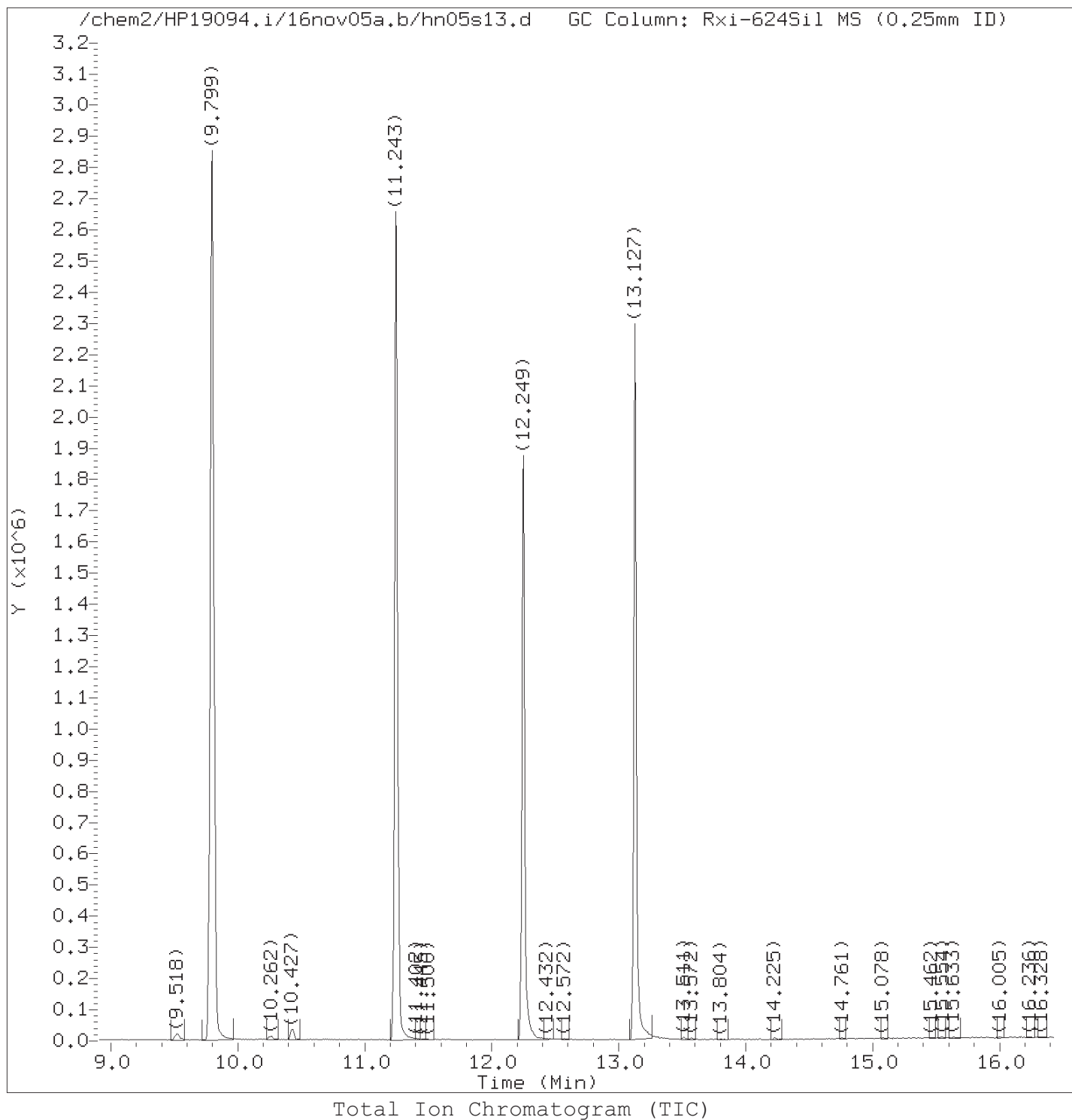
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 14:51 Automation

Sample Name: R7605

Lab Sample ID: 8666270

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:25.

Target 3.5 esignature User ID: kelo1973
RAE76 Page 164 of 883



Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s13.d
Injection date and time: 05-NOV-2016 14:32

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 14:51 Automation

Sample Name: R7605

Lab Sample ID: 8666270

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:25.
Target 3.5 esignature User ID: kel01973

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page 2 of 2

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s13.d

Instrument ID: HP19094.i

Injection date and time: 05-NOV-2016 14:32

Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m

Sublist used: 22469

Calibration date and time: 05-NOV-2016 09:41

Date, time and analyst ID of latest file update: 05-Nov-2016 14:51 Automation

Sample Name: R7605

Lab Sample ID: 8666270

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
4) Dimethyl ether	(2)	2.099	45	50781	0.685
8) Chloroethane	(2)	2.733	64	58007	1.110
11) Ethyl ether	(2)	3.306	59	968066	23.394
15) 1,1-Dichloroethene	(2)	3.635	96	7780	0.149
26) *t-Butyl Alcohol-d10	(1)	4.263	65	99102	50.000
33) 1,1-Dichloroethane	(2)	5.367	63	408301	3.501
50) \$Dibromofluoromethane	(2)	6.878	113	508397	9.728
57) \$1,2-Dichloroethane-d4	(2)	7.336	102	87054	10.369
58) Benzene	(2)	7.391	78	47778	0.195
63) *Fluorobenzene	(2)	7.787	96	2278508	10.000
67) Trichloroethene	(2)	8.268	95	7001	0.105
82) \$Toluene-d8	(3)	9.799	98	2225375	9.904
89) Tetrachloroethene	(3)	10.433	166	11973	0.162
97) *Chlorobenzene-d5	(3)	11.243	117	1487569	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	627434	9.498
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	613536	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

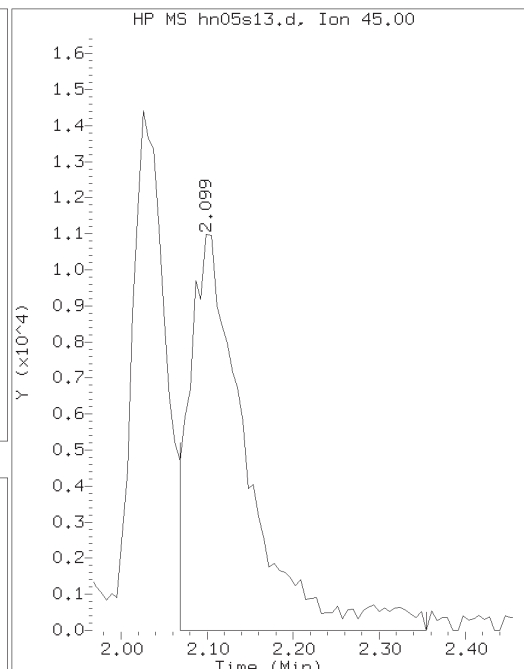
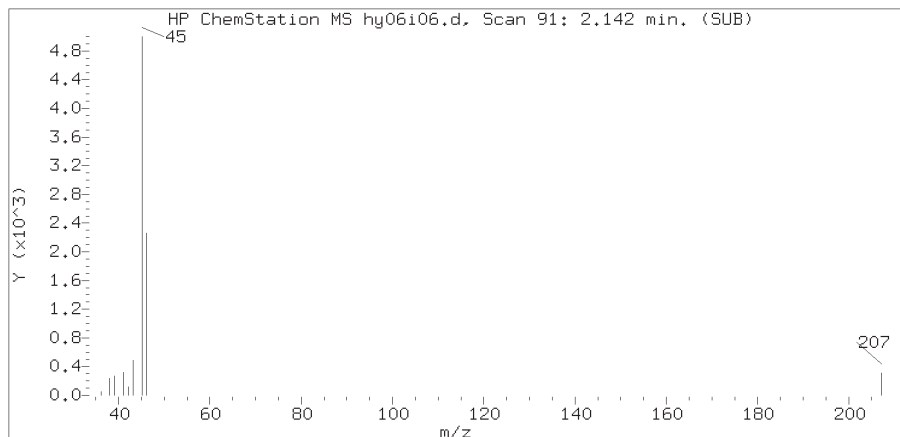
page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:25.

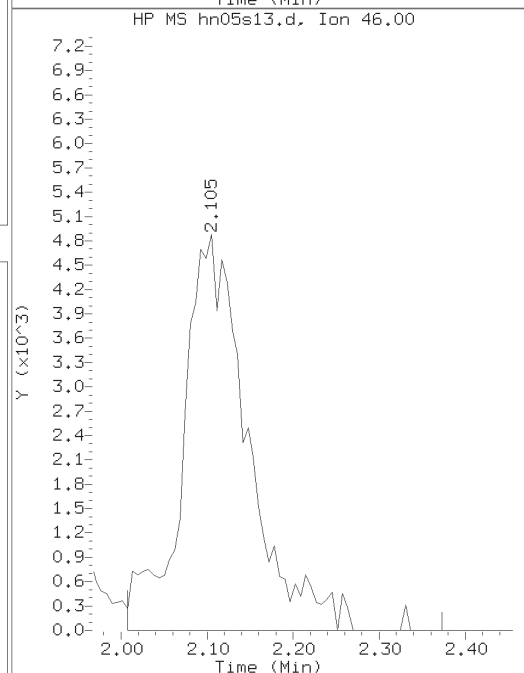
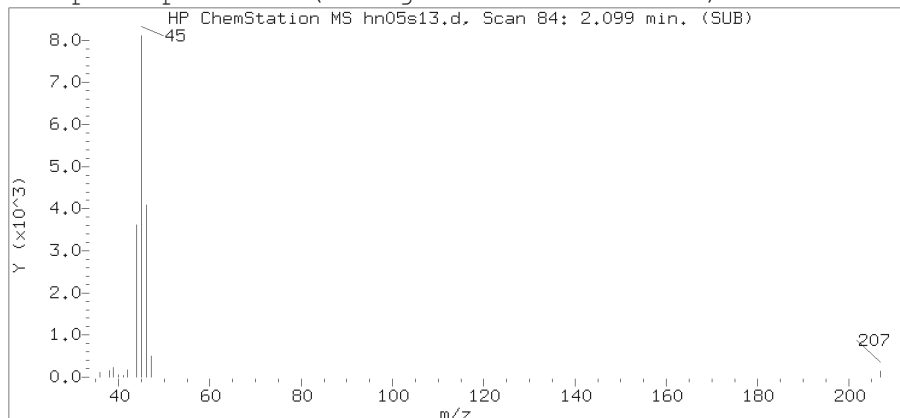
Target 3.5 esignature user ID: kel01973

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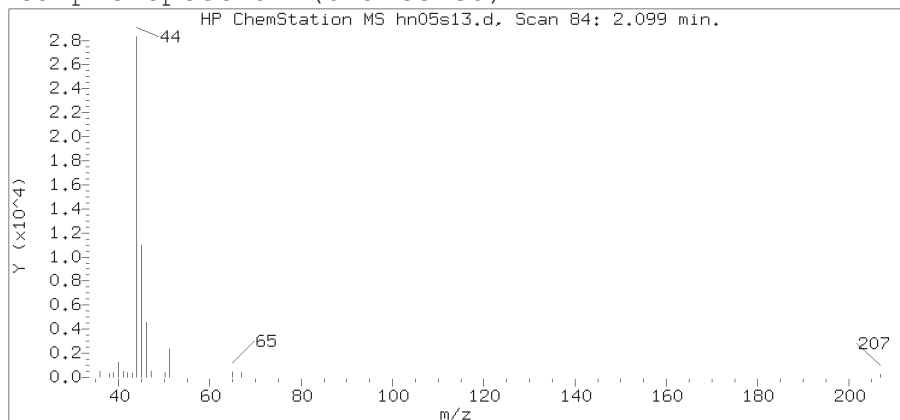
Reference Standard Spectrum for Dimethyl ether



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s13.d
Injection date and time: 05-NOV-2016 14:32

Instrument ID: HP19094.i
Analyst ID: msk07970

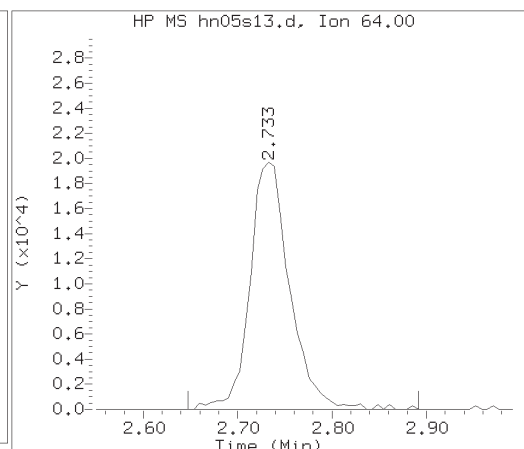
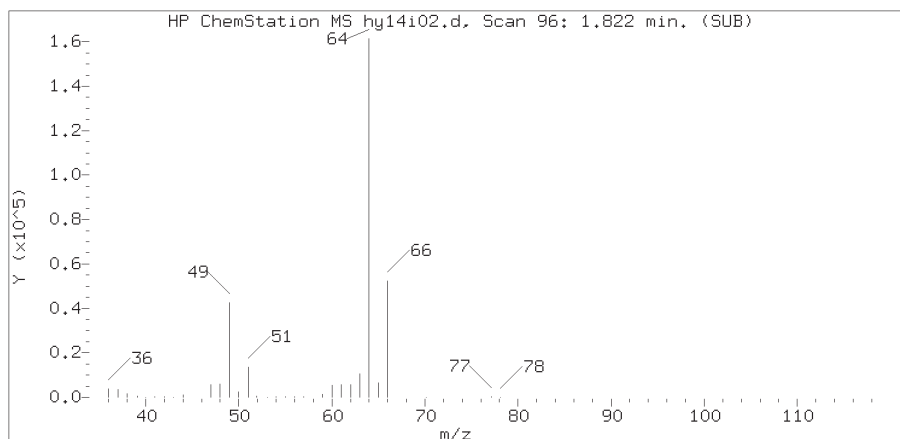
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 14:51 Automation

Sample Name: R7605

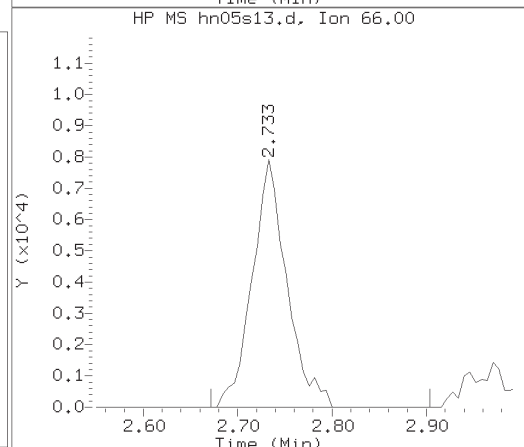
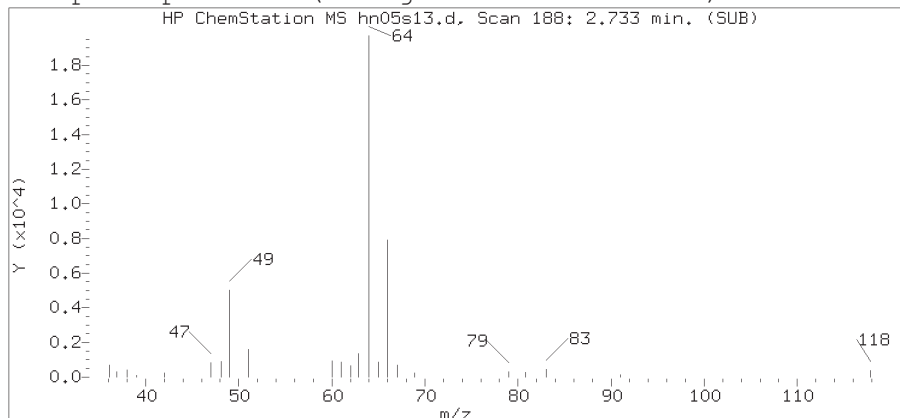
Lab Sample ID: 8666270

Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 84
Retention Time (minutes): 2.099
Relative Retention Time : 0.00022
Quant Ion : 45.00
Area (flag) : 50781
On-Column Amount (ng) : 0.6849

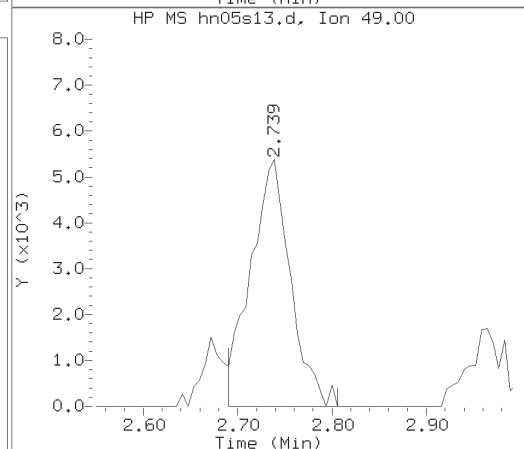
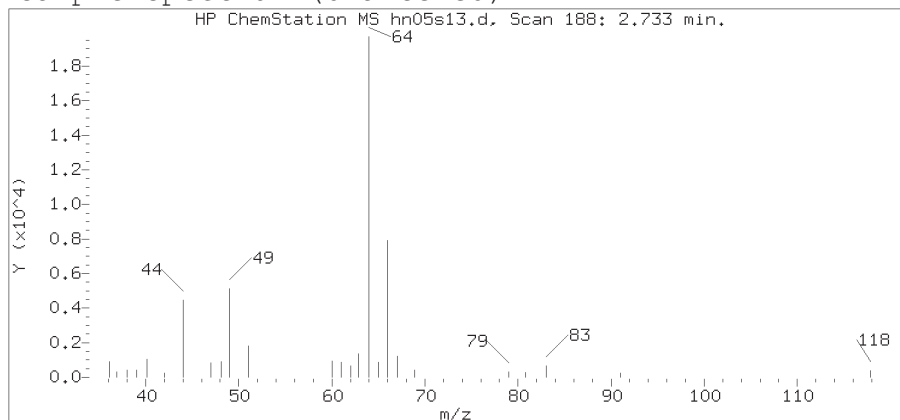
Reference Standard Spectrum for Chloroethane



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s13.d
Injection date and time: 05-NOV-2016 14:32

Instrument ID: HP19094.i
Analyst ID: msk07970

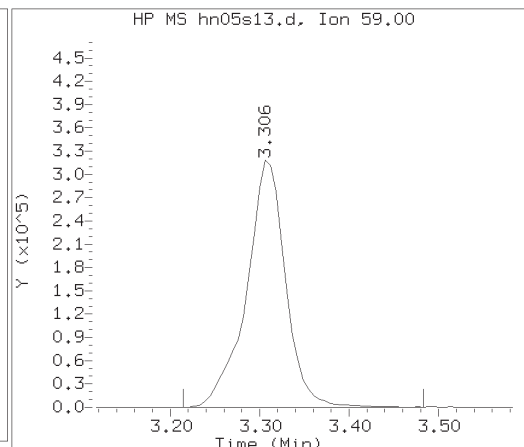
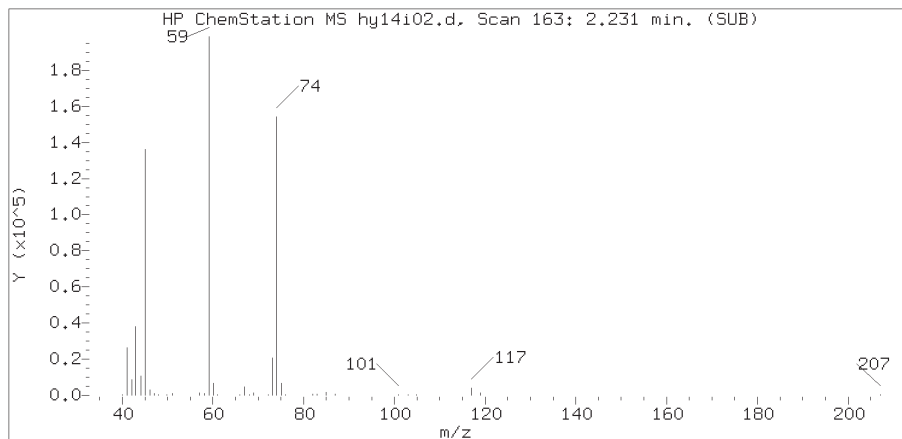
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Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 14:51 Automation

Sample Name: R7605

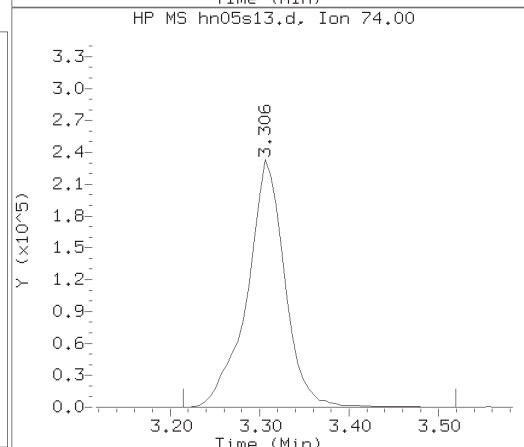
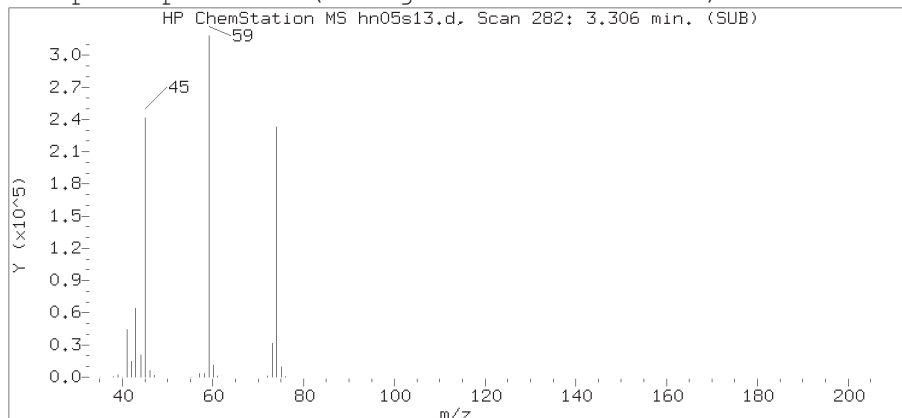
Lab Sample ID: 8666270

Compound Number : 8
Compound Name : Chloroethane
Scan Number : 188
Retention Time (minutes): 2.733
Relative Retention Time : 0.00027
Quant Ion : 64.00
Area (flag) : 58007
On-Column Amount (ng) : 1.1104

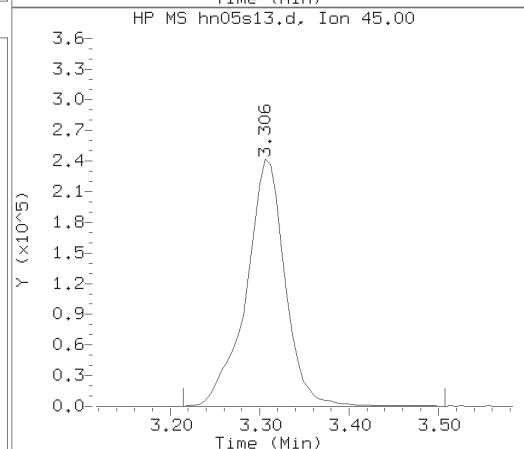
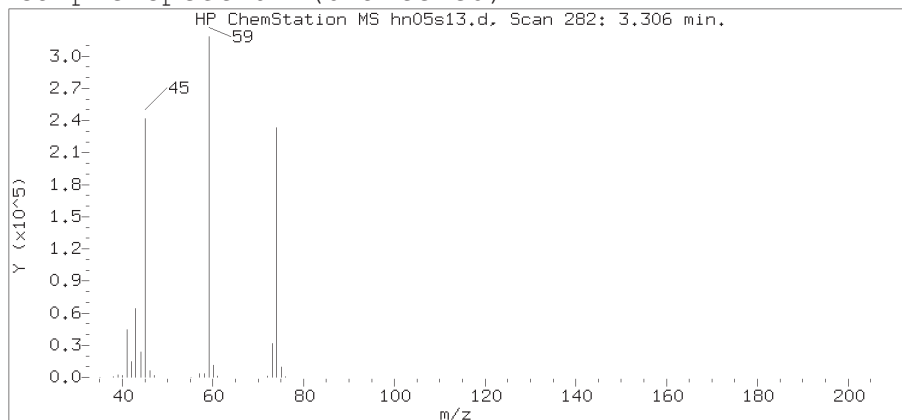
Reference Standard Spectrum for Ethyl ether



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s13.d
Injection date and time: 05-NOV-2016 14:32

Instrument ID: HP19094.i
Analyst ID: msk07970

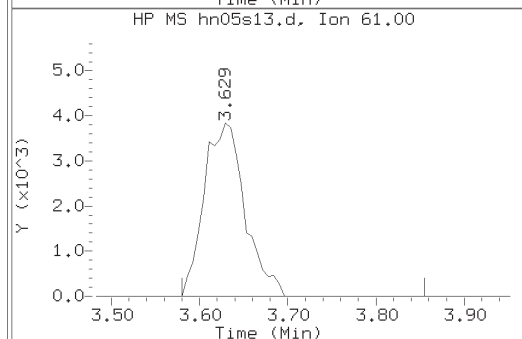
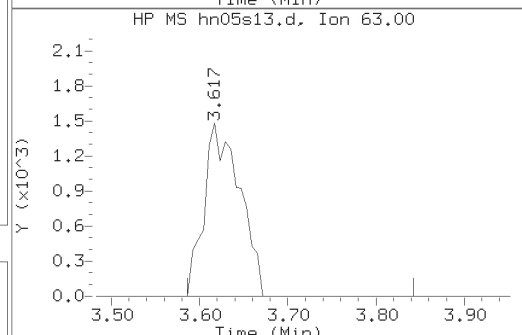
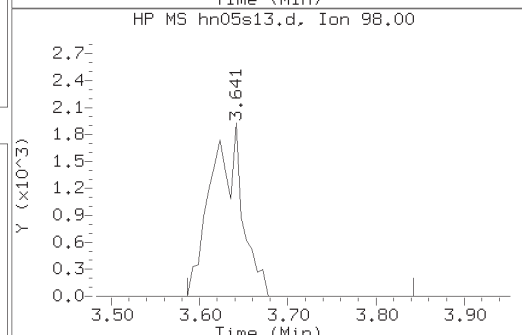
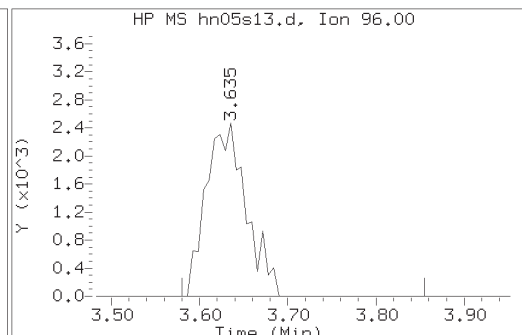
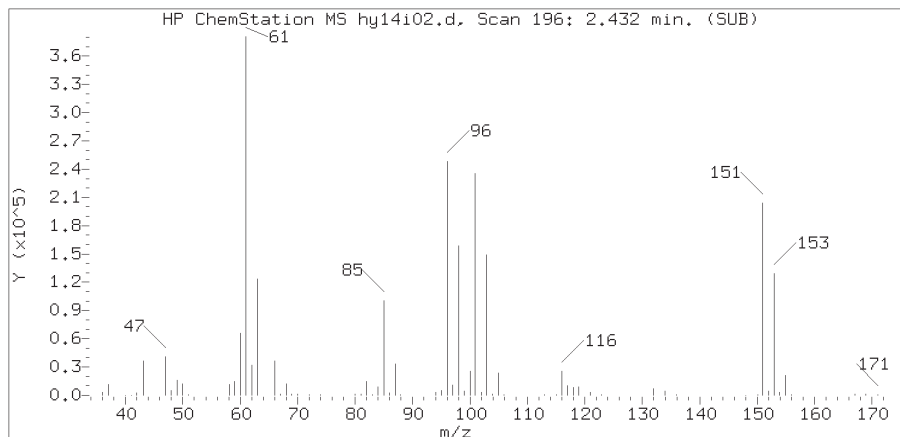
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Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 14:51 Automation

Sample Name: R7605

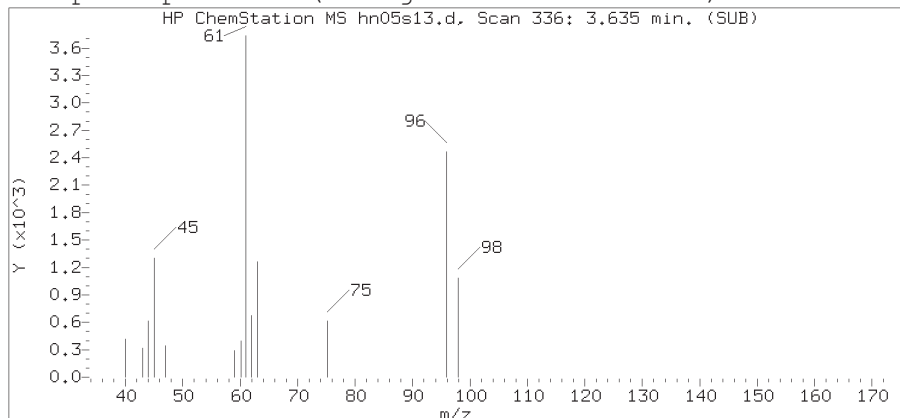
Lab Sample ID: 8666270

Compound Number : 11
Compound Name : Ethyl ether
Scan Number : 282
Retention Time (minutes): 3.306
Relative Retention Time : 0.00033
Quant Ion : 59.00
Area (flag) : 968066
On-Column Amount (ng) : 23.3942

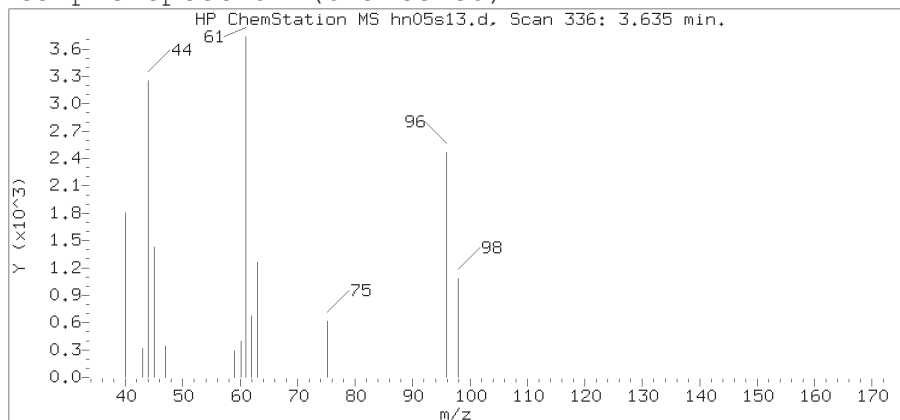
Reference Standard Spectrum for 1,1-Dichloroethene



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s13.d
Injection date and time: 05-NOV-2016 14:32

Instrument ID: HP19094.i
Analyst ID: msk07970

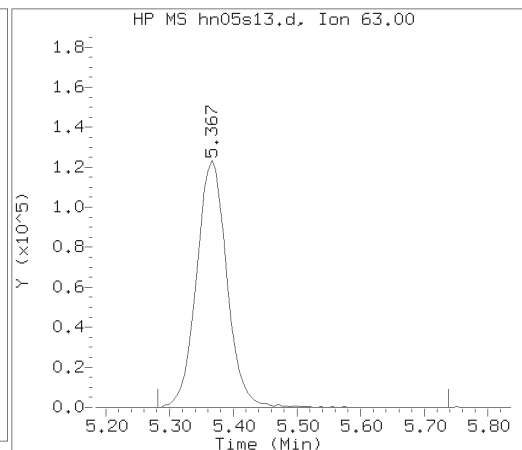
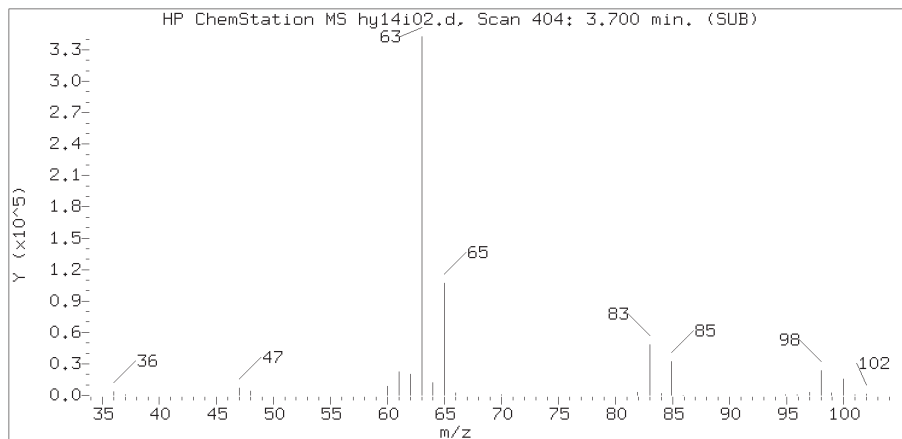
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Date, time and analyst ID of latest file update: 05-Nov-2016 14:51 Automation

Sample Name: R7605

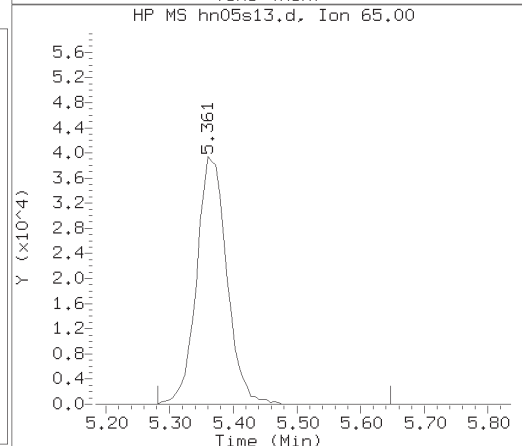
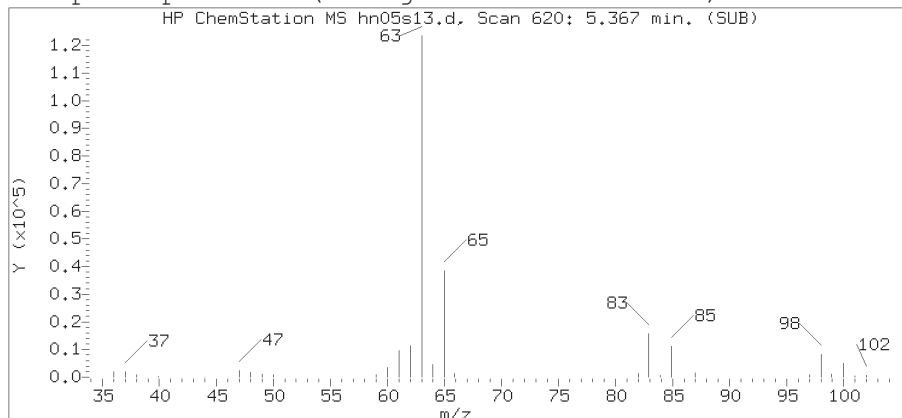
Lab Sample ID: 8666270

Compound Number : 15
Compound Name : 1,1-Dichloroethene
Scan Number : 336
Retention Time (minutes): 3.635
Relative Retention Time :-0.00198
Quant Ion : 96.00
Area (flag) : 7780
On-Column Amount (ng) : 0.1489

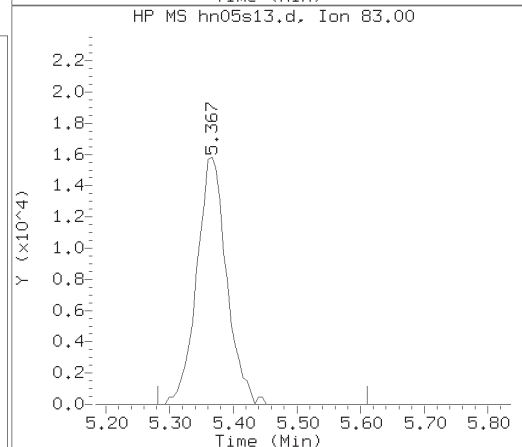
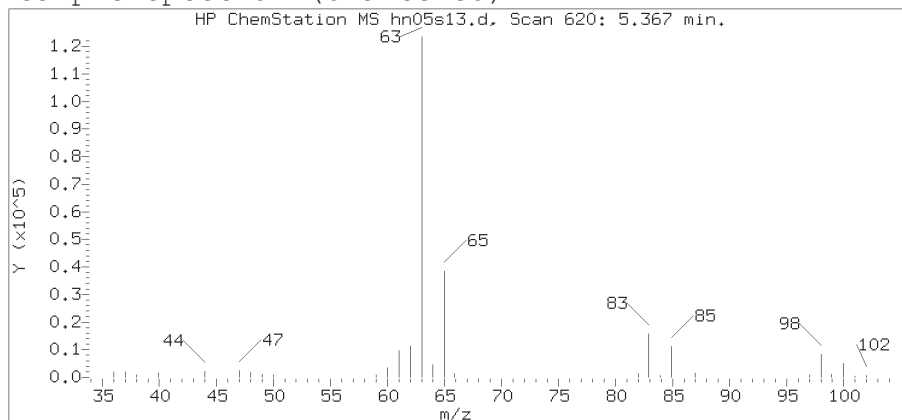
Reference Standard Spectrum for 1,1-Dichloroethane



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s13.d
Injection date and time: 05-NOV-2016 14:32

Instrument ID: HP19094.i
Analyst ID: msk07970

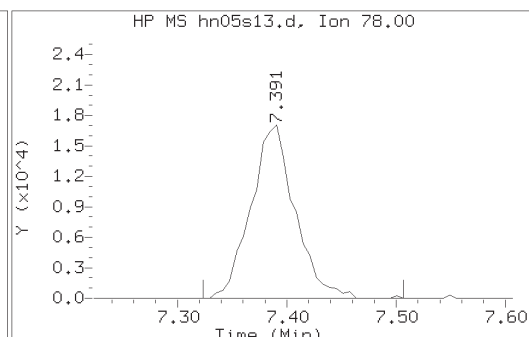
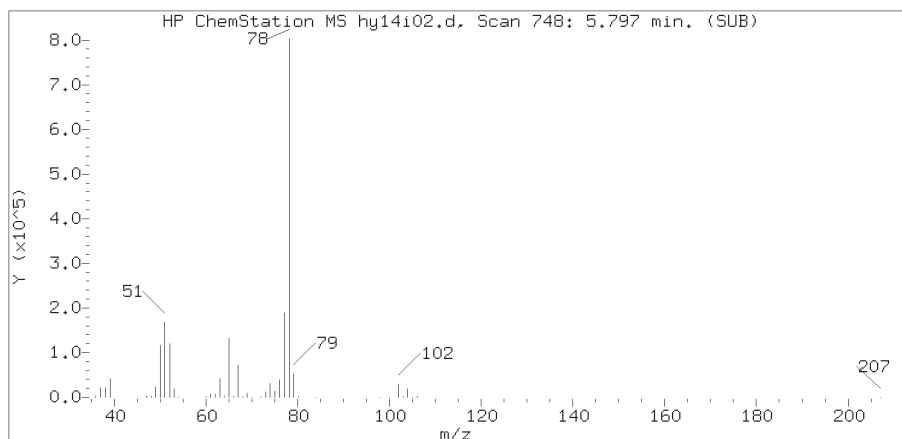
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Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 14:51 Automation

Sample Name: R7605

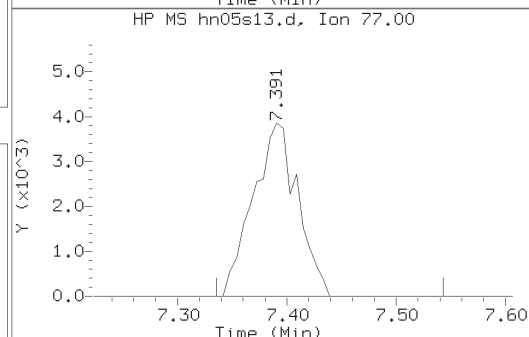
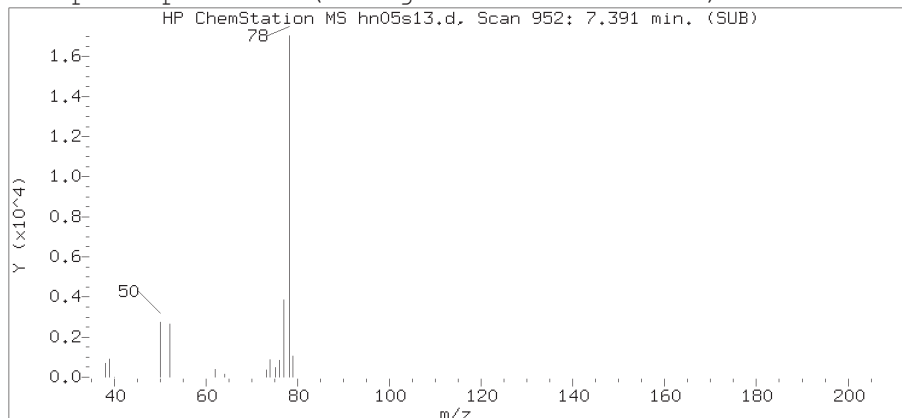
Lab Sample ID: 8666270

Compound Number : 33
Compound Name : 1,1-Dichloroethane
Scan Number : 620
Retention Time (minutes): 5.367
Relative Retention Time :-0.00024
Quant Ion : 63.00
Area (flag) : 408301
On-Column Amount (ng) : 3.5009

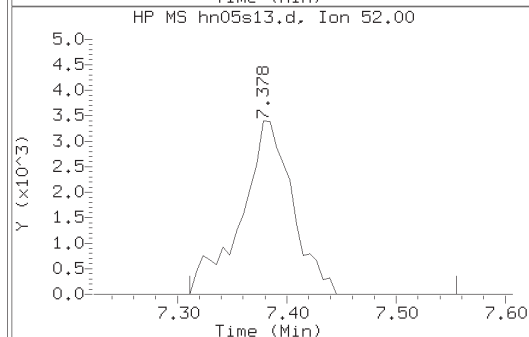
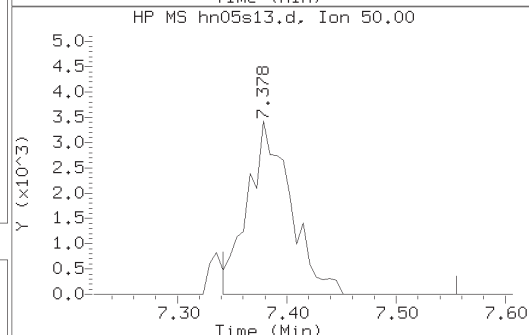
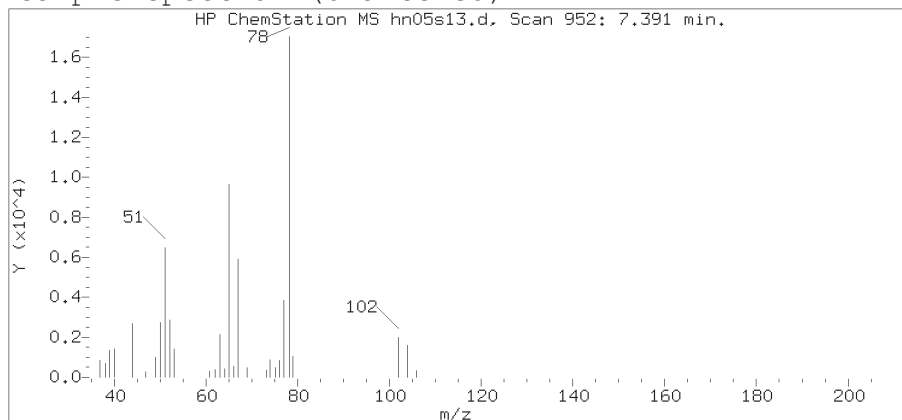
Reference Standard Spectrum for Benzene



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s13.d
Injection date and time: 05-NOV-2016 14:32

Instrument ID: HP19094.i
Analyst ID: msk07970

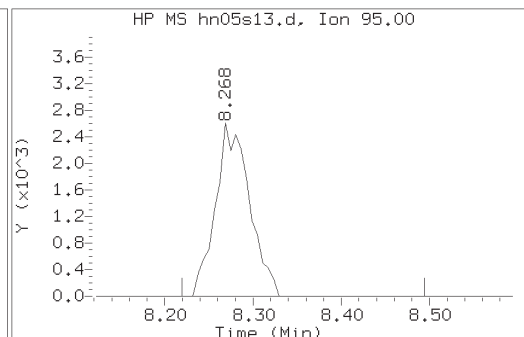
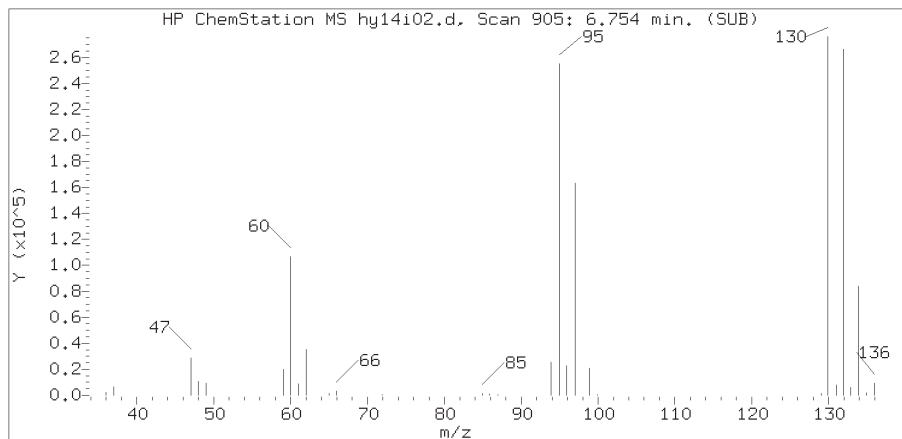
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Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 14:51 Automation

Sample Name: R7605

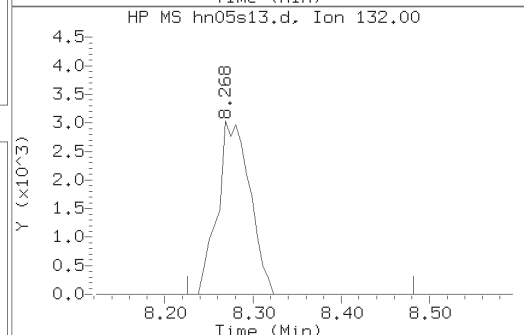
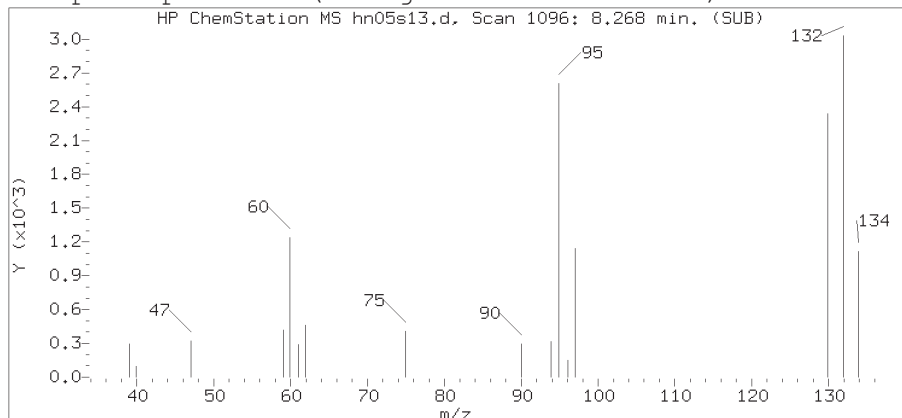
Lab Sample ID: 8666270

Compound Number : 58
Compound Name : Benzene
Scan Number : 952
Retention Time (minutes): 7.391
Relative Retention Time :-0.00004
Quant Ion : 78.00
Area (flag) : 47778
On-Column Amount (ng) : 0.1955

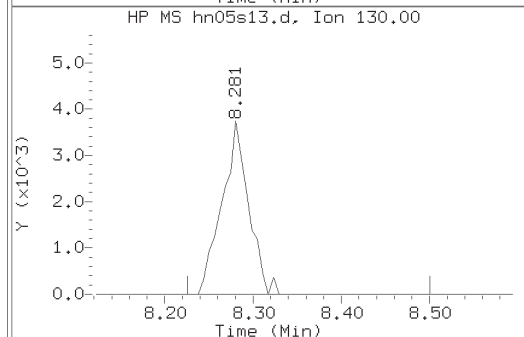
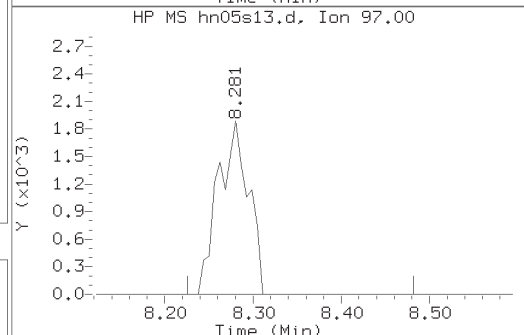
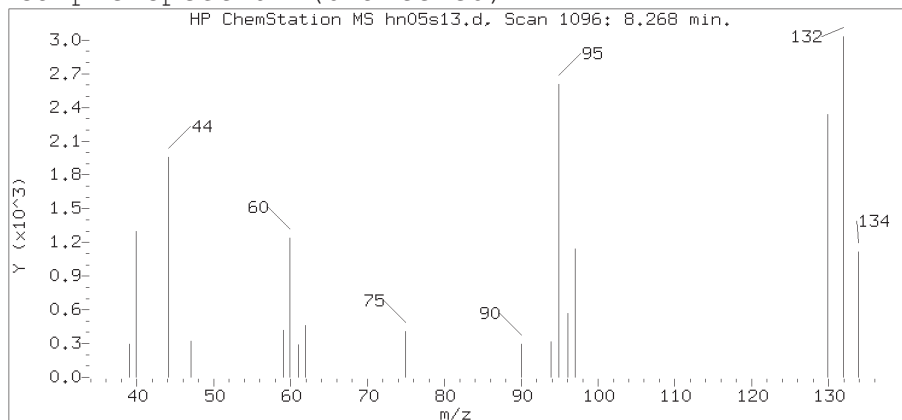
Reference Standard Spectrum for Trichloroethene



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s13.d
Injection date and time: 05-NOV-2016 14:32

Instrument ID: HP19094.i
Analyst ID: msk07970

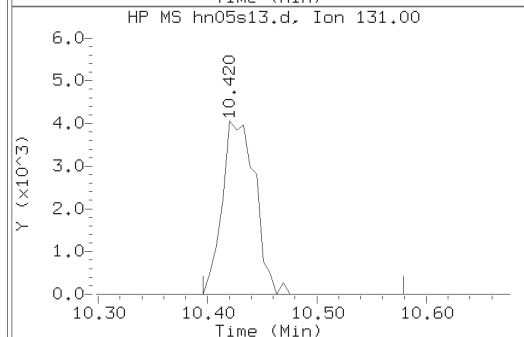
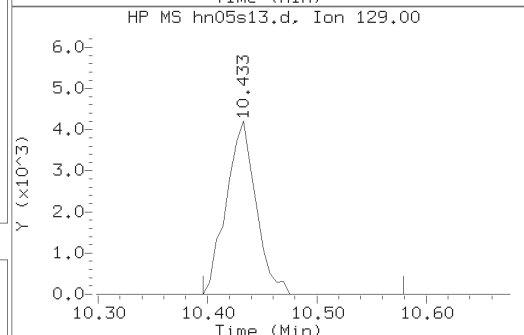
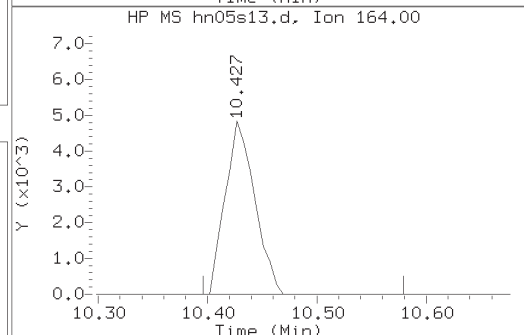
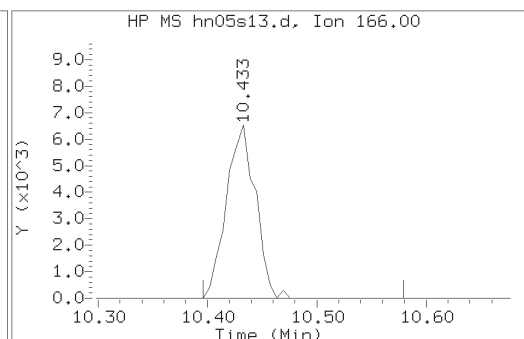
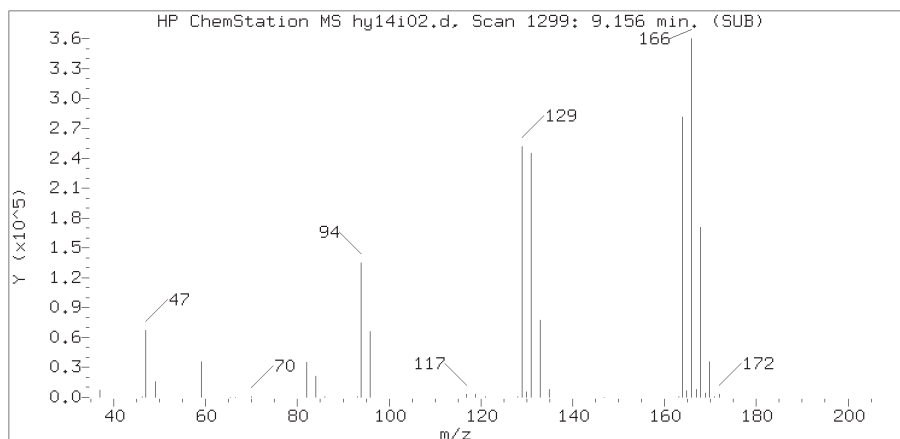
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Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 14:51 Automation

Sample Name: R7605

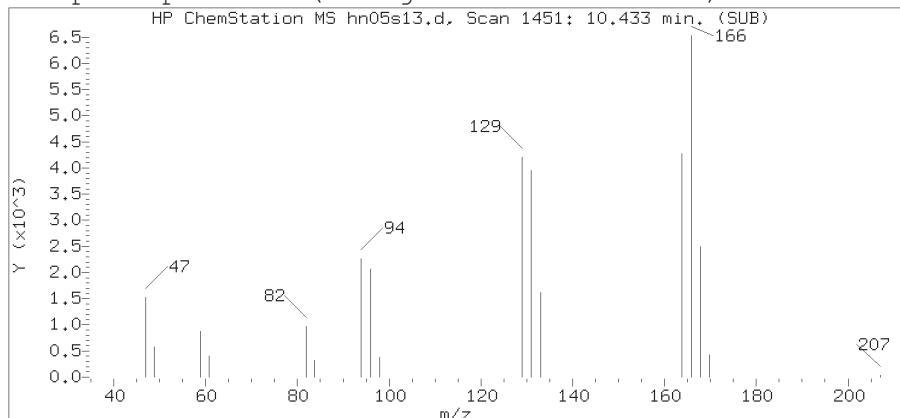
Lab Sample ID: 8666270

Compound Number : 67
Compound Name : Trichloroethene
Scan Number : 1096
Retention Time (minutes): 8.268
Relative Retention Time : 0.00083
Quant Ion : 95.00
Area (flag) : 7001
On-Column Amount (ng) : 0.1045

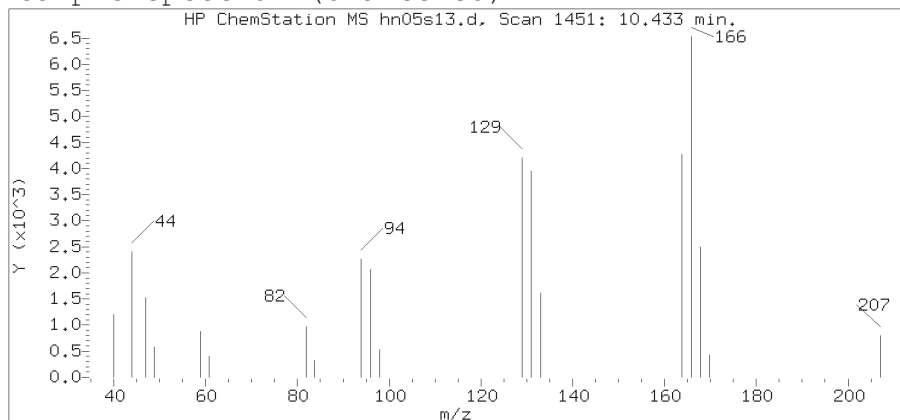
Reference Standard Spectrum for Tetrachloroethene



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s13.d
Injection date and time: 05-NOV-2016 14:32

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 14:51 Automation

Sample Name: R7605

Lab Sample ID: 8666270

Compound Number : 89
Compound Name : Tetrachloroethene
Scan Number : 1451
Retention Time (minutes): 10.433
Relative Retention Time :-0.00054
Quant Ion : 166.00
Area (flag) : 11973
On-Column Amount (ng) : 0.1620

R7606

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666271

Data file: /chem2/HP19094.i/16nov05a.b/hn05s14.d

Injection date and time: 05-NOV-2016 14:52

Data file Sample Info. Line: R7606;8666271;1;0;;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA

Date, time and analyst ID of latest file update: 08-Nov-2016 20:10 sej02002

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469

Calibration date and time (Last Method Edit): 05-NOV-2016 09:41

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.257(0.006)	438	65	94264 (-13)	50.00	
63) Fluorobenzene	7.781(0.000)	1016	96	2242412 (-7)	10.00	
97) Chlorobenzene-d5	11.244(0.000)	1584	117	1458515 (-12)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(0.000)	1893	152	602841 (-20)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.872(0.001)	113	501307	9.747	97%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.342(0.000)	102	86292	10.444	104%		74 - 113
82) Toluene-d8	(3)	9.793(0.000)	98	2221640	10.084	101%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249(-0.001)	95	613081	9.465	95%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit LOQ (in sample)
1) Dichlorodifluoromethane	(2)			Not Detected					0.1 1
4) Dimethyl ether	(2)	2.087(0.001)	45	27500M	0.377	0.38		J	0.1 13
2) Chloromethane	(2)			Not Detected					0.2 1
8) Chloroethane	(2)	2.715(0.002)	64	5249	0.102	0.10		J	0.1 1
10) Trichlorofluoromethane	(2)			Not Detected					0.1 1
11) Ethyl ether	(2)	3.300(0.000)	59	121552	2.985	2.98		J	0.1 13
15) 1,1-Dichloroethene	(2)			Not Detected					0.1 1
16) Freon 113	(2)			Not Detected					0.2 1
23) Methylene Chloride	(2)			Not Detected					0.2 1
33) 1,1-Dichloroethane	(2)	5.367(-0.000)	63	37162	0.324	0.32		J	0.1 1
38) 2-Butanone	(1)			Not Detected					1 10
48) Tetrahydrofuran	(1)			Not Detected					2 25
51) 1,1,1-Trichloroethane	(2)			Not Detected					0.1 1
54) Carbon Tetrachloride	(2)			Not Detected					0.1 1
58) Benzene	(2)			Not Detected					0.1 1
67) Trichloroethene	(2)			Not Detected					0.1 1
83) Toluene	(3)			Not Detected					0.1 1
89) Tetrachloroethene	(3)			Not Detected					0.1 1
100) Ethylbenzene	(3)			Not Detected					0.1 1
101) m+p-Xylene	(3)			Not Detected					0.1 0.5
104) o-Xylene	(3)			Not Detected					0.1 0.5
105) Xylene (Total)	(3)			Not Detected					0.1 3

M = Compound was manually integrated.

R7606

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666271

Data file: /chem2/HP19094.i/16nov05a.b/hn05s14.d Injection date and time: 05-NOV-2016 14:52
Data file Sample Info. Line: R7606;8666271;1;0;;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA
Date, time and analyst ID of latest file update: 08-Nov-2016 20:10 sej02002

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time (Last Method Edit): 05-NOV-2016 09:41
Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

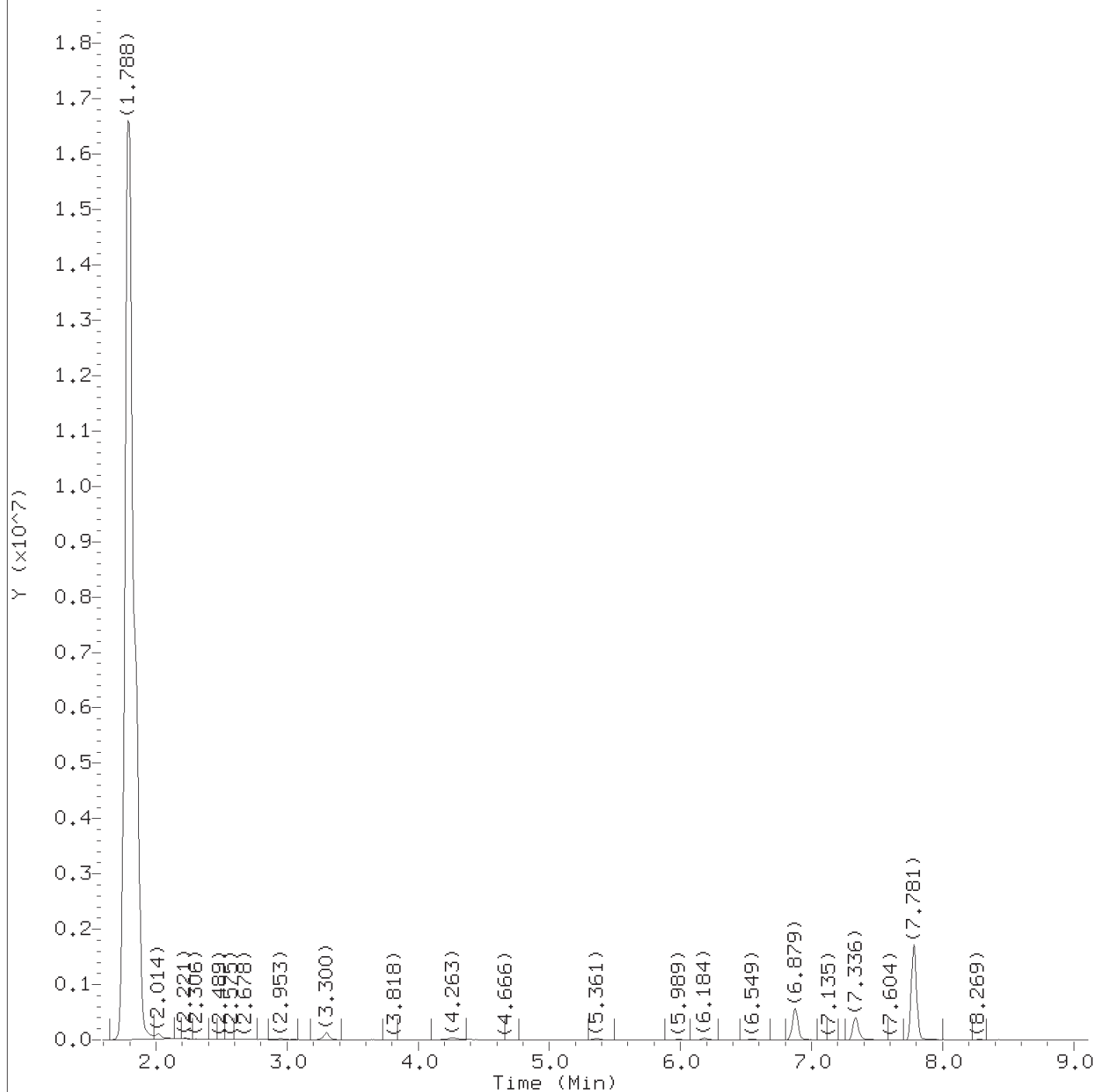
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

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Total number of targets = 22

Digitally signed by Matthew S. Krause on 11/08/2016 at 20:24. Target 3.5 esignature user ID: msk07970

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 20:24. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s14.d
Injection date and time: 05-NOV-2016 14:52

Instrument ID: HP19094.i
Analyst ID: msk07970

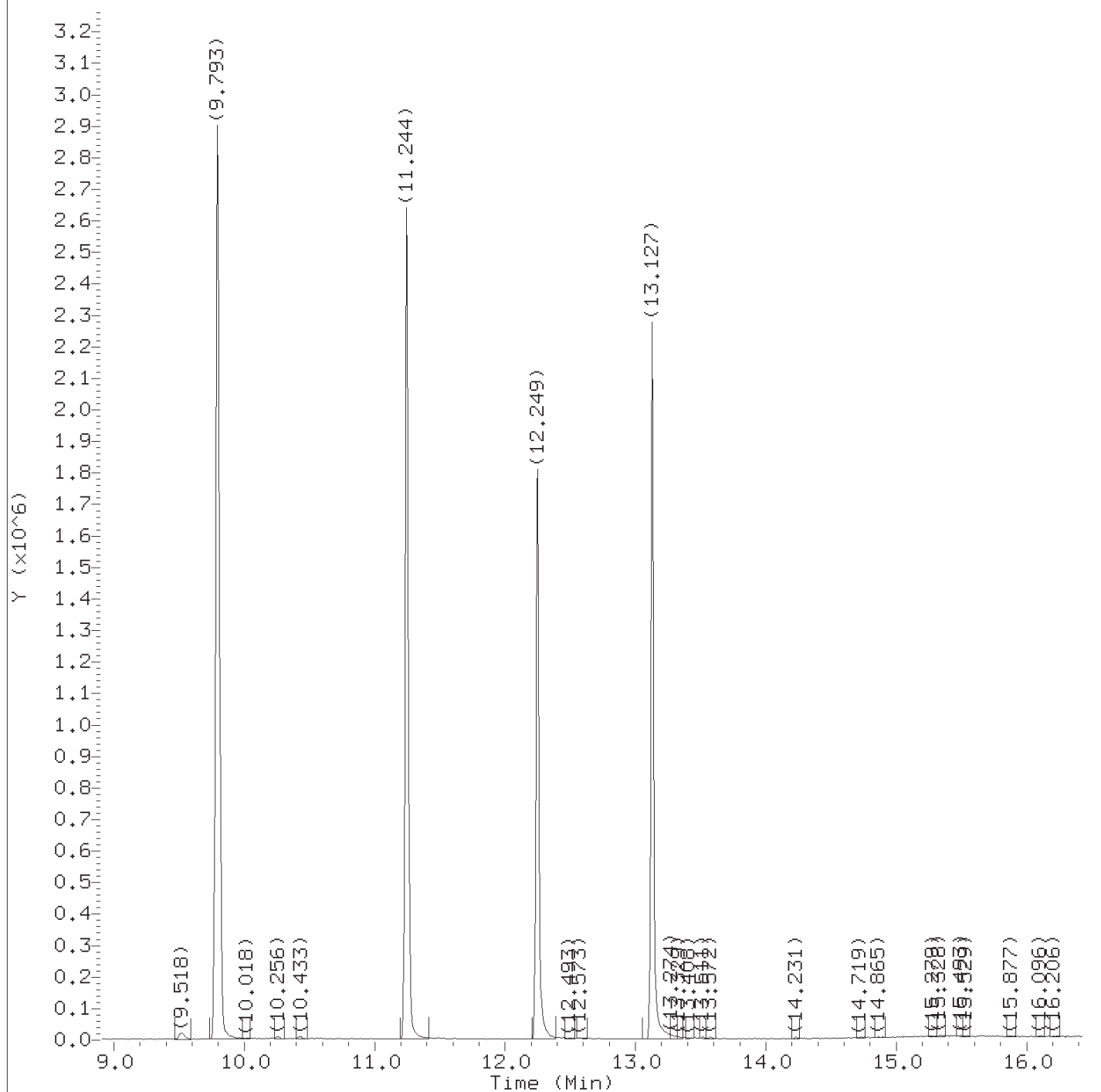
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 08-Nov-2016 20:10 sej02002

Sample Name: R7606

Lab Sample ID: 8666271

Digitally signed by Matthew S. Krause
on 11/08/2016 at 20:24.

Target 3.5 esignature user ID: msk07970
RAE76 Page 177 of 883



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s14.d
Injection date and time: 05-NOV-2016 14:52

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m
Calibration date and time: 05-NOV-2016 09:41

Sublist used: 22469

Date, time and analyst ID of latest file update: 08-Nov-2016 20:10 sej02002

Sample Name: R7606

Lab Sample ID: 8666271

Digitally signed by Matthew S. Krause
on 11/08/2016 at 20:24.

Target 3.5 esignature User ID: msk07970
RAE76 Page 178 of 883

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s14.d
Injection date and time: 05-NOV-2016 14:52

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 08-Nov-2016 20:10 sej02002

Sample Name: R7606

Lab Sample ID: 8666271

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.087	45	27500M	0.377
8) Chloroethane	(2)	2.715	64	5249	0.102
11) Ethyl ether	(2)	3.300	59	121552	2.985
26) *t-Butyl Alcohol-d10	(1)	4.257	65	94264	50.000
33) 1,1-Dichloroethane	(2)	5.367	63	37162	0.324
50) \$Dibromofluoromethane	(2)	6.872	113	501307	9.747
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	86292	10.444
63) *Fluorobenzene	(2)	7.781	96	2242412	10.000
82) \$Toluene-d8	(3)	9.793	98	2221640	10.084
97) *Chlorobenzene-d5	(3)	11.244	117	1458515	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	613081	9.465
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	602841	10.000

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

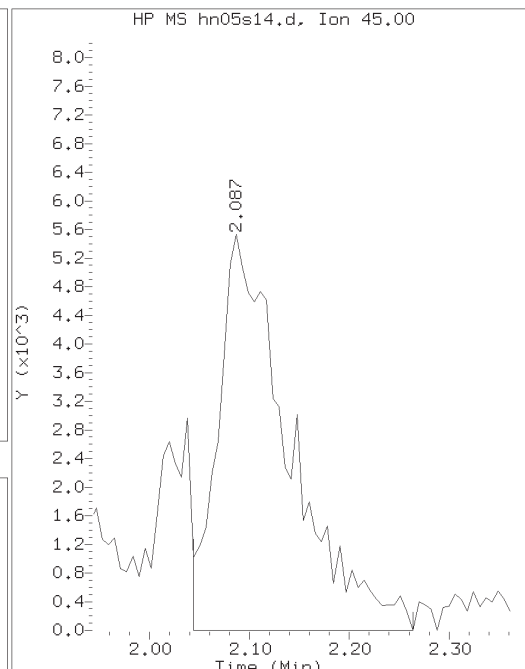
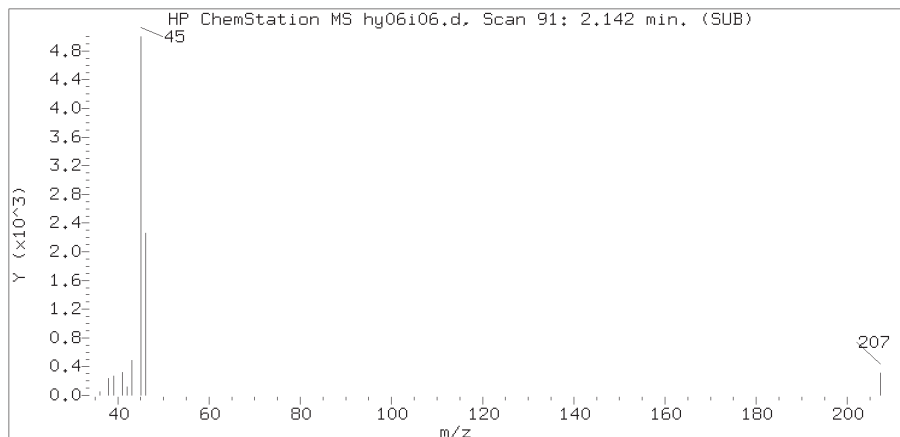
page 1 of 1

Digitally signed by Matthew S. Krause
on 11/08/2016 at 20:24.

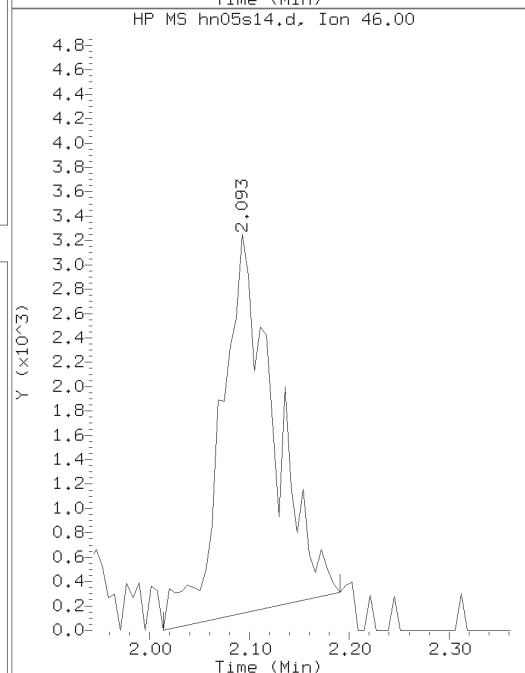
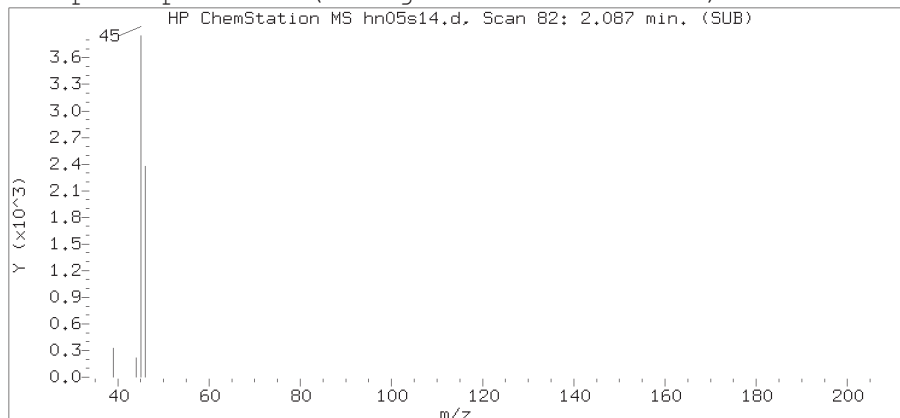
Target 3.5 esignature user ID: msk07970

RAE76 Page 179 of 883

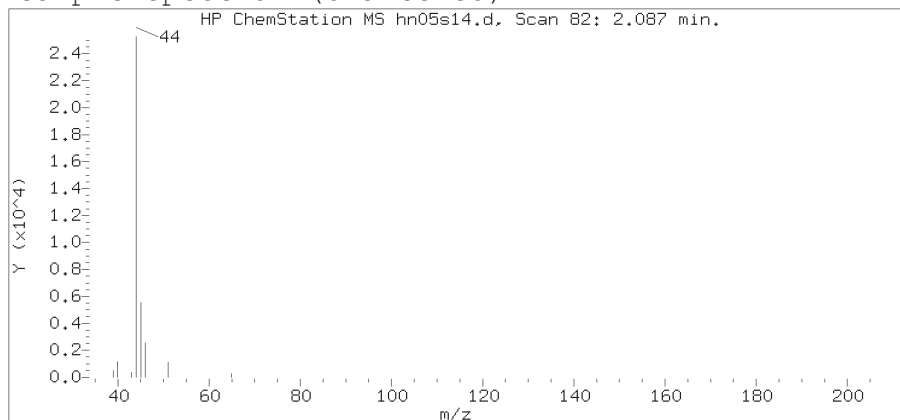
Reference Standard Spectrum for Dimethyl ether



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s14.d
Injection date and time: 05-NOV-2016 14:52

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 08-Nov-2016 20:10 sej02002

Sample Name: R7606

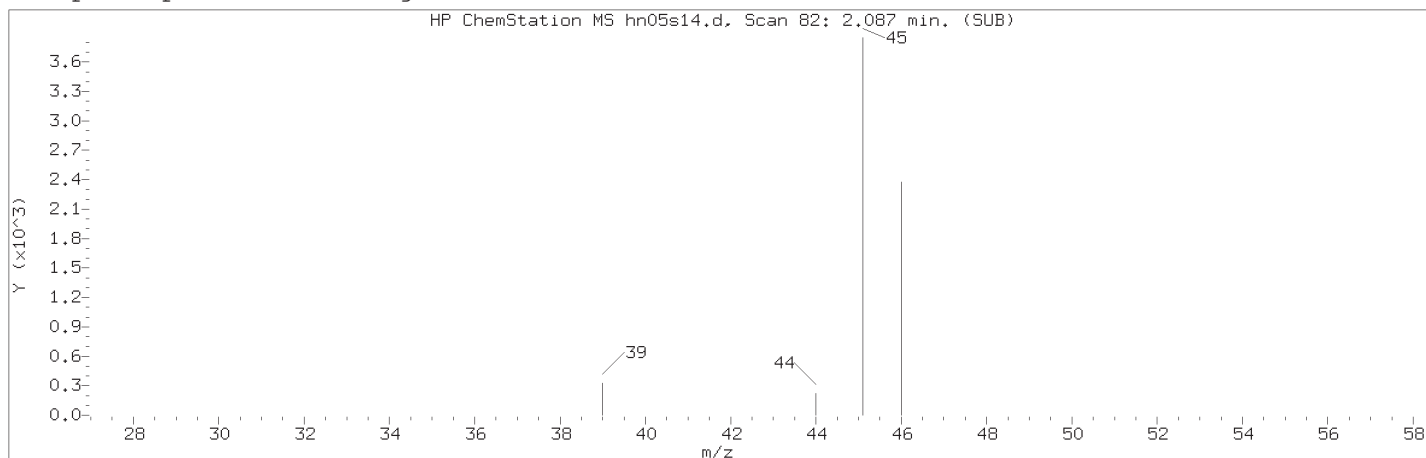
Lab Sample ID: 8666271

Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 82
Retention Time (minutes): 2.087
Relative Retention Time : 0.00157
Quant Ion : 45.00
Area (flag) : 27500M
On-Column Amount (ng) : 0.3769

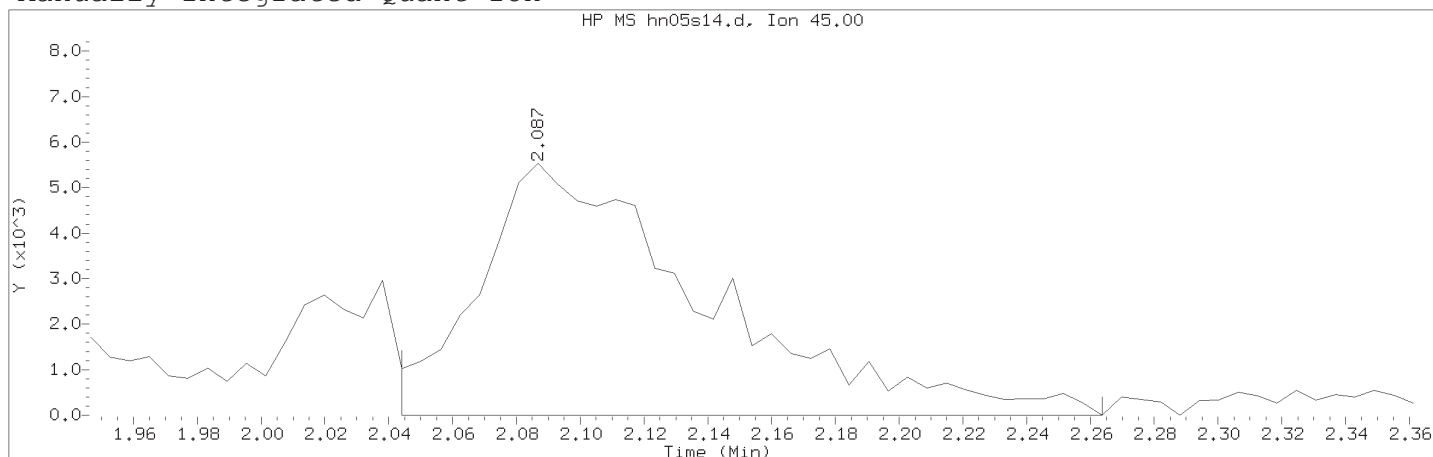
Digitally signed by Matthew S. Krause on 11/08/2016 at 20:24.

Target 3.5 esignature RAE76 Page 180 of 883

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov05a.b/hn05s14.d

Instrument ID: HP19094.i

Injection date and time: 05-NOV-2016 14:52

Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m

Sublist used: 22469

Calibration date and time: 05-NOV-2016 09:41

Date, time and analyst ID of latest file update: 08-Nov-2016 20:10 sej02002

Sample Name: R7606

Lab Sample ID: 8666271

Compound Number	: 4	
Compound Name	: Dimethyl ether	
Scan Number	: 82	
Retention Time (minutes)	: 2.087	
Quant Ion	: 45.00	
Area (flag)	: 27500M	
On-Column Amount (ng)	: 0.3769	
Integration start scan	: 74	Integration stop scan: 110
Y at integration start	: 0	Y at integration end: 0

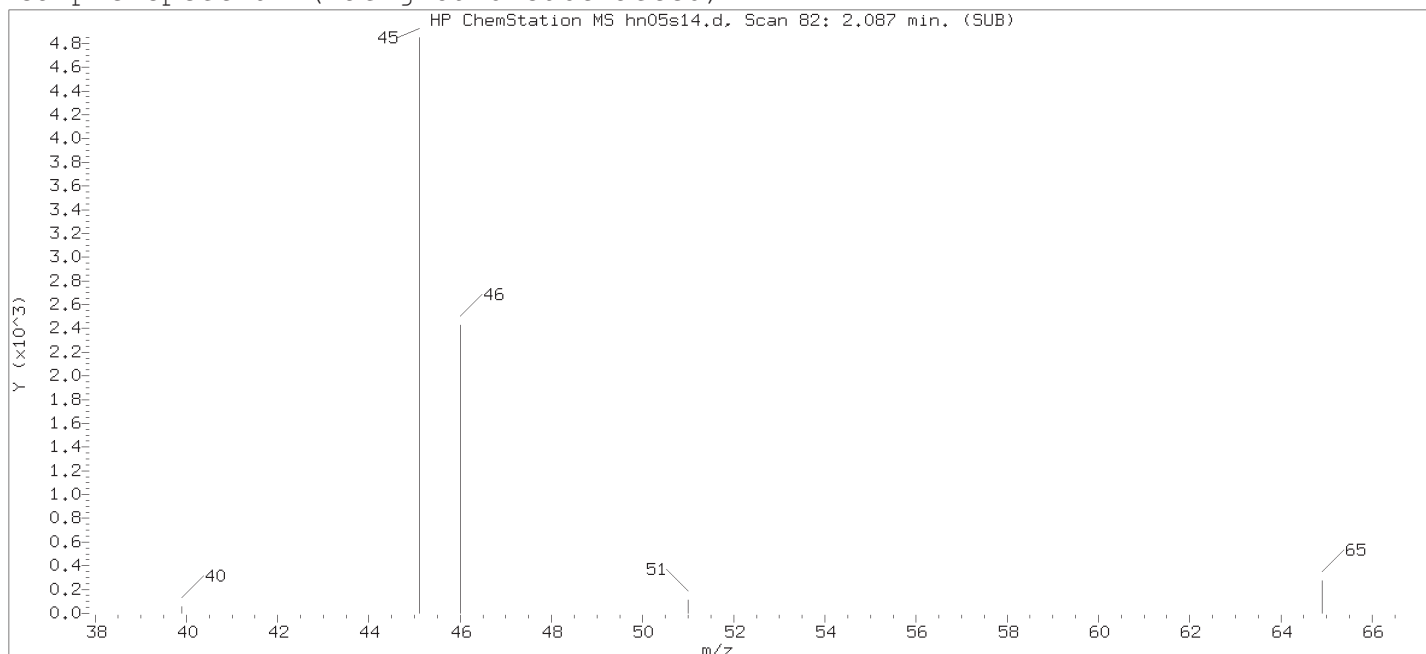
Reason for manual integration: improper integration

Analyst responsible for change:

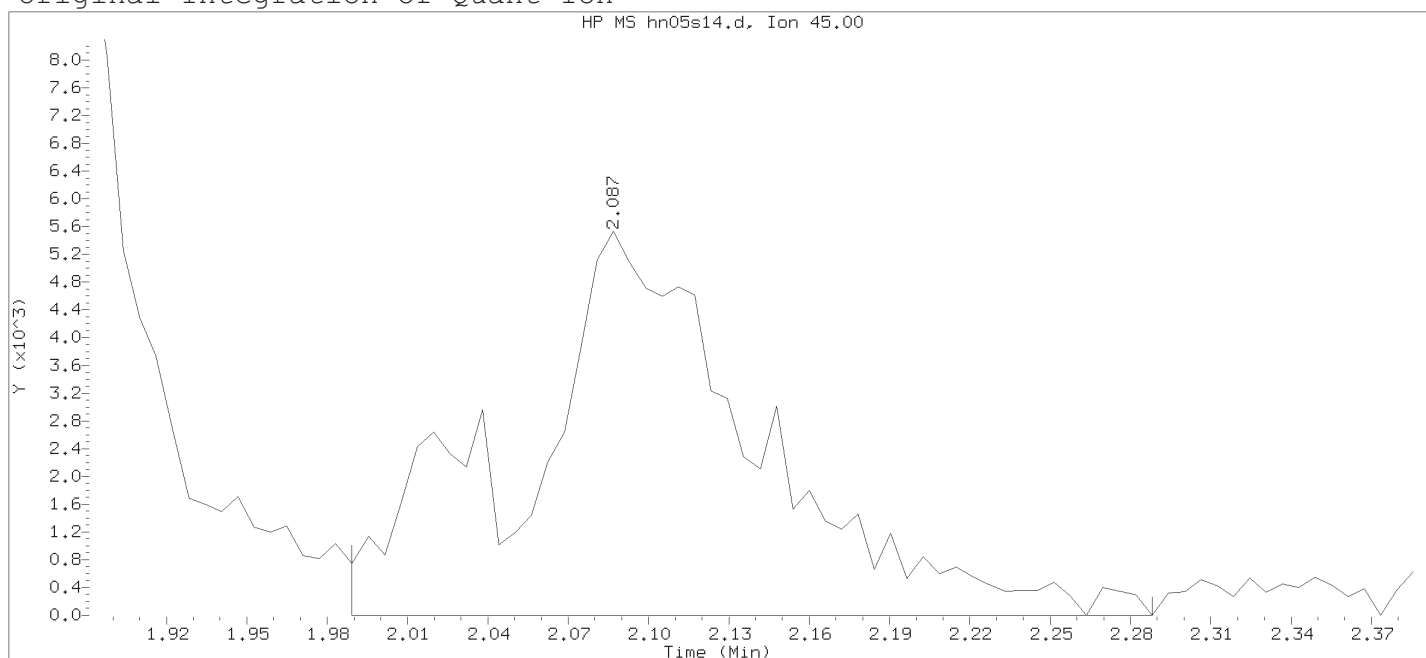
Digitally signed by Matthew S. Krause
on 11/08/2016 at 20:24.
Target 3.5 esignature user ID: msk07970

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 20:24.
PARALLAX ID: sej02002

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov05a.b/hn05s14.d

Instrument ID: HP19094.i

Injection date and time: 05-NOV-2016 14:52

Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469

Calibration date and time: 05-NOV-2016 09:41

Date, time and analyst ID of latest file update: 05-Nov-2016 15:11 Automation

Sample Name: R7606

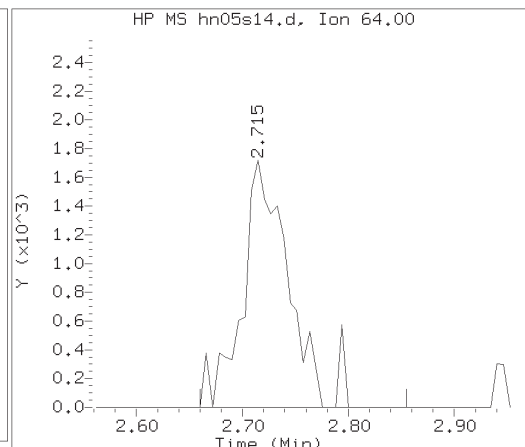
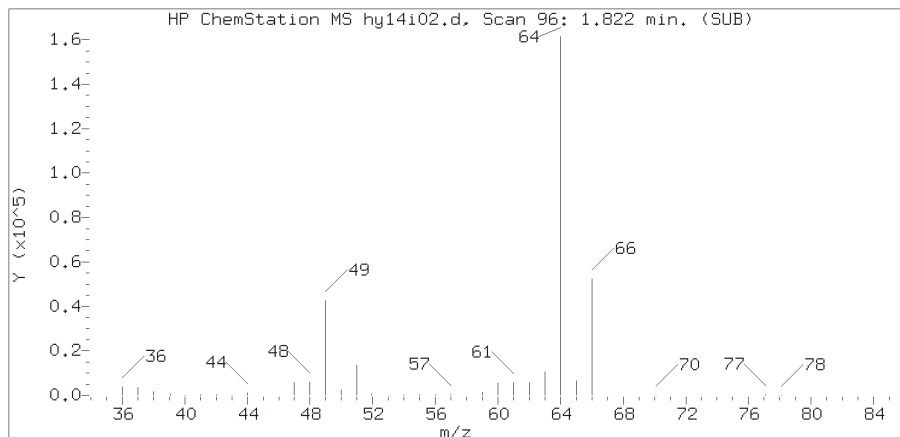
Lab Sample ID: 8666271

Compound Number	: 4	
Compound Name	: Dimethyl ether	
Scan Number	: 82	
Retention Time (minutes)	: 2.087	
Quant Ion	: 45.00	
Area	: 33921	
On-column Amount (ng)	: 0.4648	
Integration start scan	: 65	Integration stop scan: 114
Y at integration start	: 0	Y at integration end: 0

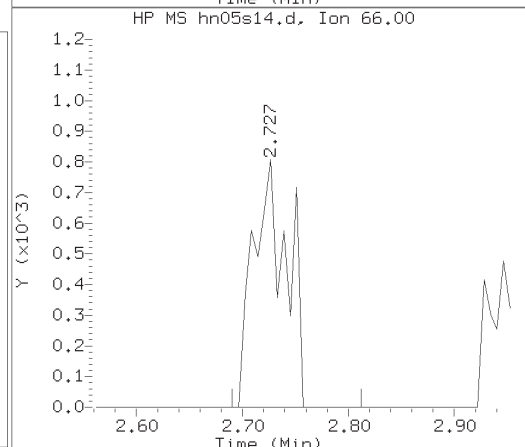
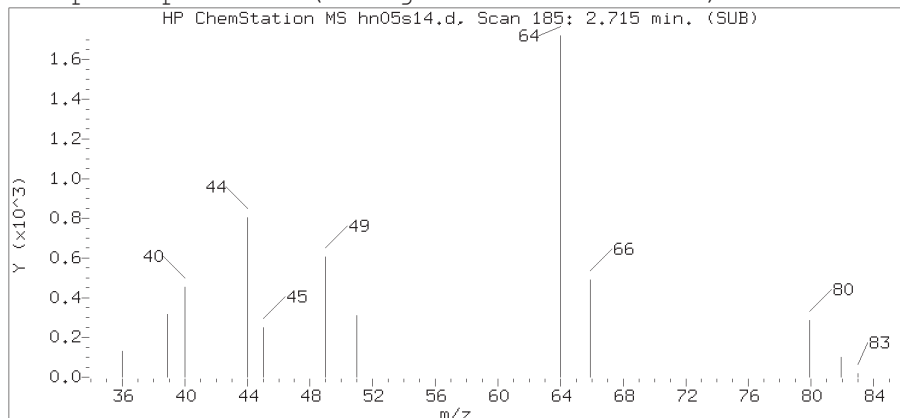
Digitally signed by Matthew S. Krause on 11/08/2016 at 20:24.

Target 3.5 esignature RAE76 Page 182 of 883

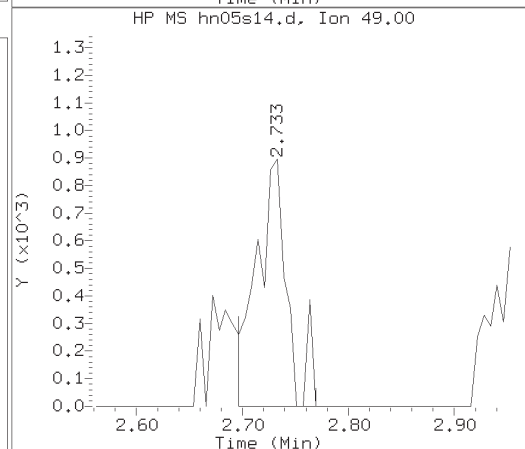
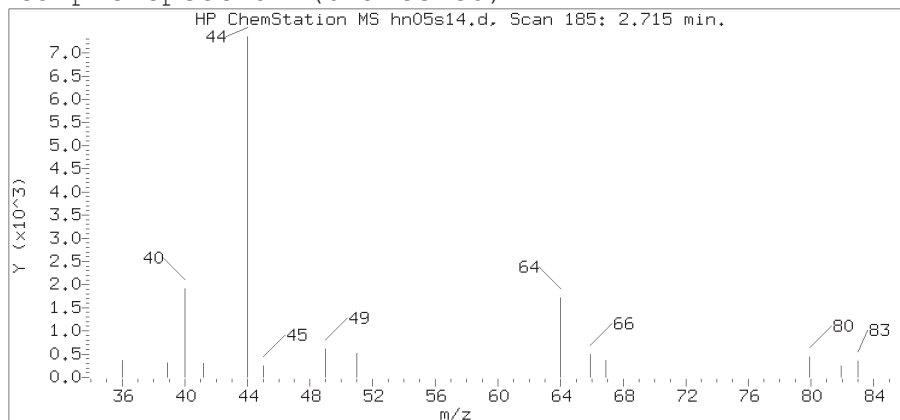
Reference Standard Spectrum for Chloroethane



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s14.d
Injection date and time: 05-NOV-2016 14:52

Instrument ID: HP19094.i
Analyst ID: msk07970

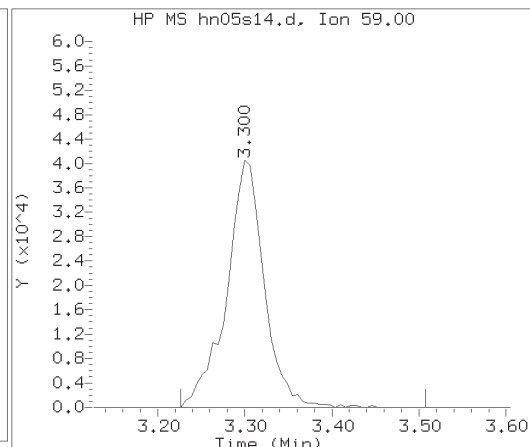
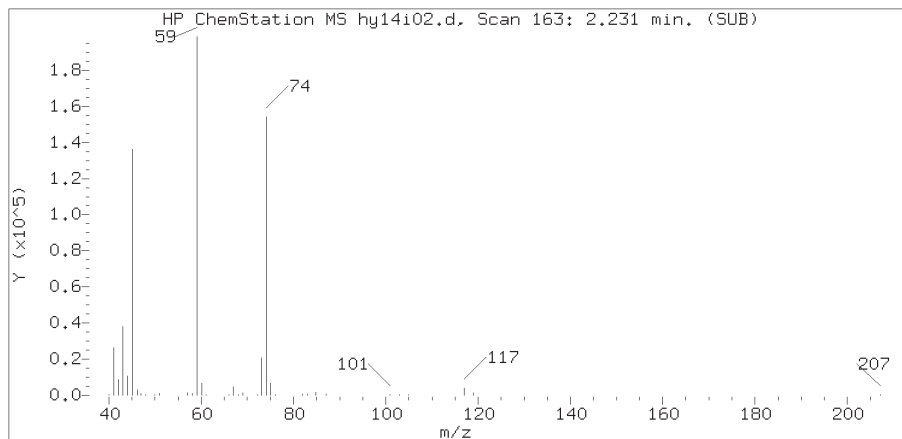
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 08-Nov-2016 20:10 sej02002

Sample Name: R7606

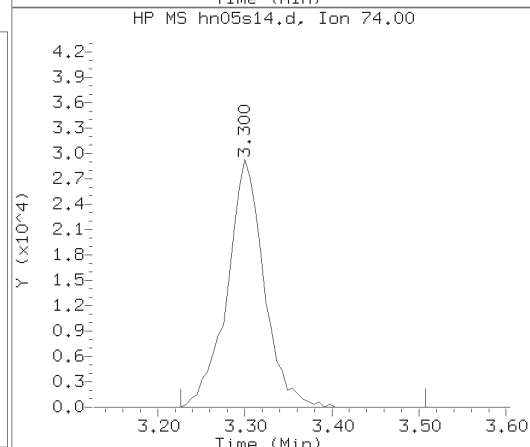
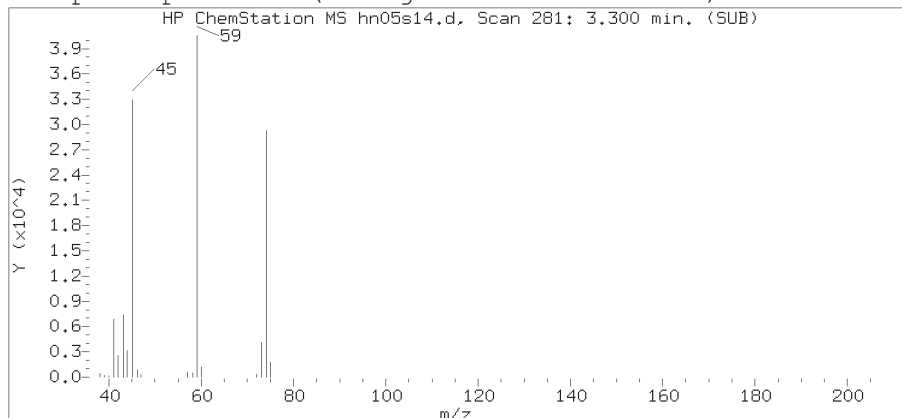
Lab Sample ID: 8666271

Compound Number : 8
Compound Name : Chloroethane
Scan Number : 185
Retention Time (minutes): 2.715
Relative Retention Time : 0.00234
Quant Ion : 64.00
Area (flag) : 5249
On-Column Amount (ng) : 0.1021

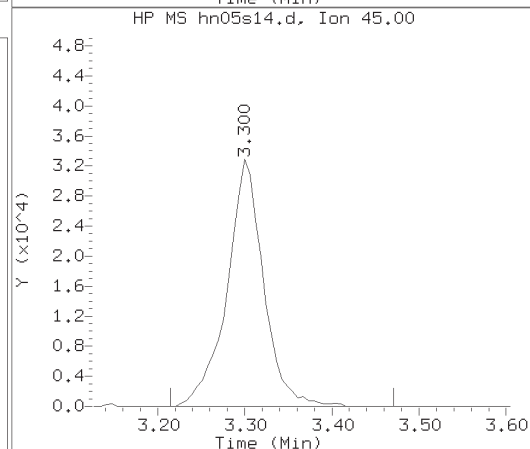
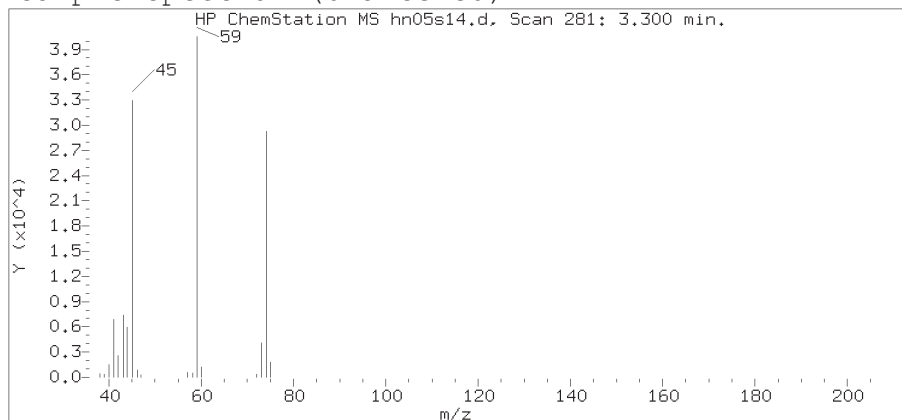
Reference Standard Spectrum for Ethyl ether



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s14.d
Injection date and time: 05-NOV-2016 14:52

Instrument ID: HP19094.i
Analyst ID: msk07970

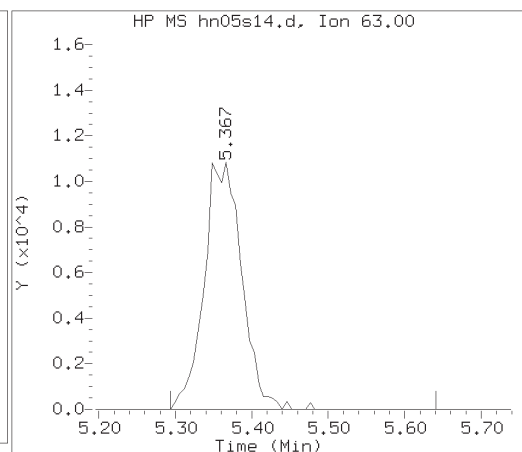
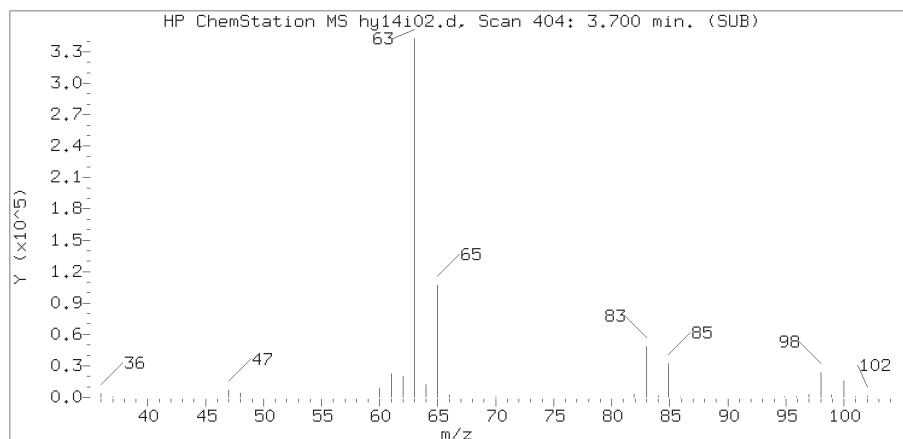
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 08-Nov-2016 20:10 sej02002

Sample Name: R7606

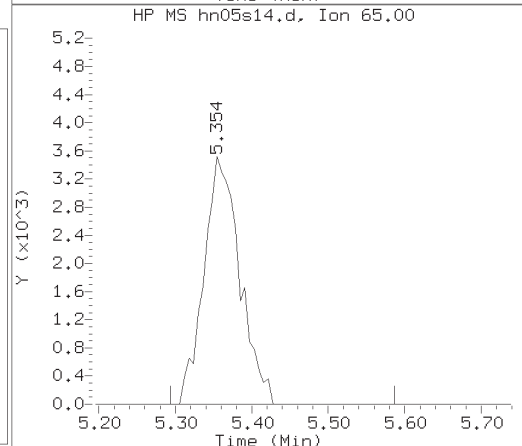
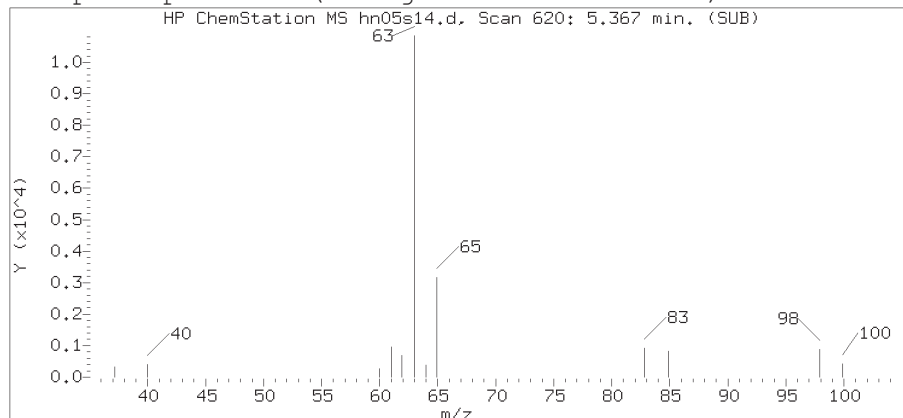
Lab Sample ID: 8666271

Compound Number : 11
Compound Name : Ethyl ether
Scan Number : 281
Retention Time (minutes): 3.300
Relative Retention Time : 0.00078
Quant Ion : 59.00
Area (flag) : 121552
On-Column Amount (ng) : 2.9847

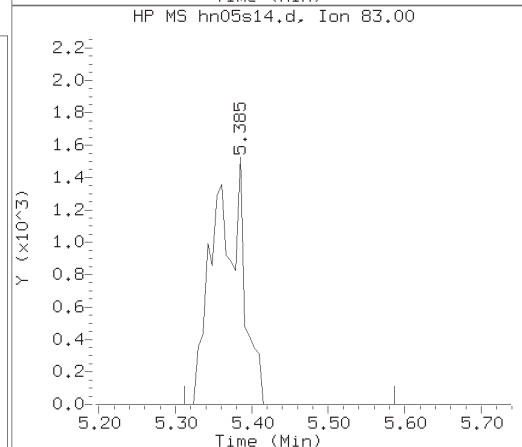
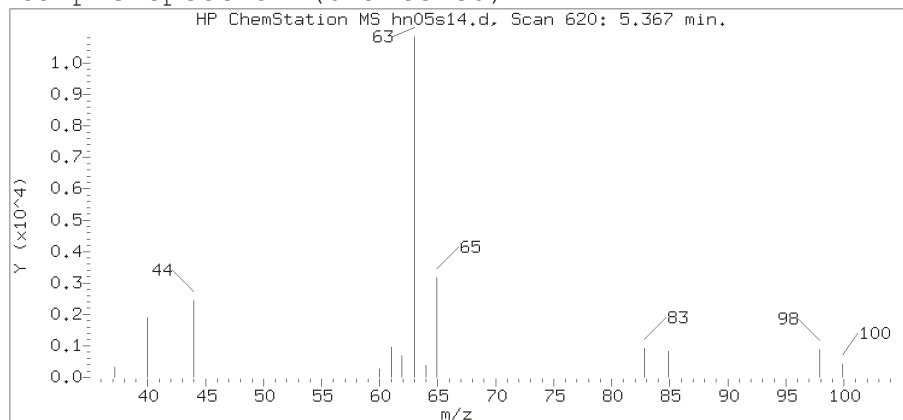
Reference Standard Spectrum for 1,1-Dichloroethane



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s14.d
Injection date and time: 05-NOV-2016 14:52

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 08-Nov-2016 20:10 sej02002

Sample Name: R7606

Lab Sample ID: 8666271

Compound Number : 33
Compound Name : 1,1-Dichloroethane
Scan Number : 620
Retention Time (minutes): 5.367
Relative Retention Time :-0.00078
Quant Ion : 63.00
Area (flag) : 37162
On-Column Amount (ng) : 0.3238

Digitally signed by Matthew S. Krause on 11/08/2016 at 20:24.

Target 3.5 esignature RAE76 Page 185 of 883

R7607

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666272

Data file: /chem2/HP19094.i/16nov05a.b/hn05s15.d

Injection date and time: 05-NOV-2016 15:13

Data file Sample Info. Line: R7607;8666272;1;0;;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA

Date, time and analyst ID of latest file update: 07-Nov-2016 09:26 kel01973

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469

Calibration date and time (Last Method Edit): 05-NOV-2016 09:41

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.257(0.006)	438	65	105967 (-3)	50.00	
63) Fluorobenzene	7.781(0.000)	1016	96	2278104 (-5)	10.00	
97) Chlorobenzene-d5	11.243(0.000)	1584	117	1521456 (-8)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(0.000)	1893	152	625721 (-17)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.878(0.000)	113	520536	9.962	100%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.336(0.001)	102	88411	10.533	105%		74 - 113
82) Toluene-d8	(3)	9.792(0.000)	98	2277185	9.909	99%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249(-0.001)	95	640627	9.481	95%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit LOQ (in sample)
1) Dichlorodifluoromethane	(2)			Not Detected					0.1 1
4) Dimethyl ether	(2)			Not Detected					0.1 13
2) Chloromethane	(2)			Not Detected					0.2 1
8) Chloroethane	(2)			Not Detected					0.1 1
10) Trichlorofluoromethane	(2)			Not Detected					0.1 1
11) Ethyl ether	(2)			Not Detected					0.1 13
15) 1,1-Dichloroethene	(2)			Not Detected					0.1 1
16) Freon 113	(2)			Not Detected					0.2 1
23) Methylene Chloride	(2)			Not Detected					0.2 1
33) 1,1-Dichloroethane	(2)			Not Detected					0.1 1
38) 2-Butanone	(1)			Not Detected					1 10
48) Tetrahydrofuran	(1)			Not Detected					2 25
51) 1,1,1-Trichloroethane	(2)			Not Detected					0.1 1
54) Carbon Tetrachloride	(2)			Not Detected					0.1 1
58) Benzene	(2)			Not Detected					0.1 1
67) Trichloroethene	(2)			Not Detected					0.1 1
83) Toluene	(3)			Not Detected					0.1 1
89) Tetrachloroethene	(3)			Not Detected					0.1 1
100) Ethylbenzene	(3)			Not Detected					0.1 1
101) m+p-Xylene	(3)			Not Detected					0.1 0.5
104) o-Xylene	(3)			Not Detected					0.1 0.5
105) Xylene (Total)	(3)			Not Detected					0.1 3

R7607

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666272

Data file: /chem2/HP19094.i/16nov05a.b/hn05s15.d Injection date and time: 05-NOV-2016 15:13
Data file Sample Info. Line: R7607;8666272;1;0;;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA
Date, time and analyst ID of latest file update: 07-Nov-2016 09:26 kel01973

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time (Last Method Edit): 05-NOV-2016 09:41
Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

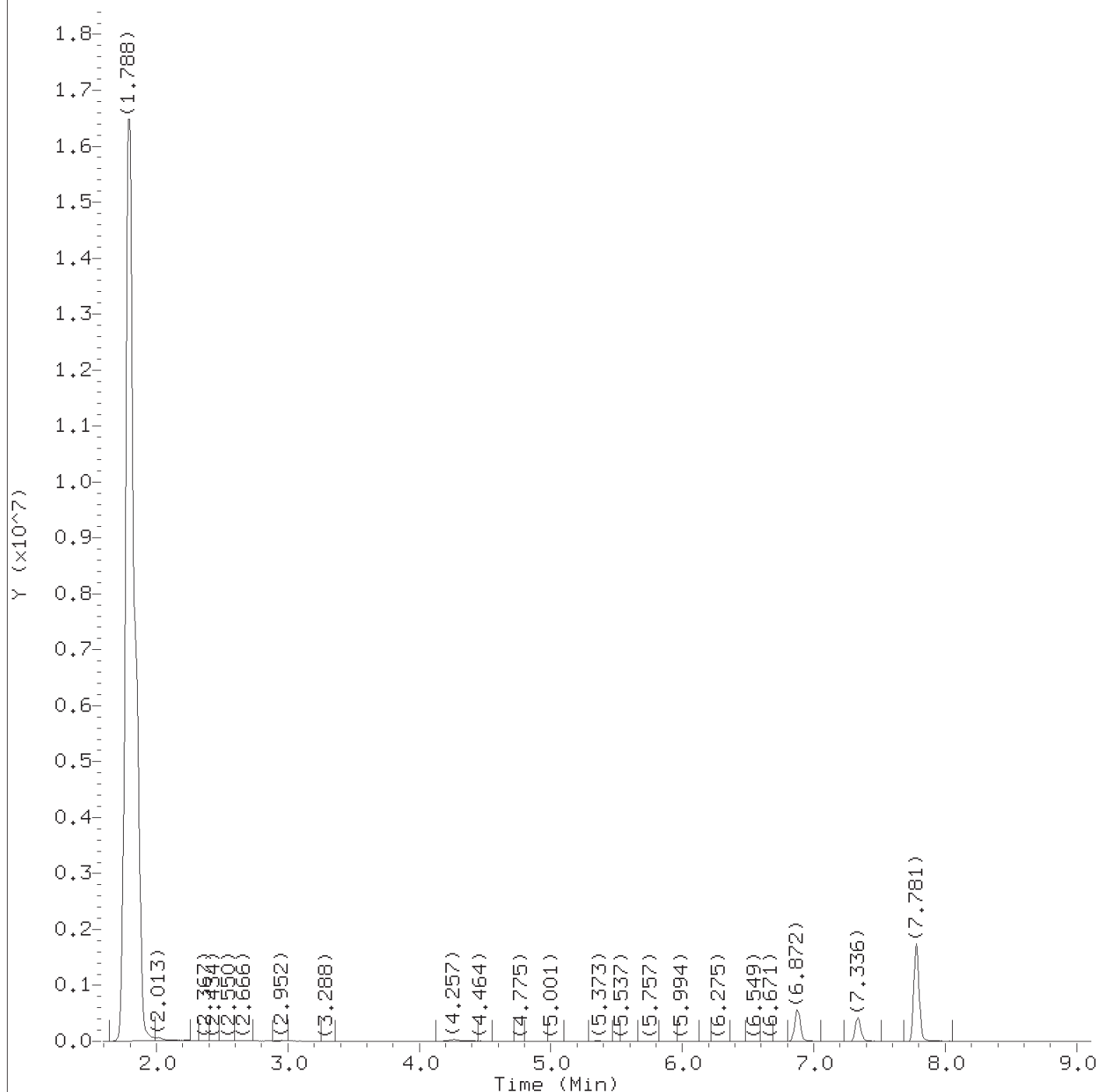
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

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Total number of targets = 22

Digitally signed by Kerri E. Koch Legerlotz on 11/07/2016 at 09:26. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 20:15. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s15.d
Injection date and time: 05-NOV-2016 15:13

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m
Calibration date and time: 05-NOV-2016 09:41

Sublist used: 22469

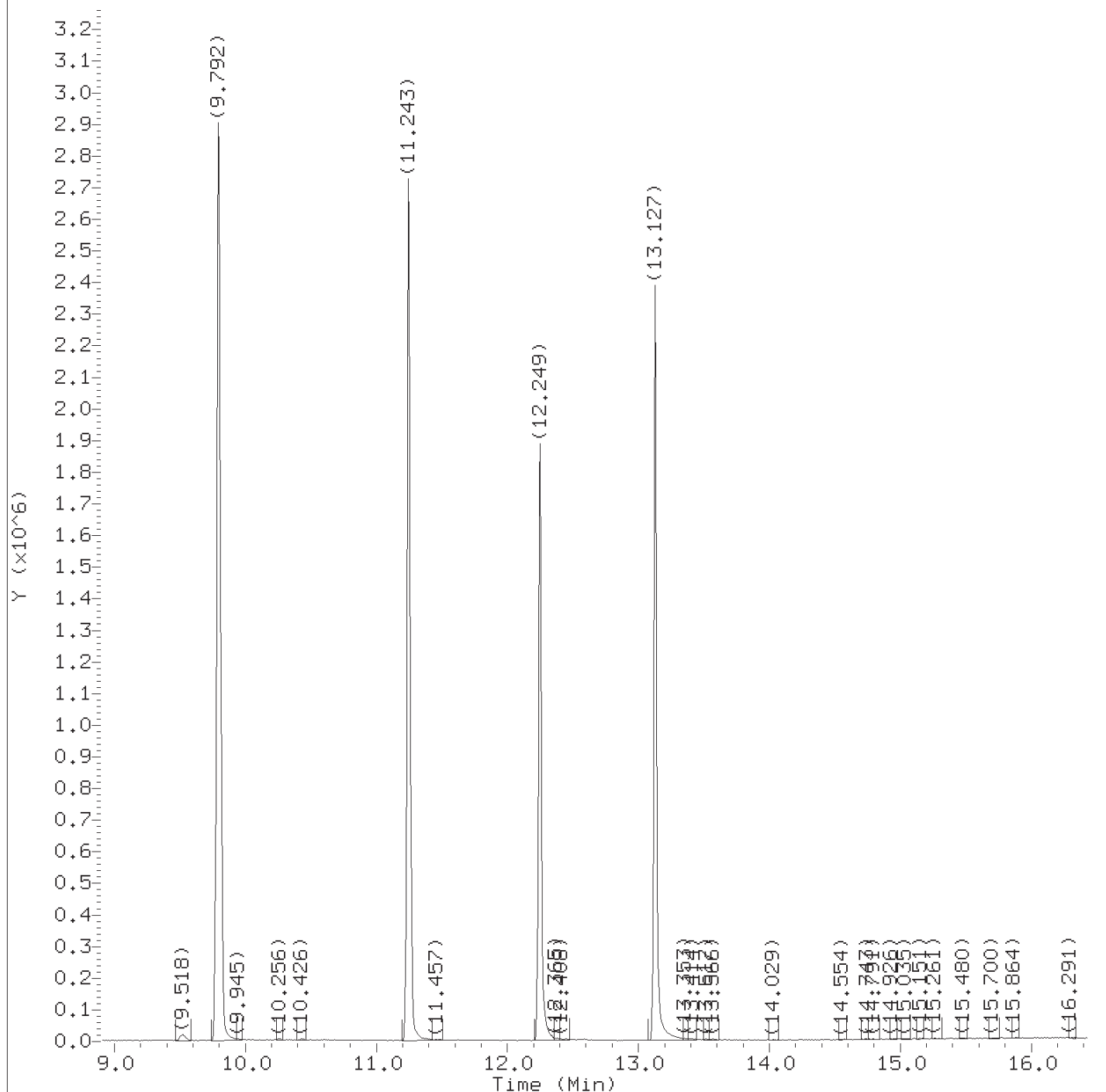
Date, time and analyst ID of latest file update: 07-Nov-2016 09:26 kel01973

Sample Name: R7607

Lab Sample ID: 8666272

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:26.

Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s15.d
Injection date and time: 05-NOV-2016 15:13

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m
Calibration date and time: 05-NOV-2016 09:41

Sublist used: 22469

Date, time and analyst ID of latest file update: 07-Nov-2016 09:26 kel01973

Sample Name: R7607

Lab Sample ID: 8666272

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:26.

Target 3.5 esignature User ID: kel01973
RAE76 Page 189 of 883

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s15.d

Instrument ID: HP19094.i

Injection date and time: 05-NOV-2016 15:13

Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m

Sublist used: 22469

Calibration date and time: 05-NOV-2016 09:41

Date, time and analyst ID of latest file update: 07-Nov-2016 09:26 kel01973

Sample Name: R7607

Lab Sample ID: 8666272

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26) *t-Butyl Alcohol-d10	(1)	4.257	65	105967	50.000
50) \$Dibromofluoromethane	(2)	6.878	113	520536	9.962
57) \$1,2-Dichloroethane-d4	(2)	7.336	102	88411	10.533
63) *Fluorobenzene	(2)	7.781	96	2278104	10.000
82) \$Toluene-d8	(3)	9.792	98	2277185	9.909
97) *Chlorobenzene-d5	(3)	11.243	117	1521456	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	640627	9.481
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	625721	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

page 1 of 1

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on 11/07/2016 at 09:26.

Target 3.5 esignature user ID: kel01973

RAE76 Page 190 of 883

R7608

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666273

Data file: /chem2/HP19094.i/16nov05a.b/hn05s16.d

Injection date and time: 05-NOV-2016 15:33

Data file Sample Info. Line: R7608;8666273;1;0;;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA

Date, time and analyst ID of latest file update: 07-Nov-2016 09:27 kel01973

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469

Calibration date and time (Last Method Edit): 05-NOV-2016 09:41

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments: 9274 9179

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.257(0.006)	438	65	93479 (-14)	50.00	
63) Fluorobenzene	7.781(0.000)	1016	96	2245767 (-7)	10.00	
97) Chlorobenzene-d5	11.244(0.000)	1584	117	1472616 (-11)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(0.000)	1893	152	620012 (-18)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.879(0.000)	113	512886	9.957	100%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.336(0.001)	102	88666	10.715	107%		74 - 113
82) Toluene-d8	(3)	9.793(0.000)	98	2217262	9.968	100%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249(-0.001)	95	621694	9.506	95%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit LOQ (in sample)
1) Dichlorodifluoromethane	(2)	2.001(0.000)	85	22705	0.238	0.24		J	0.1 1
4) Dimethyl ether	(2)			Not Detected					0.1 13
2) Chloromethane	(2)			Not Detected					0.2 1
8) Chloroethane	(2)			Not Detected					0.1 1
10) Trichlorofluoromethane	(2)			Not Detected					0.1 1
11) Ethyl ether	(2)			Not Detected					0.1 13
15) 1,1-Dichloroethene	(2)			Not Detected					0.1 1
16) Freon 113	(2)			Not Detected					0.2 1
23) Methylene Chloride	(2)			Not Detected					0.2 1
33) 1,1-Dichloroethane	(2)			Not Detected					0.1 1
38) 2-Butanone	(1)			Not Detected					1 10
48) Tetrahydrofuran	(1)			Not Detected					2 25
51) 1,1,1-Trichloroethane	(2)			Not Detected					0.1 1
54) Carbon Tetrachloride	(2)			Not Detected					0.1 1
58) Benzene	(2)			Not Detected					0.1 1
67) Trichloroethene	(2)			Not Detected					0.1 1
83) Toluene	(3)			Not Detected					0.1 1
89) Tetrachloroethene	(3)			Not Detected					0.1 1
100) Ethylbenzene	(3)			Not Detected					0.1 1
101) m+p-Xylene	(3)			Not Detected					0.1 0.5
104) o-Xylene	(3)			Not Detected					0.1 0.5
105) Xylene (Total)	(3)			Not Detected					0.1 3

R7608

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666273

Data file: /chem2/HP19094.i/16nov05a.b/hn05s16.d Injection date and time: 05-NOV-2016 15:33
Data file Sample Info. Line: R7608;8666273;1;0;;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA
Date, time and analyst ID of latest file update: 07-Nov-2016 09:27 kel01973

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time (Last Method Edit): 05-NOV-2016 09:41
Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

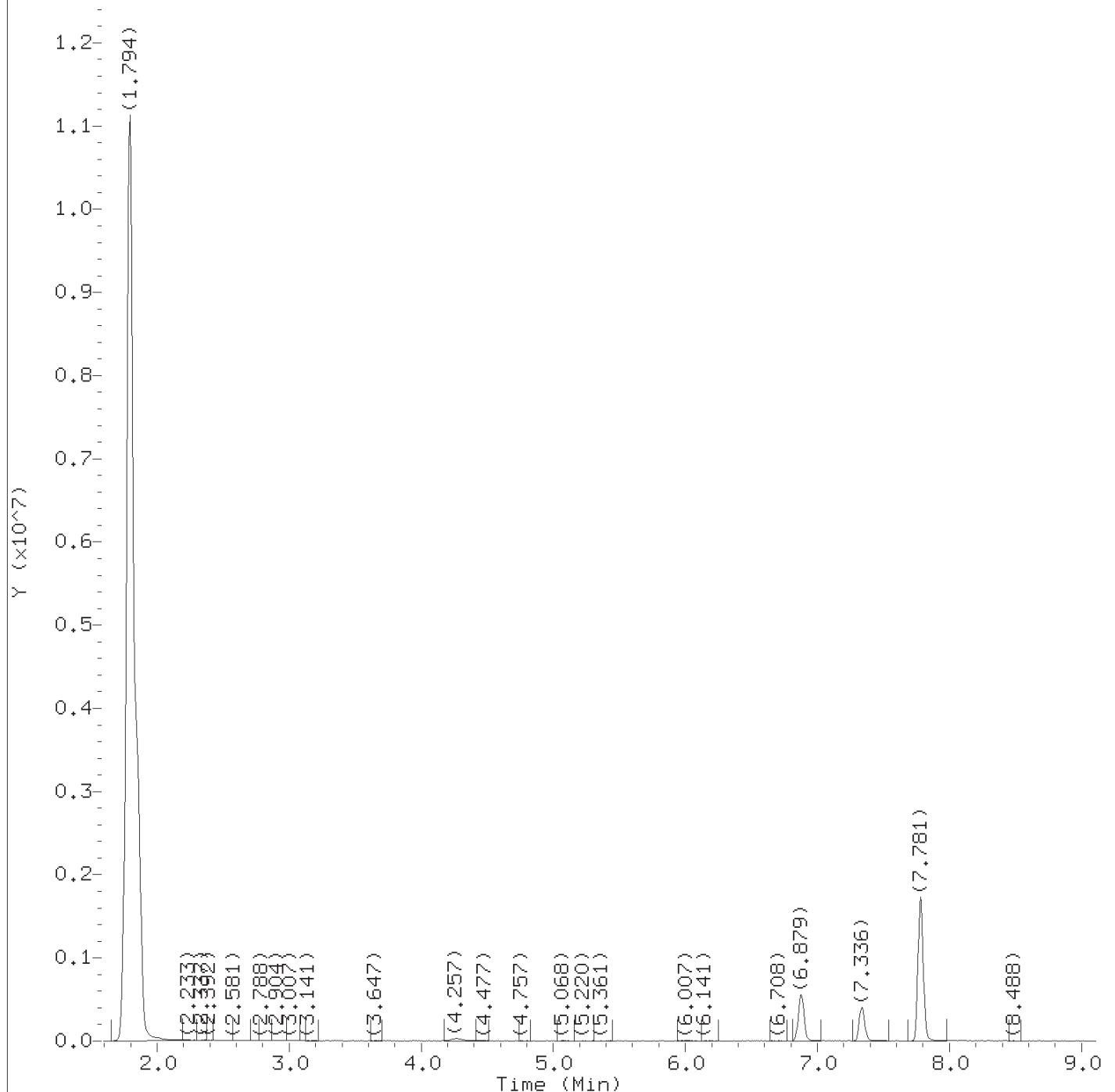
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

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Total number of targets = 22

Digitally signed by Kerri E. Koch Legerlotz on 11/07/2016 at 09:27. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 20:15. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s16.d
Injection date and time: 05-NOV-2016 15:33

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m
Calibration date and time: 05-NOV-2016 09:41

Sublist used: 22469

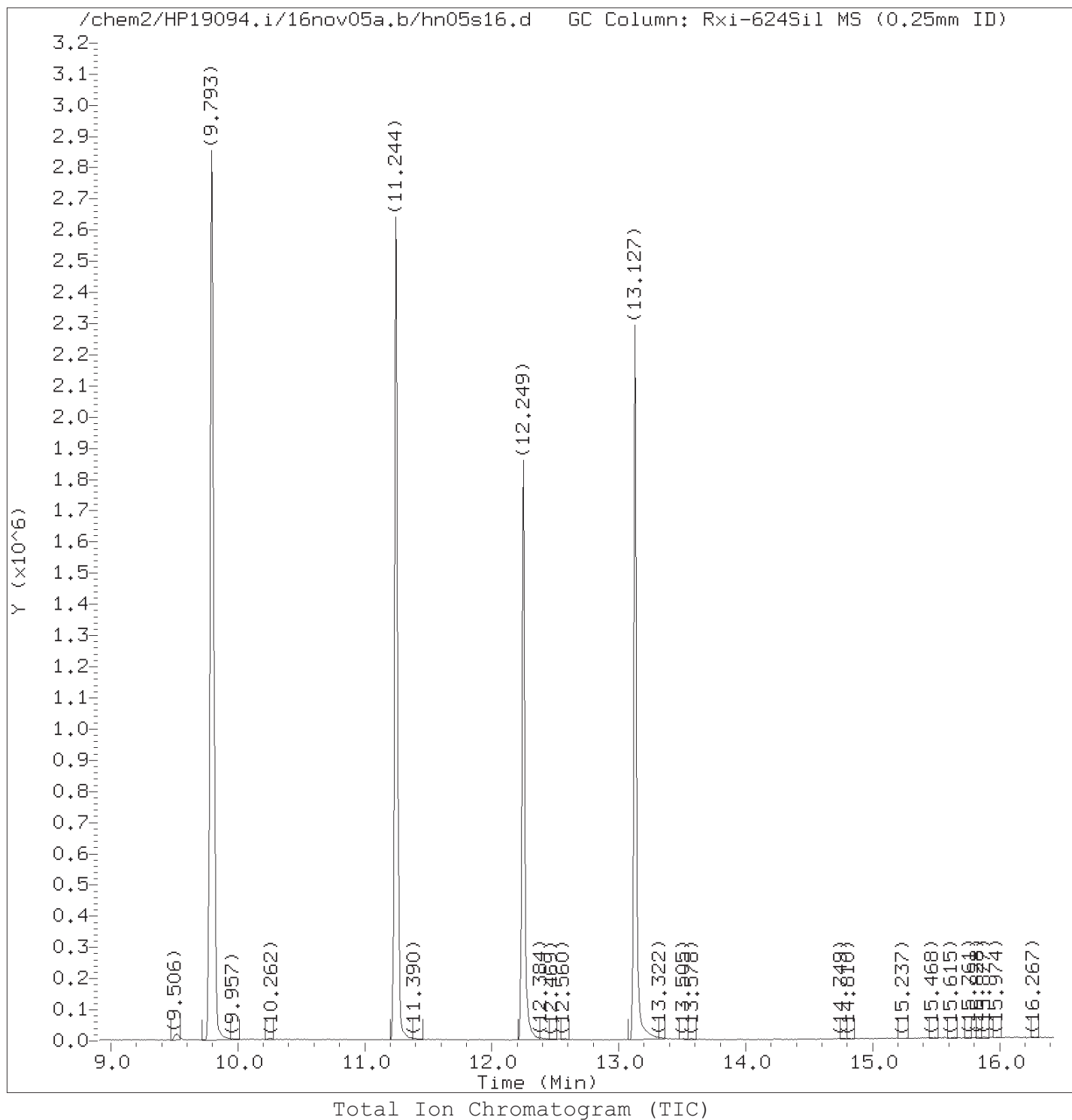
Date, time and analyst ID of latest file update: 07-Nov-2016 09:27 kel01973

Sample Name: R7608

Lab Sample ID: 8666273

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:27.

Target 3.5 esignature User ID: kel01973



Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s16.d
Injection date and time: 05-NOV-2016 15:33

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 07-Nov-2016 09:27 kel01973

Sample Name: R7608

Lab Sample ID: 8666273

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:27.
Target 3.5 esignature User ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s16.d
Injection date and time: 05-NOV-2016 15:33

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 07-Nov-2016 09:27 kel01973

Sample Name: R7608

Lab Sample ID: 8666273

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.001	85	22705	0.238
26) *t-Butyl Alcohol-d10	(1)	4.257	65	93479	50.000
50) \$Dibromofluoromethane	(2)	6.879	113	512886	9.957
57) \$1,2-Dichloroethane-d4	(2)	7.336	102	88666	10.715
63) *Fluorobenzene	(2)	7.781	96	2245767	10.000
82) \$Toluene-d8	(3)	9.793	98	2217262	9.968
97) *Chlorobenzene-d5	(3)	11.244	117	1472616	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	621694	9.506
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	620012	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

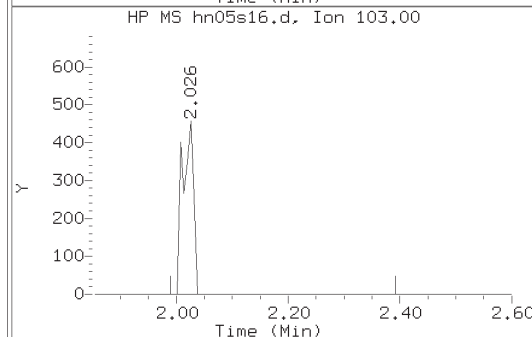
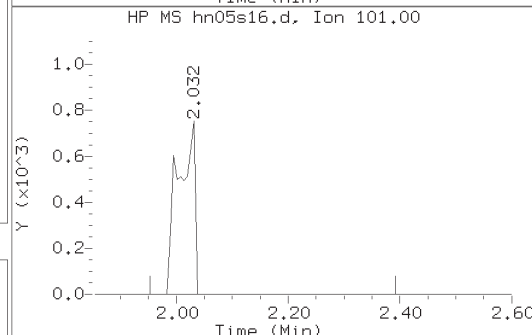
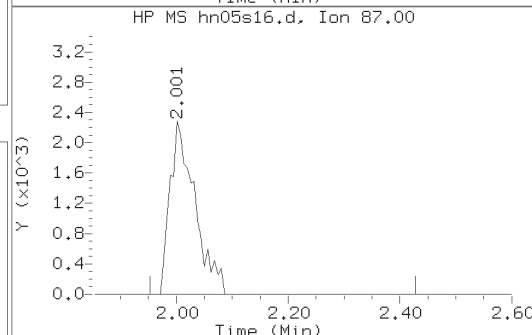
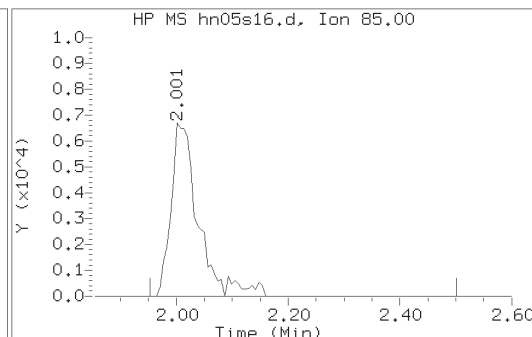
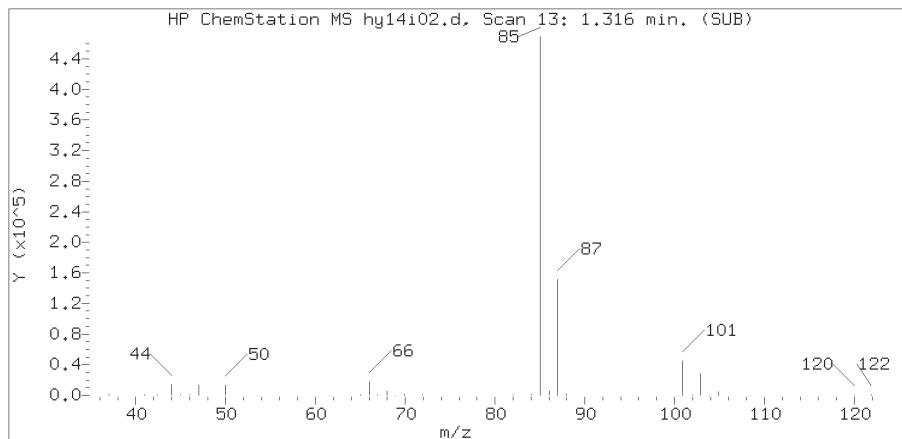
page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:27.

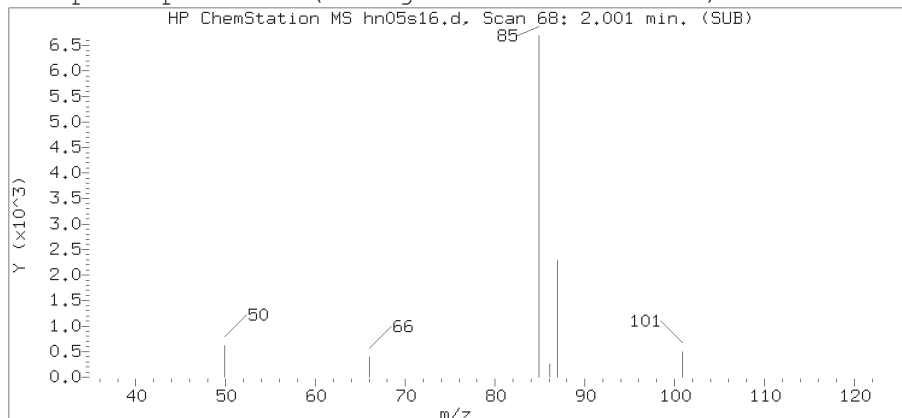
Target 3.5 esignature user ID: kel01973

RAE76 Page 195 of 883

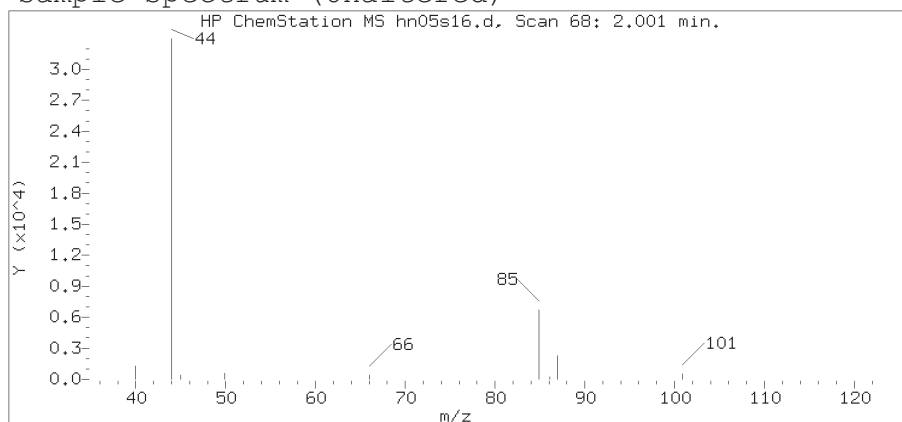
Reference Standard Spectrum for Dichlorodifluoromethane



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s16.d
Injection date and time: 05-NOV-2016 15:33

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 07-Nov-2016 09:27 kel01973

Sample Name: R7608

Lab Sample ID: 8666273

Compound Number : 1
Compound Name : Dichlorodifluoromethane
Scan Number : 68
Retention Time (minutes): 2.001
Relative Retention Time : 0.00078
Quant Ion : 85.00
Area (flag) : 22705
On-Column Amount (ng) : 0.2379

R7609

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666274

Data file: /chem2/HP19094.i/16nov05a.b/hn05s17.d

Injection date and time: 05-NOV-2016 15:53

Data file Sample Info. Line: R7609;8666274;1;0;;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA

Date, time and analyst ID of latest file update: 05-Nov-2016 16:12 Automation

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469

Calibration date and time (Last Method Edit): 05-NOV-2016 09:41

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.251(0.012)	437	65	93592 (-14)	50.00	
63) Fluorobenzene	7.781(0.000)	1016	96	2222680 (-7)	10.00	
97) Chlorobenzene-d5	11.243(0.000)	1584	117	1437857 (-13)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(0.000)	1893	152	605558 (-19)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.878(0.000)	113	495781	9.725	97%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.342(0.000)	102	87306	10.661	107%		74 - 113
82) Toluene-d8	(3)	9.793(0.000)	98	2172390	10.002	100%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249(-0.001)	95	608813	9.535	95%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit LOQ (in sample)
1) Dichlorodifluoromethane	(2)			Not Detected					0.1 1
4) Dimethyl ether	(2)			Not Detected					0.1 13
2) Chloromethane	(2)			Not Detected					0.2 1
8) Chloroethane	(2)			Not Detected					0.1 1
10) Trichlorofluoromethane	(2)			Not Detected					0.1 1
11) Ethyl ether	(2)			Not Detected					0.1 13
15) 1,1-Dichloroethene	(2)			Not Detected					0.1 1
16) Freon 113	(2)			Not Detected					0.2 1
23) Methylene Chloride	(2)			Not Detected					0.2 1
33) 1,1-Dichloroethane	(2)			Not Detected					0.1 1
38) 2-Butanone	(1)			Not Detected					1 10
48) Tetrahydrofuran	(1)			Not Detected					2 25
51) 1,1,1-Trichloroethane	(2)			Not Detected					0.1 1
54) Carbon Tetrachloride	(2)			Not Detected					0.1 1
58) Benzene	(2)			Not Detected					0.1 1
67) Trichloroethene	(2)			Not Detected					0.1 1
83) Toluene	(3)			Not Detected					0.1 1
89) Tetrachloroethene	(3)			Not Detected					0.1 1
100) Ethylbenzene	(3)			Not Detected					0.1 1
101) m+p-Xylene	(3)			Not Detected					0.1 0.5
104) o-Xylene	(3)			Not Detected					0.1 0.5
105) Xylene (Total)	(3)			Not Detected					0.1 3

R7609

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666274

Data file: /chem2/HP19094.i/16nov05a.b/hn05s17.d Injection date and time: 05-NOV-2016 15:53
Data file Sample Info. Line: R7609;8666274;1;0;;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA
Date, time and analyst ID of latest file update: 05-Nov-2016 16:12 Automation

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time (Last Method Edit): 05-NOV-2016 09:41
Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

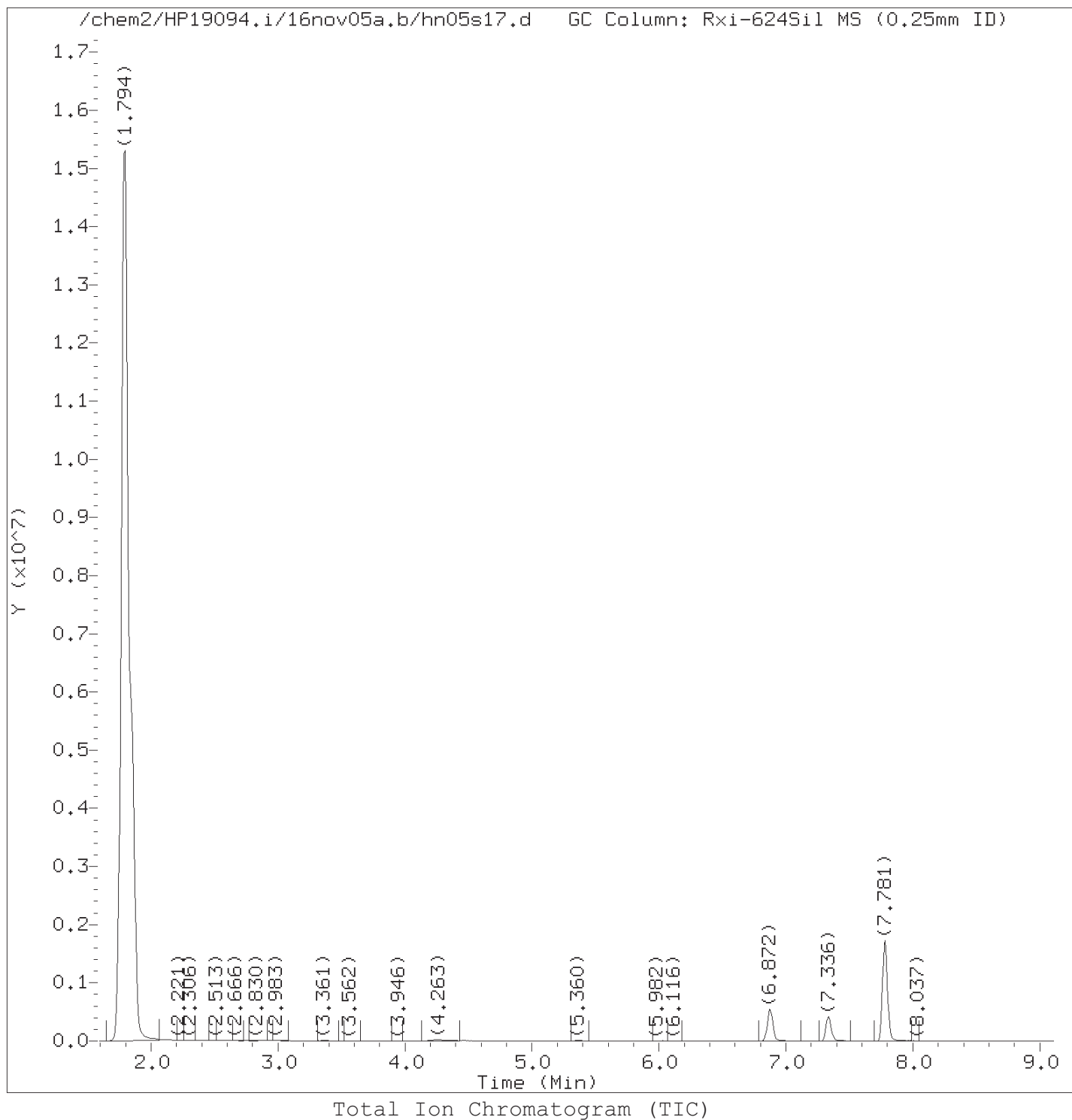
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

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Total number of targets = 22

Digitally signed by Kerri E. Koch Legerlotz on 11/07/2016 at 09:27. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 20:15. PARALLAX ID: sej02002



Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s17.d
Injection date and time: 05-NOV-2016 15:53

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 16:12 Automation

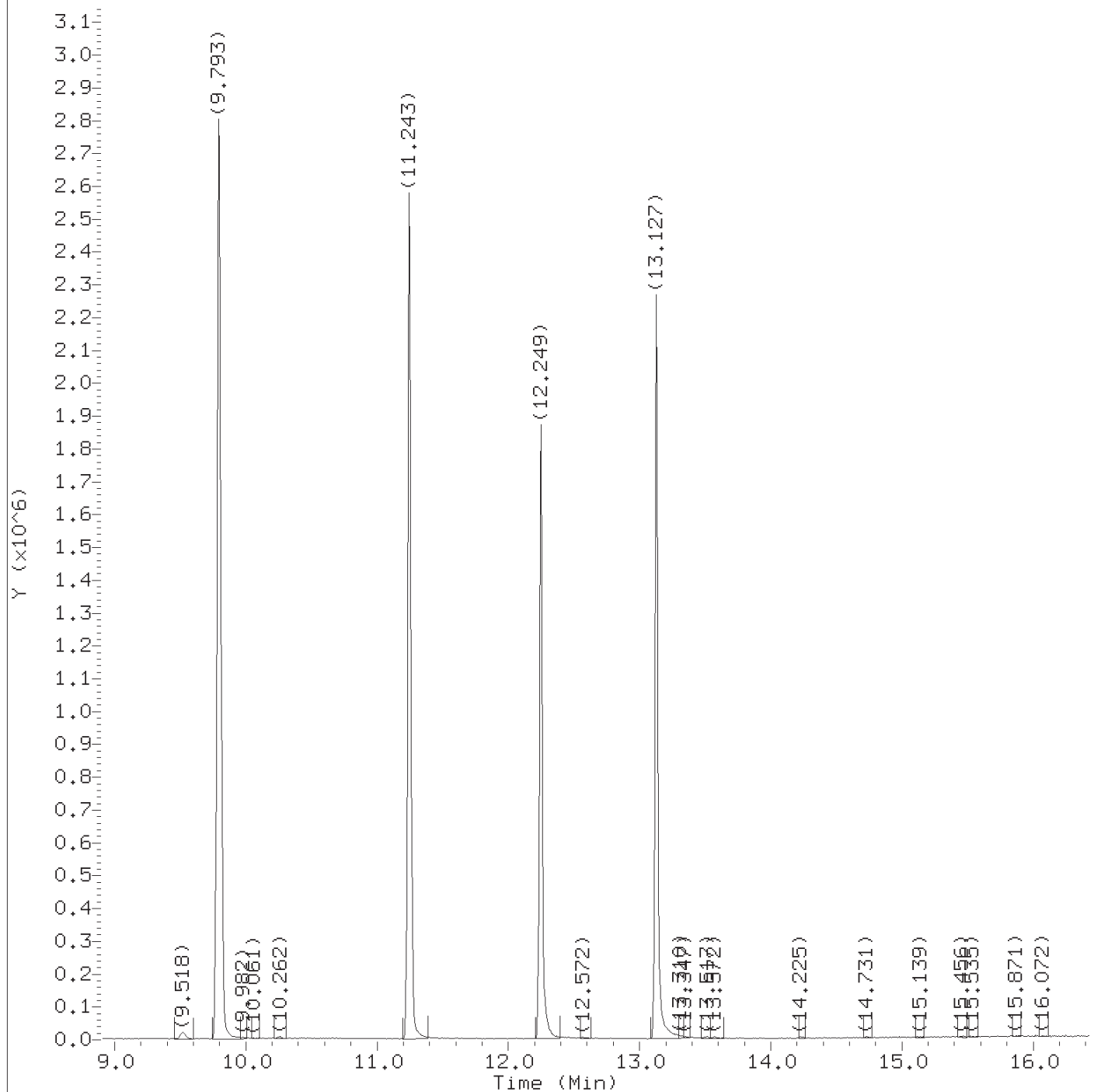
Sample Name: R7609

Lab Sample ID: 8666274

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:27.

Target 3.5 esignature User ID: kel01973
RAE76 Page 199 of 883

page 1 of 2



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s17.d
Injection date and time: 05-NOV-2016 15:53

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m
Calibration date and time: 05-NOV-2016 09:41

Sublist used: 22469

Date, time and analyst ID of latest file update: 05-Nov-2016 16:12 Automation

Sample Name: R7609

Lab Sample ID: 8666274

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:27.

Target 3.5 esignature user ID: kel01973
RAE76 Page 200 of 883

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s17.d

Instrument ID: HP19094.i

Injection date and time: 05-NOV-2016 15:53

Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m

Sublist used: 22469

Calibration date and time: 05-NOV-2016 09:41

Date, time and analyst ID of latest file update: 05-Nov-2016 16:12 Automation

Sample Name: R7609

Lab Sample ID: 8666274

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26) *t-Butyl Alcohol-d10	(1)	4.251	65	93592	50.000
50) \$Dibromofluoromethane	(2)	6.878	113	495781	9.725
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	87306	10.661
63) *Fluorobenzene	(2)	7.781	96	2222680	10.000
82) \$Toluene-d8	(3)	9.793	98	2172390	10.002
97) *Chlorobenzene-d5	(3)	11.243	117	1437857	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	608813	9.535
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	605558	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:27.

Target 3.5 esignature user ID: kel01973

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R7610

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666275

Data file: /chem2/HP19094.i/16nov05a.b/hn05s18.d

Injection date and time: 05-NOV-2016 16:13

Data file Sample Info. Line: R7610;8666275;1;0;;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA

Date, time and analyst ID of latest file update: 07-Nov-2016 09:28 kel01973

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469

Calibration date and time (Last Method Edit): 05-NOV-2016 09:41

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.275(-0.012)	441	65	91919 (-16)	50.00	
63) Fluorobenzene	7.781(0.000)	1016	96	2197243 (-9)	10.00	
97) Chlorobenzene-d5	11.243(0.000)	1584	117	1442134 (-13)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(0.000)	1893	152	578867 (-23)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.878(0.000)	113	493382	9.790	98%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.336(0.001)	102	82216	10.155	102%		74 - 113
82) Toluene-d8	(3)	9.792(0.000)	98	2170313	9.963	100%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249(-0.001)	95	607496	9.486	95%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit LOQ (in sample)
1) Dichlorodifluoromethane	(2)			Not Detected					0.1 1
4) Dimethyl ether	(2)			Not Detected					0.1 13
2) Chloromethane	(2)			Not Detected					0.2 1
8) Chloroethane	(2)			Not Detected					0.1 1
10) Trichlorofluoromethane	(2)			Not Detected					0.1 1
11) Ethyl ether	(2)			Not Detected					0.1 13
15) 1,1-Dichloroethene	(2)			Not Detected					0.1 1
16) Freon 113	(2)			Not Detected					0.2 1
23) Methylene Chloride	(2)			Not Detected					0.2 1
33) 1,1-Dichloroethane	(2)			Not Detected					0.1 1
38) 2-Butanone	(1)			Not Detected					1 10
48) Tetrahydrofuran	(1)			Not Detected					2 25
51) 1,1,1-Trichloroethane	(2)	6.903(0.000)	97	30273	0.310	0.31		J	0.1 1
54) Carbon Tetrachloride	(2)			Not Detected					0.1 1
58) Benzene	(2)			Not Detected					0.1 1
67) Trichloroethene	(2)			Not Detected					0.1 1
83) Toluene	(3)			Not Detected					0.1 1
89) Tetrachloroethene	(3)			Not Detected					0.1 1
100) Ethylbenzene	(3)			Not Detected					0.1 1
101) m+p-Xylene	(3)			Not Detected					0.1 0.5
104) o-Xylene	(3)			Not Detected					0.1 0.5
105) Xylene (Total)	(3)			Not Detected					0.1 3

R7610

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666275

Data file: /chem2/HP19094.i/16nov05a.b/hn05s18.d Injection date and time: 05-NOV-2016 16:13
Data file Sample Info. Line: R7610;8666275;1;0;;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA
Date, time and analyst ID of latest file update: 07-Nov-2016 09:28 kel01973

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time (Last Method Edit): 05-NOV-2016 09:41
Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

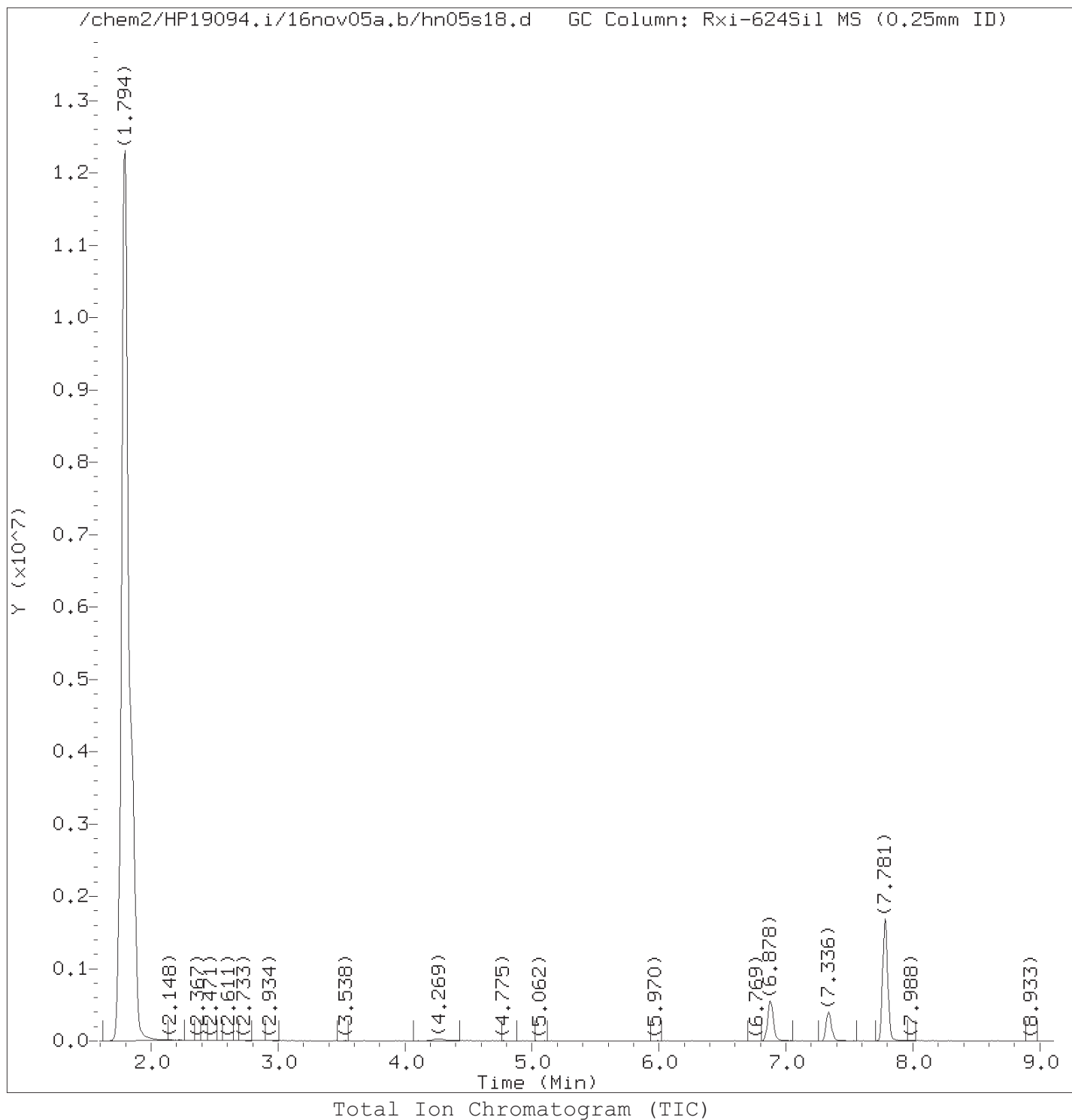
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

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Total number of targets = 22

Digitally signed by Kerri E. Koch Legerlotz on 11/07/2016 at 11:42. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 20:15. PARALLAX ID: sej02002



Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s18.d
Injection date and time: 05-NOV-2016 16:13

Instrument ID: HP19094.i
Analyst ID: msk07970

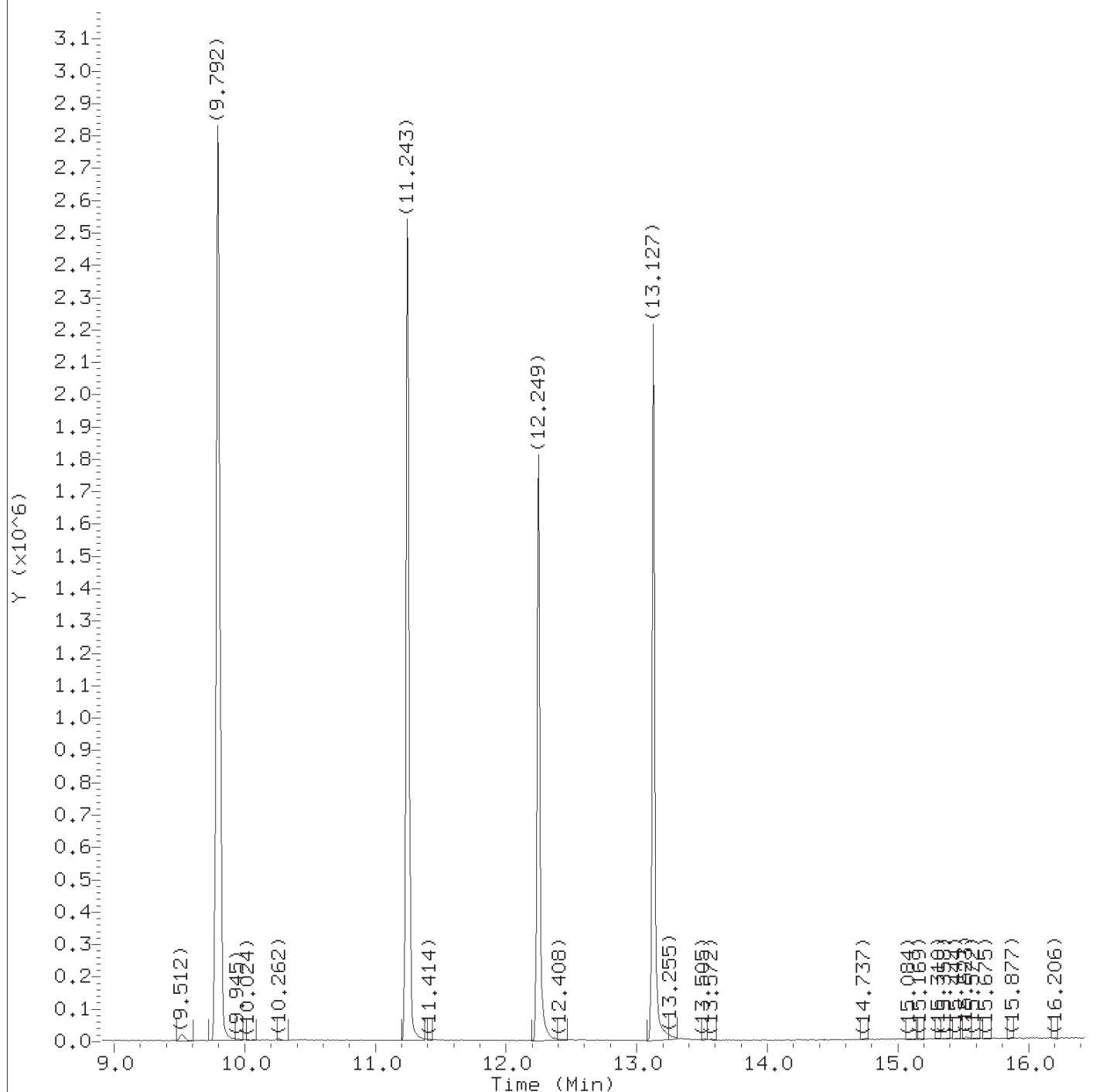
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 07-Nov-2016 09:28 kel01973

Sample Name: R7610

Lab Sample ID: 8666275

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 11:42.

Target 3.5 esignature user ID: kel01973
RAE76 Page 204 of 883



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s18.d
Injection date and time: 05-NOV-2016 16:13

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m
Calibration date and time: 05-NOV-2016 09:41

Sublist used: 22469

Date, time and analyst ID of latest file update: 07-Nov-2016 09:28 kel01973

Sample Name: R7610

Lab Sample ID: 8666275

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 11:42.

Target 3.5 esignature user ID: kel01973
RAE76 Page 205 of 883

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s18.d
Injection date and time: 05-NOV-2016 16:13

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 07-Nov-2016 09:28 kel01973

Sample Name: R7610

Lab Sample ID: 8666275

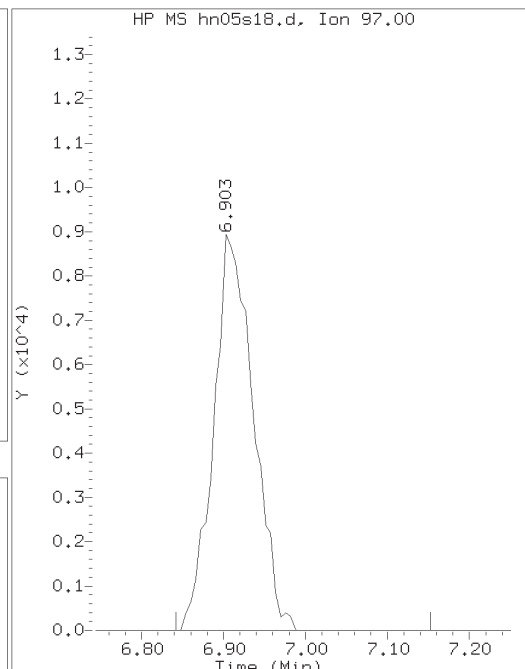
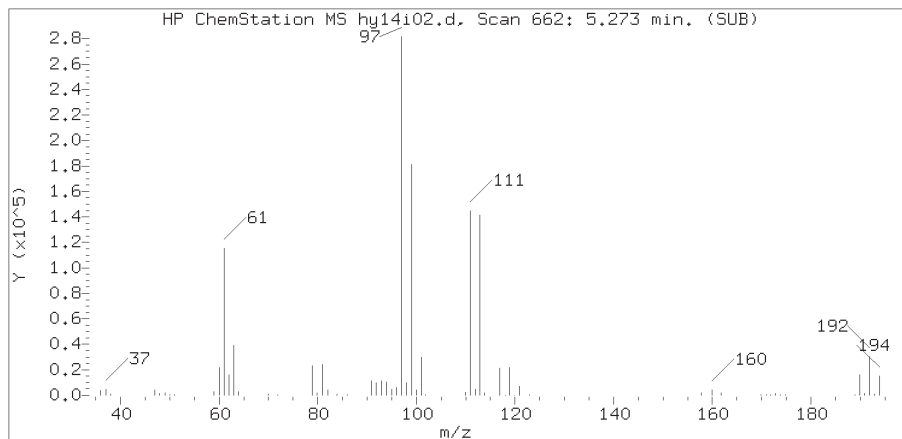
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26) *t-Butyl Alcohol-d10	(1)	4.275	65	91919	50.000
50) \$Dibromofluoromethane	(2)	6.878	113	493382	9.790
51) 1,1,1-Trichloroethane	(2)	6.903	97	30273	0.310
57) \$1,2-Dichloroethane-d4	(2)	7.336	102	82216	10.155
63) *Fluorobenzene	(2)	7.781	96	2197243	10.000
82) \$Toluene-d8	(3)	9.792	98	2170313	9.963
97) *Chlorobenzene-d5	(3)	11.243	117	1442134	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	607496	9.486
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	578867	10.000

* = Compound is an internal standard.

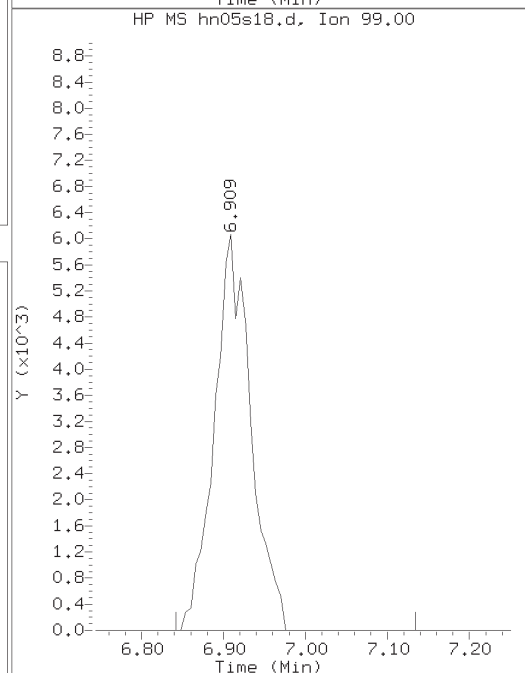
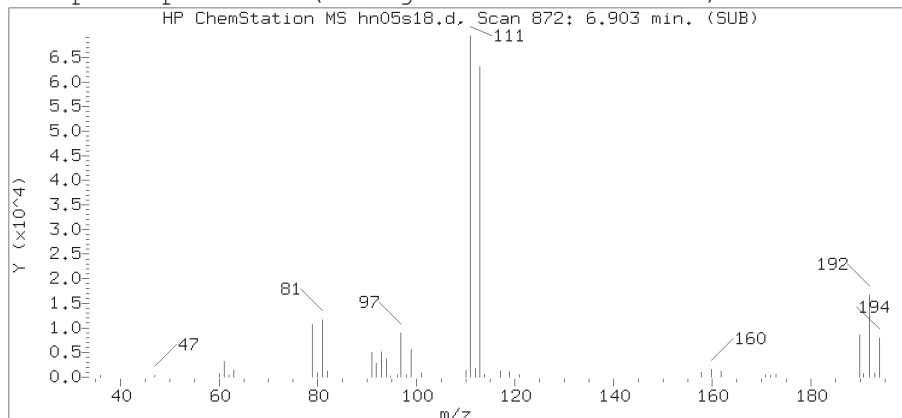
\$ = Compound is a surrogate standard.

page 1 of 1

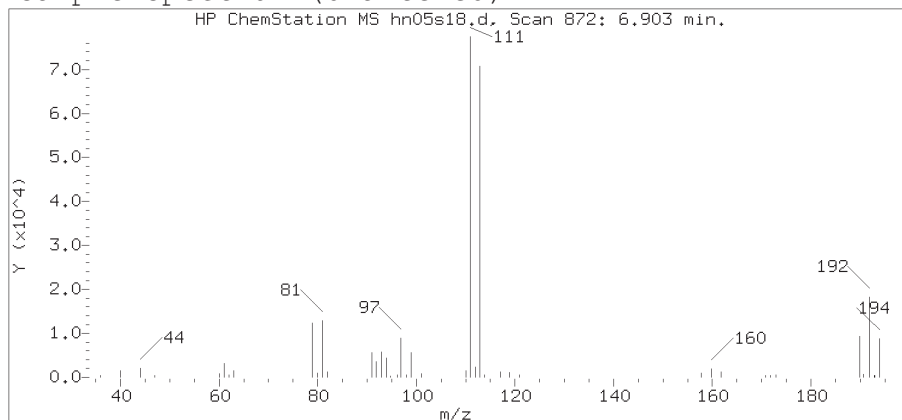
Reference Standard Spectrum for 1,1,1-Trichloroethane



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s18.d
Injection date and time: 05-NOV-2016 16:13

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 07-Nov-2016 09:28 kel01973

Sample Name: R7610

Lab Sample ID: 8666275

Compound Number : 51
Compound Name : 1,1,1-Trichloroethane
Scan Number : 872
Retention Time (minutes): 6.903
Relative Retention Time : 0.00079
Quant Ion : 97.00
Area (flag) : 30273
On-Column Amount (ng) : 0.3095

R7611

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666276

Data file: /chem2/HP19094.i/16nov05a.b/hn05s19.d

Injection date and time: 05-NOV-2016 16:34

Data file Sample Info. Line: R7611;8666276;1;0;;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA

Date, time and analyst ID of latest file update: 07-Nov-2016 09:28 kel01973

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469

Calibration date and time (Last Method Edit): 05-NOV-2016 09:41

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.275(-0.012)	441	65	90519 (-17)	50.00	
63) Fluorobenzene	7.787(-0.006)	1017	96	2212947 (-8)	10.00	
97) Chlorobenzene-d5	11.243(0.000)	1584	117	1439423 (-13)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(0.000)	1893	152	609037 (-19)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.878(0.001)	113	502556	9.902	99%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.342(0.001)	102	87025	10.673	107%		74 - 113
82) Toluene-d8	(3)	9.798(-0.001)	98	2161751	9.942	99%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249(-0.001)	95	608032	9.512	95%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit LOQ (in sample)
1) Dichlorodifluoromethane	(2)			Not Detected					0.1 1
4) Dimethyl ether	(2)			Not Detected					0.1 13
2) Chloromethane	(2)			Not Detected					0.2 1
8) Chloroethane	(2)			Not Detected					0.1 1
10) Trichlorofluoromethane	(2)			Not Detected					0.1 1
11) Ethyl ether	(2)			Not Detected					0.1 13
15) 1,1-Dichloroethene	(2)			Not Detected					0.1 1
16) Freon 113	(2)			Not Detected					0.2 1
23) Methylene Chloride	(2)			Not Detected					0.2 1
33) 1,1-Dichloroethane	(2)	5.372(-0.001)	63	32588	0.288	0.29		J	0.1 1
38) 2-Butanone	(1)			Not Detected					1 10
48) Tetrahydrofuran	(1)			Not Detected					2 25
51) 1,1,1-Trichloroethane	(2)			Not Detected					0.1 1
54) Carbon Tetrachloride	(2)			Not Detected					0.1 1
58) Benzene	(2)			Not Detected					0.1 1
67) Trichloroethene	(2)			Not Detected					0.1 1
83) Toluene	(3)			Not Detected					0.1 1
89) Tetrachloroethene	(3)			Not Detected					0.1 1
100) Ethylbenzene	(3)			Not Detected					0.1 1
101) m+p-Xylene	(3)			Not Detected					0.1 0.5
104) o-Xylene	(3)			Not Detected					0.1 0.5
105) Xylene (Total)	(3)			Not Detected					0.1 3

R7611

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666276

Data file: /chem2/HP19094.i/16nov05a.b/hn05s19.d Injection date and time: 05-NOV-2016 16:34
Data file Sample Info. Line: R7611;8666276;1;0;;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA
Date, time and analyst ID of latest file update: 07-Nov-2016 09:28 kel01973

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time (Last Method Edit): 05-NOV-2016 09:41
Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

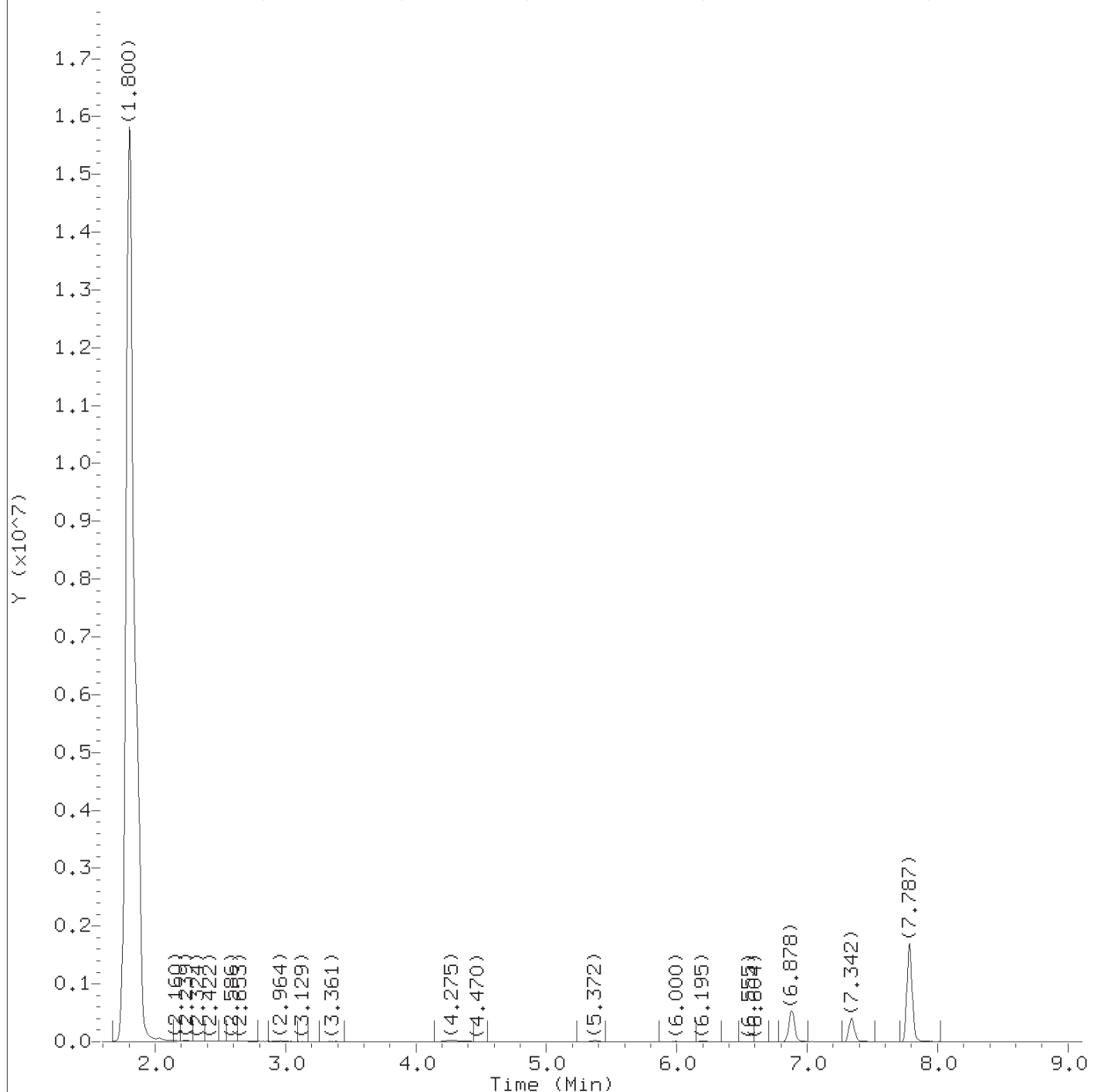
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

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Total number of targets = 22

Digitally signed by Kerri E. Koch Legerlotz on 11/07/2016 at 09:29. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 20:15. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s19.d
Injection date and time: 05-NOV-2016 16:34

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m
Calibration date and time: 05-NOV-2016 09:41

Sublist used: 22469

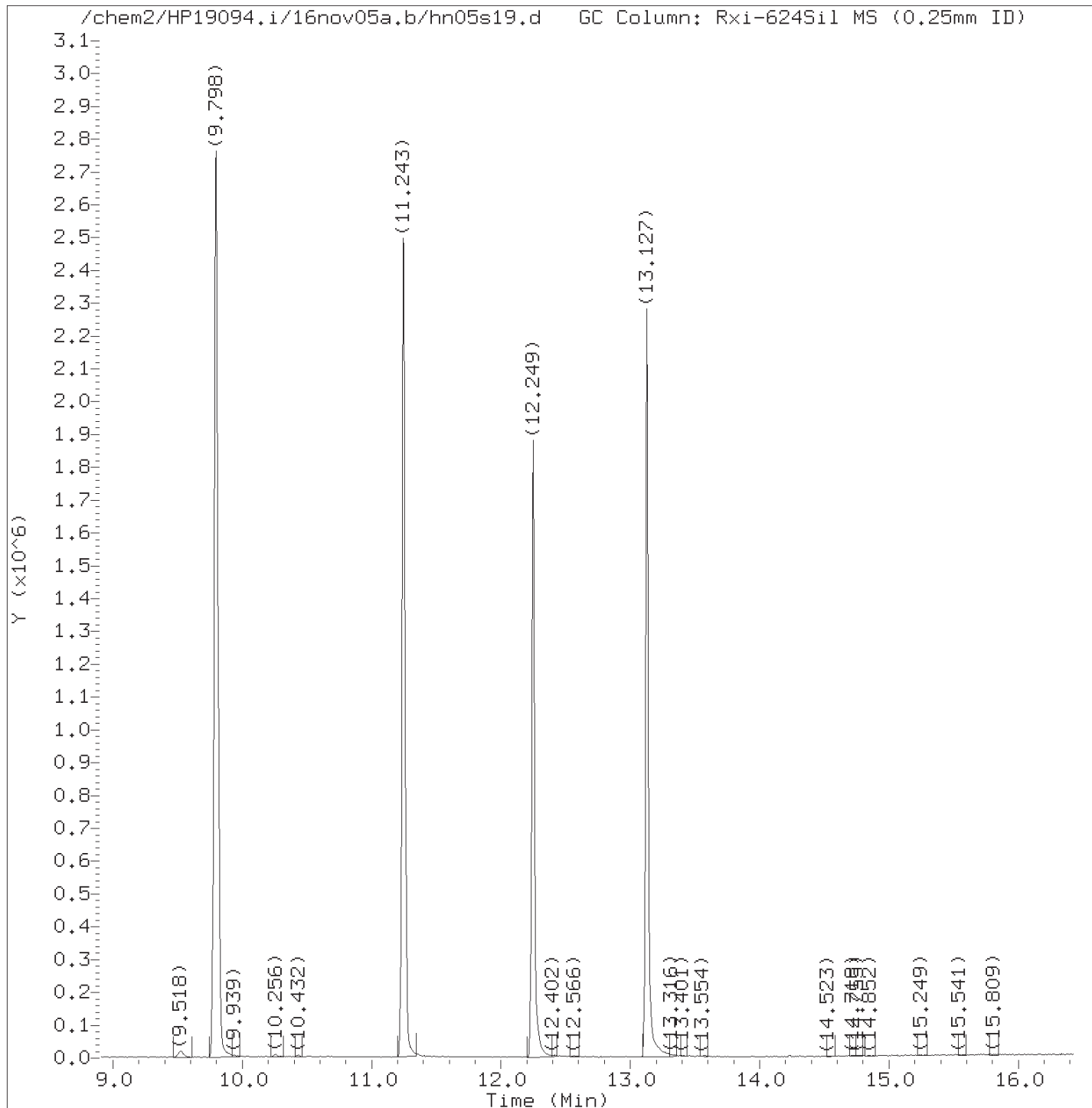
Date, time and analyst ID of latest file update: 07-Nov-2016 09:28 kel01973

Sample Name: R7611

Lab Sample ID: 8666276

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:29.

Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s19.d
Injection date and time: 05-NOV-2016 16:34

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 07-Nov-2016 09:28 kel01973

Sample Name: R7611

Lab Sample ID: 8666276

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:29.

Target 3.5 esignature user ID: kel01973
RAE76 Page 211 of 883

page 2 of 2

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s19.d

Instrument ID: HP19094.i

Injection date and time: 05-NOV-2016 16:34

Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m

Sublist used: 22469

Calibration date and time: 05-NOV-2016 09:41

Date, time and analyst ID of latest file update: 07-Nov-2016 09:28 kel01973

Sample Name: R7611

Lab Sample ID: 8666276

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26) *t-Butyl Alcohol-d10	(1)	4.275	65	90519	50.000
33) 1,1-Dichloroethane	(2)	5.372	63	32588	0.288
50) \$Dibromofluoromethane	(2)	6.878	113	502556	9.902
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	87025	10.673
63) *Fluorobenzene	(2)	7.787	96	2212947	10.000
82) \$Toluene-d8	(3)	9.798	98	2161751	9.942
97) *Chlorobenzene-d5	(3)	11.243	117	1439423	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	608032	9.512
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	609037	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

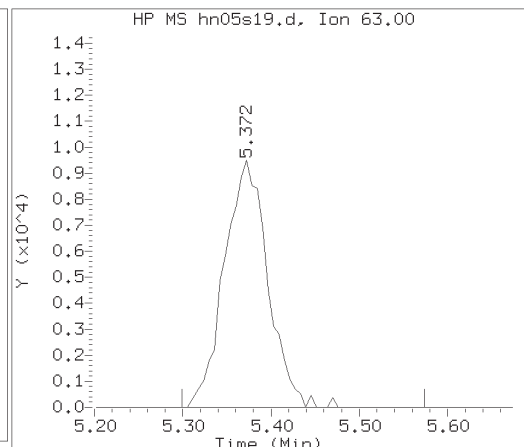
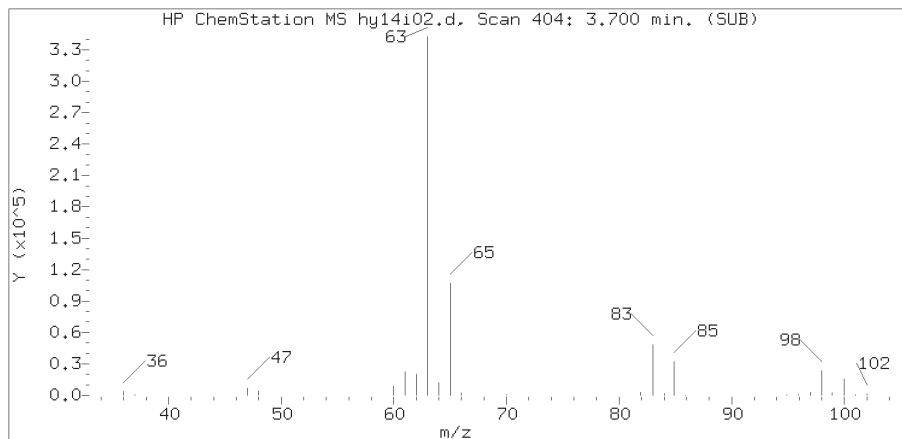
page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:29.

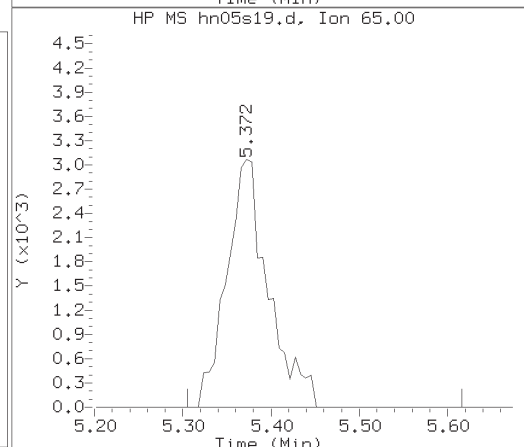
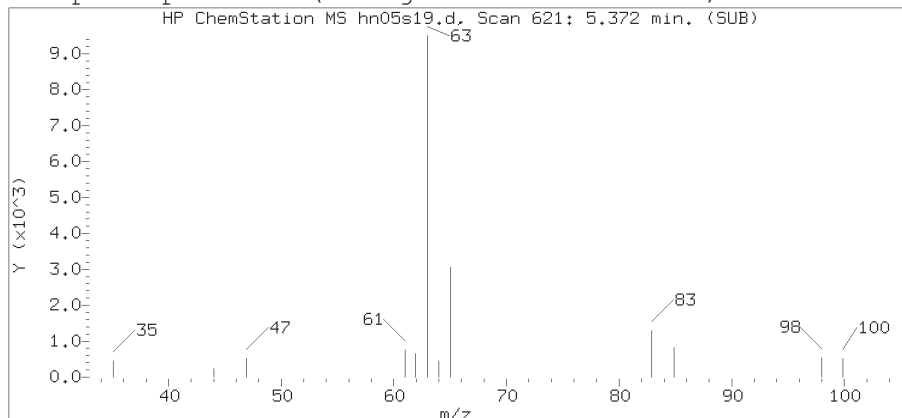
Target 3.5 esignature user ID: kel01973

RAE76 Page 212 of 883

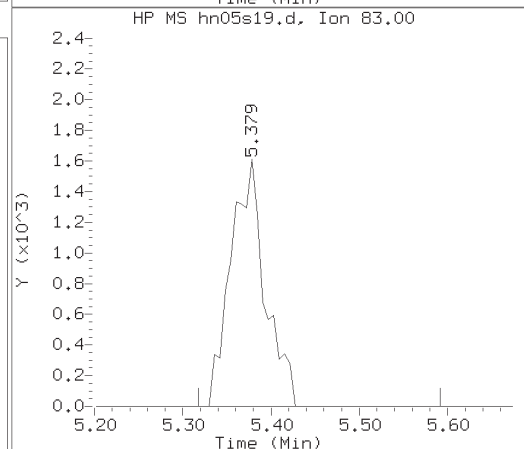
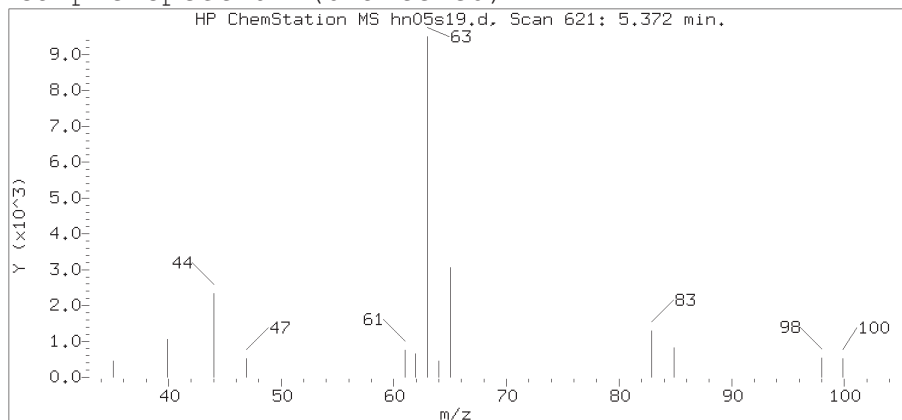
Reference Standard Spectrum for 1,1-Dichloroethane



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/16nov05a.b/hn05s19.d
Injection date and time: 05-NOV-2016 16:34

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 07-Nov-2016 09:28 kel01973

Sample Name: R7611

Lab Sample ID: 8666276

Compound Number : 33
Compound Name : 1,1-Dichloroethane
Scan Number : 621
Retention Time (minutes): 5.372
Relative Retention Time :-0.00101
Quant Ion : 63.00
Area (flag) : 32588
On-Column Amount (ng) : 0.2877

R7612

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666277

Data file: /chem2/HP19094.i/16nov05a.b/hn05s03.d

Injection date and time: 05-NOV-2016 11:09

Data file Sample Info. Line: R7612;8666277;1;0;;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA

Date, time and analyst ID of latest file update: 05-Nov-2016 12:25 msk07970

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469

Calibration date and time (Last Method Edit): 05-NOV-2016 09:41

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.245(0.018)	436	65	110616 (2)	50.00	
63) Fluorobenzene	7.781(0.000)	1016	96	2425611 (1)	10.00	
97) Chlorobenzene-d5	11.249(-0.006)	1585	117	1637415 (-1)	10.00	
133) 1,4-Dichlorobenzene-d4	13.133(-0.006)	1894	152	682619 (-9)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.878(0.000)	113	562508	10.111	101%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.342(0.000)	102	97480	10.907	109%		74 - 113
82) Toluene-d8	(3)	9.799(0.000)	98	2412751	9.755	98%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249(0.000)	95	699309	9.617	96%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit LOQ (in sample)
1) Dichlorodifluoromethane	(2)			Not Detected					0.1 1
4) Dimethyl ether	(2)			Not Detected					0.1 13
2) Chloromethane	(2)			Not Detected					0.2 1
8) Chloroethane	(2)			Not Detected					0.1 1
10) Trichlorofluoromethane	(2)			Not Detected					0.1 1
11) Ethyl ether	(2)			Not Detected					0.1 13
15) 1,1-Dichloroethene	(2)			Not Detected					0.1 1
16) Freon 113	(2)			Not Detected					0.2 1
23) Methylene Chloride	(2)			Not Detected					0.2 1
33) 1,1-Dichloroethane	(2)			Not Detected					0.1 1
38) 2-Butanone	(1)			Not Detected					1 10
48) Tetrahydrofuran	(1)			Not Detected					2 25
51) 1,1,1-Trichloroethane	(2)			Not Detected					0.1 1
54) Carbon Tetrachloride	(2)			Not Detected					0.1 1
58) Benzene	(2)			Not Detected					0.1 1
67) Trichloroethene	(2)			Not Detected					0.1 1
83) Toluene	(3)			Not Detected					0.1 1
89) Tetrachloroethene	(3)			Not Detected					0.1 1
100) Ethylbenzene	(3)			Not Detected					0.1 1
101) m+p-Xylene	(3)			Not Detected					0.1 0.5
104) o-Xylene	(3)			Not Detected					0.1 0.5
105) Xylene (Total)	(3)			Not Detected					0.1 3

R7612

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666277

Data file: /chem2/HP19094.i/16nov05a.b/hn05s03.d

Injection date and time: 05-NOV-2016 11:09

Data file Sample Info. Line: R7612;8666277;1;0;;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA
Date, time and analyst ID of latest file update: 05-Nov-2016 12:25 msk07970

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m

Sublist used: 22469

Calibration date and time (Last Method Edit): 05-NOV-2016 09:41

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A

Matrix: WATER

Level: Low

On-Column Amount units: ng

In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo)

VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml

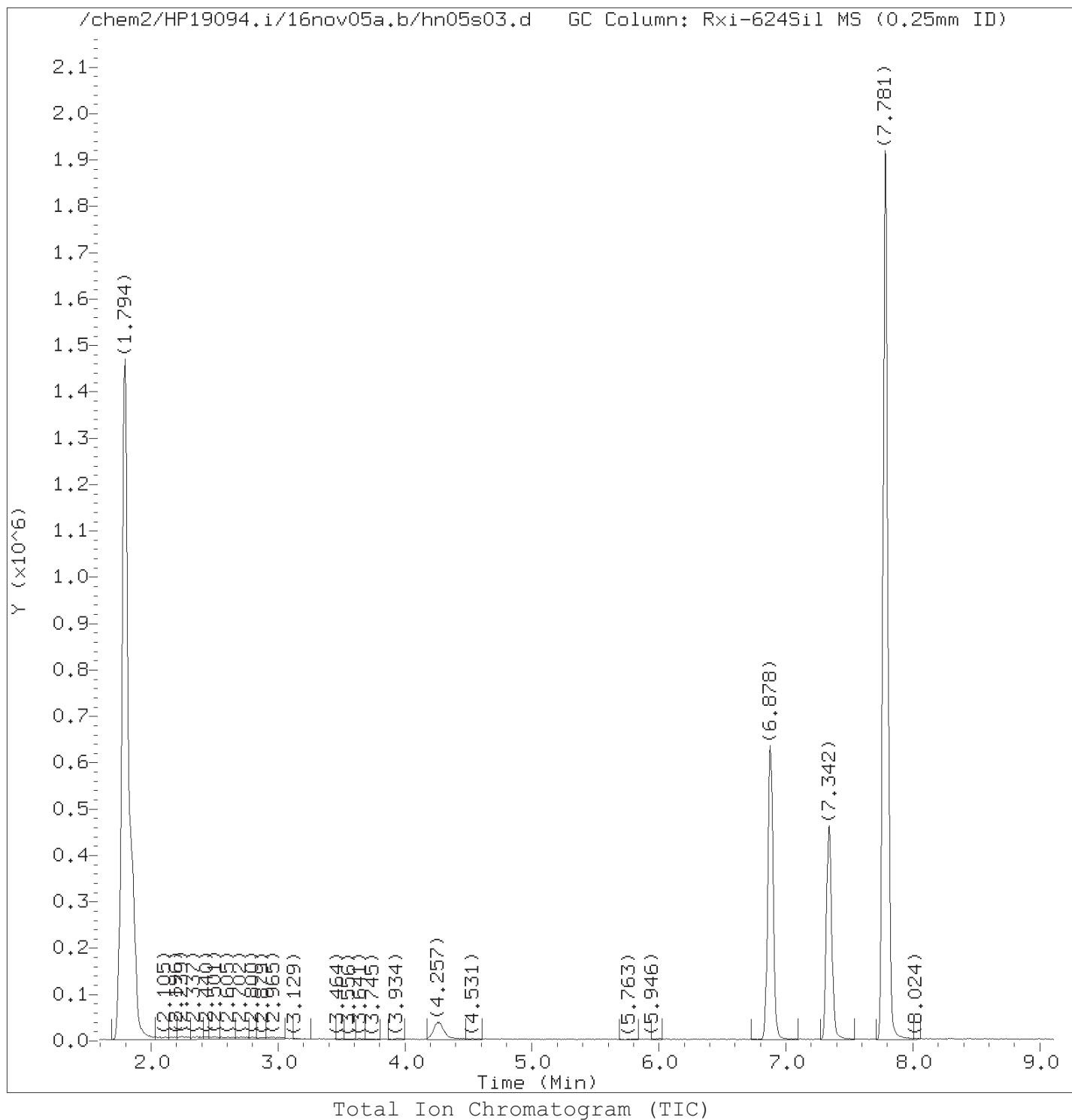
Sample Volume (Vo): 25 ml

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Total number of targets = 22

Digitally signed by Matthew S. Krause on 11/05/2016 at 12:38. Target 3.5 esignature user ID: msk07970

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 20:01. PARALLAX ID: sej02002



Target Revision 3.5

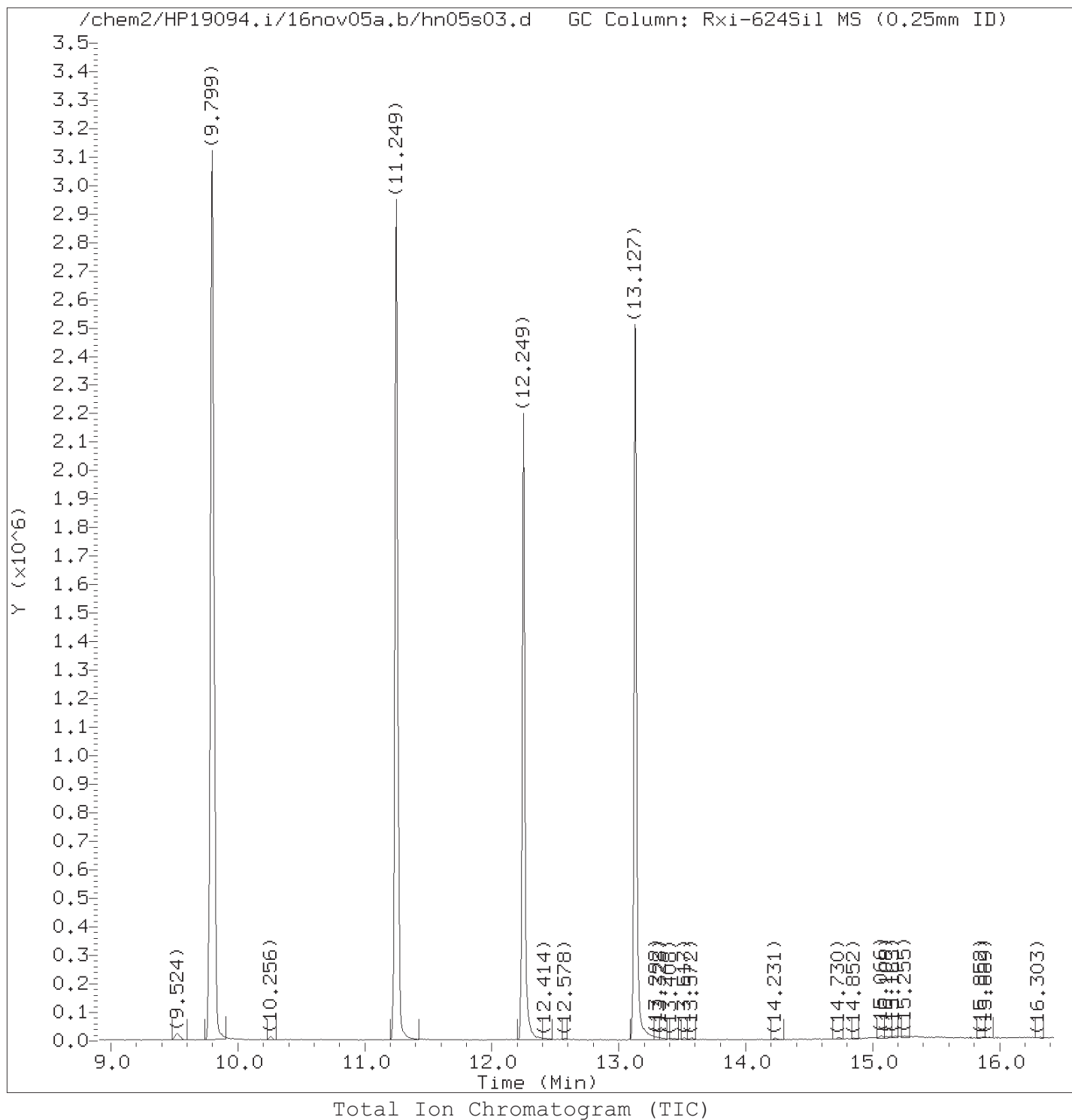
Data File: /chem2/HP19094.i/16nov05a.b/hn05s03.d Instrument ID: HP19094.i
Injection date and time: 05-NOV-2016 11:09 Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 12:25 msk07970

Sample Name: R7612 Lab Sample ID: 8666277

Digitally signed by Matthew S. Krause
on 11/05/2016 at 12:38.

Target 3.5 esignature user ID: msk07970
RAE76 Page 216 of 883



Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s03.d Instrument ID: HP19094.i
Injection date and time: 05-NOV-2016 11:09 Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 12:25 msk07970

Sample Name: R7612

Lab Sample ID: 8666277

Digitally signed by Matthew S. Krause
on 11/05/2016 at 12:38.

Target 3.5 esignature user ID: msk07970
RAE76 Page 217 of 883

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s03.d
Injection date and time: 05-NOV-2016 11:09

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 12:25 msk07970

Sample Name: R7612

Lab Sample ID: 8666277

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26) *t-Butyl Alcohol-d10	(1)	4.245	65	110616	50.000
50) \$Dibromofluoromethane	(2)	6.878	113	562508	10.111
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	97480	10.907
63) *Fluorobenzene	(2)	7.781	96	2425611	10.000
82) \$Toluene-d8	(3)	9.799	98	2412751	9.755
97) *Chlorobenzene-d5	(3)	11.249	117	1637415	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	699309	9.617
133) *1,4-Dichlorobenzene-d4	(4)	13.133	152	682619	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

page 1 of 1

Digitally signed by Matthew S. Krause
on 11/05/2016 at 12:38.

Target 3.5 esignature user ID: msk07970

RAE76 Page 218 of 883

R7613

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666278

Data file: /chem2/HP19094.i/16nov05a.b/hn05s04.d

Injection date and time: 05-NOV-2016 11:29

Data file Sample Info. Line: R7613;8666278;1;0;;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA

Date, time and analyst ID of latest file update: 05-Nov-2016 12:26 msk07970

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469

Calibration date and time (Last Method Edit): 05-NOV-2016 09:41

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.257(0.006)	438	65	105191 (-3)	50.00	
63) Fluorobenzene	7.781(0.000)	1016	96	2314577 (-4)	10.00	
97) Chlorobenzene-d5	11.250(-0.006)	1585	117	1509899 (-8)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(0.000)	1893	152	629369 (-16)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.879(0.000)	113	522496	9.842	98%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.342(0.000)	102	90209	10.578	106%		74 - 113
82) Toluene-d8	(3)	9.793(0.000)	98	2281342	10.003	100%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249(0.000)	95	654026	9.754	98%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit LOQ (in sample)
1) Dichlorodifluoromethane	(2)			Not Detected					0.1 1
4) Dimethyl ether	(2)			Not Detected					0.1 13
2) Chloromethane	(2)			Not Detected					0.2 1
8) Chloroethane	(2)			Not Detected					0.1 1
10) Trichlorofluoromethane	(2)			Not Detected					0.1 1
11) Ethyl ether	(2)			Not Detected					0.1 13
15) 1,1-Dichloroethene	(2)			Not Detected					0.1 1
16) Freon 113	(2)			Not Detected					0.2 1
23) Methylene Chloride	(2)			Not Detected					0.2 1
33) 1,1-Dichloroethane	(2)			Not Detected					0.1 1
38) 2-Butanone	(1)			Not Detected					1 10
48) Tetrahydrofuran	(1)			Not Detected					2 25
51) 1,1,1-Trichloroethane	(2)			Not Detected					0.1 1
54) Carbon Tetrachloride	(2)			Not Detected					0.1 1
58) Benzene	(2)			Not Detected					0.1 1
67) Trichloroethene	(2)			Not Detected					0.1 1
83) Toluene	(3)			Not Detected					0.1 1
89) Tetrachloroethene	(3)			Not Detected					0.1 1
100) Ethylbenzene	(3)			Not Detected					0.1 1
101) m+p-Xylene	(3)			Not Detected					0.1 0.5
104) o-Xylene	(3)			Not Detected					0.1 0.5
105) Xylene (Total)	(3)			Not Detected					0.1 3

R7613

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666278

Data file: /chem2/HP19094.i/16nov05a.b/hn05s04.d Injection date and time: 05-NOV-2016 11:29
Data file Sample Info. Line: R7613;8666278;1;0;;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA
Date, time and analyst ID of latest file update: 05-Nov-2016 12:26 msk07970

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time (Last Method Edit): 05-NOV-2016 09:41
Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

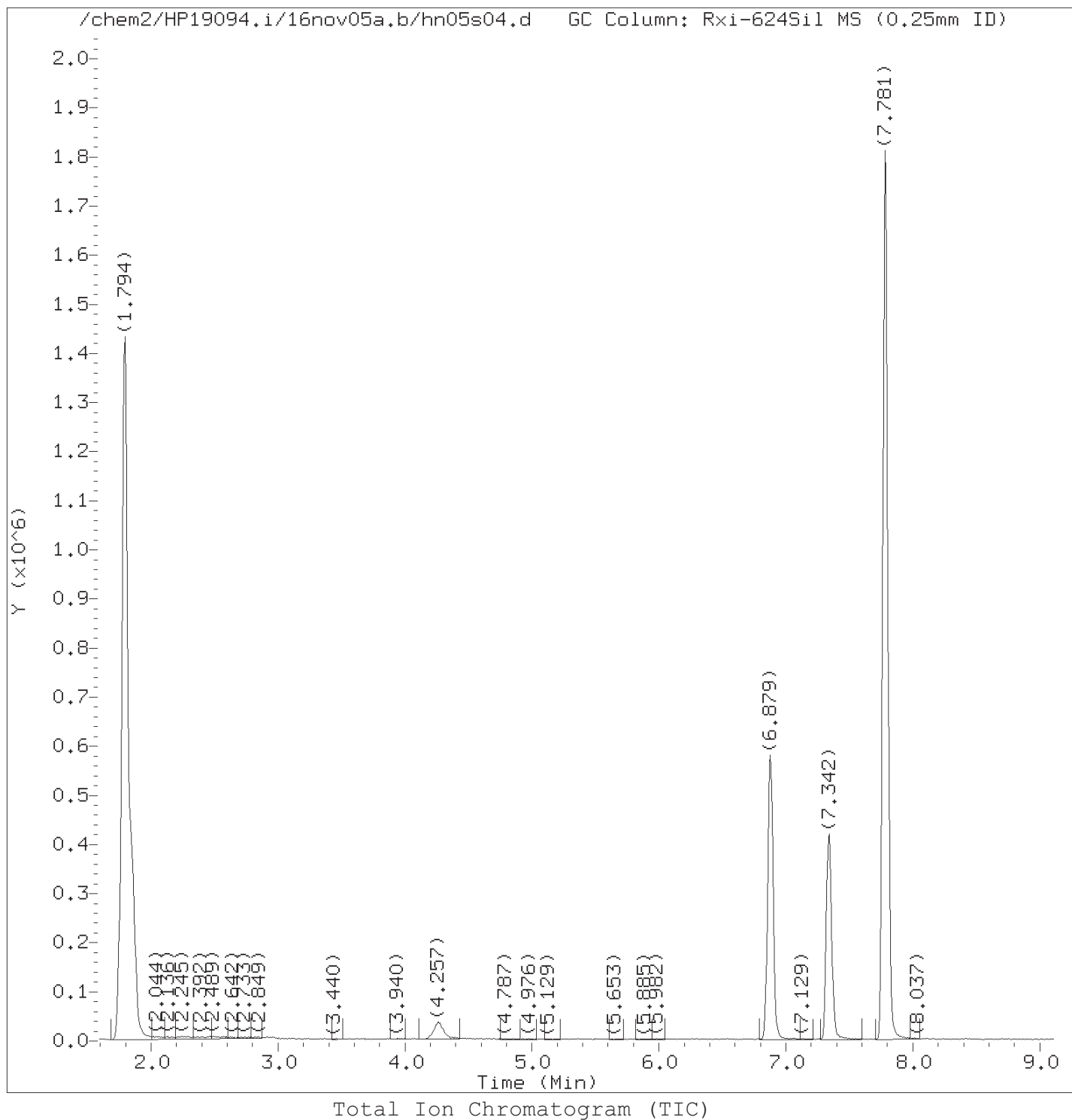
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

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Total number of targets = 22

Digitally signed by Matthew S. Krause on 11/05/2016 at 12:51. Target 3.5 esignature user ID: msk07970

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 20:01. PARALLAX ID: sej02002



Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s04.d
Injection date and time: 05-NOV-2016 11:29

Instrument ID: HP19094.i
Analyst ID: msk07970

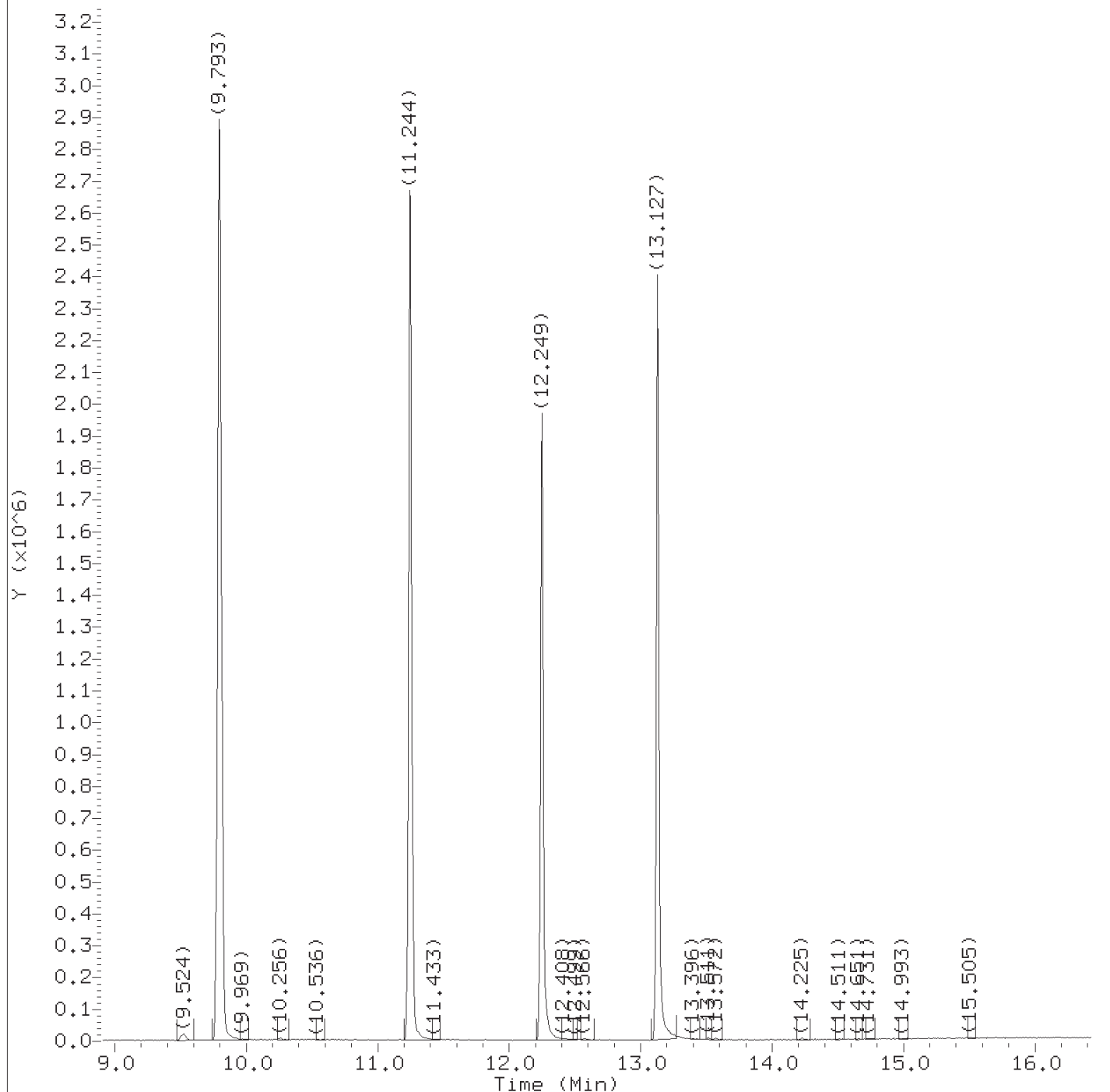
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 12:26 msk07970

Sample Name: R7613

Lab Sample ID: 8666278

Digitally signed by Matthew S. Krause
on 11/05/2016 at 12:51.

Target 3.5 esignature user ID: msk07970
RAE76 Page 221 of 883



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s04.d
Injection date and time: 05-NOV-2016 11:29

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m
Calibration date and time: 05-NOV-2016 09:41

Sublist used: 22469

Date, time and analyst ID of latest file update: 05-Nov-2016 12:26 msk07970

Sample Name: R7613

Lab Sample ID: 8666278

Digitally signed by Matthew S. Krause
on 11/05/2016 at 12:51.

Target 3.5 esignature User ID: msk07970

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s04.d
Injection date and time: 05-NOV-2016 11:29

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 12:26 msk07970

Sample Name: R7613

Lab Sample ID: 8666278

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26) *t-Butyl Alcohol-d10	(1)	4.257	65	105191	50.000
50) \$Dibromofluoromethane	(2)	6.879	113	522496	9.842
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	90209	10.578
63) *Fluorobenzene	(2)	7.781	96	2314577	10.000
82) \$Toluene-d8	(3)	9.793	98	2281342	10.003
97) *Chlorobenzene-d5	(3)	11.250	117	1509899	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	654026	9.754
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	629369	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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Standards Data

Volatiles by GC/MS

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP19094 **HP #30**

Data Directory Path is - d:\DATA\16OCT04A\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
kel01973	HC04X01.D	BLK	10/04/2016	06:39		
kel01973	HC04X02.D	BLK	10/04/2016	07:02		
kel01973	HC04X03.D	BLK	10/04/2016	07:48		
kel01973	HC04X04.D	BLK	10/04/2016	08:41		
KEL01973	hc04t01.D	bfb AUG22-16	10/04/2016	09:20		
KEL01973	hc04t02.D	bfb AUG22-16	10/04/2016	09:29		
kel01973	HC04X10.D	blk	10/04/2016	09:53		
kel01973	HC04X11.D	blk	10/04/2016	10:13		
kel01973	HC04i01.D	VSTD025	10/04/2016	10:34		
kel01973	HC04i02.D	VSTD010	10/04/2016	10:54		
kel01973	HC04i03.D	VSTD005	10/04/2016	11:14		
kel01973	HC04i04.D	VSTD002	10/04/2016	11:35		
kel01973	HC04i05.D	VSTD001	10/04/2016	11:55		
kel01973	HC04i06.D	VSTD0.5	10/04/2016	12:15		
kel01973	HC04i07.D	VSTD0.2	10/04/2016	12:36		
kel01973	HC04m01.D	MDL0.1	10/04/2016	12:56		
kel01973	HC04m02.D	MDL0.4	10/04/2016	13:17		
KEL01973	HC04C02.D	VSTD010	10/04/2016	13:45	H162781AA	
KEL01973	HC04L01.D	LCSH73	10/04/2016	14:05	H162781AA	
KEL01973	HC04L02.D	LCDH73	10/04/2016	14:26	H162781AA	
KEL01973	HC04L03.D	LCSH74	10/04/2016	14:46	H162781AA	
KEL01973	HC04L04.D	LCDH74	10/04/2016	15:06	H162781AA	
KEL01973	HC04B00.D	VBLKH73	10/04/2016	15:27	H162781AA	
KEL01973	HC04B01.D	VBLKH73	10/04/2016	15:47	H162781AA	
KEL01973	HC04S03.D	8608538	10/04/2016	16:07	H162781AA	
KEL01973	HC04S04.D	8608485	10/04/2016	16:28	H162781AA	50
KEL01973	HC04S05.D	8608485DL	10/04/2016	16:48	H162781AA	500
KEL01973	HC04S06.D	8608535	10/04/2016	17:09	H162781AA	100
KEL01973	HC04S07.D	8608535DL	10/04/2016	17:29	H162781AA	1000
KEL01973	HC04S08.D	8608534	10/04/2016	17:49	H162781AA	2
KEL01973	HC04S09.D	8608534DL	10/04/2016	18:09	H162781AA	20
KEL01973	HC04S01.D	8612710	10/04/2016	18:30	H162781AA	
KEL01973	HC04S02.D	8612718	10/04/2016	18:50	H162781AA	
KEL01973	HC04S10.D	8608536	10/04/2016	19:11	H162781AA	5
KEL01973	HC04S11.D	8608536DL	10/04/2016	19:31	H162781AA	50
KEL01973	HC04S12.D	8608537	10/04/2016	19:51	H162781AA	
KEL01973	HC04S13.D	8608542	10/04/2016	20:12	H162781AA	
KEL01973	HC04S14.D	8608543	10/04/2016	20:32	H162781AA	

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP19094 **HP #30**

Data Directory Path is - d:\DATA\16NOV04A\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
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kel01973	HN04X06.D	blk	11/04/2016	11:32		
kel01973	HN04i01.D	VSTD025	11/04/2016	11:52		
kel01973	HN04i02.D	VSTD010	11/04/2016	12:12		
kel01973	HN04i03.D	VSTD005	11/04/2016	12:33		
kel01973	HN04i04.D	VSTD002	11/04/2016	12:53		
kel01973	HN04i05.D	VSTD001	11/04/2016	13:13		
kel01973	HN04i06.D	VSTD0.5	11/04/2016	13:34		
kel01973	HN04i07.D	VSTD0.2	11/04/2016	13:54		
kel01973	HN04m01.D	MDL0.1	11/04/2016	14:15		
KEL01973	HN04L03.D	LCSH72	11/04/2016	14:36	H163091AA	
KEL01973	HN04C01.D	VSTD010	11/04/2016	14:57	H163091AA	
KEL01973	HN04L01.D	LCSH71	11/04/2016	15:17	H163091AA	
KEL01973	HN04L02.D	LCDH71	11/04/2016	15:37	H163091AA	
KEL01973	HN04L04.D	LCDH72	11/04/2016	15:57	H163091AA	
KEL01973	HN04B01.D	VBLKH71	11/04/2016	16:18	H163091AA	
KEL01973	HN04M01A.D	MDLH71	11/04/2016	16:58	H163091AA	
KEL01973	HN04X07.D	BLK	11/04/2016	17:19	H163091AA	
KEL01973	HN04B01A.D	BLK	11/04/2016	17:39	H163091AA	
KEL01973	HN04S01.D	8663210	11/04/2016	18:19	H163091AA	
KEL01973	HN04S02.D	8662723	11/04/2016	18:40	H163091AA	
KEL01973	HN04S03.D	8663199	11/04/2016	19:00	H163091AA	
KEL01973	HN04S04.D	8663202	11/04/2016	19:20	H163091AA	
KEL01973	HN04S05.D	8663205	11/04/2016	19:41	H163091AA	
KEL01973	HN04S06.D	8662721DL	11/04/2016	20:01	H163091AA	10

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP19094 **HP #30**

Data Directory Path is - d:\data\16nov05a\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
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msk07970	HN05X10.D	VBK73	11/05/2016	08:12	H163101AA	
msk07970	HN05C01.D	VSTD010	11/05/2016	08:32	H163101AA	
msk07970	HN05C02.D	VSTD010	11/05/2016	08:52	H163101AA	
msk07970	HN05S01.D	LCSH73	11/05/2016	09:12	H163101AA	
msk07970	HN05S32.D	LCDH75	11/05/2016	09:33	H163102AA	
msk07970	HN05M01.D	MDLH010	11/05/2016	09:53	H163101AA	
msk07970	HN05S02.D	LCSH74	11/05/2016	10:13	H163101AA	
msk07970	HN05B01.D	VBK73	11/05/2016	10:34	H163101AA	
msk07970	HN05S03.D	8666277	11/05/2016	11:09	H163101AA	
msk07970	HN05S04.D	8666278	11/05/2016	11:29	H163101AA	
msk07970	HN05S05.D	8666267	11/05/2016	11:49	H163101AA	
msk07970	HN05S06.D	8666268MS	11/05/2016	12:09	H163101AA	
msk07970	HN05S07.D	8666269MSD	11/05/2016	12:30	H163101AA	
msk07970	HN05S08.D	8666268MS	11/05/2016	12:50	H163101AA	
msk07970	HN05S09.D	8666269MSD	11/05/2016	13:10	H163101AA	
msk07970	HN05S10.D	8666264	11/05/2016	13:31	H163101AA	
msk07970	HN05S11.D	8666265	11/05/2016	13:51	H163101AA	
msk07970	HN05S12.D	8666266	11/05/2016	14:11	H163101AA	
msk07970	HN05S13.D	8666270	11/05/2016	14:32	H163101AA	
msk07970	HN05S14.D	8666271	11/05/2016	14:52	H163101AA	
msk07970	HN05S15.D	8666272	11/05/2016	15:13	H163101AA	
msk07970	HN05S16.D	8666273	11/05/2016	15:33	H163101AA	
msk07970	HN05S17.D	8666274	11/05/2016	15:53	H163101AA	
msk07970	HN05S18.D	8666275	11/05/2016	16:13	H163101AA	
msk07970	HN05S19.D	8666276	11/05/2016	16:34	H163101AA	
msk07970	HN05S33.D	8665585	11/05/2016	16:54	H163102AA	
msk07970	HN05S34.D	8665586	11/05/2016	17:14	H163102AA	
msk07970	HN05S35.D	8665587	11/05/2016	17:35	H163102AA	
msk07970	HN05S36.D	8665588	11/05/2016	17:55	H163102AA	
msk07970	HN05S37.D	8665589	11/05/2016	18:16	H163102AA	
msk07970	HN05S38.D	8665590	11/05/2016	18:36	H163102AA	
msk07970	HN05S39.D	8665591	11/05/2016	18:56	H163102AA	

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP19094 **HP #30**

Data Directory Path is - d:\DATA\16NOV07A\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
KEL01973	hn07t01.D	bfb AUG22-16	11/07/2016	08:28		
KEL01973	hn07t02.D	bfb AUG22-16	11/07/2016	08:40		
KEL01973	hn07t03.D	bfb AUG22-16	11/07/2016	08:52		
kel01973	HN07X01.D	BLK	11/07/2016	09:11	H163121AA	
kel01973	HN07X02.D	BLK	11/07/2016	09:31	H163121AA	
kel01973	HN07C01.D	VSTD010	11/07/2016	09:51	H163121AA	
kel01973	HN07C02.D	VSTD010	11/07/2016	10:11	H163121AA	
kel01973	HN07L01.D	LCSH76	11/07/2016	10:32	H163121AA	
kel01973	HN07L02.D	LCDH76	11/07/2016	10:52	H163121AA	
kel01973	HN07L03.D	LCSH77	11/07/2016	11:12	H163121AA	
kel01973	HN07L04.D	LCDH77	11/07/2016	11:33	H163121AA	
kel01973	HN07B01.D	VBLKH76	11/07/2016	11:53	H163121AA	
kel01973	HN07S31.D	8666265	11/07/2016	12:39	H163122AA	
kel01973	HN07S32.D	8666264DL	11/07/2016	12:59	H163122AA	10
kel01973	HN07S33.D	8666266DL	11/07/2016	13:19	H163122AA	10
kel01973	HN07S01.D	8665549DL	11/07/2016	13:39	H163121AA	10
kel01973	HN07S02.D	8665562DL	11/07/2016	14:00	H163121AA	10
kel01973	HN07S03.D	8665573DL	11/07/2016	14:20	H163121AA	10
kel01973	HN07S34.D	8666264DL	11/07/2016	14:40	H163122AA	4
kel01973	HN07S35.D	8666266DL	11/07/2016	15:01	H163122AA	4
kel01973	HN07S04.D	8665582	11/07/2016	15:21	H163121AA	
kel01973	HN07S05.D	8665582DL	11/07/2016	15:42	H163121AA	10
kel01973	HN07S06.D	8665583DL	11/07/2016	16:02	H163121AA	10
kel01973	HN07S11.D	8668561	11/07/2016	16:23	H163121AA	
kel01973	HN07S12.D	8668565	11/07/2016	16:43	H163121AA	
kel01973	HN07S13.D	8668563	11/07/2016	17:03	H163121AA	200
kel01973	HN07S14.D	8668563DL	11/07/2016	17:24	H163121AA	2000
kel01973	HN07S15.D	8668564	11/07/2016	17:44	H163121AA	5
kel01973	HN07S16.D	8668564DL	11/07/2016	18:04	H163121AA	50
kel01973	HN07S17.D	8668566	11/07/2016	18:25	H163121AA	200
kel01973	HN07S18.D	8668566DL	11/07/2016	18:45	H163121AA	2000
kel01973	HN07S19.D	8671286	11/07/2016	19:06	H163121AA	
kel01973	HN07S20.D	8671287	11/07/2016	19:26	H163121AA	5
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Page 1

Client ID: bfb 50ng

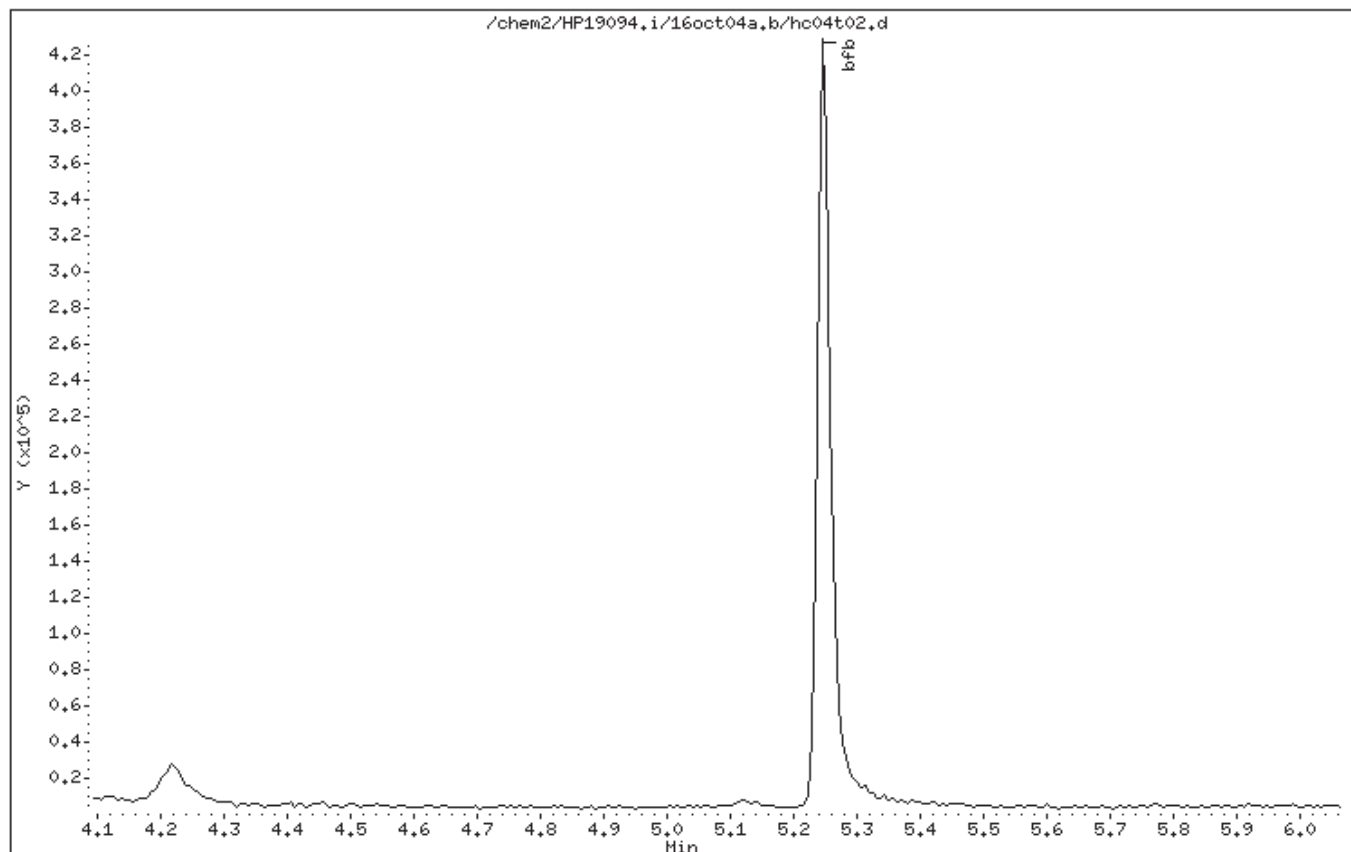
Instrument: HP19094.i

Sample Info: bfb 50ng;bfb AUG22-16;1;3; ; ; ;

Operator: KEL01973

Column phase: Rxi-624Sil MS

Column diameter: 0.25



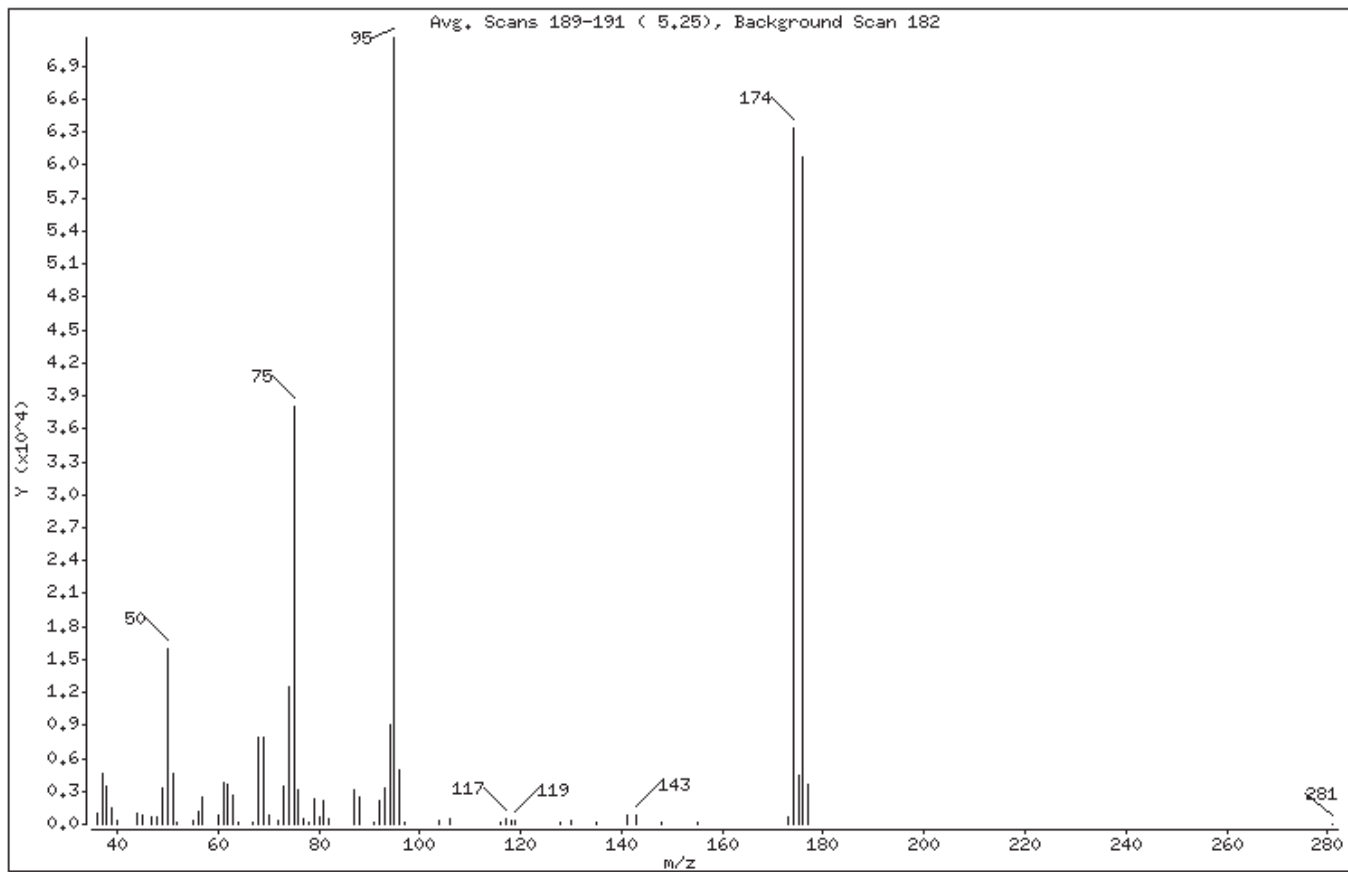
Digitally signed by Kerri E. Koch Legerlotz on 10/04/2016 at 09:36.
Target 3.5 esignature user ID: kel01973

Instrument: HP19094.i

Operator: KEL01973

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	22.33
75	30.00 - 60.00% of mass 95	53.14
96	5.00 - 9.00% of mass 95	6.99
173	Less than 2.00% of mass 174	1.00 (1.13)
174	50.00 - 100.00% of mass 95	88.41
175	5.00 - 9.00% of mass 174	6.21 (7.03)
176	95.00 - 101.00% of mass 174	84.86 (95.98)
177	5.00 - 9.00% of mass 176	5.09 (6.00)

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Target 3.5 esignature user ID: kel01973

Page 3

Client ID: bfb 50ng

Instrument: HP19094.i

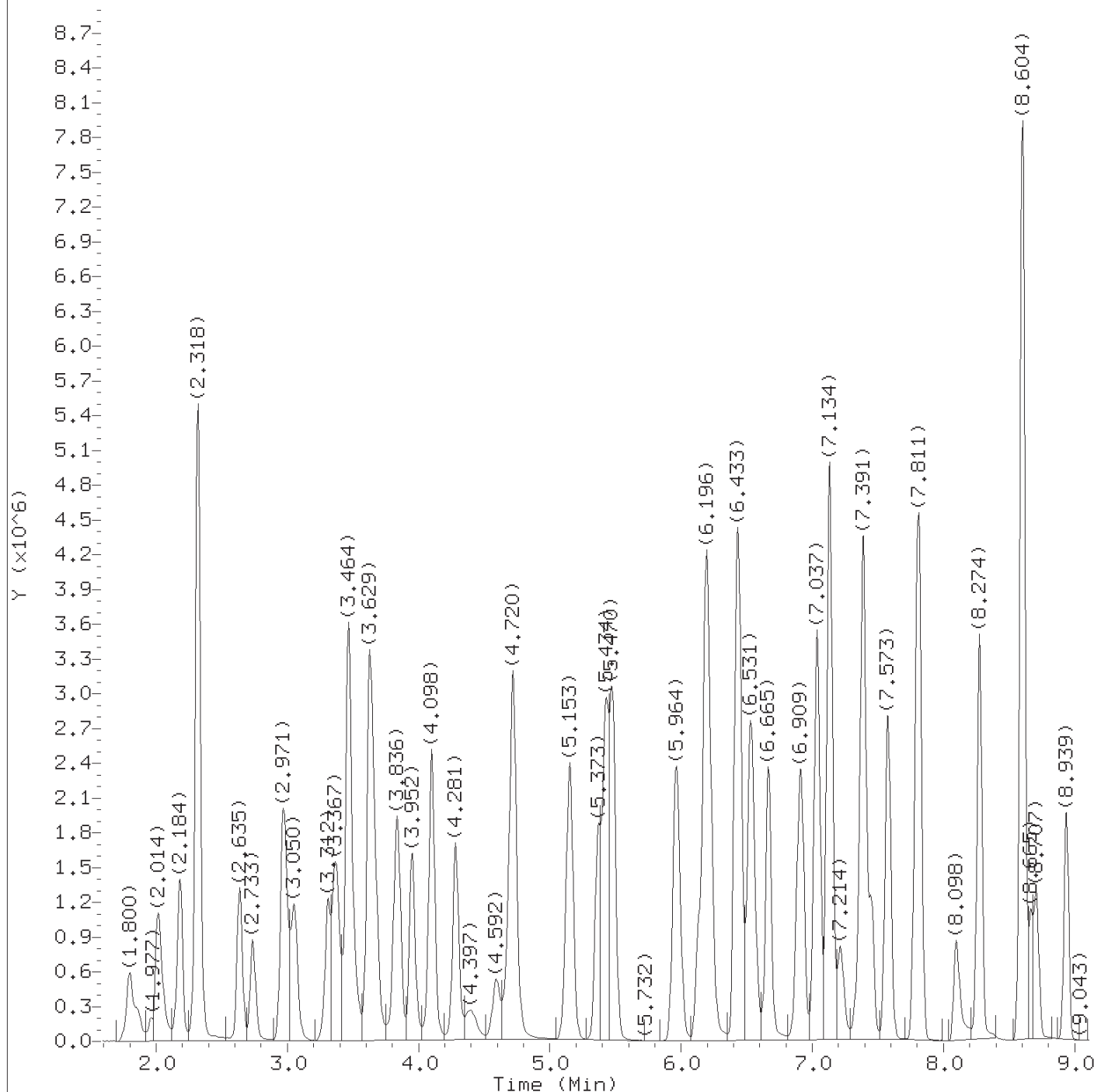
Sample Info: bfb 50ng;bfb AUG22-16;1;3; ; ; ;

Operator: KEL01973

Column phase: Rxi-624Sil MS

Column diameter: 0.25

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36,00	1007	61,00	3772	81,00	2173	128,00	134
37,00	4567	62,00	3639	82,00	525	130,00	268
38,00	3450	63,00	2623	87,00	3146	135,00	93
39,00	1491	64,00	100	88,00	2490	141,00	849
40,00	352	67,00	118	91,00	139	143,00	886
44,00	937	68,00	7916	92,00	2122	148,00	130
45,00	833	69,00	7924	93,00	3352	155,00	97
47,00	734	70,00	784	94,00	9007	173,00	713
48,00	604	72,00	335	95,00	71600	174,00	63304
49,00	3275	73,00	3379	96,00	5008	175,00	4449
50,00	15989	74,00	12567	97,00	210	176,00	60760
51,00	4674	75,00	38040	104,00	336	177,00	3647
52,00	187	76,00	3124	106,00	420	281,00	69
55,00	259	77,00	429	116,00	221		
56,00	1221	78,00	104	117,00	423		
57,00	2486	79,00	2278	118,00	266		
60,00	749	80,00	635	119,00	392		



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d
Injection date and time: 04-OCT-2016 10:34

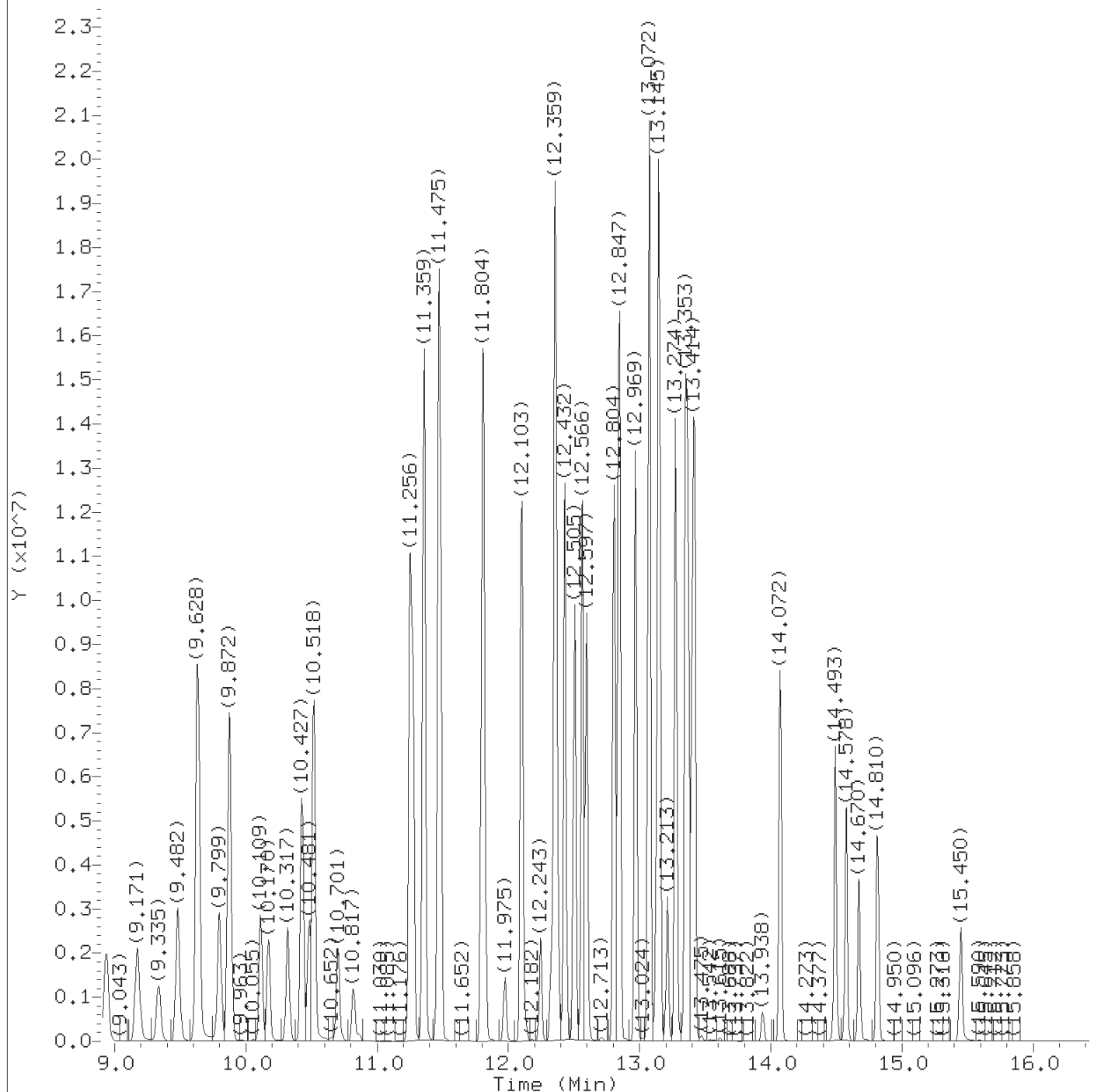
Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 10:34 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d
 Injection date and time: 04-OCT-2016 10:34

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:28
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.014	85	2465429	25.513
2) Chloromethane	(2)	2.184	50	2417848	23.377
5) Vinyl Chloride	(2)	2.312	62	2228754	24.173
6) 1,3-Butadiene	(2)	2.318	39	3181064	22.510
7) Bromomethane	(2)	2.635	94	1381691	23.358
8) Chloroethane	(2)	2.733	64	1229458	23.586
9) Dichlorofluoromethane	(2)	2.965	67	2971146	23.878
10) Trichlorofluoromethane	(2)	3.050	101	2737631	24.465
11) Ethyl ether	(2)	3.306	59	979713	23.727
12) Freon 123a	(2)	3.367	67	1859553	23.939
13) Acrolein	(1)	3.464	56	6228763	1203.675
15) 1,1-Dichloroethene	(2)	3.623	96	1225772	23.507
14) Acetone	(1)	3.629	43	1466573	211.692
16) Freon 113	(2)	3.660	101	1375161	24.129
17) Methyl Iodide	(2)	3.824	142	2345342	23.535
18) Carbon Disulfide	(2)	3.952	76	3638674	23.014
21) Methyl Acetate	(1)	4.062	43	460213M	20.509
22) Allyl Chloride	(2)	4.098	41	2670800	23.543
26)*t-Butyl Alcohol-d10	(1)	4.269	65	71956	50.000
23) Methylene Chloride	(2)	4.281	84	1286277	22.992
28) t-Butyl Alcohol	(1)	4.397	59	829366	433.891
29) Acrylonitrile	(1)	4.598	53	1020289	125.163
30) Methyl Tertiary Butyl Ether	(2)	4.708	73	2886280	23.728
31) trans-1,2-Dichloroethene	(2)	4.720	96	1367766	23.142
32) n-Hexane	(2)	5.153	57	2237091	24.830
33) 1,1-Dichloroethane	(2)	5.367	63	2734876	23.501
34) di-Isopropyl Ether	(2)	5.427	45	5000469	23.963
35) 2-Chloro-1,3-Butadiene	(2)	5.482	53	2602578	24.155
37) Ethyl t-butyl ether	(2)	5.964	59	4053574	23.944
40) 1,2-Dichloroethene (Total)	(2)		96	2897631	46.753
38) 2-Butanone	(1)	6.135	43	2878259	234.789
39) cis-1,2-Dichloroethene	(2)	6.190	96	1529865	23.611
42) Propionitrile	(1)	6.214	54	1293179	478.275
41) 2,2-Dichloropropane	(2)	6.214	77	2252779	23.852
45) Methacrylonitrile	(1)	6.433	67	2788158	241.524
47) Bromochloromethane	(2)	6.525	128	627311	24.144
48) Tetrahydrofuran	(1)	6.549	71	751832	237.934
49) Chloroform	(2)	6.665	83	2636547	23.454

M = Compound was manually integrated.

* = Compound is an internal standard.

page 1 of 4

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 on 10/04/2016 at 15:33.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d
 Injection date and time: 04-OCT-2016 10:34

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:28
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
50) \$Dibromofluoromethane	(2)	6.885	113	527898	10.124
50) \$Dibromofluoromethane	(2)	6.885	111	538007	10.090
51) 1,1,1-Trichloroethane	(2)	6.915	97	2377012	23.487
52) Cyclohexane	(2)	7.037	56	2798999	23.568
52) Cyclohexane	(2)	7.037	84	2202234	22.469
52) Cyclohexane	(2)	7.037	69	815540	24.347
55) 1,1-Dichloropropene	(2)	7.128	75	2187921	23.915
54) Carbon Tetrachloride	(2)	7.141	117	2110226	24.139
56) Isobutyl Alcohol	(1)	7.214	41	816037	1102.396
57) \$1,2-Dichloroethane-d4	(2)	7.348	102	82975	9.905
57) \$1,2-Dichloroethane-d4	(2)	7.348	65	448738	9.730
57) \$1,2-Dichloroethane-d4	(2)	7.348	104	54541	10.175
58) Benzene	(2)	7.391	78	5771563	23.662
59) 1,2-Dichloroethane	(2)	7.451	62	1543976M	22.737
60) t-Amyl methyl ether	(2)	7.573	73	3308766	24.095
63) *Fluorobenzene	(2)	7.787	96	2273569	10.000
62) n-Heptane	(2)	7.817	43	2629981	24.247
65) n-Butanol	(1)	8.098	56	1161185M	2147.696
67) Trichloroethene	(2)	8.274	95	1584002	23.703
70) 1,2-Dichloropropane	(2)	8.598	63	1500407	24.167
69) Methylcyclohexane	(2)	8.604	83	2924266	25.060
71) Methyl Methacrylate	(1)	8.665	69	582508	27.407
73) Dibromomethane	(2)	8.707	93	622373	23.939
72) 1,4-Dioxane	(1)	8.707	88	113069	917.719
74) Bromodichloromethane	(2)	8.939	83	1749116	24.597
76) 2-Nitropropane	(1)	9.171	41	1910494	242.990
80) cis-1,3-Dichloropropene	(2)	9.482	75	2065099	25.584
81) 4-Methyl-2-Pentanone	(1)	9.628	43	7988613	243.827
82) \$Toluene-d8	(3)	9.799	98	2272388	9.754
82) \$Toluene-d8	(3)	9.799	100	1482325	9.895
83) Toluene	(3)	9.872	92	3662362	22.876
84) trans-1,3-Dichloropropene	(3)	10.109	75	1643590	25.298
85) 1,3-Dichloropropene (total)	(3)		75	3708689	50.882
86) Ethyl Methacrylate	(3)	10.170	69	1232363	24.601
88) 1,1,2-Trichloroethane	(3)	10.317	97	855516	23.213
89) Tetrachloroethene	(3)	10.427	166	1760324	22.972
90) 1,3-Dichloropropane	(3)	10.481	76	1540095	22.991
91) 2-Hexanone	(1)	10.518	43	5474394M	241.370

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/04/2016 at 15:33.
 Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d
 Injection date and time: 04-OCT-2016 10:34

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:28
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
93) Dibromochloromethane	(3)	10.701	129	1137478	24.890
95) 1,2-Dibromoethane	(3)	10.817	107	830768	23.838
97) *Chlorobenzene-d5	(3)	11.243	117	1542326	10.000
98) Chlorobenzene	(3)	11.274	112	3915845	22.955
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	1399828	23.879
100) Ethylbenzene	(3)	11.359	91	7368738	23.391
101) m+p-Xylene	(3)	11.475	106	5594279	47.262
105) Xylene (Total)	(3)		106	8322895	70.895
104) o-Xylene	(3)	11.798	106	2728616	23.634
106) Styrene	(3)	11.816	104	4327272	24.495
107) Bromoform	(3)	11.975	173	627660	25.085
108) Isopropylbenzene	(3)	12.103	105	7326444	23.537
111) \$4-Bromofluorobenzene	(3)	12.243	95	682453	9.964
111) \$4-Bromofluorobenzene	(3)	12.249	174	611402	9.975
113) 1,1,2,2-Tetrachloroethane	(4)	12.329	83	991627M	22.270
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	2654196A	273.346
114) Bromobenzene	(4)	12.365	156	1623563	22.611
116) 1,2,3-Trichloropropane	(4)	12.383	110	260028	21.873
117) n-Propylbenzene	(4)	12.432	91	8750324	22.986
119) 2-Chlorotoluene	(4)	12.505	126	1638488	22.769
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	6100303	23.297
122) 4-Chlorotoluene	(4)	12.597	126	1656682	22.514
125) tert-Butylbenzene	(4)	12.804	134	1323911M	23.174
126) Pentachloroethane	(4)	12.841	167	1056298	23.895
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	6109504	23.110
128) sec-Butylbenzene	(4)	12.969	105	7893283	22.969
131) 1,3-Dichlorobenzene	(4)	13.072	146	3226736	23.107
132) p-Isopropyltoluene	(4)	13.078	119	6723147	23.448
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	719928	10.000
134) 1,4-Dichlorobenzene	(4)	13.145	146	3175965	21.866
135) 1,2,3-Trimethylbenzene	(4)	13.152	120	2544727	22.241
136) Benzyl Chloride	(4)	13.213	126	400811	26.459
138) n-Butylbenzene	(4)	13.365	92	3370040	24.484
139) 1,2-Dichlorobenzene	(4)	13.402	146	2738453	22.044
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	124084A	26.004
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	1854073	20.954
146) Hexachlorobutadiene	(4)	14.578	225	934410	22.197
147) Naphthalene	(4)	14.676	128	2624331	19.536

M = Compound was manually integrated.

A = User selected an alternate hit.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
 on 10/04/2016 at 15:33.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 10:34 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025

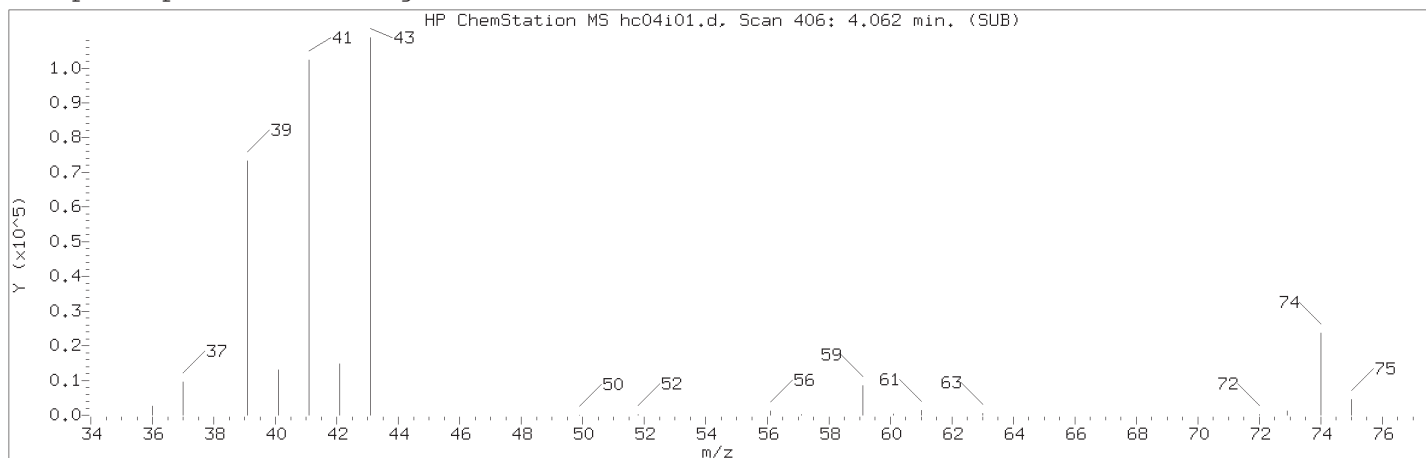
Lab Sample ID: VSTD025

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
148) 1,2,3-Trichlorobenzene	(4)	14.816	180	1394838	18.726

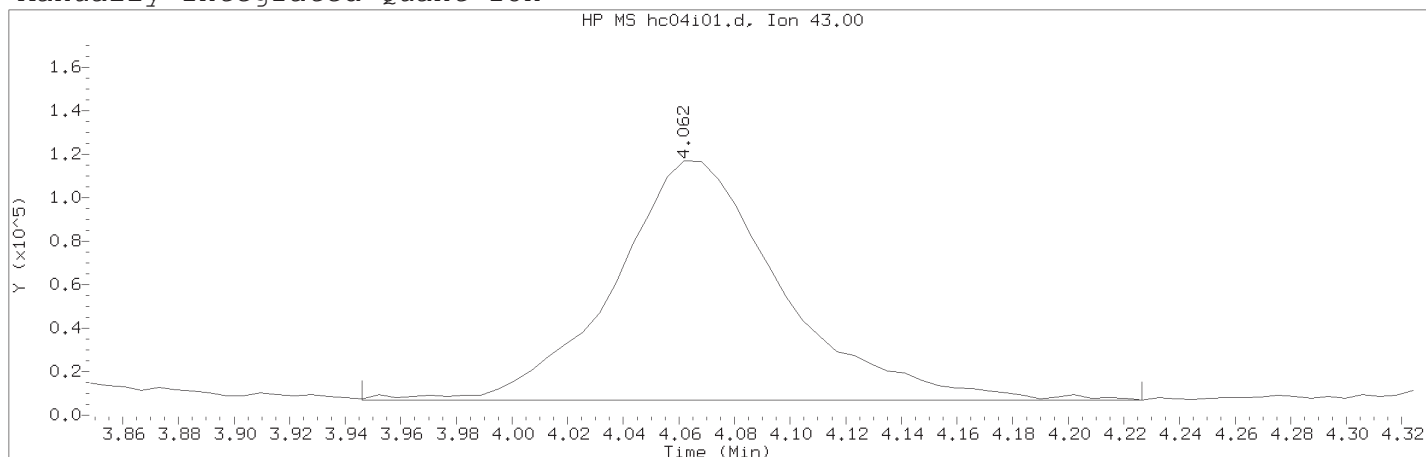
page 4 of 4

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on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compound Number	: 21	
Compound Name	: Methyl Acetate	
Scan Number	: 406	
Retention Time (minutes)	: 4.062	
Quant Ion	: 43.00	
Area (flag)	: 460213M	
On-Column Amount (ng)	: 20.5087	
Integration start scan	: 386	Integration stop scan: 432
Y at integration start	: 7051	Y at integration end: 7051

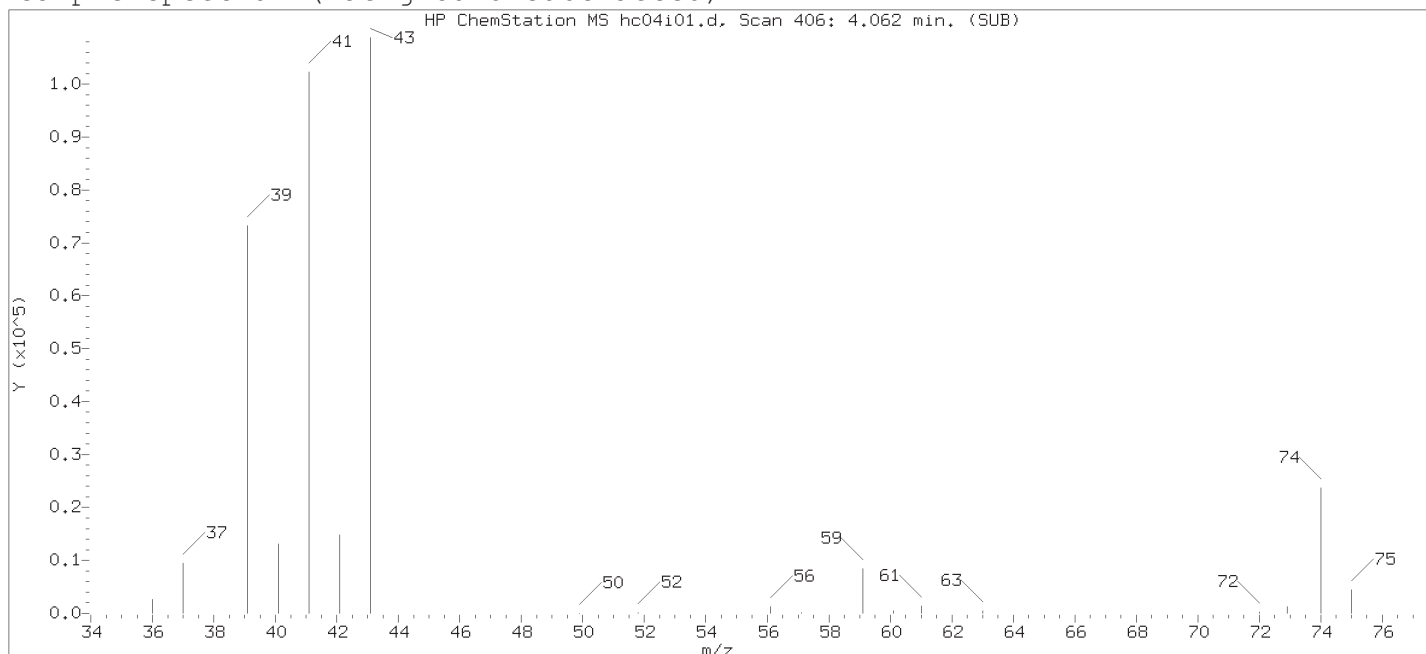
Reason for manual integration: improper integration

Analyst responsible for change:

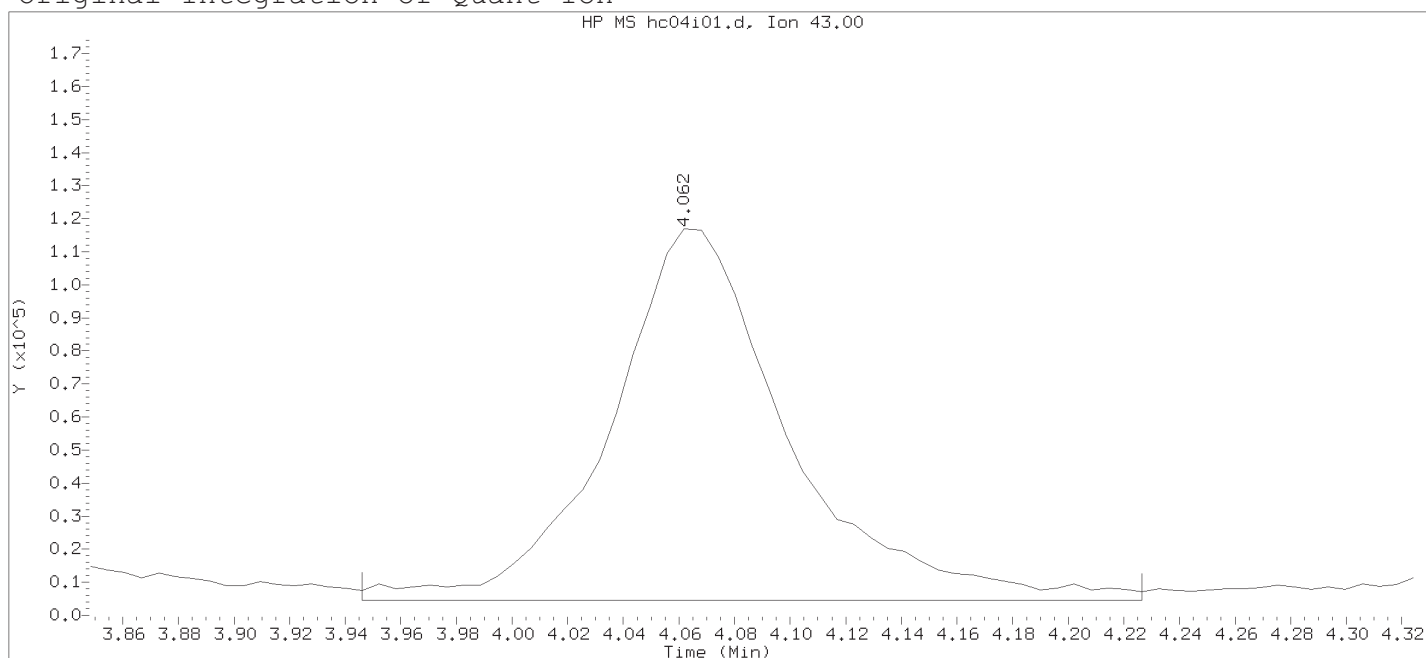
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:49.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 10:53

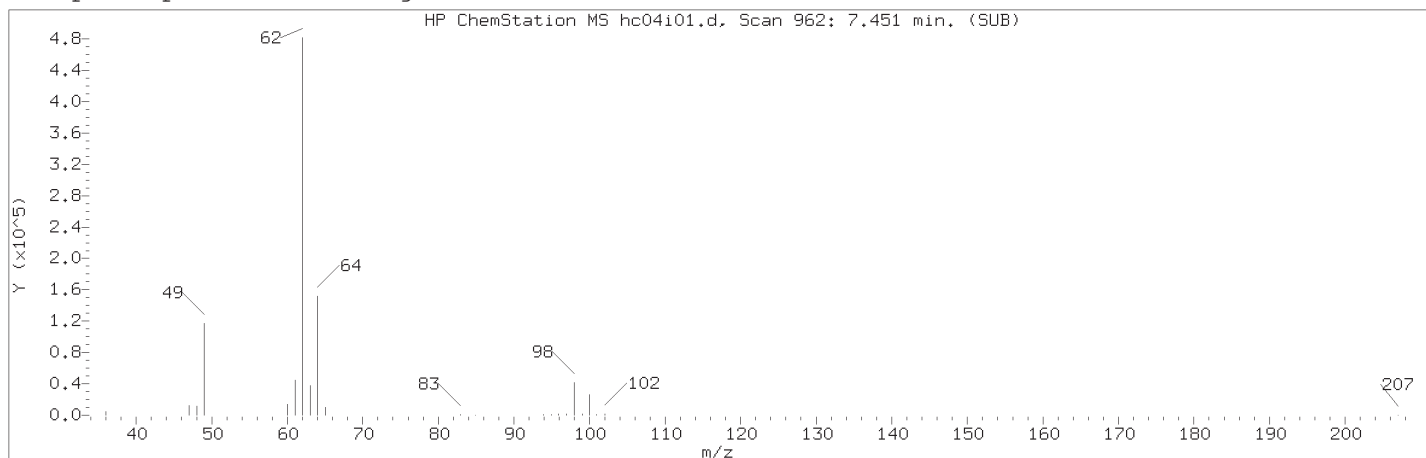
Date, time and analyst ID of latest file update: 04-Oct-2016 10:53 Automation

Sample Name: VSTD025

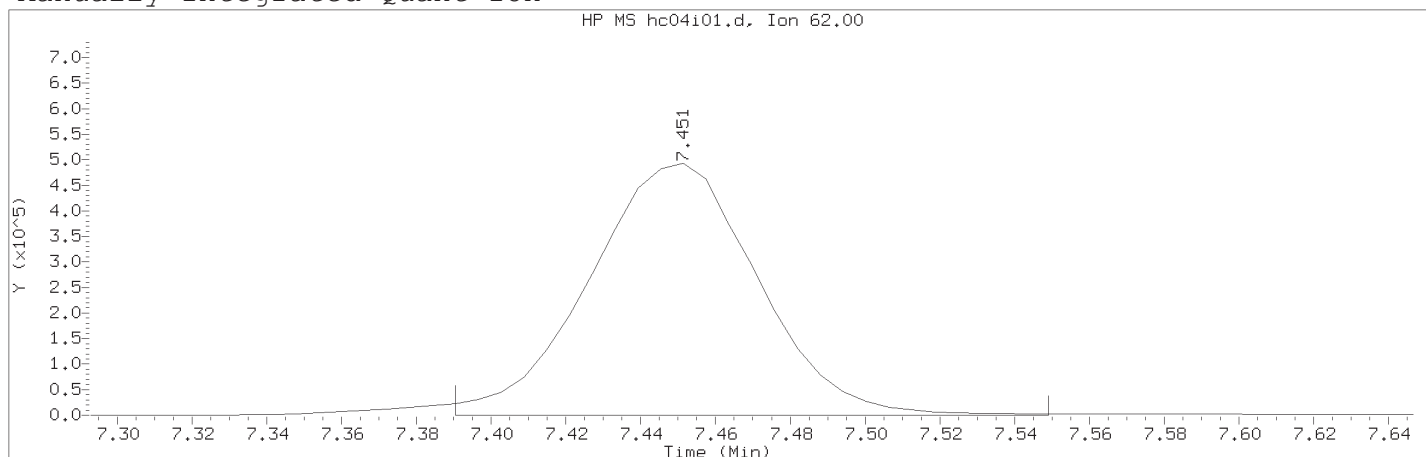
Lab Sample ID: VSTD025

Compound Number	: 21	
Compound Name	: Methyl Acetate	
Scan Number	: 406	
Retention Time (minutes)	: 4.062	
Quant Ion	: 43.00	
Area	: 502784	
On-column Amount (ng)	: 27.9419	
Integration start scan	: 386	Integration stop scan: 432
Y at integration start	: 4516	Y at integration end: 4516

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 10:34 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

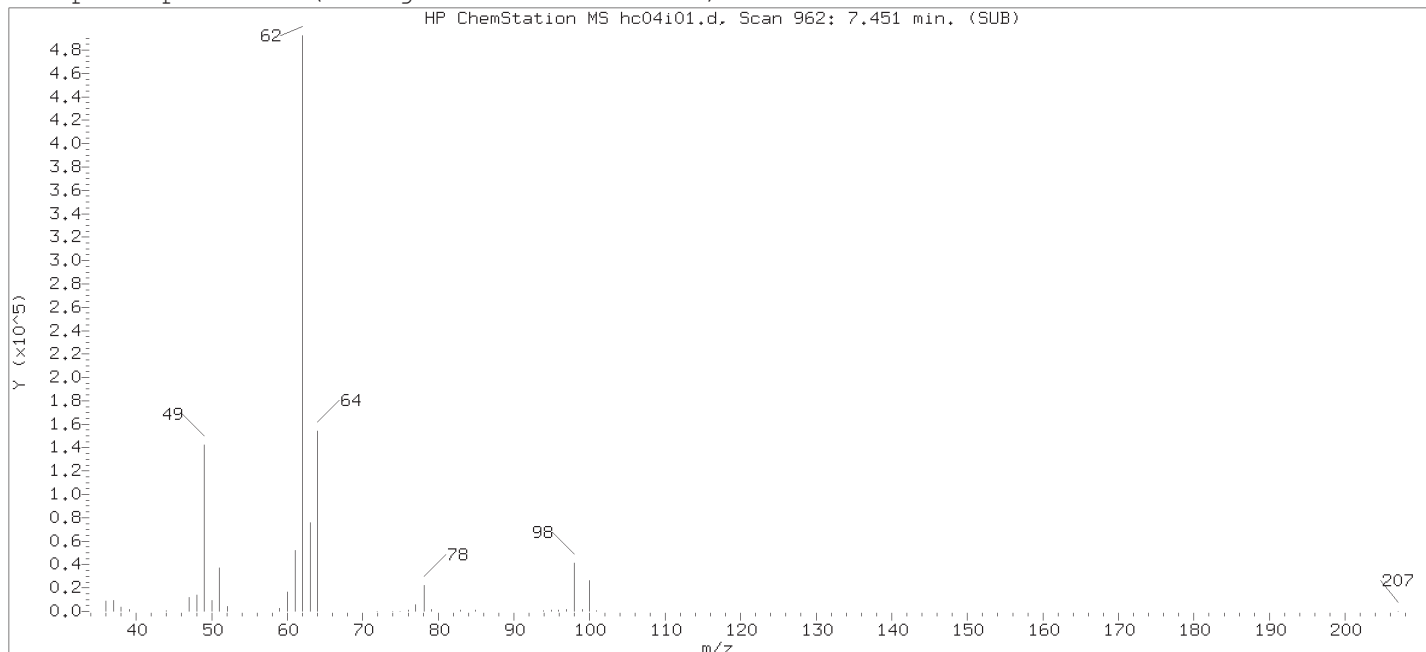
Compound Number	: 59	
Compound Name	: 1,2-Dichloroethane	
Scan Number	: 962	
Retention Time (minutes)	: 7.451	
Quant Ion	: 62.00	
Area (flag)	: 1543976M	
On-Column Amount (ng)	: 22.7368	
Integration start scan	: 951	Integration stop scan: 977
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

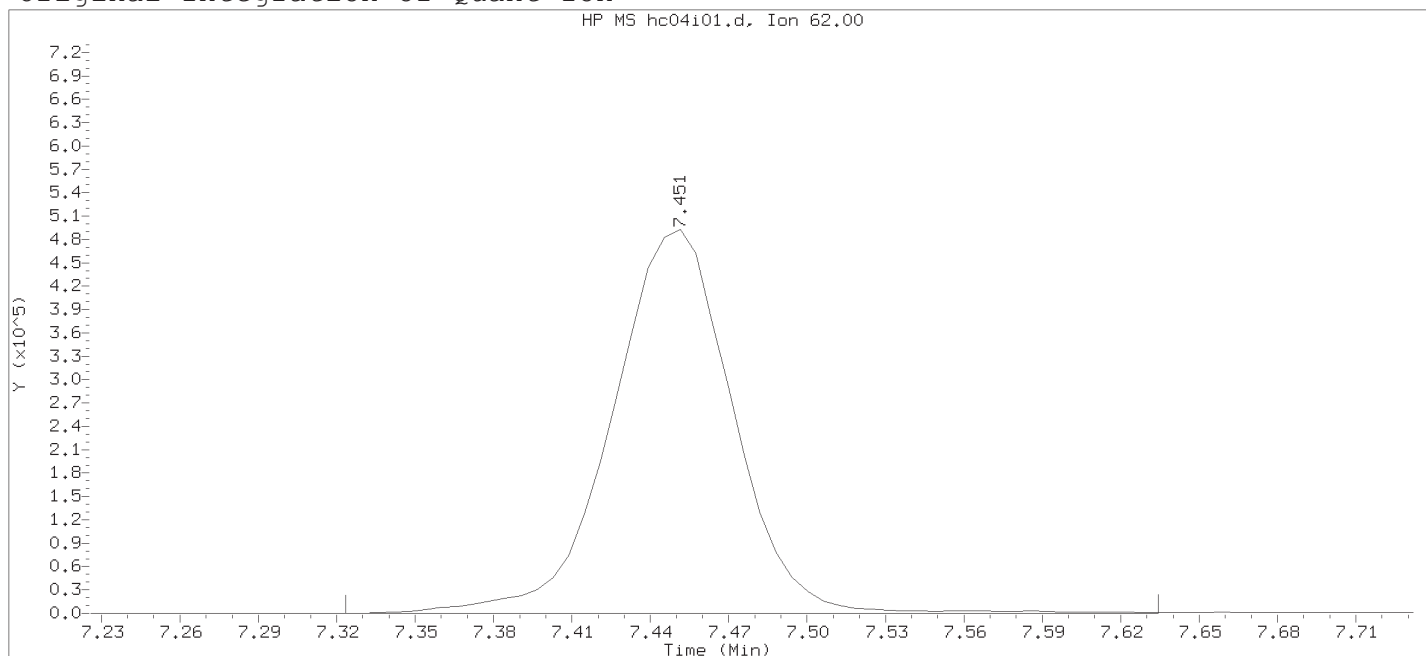
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:49.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 10:53

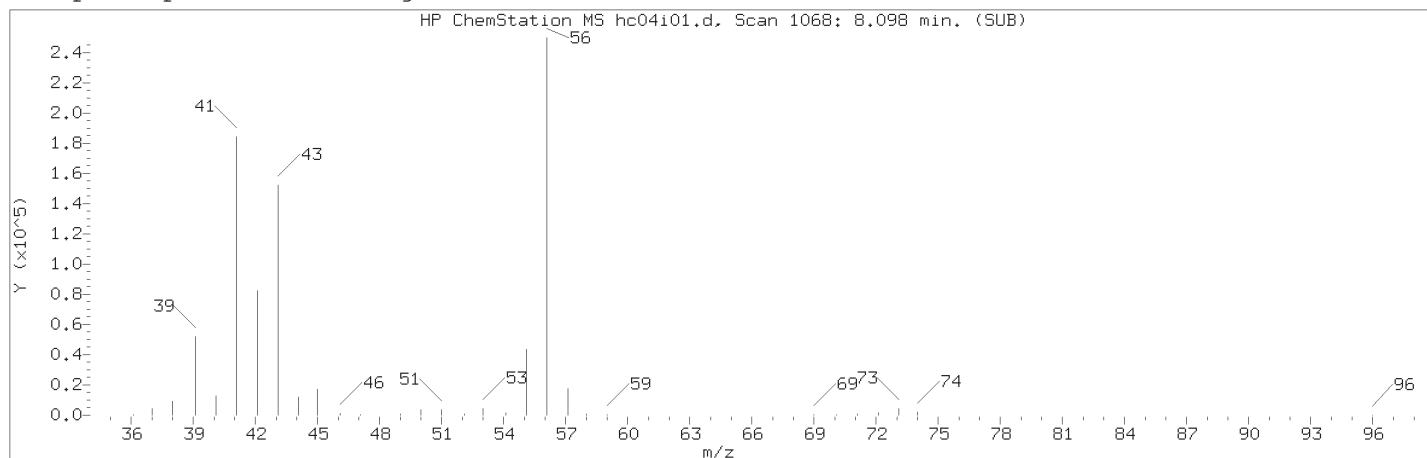
Date, time and analyst ID of latest file update: 04-Oct-2016 10:53 Automation

Sample Name: VSTD025

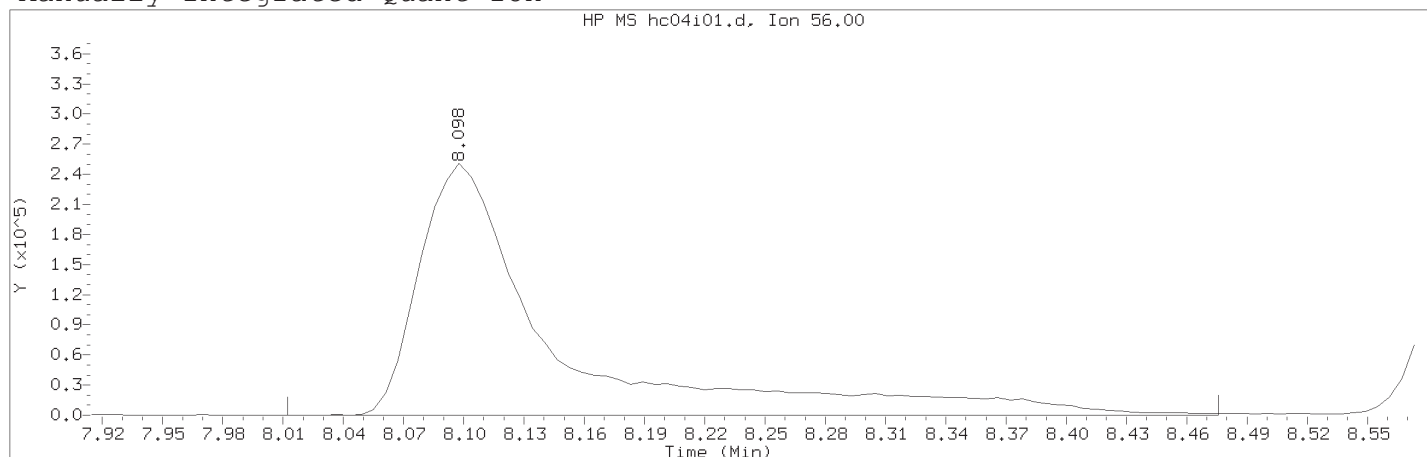
Lab Sample ID: VSTD025

Compound Number	: 59	
Compound Name	: 1,2-Dichloroethane	
Scan Number	: 962	
Retention Time (minutes)	: 7.451	
Quant Ion	: 62.00	
Area	: 1578065	
On-column Amount (ng)	: 26.3976	
Integration start scan	: 940	Integration stop scan: 991
Y at integration start	: 0	Y at integration end: 285

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compound Number	: 65	
Compound Name	: n-Butanol	
Scan Number	: 1068	
Retention Time (minutes)	: 8.098	
Quant Ion	: 56.00	
Area (flag)	: 1161185M	
On-Column Amount (ng)	: 2147.6962	
Integration start scan	: 1053	Integration stop scan: 1129
Y at integration start	: 0	Y at integration end: 0

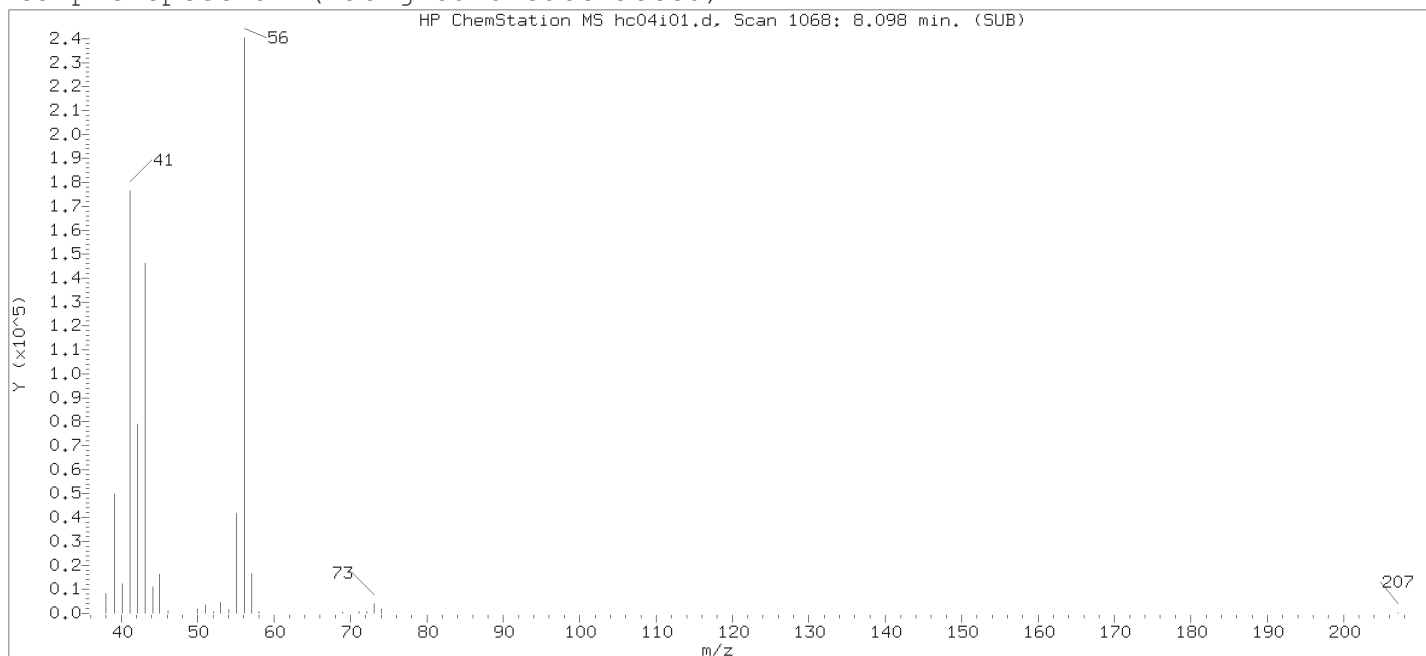
Reason for manual integration: improper integration

Analyst responsible for change:

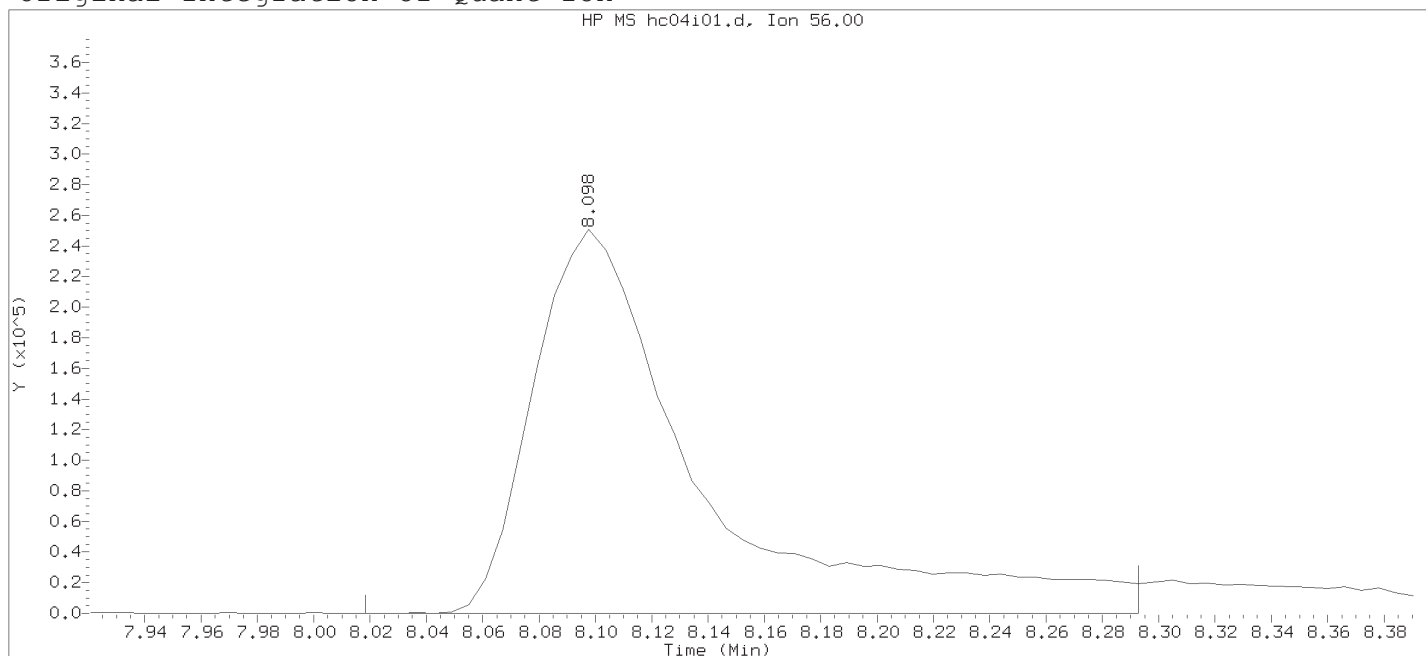
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:49.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 10:53

Date, time and analyst ID of latest file update: 04-Oct-2016 10:53 Automation

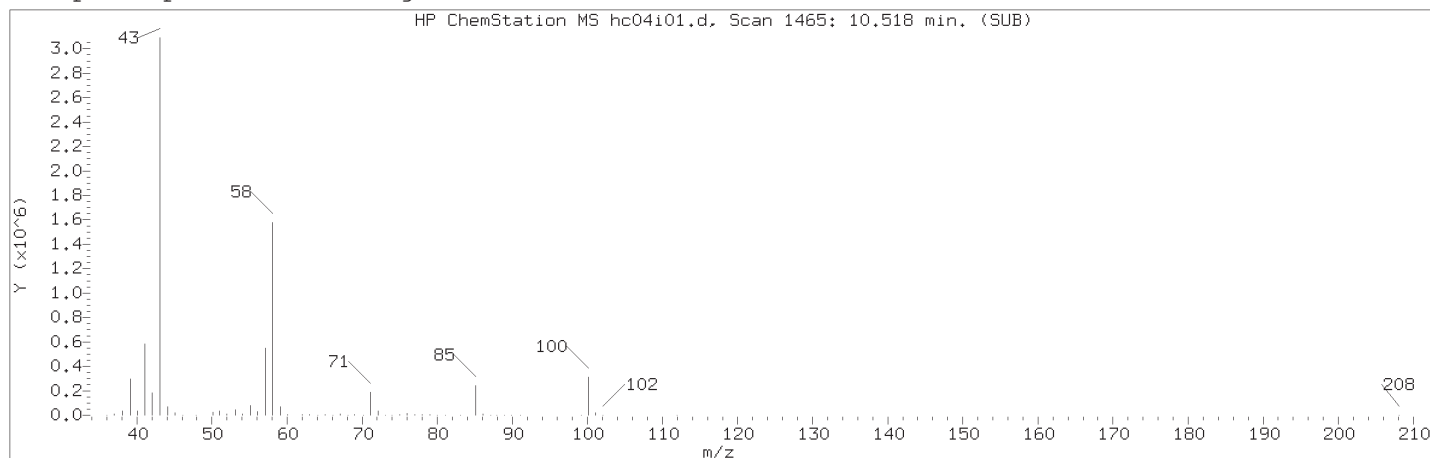
Sample Name: VSTD025

Lab Sample ID: VSTD025

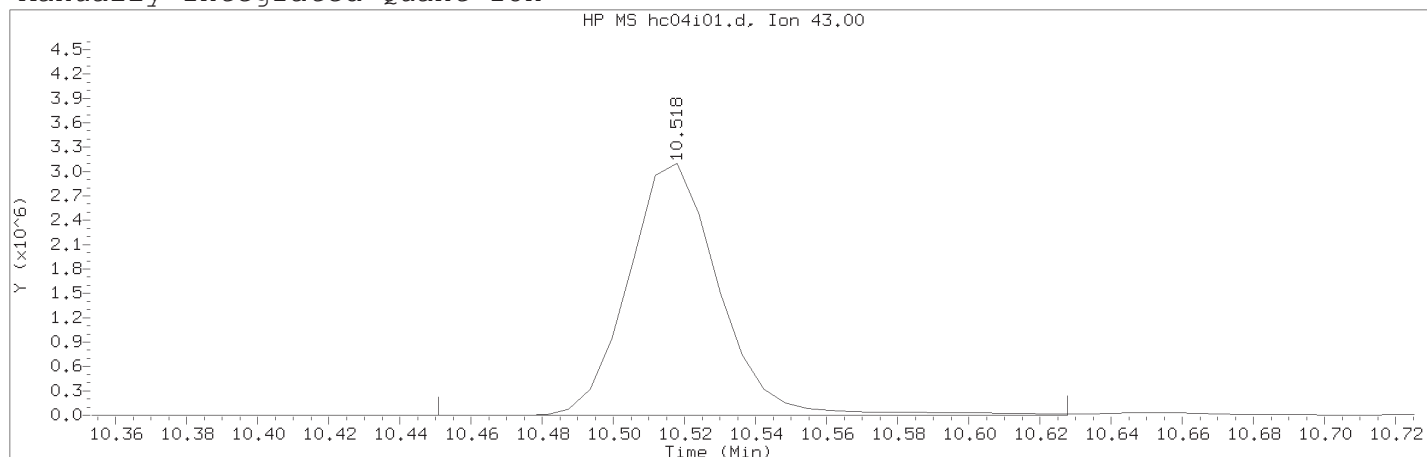
Compound Number : 65
 Compound Name : n-Butanol
 Scan Number : 1068
 Retention Time (minutes): 8.098
 Quant Ion : 56.00
 Area : 1034038
 On-column Amount (ng) : 1994.5911
 Integration start scan : 1054
 Y at integration start : 0

Integration stop scan: 1099
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compound Number	: 91	
Compound Name	: 2-Hexanone	
Scan Number	: 1465	
Retention Time (minutes)	: 10.518	
Quant Ion	: 43.00	
Area (flag)	: 5474394M	
On-Column Amount (ng)	: 241.3697	
Integration start scan	: 1453	Integration stop scan: 1482
Y at integration start	: 278	Y at integration end: 278

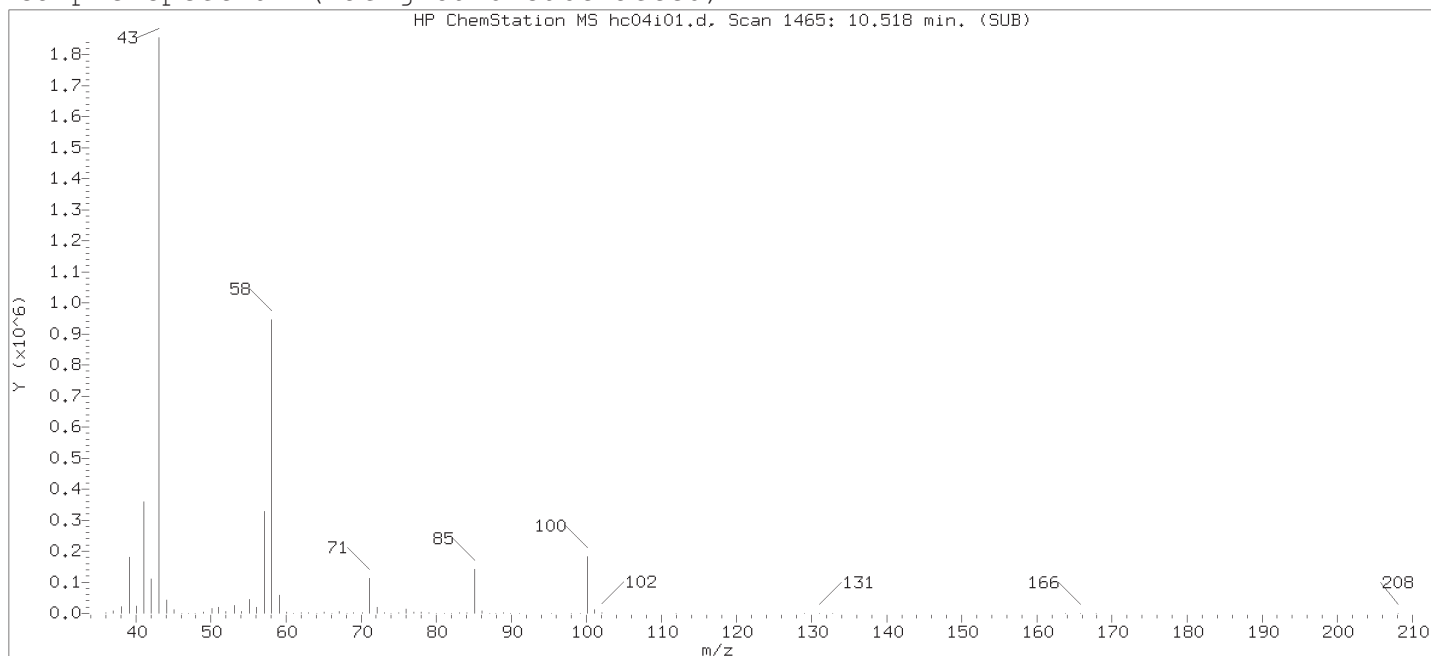
Reason for manual integration: improper integration

Analyst responsible for change:

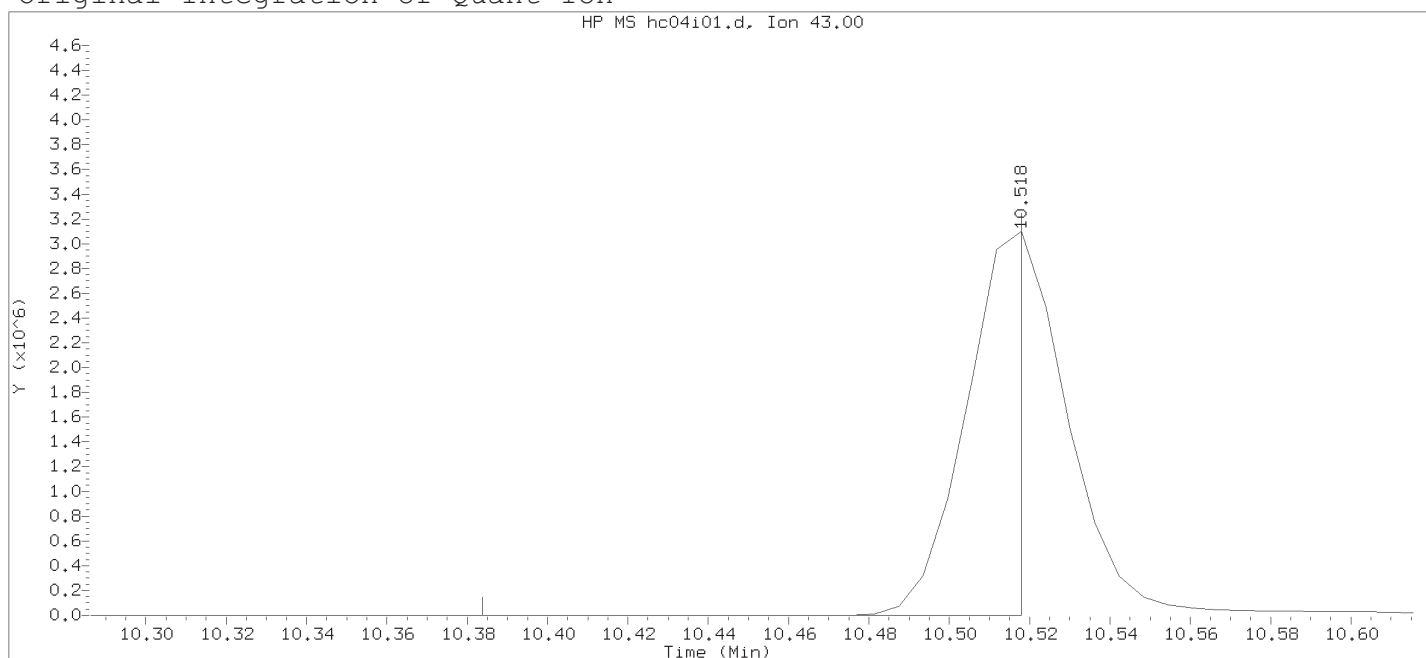
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:49.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 10:53

Date, time and analyst ID of latest file update: 04-Oct-2016 10:53 Automation

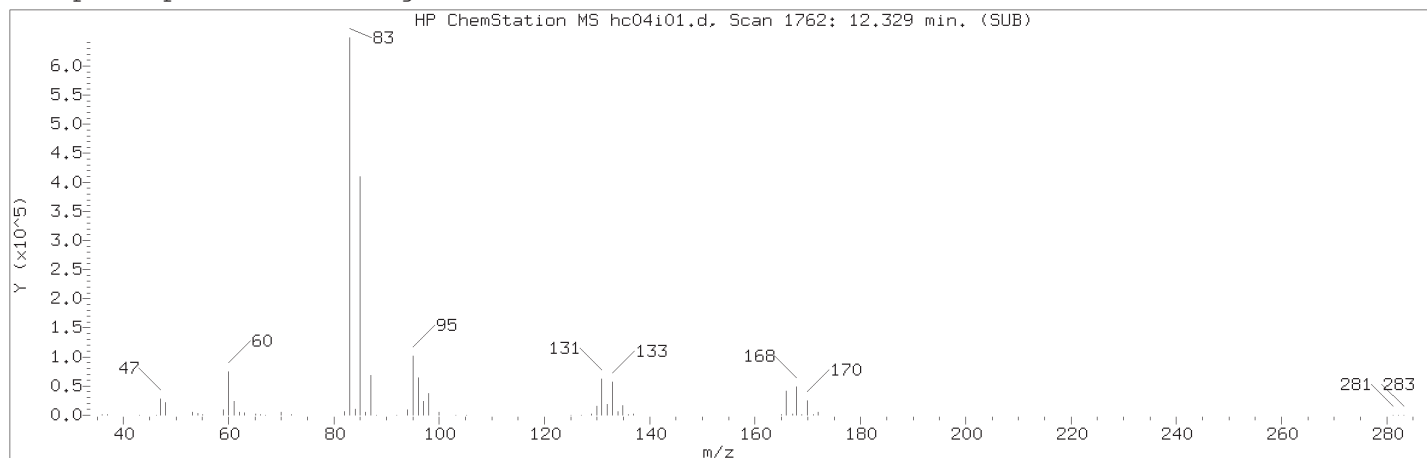
Sample Name: VSTD025

Lab Sample ID: VSTD025

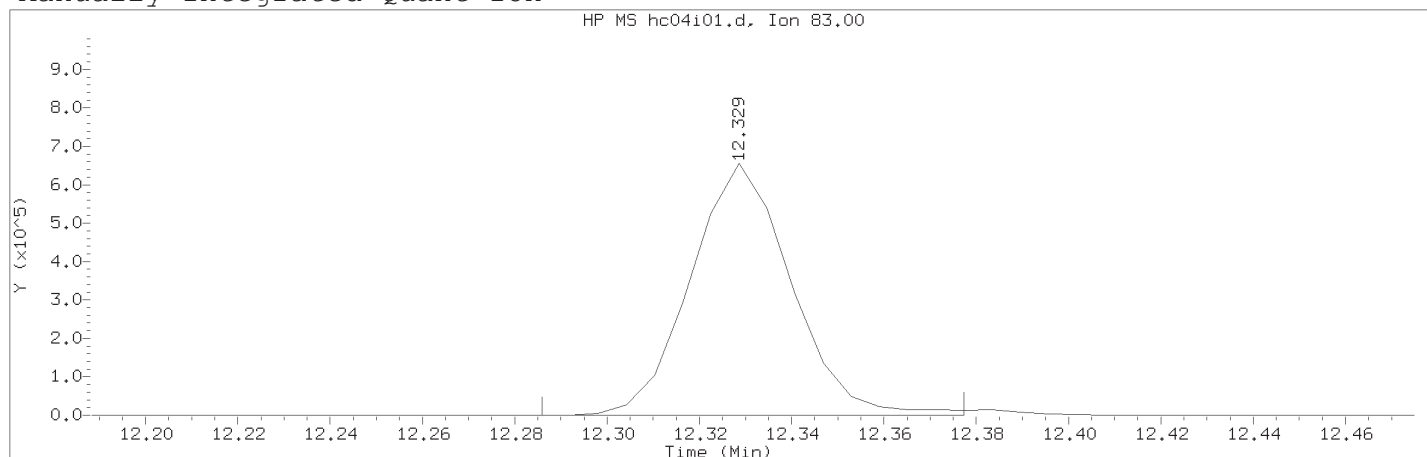
Compound Number : 91
 Compound Name : 2-Hexanone
 Scan Number : 1465
 Retention Time (minutes) : 10.518
 Quant Ion : 43.00
 Area : 2844218
 On-column Amount (ng) : 169.7472
 Integration start scan : 1442
 Y at integration start : 406

Integration stop scan: 1464
 Y at integration end: 406

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 10:34 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

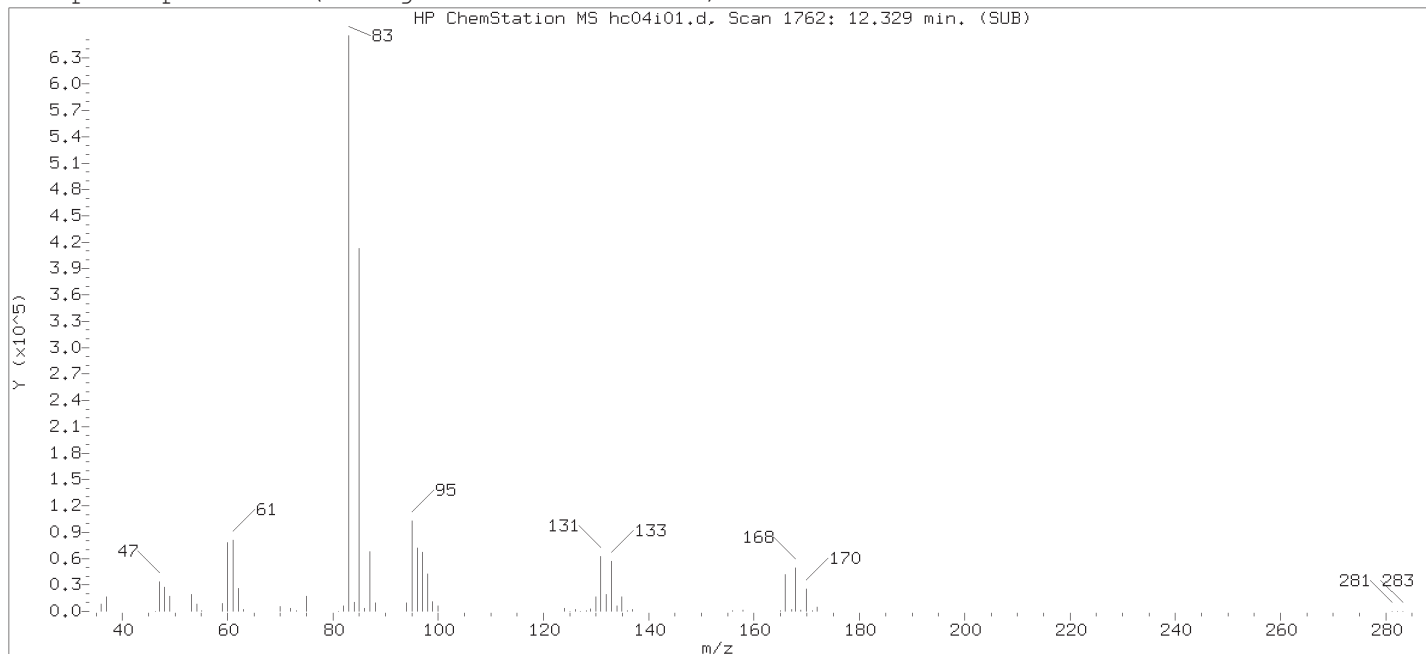
Compound Number	: 113	
Compound Name	: 1,1,2,2-Tetrachloroethane	
Scan Number	: 1762	
Retention Time (minutes)	: 12.329	
Quant Ion	: 83.00	
Area (flag)	: 991627M	
On-Column Amount (ng)	: 22.2697	
Integration start scan	: 1754	Integration stop scan: 1769
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

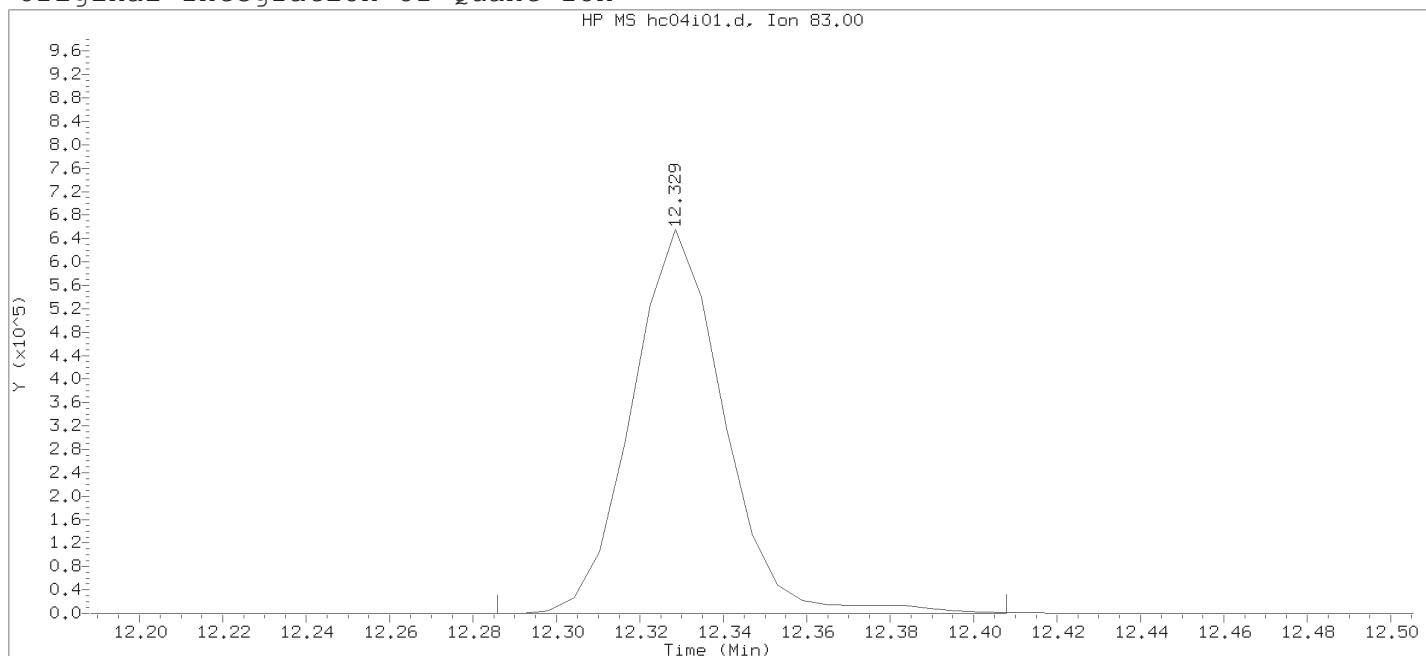
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:49.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 10:53

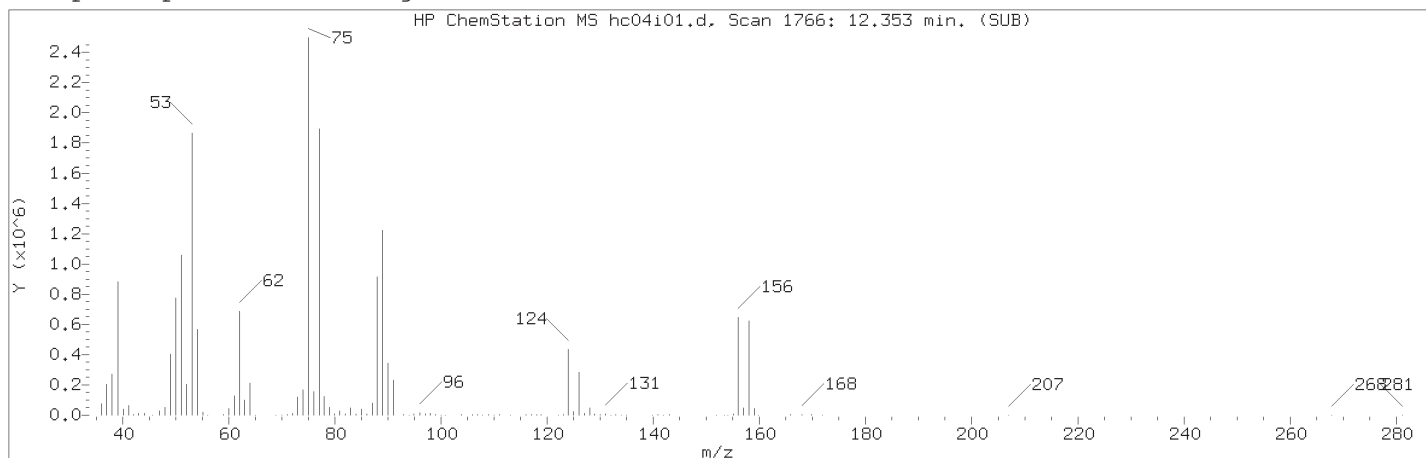
Date, time and analyst ID of latest file update: 04-Oct-2016 10:53 Automation

Sample Name: VSTD025

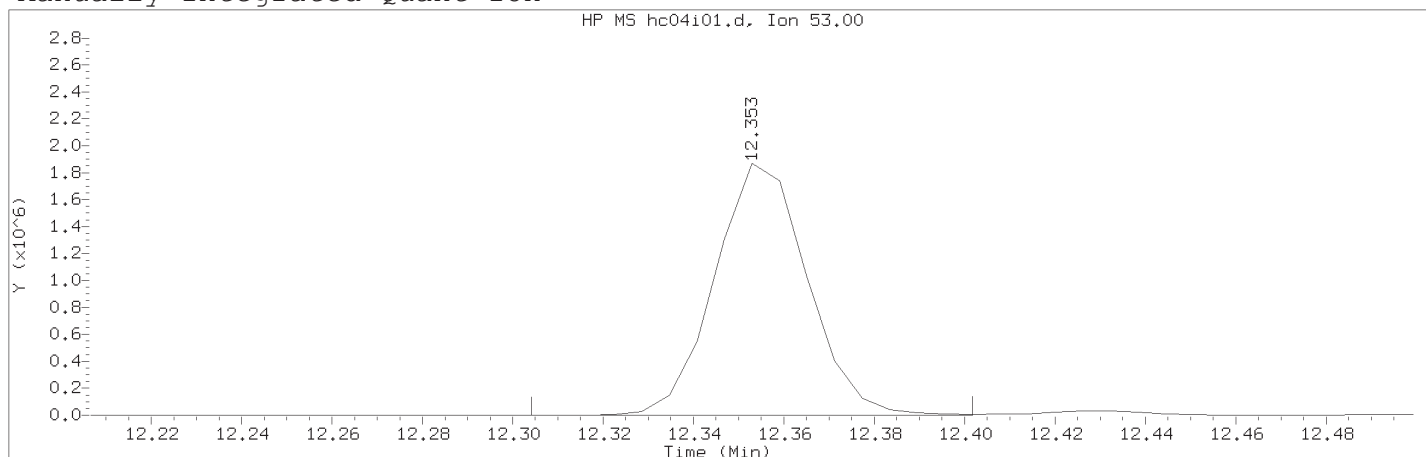
Lab Sample ID: VSTD025

Compound Number	: 113	
Compound Name	: 1,1,2,2-Tetrachloroethane	
Scan Number	: 1762	
Retention Time (minutes)	: 12.329	
Quant Ion	: 83.00	
Area	: 1001525	
On-column Amount (ng)	: 21.3307	
Integration start scan	: 1754	Integration stop scan: 1774
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compound Number	: 115	
Compound Name	: trans-1,4-Dichloro-2-butene	
Scan Number	: 1766	
Retention Time (minutes)	: 12.353	
Quant Ion	: 53.00	
Area (flag)	: 2654196A	
On-Column Amount (ng)	: 273.3461	
Integration start scan	: 1757	Integration stop scan: 1773
Y at integration start	: 0	Y at integration end: 0

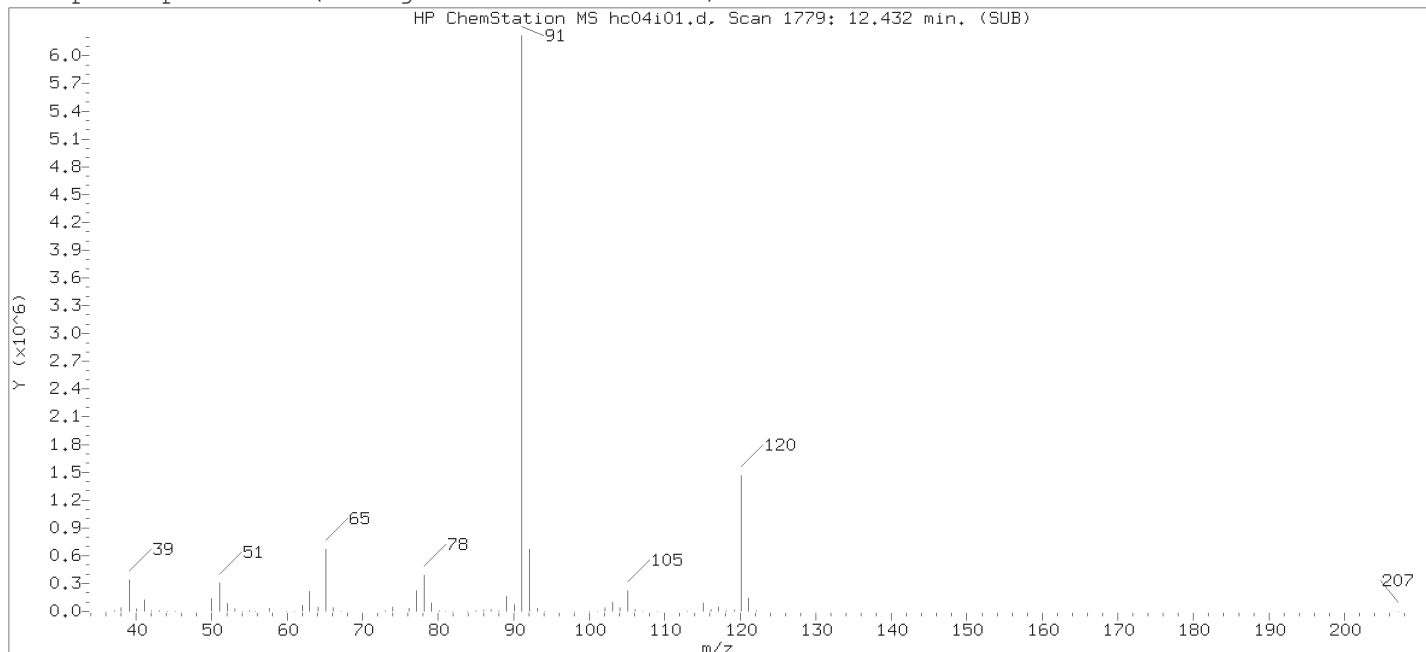
Reason for manual integration: improper integration

Analyst responsible for change:

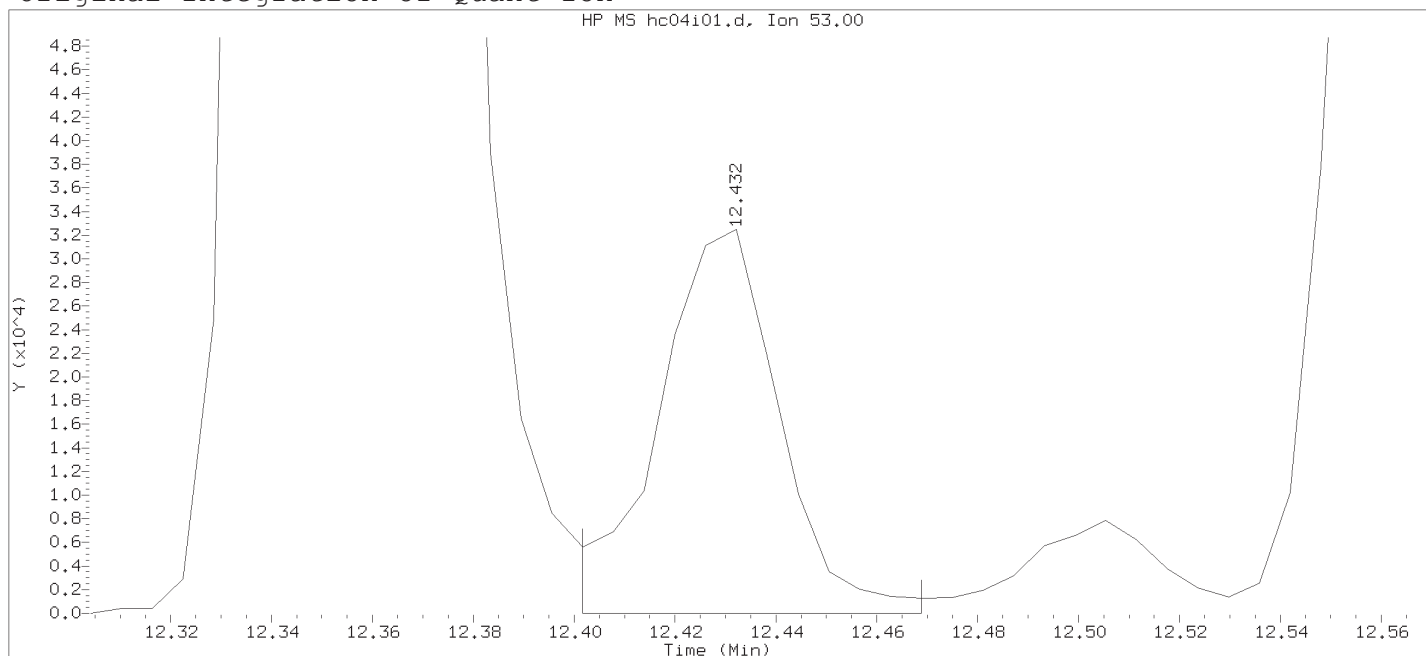
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:49.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 10:53

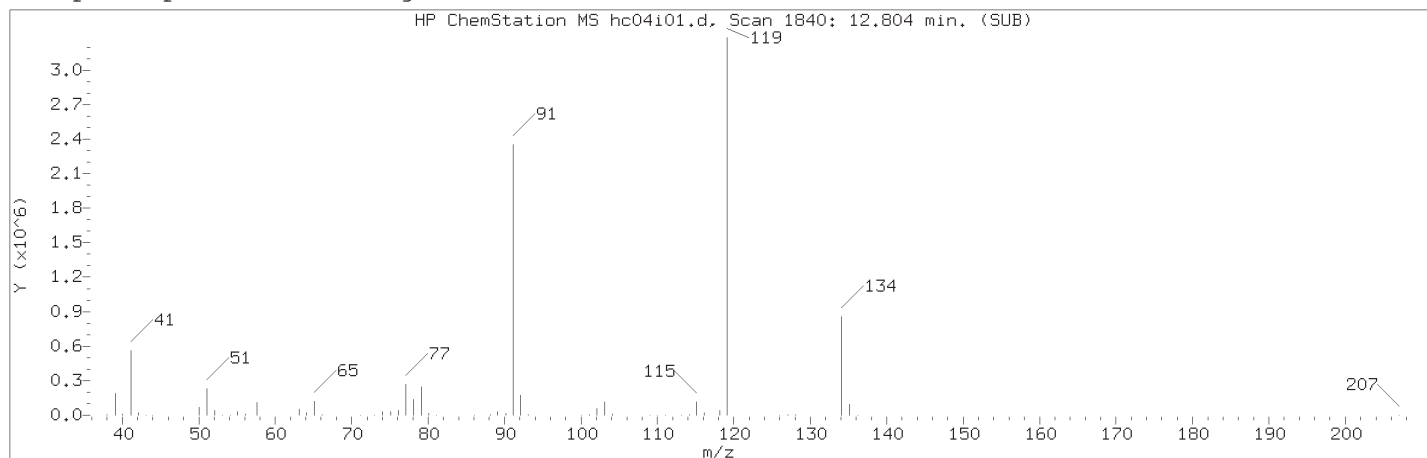
Date, time and analyst ID of latest file update: 04-Oct-2016 10:53 Automation

Sample Name: VSTD025

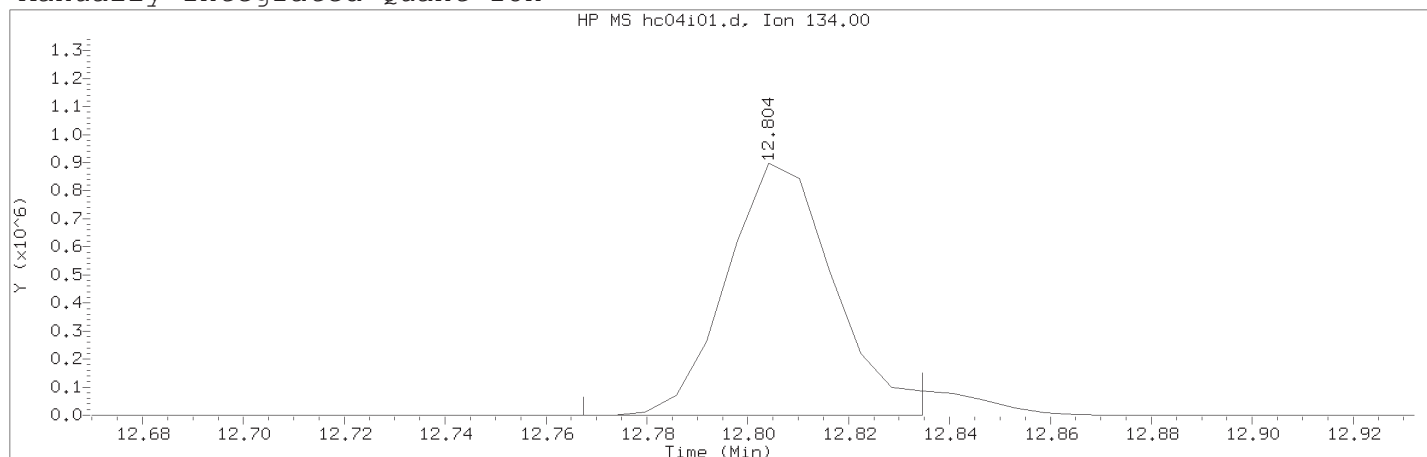
Lab Sample ID: VSTD025

Compound Number	: 115	
Compound Name	: trans-1,4-Dichloro-2-butene	
Scan Number	: 1779	
Retention Time (minutes)	: 12.432	
Quant Ion	: 53.00	
Area	: 53667	
On-column Amount (ng)	: 8.7933	
Integration start scan	: 1773	Integration stop scan: 1784
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compound Number	: 125	
Compound Name	: tert-Butylbenzene	
Scan Number	: 1840	
Retention Time (minutes)	: 12.804	
Quant Ion	: 134.00	
Area (flag)	: 1323911M	
On-Column Amount (ng)	: 23.1740	
Integration start scan	: 1833	Integration stop scan: 1844
Y at integration start	: 0	Y at integration end: 0

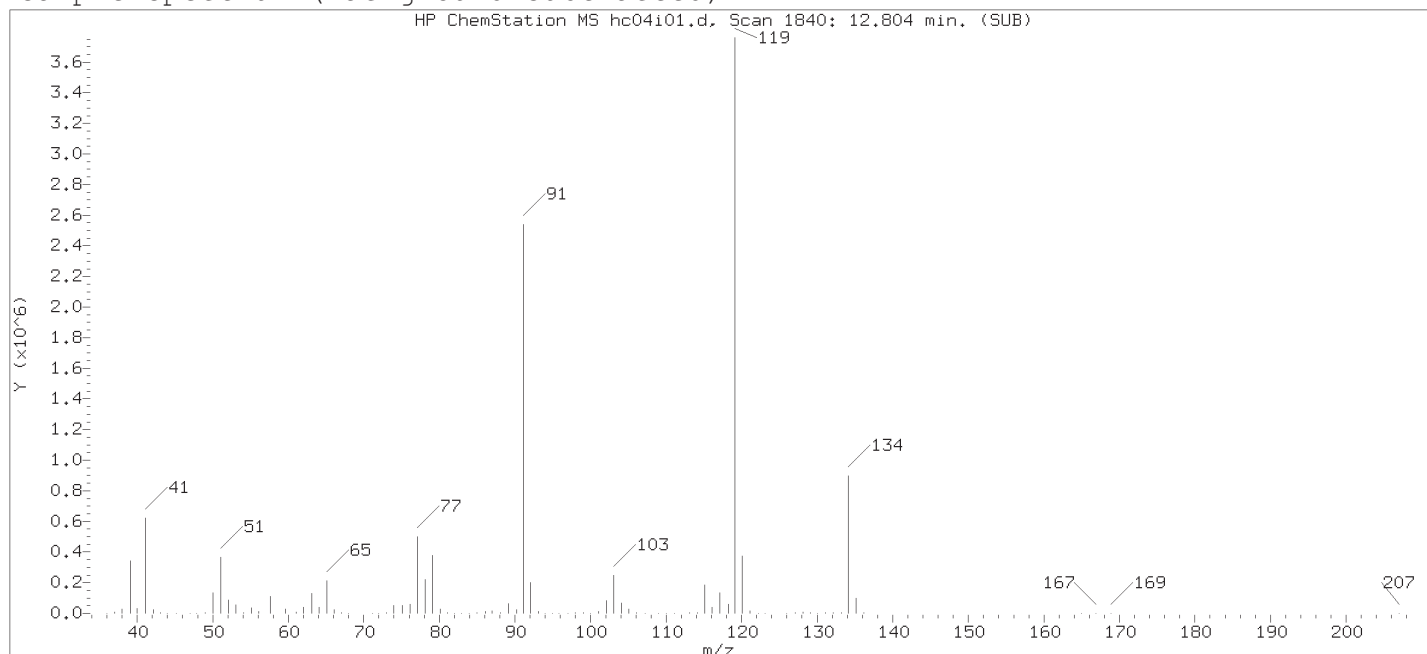
Reason for manual integration: improper integration

Analyst responsible for change:

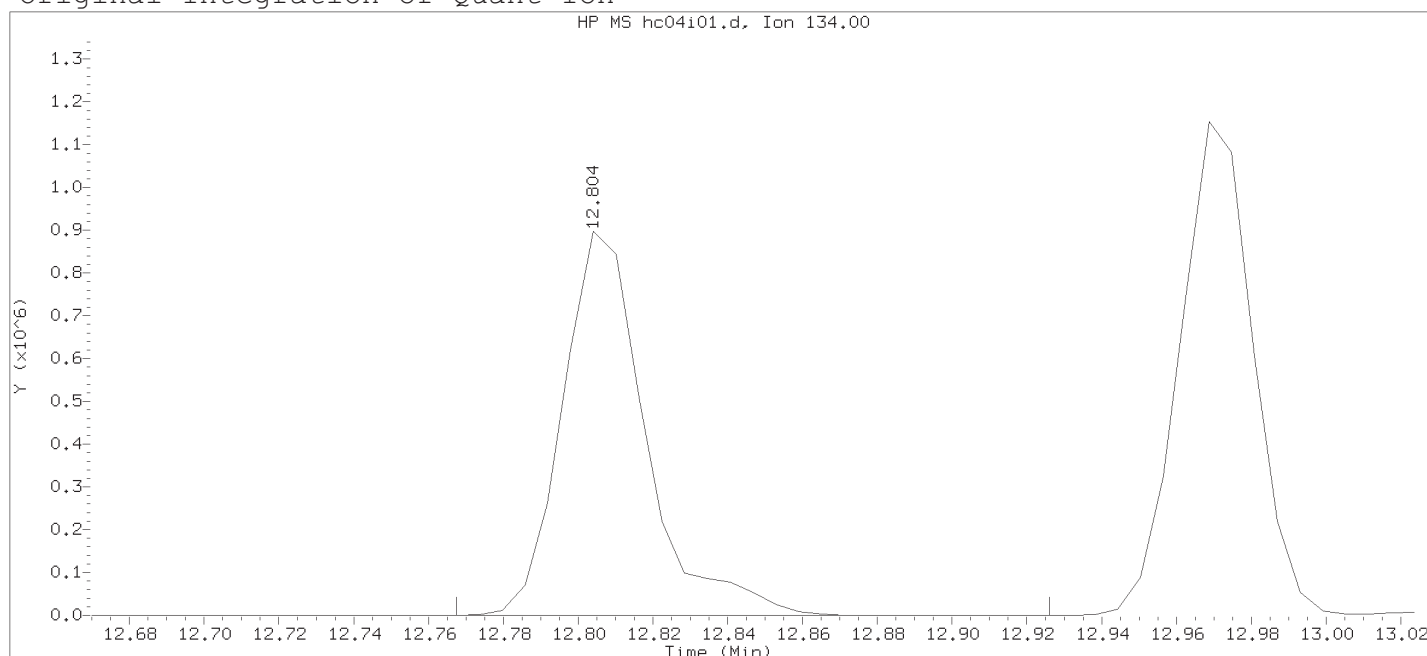
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:49.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 10:53

Date, time and analyst ID of latest file update: 04-Oct-2016 10:53 Automation

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compound Number : 125

Compound Name : tert-Butylbenzene

Scan Number : 1840

Retention Time (minutes) : 12.804

Quant Ion : 134.00

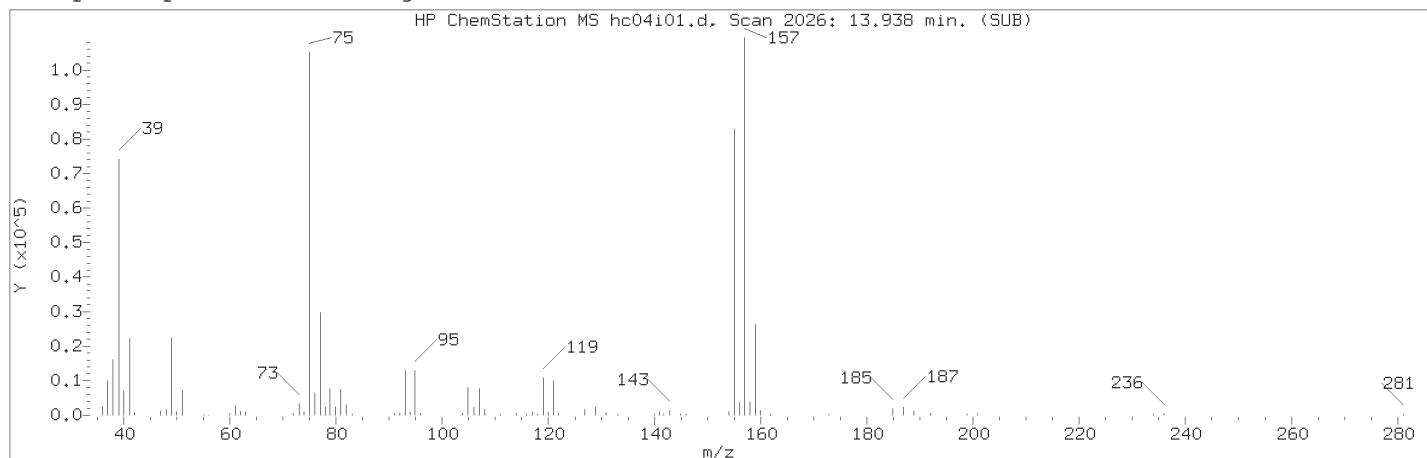
Area : 1385233

On-column Amount (ng) : 22.3782

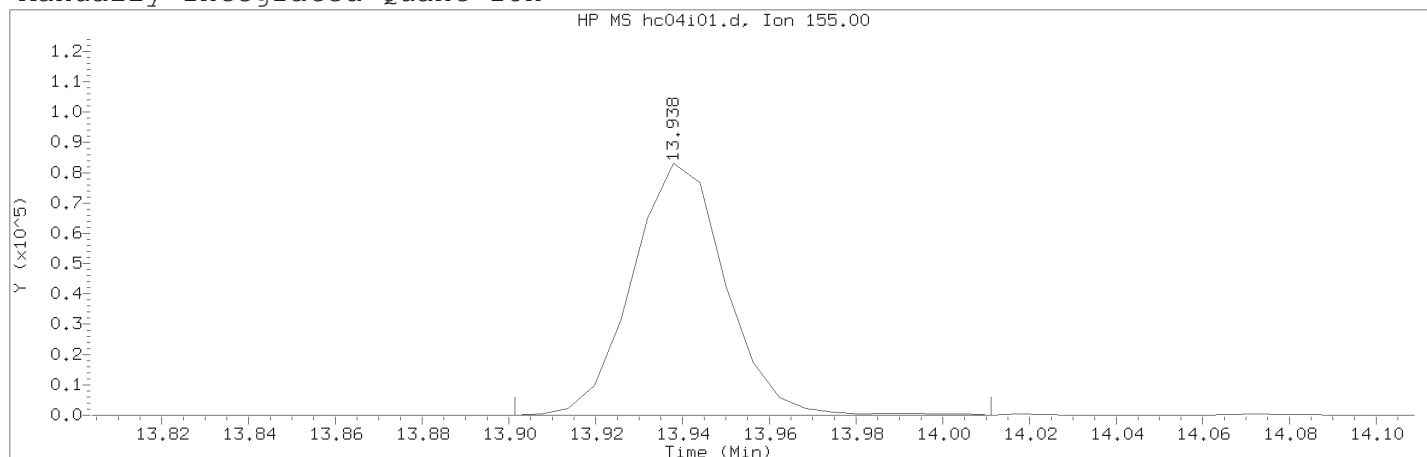
Integration start scan : 1833 Integration stop scan: 1859

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compound Number	: 143	
Compound Name	: 1,2-Dibromo-3-chloropropane	
Scan Number	: 2026	
Retention Time (minutes)	: 13.938	
Quant Ion	: 155.00	
Area (flag)	: 124084A	
On-Column Amount (ng)	: 26.0041	
Integration start scan	: 2019	Integration stop scan: 2037
Y at integration start	: 0	Y at integration end: 0

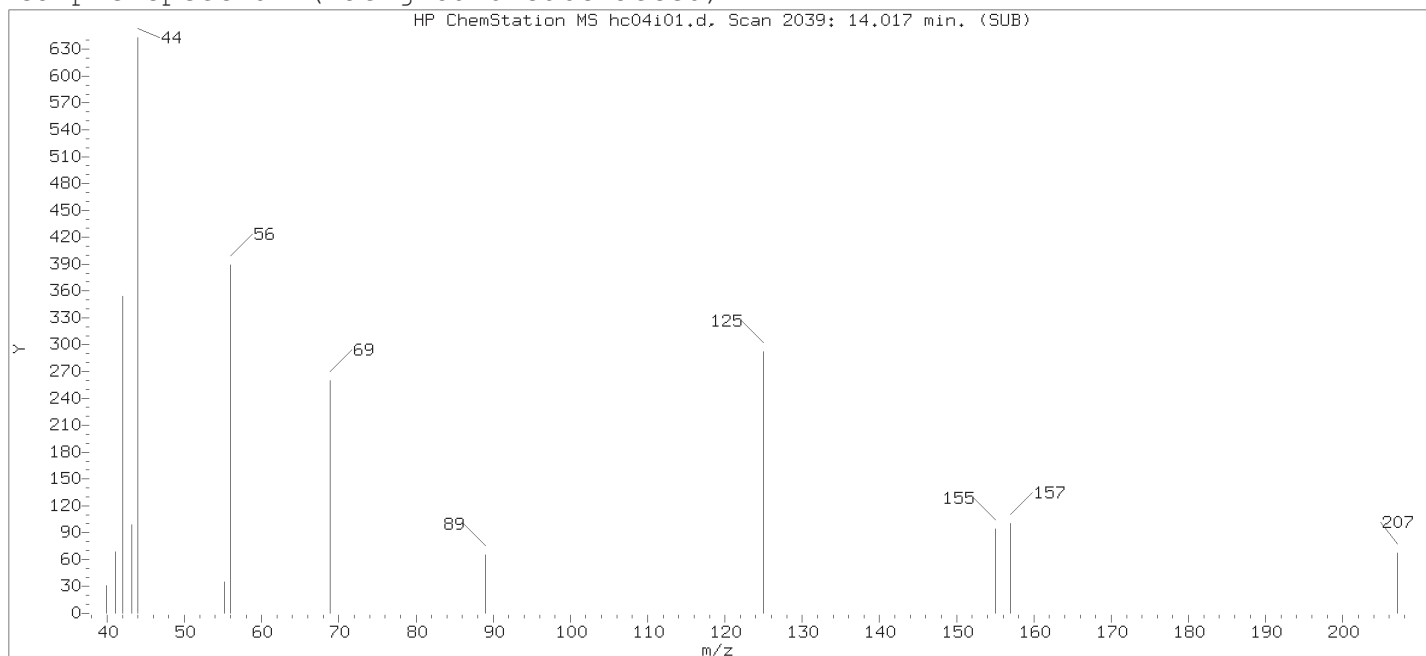
Reason for manual integration: improper integration

Analyst responsible for change:

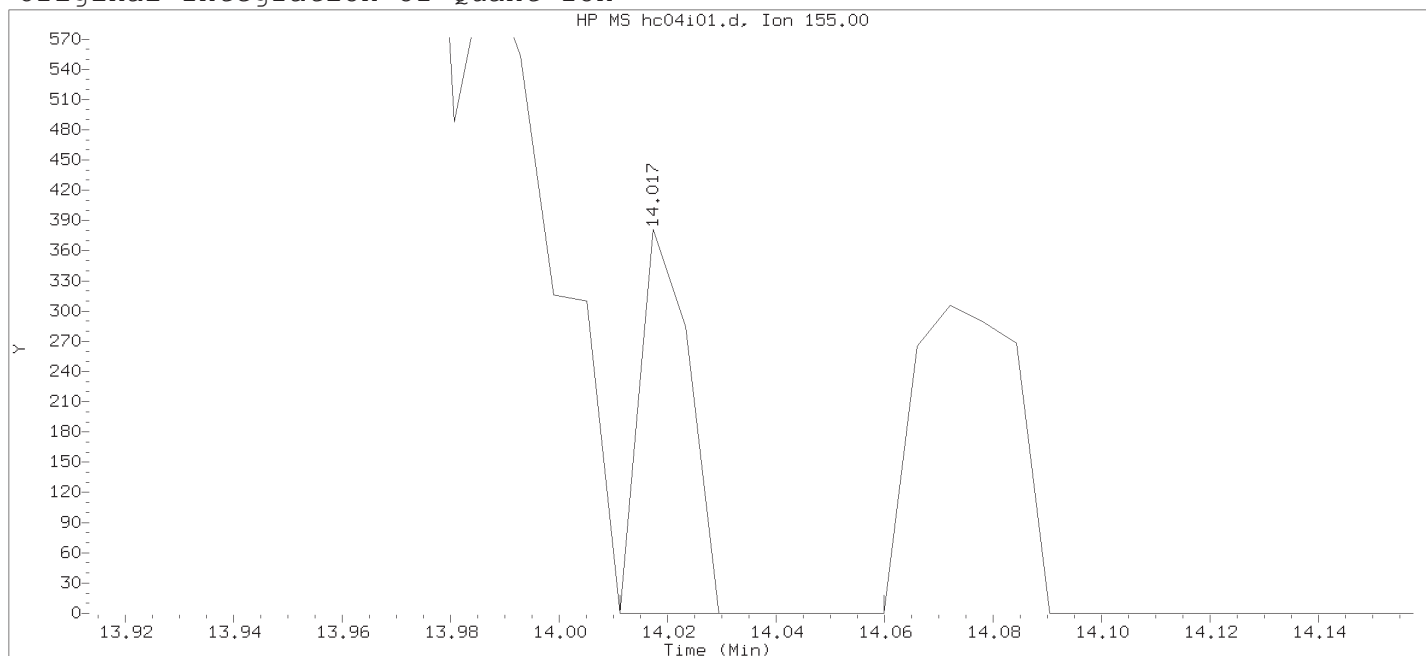
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:49.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 10:53

Date, time and analyst ID of latest file update: 04-Oct-2016 10:53 Automation

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compound Number : 143

Compound Name : 1,2-Dibromo-3-chloropropane

Scan Number : 2039

Retention Time (minutes): 14.017

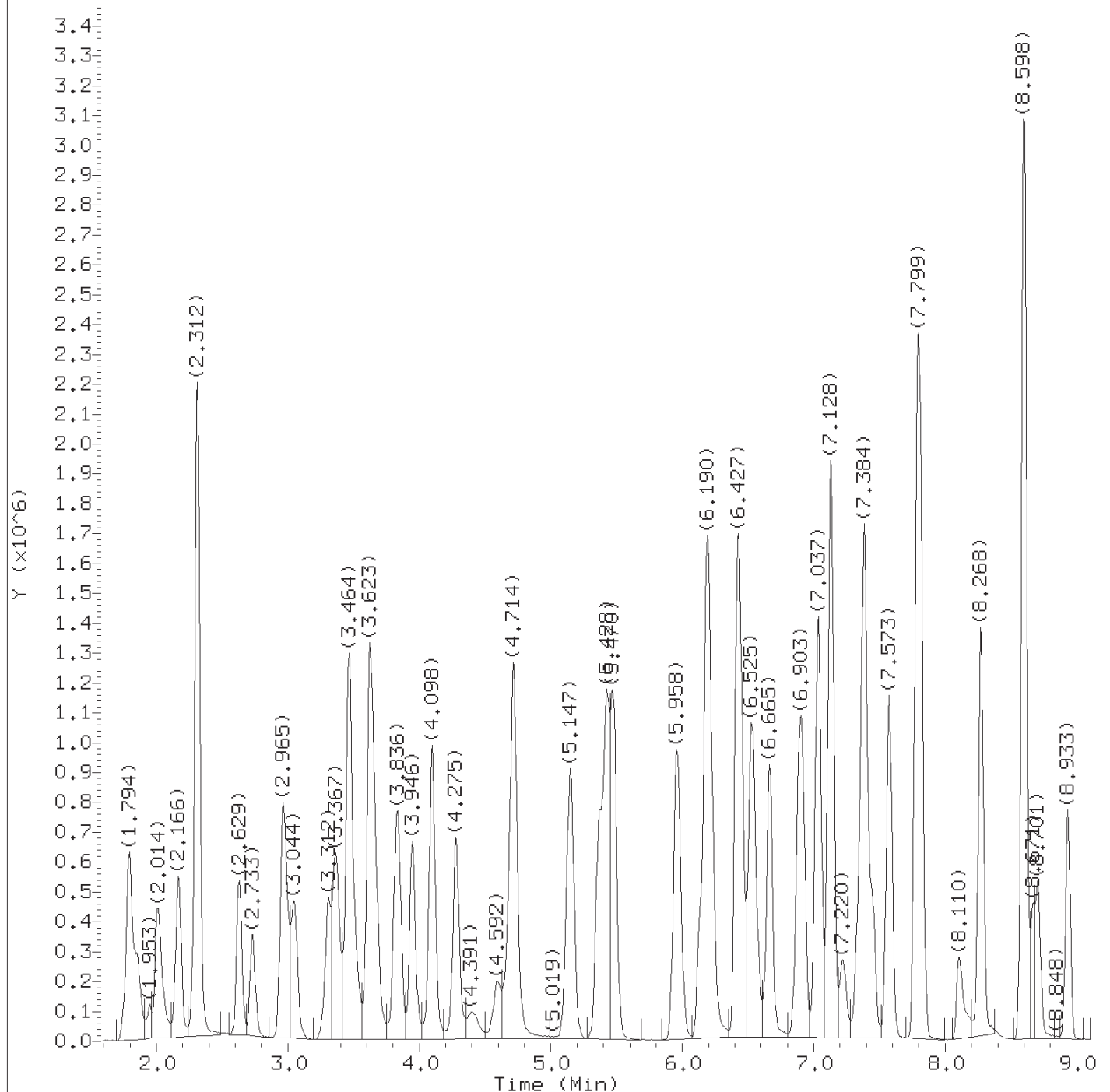
Quant Ion : 155.00

Area : 243

On-column Amount (ng) : 0.0670

Integration start scan : 2037 Integration stop scan: 2045

Y at integration start : 0 Y at integration end: 0



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d
Injection date and time: 04-OCT-2016 10:54

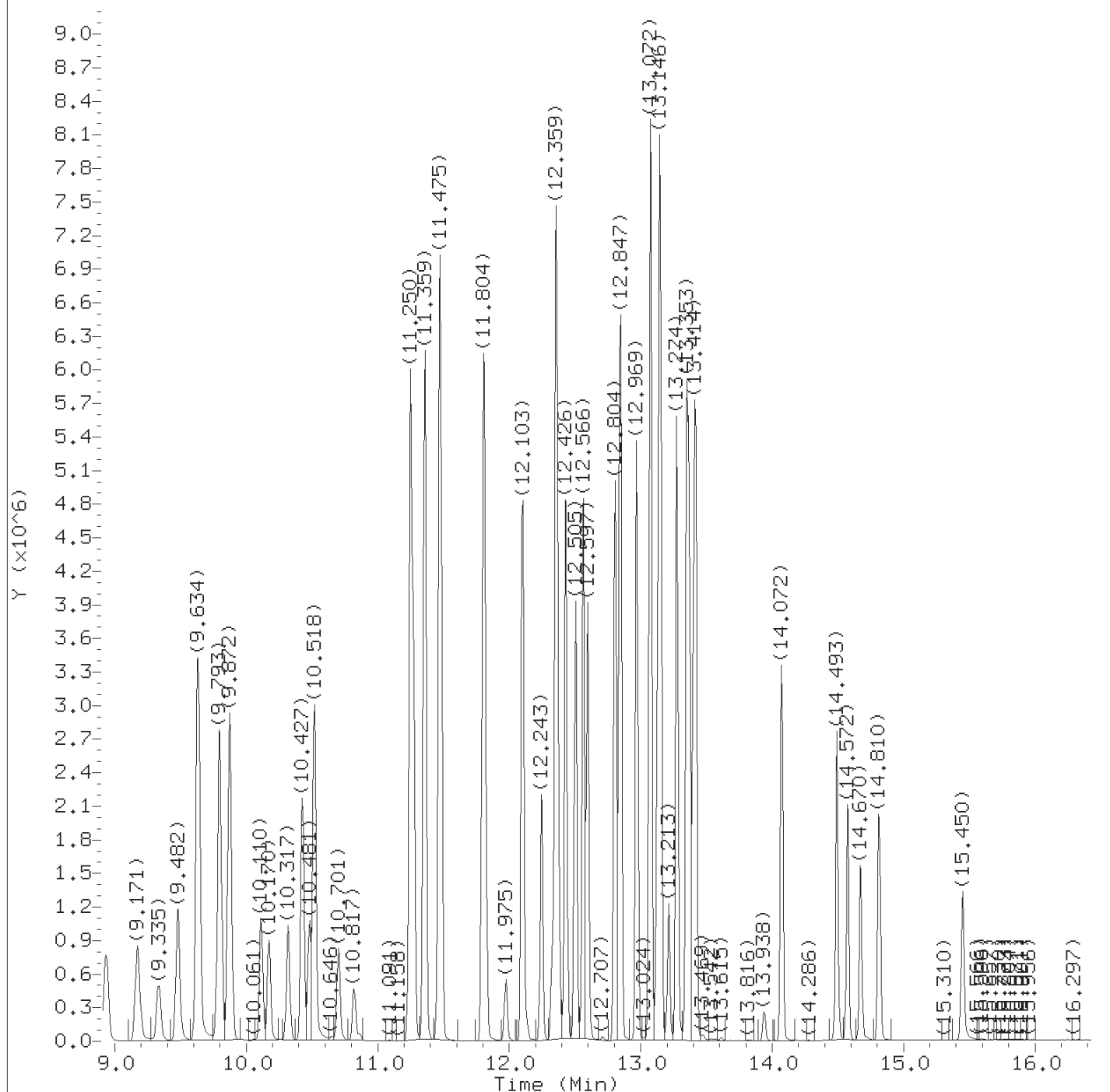
Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 10:54 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature User ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d
 Injection date and time: 04-OCT-2016 10:54

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:28
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.014	85	957588	10.079
2) Chloromethane	(2)	2.172	50	946986	9.313
5) Vinyl Chloride	(2)	2.306	62	868075	9.576
6) 1,3-Butadiene	(2)	2.312	39	1268667	9.131
7) Bromomethane	(2)	2.629	94	544767	9.367
8) Chloroethane	(2)	2.733	64	478057	9.328
9) Dichlorofluoromethane	(2)	2.958	67	1166159	9.532
10) Trichlorofluoromethane	(2)	3.044	101	1083198	9.846
11) Ethyl ether	(2)	3.300	59	398322	9.812
12) Freon 123a	(2)	3.367	67	749009	9.807
13) Acrolein	(1)	3.464	56	2434234	556.450
15) 1,1-Dichloroethene	(2)	3.617	96	496715	9.689
14) Acetone	(1)	3.635	43	571971	97.663
16) Freon 113	(2)	3.653	101	556218	9.927
17) Methyl Iodide	(2)	3.824	142	943870	9.634
18) Carbon Disulfide	(2)	3.946	76	1453886	9.353
21) Methyl Acetate	(1)	4.068	43	188632M	9.944
22) Allyl Chloride	(2)	4.098	41	1059300	9.498
23) Methylene Chloride	(2)	4.281	84	516557	9.391
26)*t-Butyl Alcohol-d10	(1)	4.287	65	60829M	50.000
28) t-Butyl Alcohol	(1)	4.409	59	303245	187.665
29) Acrylonitrile	(1)	4.592	53	413390	59.989
30) Methyl Tertiary Butyl Ether	(2)	4.702	73	1159973	9.699
31) trans-1,2-Dichloroethene	(2)	4.720	96	550494	9.474
32) n-Hexane	(2)	5.147	57	894865	10.103
33) 1,1-Dichloroethane	(2)	5.367	63	1101926	9.631
34) di-Isopropyl Ether	(2)	5.428	45	2003778	9.767
35) 2-Chloro-1,3-Butadiene	(2)	5.482	53	1042674	9.843
37) Ethyl t-butyl ether	(2)	5.958	59	1631417	9.802
40) 1,2-Dichloroethene (Total)	(2)		96	1163381	19.095
38) 2-Butanone	(1)	6.141	43	1166145	112.527
39) cis-1,2-Dichloroethene	(2)	6.190	96	612887	9.621
41) 2,2-Dichloropropane	(2)	6.208	77	904694	9.743
42) Propionitrile	(1)	6.214	54	481718	210.750
45) Methacrylonitrile	(1)	6.427	67	1125157	115.296
47) Bromochloromethane	(2)	6.519	128	251363	9.840
48) Tetrahydrofuran	(1)	6.549	71	302506	113.247
49) Chloroform	(2)	6.665	83	1060886	9.599

M = Compound was manually integrated.

* = Compound is an internal standard.

page 1 of 4

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 on 10/04/2016 at 15:33.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d
 Injection date and time: 04-OCT-2016 10:54

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:28
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
50) \$Dibromofluoromethane	(2)	6.878	113	507171	9.893
50) \$Dibromofluoromethane	(2)	6.885	111	516377	9.851
51) 1,1,1-Trichloroethane	(2)	6.915	97	955241	9.600
52) Cyclohexane	(2)	7.031	56	1123269	9.620
52) Cyclohexane	(2)	7.037	84	885828	9.193
52) Cyclohexane	(2)	7.037	69	326411	9.911
55) 1,1-Dichloropropene	(2)	7.128	75	885794	9.848
54) Carbon Tetrachloride	(2)	7.141	117	847544	9.861
56) Isobutyl Alcohol	(1)	7.226	41	322002	514.568
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	80269	9.746
57) \$1,2-Dichloroethane-d4	(2)	7.342	65	436260	9.622
57) \$1,2-Dichloroethane-d4	(2)	7.342	104	51299	9.734
58) Benzene	(2)	7.384	78	2316767	9.661
59) 1,2-Dichloroethane	(2)	7.445	62	615485M	9.219
60) t-Amyl methyl ether	(2)	7.573	73	1327047	9.829
63) *Fluorobenzene	(2)	7.787	96	2235292	10.000
62) n-Heptane	(2)	7.811	43	1031212	9.670
65) n-Butanol	(1)	8.110	56	488953	1069.781
67) Trichloroethene	(2)	8.268	95	637769	9.707
70) 1,2-Dichloropropane	(2)	8.598	63	594413	9.738
69) Methylcyclohexane	(2)	8.604	83	1152688	10.047
71) Methyl Methacrylate	(1)	8.665	69	233126M	12.975
73) Dibromomethane	(2)	8.707	93	247040	9.665
72) 1,4-Dioxane	(1)	8.720	88	61754	592.908
74) Bromodichloromethane	(2)	8.933	83	692458	9.904
76) 2-Nitropropane	(1)	9.171	41	782825	117.778
80) cis-1,3-Dichloropropene	(2)	9.482	75	810380	10.211
81) 4-Methyl-2-Pentanone	(1)	9.634	43	3242569	117.073
82) \$Toluene-d8	(3)	9.799	98	2194312	9.979
82) \$Toluene-d8	(3)	9.793	100	1404174	9.930
83) Toluene	(3)	9.872	92	1456561	9.639
84) trans-1,3-Dichloropropene	(3)	10.110	75	630011	10.274
85) 1,3-Dichloropropene (total)	(3)		75	1440391	20.485
86) Ethyl Methacrylate	(3)	10.170	69	483838	10.233
88) 1,1,2-Trichloroethane	(3)	10.317	97	340285	9.782
89) Tetrachloroethene	(3)	10.427	166	705580	9.755
90) 1,3-Dichloropropane	(3)	10.481	76	612116	9.681
91) 2-Hexanone	(1)	10.518	43	2255562	117.641

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/04/2016 at 15:33.
 Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d
 Injection date and time: 04-OCT-2016 10:54

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:28
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
93) Dibromochloromethane	(3)	10.701	129	439129	10.180
95) 1,2-Dibromoethane	(3)	10.817	107	331985	10.092
97) *Chlorobenzene-d5	(3)	11.243	117	1455786	10.000
98) Chlorobenzene	(3)	11.274	112	1557505	9.673
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	548554	9.914
100) Ethylbenzene	(3)	11.359	91	2928719	9.849
101) m+p-Xylene	(3)	11.475	106	2215102	19.826
105) Xylene (Total)	(3)		106	3295714	29.742
104) o-Xylene	(3)	11.798	106	1080612	9.916
106) Styrene	(3)	11.816	104	1703294	10.215
107) Bromoform	(3)	11.975	173	239807	10.154
108) Isopropylbenzene	(3)	12.103	105	2909070	9.901
111) \$4-Bromofluorobenzene	(3)	12.243	95	641922	9.929
111) \$4-Bromofluorobenzene	(3)	12.249	174	580066	10.026
113) 1,1,2,2-Tetrachloroethane	(4)	12.329	83	398091	9.724
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	1029351A	125.401
114) Bromobenzene	(4)	12.365	156	642863	9.737
116) 1,2,3-Trichloropropane	(4)	12.383	110	104458	9.557
117) n-Propylbenzene	(4)	12.432	91	3489983	9.971
119) 2-Chlorotoluene	(4)	12.505	126	647184	9.782
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	2403474	9.983
122) 4-Chlorotoluene	(4)	12.597	126	661621	9.779
125) tert-Butylbenzene	(4)	12.804	134	511972M	9.747
126) Pentachloroethane	(4)	12.841	167	414102	10.189
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	2417260	9.945
128) sec-Butylbenzene	(4)	12.969	105	3112372	9.851
131) 1,3-Dichlorobenzene	(4)	13.072	146	1270936	9.899
132) p-Isopropyltoluene	(4)	13.078	119	2637708	10.006
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	661919	10.000
134) 1,4-Dichlorobenzene	(4)	13.146	146	1256859	9.411
135) 1,2,3-Trimethylbenzene	(4)	13.152	120	1021868	9.714
136) Benzyl Chloride	(4)	13.213	126	153743M	11.039
138) n-Butylbenzene	(4)	13.365	92	1292795	10.215
139) 1,2-Dichlorobenzene	(4)	13.402	146	1104249	9.668
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	49618	12.300
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	767483	9.434
146) Hexachlorobutadiene	(4)	14.578	225	366521	9.470
147) Naphthalene	(4)	14.676	128	1139794	9.229

M = Compound was manually integrated.

A = User selected an alternate hit.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/04/2016 at 15:33.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 10:54 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010

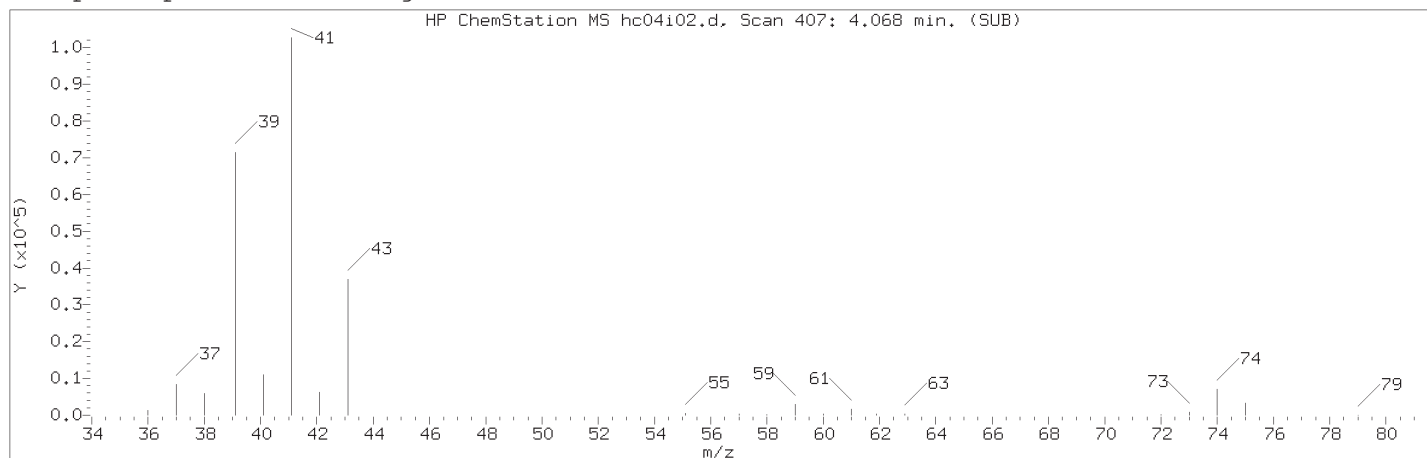
Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
148) 1,2,3-Trichlorobenzene	(4)	14.816	180	615039	8.981

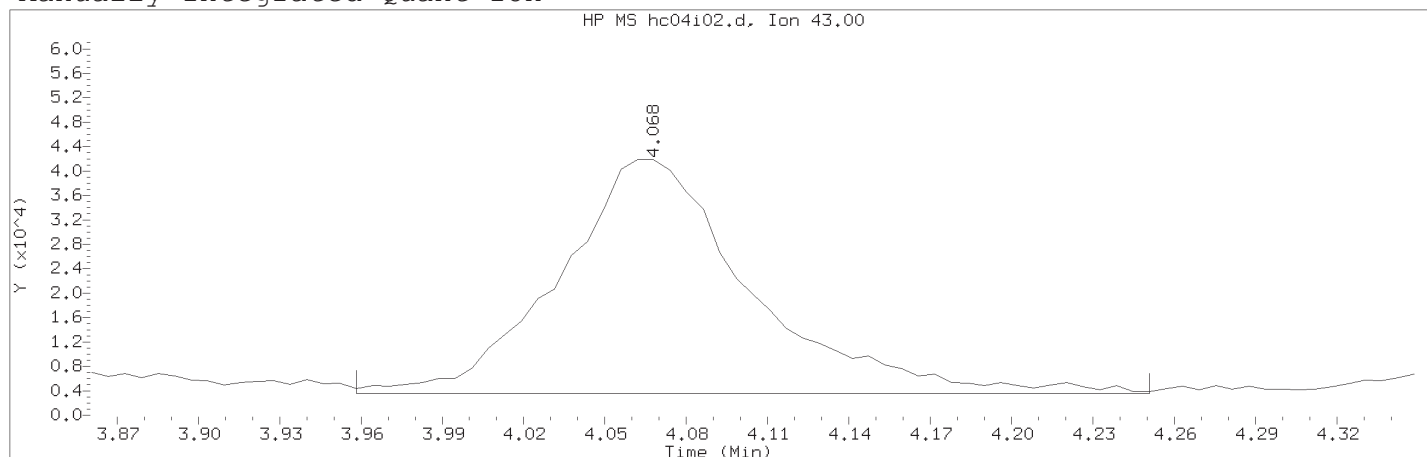
page 4 of 4

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on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 21	
Compound Name	: Methyl Acetate	
Scan Number	: 407	
Retention Time (minutes)	: 4.068	
Quant Ion	: 43.00	
Area (flag)	: 188632M	
On-Column Amount (ng)	: 9.9437	
Integration start scan	: 388	Integration stop scan: 436
Y at integration start	: 3580	Y at integration end: 3580

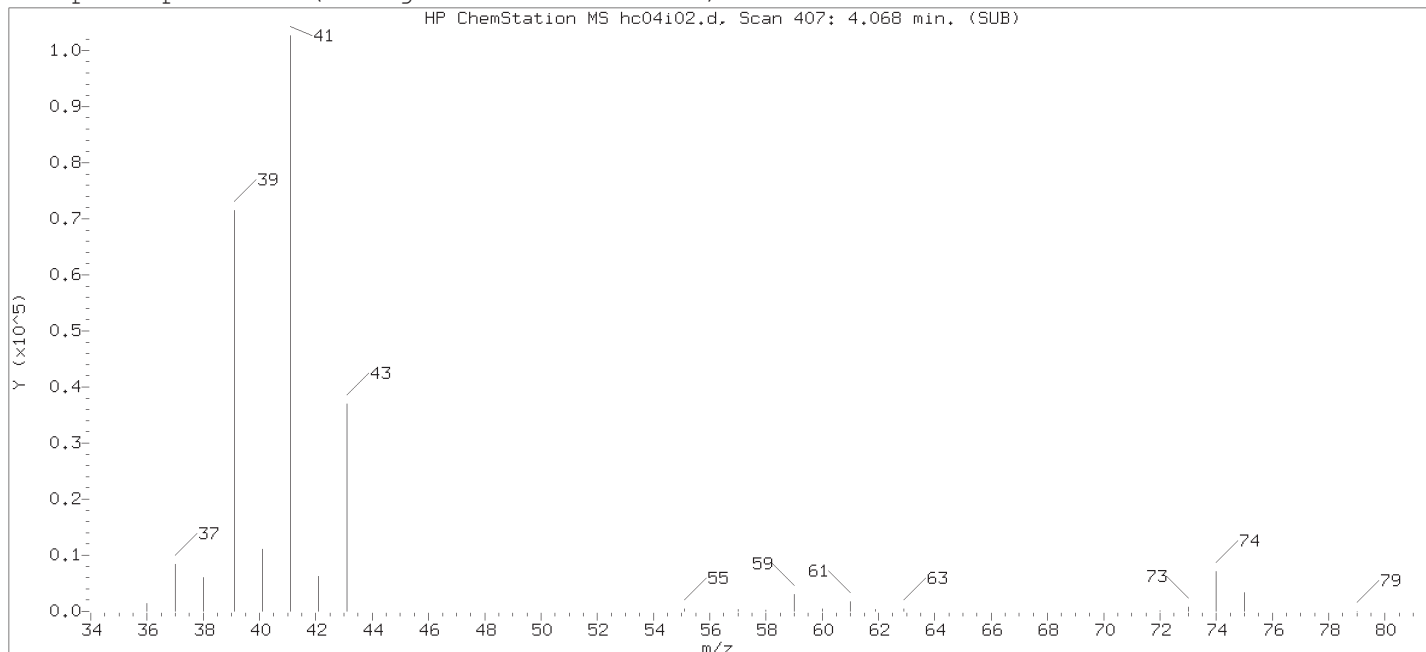
Reason for manual integration: improper integration

Analyst responsible for change:

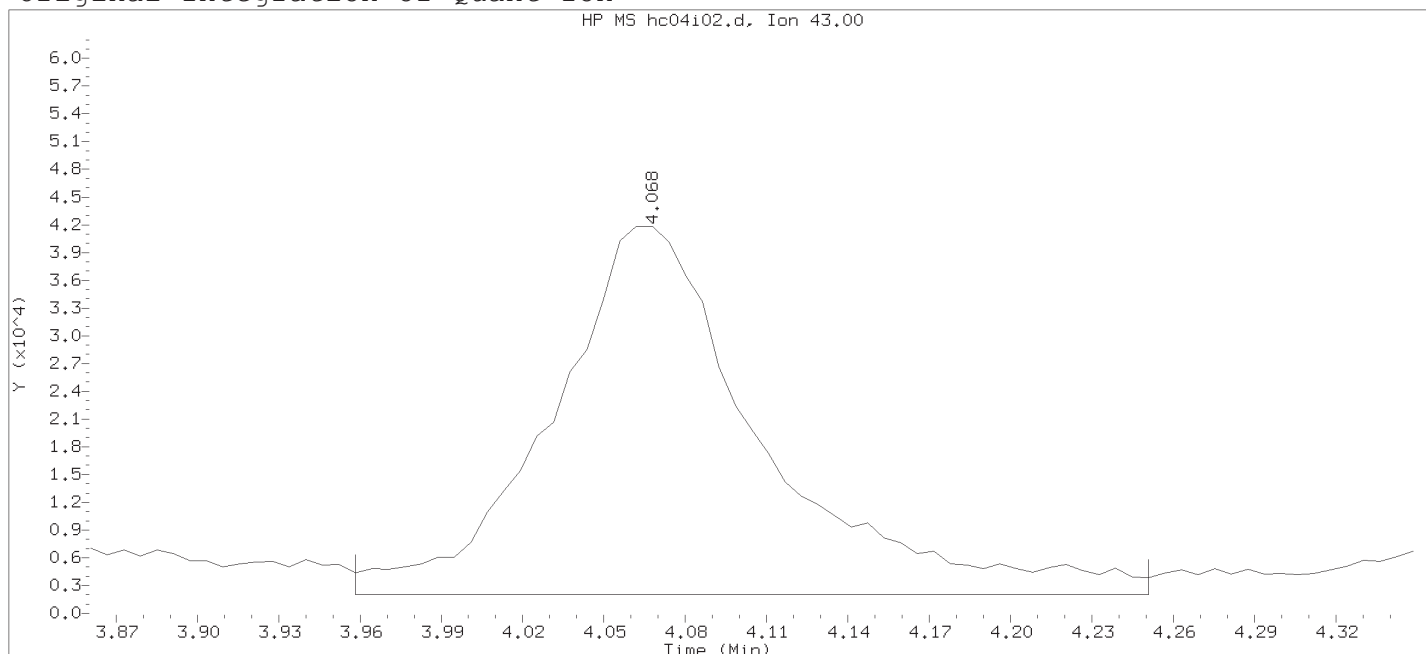
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:13

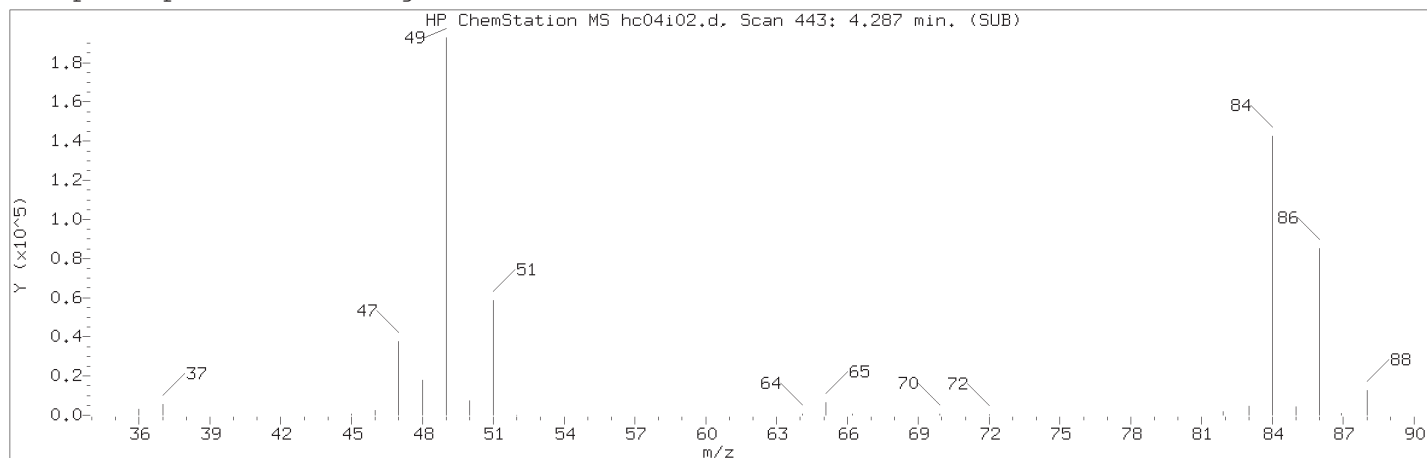
Date, time and analyst ID of latest file update: 04-Oct-2016 11:13 Automation

Sample Name: VSTD010

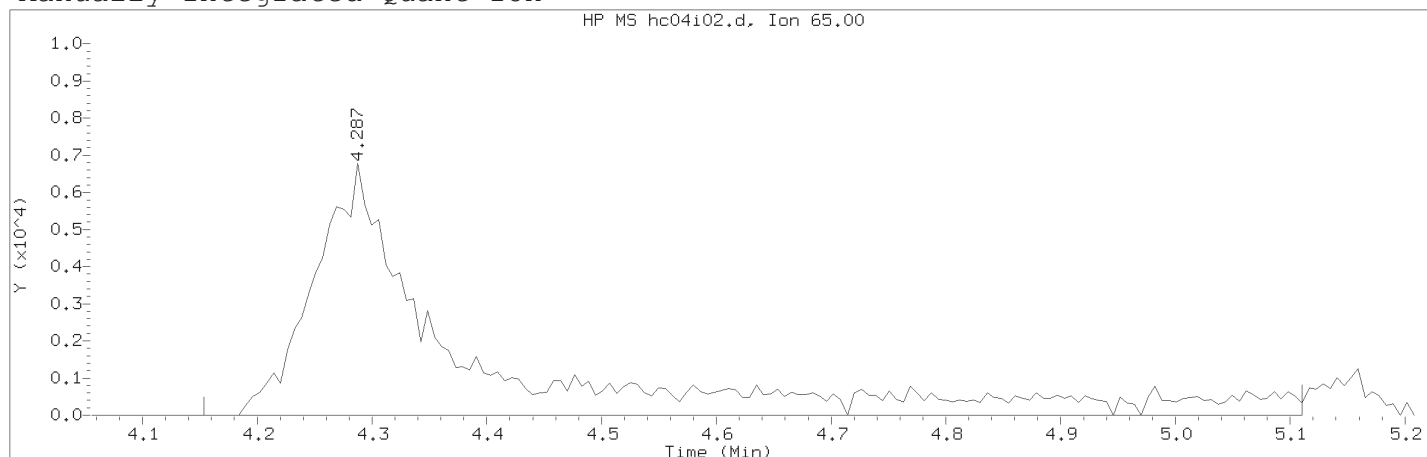
Lab Sample ID: VSTD010

Compound Number	: 21	
Compound Name	: Methyl Acetate	
Scan Number	: 407	
Retention Time (minutes)	: 4.068	
Quant Ion	: 43.00	
Area	: 216318	
On-column Amount (ng)	: 14.2722	
Integration start scan	: 388	Integration stop scan: 436
Y at integration start	: 1992	Y at integration end: 1992

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

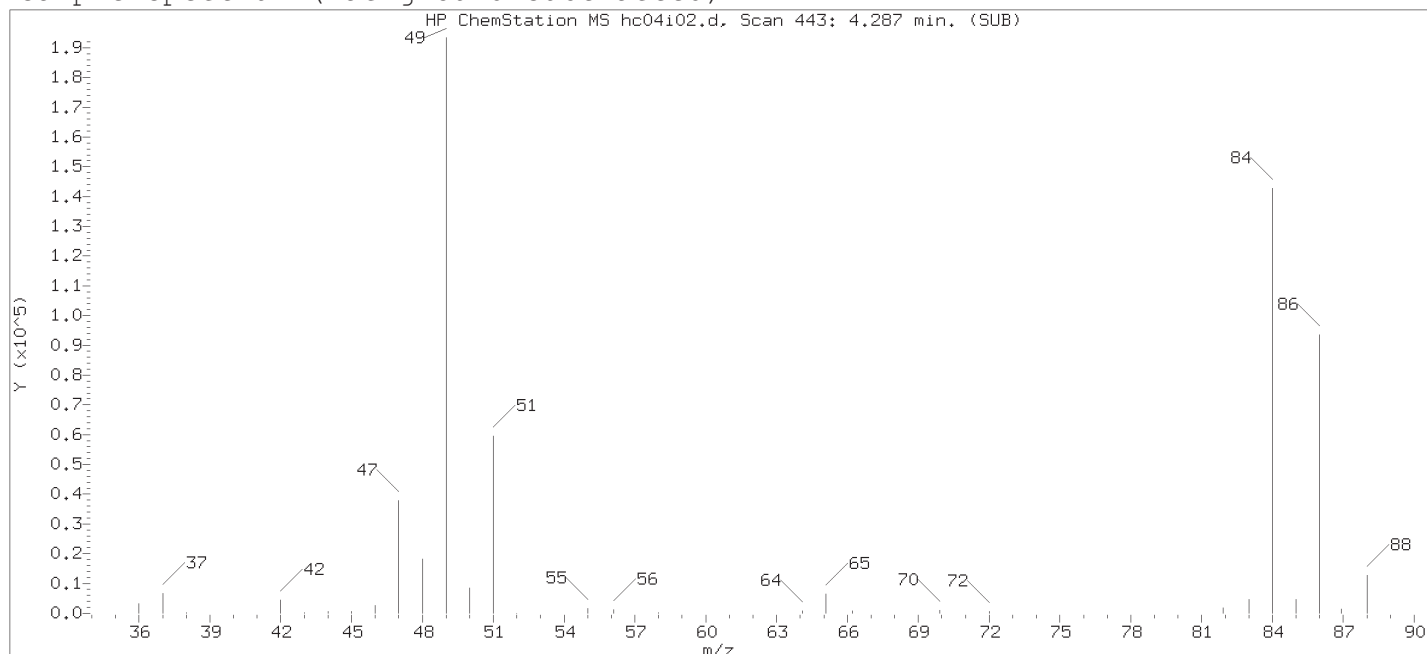
Compound Number	: 26	
Compound Name	: t-Butyl Alcohol-d10	
Scan Number	: 443	
Retention Time (minutes)	: 4.287	
Quant Ion	: 65.00	
Area (flag)	: 60829M	
On-Column Amount (ng)	: 50.0000	
Integration start scan	: 420	Integration stop scan: 577
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

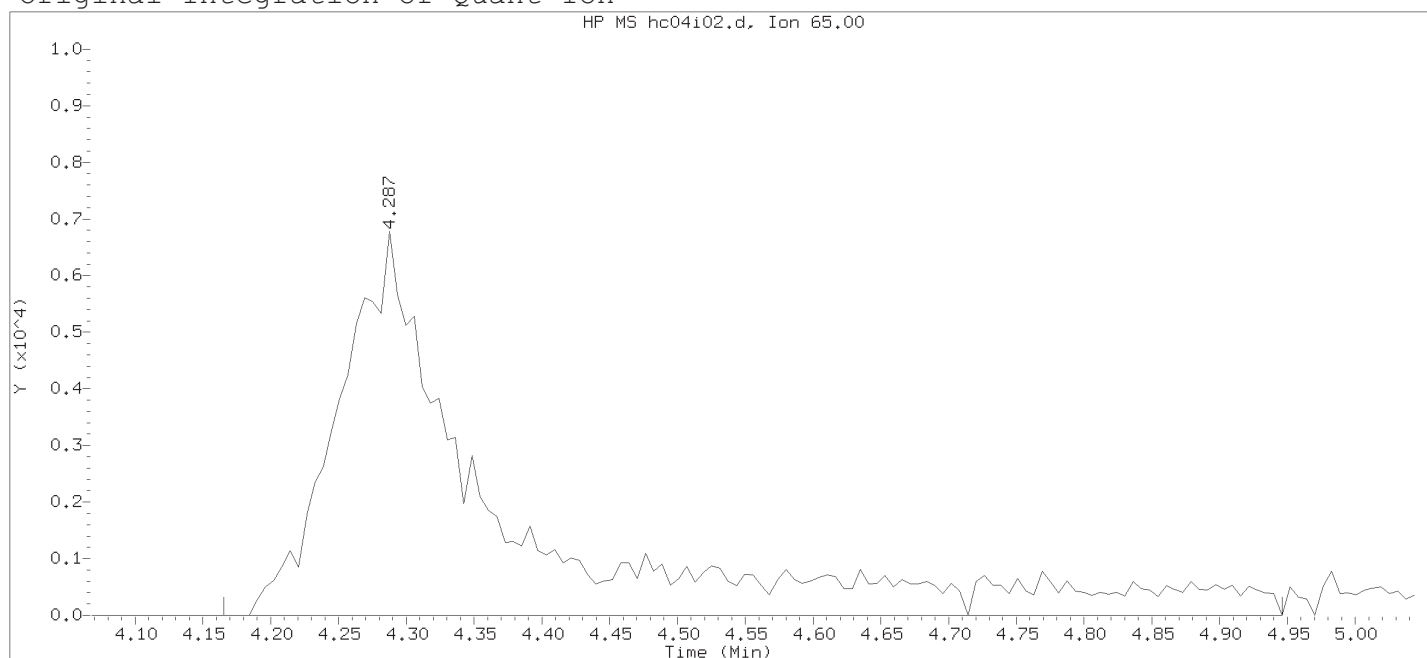
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:13

Date, time and analyst ID of latest file update: 04-Oct-2016 11:13 Automation

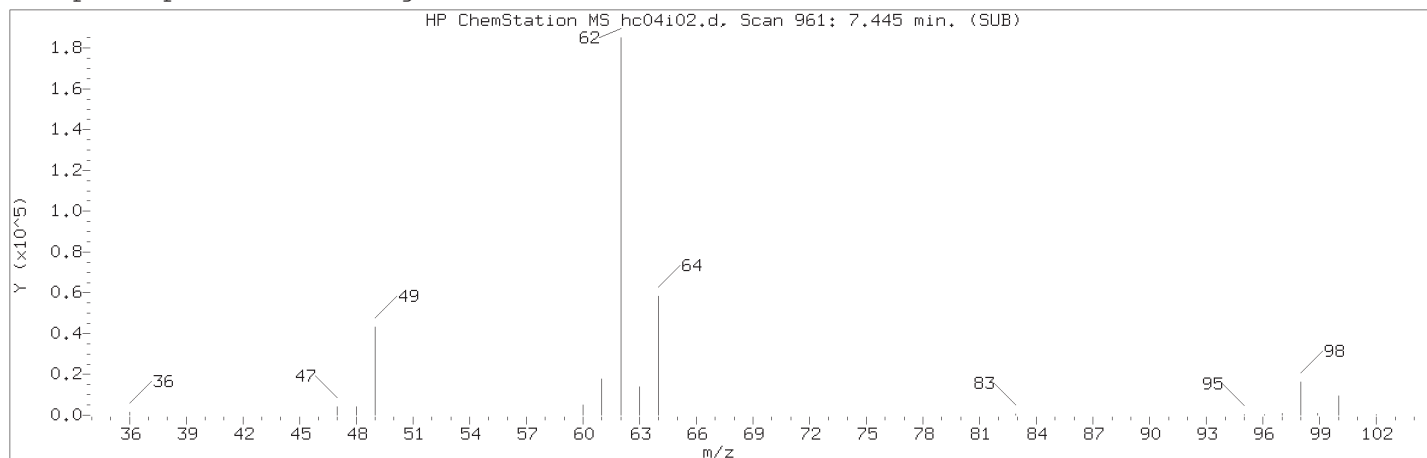
Sample Name: VSTD010

Lab Sample ID: VSTD010

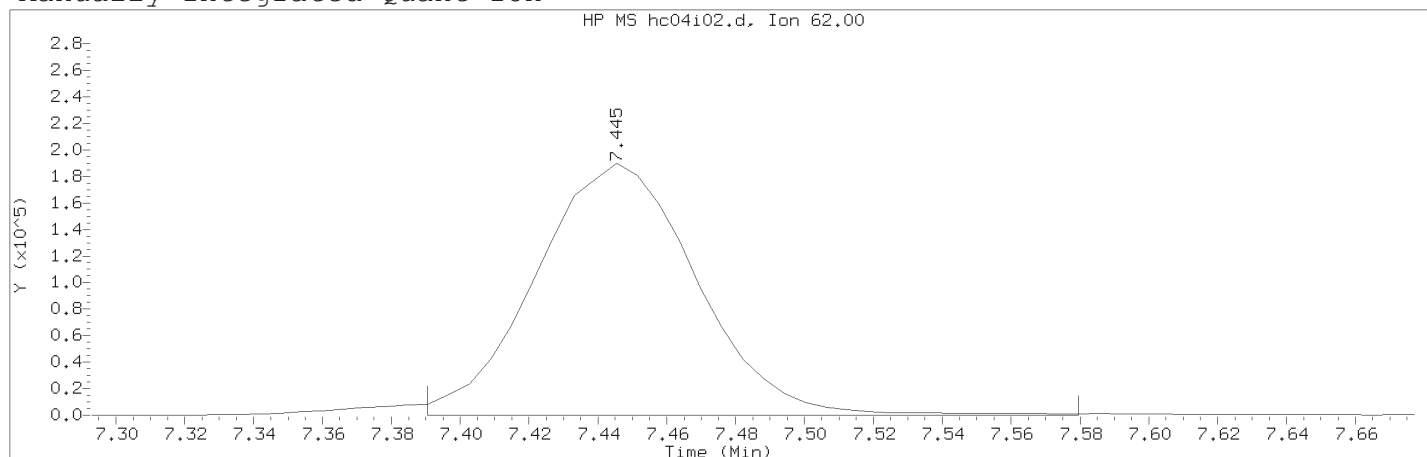
Compound Number : 26
 Compound Name : t-Butyl Alcohol-d10
 Scan Number : 443
 Retention Time (minutes) : 4.287
 Quant Ion : 65.00
 Area : 56449
 On-column Amount (ng) : 50.0000
 Integration start scan : 422
 Y at integration start : 0

Integration stop scan: 550
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 10:54 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

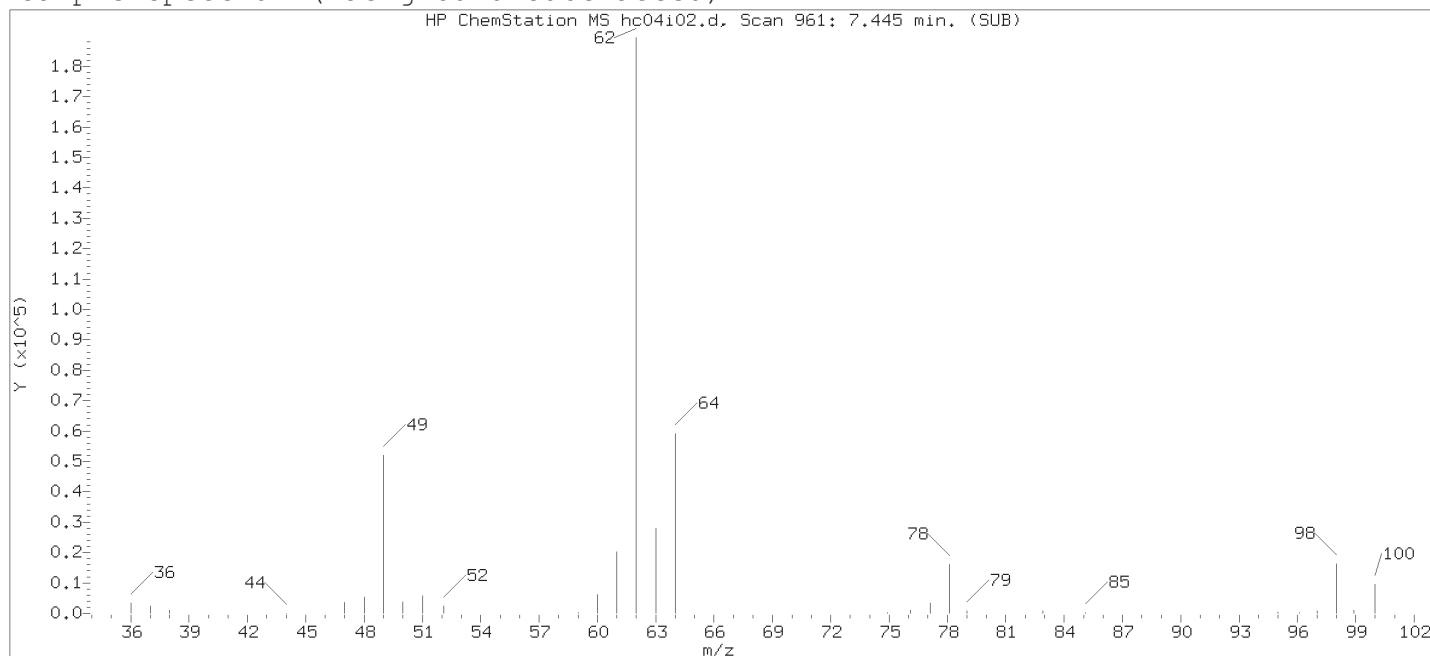
Compound Number	: 59	
Compound Name	: 1,2-Dichloroethane	
Scan Number	: 961	
Retention Time (minutes)	: 7.445	
Quant Ion	: 62.00	
Area (flag)	: 615485M	
On-Column Amount (ng)	: 9.2189	
Integration start scan	: 951	Integration stop scan: 982
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

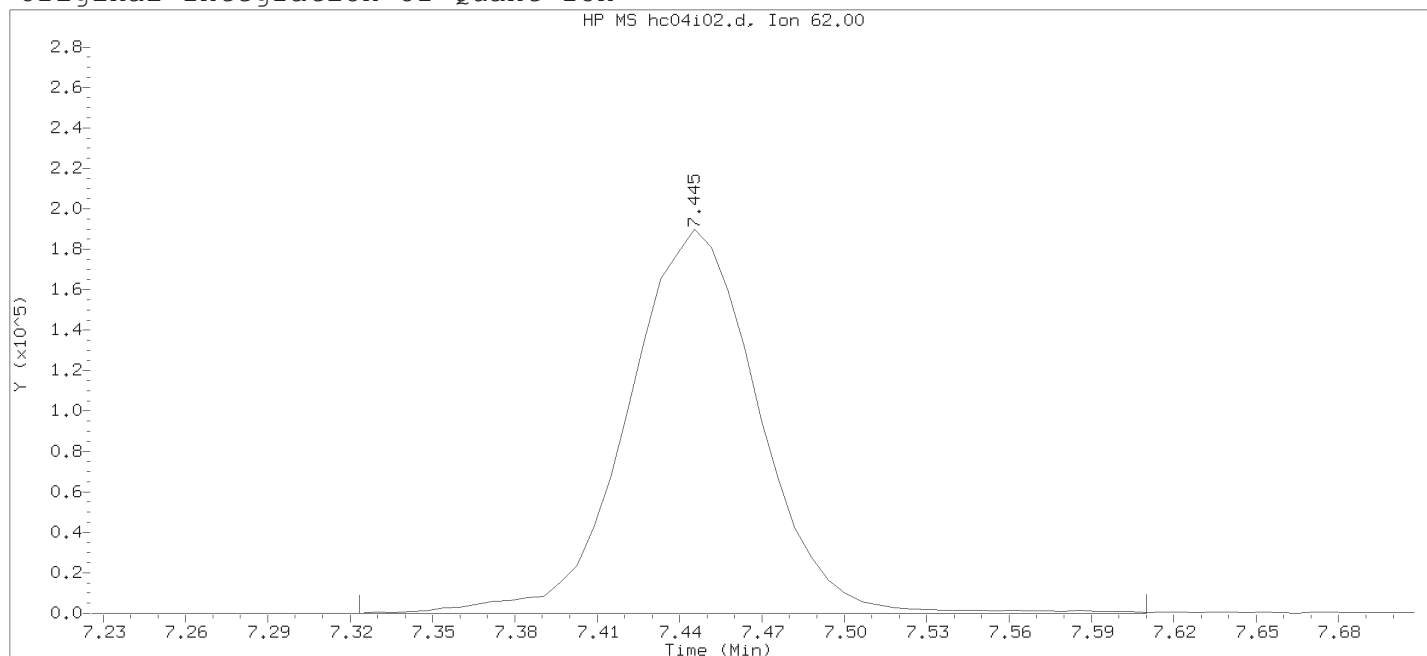
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:13

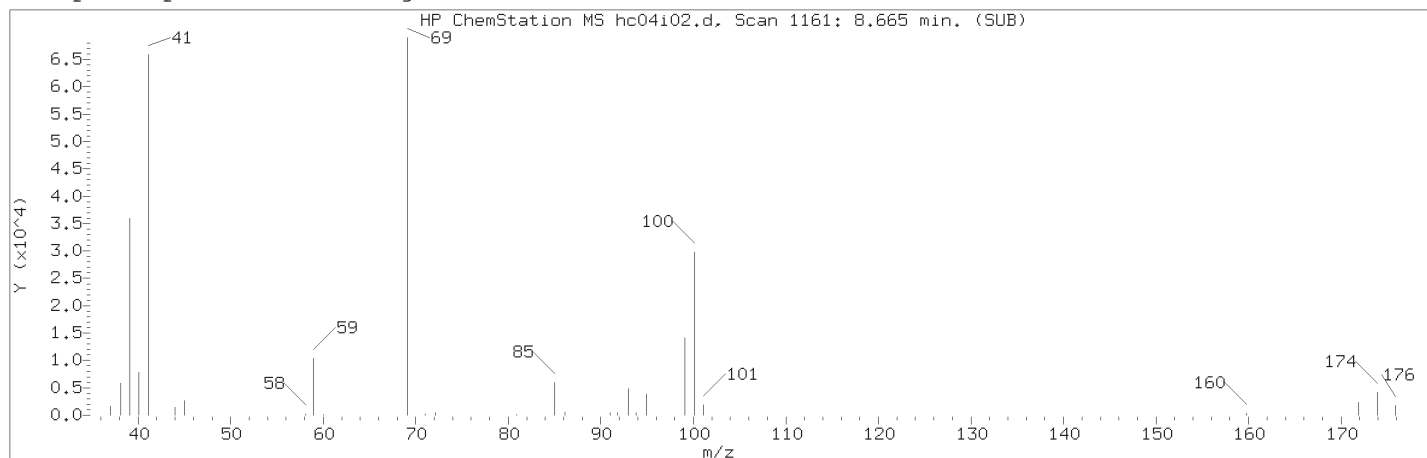
Date, time and analyst ID of latest file update: 04-Oct-2016 11:13 Automation

Sample Name: VSTD010

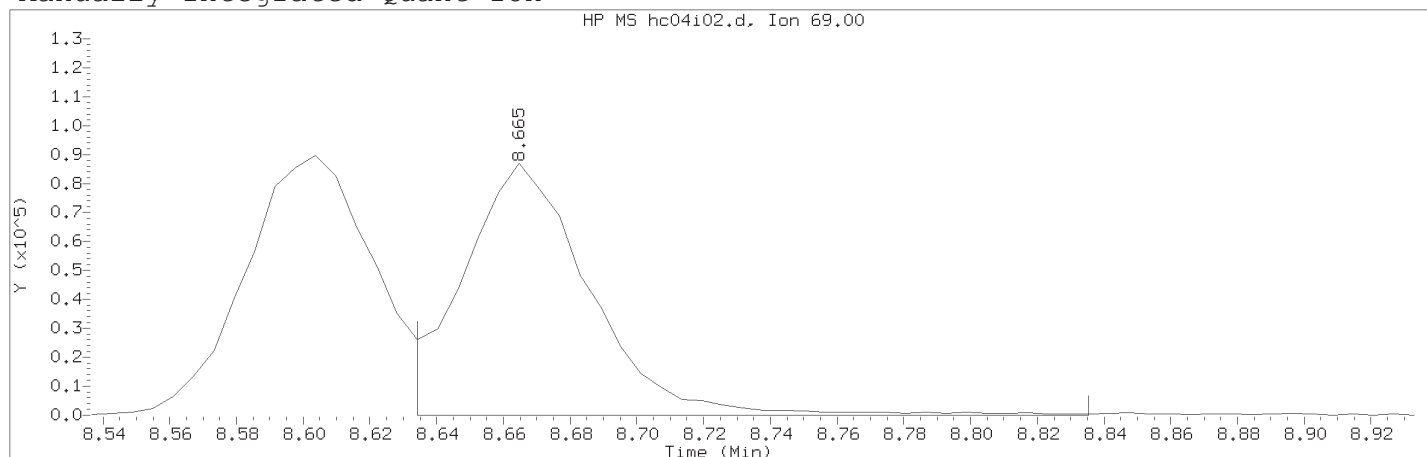
Lab Sample ID: VSTD010

Compound Number	: 59	
Compound Name	: 1,2-Dichloroethane	
Scan Number	: 961	
Retention Time (minutes)	: 7.445	
Quant Ion	: 62.00	
Area	: 629164	
On-column Amount (ng)	: 10.5053	
Integration start scan	: 940	Integration stop scan: 987
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 10:54 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

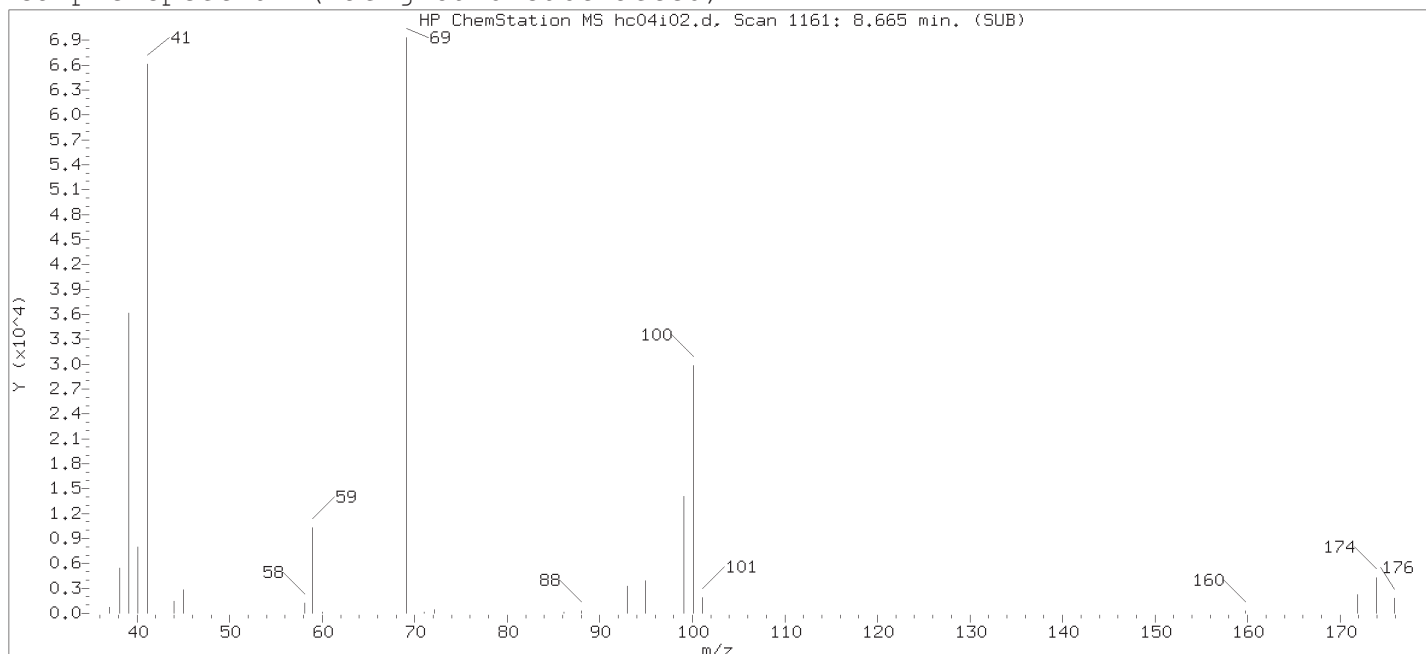
Compound Number	: 71	
Compound Name	: Methyl Methacrylate	
Scan Number	: 1161	
Retention Time (minutes)	: 8.665	
Quant Ion	: 69.00	
Area (flag)	: 233126M	
On-Column Amount (ng)	: 12.9752	
Integration start scan	: 1155	Integration stop scan: 1188
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

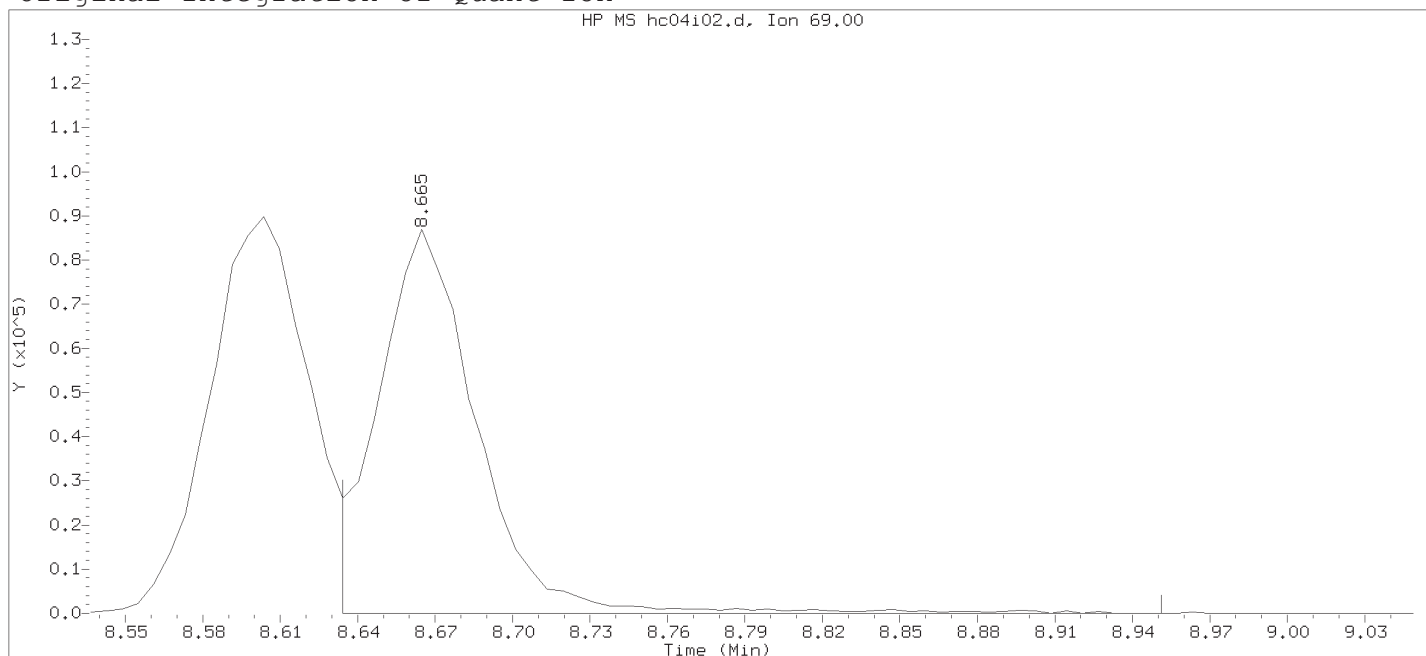
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:13

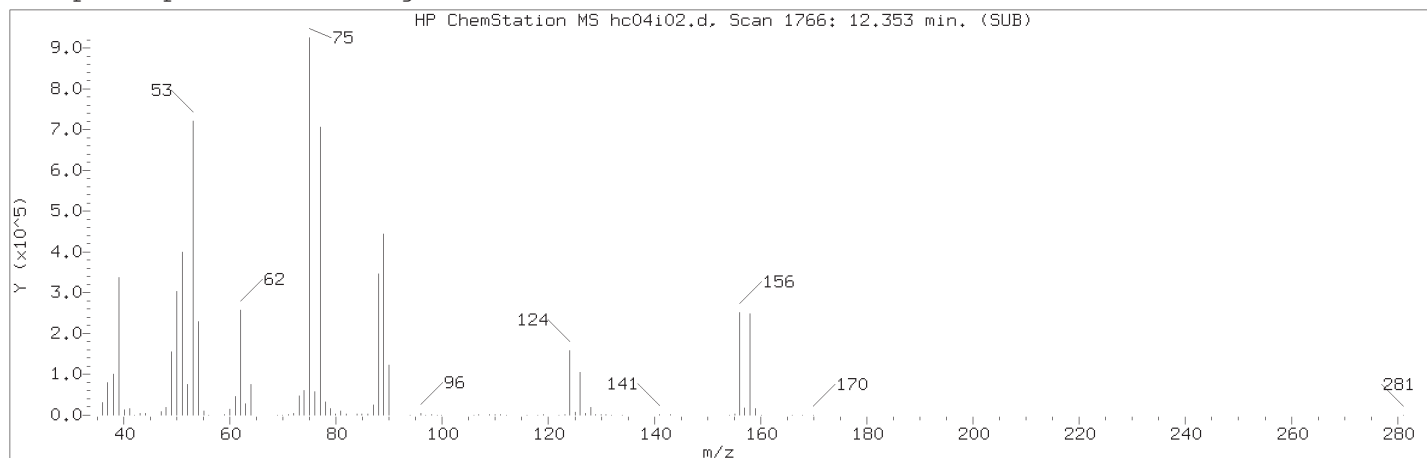
Date, time and analyst ID of latest file update: 04-Oct-2016 11:13 Automation

Sample Name: VSTD010

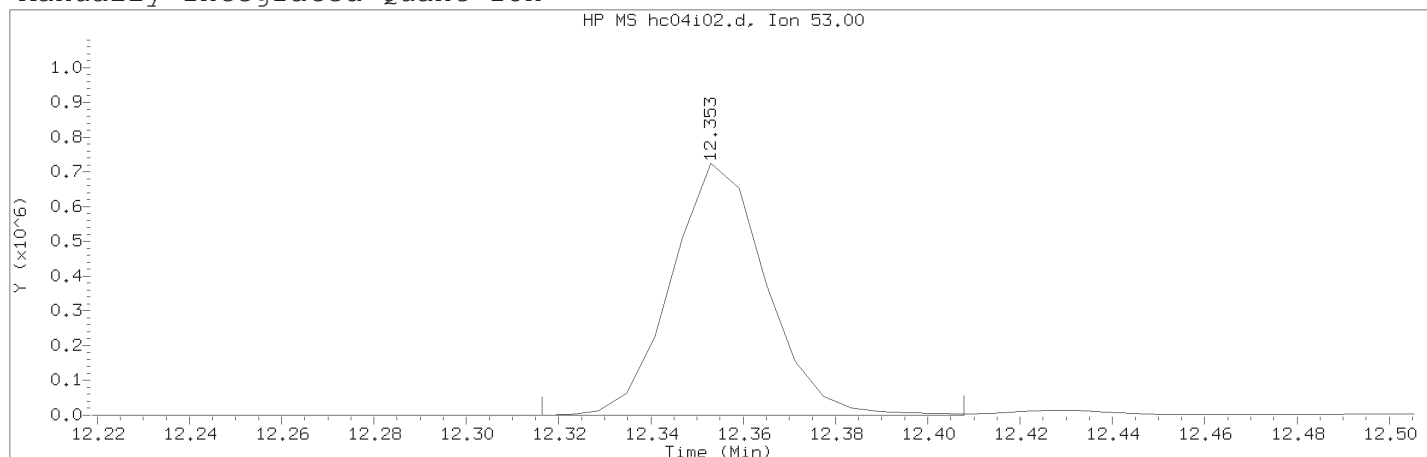
Lab Sample ID: VSTD010

Compound Number	: 71	
Compound Name	: Methyl Methacrylate	
Scan Number	: 1161	
Retention Time (minutes)	: 8.665	
Quant Ion	: 69.00	
Area	: 230585	
On-column Amount (ng)	: 14.0015	
Integration start scan	: 1155	Integration stop scan: 1207
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 115	
Compound Name	: trans-1,4-Dichloro-2-butene	
Scan Number	: 1766	
Retention Time (minutes)	: 12.353	
Quant Ion	: 53.00	
Area (flag)	: 1029351A	
On-Column Amount (ng)	: 125.4006	
Integration start scan	: 1759	Integration stop scan: 1774
Y at integration start	: 0	Y at integration end: 0

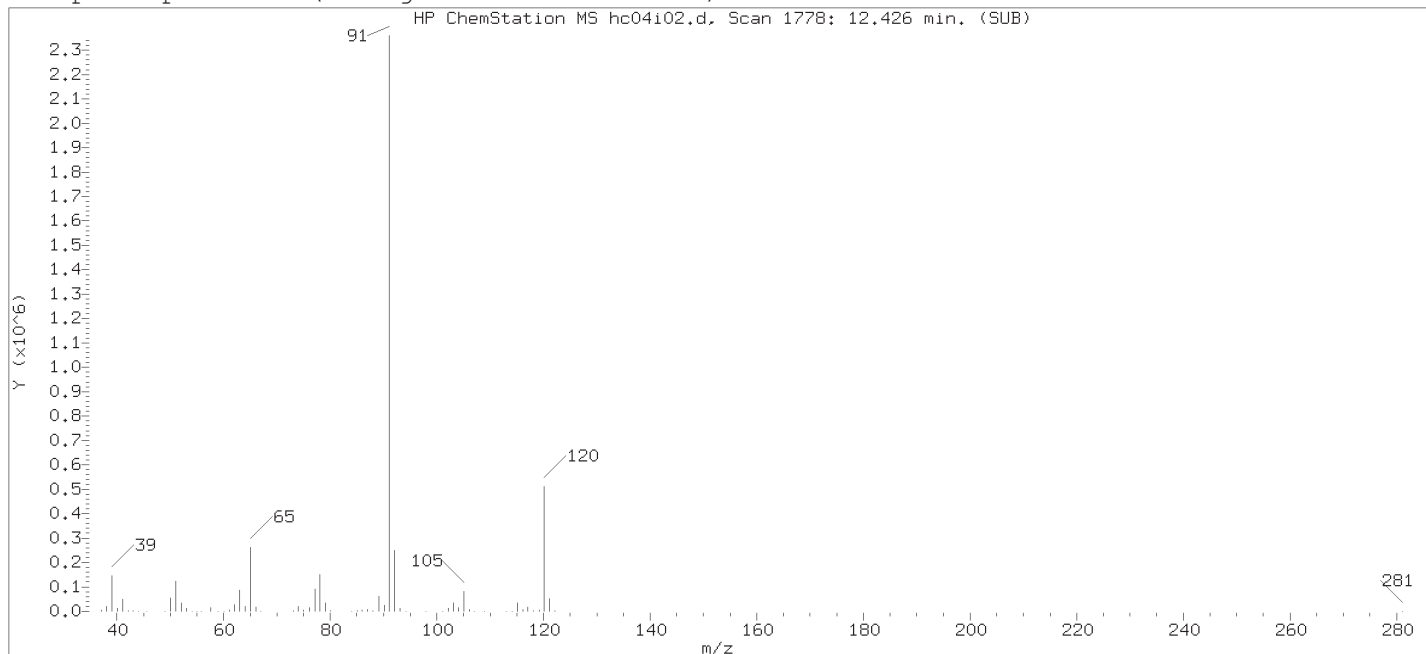
Reason for manual integration: improper integration

Analyst responsible for change:

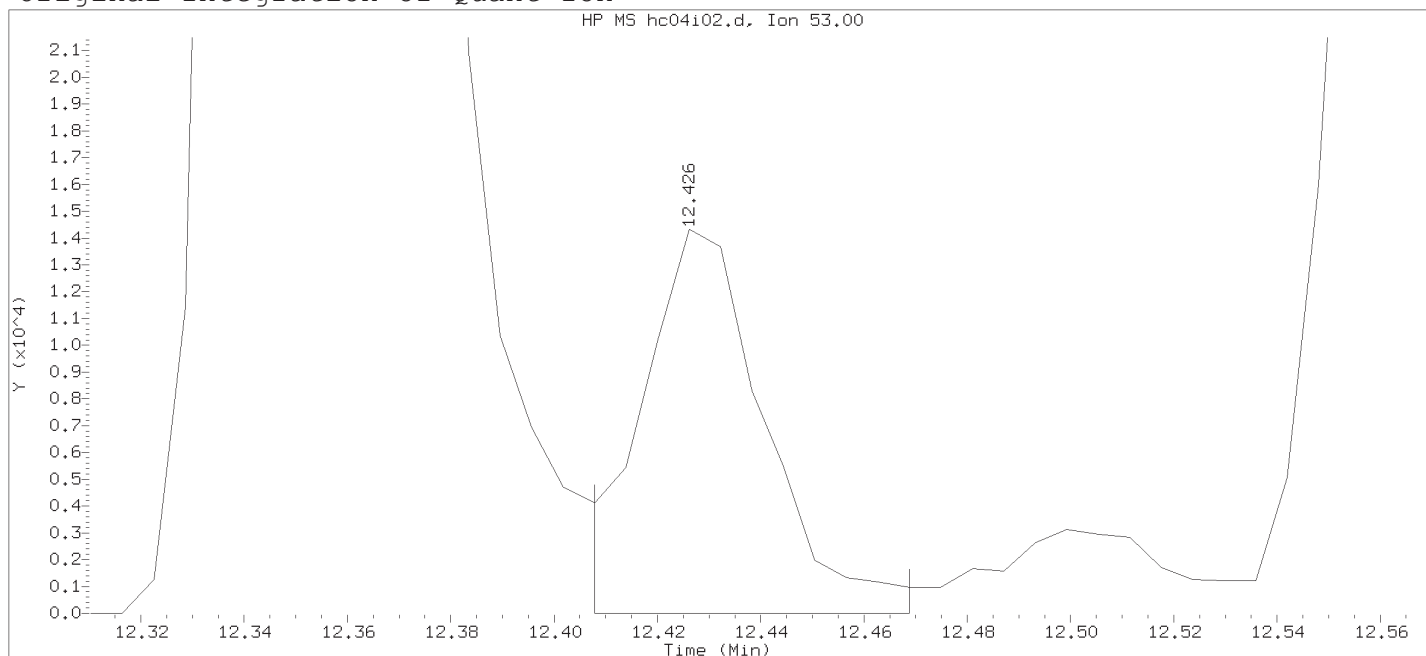
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:13

Date, time and analyst ID of latest file update: 04-Oct-2016 11:13 Automation

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number : 115

Compound Name : trans-1,4-Dichloro-2-butene

Scan Number : 1778

Retention Time (minutes) : 12.426

Quant Ion : 53.00

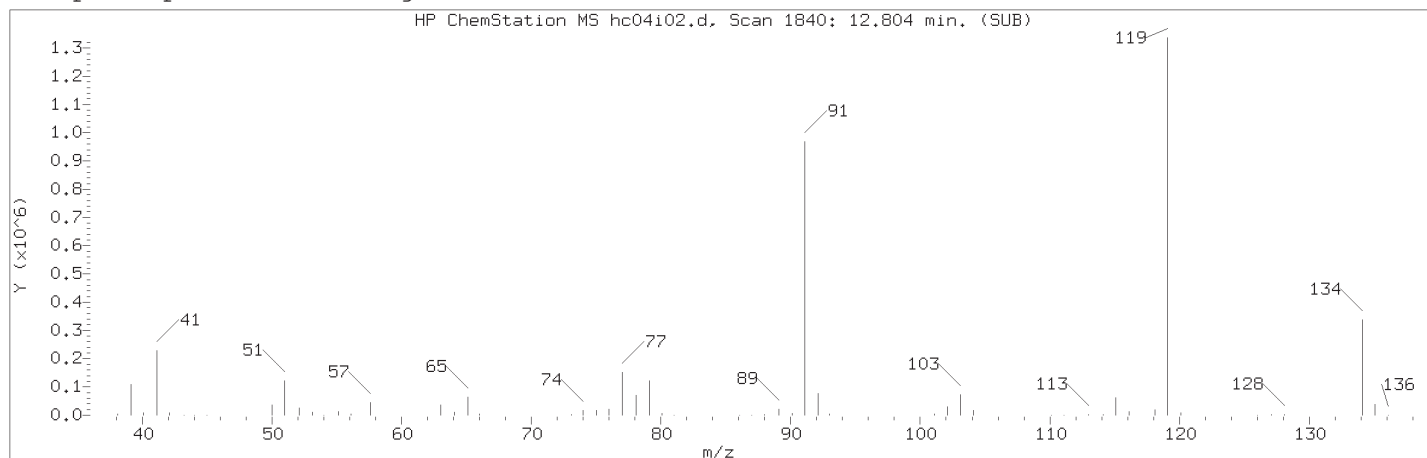
Area : 23546

On-column Amount (ng) : 6.1180

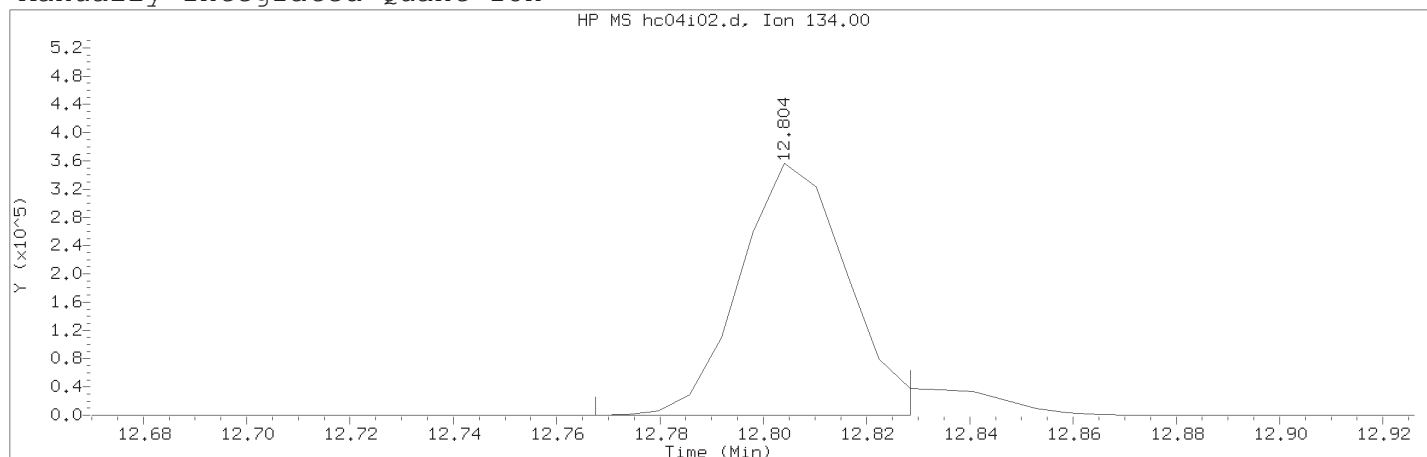
Integration start scan : 1774 Integration stop scan: 1784

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 125	
Compound Name	: tert-Butylbenzene	
Scan Number	: 1840	
Retention Time (minutes)	: 12.804	
Quant Ion	: 134.00	
Area (flag)	: 511972M	
On-Column Amount (ng)	: 9.7470	
Integration start scan	: 1833	Integration stop scan: 1843
Y at integration start	: 0	Y at integration end: 0

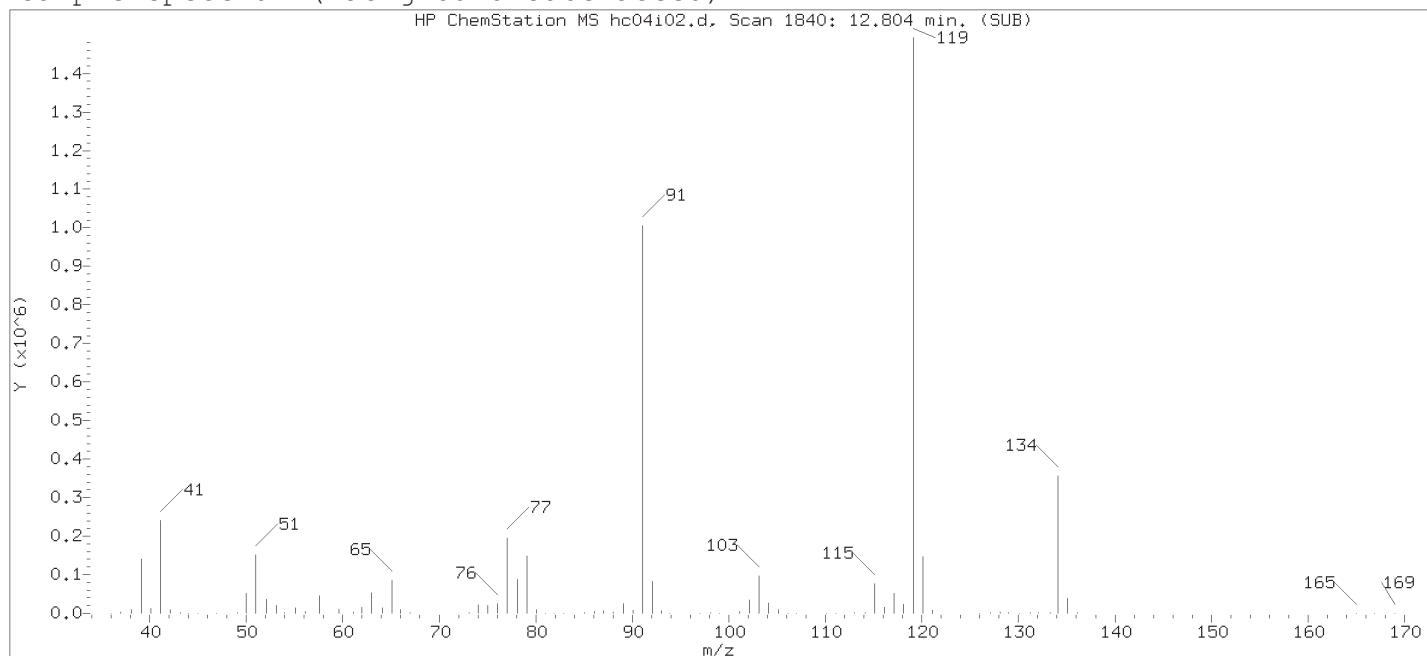
Reason for manual integration: improper integration

Analyst responsible for change:

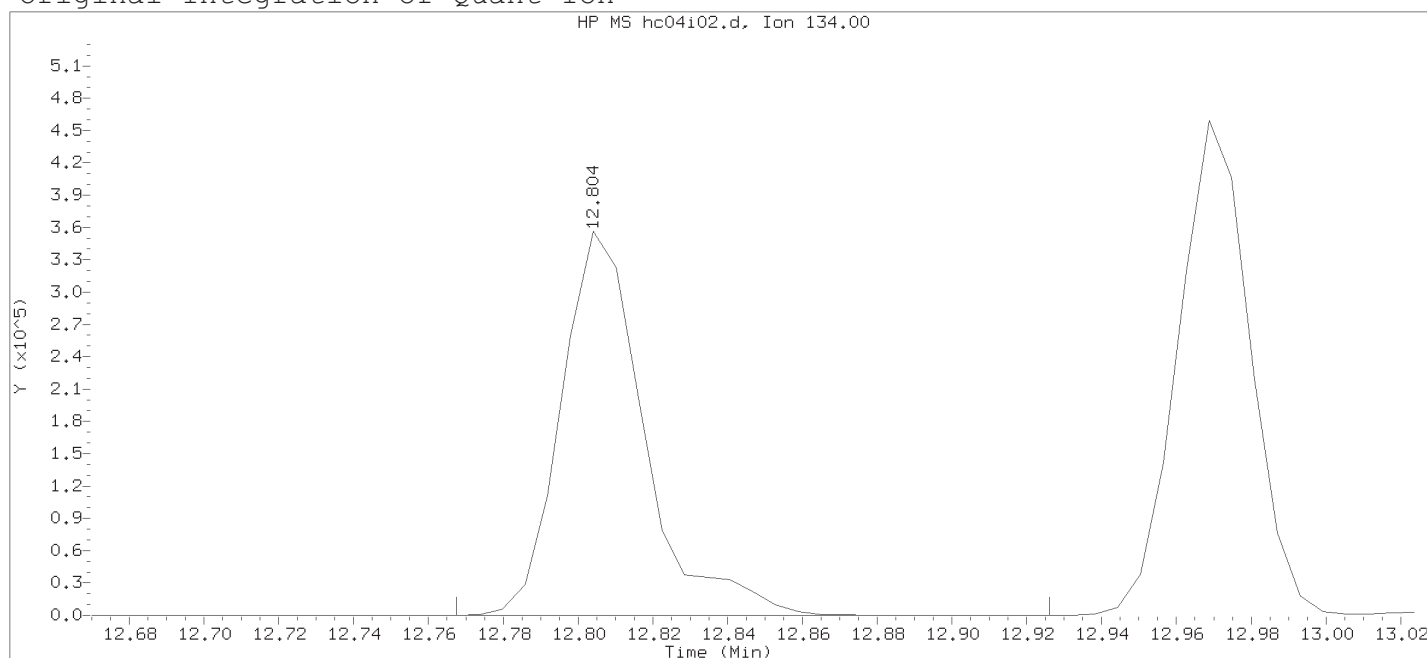
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:13

Date, time and analyst ID of latest file update: 04-Oct-2016 11:13 Automation

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number : 125

Compound Name : tert-Butylbenzene

Scan Number : 1840

Retention Time (minutes): 12.804

Quant Ion : 134.00

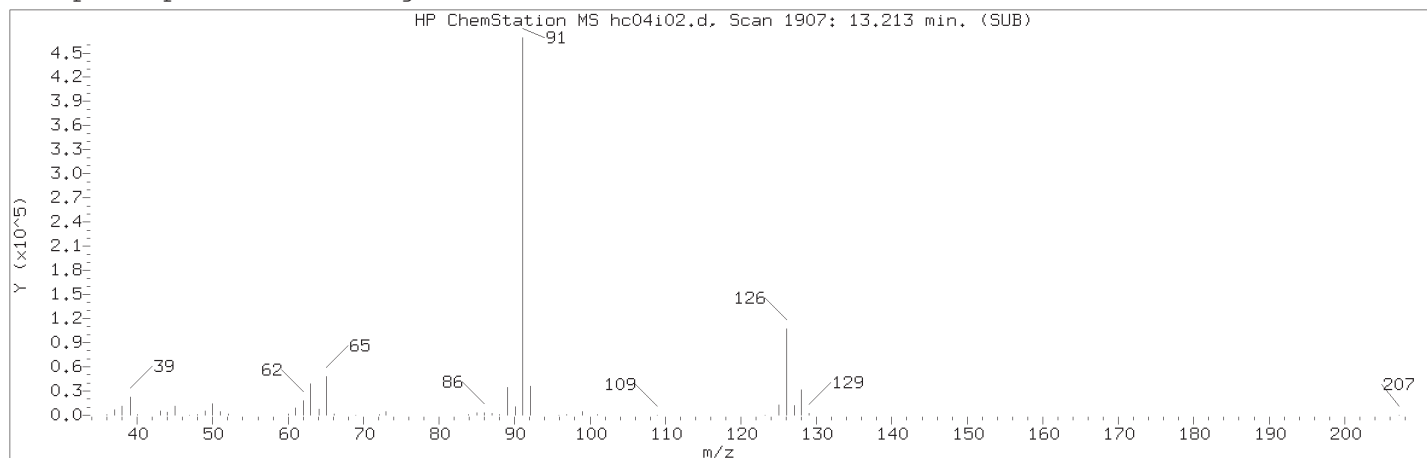
Area : 550294

On-column Amount (ng) : 9.6844

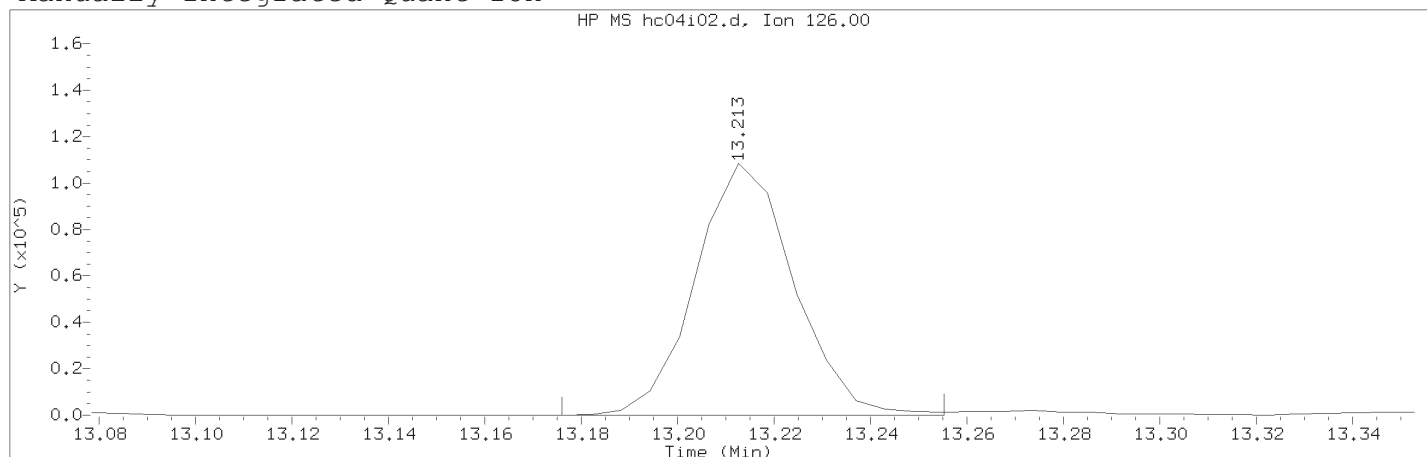
Integration start scan : 1833 Integration stop scan: 1859

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 136	
Compound Name	: Benzyl Chloride	
Scan Number	: 1907	
Retention Time (minutes)	: 13.213	
Quant Ion	: 126.00	
Area (flag)	: 153743M	
On-Column Amount (ng)	: 11.0385	
Integration start scan	: 1900	Integration stop scan: 1913
Y at integration start	: 0	Y at integration end: 0

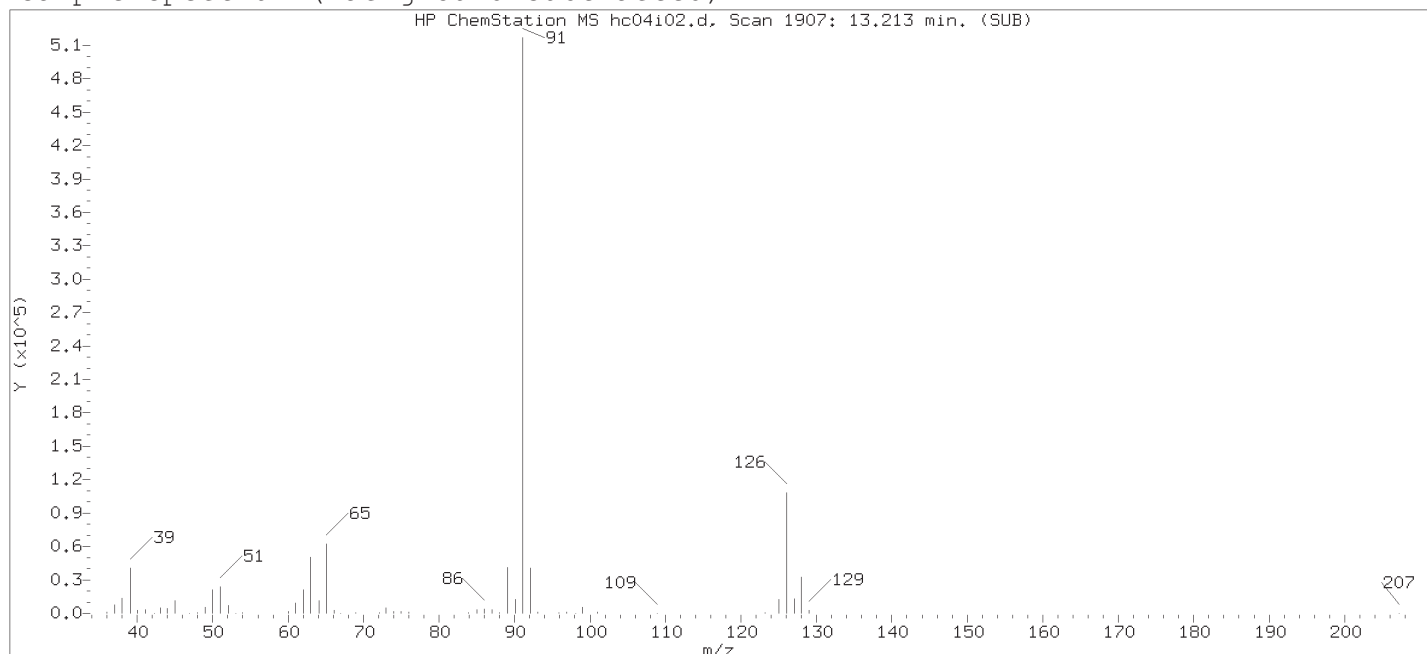
Reason for manual integration: improper integration

Analyst responsible for change:

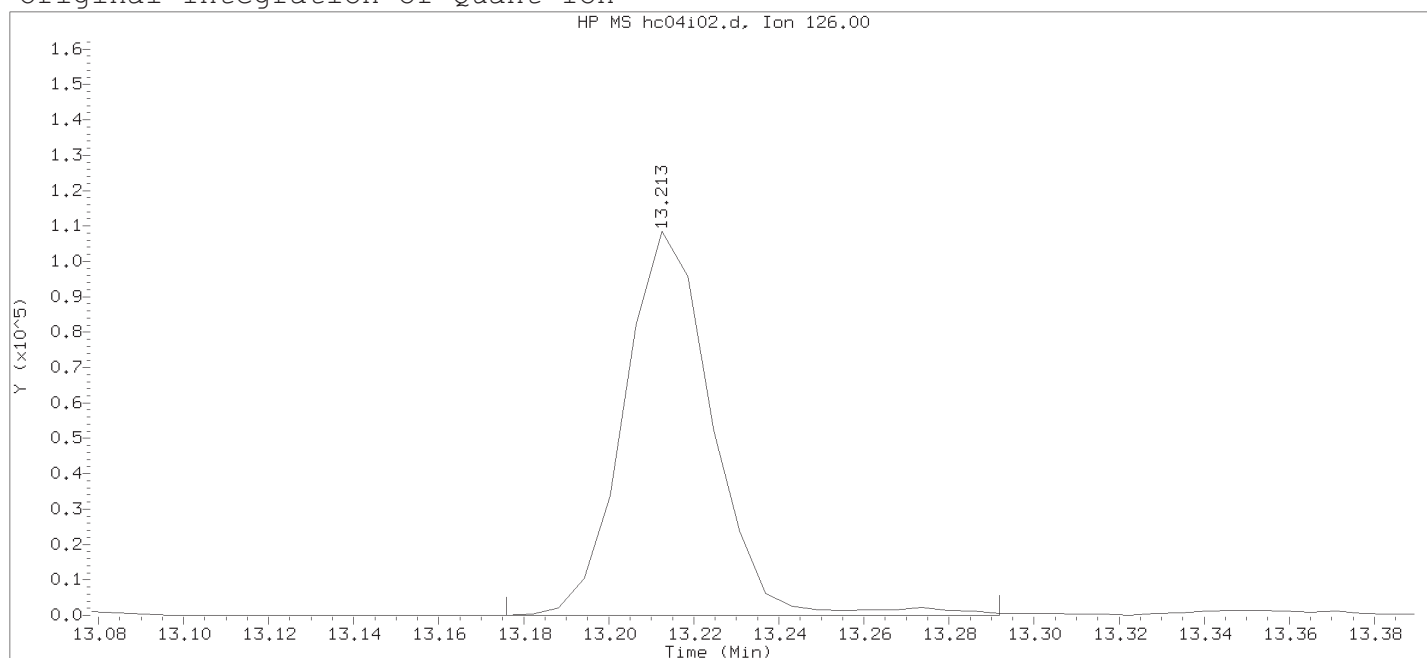
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:33.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 10:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:13

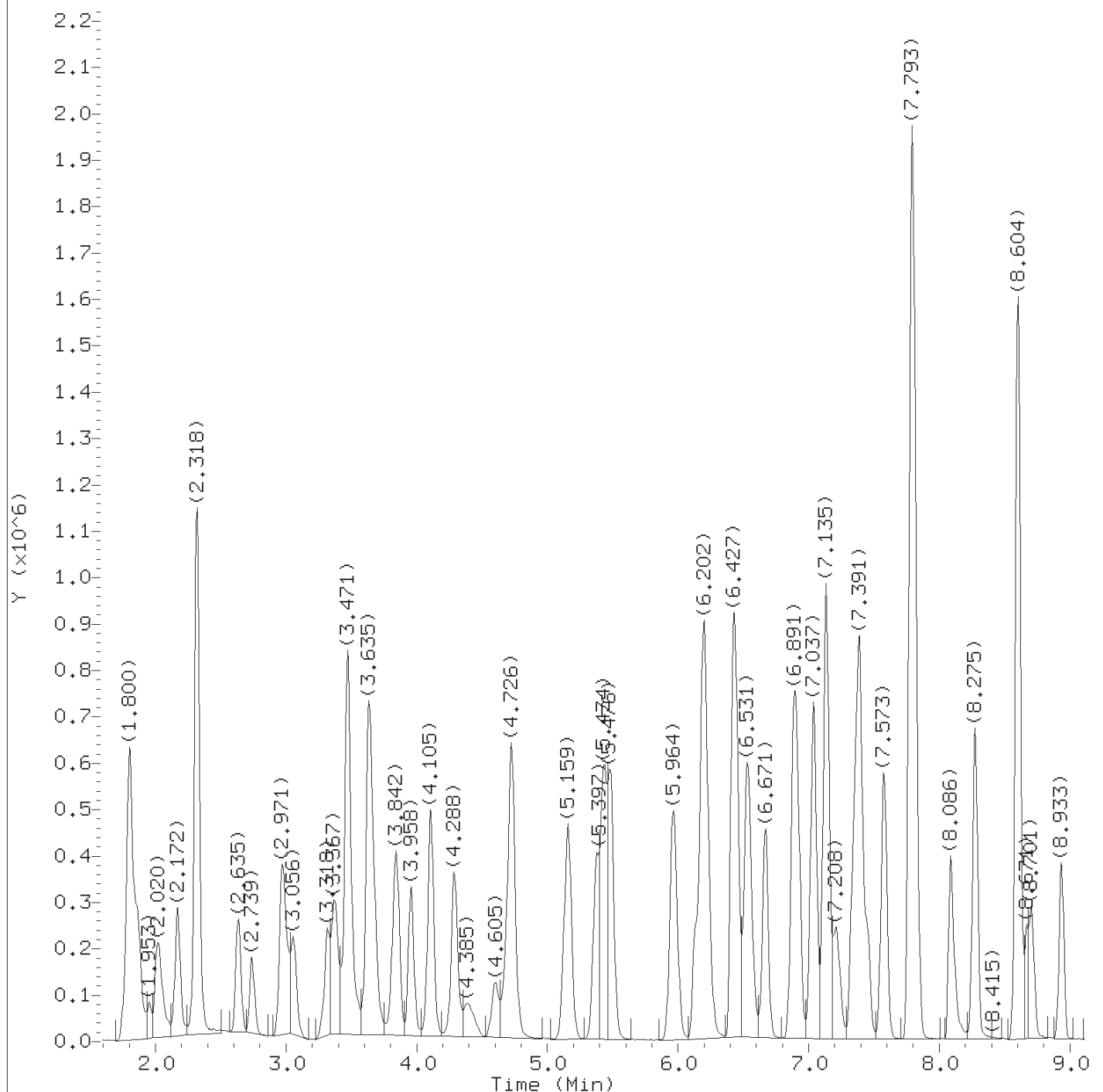
Date, time and analyst ID of latest file update: 04-Oct-2016 11:13 Automation

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number : 136
 Compound Name : Benzyl Chloride
 Scan Number : 1907
 Retention Time (minutes) : 13.213
 Quant Ion : 126.00
 Area : 156722
 On-column Amount (ng) : 10.8354
 Integration start scan : 1900
 Y at integration start : 0

Integration stop scan: 1919
 Y at integration end: 0



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d
Injection date and time: 04-OCT-2016 11:14

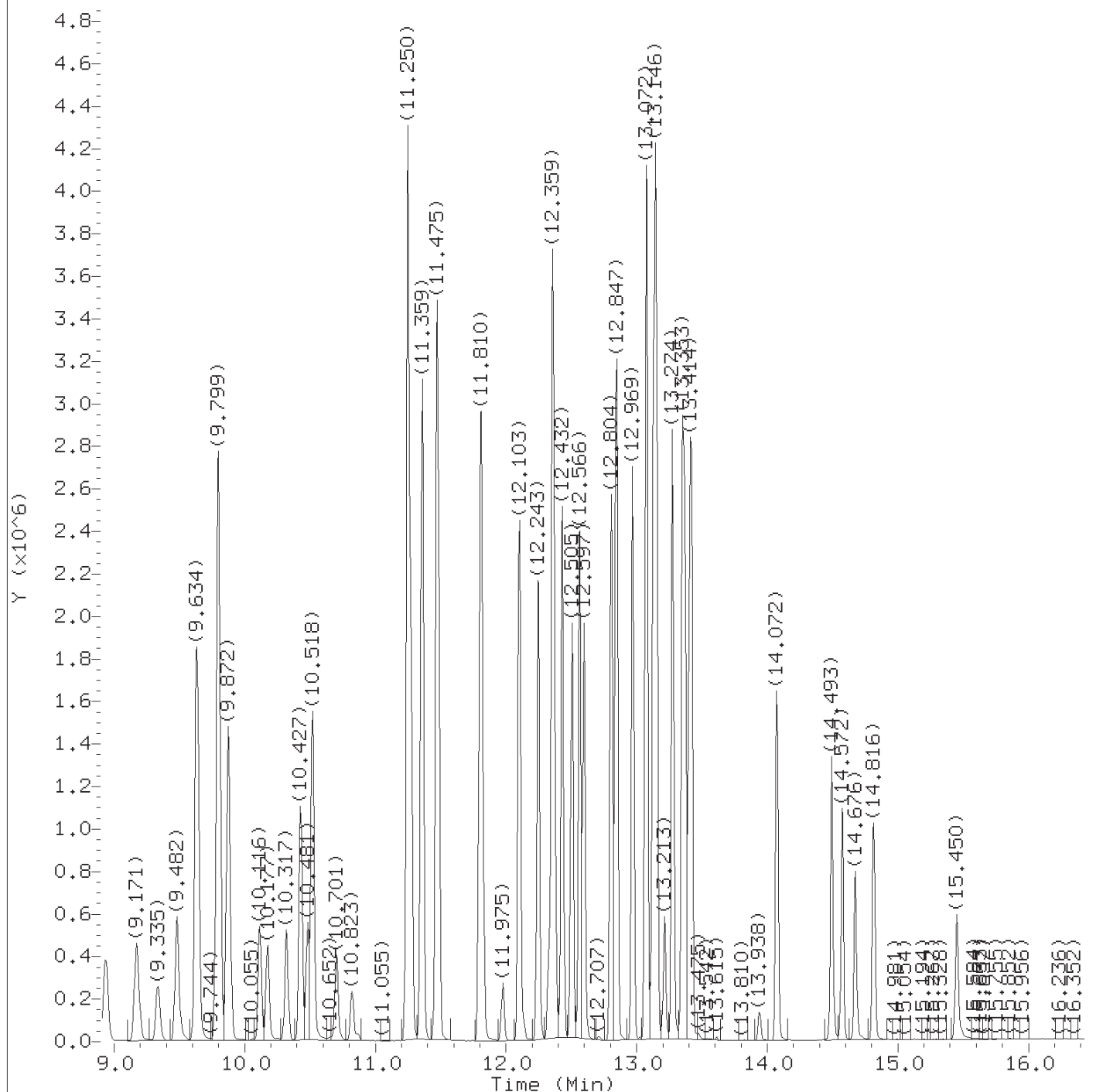
Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

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Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d
Injection date and time: 04-OCT-2016 11:14

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

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Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d
 Injection date and time: 04-OCT-2016 11:14

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:28
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.014	85	443442	4.657
2) Chloromethane	(2)	2.166	50	445691	4.373
5) Vinyl Chloride	(2)	2.312	62	406832	4.478
6) 1,3-Butadiene	(2)	2.318	39	657781	4.724
7) Bromomethane	(2)	2.635	94	259321	4.449
8) Chloroethane	(2)	2.733	64	229020	4.459
9) Dichlorofluoromethane	(2)	2.971	67	558327	4.554
10) Trichlorofluoromethane	(2)	3.056	101	513028	4.653
11) Ethyl ether	(2)	3.312	59	200405	4.926
12) Freon 123a	(2)	3.379	67	348740	4.556
13) Acrolein	(1)	3.471	56	1374171	223.784
15) 1,1-Dichloroethene	(2)	3.629	96	250462	4.875
14) Acetone	(1)	3.641	43	401268M	48.811
16) Freon 113	(2)	3.660	101	277543	4.942
17) Methyl Iodide	(2)	3.830	142	480527	4.894
18) Carbon Disulfide	(2)	3.958	76	736984	4.731
21) Methyl Acetate	(1)	4.074	43	102113M	3.835
22) Allyl Chloride	(2)	4.111	41	542366	4.852
26) *t-Butyl Alcohol-d10	(1)	4.275	65	85386M	50.000
23) Methylene Chloride	(2)	4.288	84	265306	4.813
28) t-Butyl Alcohol	(1)	4.385	59	260009	114.631
29) Acrylonitrile	(1)	4.598	53	235508	24.347
30) Methyl Tertiary Butyl Ether	(2)	4.714	73	596954	4.981
31) trans-1,2-Dichloroethene	(2)	4.726	96	280566	4.818
32) n-Hexane	(2)	5.159	57	452708	5.100
33) 1,1-Dichloroethane	(2)	5.373	63	560398	4.887
34) di-Isopropyl Ether	(2)	5.434	45	1022198	4.972
35) 2-Chloro-1,3-Butadiene	(2)	5.489	53	522959	4.926
37) Ethyl t-butyl ether	(2)	5.964	59	826907	4.957
40) 1,2-Dichloroethene (Total)	(2)		96	591845	9.694
38) 2-Butanone	(1)	6.141	43	662561	45.546
39) cis-1,2-Dichloroethene	(2)	6.190	96	311279	4.876
42) Propionitrile	(1)	6.214	54	337657	105.239
41) 2,2-Dichloropropane	(2)	6.214	77	453216	4.870
45) Methacrylonitrile	(1)	6.433	67	599054	43.731
47) Bromochloromethane	(2)	6.525	128	130692	5.105
48) Tetrahydrofuran	(1)	6.549	71	167638	44.708
49) Chloroform	(2)	6.671	83	541214	4.886

M = Compound was manually integrated.

* = Compound is an internal standard.

page 1 of 4

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 on 10/04/2016 at 15:34.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d
 Injection date and time: 04-OCT-2016 11:14

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:28
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
50) \$Dibromofluoromethane	(2)	6.885	113	511912	9.963
50) \$Dibromofluoromethane	(2)	6.885	111	527290	10.037
51) 1,1,1-Trichloroethane	(2)	6.915	97	480409	4.818
52) Cyclohexane	(2)	7.037	56	573798	4.904
52) Cyclohexane	(2)	7.043	84	445270	4.611
52) Cyclohexane	(2)	7.037	69	164513	4.985
55) 1,1-Dichloropropene	(2)	7.128	75	445445	4.941
54) Carbon Tetrachloride	(2)	7.141	117	425337	4.938
56) Isobutyl Alcohol	(1)	7.214	41	234076	266.480
57) \$1,2-Dichloroethane-d4	(2)	7.348	102	82219	9.961
57) \$1,2-Dichloroethane-d4	(2)	7.342	65	447047	9.838
57) \$1,2-Dichloroethane-d4	(2)	7.342	104	51949	9.836
58) Benzene	(2)	7.391	78	1165812	4.851
59) 1,2-Dichloroethane	(2)	7.445	62	317740M	4.749
60) t-Amyl methyl ether	(2)	7.580	73	677453	5.007
63) *Fluorobenzene	(2)	7.787	96	2240146	10.000
62) n-Heptane	(2)	7.817	43	538884	5.042
65) n-Butanol	(1)	8.086	56	384577	599.425
67) Trichloroethene	(2)	8.275	95	322476	4.897
70) 1,2-Dichloropropane	(2)	8.598	63	300083	4.905
69) Methylcyclohexane	(2)	8.604	83	600854	5.226
71) Methyl Methacrylate	(1)	8.671	69	112215	4.449
72) 1,4-Dioxane	(1)	8.689	88	41132	281.337
73) Dibromomethane	(2)	8.707	93	125143	4.885
74) Bromodichloromethane	(2)	8.933	83	342833	4.893
76) 2-Nitropropane	(1)	9.171	41	406385	43.557
80) cis-1,3-Dichloropropene	(2)	9.482	75	395966	4.979
81) 4-Methyl-2-Pentanone	(1)	9.628	43	1687640	43.408
82) \$Toluene-d8	(3)	9.799	98	2196839	10.028
82) \$Toluene-d8	(3)	9.799	100	1424979	10.115
83) Toluene	(3)	9.872	92	726036	4.823
84) trans-1,3-Dichloropropene	(3)	10.116	75	307077	5.026
85) 1,3-Dichloropropene (total)	(3)		75	703043	10.005
86) Ethyl Methacrylate	(3)	10.177	69	243145	5.162
88) 1,1,2-Trichloroethane	(3)	10.317	97	173021	4.992
89) Tetrachloroethene	(3)	10.427	166	352467	4.891
90) 1,3-Dichloropropane	(3)	10.481	76	310292	4.926
91) 2-Hexanone	(1)	10.518	43	1112485M	41.335

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/04/2016 at 15:34.
 Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d
 Injection date and time: 04-OCT-2016 11:14

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:28
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
93) Dibromochloromethane	(3)	10.701	129	214414	4.989
95) 1,2-Dibromoethane	(3)	10.823	107	163778	4.997
97) *Chlorobenzene-d5	(3)	11.243	117	1450338	10.000
98) Chlorobenzene	(3)	11.274	112	776881	4.843
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	277611	5.036
100) Ethylbenzene	(3)	11.359	91	1464049	4.942
101) m+p-Xylene	(3)	11.475	106	1115465	10.021
105) Xylene (Total)	(3)		106	1664610	15.079
104) o-Xylene	(3)	11.798	106	549145	5.058
106) Styrene	(3)	11.817	104	853759	5.139
107) Bromoform	(3)	11.975	173	117400	4.990
108) Isopropylbenzene	(3)	12.103	105	1482884	5.066
111) \$4-Bromofluorobenzene	(3)	12.243	95	650303	10.097
111) \$4-Bromofluorobenzene	(3)	12.249	174	580103	10.065
113) 1,1,2,2-Tetrachloroethane	(4)	12.329	83	205439M	4.992
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	515605A	44.748
114) Bromobenzene	(4)	12.365	156	324112	4.884
116) 1,2,3-Trichloropropane	(4)	12.377	110	53503M	4.870
117) n-Propylbenzene	(4)	12.432	91	1763462	5.012
119) 2-Chlorotoluene	(4)	12.505	126	330658	4.972
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	1215894	5.024
122) 4-Chlorotoluene	(4)	12.597	126	333452	4.903
125) tert-Butylbenzene	(4)	12.804	134	261669M	4.956
126) Pentachloroethane	(4)	12.841	167	203699	4.986
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	1213982	4.969
128) sec-Butylbenzene	(4)	12.969	105	1582753	4.984
131) 1,3-Dichlorobenzene	(4)	13.072	146	635667	4.926
132) p-Isopropyltoluene	(4)	13.079	119	1345328	5.077
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	665336	10.000
134) 1,4-Dichlorobenzene	(4)	13.146	146	631003	4.701
135) 1,2,3-Trimethylbenzene	(4)	13.152	120	511143	4.834
136) Benzyl Chloride	(4)	13.213	126	74829	5.345
138) n-Butylbenzene	(4)	13.371	92	649984	5.110
139) 1,2-Dichlorobenzene	(4)	13.402	146	559798	4.876
143) 1,2-Dibromo-3-chloropropane	(1)	13.944	155	25502	4.504
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	390261	4.773
146) Hexachlorobutadiene	(4)	14.572	225	190196	4.889
147) Naphthalene	(4)	14.676	128	586712	4.726

M = Compound was manually integrated.

A = User selected an alternate hit.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/04/2016 at 15:34.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 11:14 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:28
Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

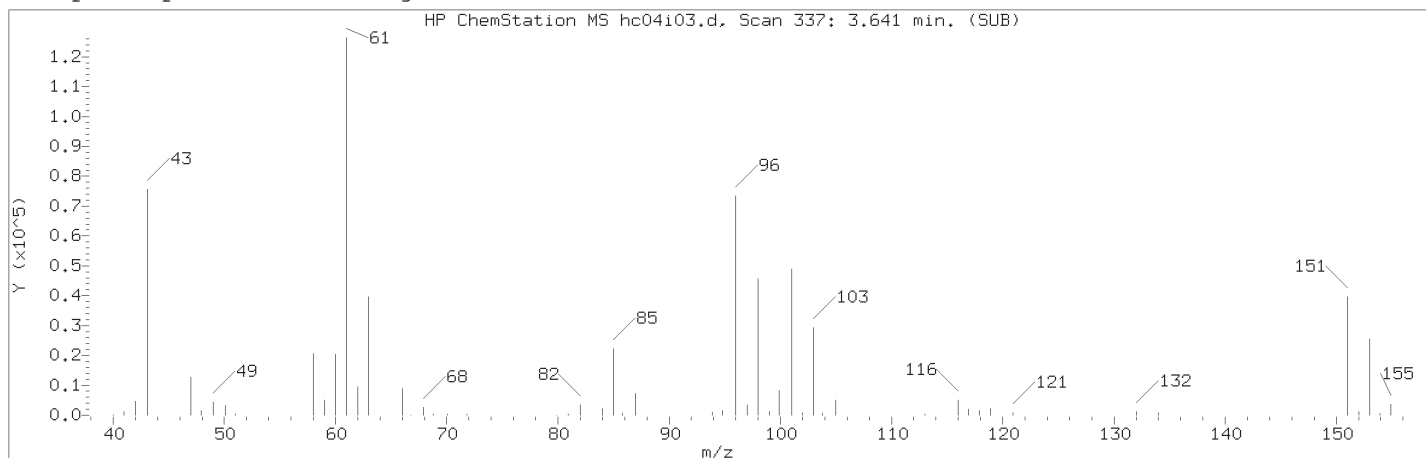
Lab Sample ID: VSTD005

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
148) 1,2,3-Trichlorobenzene	(4)	14.816	180	314806	4.573

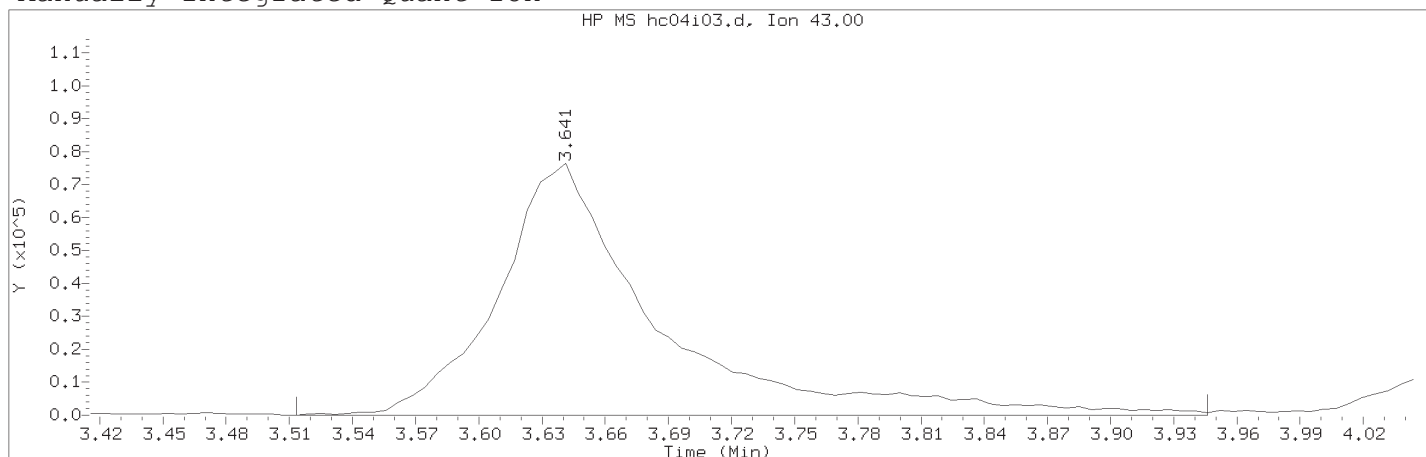
page 4 of 4

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number	: 14	
Compound Name	: Acetone	
Scan Number	: 337	
Retention Time (minutes)	: 3.641	
Quant Ion	: 43.00	
Area (flag)	: 401268M	
On-Column Amount (ng)	: 48.8107	
Integration start scan	: 315	Integration stop scan: 386
Y at integration start	: 0	Y at integration end: 0

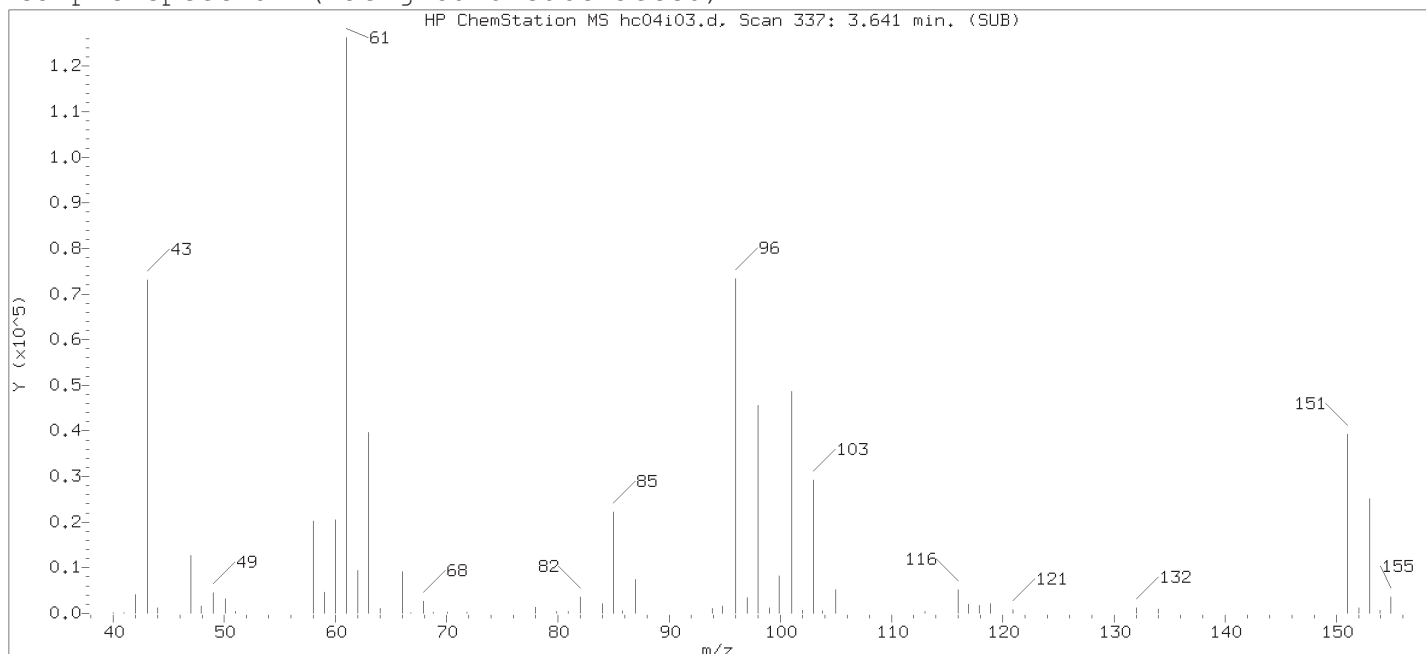
Reason for manual integration: improper integration

Analyst responsible for change:

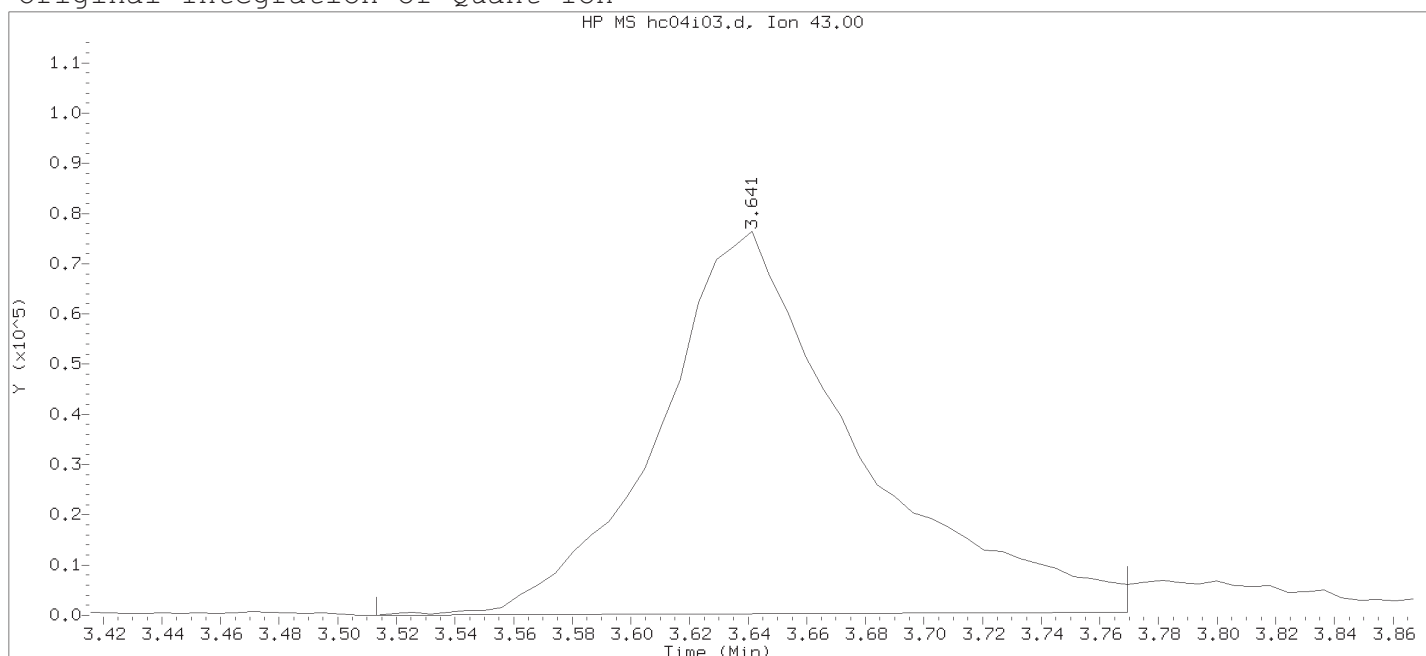
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:33

Date, time and analyst ID of latest file update: 04-Oct-2016 11:33 Automation

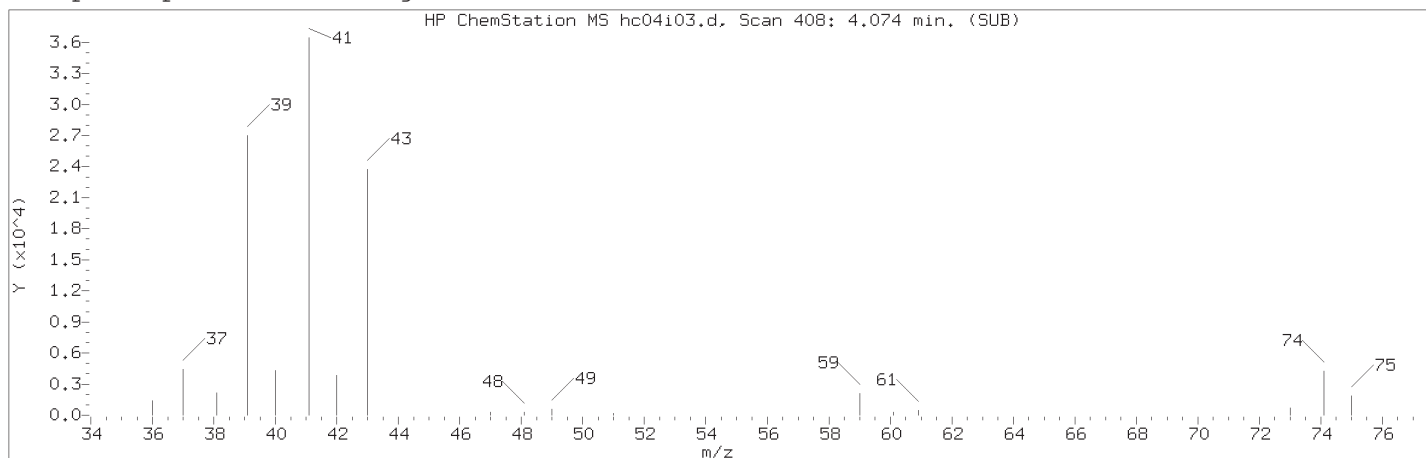
Sample Name: VSTD005

Lab Sample ID: VSTD005

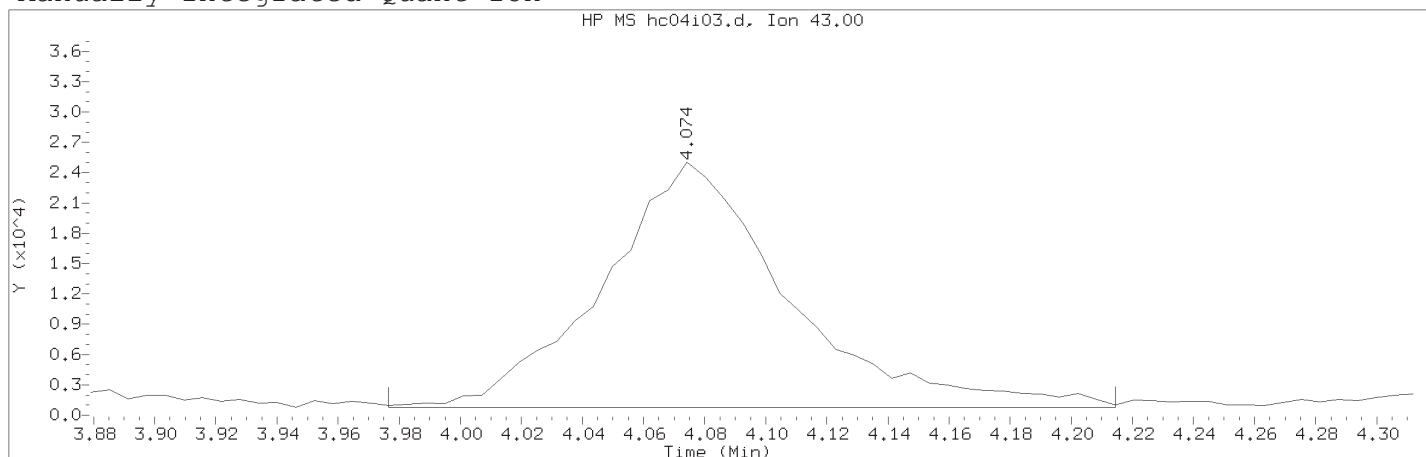
Compound Number : 14
 Compound Name : Acetone
 Scan Number : 337
 Retention Time (minutes): 3.641
 Quant Ion : 43.00
 Area : 357456
 On-column Amount (ng) : 48.2935
 Integration start scan : 315
 Y at integration start : 0

Integration stop scan: 357
 Y at integration end: 654

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number	: 21	
Compound Name	: Methyl Acetate	
Scan Number	: 408	
Retention Time (minutes)	: 4.074	
Quant Ion	: 43.00	
Area (flag)	: 102113M	
On-Column Amount (ng)	: 3.8348	
Integration start scan	: 391	Integration stop scan: 430
Y at integration start	: 801	Y at integration end: 801

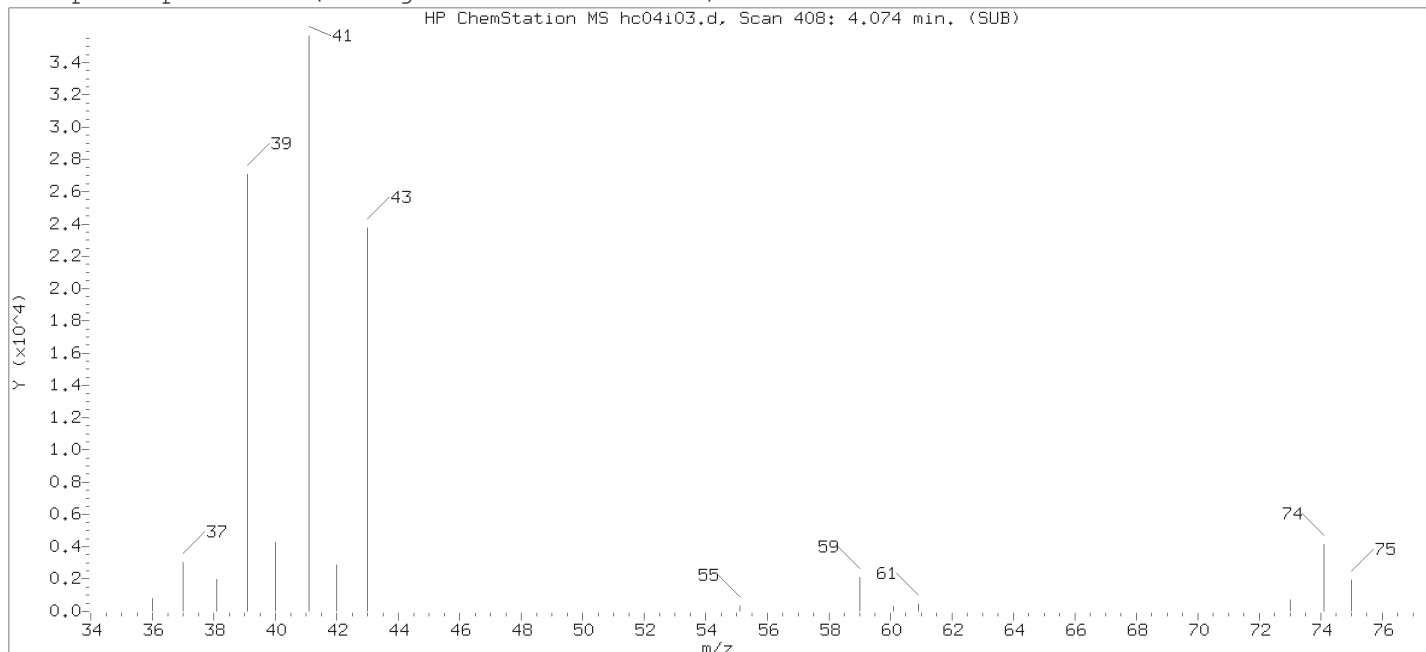
Reason for manual integration: improper integration

Analyst responsible for change:

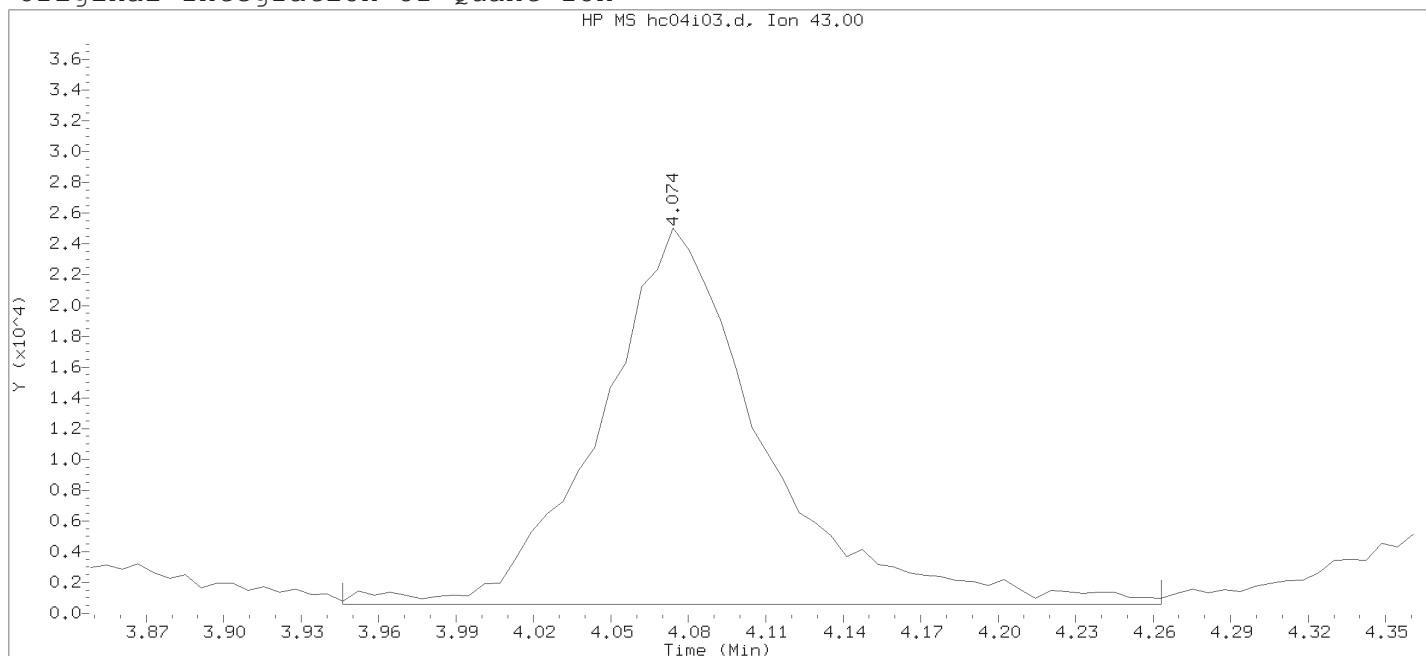
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:33

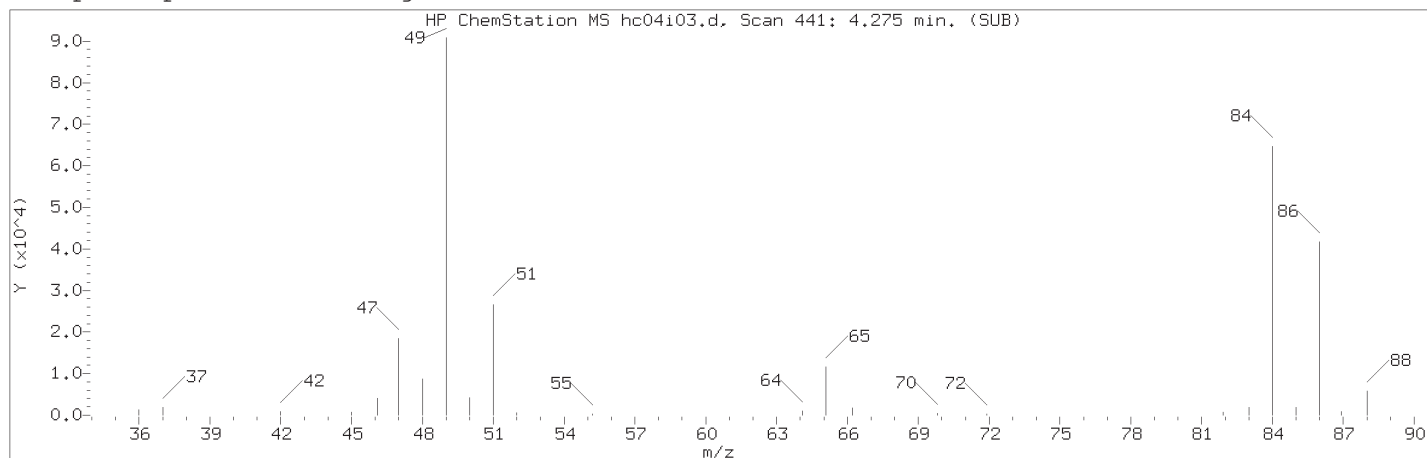
Date, time and analyst ID of latest file update: 04-Oct-2016 11:33 Automation

Sample Name: VSTD005

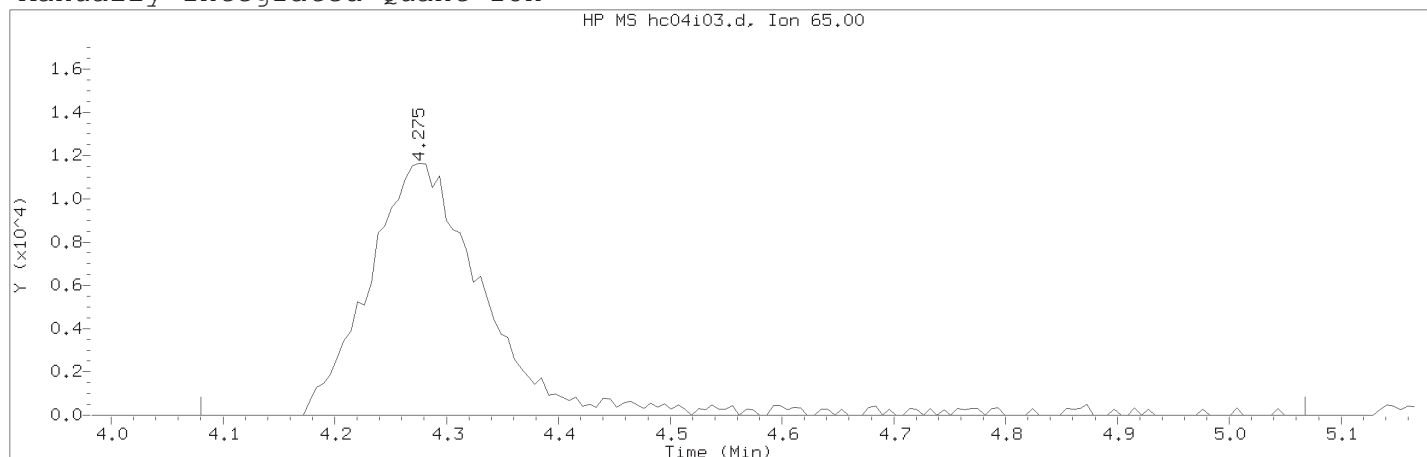
Lab Sample ID: VSTD005

Compound Number	: 21	
Compound Name	: Methyl Acetate	
Scan Number	: 408	
Retention Time (minutes)	: 4.074	
Quant Ion	: 43.00	
Area	: 108405	
On-column Amount (ng)	: 4.7696	
Integration start scan	: 386	Integration stop scan: 438
Y at integration start	: 574	Y at integration end: 574

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number	: 26	
Compound Name	: t-Butyl Alcohol-d10	
Scan Number	: 441	
Retention Time (minutes)	: 4.275	
Quant Ion	: 65.00	
Area (flag)	: 85386M	
On-Column Amount (ng)	: 50.0000	
Integration start scan	: 408	Integration stop scan: 570
Y at integration start	: 0	Y at integration end: 0

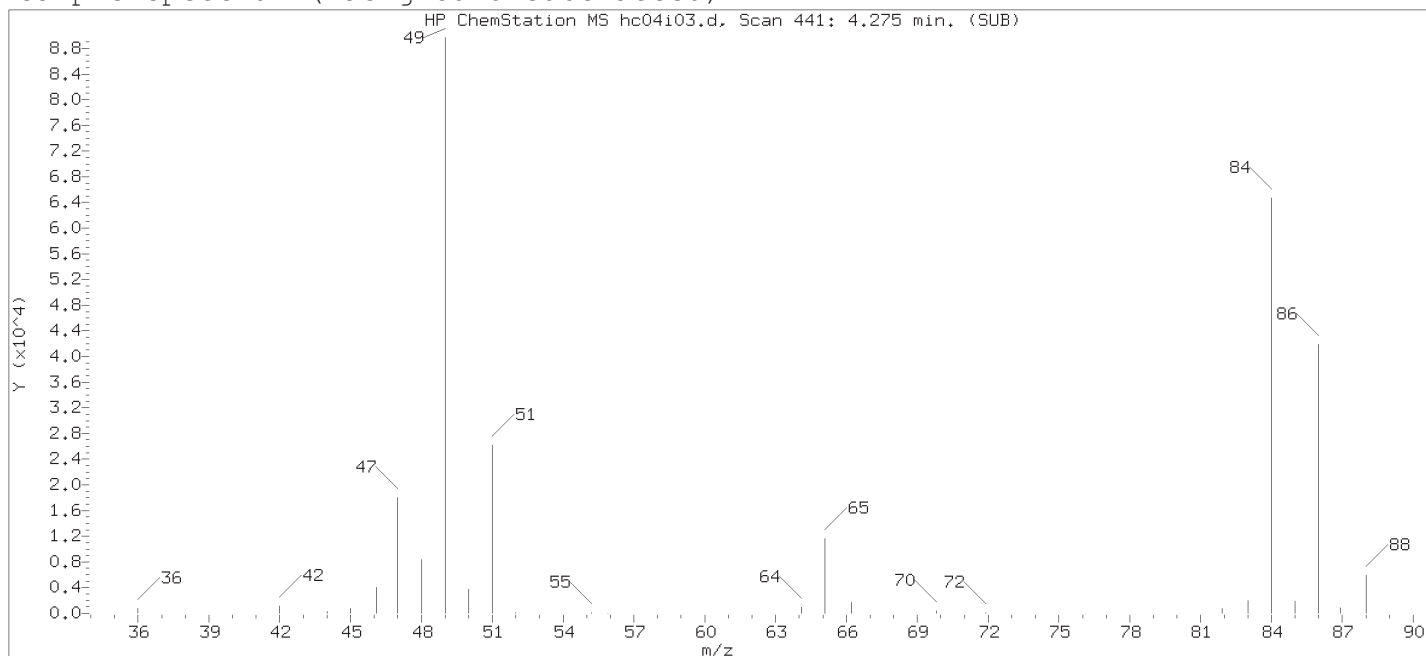
Reason for manual integration: improper integration

Analyst responsible for change:

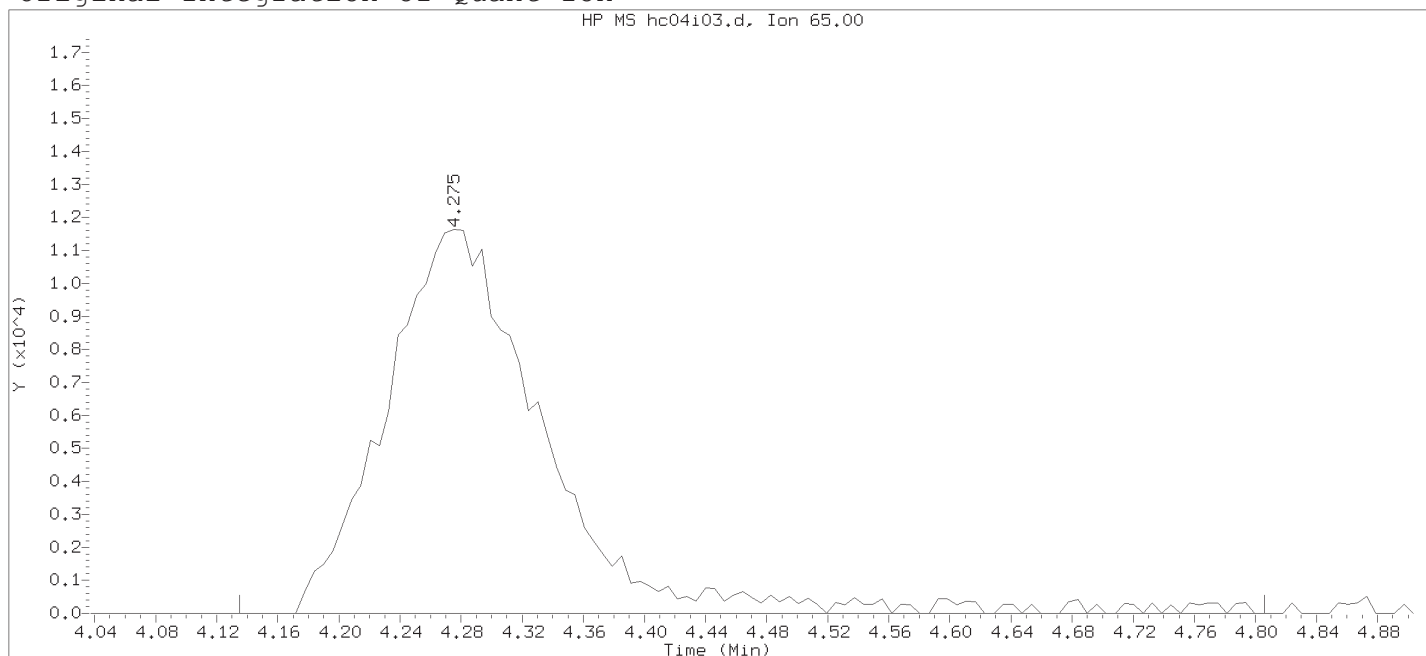
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:33

Date, time and analyst ID of latest file update: 04-Oct-2016 11:33 Automation

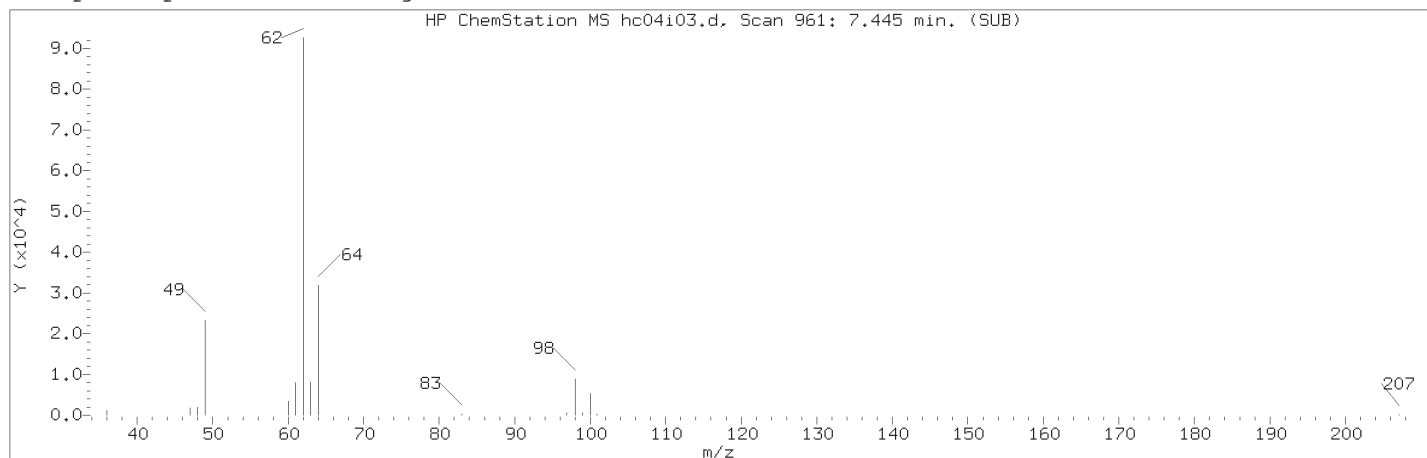
Sample Name: VSTD005

Lab Sample ID: VSTD005

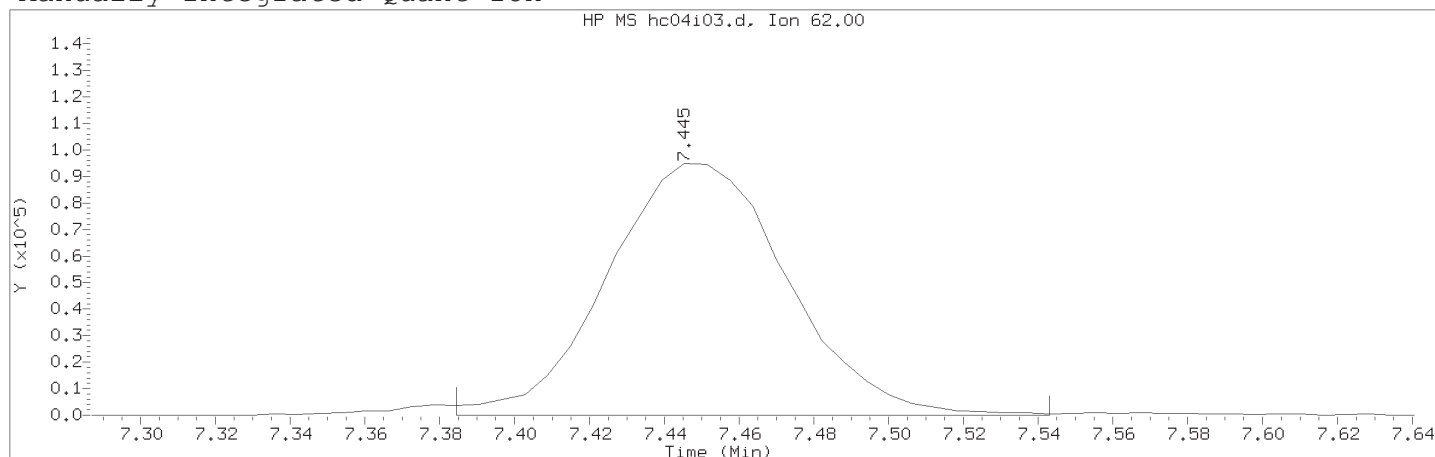
Compound Number : 26
 Compound Name : t-Butyl Alcohol-d10
 Scan Number : 441
 Retention Time (minutes) : 4.275
 Quant Ion : 65.00
 Area : 84096
 On-column Amount (ng) : 50.0000
 Integration start scan : 417
 Y at integration start : 0

Integration stop scan: 527
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number	: 59	
Compound Name	: 1,2-Dichloroethane	
Scan Number	: 961	
Retention Time (minutes)	: 7.445	
Quant Ion	: 62.00	
Area (flag)	: 317740M	
On-Column Amount (ng)	: 4.7489	
Integration start scan	: 950	Integration stop scan: 976
Y at integration start	: 0	Y at integration end: 0

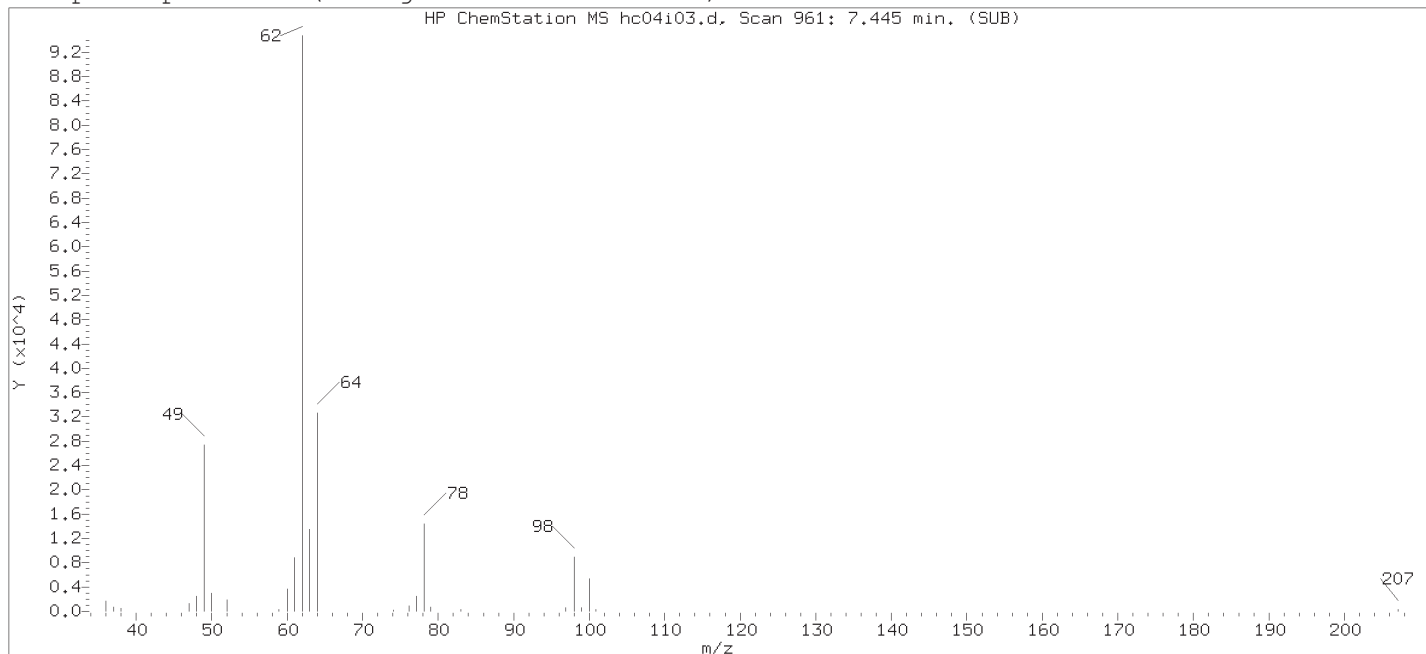
Reason for manual integration: improper integration

Analyst responsible for change:

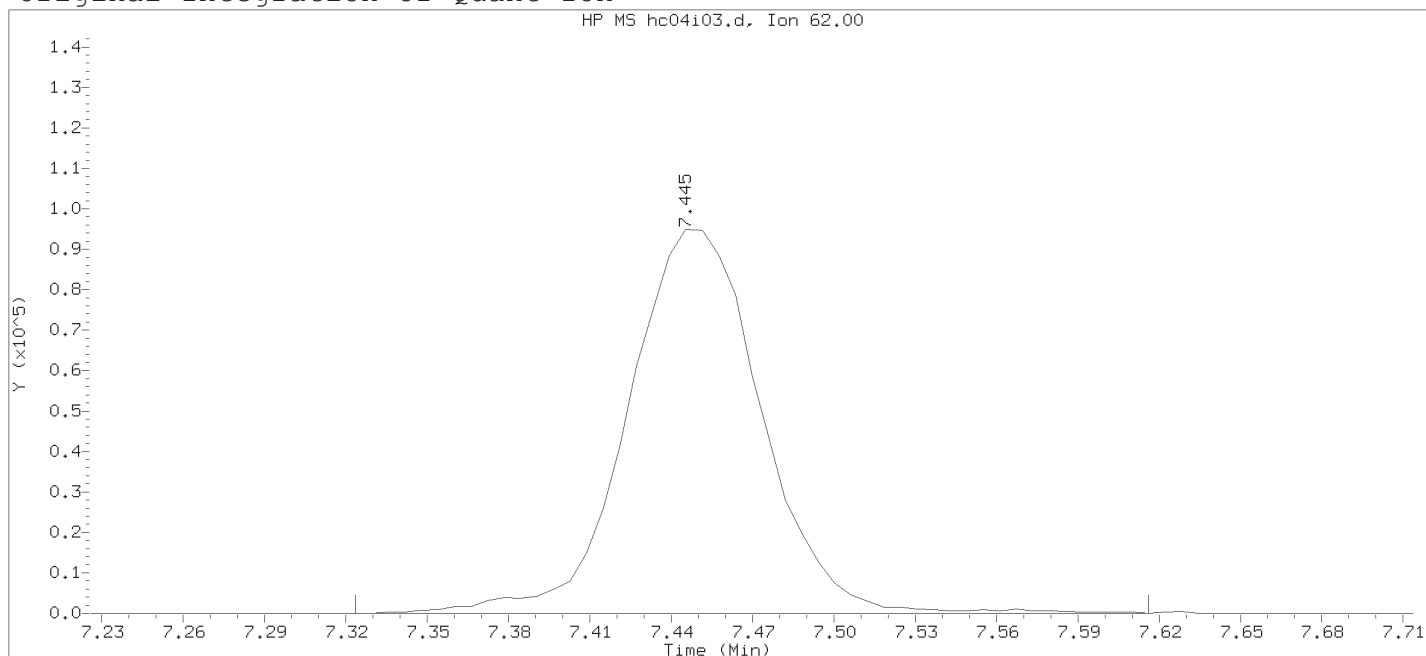
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:33

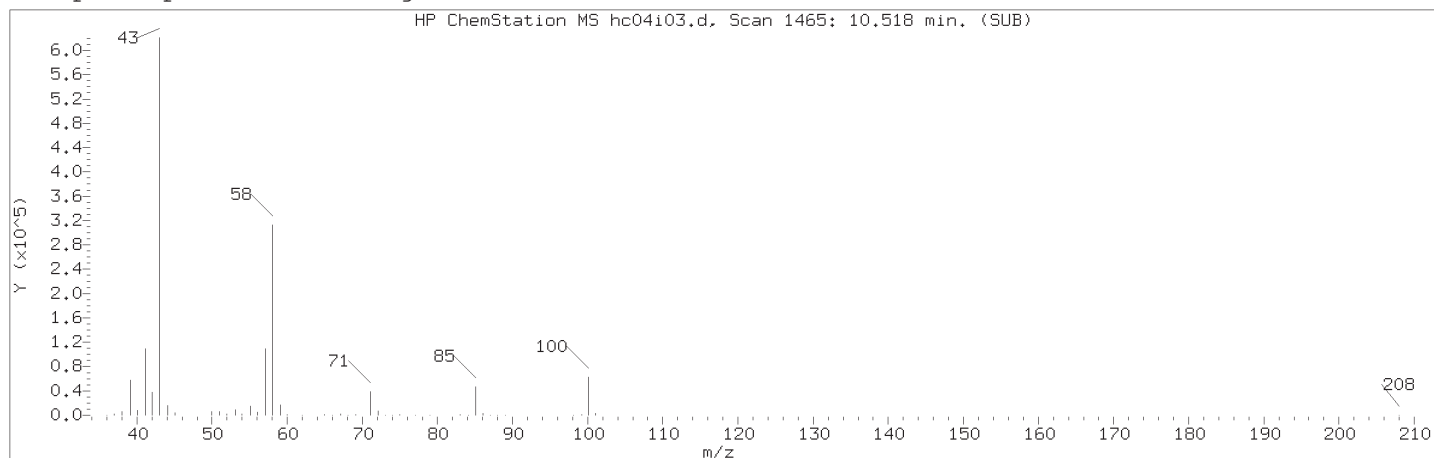
Date, time and analyst ID of latest file update: 04-Oct-2016 11:33 Automation

Sample Name: VSTD005

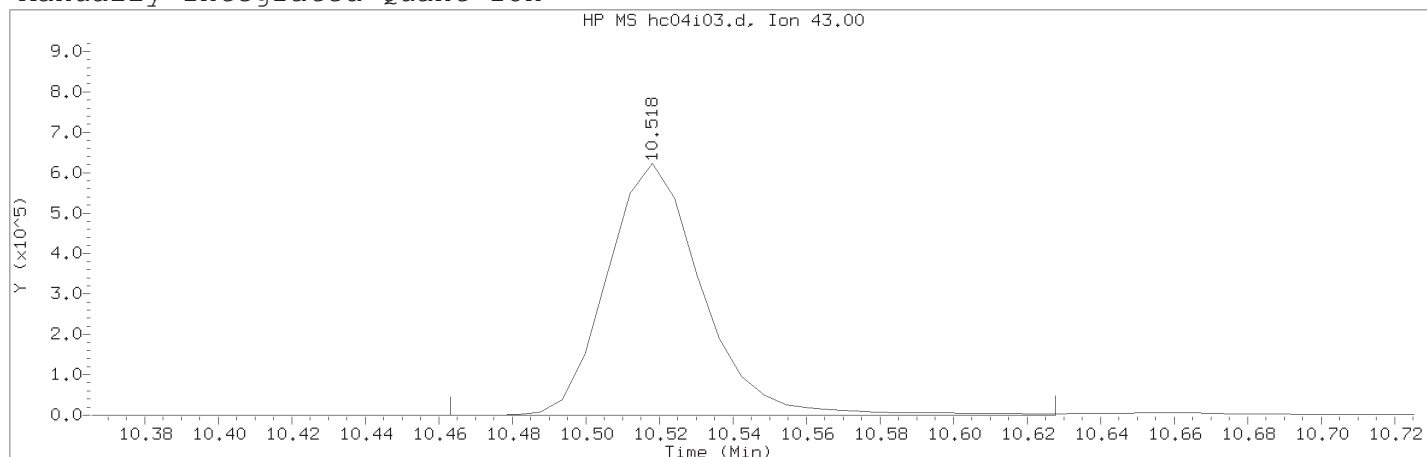
Lab Sample ID: VSTD005

Compound Number	: 59	
Compound Name	: 1,2-Dichloroethane	
Scan Number	: 961	
Retention Time (minutes)	: 7.445	
Quant Ion	: 62.00	
Area	: 324592	
On-column Amount (ng)	: 5.2988	
Integration start scan	: 940	Integration stop scan: 988
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number	: 91	
Compound Name	: 2-Hexanone	
Scan Number	: 1465	
Retention Time (minutes)	: 10.518	
Quant Ion	: 43.00	
Area (flag)	: 1112485M	
On-Column Amount (ng)	: 41.3353	
Integration start scan	: 1455	Integration stop scan: 1482
Y at integration start	: 247	Y at integration end: 247

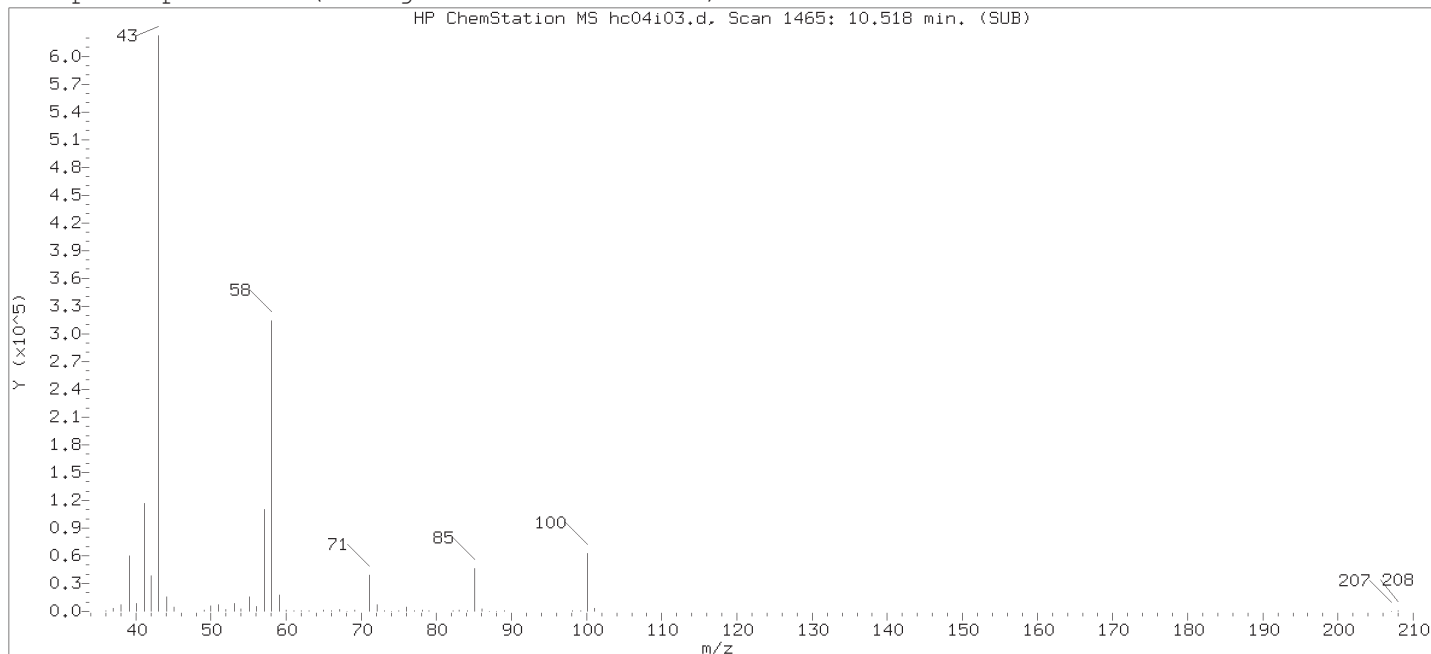
Reason for manual integration: improper integration

Analyst responsible for change:

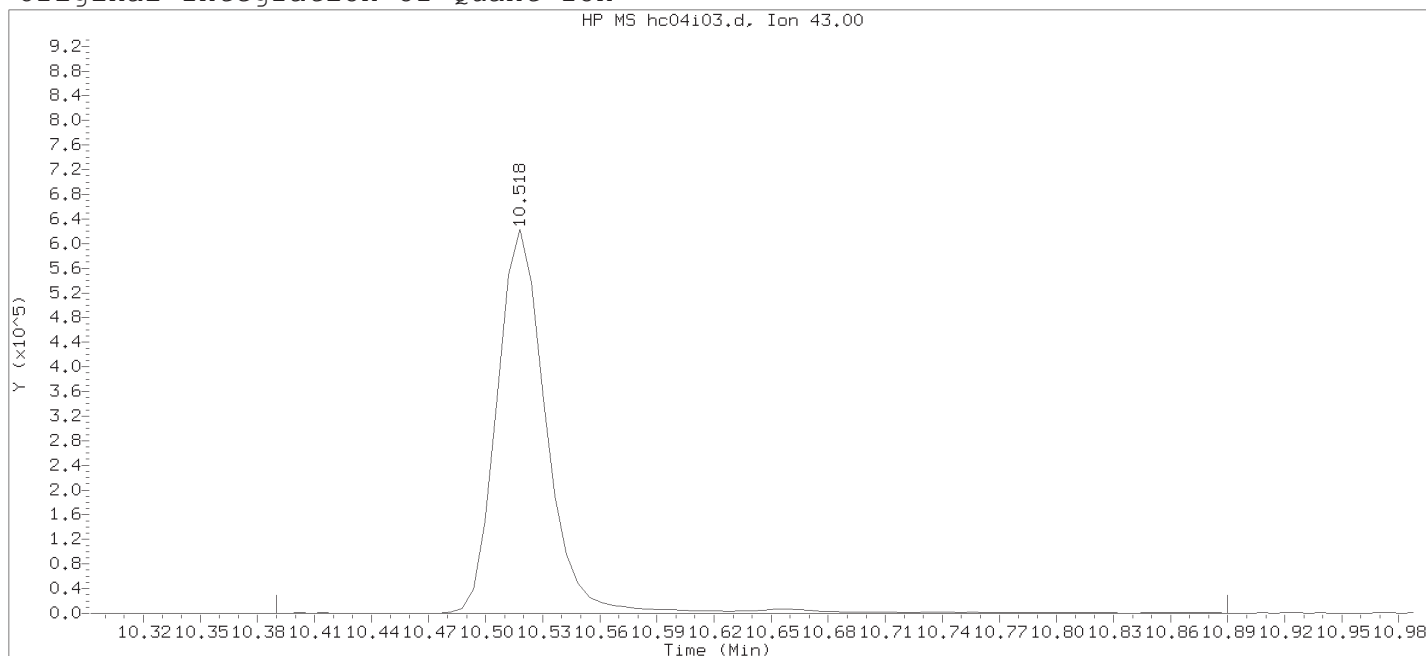
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:33

Date, time and analyst ID of latest file update: 04-Oct-2016 11:33 Automation

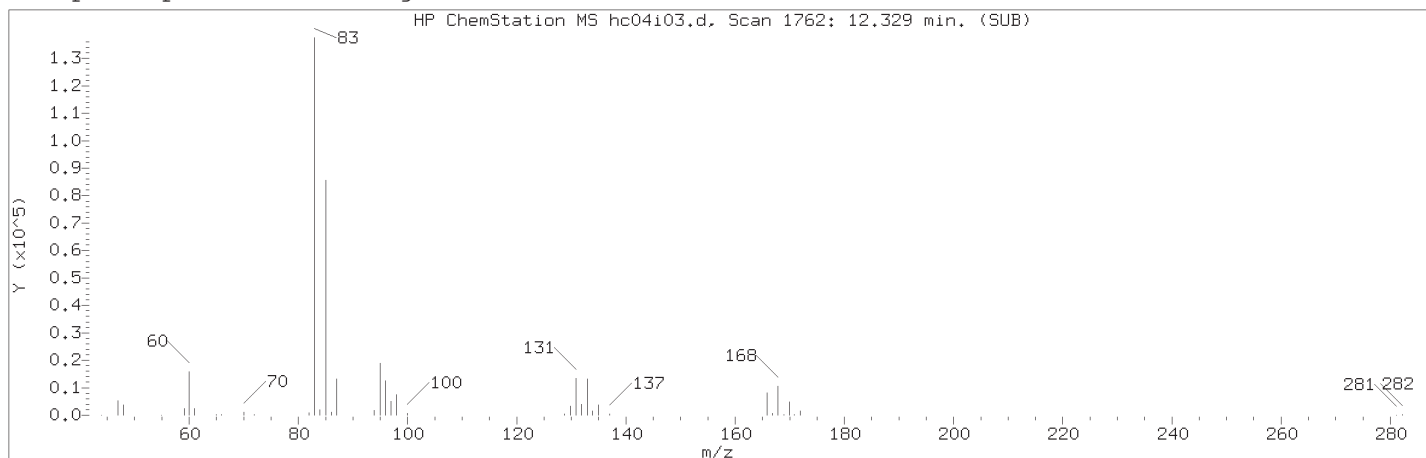
Sample Name: VSTD005

Lab Sample ID: VSTD005

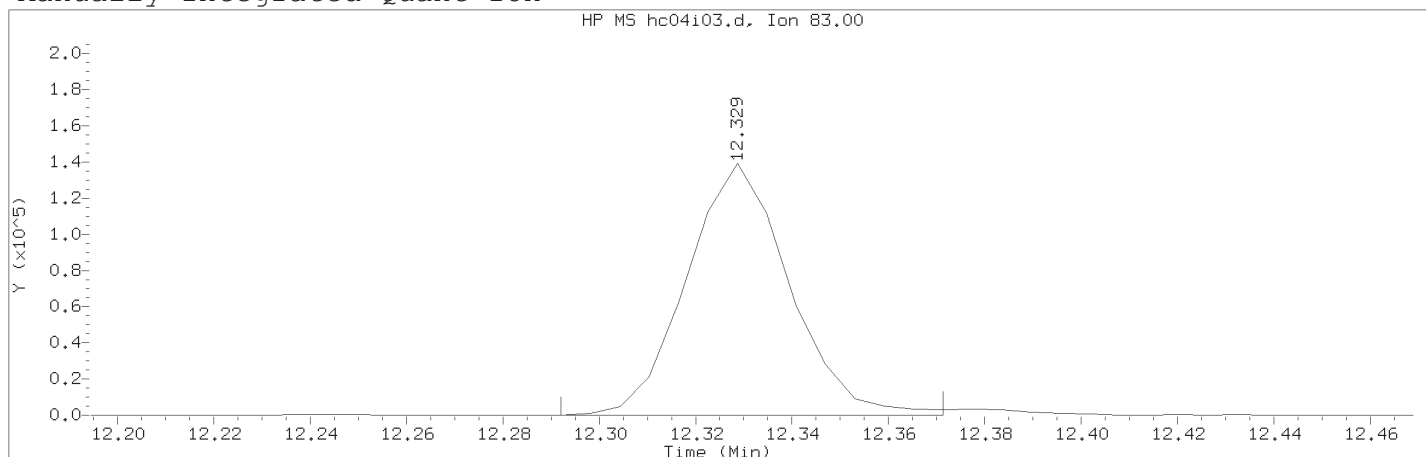
Compound Number : 91
 Compound Name : 2-Hexanone
 Scan Number : 1465
 Retention Time (minutes) : 10.518
 Quant Ion : 43.00
 Area : 1146073
 On-column Amount (ng) : 53.0561
 Integration start scan : 1443
 Y at integration start : 0

Integration stop scan: 1525
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number	:	113	
Compound Name	:	1,1,2,2-Tetrachloroethane	
Scan Number	:	1762	
Retention Time (minutes)	:	12.329	
Quant Ion	:	83.00	
Area (flag)	:	205439M	
On-Column Amount (ng)	:	4.9923	
Integration start scan	:	1755	Integration stop scan: 1768
Y at integration start	:	0	Y at integration end: 0

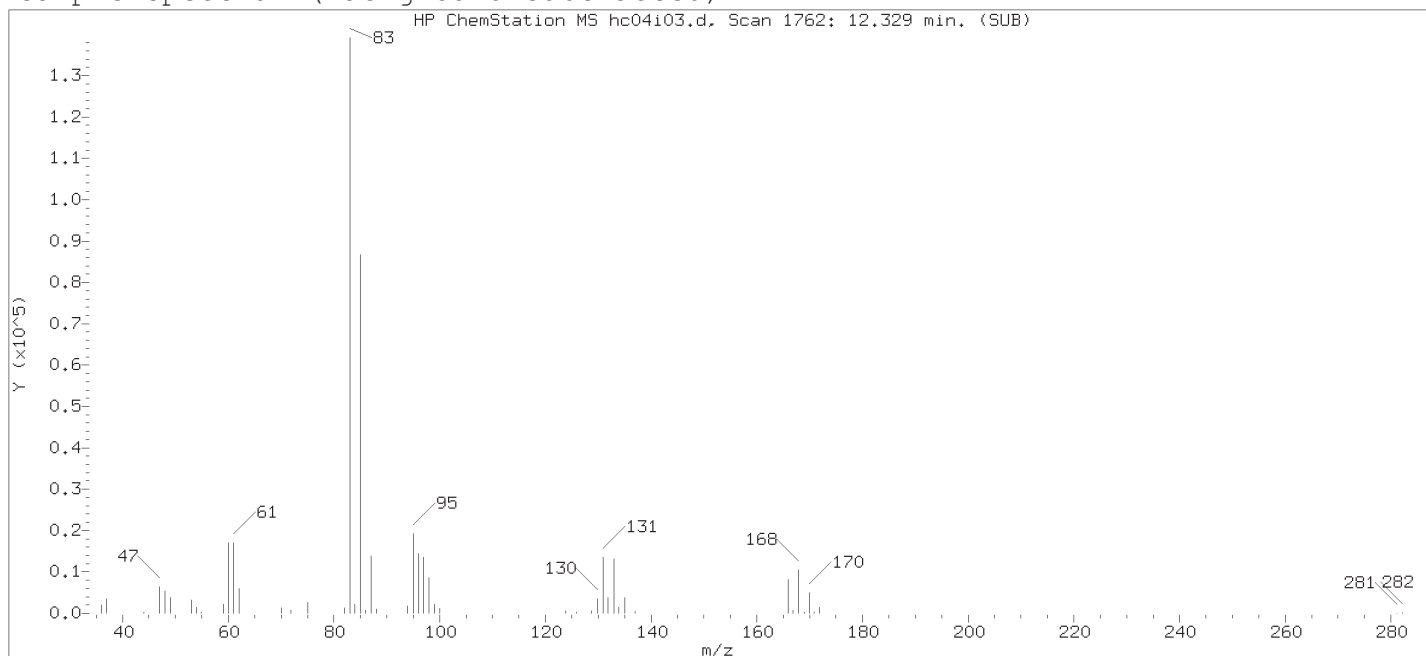
Reason for manual integration: improper integration

Analyst responsible for change:

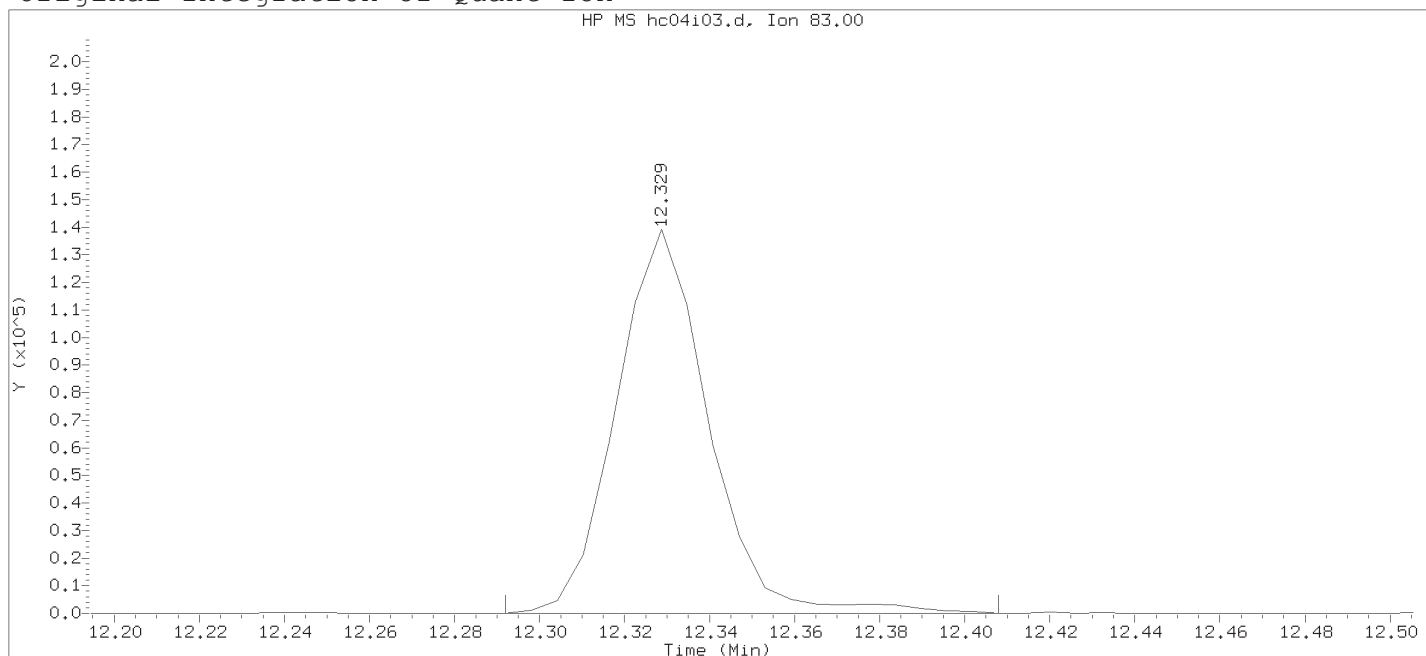
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:33

Date, time and analyst ID of latest file update: 04-Oct-2016 11:33 Automation

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number : 113

Compound Name : 1,1,2,2-Tetrachloroethane

Scan Number : 1762

Retention Time (minutes) : 12.329

Quant Ion : 83.00

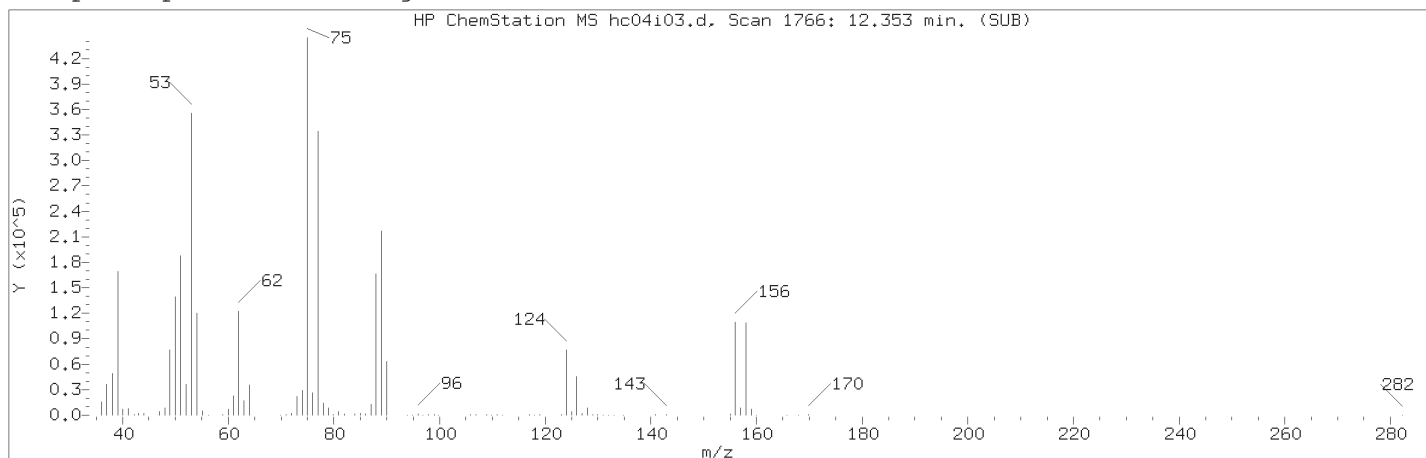
Area : 209035

On-column Amount (ng) : 4.9170

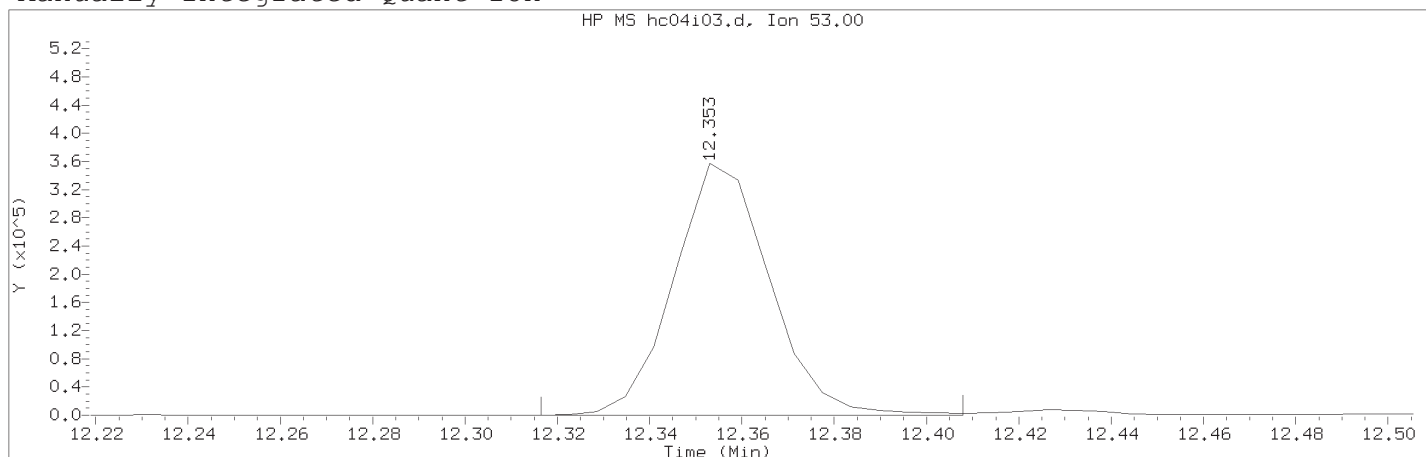
Integration start scan : 1755 Integration stop scan: 1774

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number	: 115	
Compound Name	: trans-1,4-Dichloro-2-butene	
Scan Number	: 1766	
Retention Time (minutes)	: 12.353	
Quant Ion	: 53.00	
Area (flag)	: 515605A	
On-Column Amount (ng)	: 44.7484	
Integration start scan	: 1759	Integration stop scan: 1774
Y at integration start	: 0	Y at integration end: 0

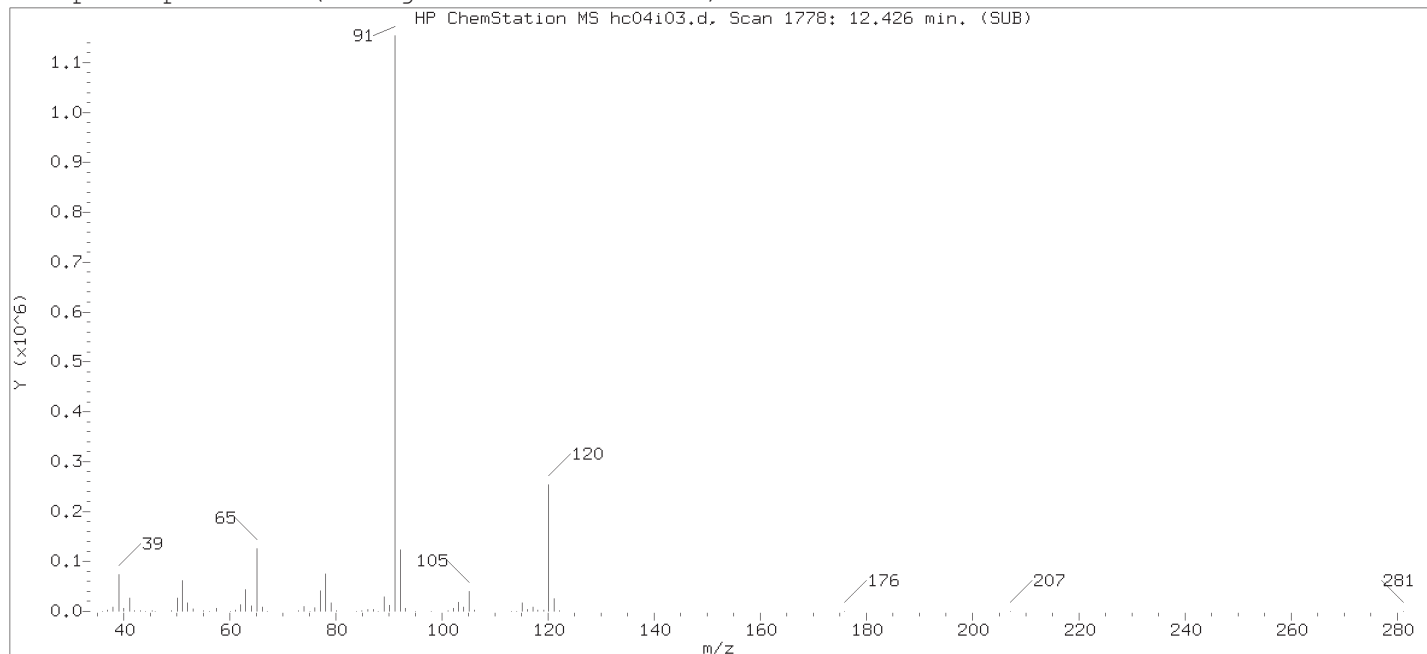
Reason for manual integration: improper integration

Analyst responsible for change:

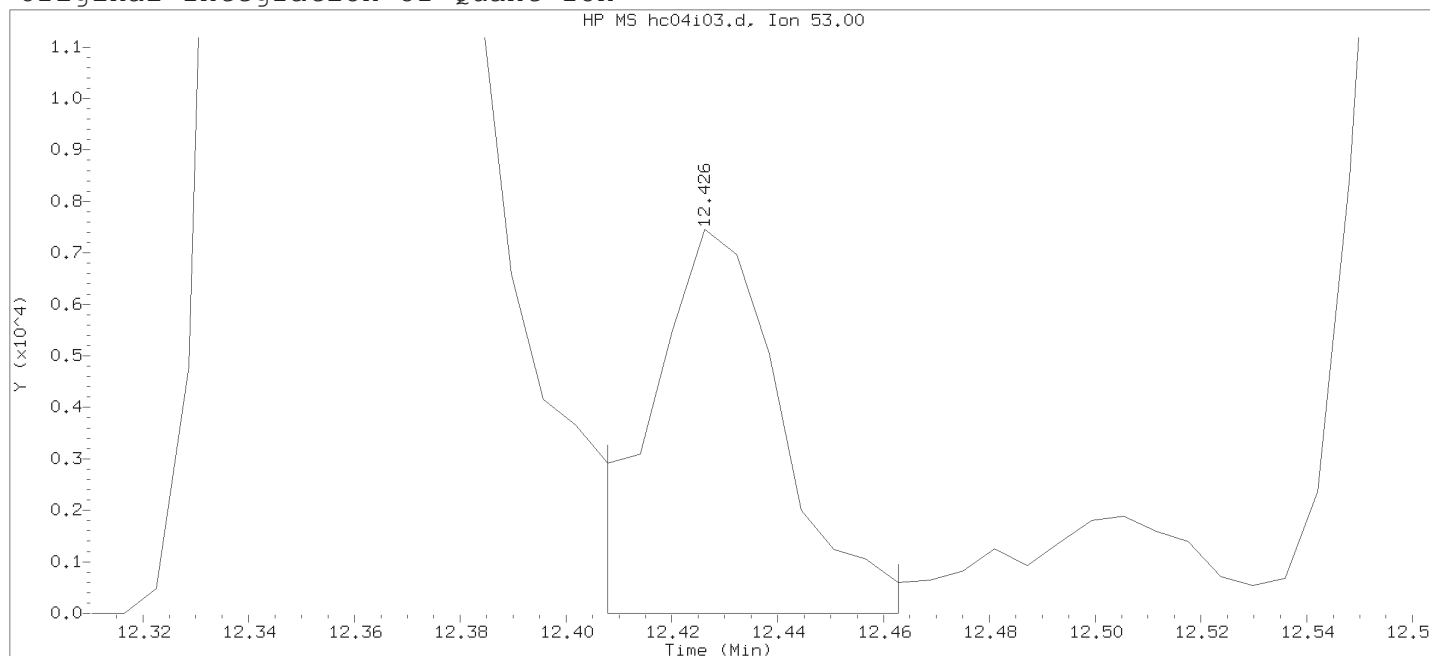
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:33

Date, time and analyst ID of latest file update: 04-Oct-2016 11:33 Automation

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number : 115

Compound Name : trans-1,4-Dichloro-2-butene

Scan Number : 1778

Retention Time (minutes) : 12.426

Quant Ion : 53.00

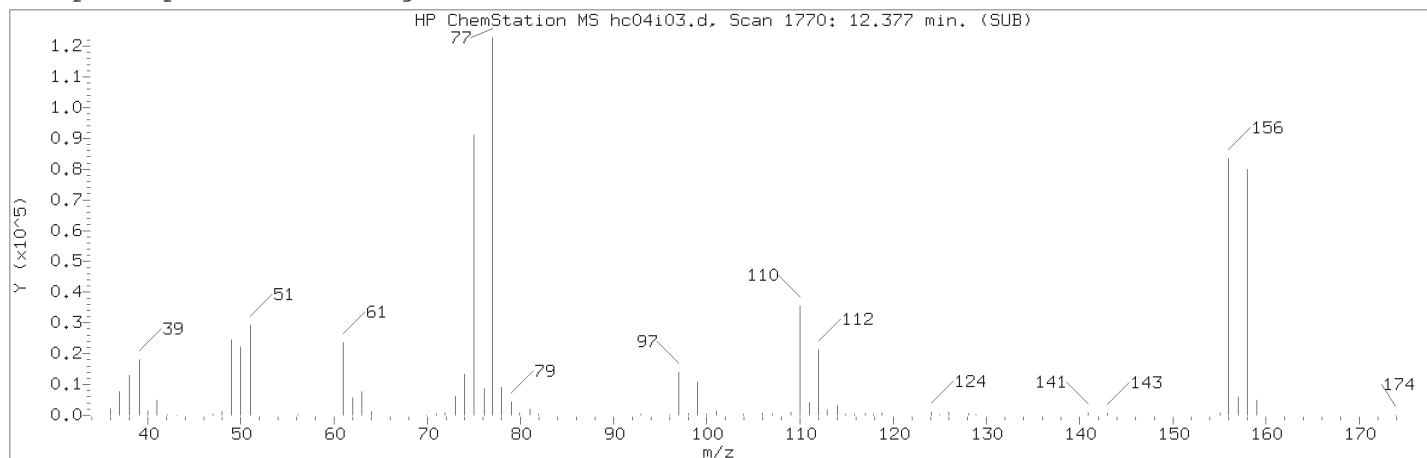
Area : 12463

On-column Amount (ng) : 2.7495

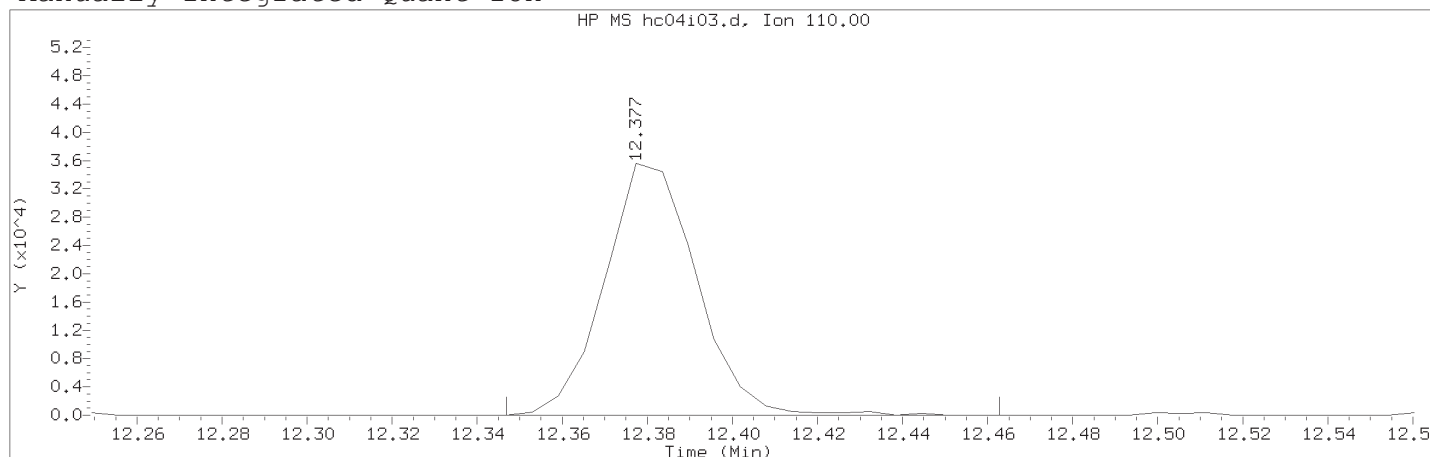
Integration start scan : 1774 Integration stop scan: 1783

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number	: 116	
Compound Name	: 1,2,3-Trichloropropane	
Scan Number	: 1770	
Retention Time (minutes)	: 12.377	
Quant Ion	: 110.00	
Area (flag)	: 53503M	
On-Column Amount (ng)	: 4.8699	
Integration start scan	: 1764	Integration stop scan: 1783
Y at integration start	: 0	Y at integration end: 0

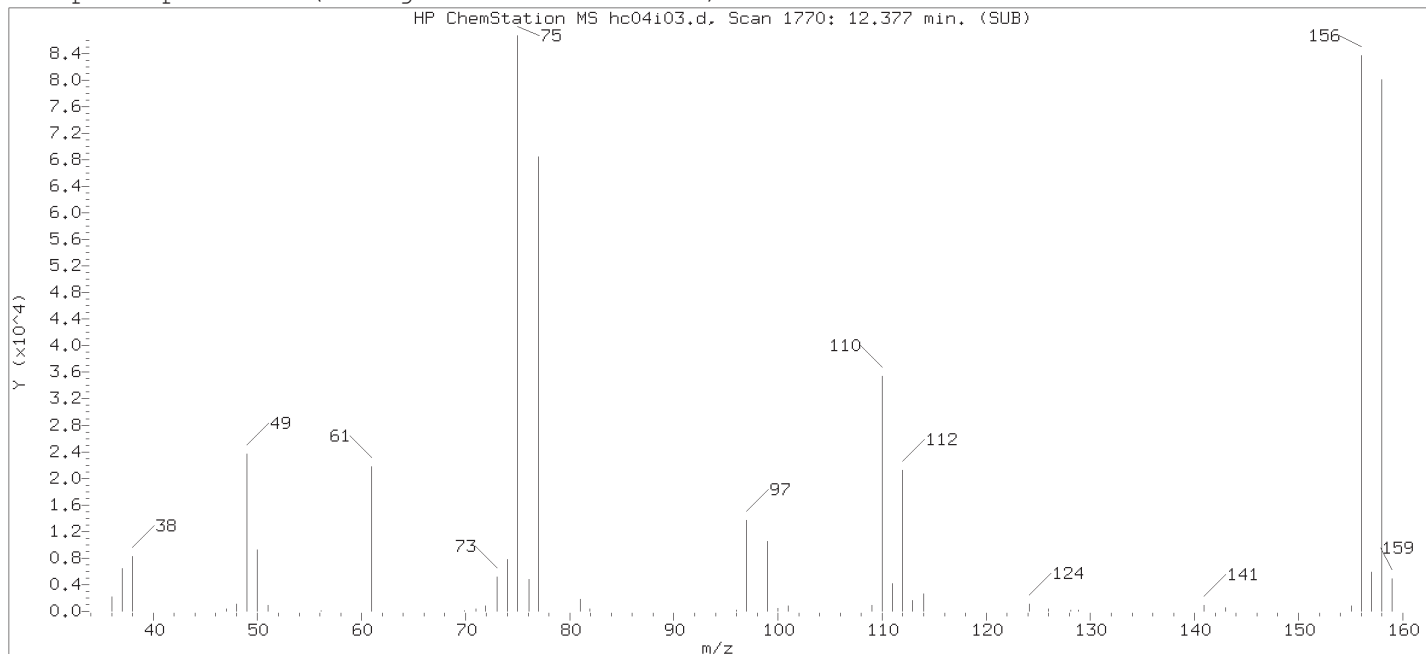
Reason for manual integration: improper integration

Analyst responsible for change:

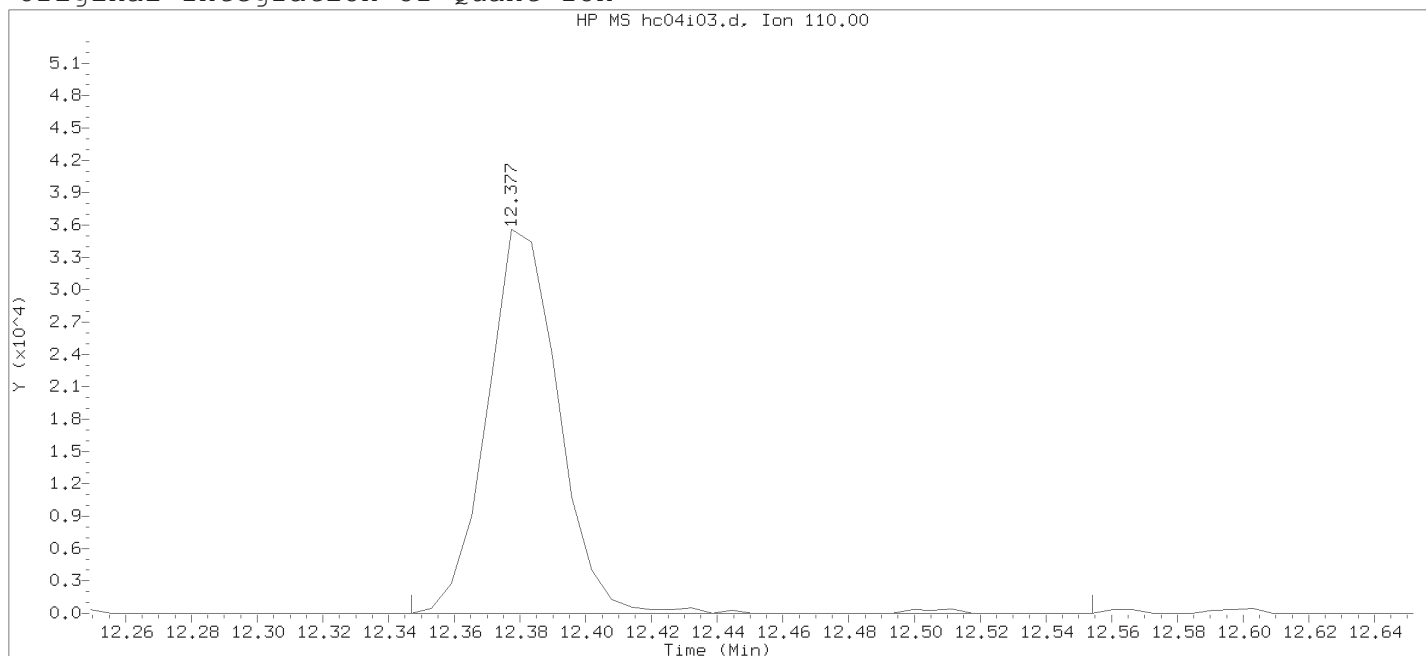
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:33

Date, time and analyst ID of latest file update: 04-Oct-2016 11:33 Automation

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number : 116

Compound Name : 1,2,3-Trichloropropane

Scan Number : 1770

Retention Time (minutes): 12.377

Quant Ion : 110.00

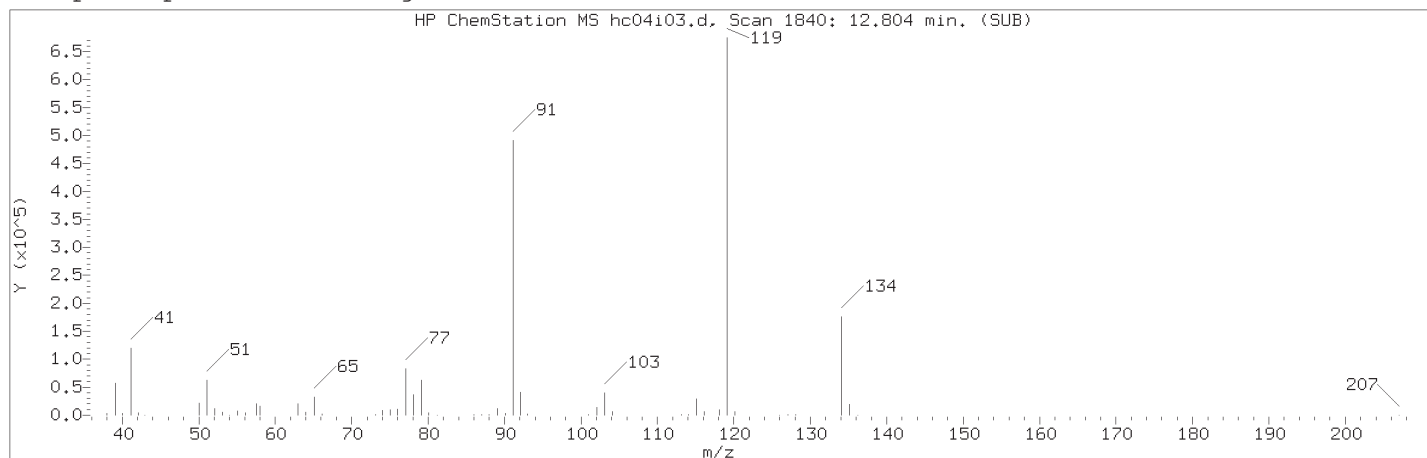
Area : 53851

On-column Amount (ng) : 4.7031

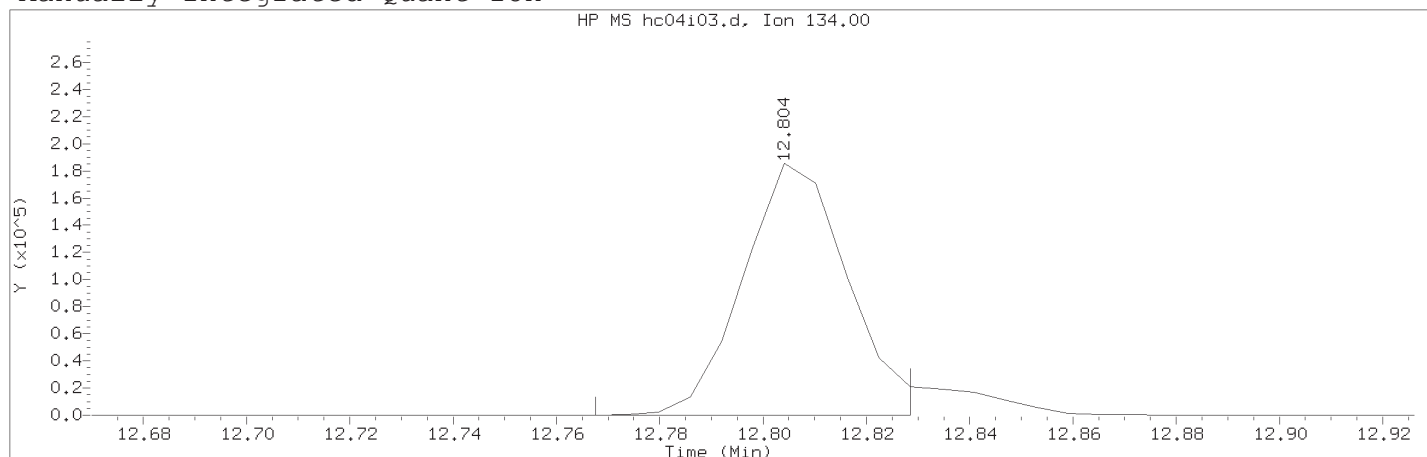
Integration start scan : 1764 Integration stop scan: 1798

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:28

Date, time and analyst ID of latest file update: 04-Oct-2016 15:28 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number	: 125	
Compound Name	: tert-Butylbenzene	
Scan Number	: 1840	
Retention Time (minutes)	: 12.804	
Quant Ion	: 134.00	
Area (flag)	: 261669M	
On-Column Amount (ng)	: 4.9561	
Integration start scan	: 1833	Integration stop scan: 1843
Y at integration start	: 0	Y at integration end: 0

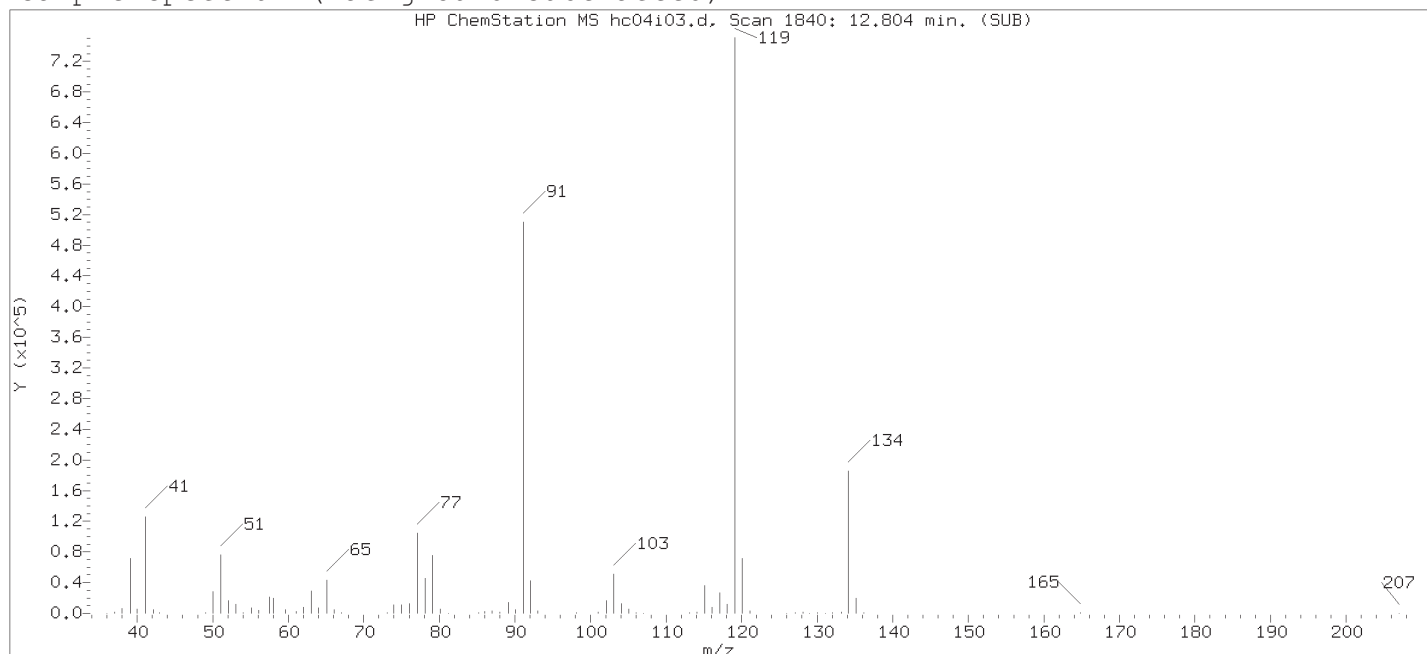
Reason for manual integration: improper integration

Analyst responsible for change:

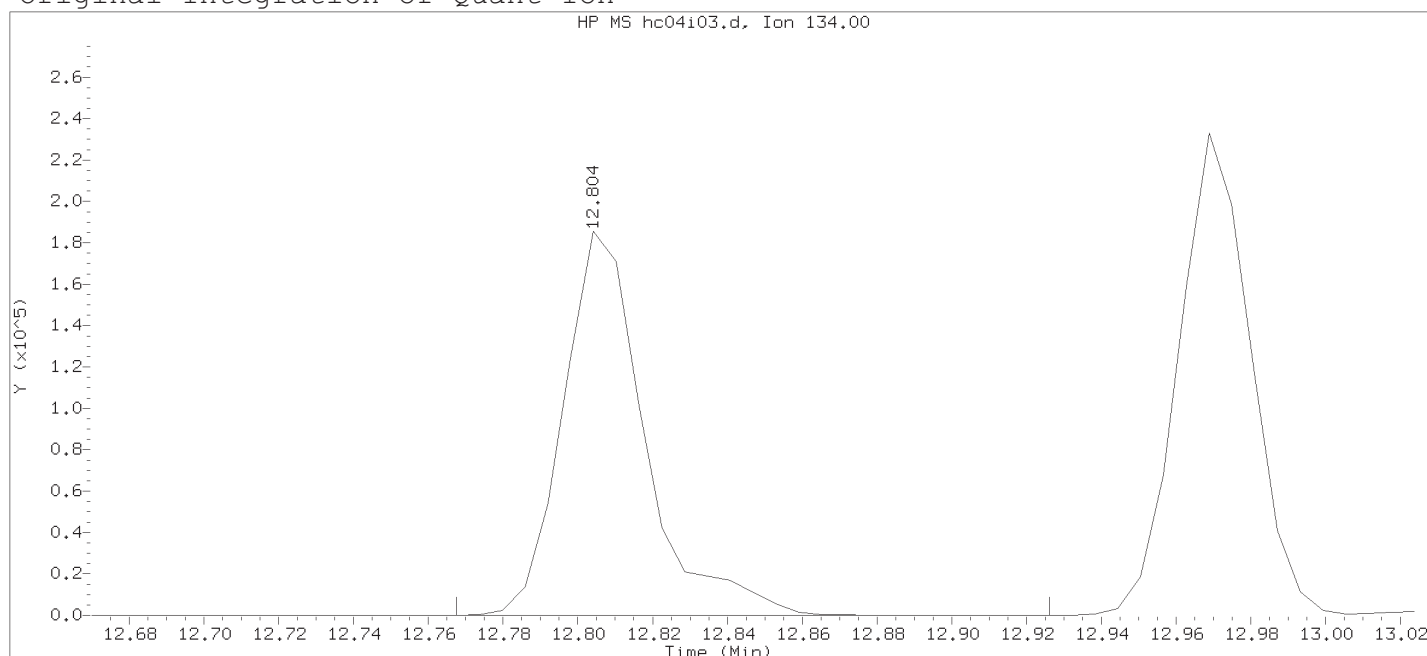
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:14

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:33

Date, time and analyst ID of latest file update: 04-Oct-2016 11:33 Automation

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number : 125

Compound Name : tert-Butylbenzene

Scan Number : 1840

Retention Time (minutes): 12.804

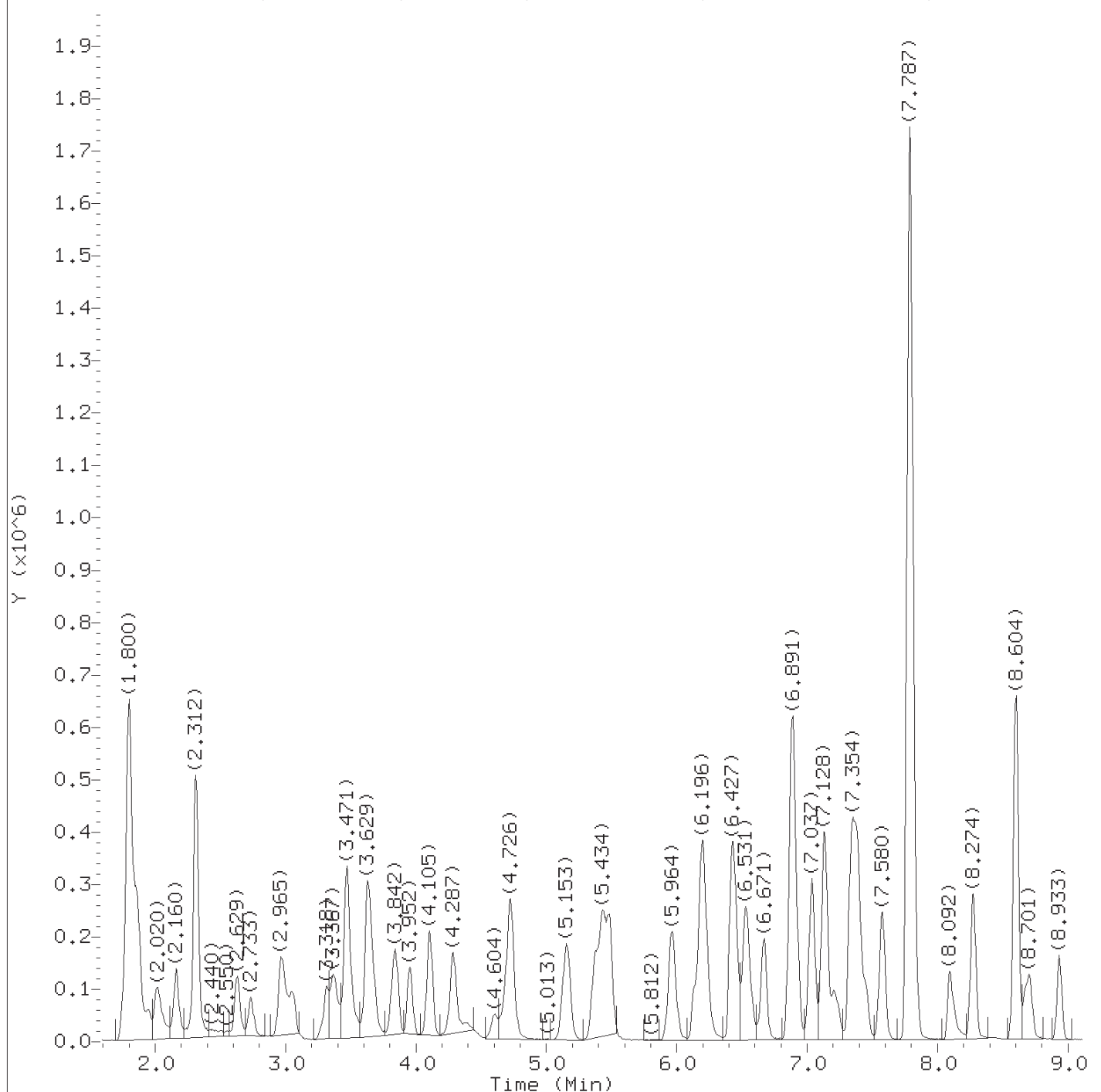
Quant Ion : 134.00

Area : 281658

On-column Amount (ng) : 4.9403

Integration start scan : 1833 Integration stop scan: 1859

Y at integration start : 0 Y at integration end: 0



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d
Injection date and time: 04-OCT-2016 11:35

Instrument ID: HP19094.i
Analyst ID: kel01973

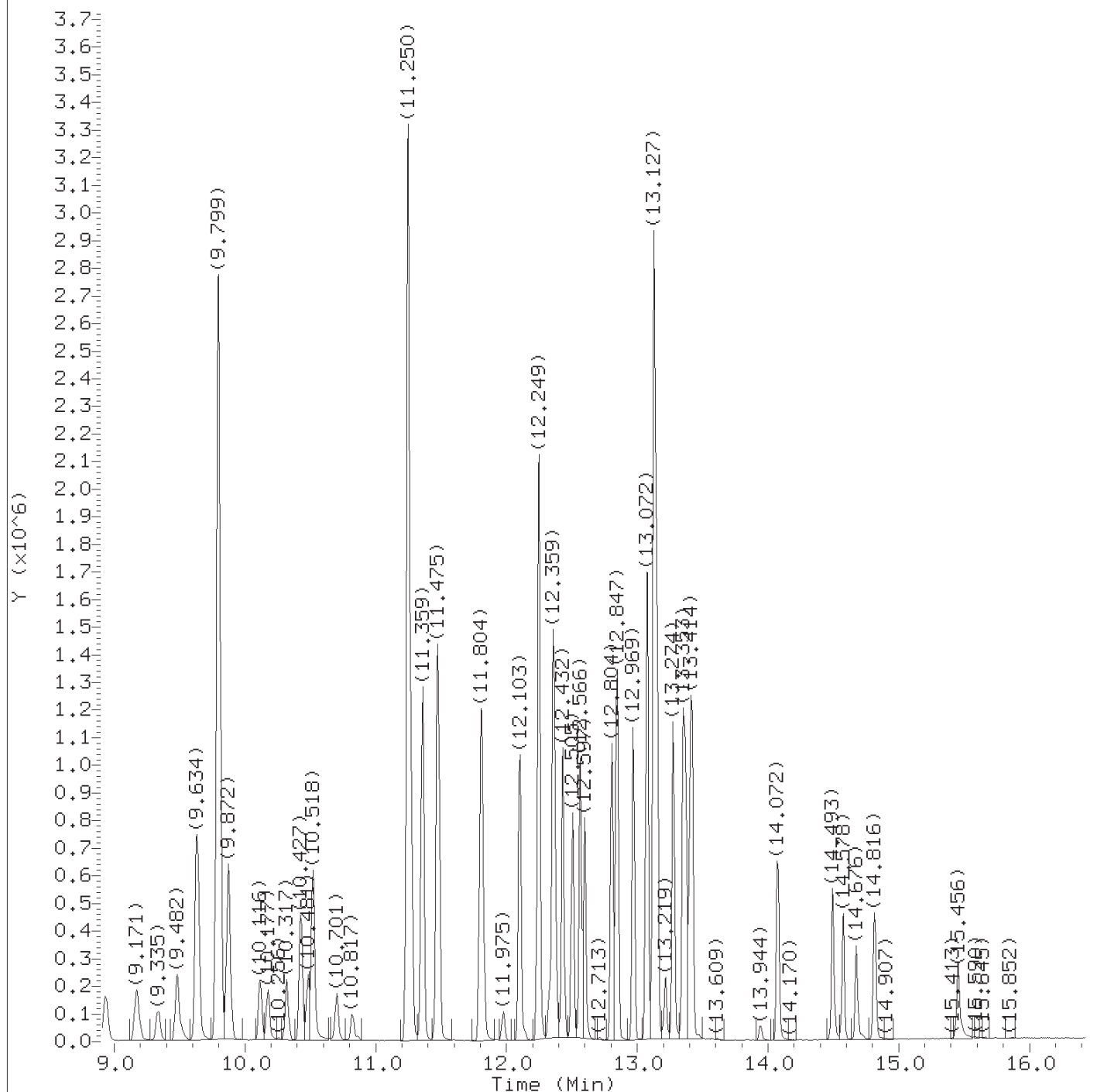
Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:44
Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.

Target 3.5 esignature user ID: kel01973
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Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d
Injection date and time: 04-OCT-2016 11:35

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:44
Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d
 Injection date and time: 04-OCT-2016 11:35

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:44
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.014	85	179502	1.860
2) Chloromethane	(2)	2.160	50	186644	1.807
5) Vinyl Chloride	(2)	2.306	62	169518	1.841
6) 1,3-Butadiene	(2)	2.312	39	283635	2.010
7) Bromomethane	(2)	2.629	94	109457	1.853
8) Chloroethane	(2)	2.733	64	97412	1.872
9) Dichlorofluoromethane	(2)	2.965	67	229303	1.846
10) Trichlorofluoromethane	(2)	3.044	101	206244M	1.846
11) Ethyl ether	(2)	3.312	59	84717	2.055
12) Freon 123a	(2)	3.373	67	144227	1.860
13) Acrolein	(1)	3.471	56	579680	95.280
15) 1,1-Dichloroethene	(2)	3.629	96	105870	2.034
14) Acetone	(1)	3.635	43	171554	21.062
16) Freon 113	(2)	3.653	101	117759	2.069
17) Methyl Iodide	(2)	3.824	142	204878	2.059
18) Carbon Disulfide	(2)	3.952	76	312457	1.979
21) Methyl Acetate	(1)	4.086	43	45359	1.847
22) Allyl Chloride	(2)	4.105	41	229882	2.030
26)*t-Butyl Alcohol-d10	(1)	4.269	65	84598	50.000
23) Methylene Chloride	(2)	4.281	84	113641	2.034
28) t-Butyl Alcohol	(1)	4.397	59	108912	49.500
29) Acrylonitrile	(1)	4.604	53	98552	10.283
30) Methyl Tertiary Butyl Ether	(2)	4.708	73	250146	2.060
31) trans-1,2-Dichloroethene	(2)	4.726	96	119409	2.024
32) n-Hexane	(2)	5.153	57	187648	2.086
33) 1,1-Dichloroethane	(2)	5.373	63	231169	1.990
34) di-Isopropyl Ether	(2)	5.434	45	429453	2.061
35) 2-Chloro-1,3-Butadiene	(2)	5.488	53	217451	2.021
37) Ethyl t-butyl ether	(2)	5.964	59	345133	2.042
40) 1,2-Dichloroethene (Total)	(2)		96	251043	4.058
38) 2-Butanone	(1)	6.129	43	274578	19.051
39) cis-1,2-Dichloroethene	(2)	6.190	96	131634	2.035
42) Propionitrile	(1)	6.202	54	138804	43.664
41) 2,2-Dichloropropane	(2)	6.202	77	191672	2.033
45) Methacrylonitrile	(1)	6.433	67	247153	18.210
47) Bromochloromethane	(2)	6.525	128	53262	2.053
48) Tetrahydrofuran	(1)	6.543	71	69903	18.817
49) Chloroform	(2)	6.671	83	228936	2.040

M = Compound was manually integrated.

* = Compound is an internal standard.

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 on 10/04/2016 at 15:45.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d
 Injection date and time: 04-OCT-2016 11:35

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:44
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
50) \$Dibromofluoromethane	(2)	6.885	113	517277	9.935
50) \$Dibromofluoromethane	(2)	6.885	111	532150	9.996
51) 1,1,1-Trichloroethane	(2)	6.915	97	207749	2.056
52) Cyclohexane	(2)	7.037	56	235081	1.983
52) Cyclohexane	(2)	7.037	84	188116	1.922
52) Cyclohexane	(2)	7.043	69	67422	2.016
55) 1,1-Dichloropropene	(2)	7.128	75	181878	1.991
54) Carbon Tetrachloride	(2)	7.141	117	178185	2.041
56) Isobutyl Alcohol	(1)	7.208	41	91900M	105.597
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	81323M	9.723
57) \$1,2-Dichloroethane-d4	(2)	7.342	65	457266	9.931
57) \$1,2-Dichloroethane-d4	(2)	7.336	104	52875M	9.880
58) Benzene	(2)	7.391	78	495175	2.033
59) 1,2-Dichloroethane	(2)	7.451	62	135982M	2.006
60) t-Amyl methyl ether	(2)	7.580	73	286441	2.089
63) *Fluorobenzene	(2)	7.787	96	2270009	10.000
62) n-Heptane	(2)	7.817	43	223152	2.061
65) n-Butanol	(1)	8.092	56	152708M	240.237
67) Trichloroethene	(2)	8.268	95	135203	2.026
70) 1,2-Dichloropropane	(2)	8.598	63	127593	2.058
69) Methylcyclohexane	(2)	8.604	83	242071	2.078
71) Methyl Methacrylate	(1)	8.671	69	48084M	1.924
72) 1,4-Dioxane	(1)	8.701	88	17907	83.994
73) Dibromomethane	(2)	8.707	93	53361	2.056
74) Bromodichloromethane	(2)	8.933	83	142981	2.014
76) 2-Nitropropane	(1)	9.171	41	168930	18.275
80) cis-1,3-Dichloropropene	(2)	9.482	75	165675	2.056
81) 4-Methyl-2-Pentanone	(1)	9.634	43	700367MA	18.180
82) \$Toluene-d8	(3)	9.799	98	2216302	10.000
82) \$Toluene-d8	(3)	9.799	100	1431654	10.046
83) Toluene	(3)	9.872	92	310818	2.041
84) trans-1,3-Dichloropropene	(3)	10.116	75	127327	2.060
85) 1,3-Dichloropropene (total)	(3)		75	293002	4.116
86) Ethyl Methacrylate	(3)	10.177	69	100742	2.114
88) 1,1,2-Trichloroethane	(3)	10.317	97	71511	2.040
89) Tetrachloroethene	(3)	10.427	166	150068	2.059
90) 1,3-Dichloropropane	(3)	10.481	76	135866	2.132
91) 2-Hexanone	(1)	10.518	43	474841	17.807

M = Compound was manually integrated.

A = User selected an alternate hit.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/04/2016 at 15:45.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d
 Injection date and time: 04-OCT-2016 11:35

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:44
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
93) Dibromochloromethane	(3)	10.701	129	89833	2.066
95) 1,2-Dibromoethane	(3)	10.817	107	66809	2.015
97) *Chlorobenzene-d5	(3)	11.250	117	1467187	10.000
98) Chlorobenzene	(3)	11.274	112	334432	2.061
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	110645	1.984
100) Ethylbenzene	(3)	11.359	91	613525	2.047
101) m+p-Xylene	(3)	11.475	106	464593	4.126
105) Xylene (Total)	(3)		106	690628	6.184
104) o-Xylene	(3)	11.804	106	226035	2.058
106) Styrene	(3)	11.816	104	351177	2.090
107) Bromoform	(3)	11.975	173	48145	2.023
108) Isopropylbenzene	(3)	12.103	105	616930	2.083
111) \$4-Bromofluorobenzene	(3)	12.243	95	643893	9.882
111) \$4-Bromofluorobenzene	(3)	12.249	174	577956	9.912
113) 1,1,2,2-Tetrachloroethane	(4)	12.329	83	87783M	2.173
115) trans-1,4-Dichloro-2-butene	(1)	12.359	53	206083	18.052
114) Bromobenzene	(4)	12.365	156	136085	2.089
116) 1,2,3-Trichloropropane	(4)	12.383	110	23077	2.139
117) n-Propylbenzene	(4)	12.432	91	740294	2.143
119) 2-Chlorotoluene	(4)	12.505	126	135289	2.072
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	506164	2.130
122) 4-Chlorotoluene	(4)	12.597	126	139702	2.092
125) tert-Butylbenzene	(4)	12.804	134	110606M	2.134
126) Pentachloroethane	(4)	12.841	167	87458	2.180
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	509486	2.124
128) sec-Butylbenzene	(4)	12.969	105	667057	2.139
131) 1,3-Dichlorobenzene	(4)	13.072	146	271542	2.143
132) p-Isopropyltoluene	(4)	13.078	119	554675	2.132
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	653236	10.000
134) 1,4-Dichlorobenzene	(4)	13.146	146	273381	2.074
135) 1,2,3-Trimethylbenzene	(4)	13.152	120	219765	2.117
136) Benzyl Chloride	(4)	13.219	126	28896	2.102
138) n-Butylbenzene	(4)	13.371	92	265772	2.128
139) 1,2-Dichlorobenzene	(4)	13.402	146	240247	2.131
143) 1,2-Dibromo-3-chloropropane	(1)	13.944	155	10741	1.915
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	170375	2.122
146) Hexachlorobutadiene	(4)	14.578	225	79963	2.093
147) Naphthalene	(4)	14.676	128	257780	2.115

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/04/2016 at 15:45.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 11:35 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:44
Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

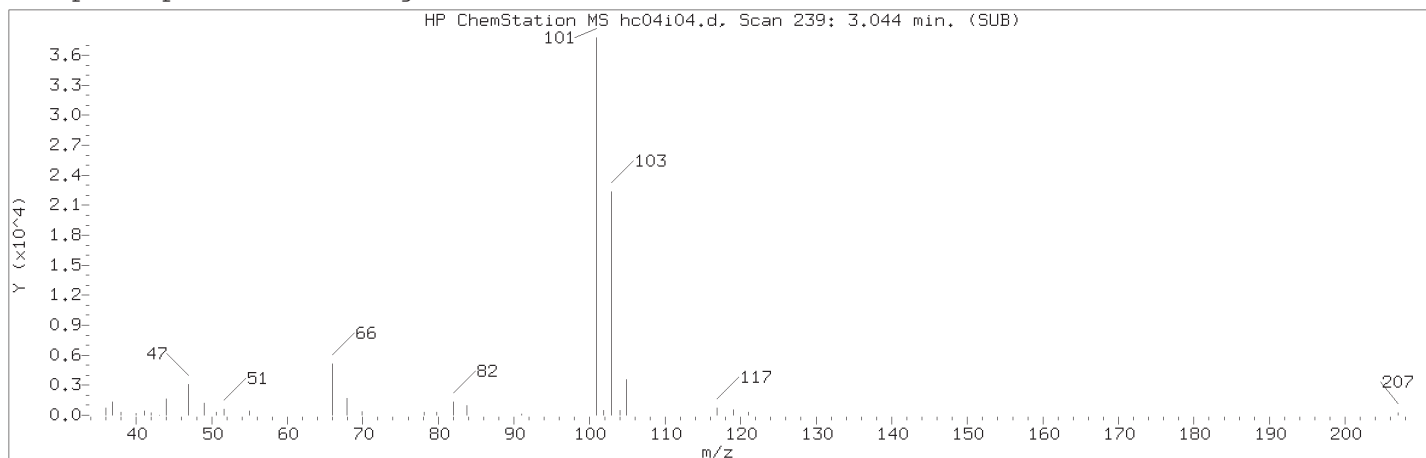
Lab Sample ID: VSTD002

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
148) 1,2,3-Trichlorobenzene	(4)	14.816	180	141396	2.092

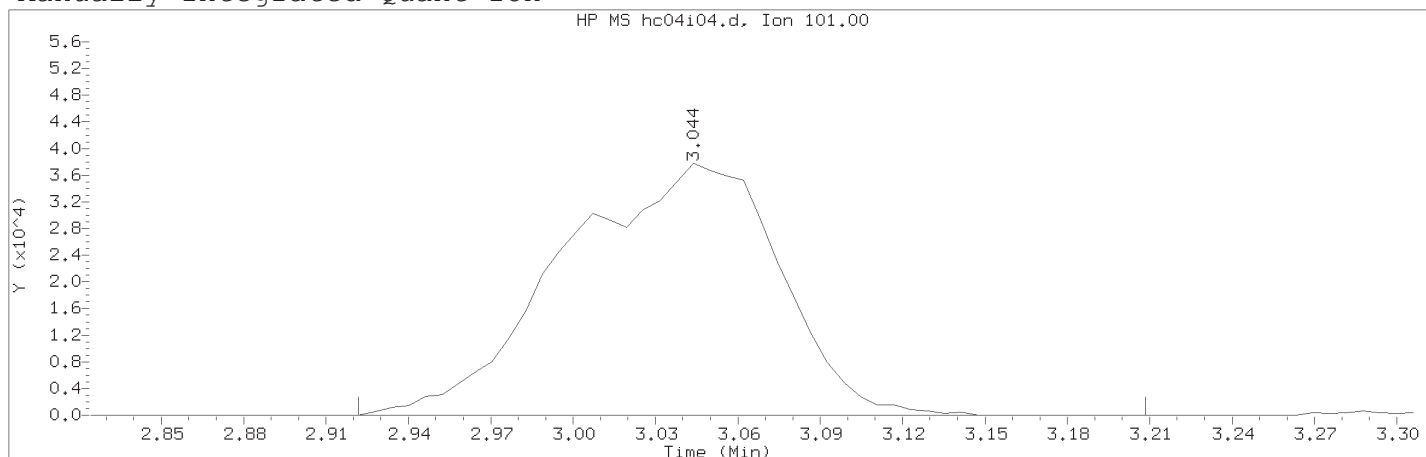
page 4 of 4

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 11:35 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:44
Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002 Lab Sample ID: VSTD002

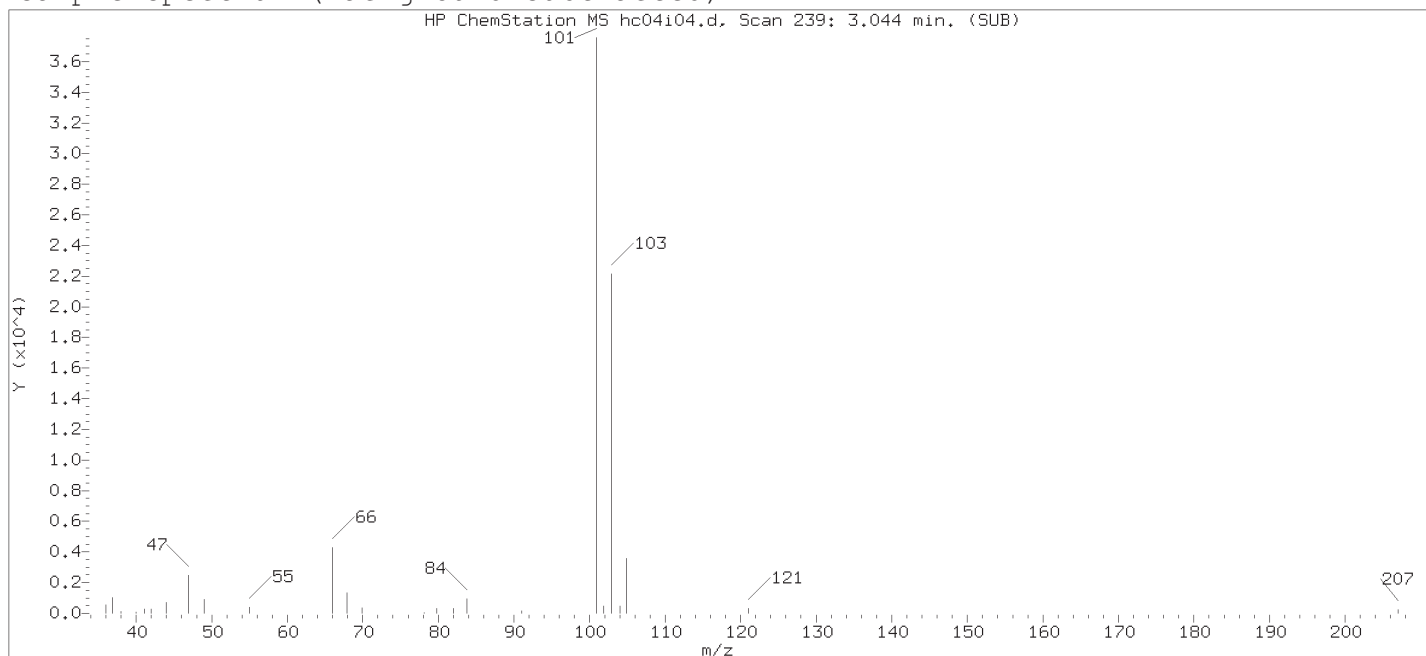
Compound Number	: 10	
Compound Name	: Trichlorofluoromethane	
Scan Number	: 239	
Retention Time (minutes)	: 3.044	
Quant Ion	: 101.00	
Area (flag)	: 206244M	
On-Column Amount (ng)	: 1.8460	
Integration start scan	: 218	Integration stop scan: 265
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

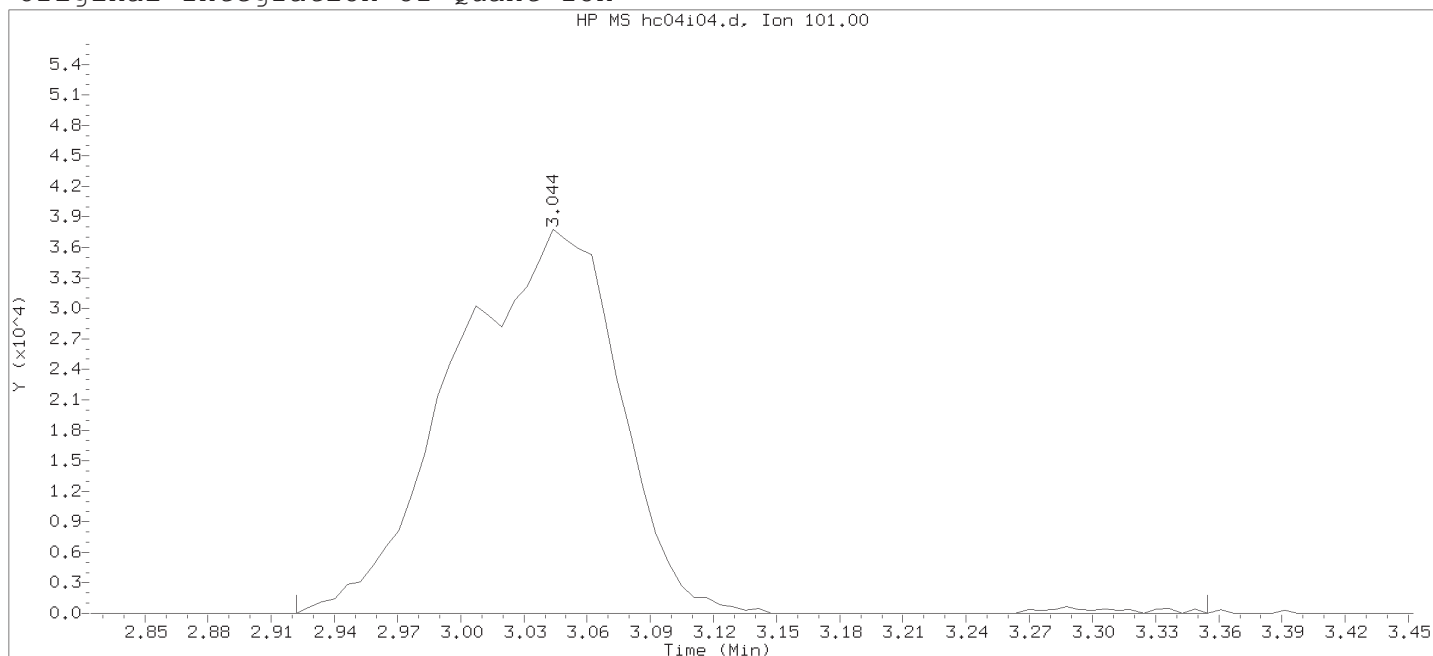
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:54

Date, time and analyst ID of latest file update: 04-Oct-2016 11:54 Automation

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number : 10

Compound Name : Trichlorofluoromethane

Scan Number : 239

Retention Time (minutes): 3.044

Quant Ion : 101.00

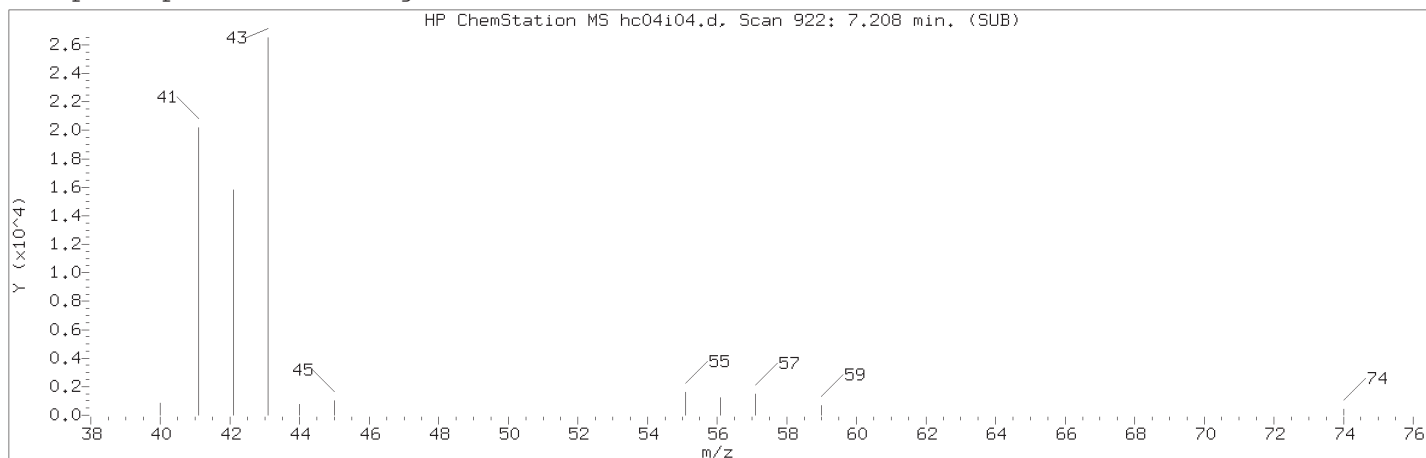
Area : 207957

On-column Amount (ng) : 1.9575

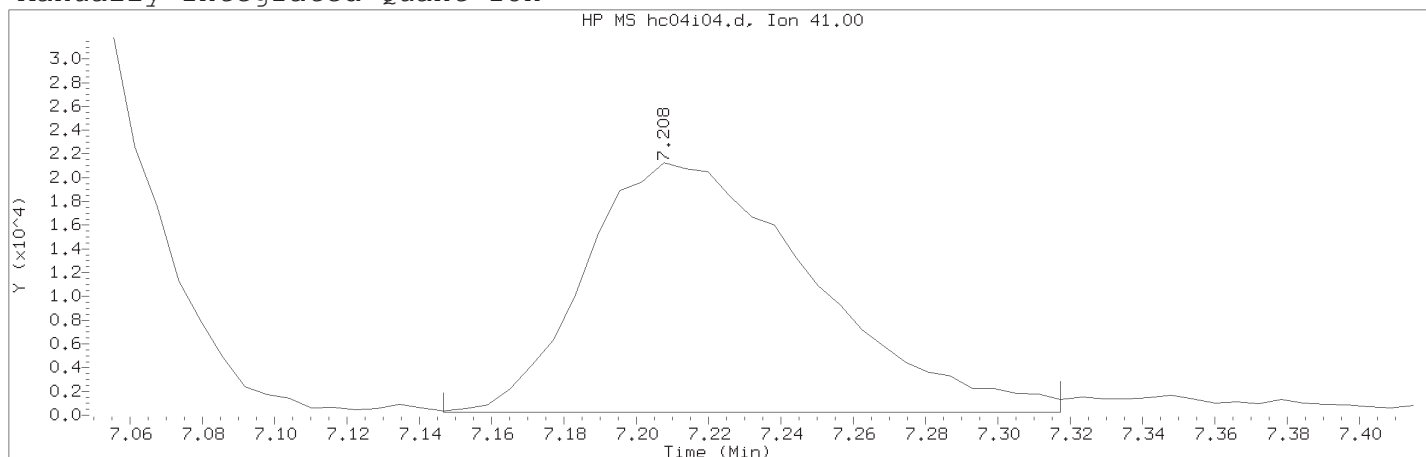
Integration start scan : 218 Integration stop scan: 289

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:44

Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number	: 56	
Compound Name	: Isobutyl Alcohol	
Scan Number	: 922	
Retention Time (minutes)	: 7.208	
Quant Ion	: 41.00	
Area (flag)	: 91900M	
On-Column Amount (ng)	: 105.5967	
Integration start scan	: 911	Integration stop scan: 939
Y at integration start	: 275	Y at integration end: 275

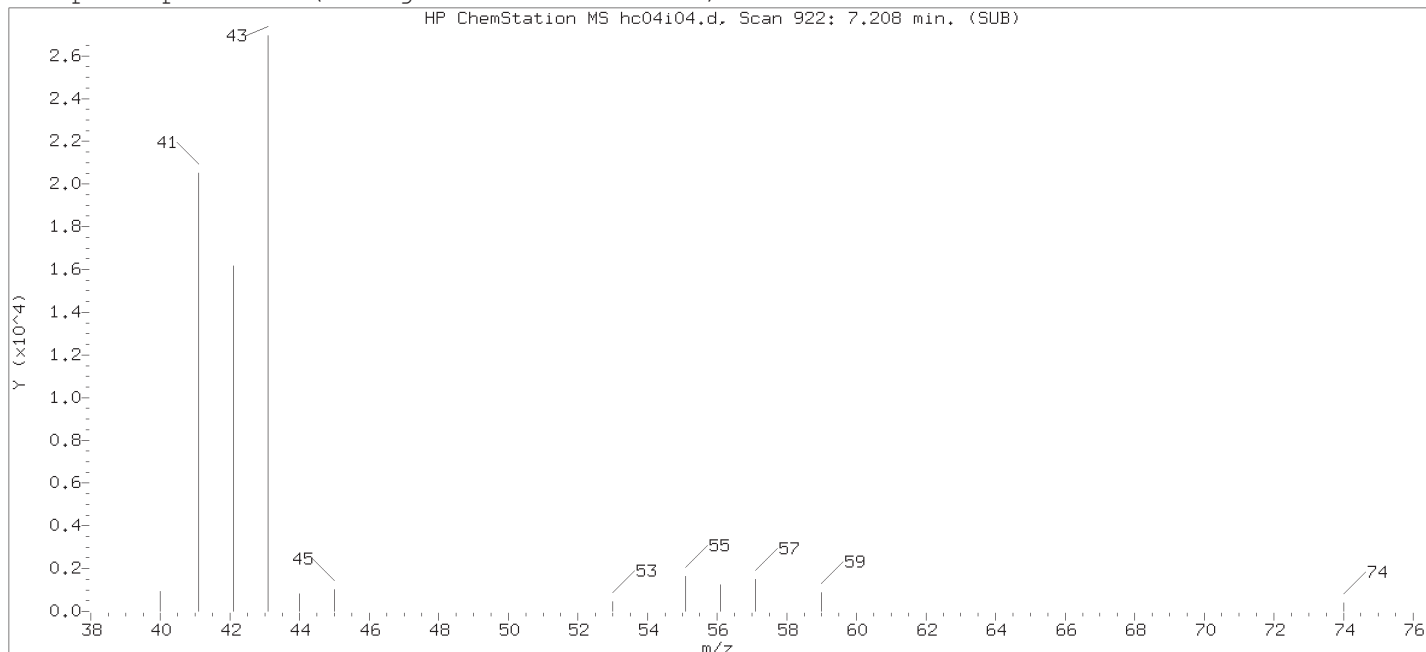
Reason for manual integration: improper integration

Analyst responsible for change:

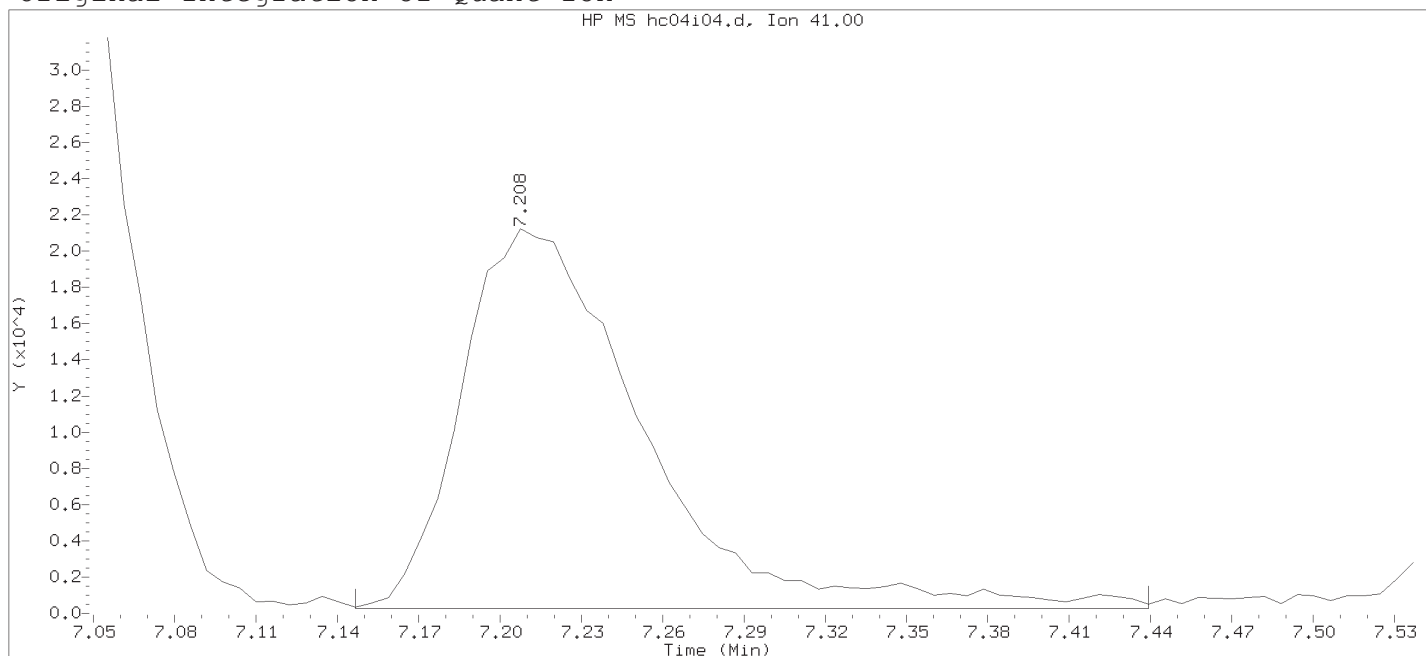
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:54

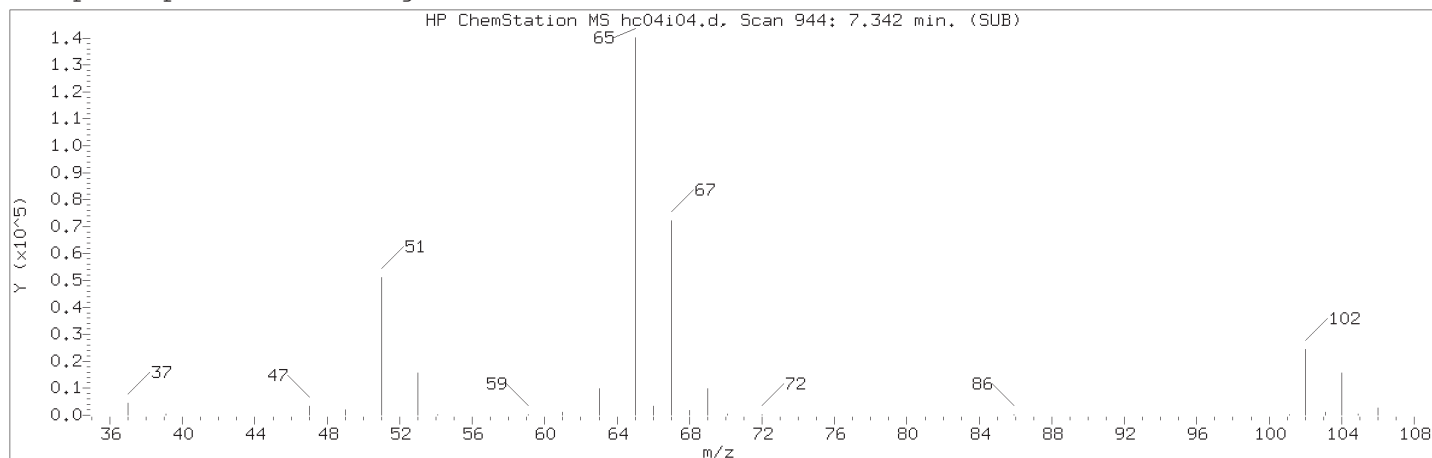
Date, time and analyst ID of latest file update: 04-Oct-2016 11:54 Automation

Sample Name: VSTD002

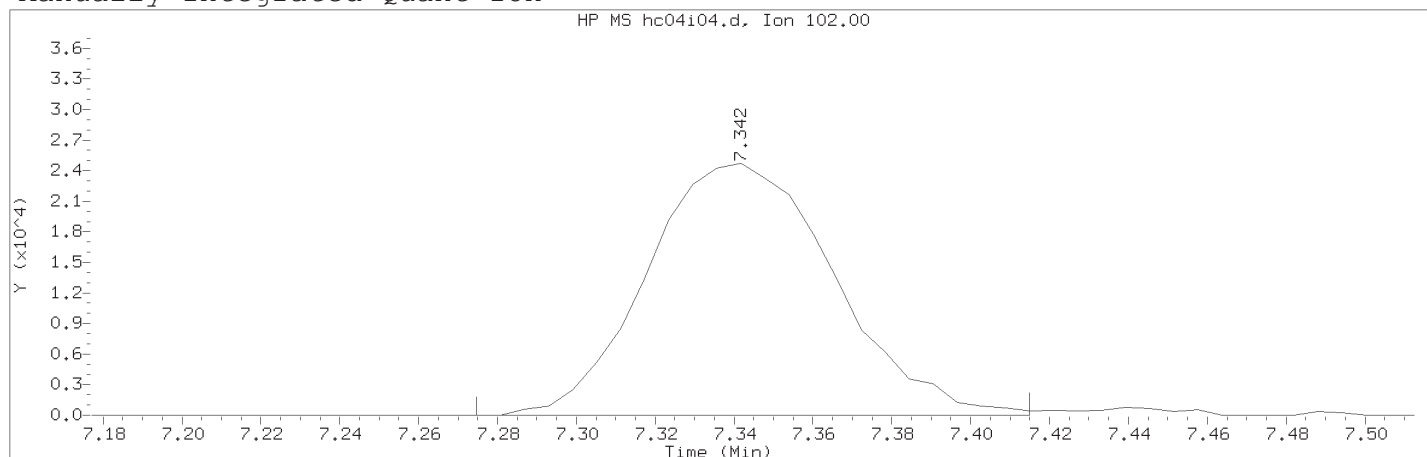
Lab Sample ID: VSTD002

Compound Number	: 56	
Compound Name	: Isobutyl Alcohol	
Scan Number	: 922	
Retention Time (minutes)	: 7.208	
Quant Ion	: 41.00	
Area	: 97691	
On-column Amount (ng)	: 115.3390	
Integration start scan	: 911	Integration stop scan: 959
Y at integration start	: 275	Y at integration end: 275

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:44

Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number	: 57	
Compound Name	: 1,2-Dichloroethane-d4	
Scan Number	: 944	
Retention Time (minutes)	: 7.342	
Quant Ion	: 102.00	
Area (flag)	: 81323M	
On-Column Amount (ng)	: 9.7230	
Integration start scan	: 932	Integration stop scan: 955
Y at integration start	: 0	Y at integration end: 0

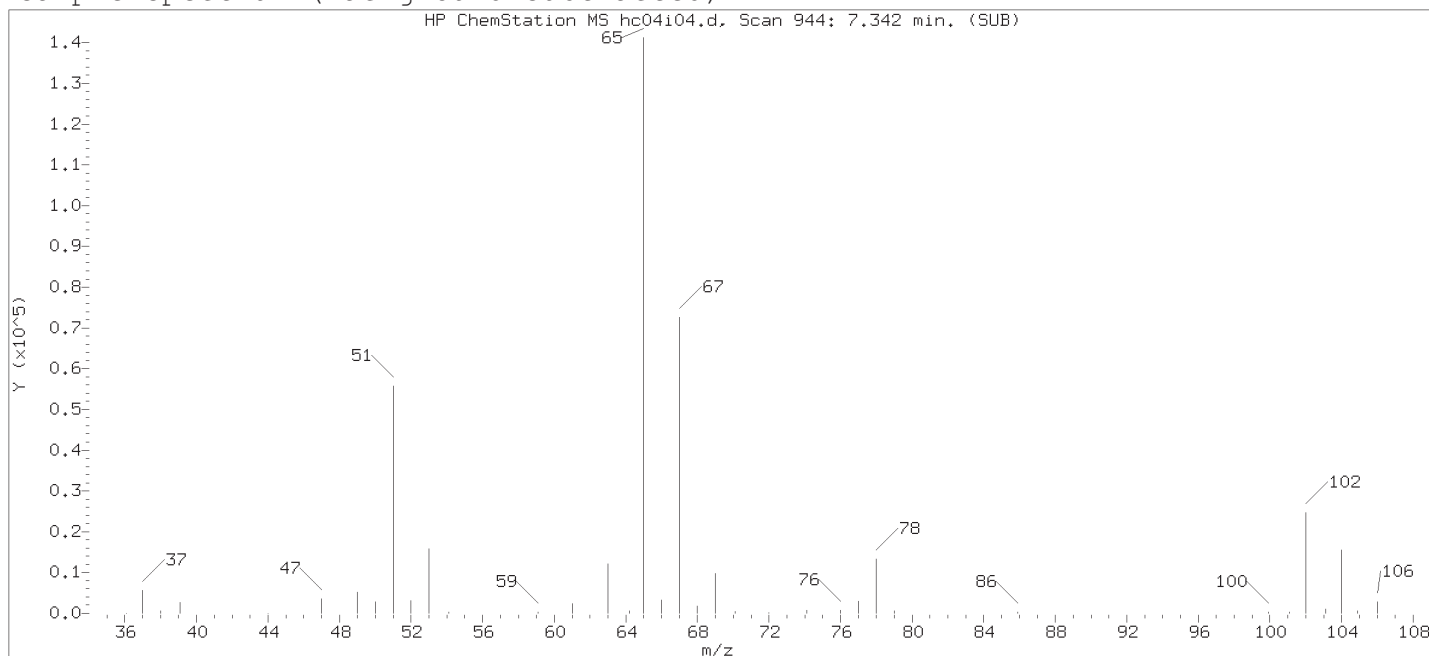
Reason for manual integration: improper integration

Analyst responsible for change:

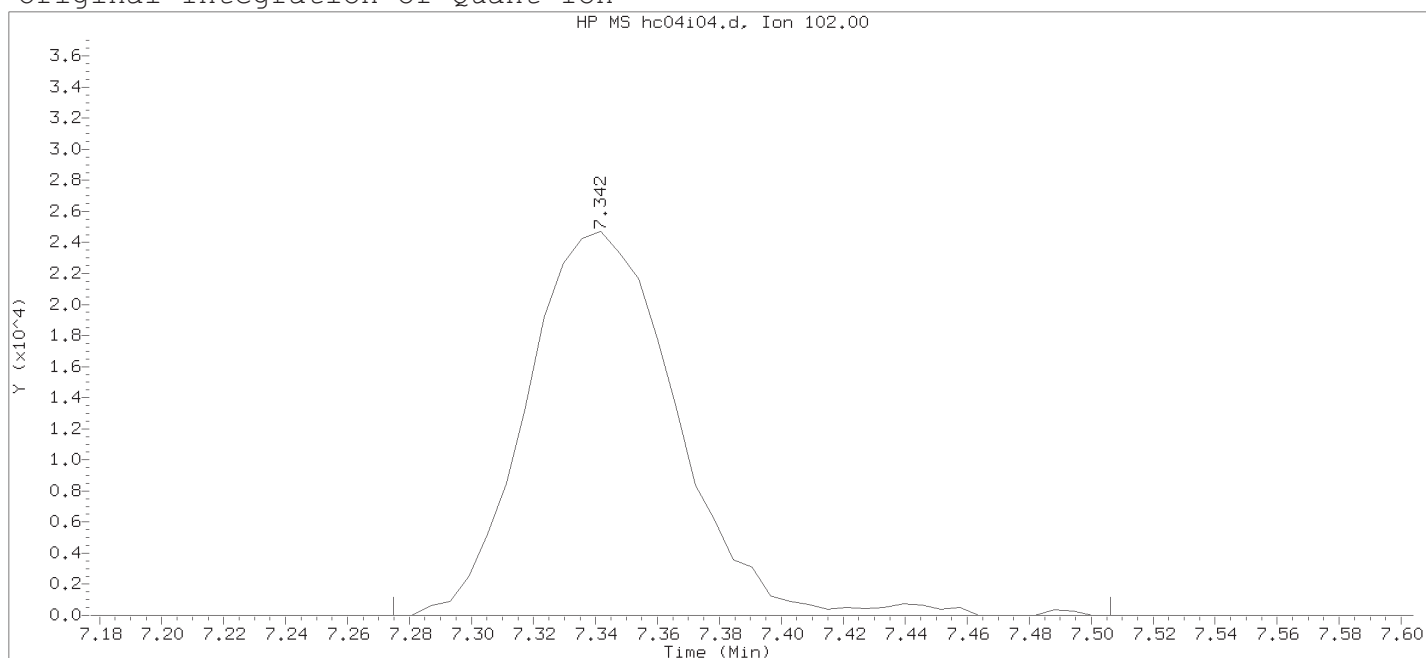
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:54

Date, time and analyst ID of latest file update: 04-Oct-2016 11:54 Automation

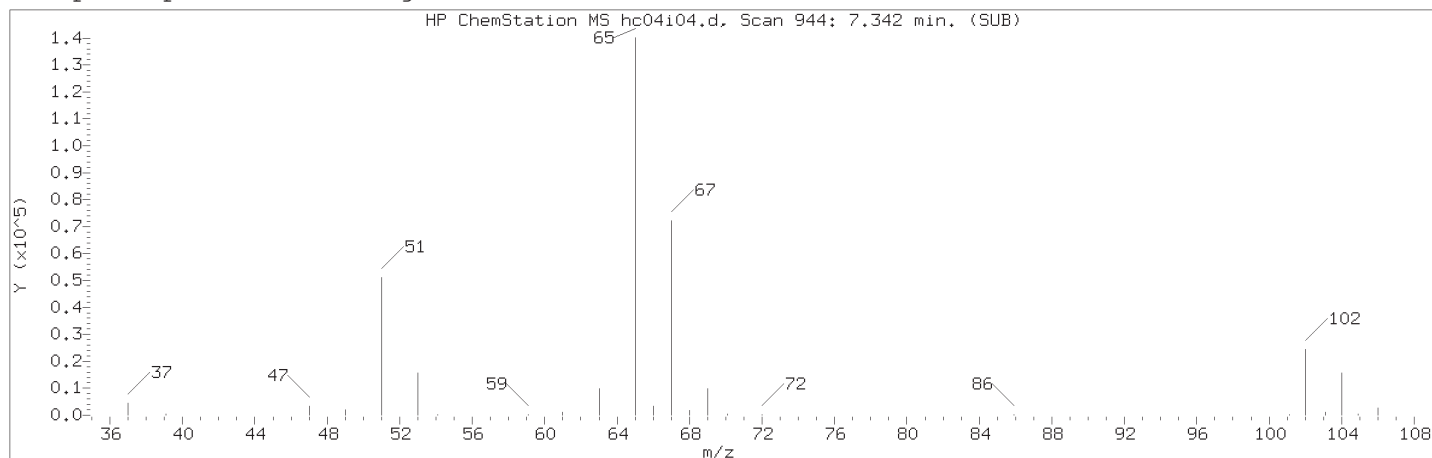
Sample Name: VSTD002

Lab Sample ID: VSTD002

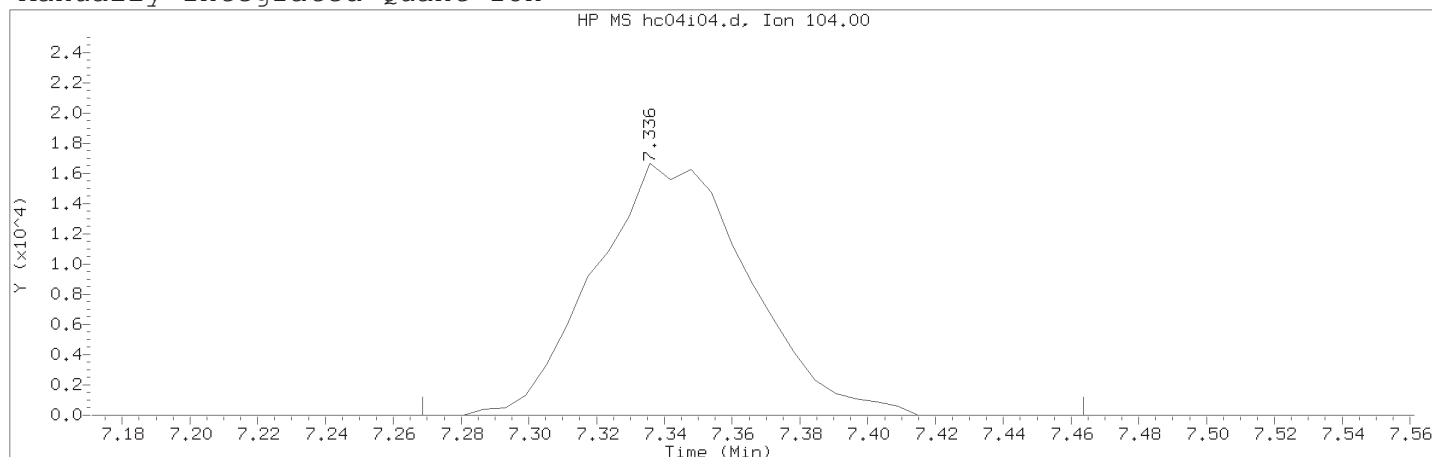
Compound Number : 57
 Compound Name : 1,2-Dichloroethane-d4
 Scan Number : 944
 Retention Time (minutes) : 7.342
 Quant Ion : 102.00
 Area : 82889
 On-column Amount (ng) : 9.9909
 Integration start scan : 932
 Y at integration start : 0

Integration stop scan: 970
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:44

Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number	: 57	
Compound Name	: 1,2-Dichloroethane-d4	
Scan Number	: 943	
Retention Time (minutes)	: 7.336	
Quant Ion	: 104.00	
Area (flag)	: 52875M	
On-Column Amount (ng)	: 9.8800	
Integration start scan	: 931	Integration stop scan: 963
Y at integration start	: 0	Y at integration end: 0

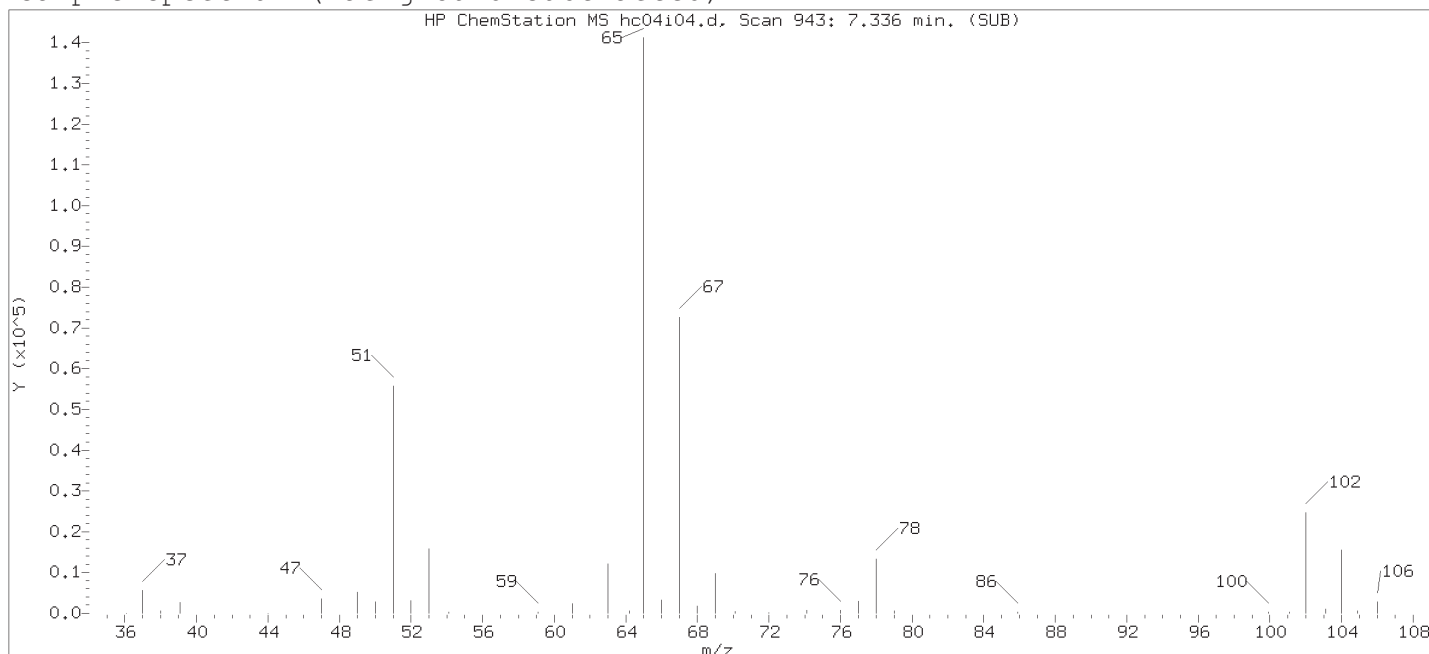
Reason for manual integration: improper integration

Analyst responsible for change:

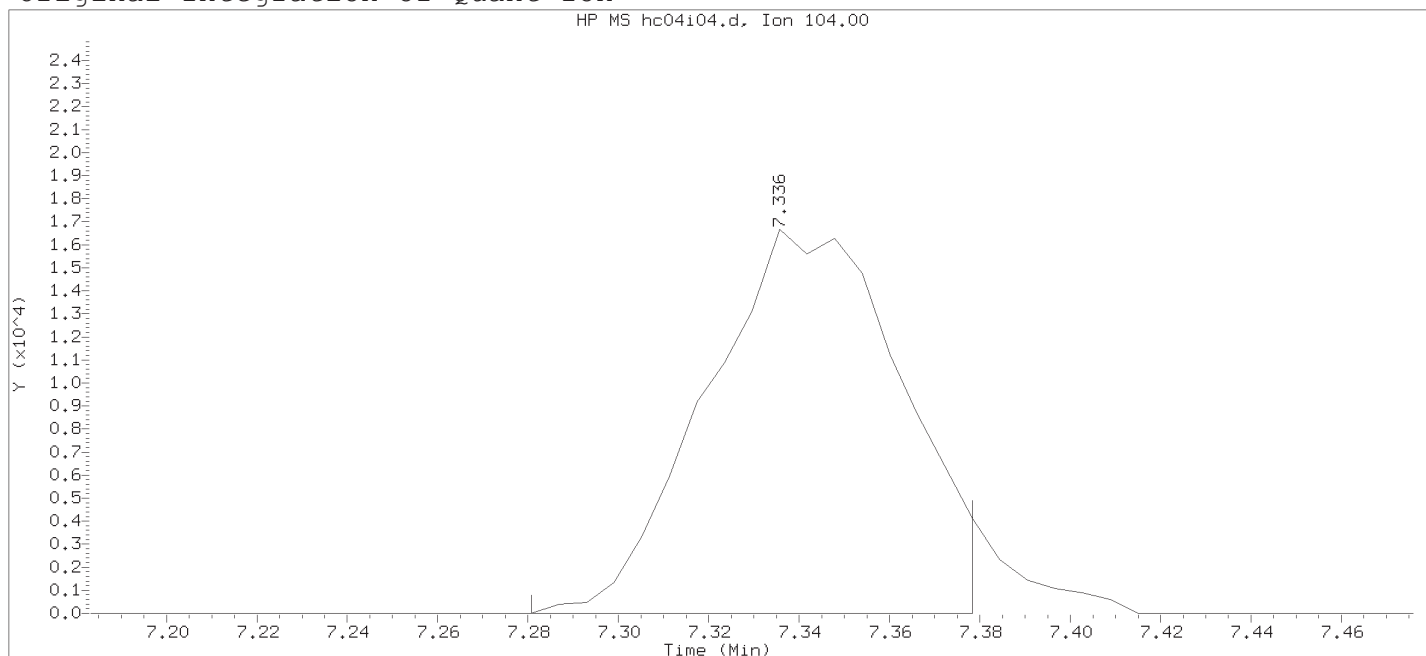
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:54

Date, time and analyst ID of latest file update: 04-Oct-2016 11:54 Automation

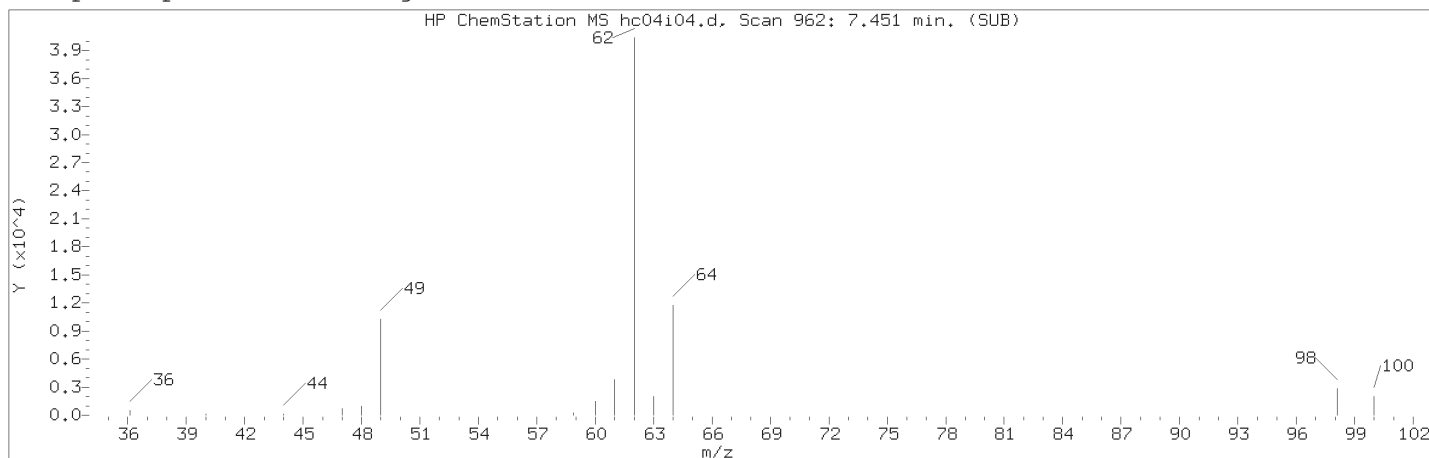
Sample Name: VSTD002

Lab Sample ID: VSTD002

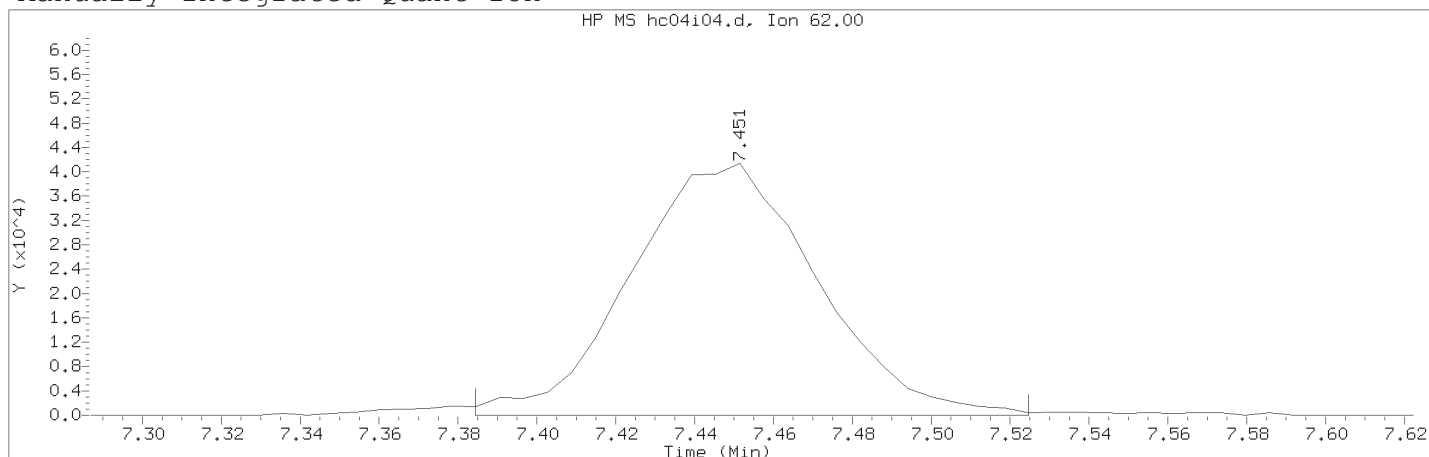
Compound Number : 57
 Compound Name : 1,2-Dichloroethane-d4
 Scan Number : 943
 Retention Time (minutes) : 7.336
 Quant Ion : 104.00
 Area : 49819
 On-column Amount (ng) : 9.5522
 Integration start scan : 933
 Y at integration start : 0

Integration stop scan: 949
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:44

Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number	: 59	
Compound Name	: 1,2-Dichloroethane	
Scan Number	: 962	
Retention Time (minutes)	: 7.451	
Quant Ion	: 62.00	
Area (flag)	: 135982M	
On-Column Amount (ng)	: 2.0056	
Integration start scan	: 950	Integration stop scan: 973
Y at integration start	: 0	Y at integration end: 0

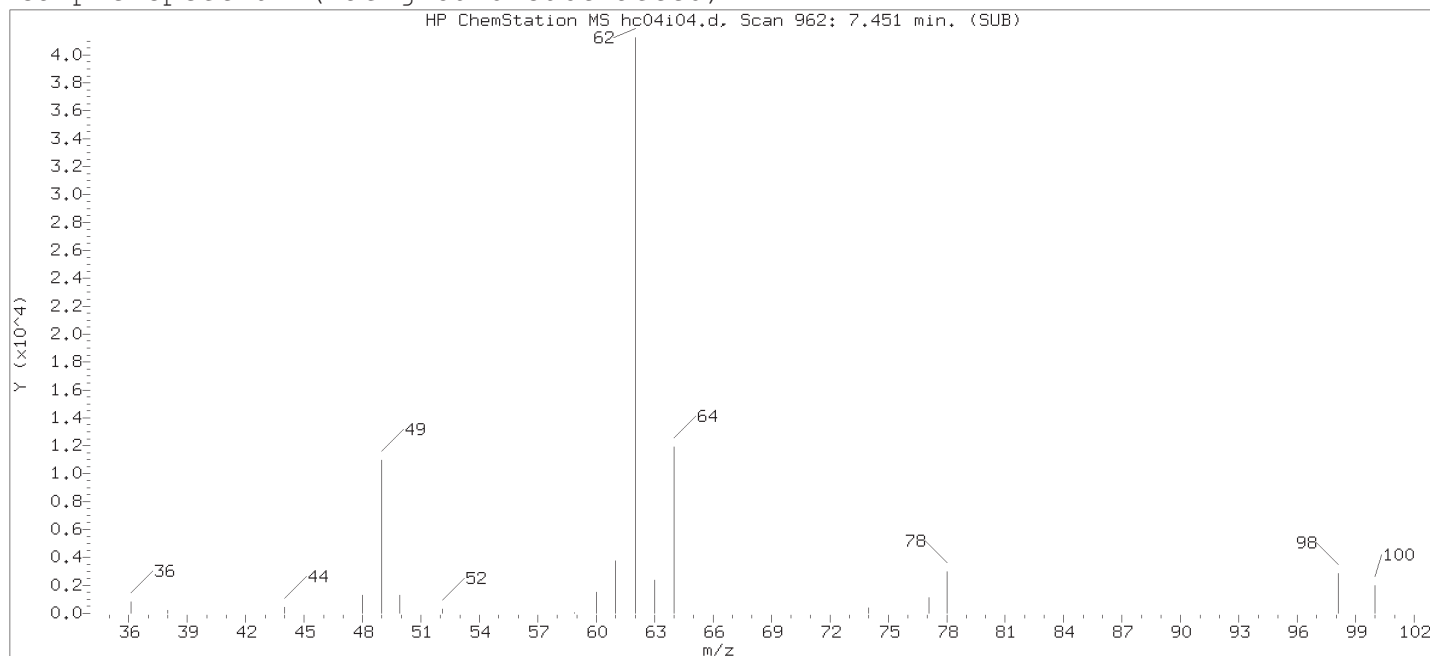
Reason for manual integration: improper integration

Analyst responsible for change:

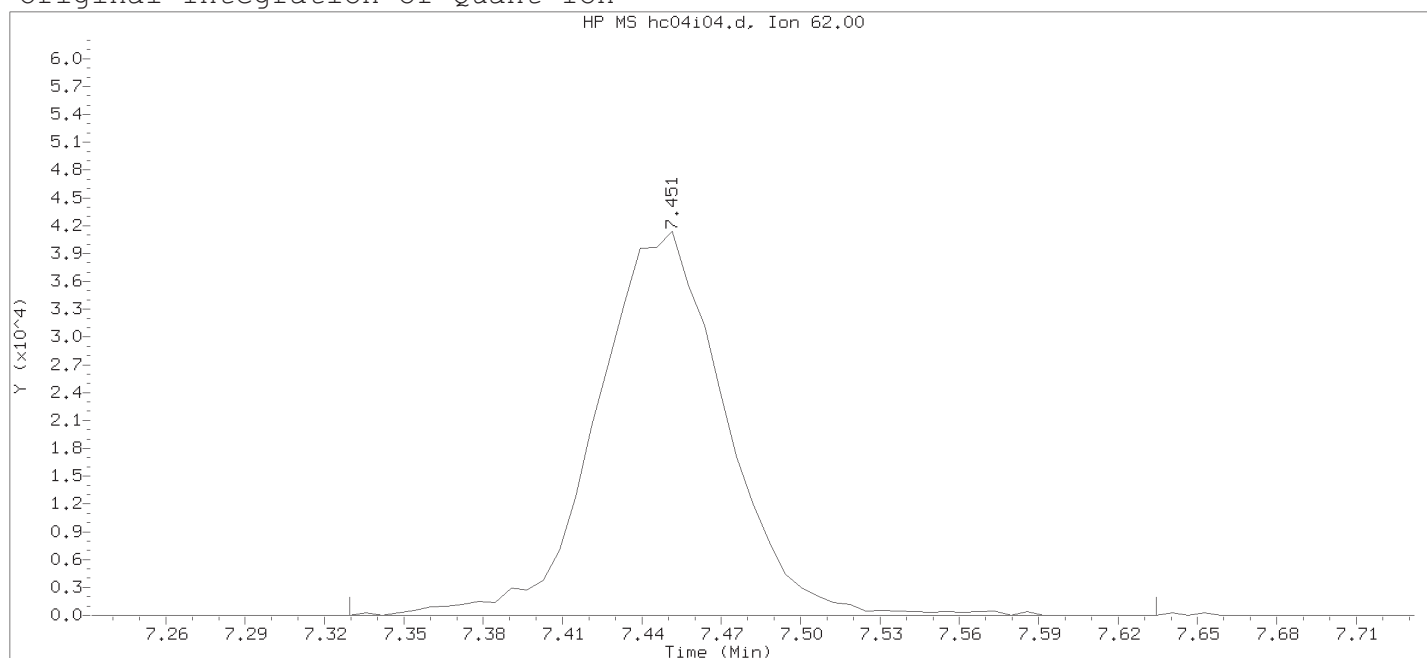
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:54

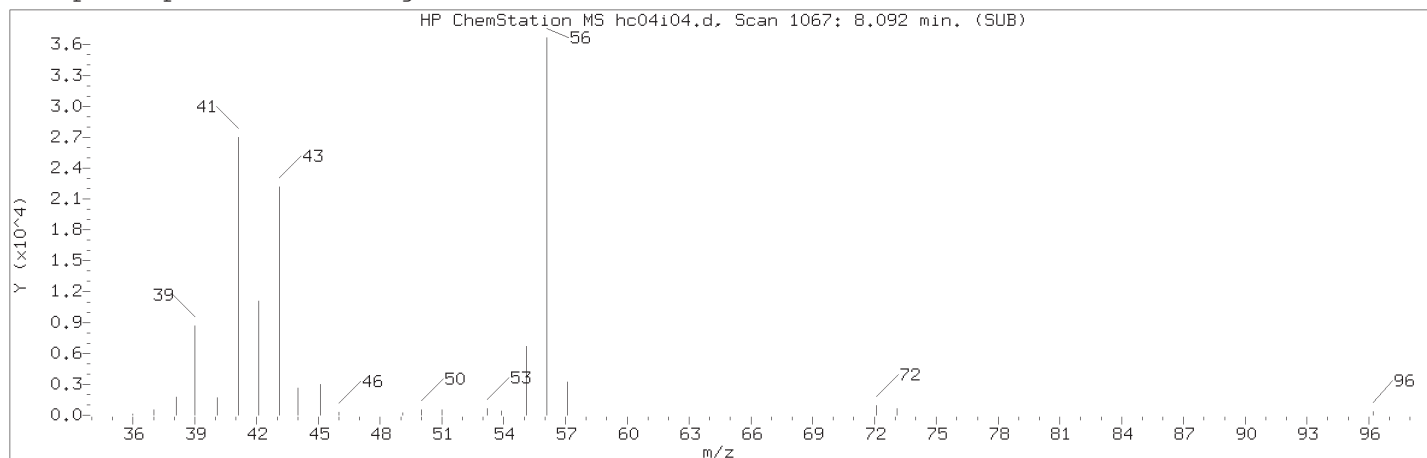
Date, time and analyst ID of latest file update: 04-Oct-2016 11:54 Automation

Sample Name: VSTD002

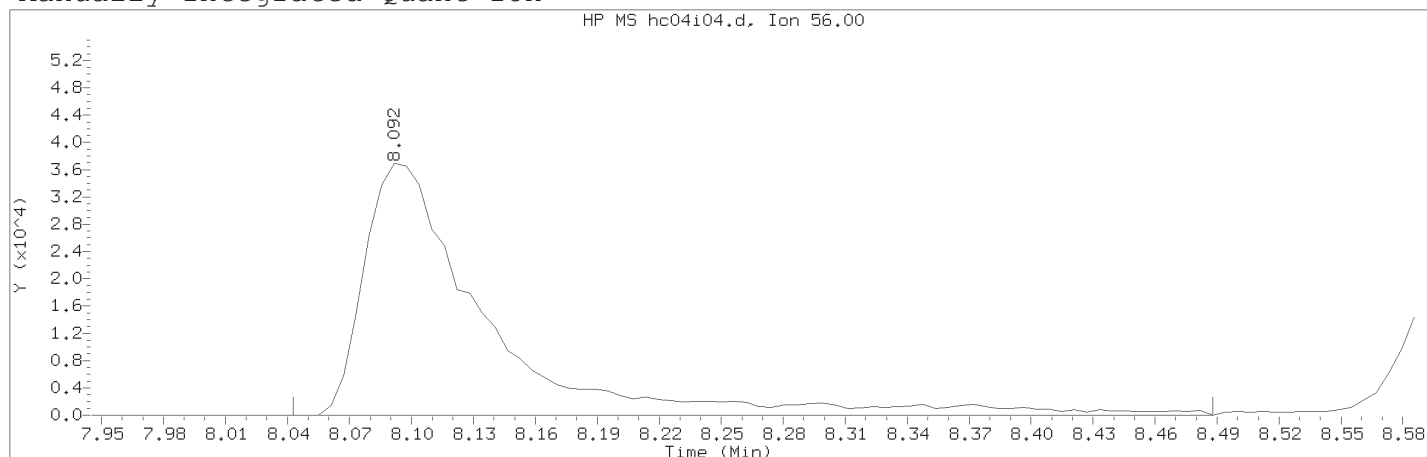
Lab Sample ID: VSTD002

Compound Number	: 59	
Compound Name	: 1,2-Dichloroethane	
Scan Number	: 962	
Retention Time (minutes)	: 7.451	
Quant Ion	: 62.00	
Area	: 139348	
On-column Amount (ng)	: 2.1808	
Integration start scan	: 941	Integration stop scan: 991
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:44

Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number	: 65	
Compound Name	: n-Butanol	
Scan Number	: 1067	
Retention Time (minutes)	: 8.092	
Quant Ion	: 56.00	
Area (flag)	: 152708M	
On-Column Amount (ng)	: 240.2371	
Integration start scan	: 1058	Integration stop scan: 1131
Y at integration start	: 0	Y at integration end: 0

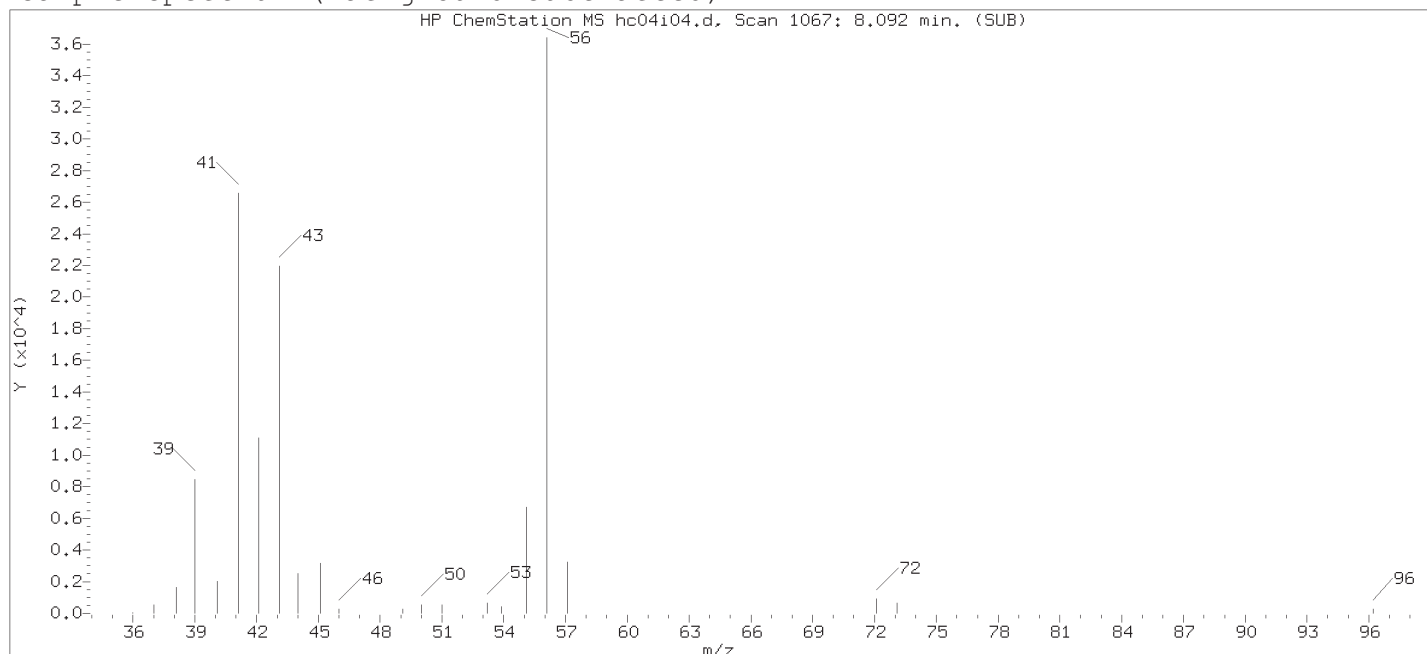
Reason for manual integration: improper integration

Analyst responsible for change:

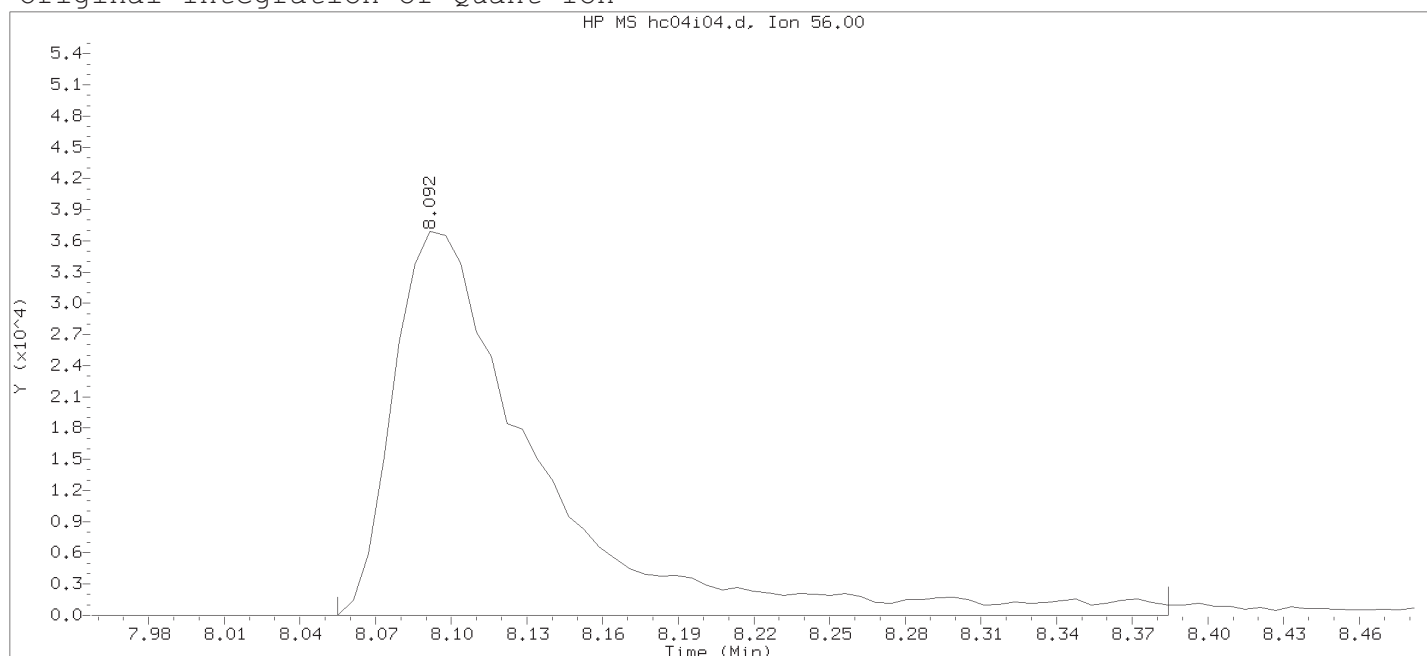
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:54

Date, time and analyst ID of latest file update: 04-Oct-2016 11:54 Automation

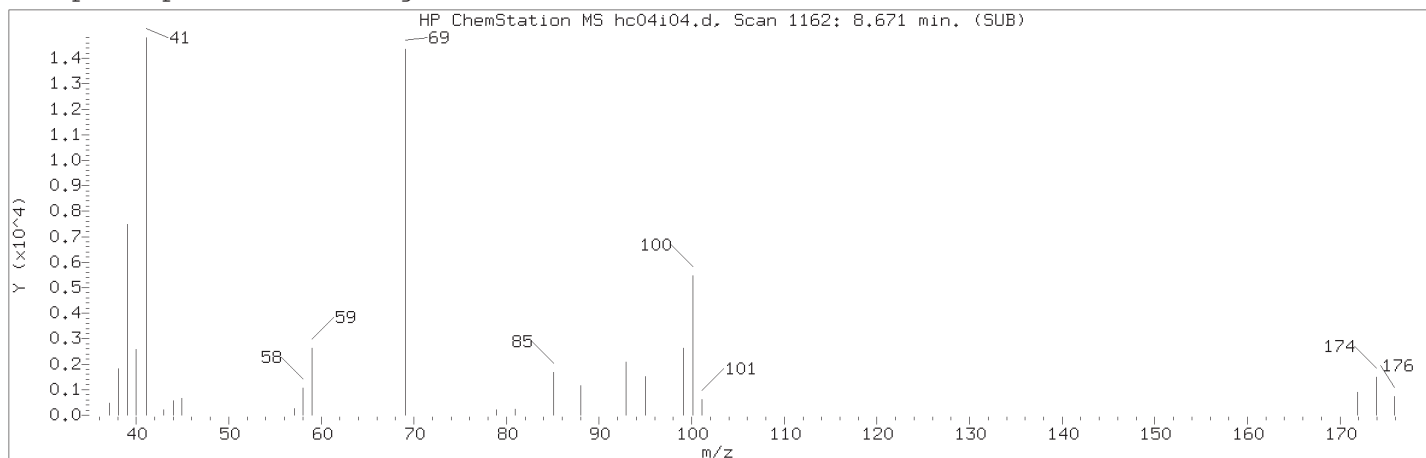
Sample Name: VSTD002

Lab Sample ID: VSTD002

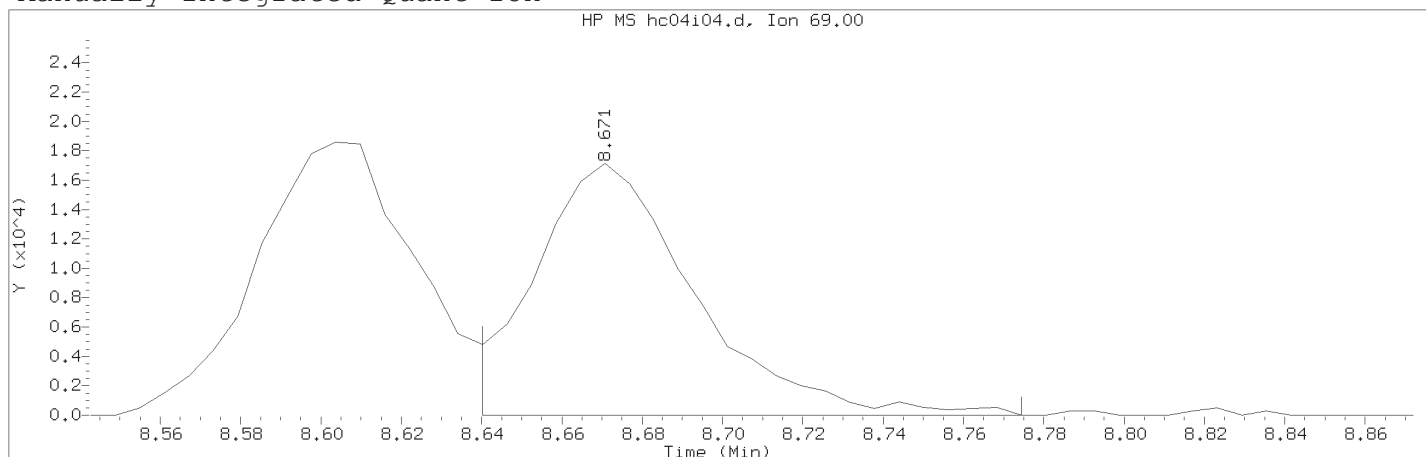
Compound Number : 65
 Compound Name : n-Butanol
 Scan Number : 1067
 Retention Time (minutes) : 8.092
 Quant Ion : 56.00
 Area : 148436
 On-column Amount (ng) : 233.2032
 Integration start scan : 1060
 Y at integration start : 0

Integration stop scan: 1114
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:44

Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number	: 71	
Compound Name	: Methyl Methacrylate	
Scan Number	: 1162	
Retention Time (minutes)	: 8.671	
Quant Ion	: 69.00	
Area (flag)	: 48084M	
On-Column Amount (ng)	: 1.9243	
Integration start scan	: 1156	Integration stop scan: 1178
Y at integration start	: 0	Y at integration end: 0

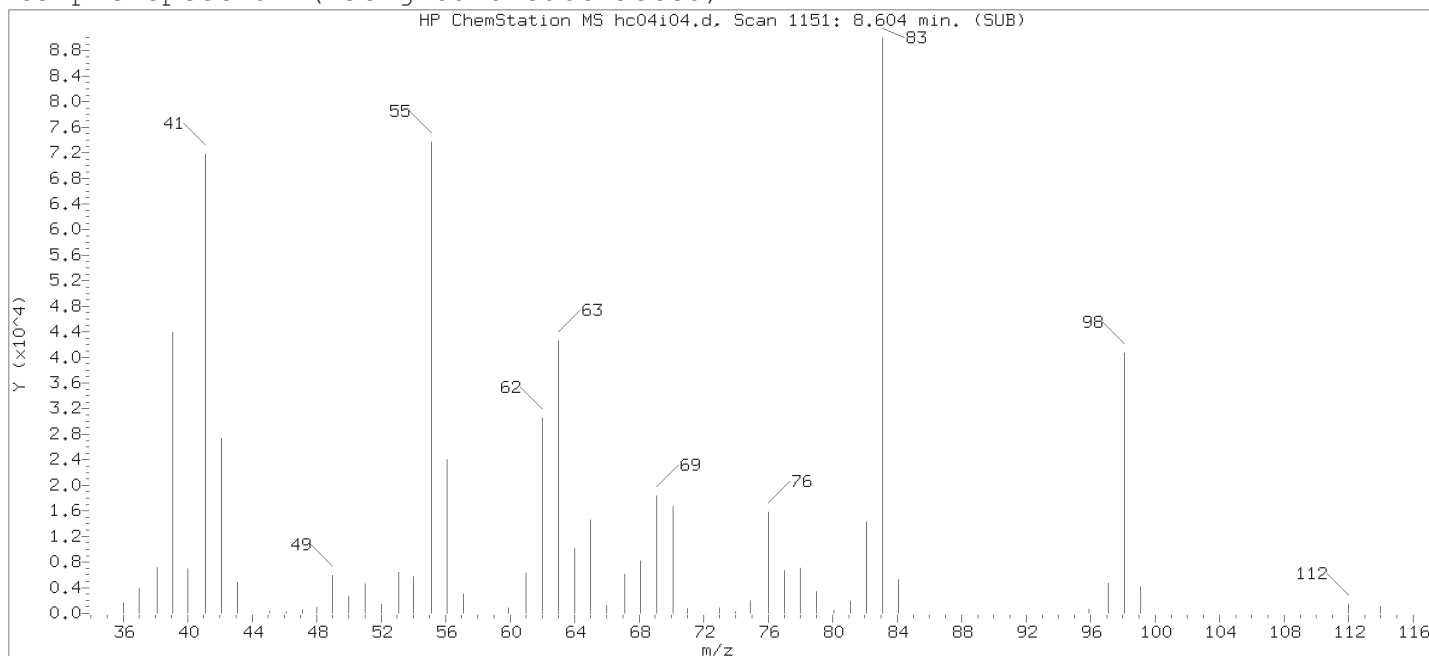
Reason for manual integration: improper integration

Analyst responsible for change:

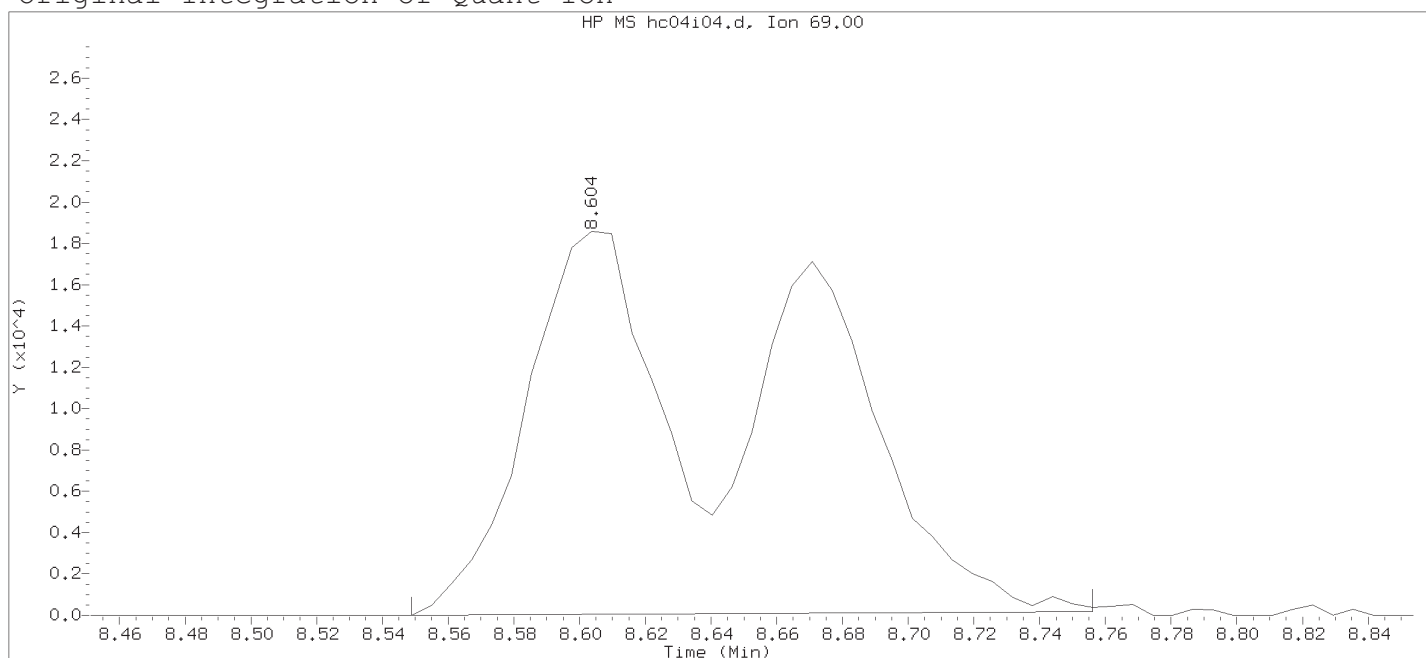
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:54

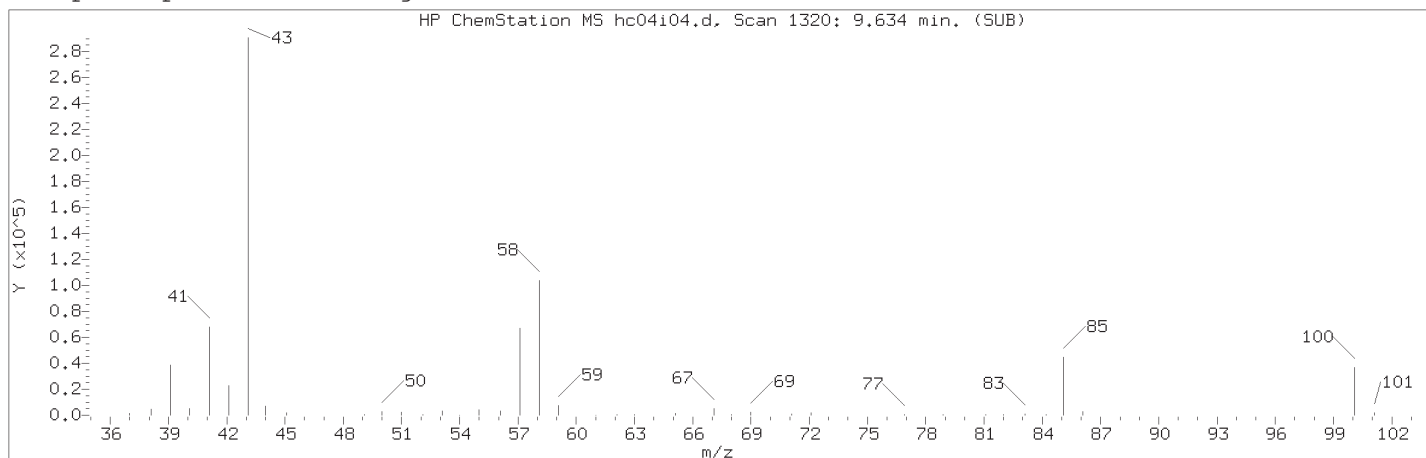
Date, time and analyst ID of latest file update: 04-Oct-2016 11:54 Automation

Sample Name: VSTD002

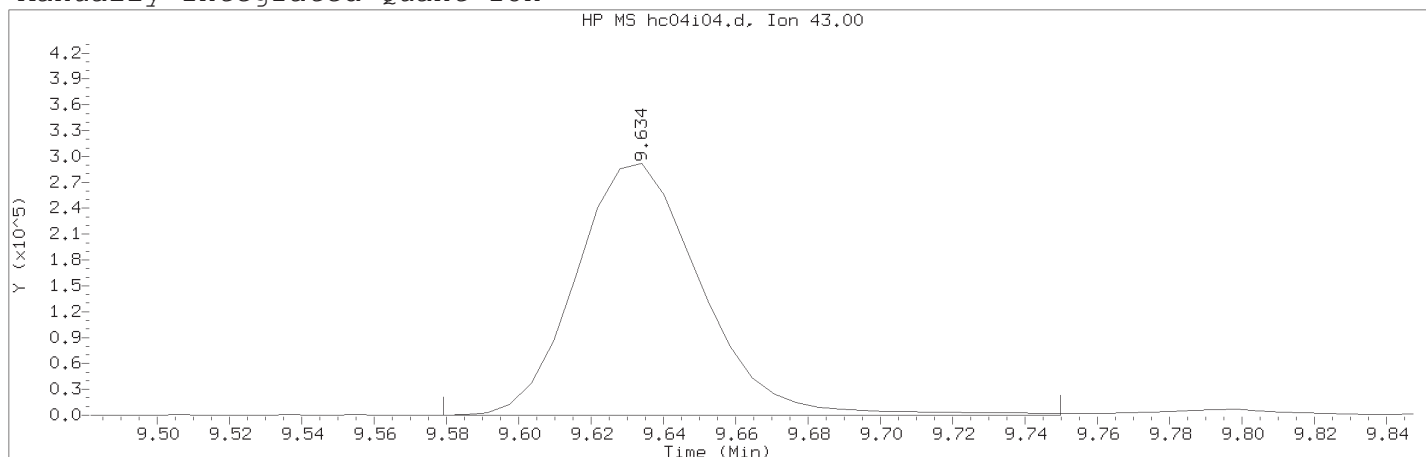
Lab Sample ID: VSTD002

Compound Number	: 71	
Compound Name	: Methyl Methacrylate	
Scan Number	: 1151	
Retention Time (minutes)	: 8.604	
Quant Ion	: 69.00	
Area	: 96455	
On-column Amount (ng)	: 3.4419	
Integration start scan	: 1141	Integration stop scan: 1175
Y at integration start	: 0	Y at integration end: 186

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:44

Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number	: 81	
Compound Name	: 4-Methyl-2-Pentanone	
Scan Number	: 1320	
Retention Time (minutes)	: 9.634	
Quant Ion	: 43.00	
Area (flag)	: 700367MA	
On-Column Amount (ng)	: 18.1795	
Integration start scan	: 1310	Integration stop scan: 1338
Y at integration start	: 0	Y at integration end: 0

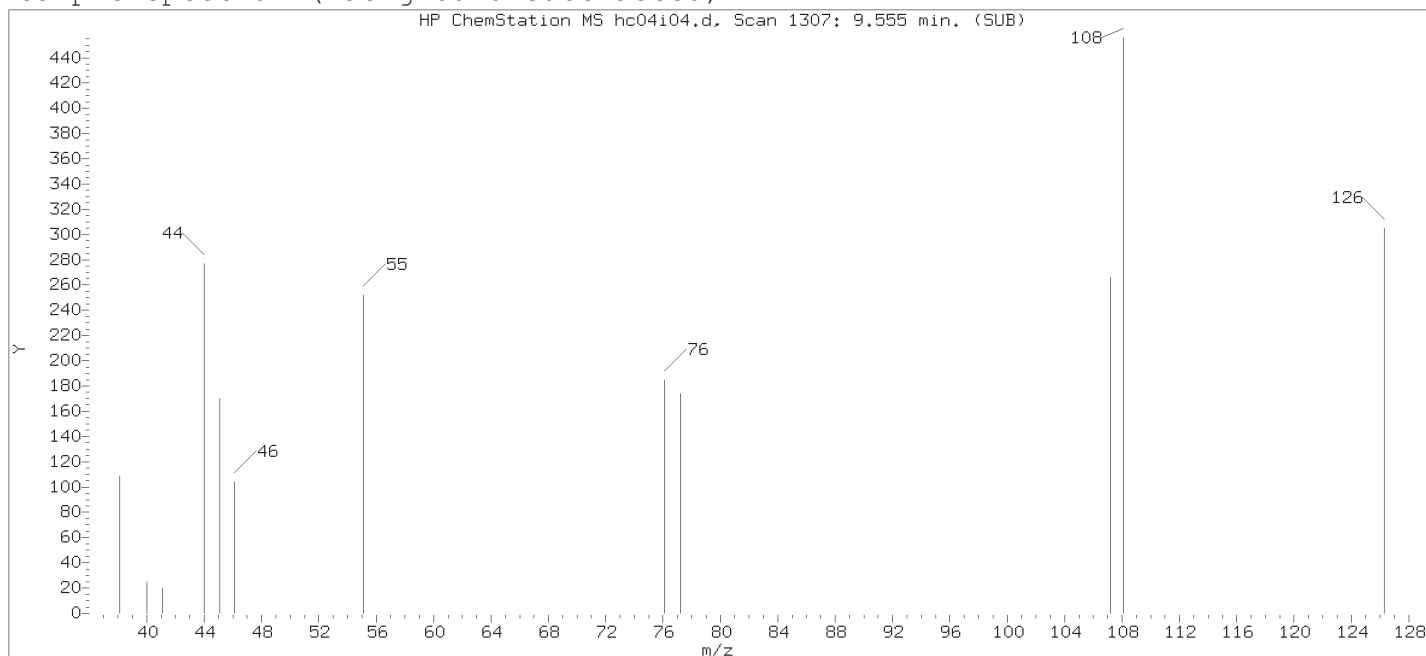
Reason for manual integration: improper integration

Analyst responsible for change:

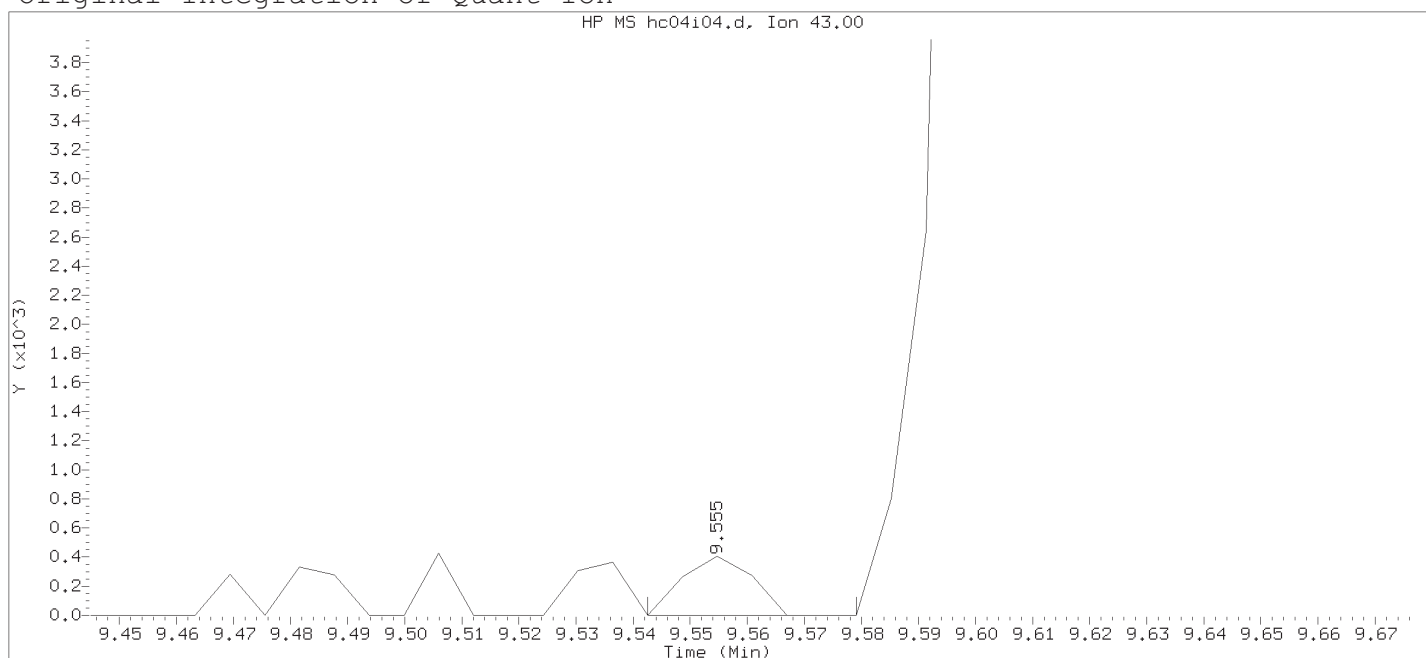
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:54

Date, time and analyst ID of latest file update: 04-Oct-2016 11:54 Automation

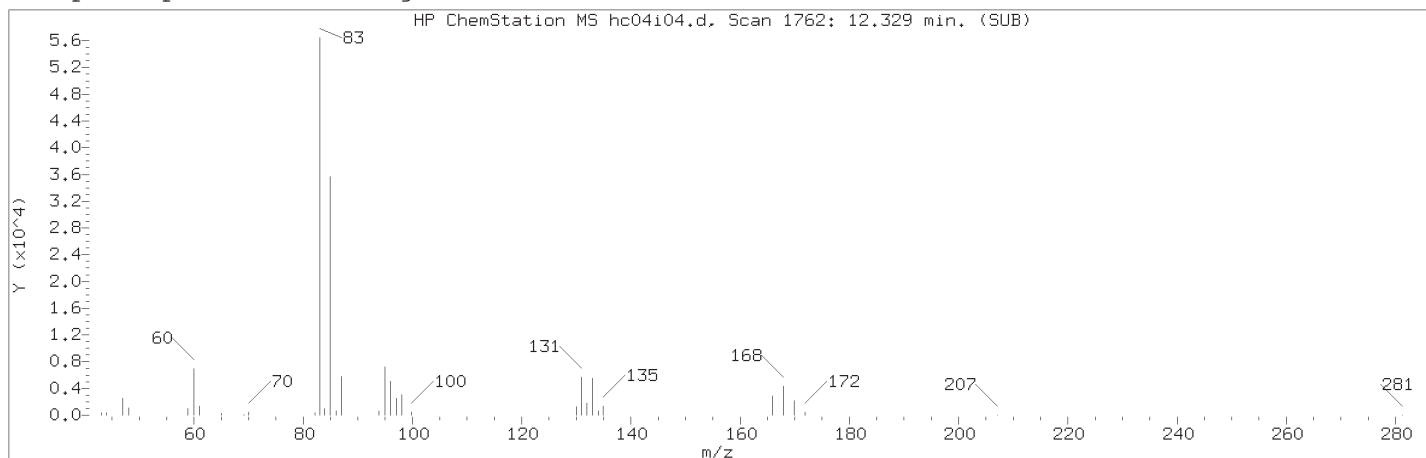
Sample Name: VSTD002

Lab Sample ID: VSTD002

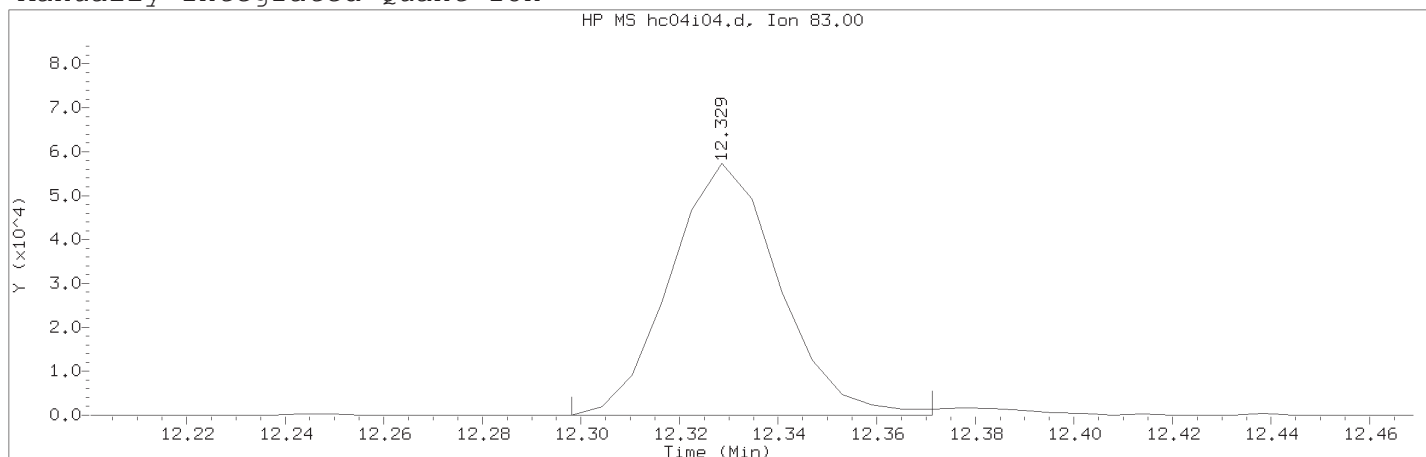
Compound Number : 81
 Compound Name : 4-Methyl-2-Pentanone
 Scan Number : 1307
 Retention Time (minutes) : 9.555
 Quant Ion : 43.00
 Area : 344
 On-column Amount (ng) : 0.0114
 Integration start scan : 1304
 Y at integration start : 0

Integration stop scan: 1310
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 11:35 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:44
Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002 Lab Sample ID: VSTD002

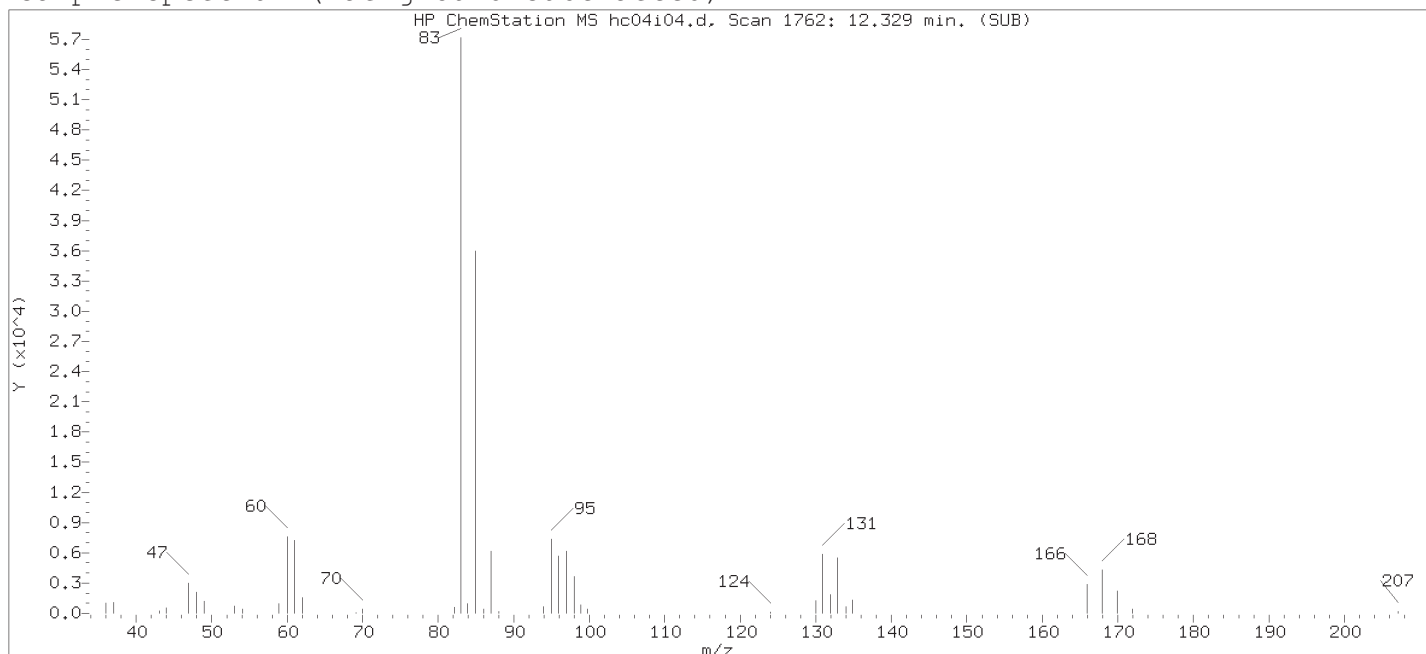
Compound Number	: 113	
Compound Name	: 1,1,2,2-Tetrachloroethane	
Scan Number	: 1762	
Retention Time (minutes)	: 12.329	
Quant Ion	: 83.00	
Area (flag)	: 87783M	
On-Column Amount (ng)	: 2.1727	
Integration start scan	: 1756	Integration stop scan: 1768
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

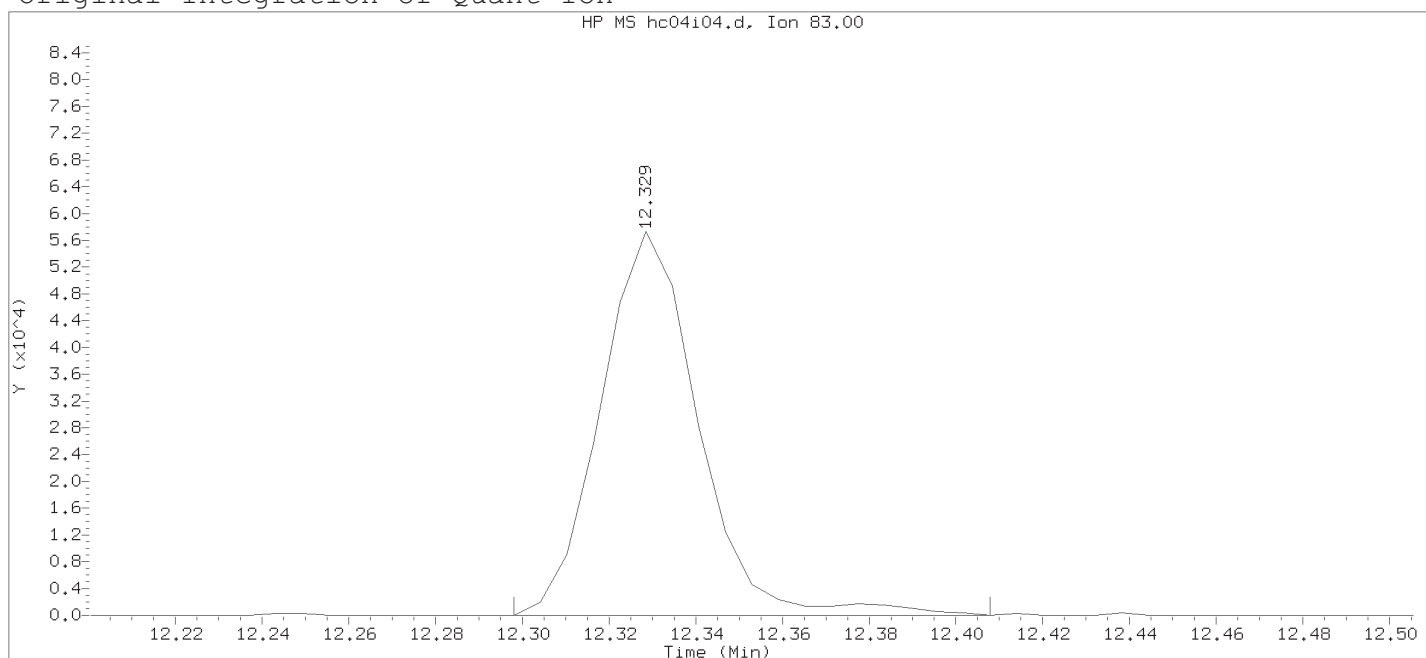
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:54

Date, time and analyst ID of latest file update: 04-Oct-2016 11:54 Automation

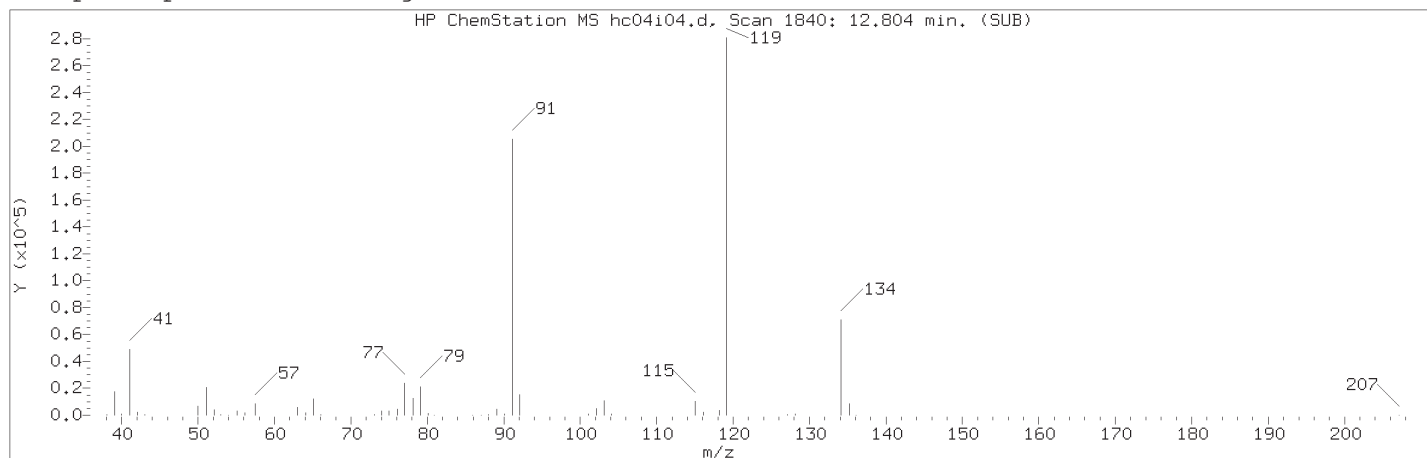
Sample Name: VSTD002

Lab Sample ID: VSTD002

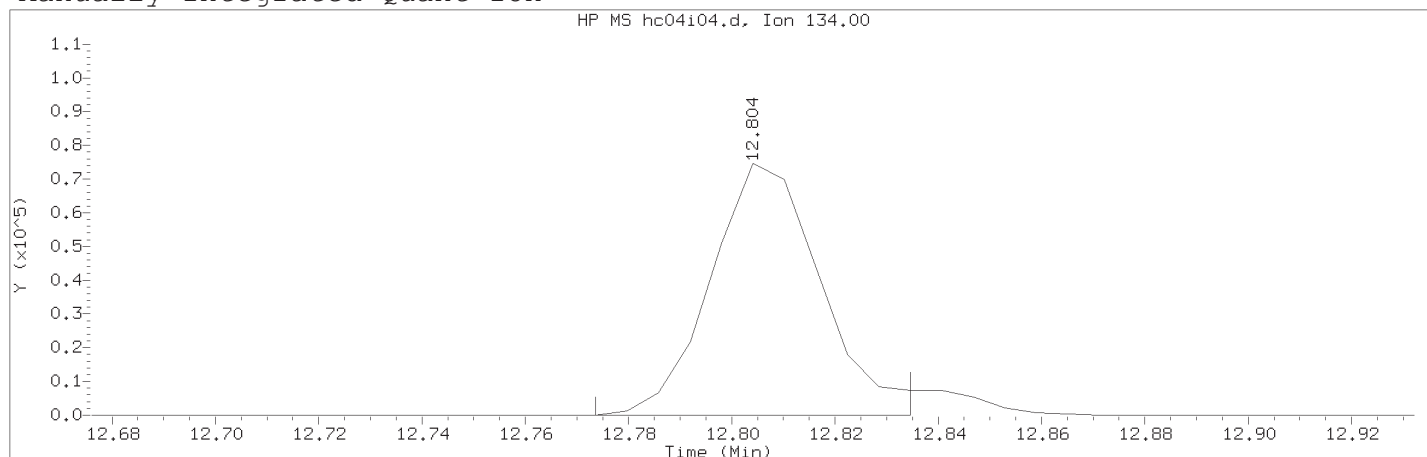
Compound Number : 113
 Compound Name : 1,1,2,2-Tetrachloroethane
 Scan Number : 1762
 Retention Time (minutes) : 12.329
 Quant Ion : 83.00
 Area : 89695
 On-column Amount (ng) : 2.1346
 Integration start scan : 1756
 Y at integration start : 0

Integration stop scan: 1774
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:44

Date, time and analyst ID of latest file update: 04-Oct-2016 15:44 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number	: 125	
Compound Name	: tert-Butylbenzene	
Scan Number	: 1840	
Retention Time (minutes)	: 12.804	
Quant Ion	: 134.00	
Area (flag)	: 110606M	
On-Column Amount (ng)	: 2.1337	
Integration start scan	: 1834	Integration stop scan: 1844
Y at integration start	: 0	Y at integration end: 0

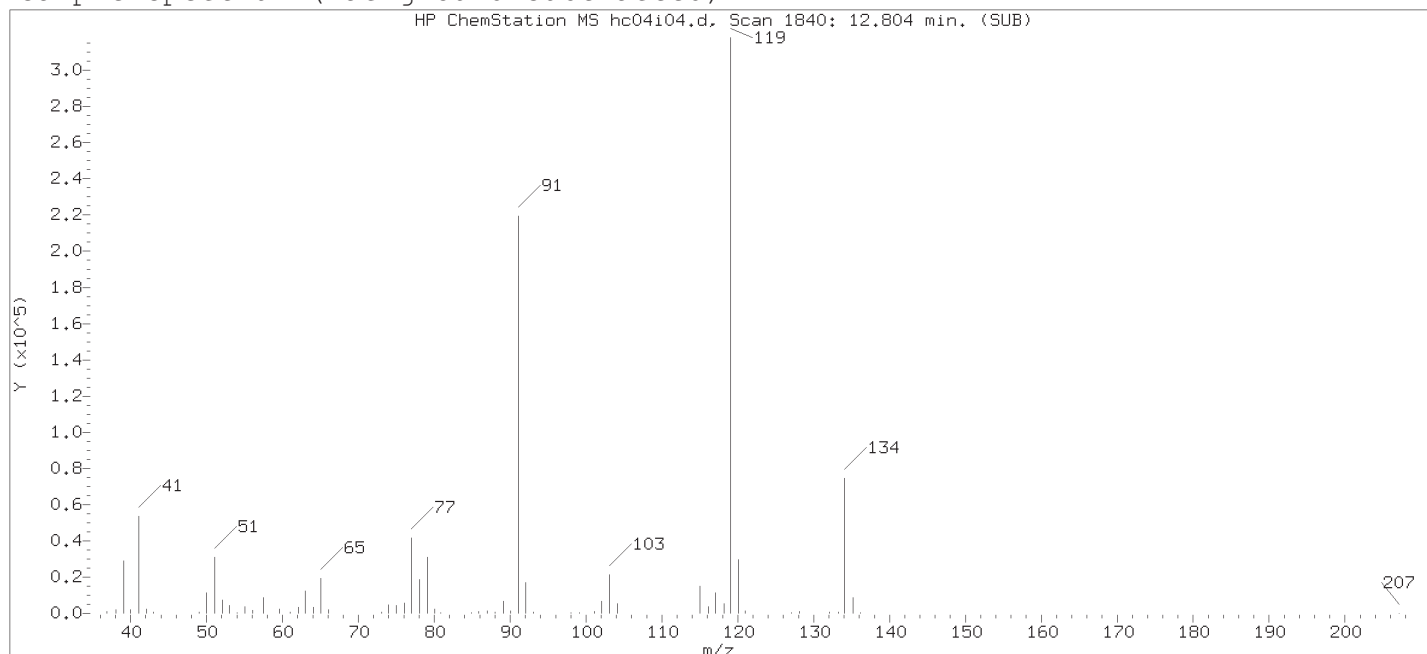
Reason for manual integration: improper integration

Analyst responsible for change:

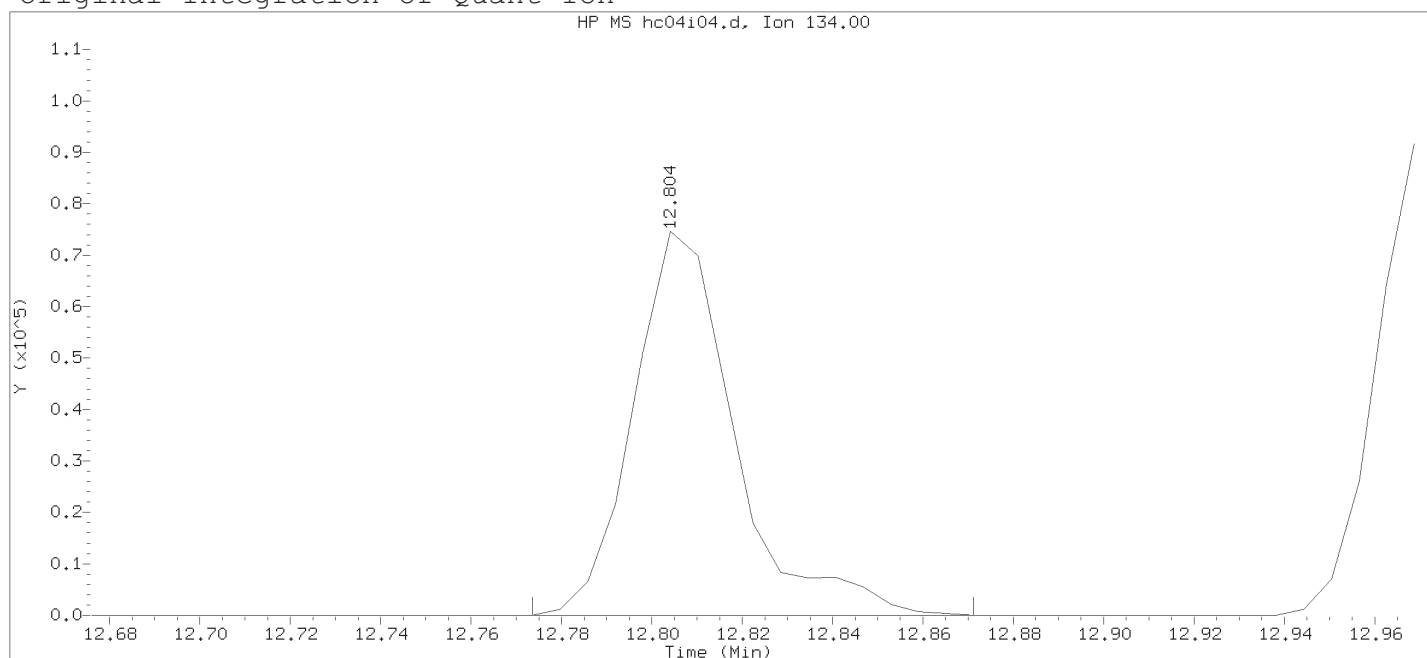
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:45.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:35

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 11:54

Date, time and analyst ID of latest file update: 04-Oct-2016 11:54 Automation

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number : 125

Compound Name : tert-Butylbenzene

Scan Number : 1840

Retention Time (minutes): 12.804

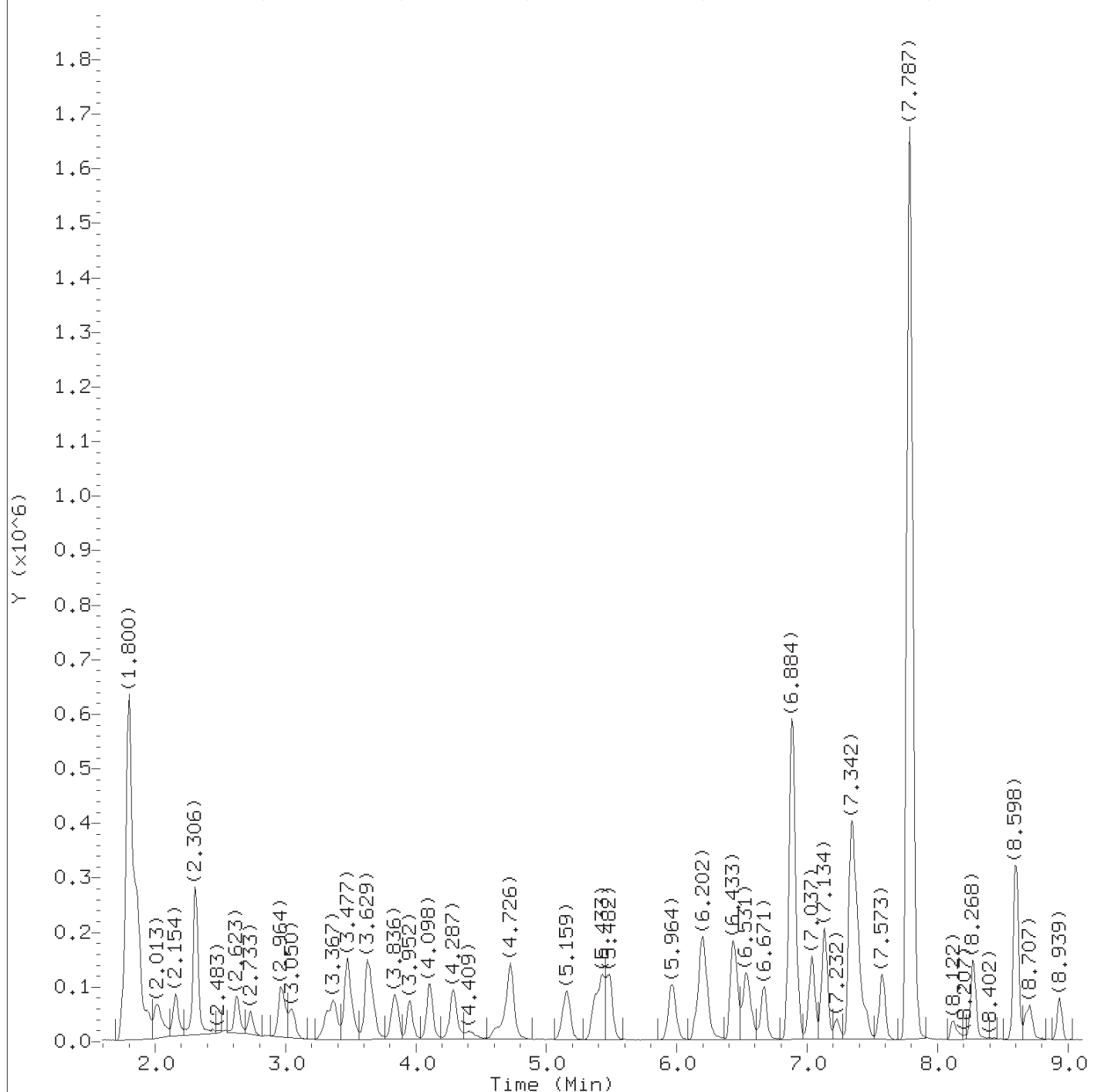
Quant Ion : 134.00

Area : 116452

On-column Amount (ng) : 2.0618

Integration start scan : 1834 Integration stop scan: 1850

Y at integration start : 0 Y at integration end: 0



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d
Injection date and time: 04-OCT-2016 11:55

Instrument ID: HP19094.i
Analyst ID: kel01973

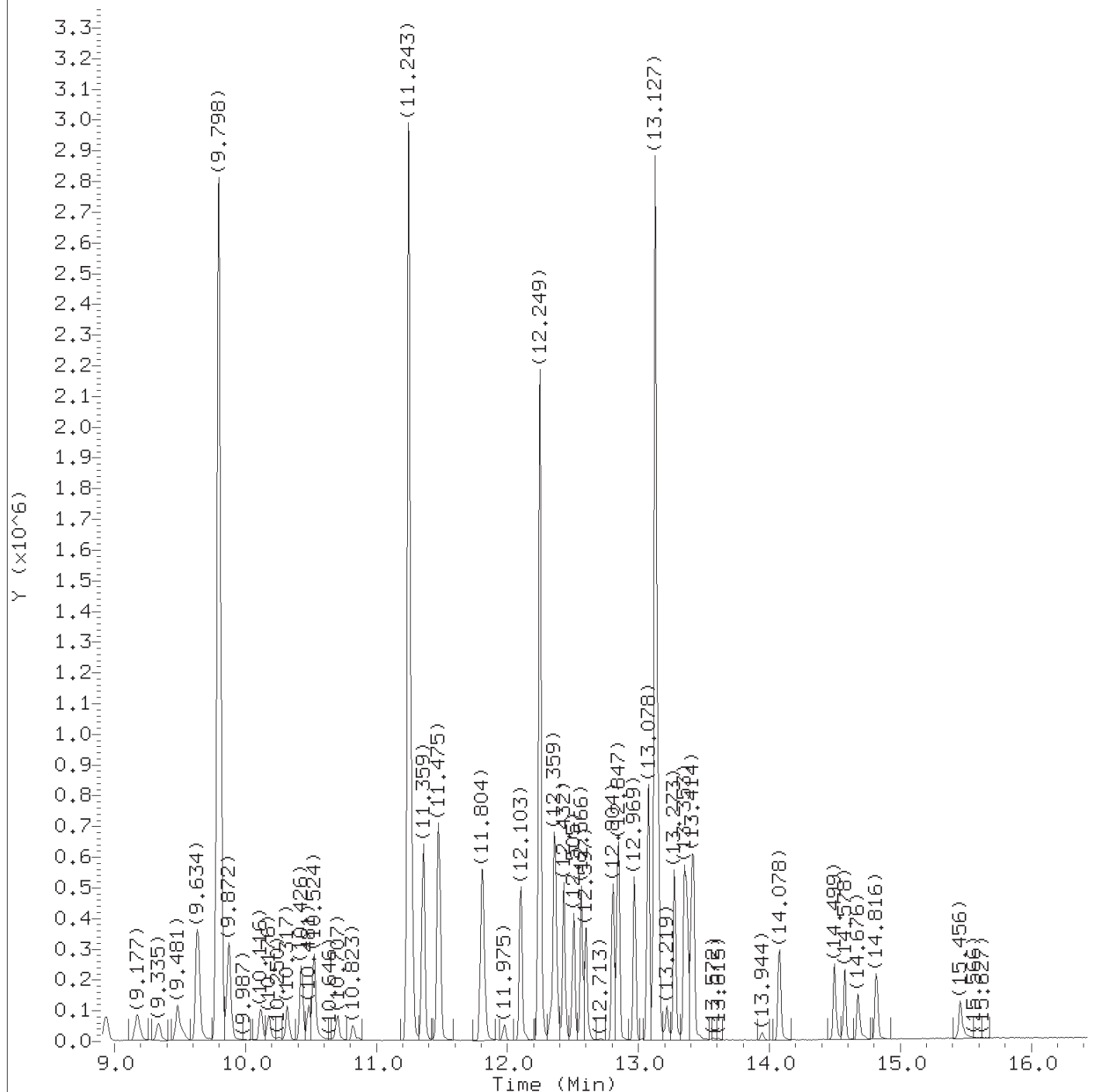
Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:29
Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.

Target 3.5 esignature user ID: kel01973
RAE76 Page 324 of 883



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d
Injection date and time: 04-OCT-2016 11:55

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:29
Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.

Target 3.5 esignature User ID: kel01973
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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d
 Injection date and time: 04-OCT-2016 11:55

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:29
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.020	85	101215	1.050
2) Chloromethane	(2)	2.154	50	109571	1.062
5) Vinyl Chloride	(2)	2.306	62	98581	1.072
6) 1,3-Butadiene	(2)	2.306	39	145147	1.030
7) Bromomethane	(2)	2.623	94	62929	1.067
8) Chloroethane	(2)	2.733	64	55026	1.058
9) Dichlorofluoromethane	(2)	2.964	67	132201	1.065
10) Trichlorofluoromethane	(2)	3.044	101	118226	1.059
11) Ethyl ether	(2)	3.318	59	43283	1.051
12) Freon 123a	(2)	3.367	67	83297	1.075
13) Acrolein	(1)	3.477	56	278316	46.144
15) 1,1-Dichloroethene	(2)	3.629	96	52488	1.009
14) Acetone	(1)	3.647	43	76214M	9.438
16) Freon 113	(2)	3.666	101	56838	1.000
17) Methyl Iodide	(2)	3.824	142	100010	1.006
18) Carbon Disulfide	(2)	3.952	76	159552	1.012
22) Allyl Chloride	(2)	4.098	41	113722	1.005
21) Methyl Acetate	(1)	4.098	43	21725M	0.831
23) Methylene Chloride	(2)	4.281	84	56800	1.018
26)*t-Butyl Alcohol-d10	(1)	4.293	65	83869M	50.000
28) t-Butyl Alcohol	(1)	4.409	59	41253M	18.516
29) Acrylonitrile	(1)	4.623	53	44470	4.680
30) Methyl Tertiary Butyl Ether	(2)	4.702	73	122612	1.011
31) trans-1,2-Dichloroethene	(2)	4.726	96	60036	1.019
32) n-Hexane	(2)	5.153	57	91144	1.014
33) 1,1-Dichloroethane	(2)	5.366	63	119909	1.033
34) di-Isopropyl Ether	(2)	5.427	45	211989	1.019
35) 2-Chloro-1,3-Butadiene	(2)	5.482	53	110158	1.025
37) Ethyl t-butyl ether	(2)	5.964	59	173279	1.026
40) 1,2-Dichloroethene (Total)	(2)		96	127118	2.057
38) 2-Butanone	(1)	6.153	43	136584	9.559
39) cis-1,2-Dichloroethene	(2)	6.189	96	67082	1.038
41) 2,2-Dichloropropane	(2)	6.208	77	98013	1.041
42) Propionitrile	(1)	6.232	54	58944	18.704
45) Methacrylonitrile	(1)	6.439	67	120961	8.990
47) Bromochloromethane	(2)	6.531	128	25859	0.998
48) Tetrahydrofuran	(1)	6.555	71	35045	9.515
49) Chloroform	(2)	6.671	83	114478	1.021

M = Compound was manually integrated.

* = Compound is an internal standard.

page 1 of 4

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 on 10/04/2016 at 15:34.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d
 Injection date and time: 04-OCT-2016 11:55

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:29
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
50) \$Dibromofluoromethane	(2)	6.884	113	524149	10.078
50) \$Dibromofluoromethane	(2)	6.884	111	536011	10.080
51) 1,1,1-Trichloroethane	(2)	6.921	97	103485	1.025
52) Cyclohexane	(2)	7.037	56	117038	0.988
52) Cyclohexane	(2)	7.037	84	109272	1.118
52) Cyclohexane	(2)	7.037	69	33688	1.008
55) 1,1-Dichloropropene	(2)	7.134	75	94713	1.038
54) Carbon Tetrachloride	(2)	7.140	117	88372	1.014
56) Isobutyl Alcohol	(1)	7.232	41	36664	42.495
57) \$1,2-Dichloroethane-d4	(2)	7.336	102	85505M	10.234
57) \$1,2-Dichloroethane-d4	(2)	7.336	65	468572	10.188
57) \$1,2-Dichloroethane-d4	(2)	7.348	104	52559M	9.832
58) Benzene	(2)	7.397	78	251100	1.032
59) 1,2-Dichloroethane	(2)	7.457	62	70797	1.045
60) t-Amyl methyl ether	(2)	7.579	73	139165	1.016
63) *Fluorobenzene	(2)	7.787	96	2267516	10.000
62) n-Heptane	(2)	7.811	43	110229	1.019
65) n-Butanol	(1)	8.122	56	53921M	85.565
67) Trichloroethene	(2)	8.268	95	67903	1.019
70) 1,2-Dichloropropane	(2)	8.598	63	63384	1.024
69) Methylcyclohexane	(2)	8.610	83	118748	1.020
71) Methyl Methacrylate	(1)	8.683	69	22888	0.924
73) Dibromomethane	(2)	8.707	93	26411	1.019
72) 1,4-Dioxane	(1)	8.719	88	7483	52.108
74) Bromodichloromethane	(2)	8.939	83	70793	0.998
76) 2-Nitropropane	(1)	9.171	41	79620	8.688
80) cis-1,3-Dichloropropene	(2)	9.481	75	78683	0.977
81) 4-Methyl-2-Pentanone	(1)	9.634	43	338341	8.860
82) \$Toluene-d8	(3)	9.798	98	2226098	10.024
82) \$Toluene-d8	(3)	9.798	100	1414727	9.907
83) Toluene	(3)	9.872	92	157946	1.035
84) trans-1,3-Dichloropropene	(3)	10.116	75	61540	0.994
85) 1,3-Dichloropropene (total)	(3)		75	140223	1.971
86) Ethyl Methacrylate	(3)	10.176	69	48061	1.007
88) 1,1,2-Trichloroethane	(3)	10.317	97	36304	1.033
89) Tetrachloroethene	(3)	10.426	166	73681	1.009
90) 1,3-Dichloropropane	(3)	10.481	76	65475	1.025
91) 2-Hexanone	(1)	10.524	43	243177	9.199

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/04/2016 at 15:34.
 Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d
Injection date and time: 04-OCT-2016 11:55

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:29
Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
93) Dibromochloromethane	(3)	10.707	129	42919	0.985
95) 1,2-Dibromoethane	(3)	10.823	107	34546	1.040
97) *Chlorobenzene-d5	(3)	11.243	117	1470132	10.000
98) Chlorobenzene	(3)	11.274	112	168428	1.036
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	56610	1.013
100) Ethylbenzene	(3)	11.359	91	306411	1.020
101) m+p-Xylene	(3)	11.475	106	235410	2.086
105) Xylene (Total)	(3)		106	348270	3.112
104) o-Xylene	(3)	11.804	106	112860	1.026
106) Styrene	(3)	11.816	104	171739	1.020
107) Bromoform	(3)	11.975	173	22620	0.948
108) Isopropylbenzene	(3)	12.103	105	299148	1.008
111) \$4-Bromofluorobenzene	(3)	12.249	95	662364	10.145
111) \$4-Bromofluorobenzene	(3)	12.249	174	588733	10.077
113) 1,1,2,2-Tetrachloroethane	(4)	12.328	83	43816M	1.046
115) trans-1,4-Dichloro-2-butene	(1)	12.359	53	97320A	8.599
114) Bromobenzene	(4)	12.365	156	67742	1.003
116) 1,2,3-Trichloropropane	(4)	12.383	110	11211	1.003
117) n-Propylbenzene	(4)	12.432	91	360459	1.007
119) 2-Chlorotoluene	(4)	12.505	126	68973	1.019
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	251387	1.021
122) 4-Chlorotoluene	(4)	12.603	126	69182	1.000
125) tert-Butylbenzene	(4)	12.804	134	52401M	0.975
126) Pentachloroethane	(4)	12.841	167	42690	1.027
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	252093	1.014
128) sec-Butylbenzene	(4)	12.969	105	326416	1.010
131) 1,3-Dichlorobenzene	(4)	13.072	146	132378	1.008
132) p-Isopropyltoluene	(4)	13.078	119	273609	1.015
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	676960	10.000
134) 1,4-Dichlorobenzene	(4)	13.145	146	140734	1.030
135) 1,2,3-Trimethylbenzene	(4)	13.151	120	110375	1.026
136) Benzyl Chloride	(4)	13.219	126	14279	1.002
138) n-Butylbenzene	(4)	13.371	92	127073	0.982
139) 1,2-Dichlorobenzene	(4)	13.401	146	117709	1.008
143) 1,2-Dibromo-3-chloropropane	(1)	13.944	155	5092	0.916
145) 1,2,4-Trichlorobenzene	(4)	14.499	180	83380	1.002
146) Hexachlorobutadiene	(4)	14.578	225	39571	1.000
147) Naphthalene	(4)	14.676	128	126470	1.001

M = Compound was manually integrated.

A = User selected an alternate hit.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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on 10/04/2016 at 15:34.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 11:55 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:29
Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001 Lab Sample ID: VSTD001

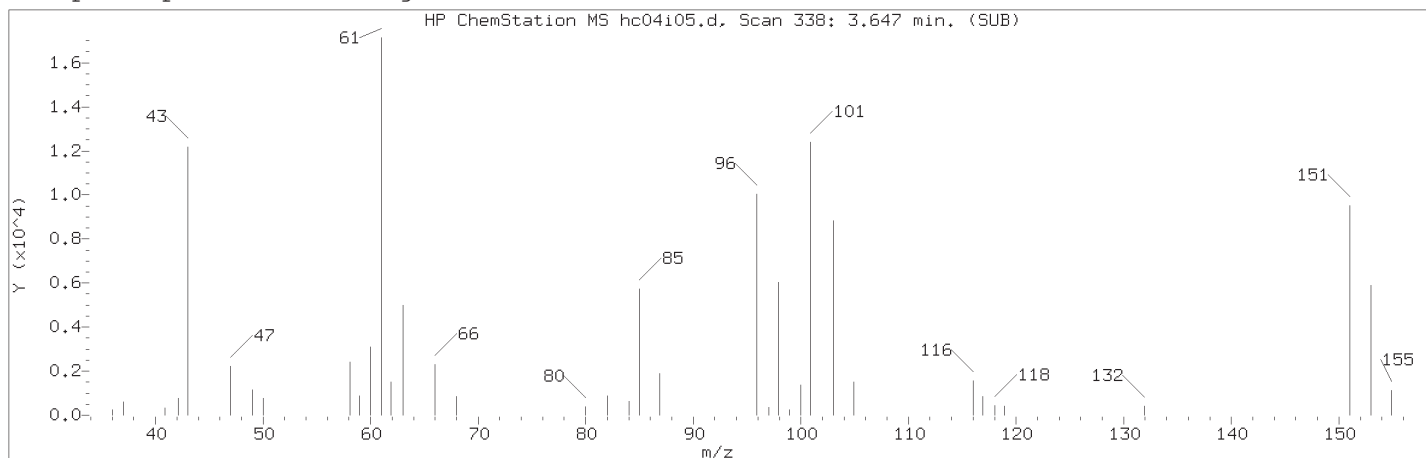
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
148) 1,2,3-Trichlorobenzene	(4)	14.816	180	68713M	0.981

M = Compound was manually integrated.

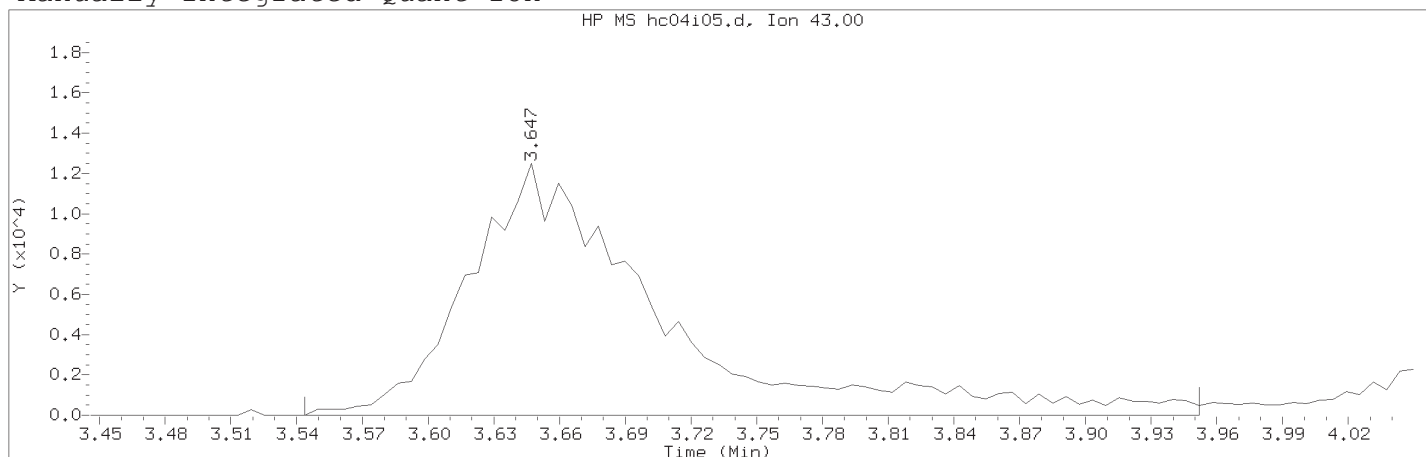
page 4 of 4

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number : 14
 Compound Name : Acetone
 Scan Number : 338
 Retention Time (minutes): 3.647
 Quant Ion : 43.00
 Area (flag) : 76214M
 On-Column Amount (ng) : 9.4384
 Integration start scan : 320
 Y at integration start : 0

Integration stop scan: 387
 Y at integration end: 0

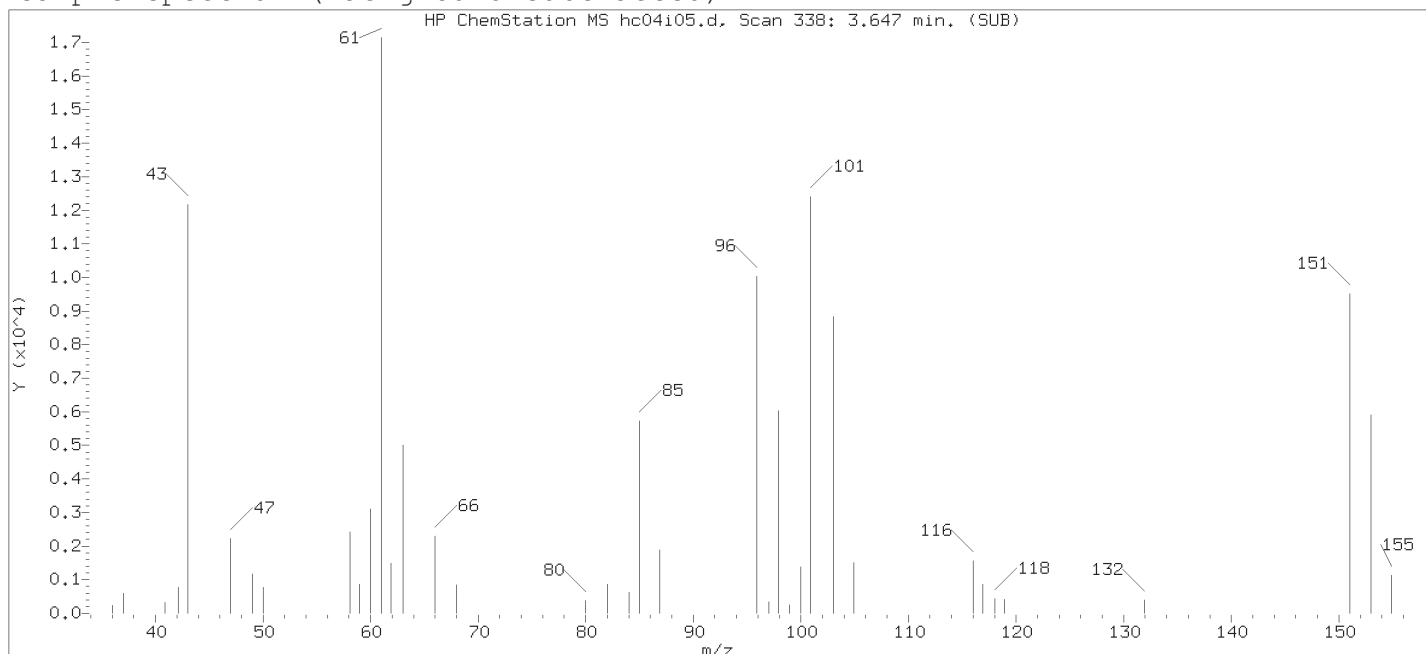
Reason for manual integration: improper integration

Analyst responsible for change:

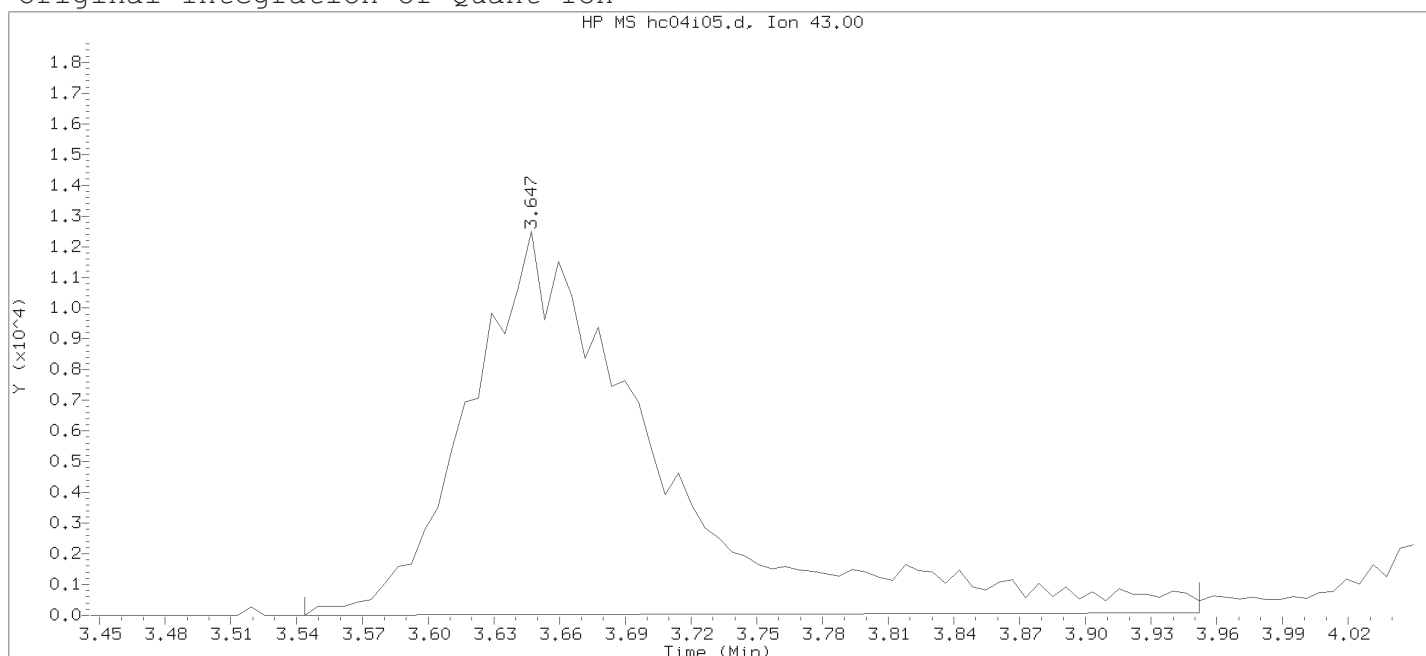
Digitally signed by Kerri E. Koch Legerlotz
 on 10/04/2016 at 15:34.
 Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
 PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:14

Date, time and analyst ID of latest file update: 04-Oct-2016 12:14 Automation

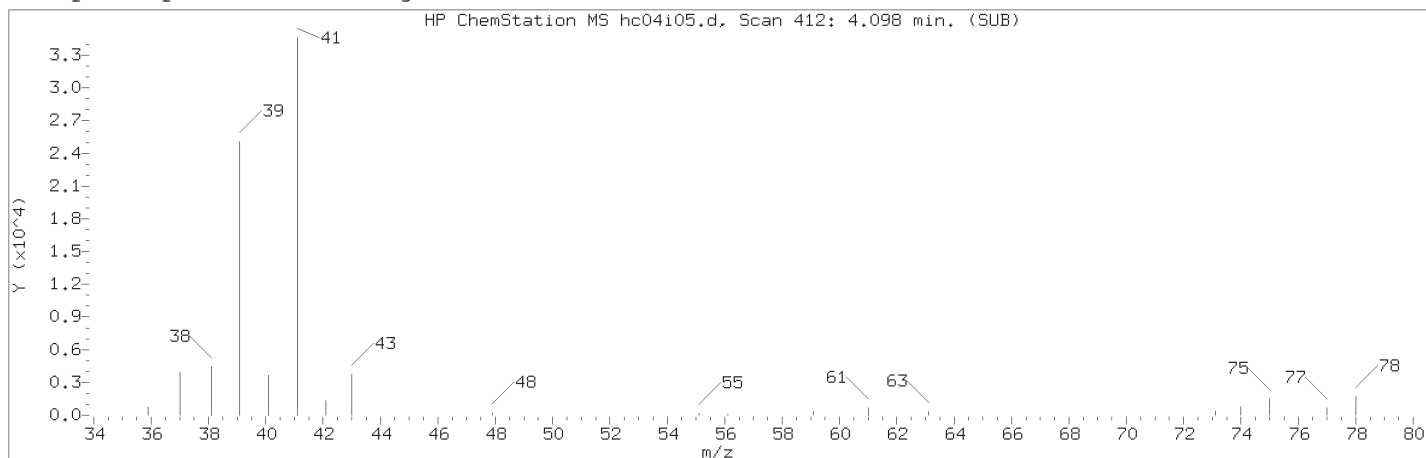
Sample Name: VSTD001

Lab Sample ID: VSTD001

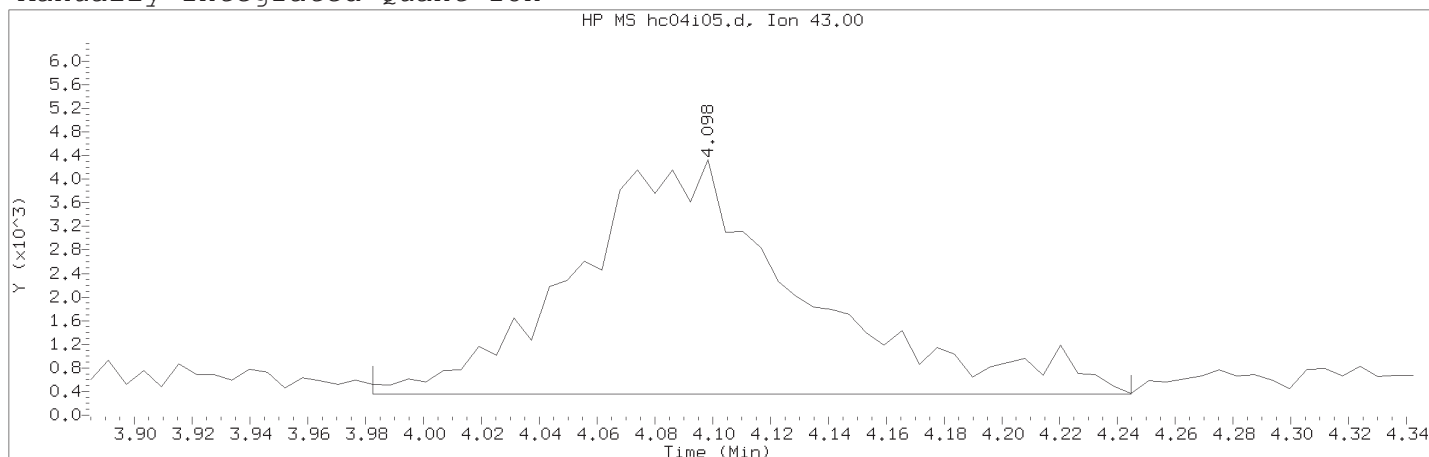
Compound Number : 14
 Compound Name : Acetone
 Scan Number : 338
 Retention Time (minutes): 3.647
 Quant Ion : 43.00
 Area : 75270
 On-column Amount (ng) : 11.0175
 Integration start scan : 320
 Y at integration start : 0

Integration stop scan: 387
 Y at integration end: 70

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number	: 21	
Compound Name	: Methyl Acetate	
Scan Number	: 412	
Retention Time (minutes)	: 4.098	
Quant Ion	: 43.00	
Area (flag)	: 21725M	
On-Column Amount (ng)	: 0.8306	
Integration start scan	: 392	Integration stop scan: 435
Y at integration start	: 362	Y at integration end: 362

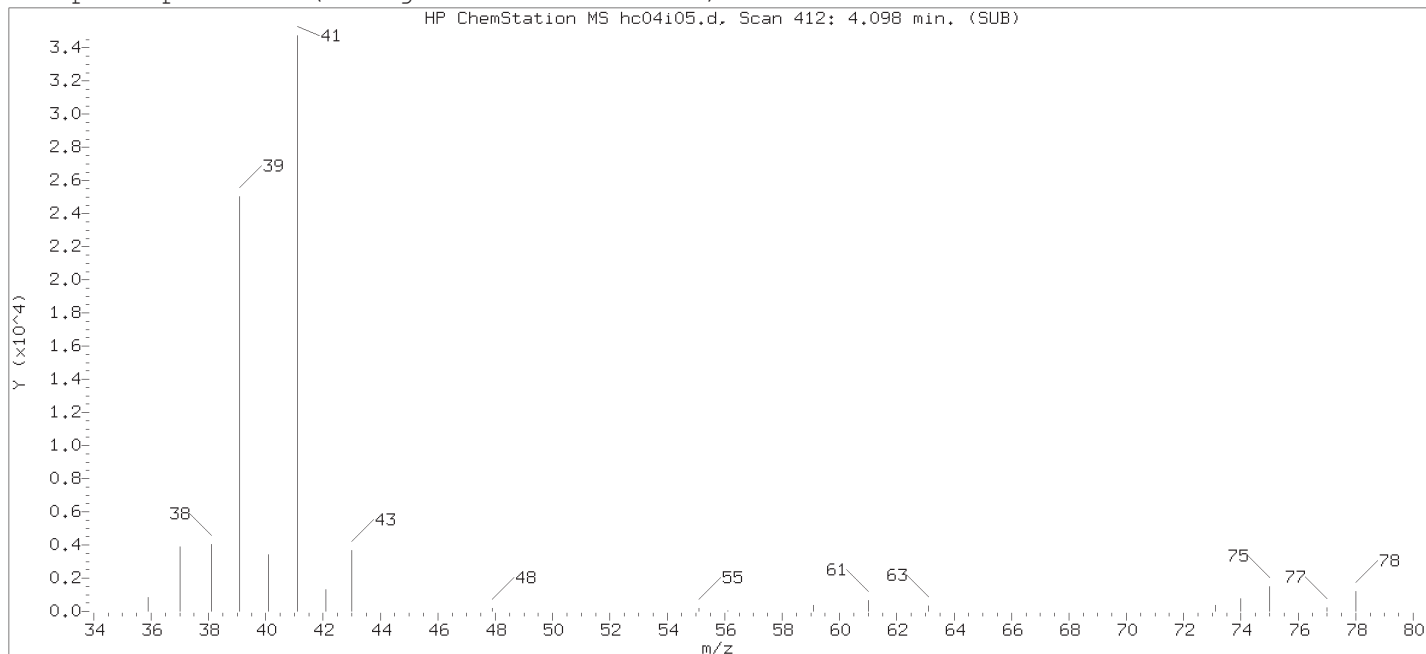
Reason for manual integration: improper integration

Analyst responsible for change:

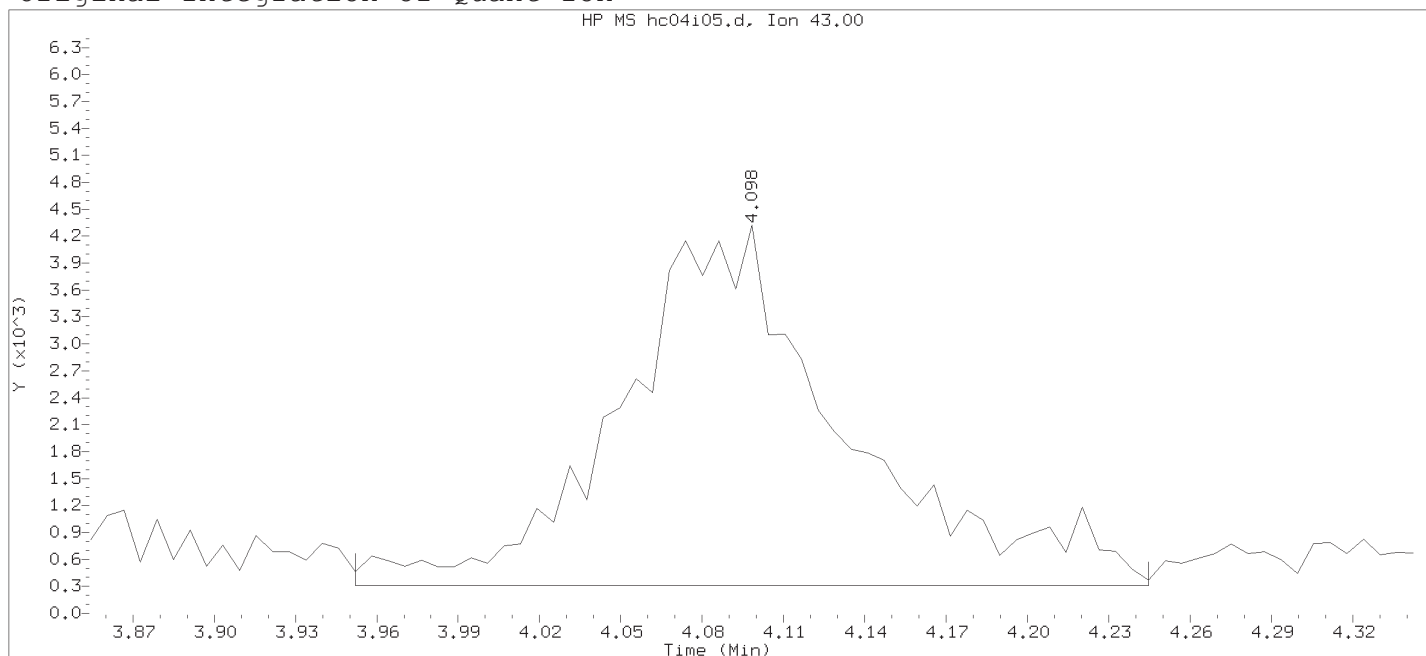
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:14

Date, time and analyst ID of latest file update: 04-Oct-2016 12:14 Automation

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number

: 21

Compound Name

: Methyl Acetate

Scan Number

: 412

Retention Time (minutes)

: 4.098

Quant Ion

: 43.00

Area

: 23016

On-column Amount (ng)

: 1.0823

Integration start scan

: 387

Integration stop scan: 435

Y at integration start

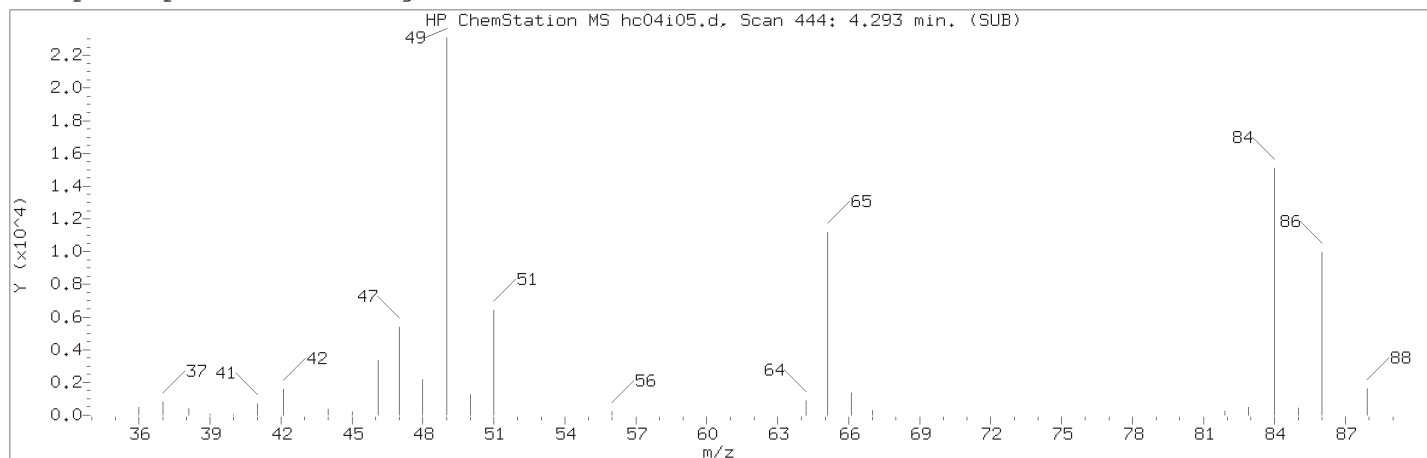
: 308

Y at integration end: 308

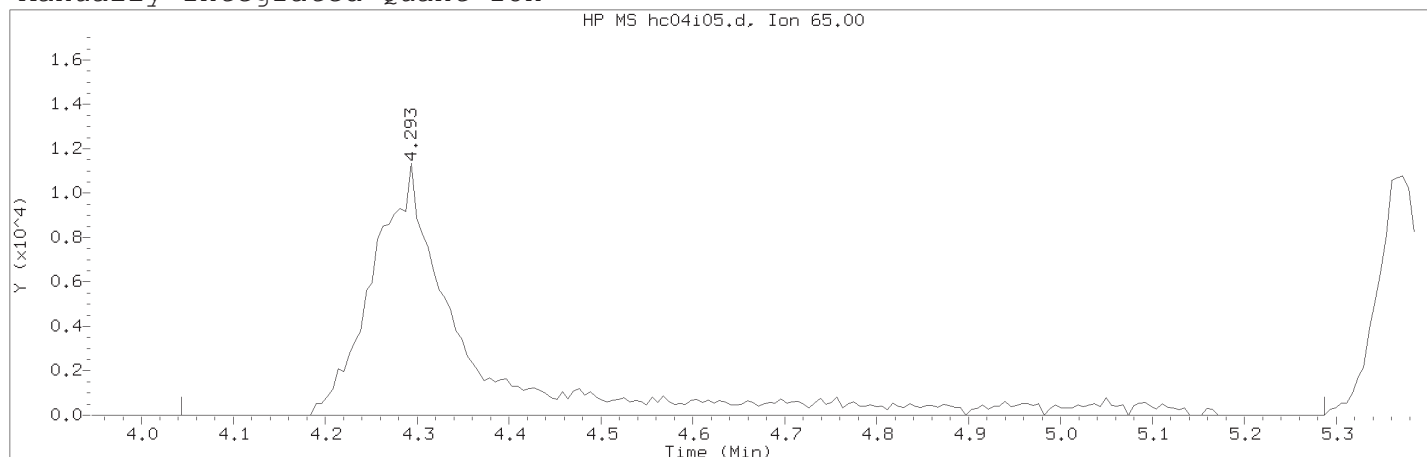
Digitally signed by Kerri E. Koch Legerlotz on 10/04/2016 at 15:34.

Target 3.5 esignature RAE76 Page 333 of 883

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number	: 26	
Compound Name	: t-Butyl Alcohol-d10	
Scan Number	: 444	
Retention Time (minutes)	: 4.293	
Quant Ion	: 65.00	
Area (flag)	: 83869M	
On-Column Amount (ng)	: 50.0000	
Integration start scan	: 402	Integration stop scan: 606
Y at integration start	: 0	Y at integration end: 0

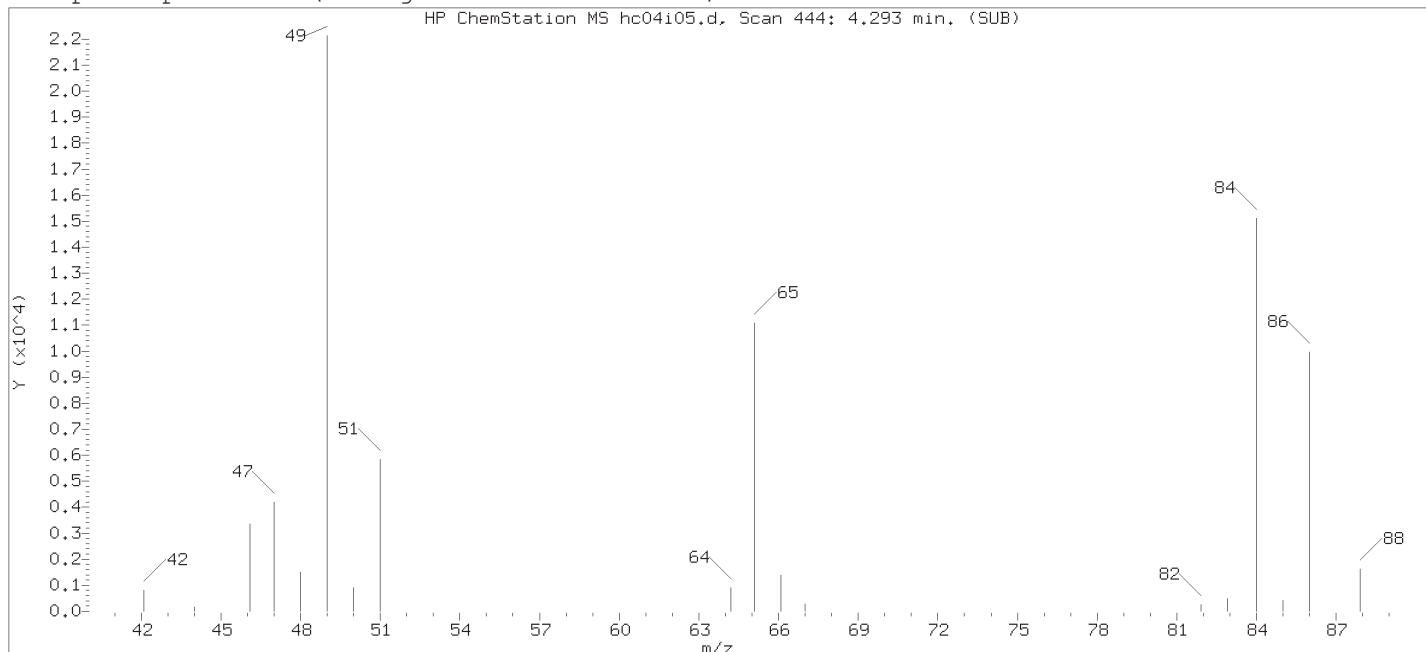
Reason for manual integration: improper integration

Analyst responsible for change:

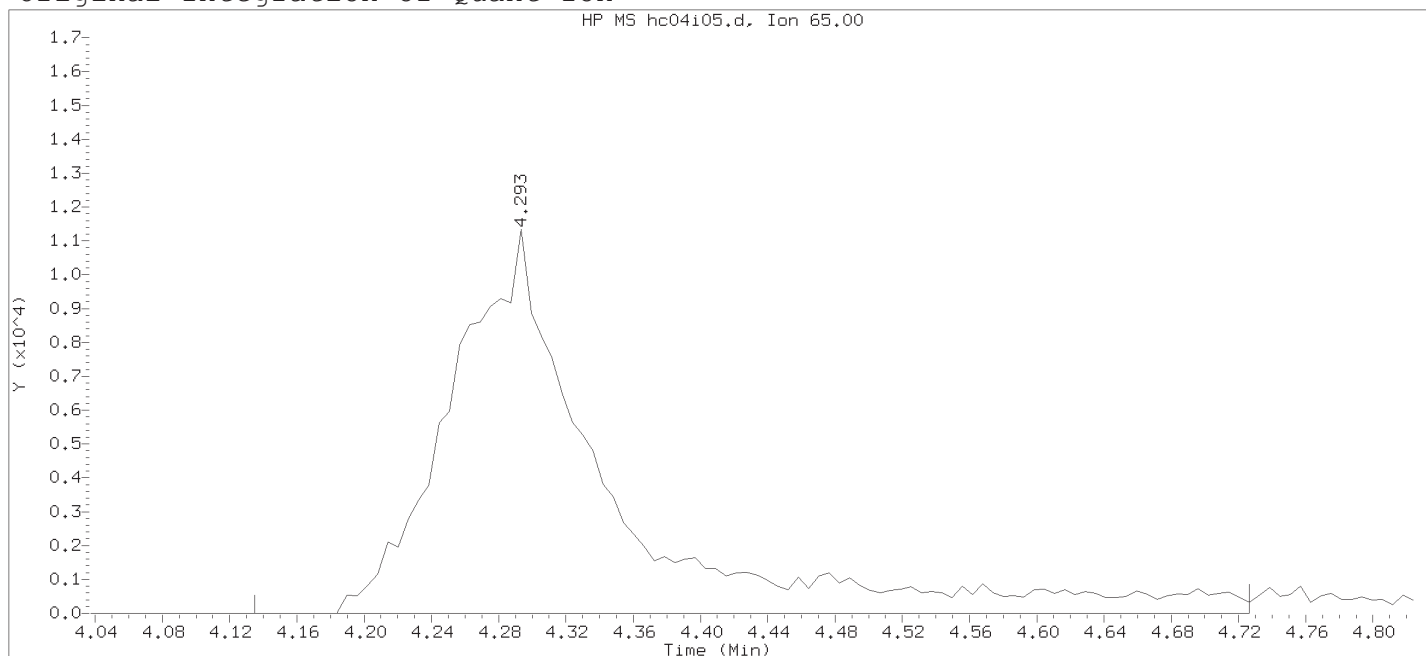
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:14

Date, time and analyst ID of latest file update: 04-Oct-2016 12:14 Automation

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number

: 26

Compound Name

: t-Butyl Alcohol-d10

Scan Number

: 444

Retention Time (minutes)

: 4.293

Quant Ion

: 65.00

Area

: 73388

On-column Amount (ng)

: 50.0000

Integration start scan

: 417

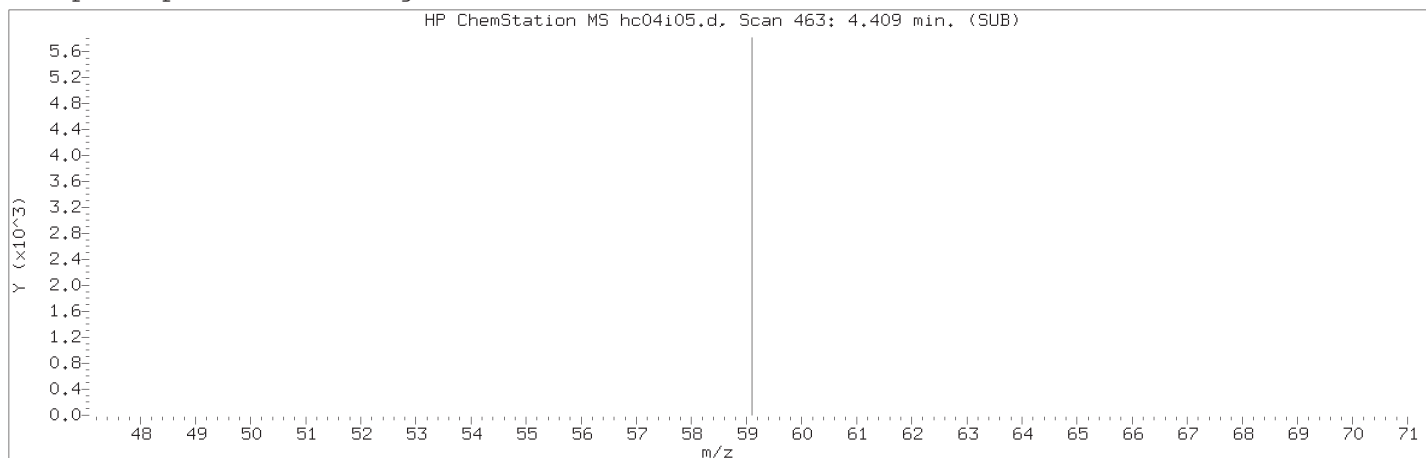
Integration stop scan: 514

Y at integration start

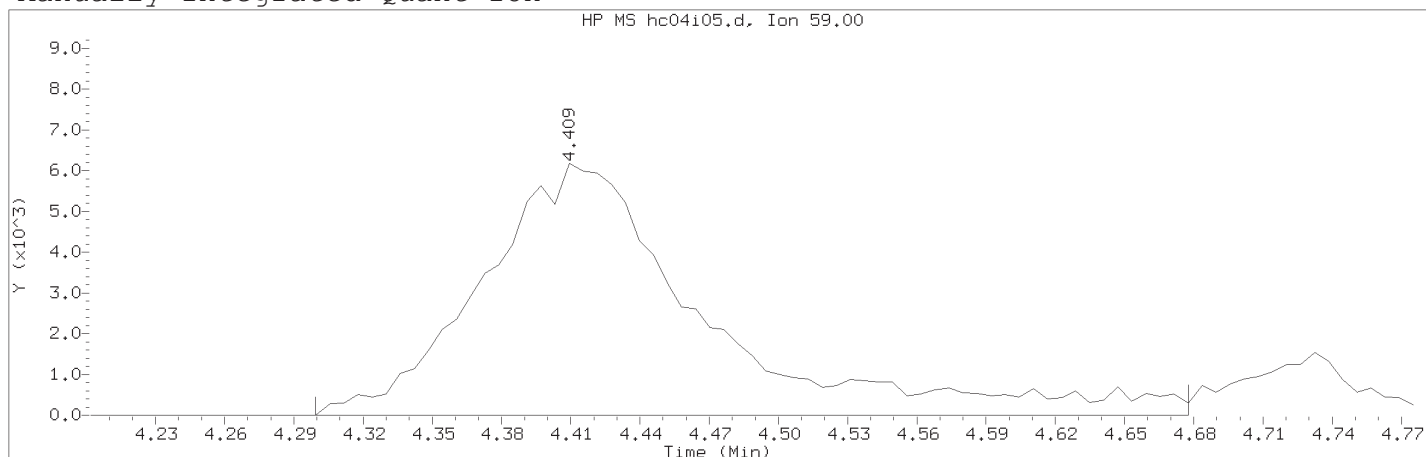
: 0

Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number	: 28	
Compound Name	: t-Butyl Alcohol	
Scan Number	: 463	
Retention Time (minutes)	: 4.409	
Quant Ion	: 59.00	
Area (flag)	: 41253M	
On-Column Amount (ng)	: 18.5163	
Integration start scan	: 444	Integration stop scan: 506
Y at integration start	: 0	Y at integration end: 0

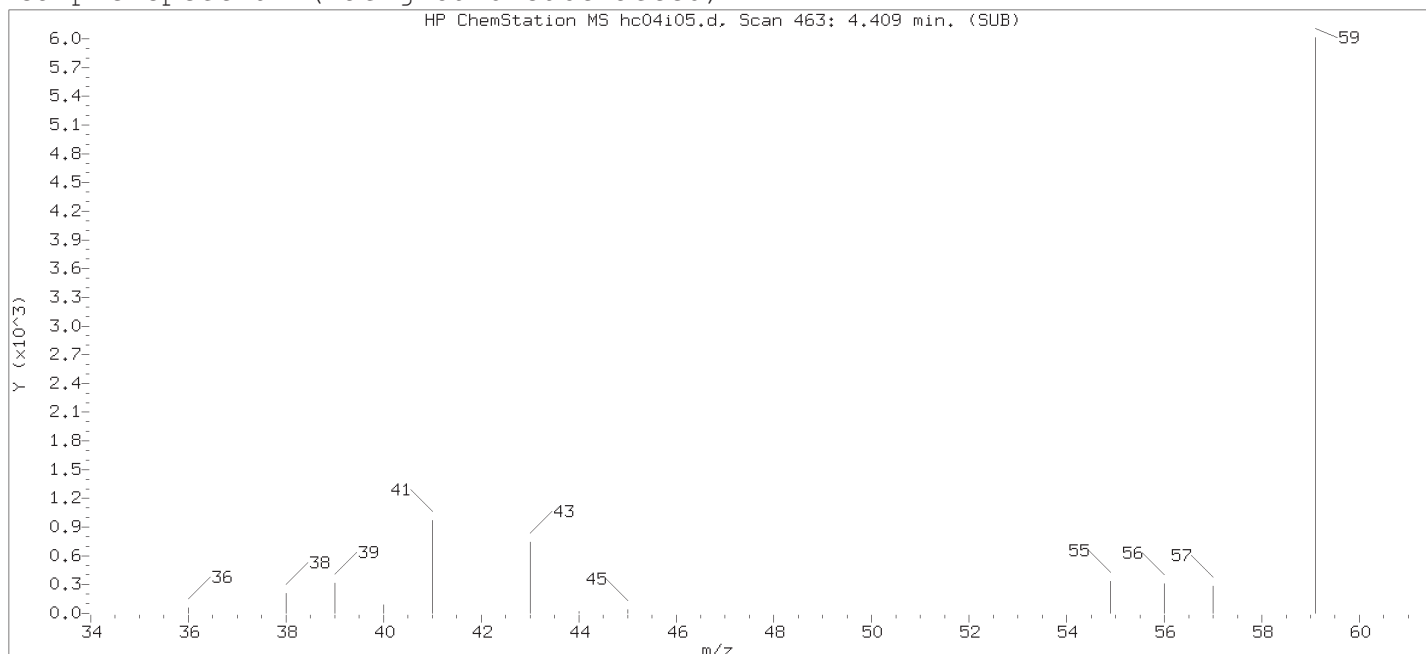
Reason for manual integration: improper integration

Analyst responsible for change:

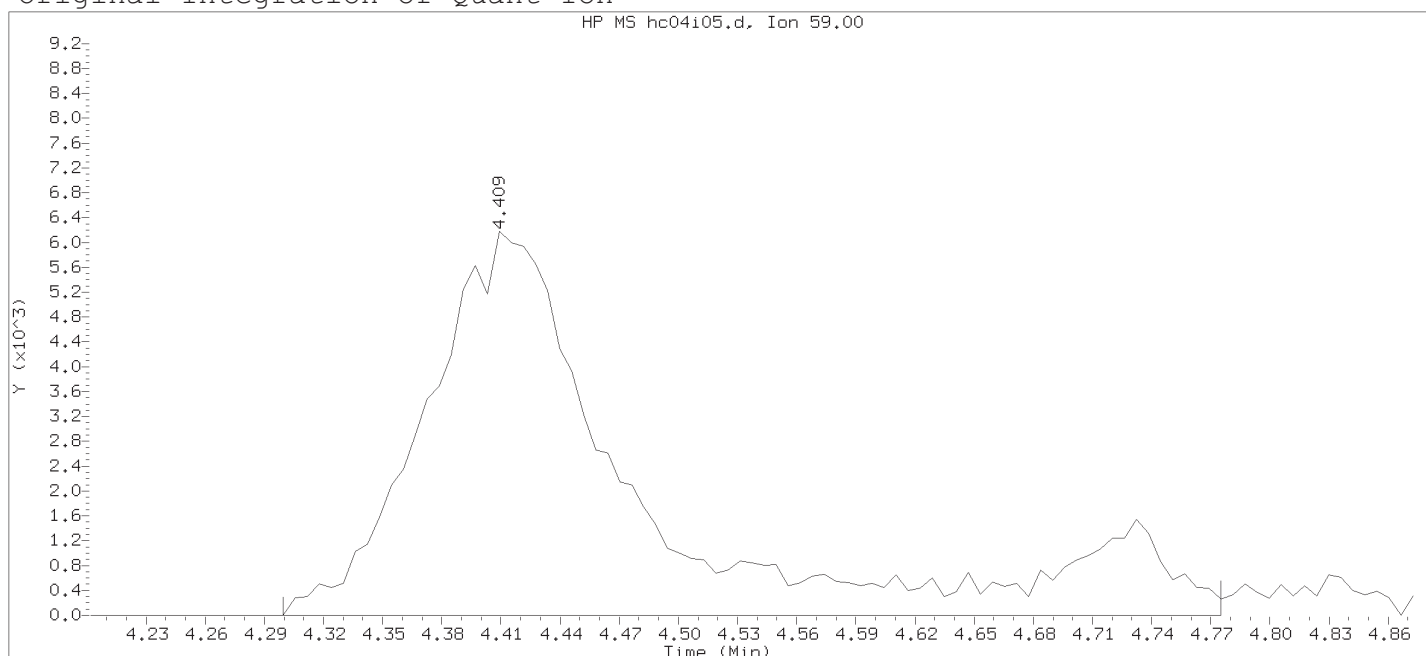
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:14

Date, time and analyst ID of latest file update: 04-Oct-2016 12:14 Automation

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number

: 28

Compound Name

: t-Butyl Alcohol

Scan Number

: 463

Retention Time (minutes)

: 4.409

Quant Ion

: 59.00

Area

: 46172

On-column Amount (ng)

: 21.2838

Integration start scan

: 444

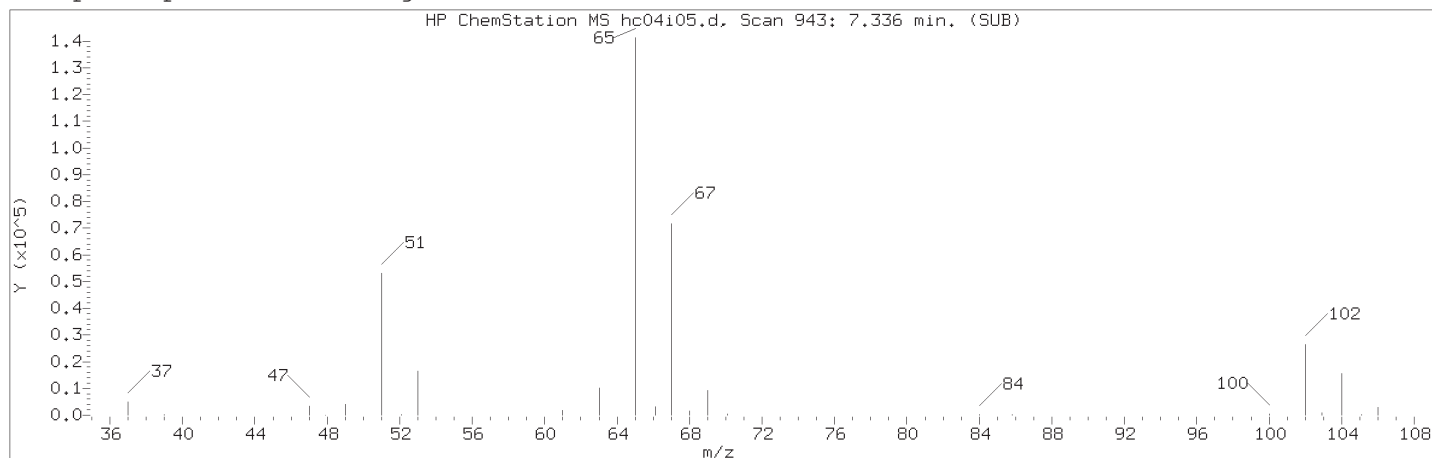
Integration stop scan: 522

Y at integration start

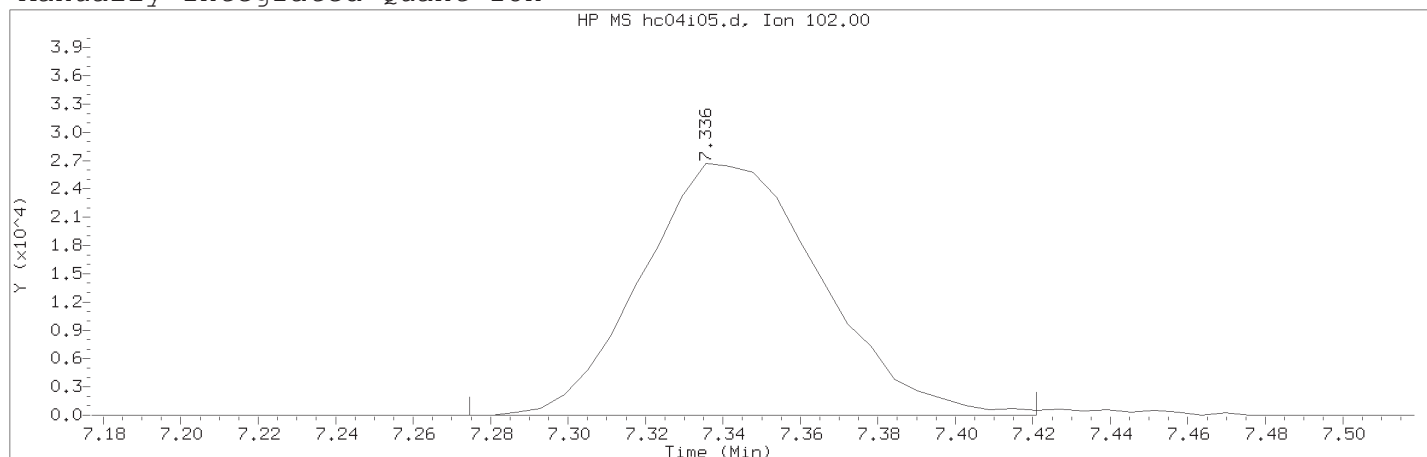
: 0

Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number	: 57	
Compound Name	: 1,2-Dichloroethane-d4	
Scan Number	: 943	
Retention Time (minutes)	: 7.336	
Quant Ion	: 102.00	
Area (flag)	: 85505M	
On-Column Amount (ng)	: 10.2342	
Integration start scan	: 932	Integration stop scan: 956
Y at integration start	: 0	Y at integration end: 0

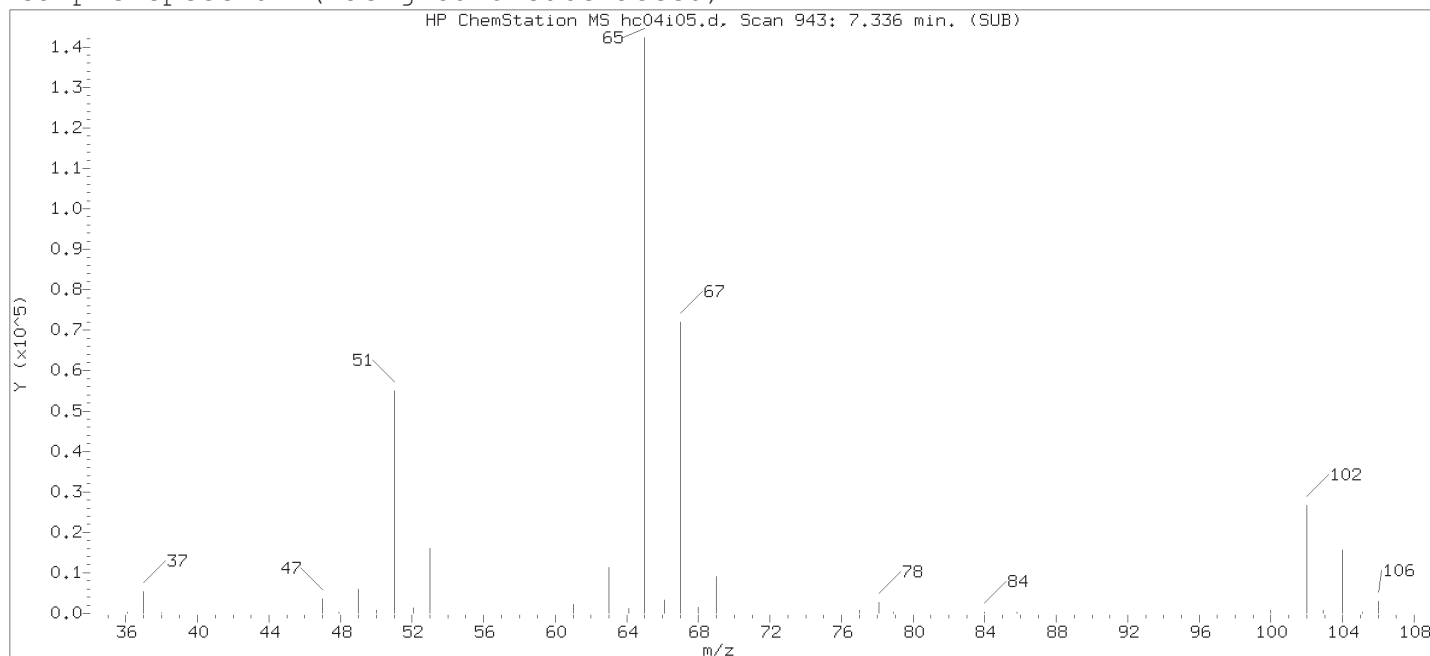
Reason for manual integration: improper integration

Analyst responsible for change:

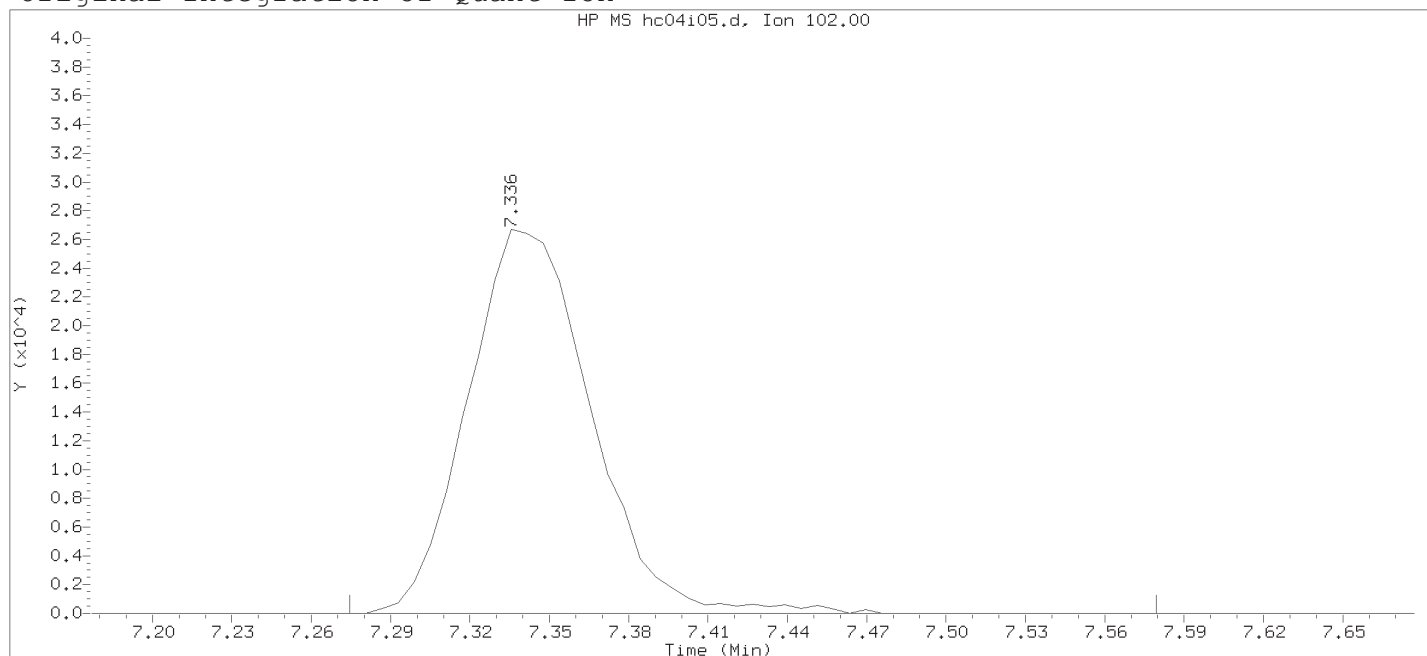
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:14

Date, time and analyst ID of latest file update: 04-Oct-2016 12:14 Automation

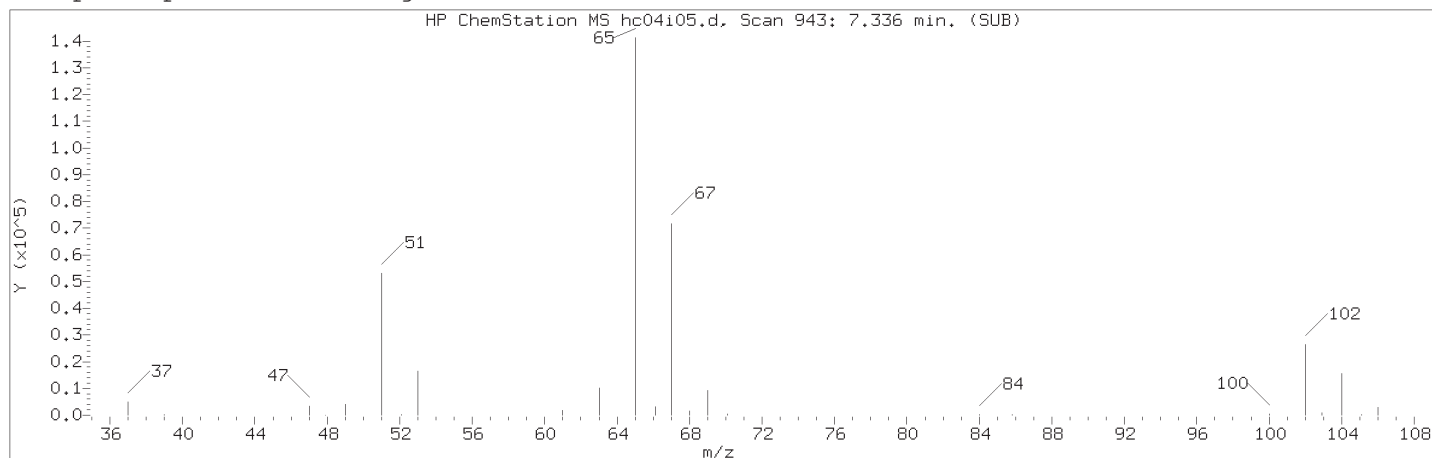
Sample Name: VSTD001

Lab Sample ID: VSTD001

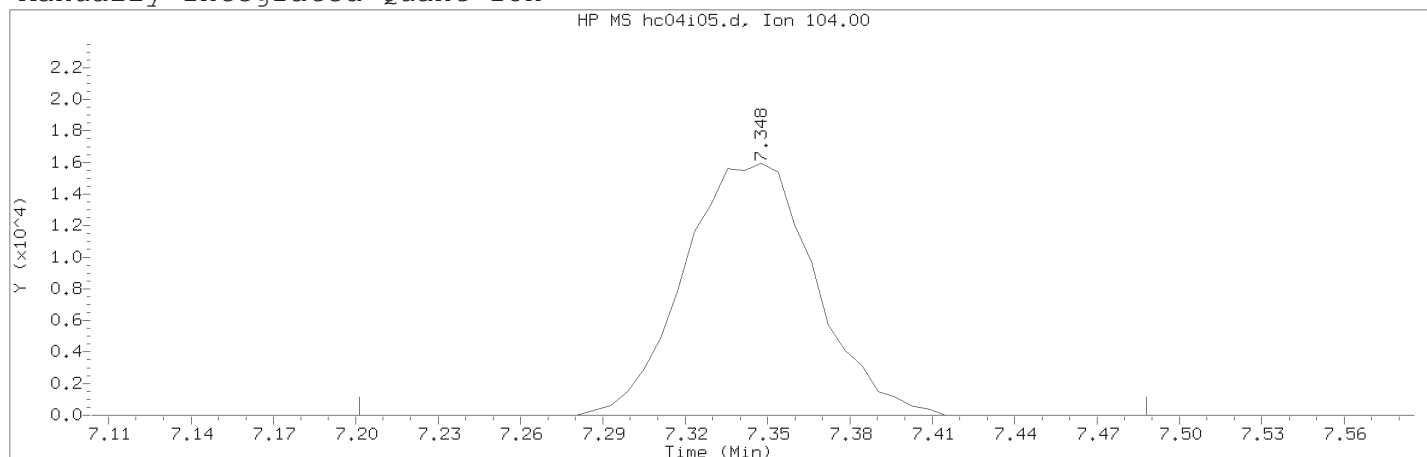
Compound Number : 57
 Compound Name : 1,2-Dichloroethane-d4
 Scan Number : 943
 Retention Time (minutes): 7.336
 Quant Ion : 102.00
 Area : 86642
 On-column Amount (ng) : 10.3858
 Integration start scan : 932
 Y at integration start : 0

Integration stop scan: 982
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number	: 57	
Compound Name	: 1,2-Dichloroethane-d4	
Scan Number	: 945	
Retention Time (minutes)	: 7.348	
Quant Ion	: 104.00	
Area (flag)	: 52559M	
On-Column Amount (ng)	: 9.8318	
Integration start scan	: 920	Integration stop scan: 967
Y at integration start	: 0	Y at integration end: 0

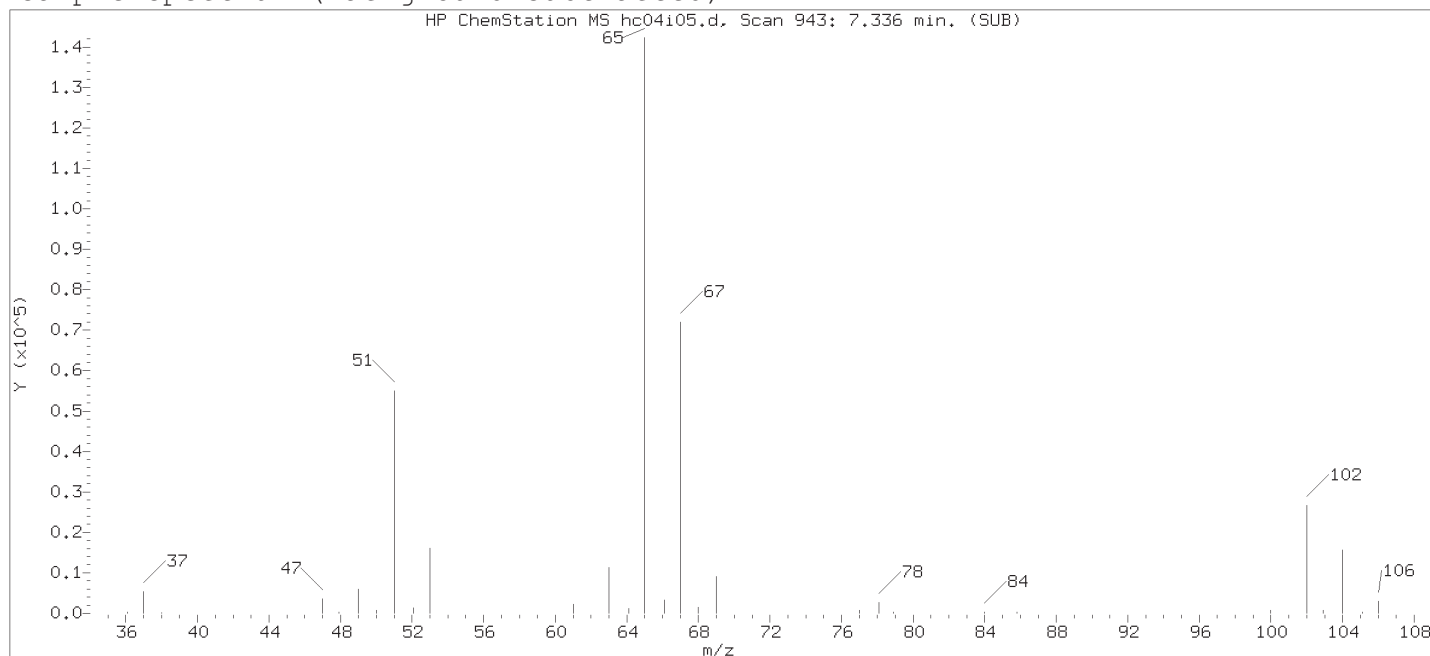
Reason for manual integration: improper integration

Analyst responsible for change:

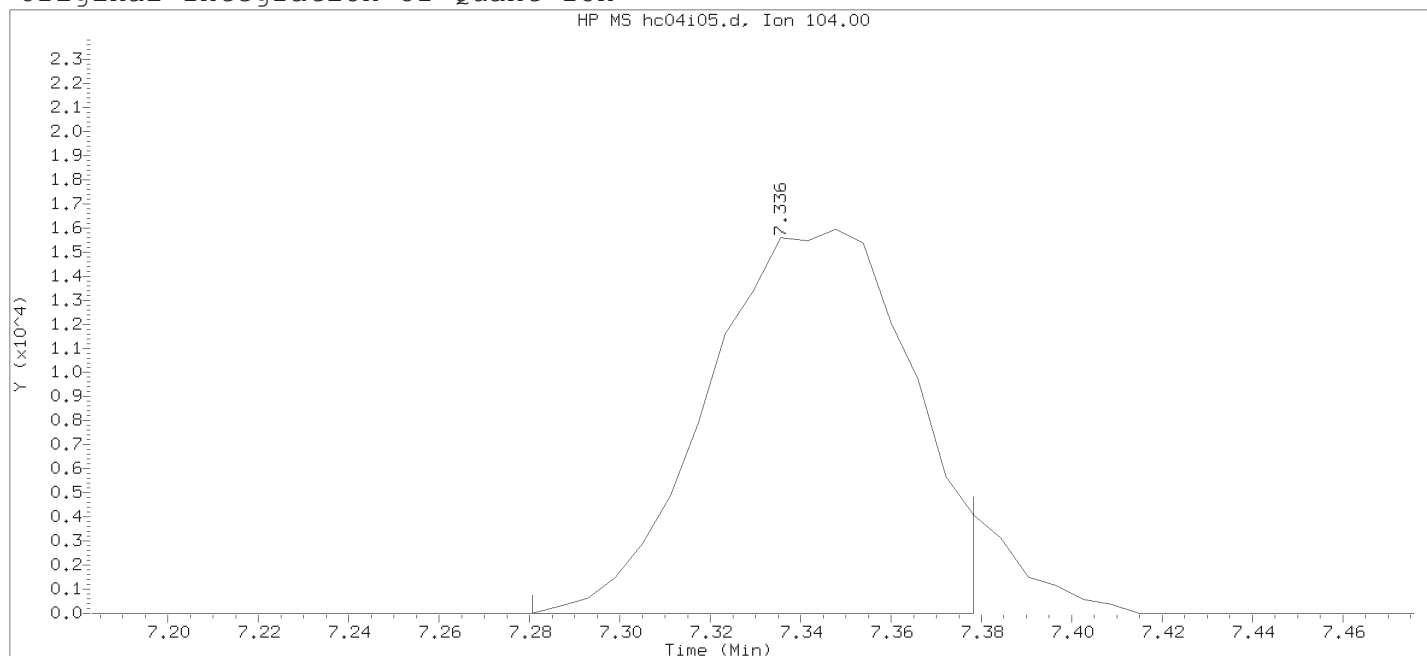
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:14

Date, time and analyst ID of latest file update: 04-Oct-2016 12:14 Automation

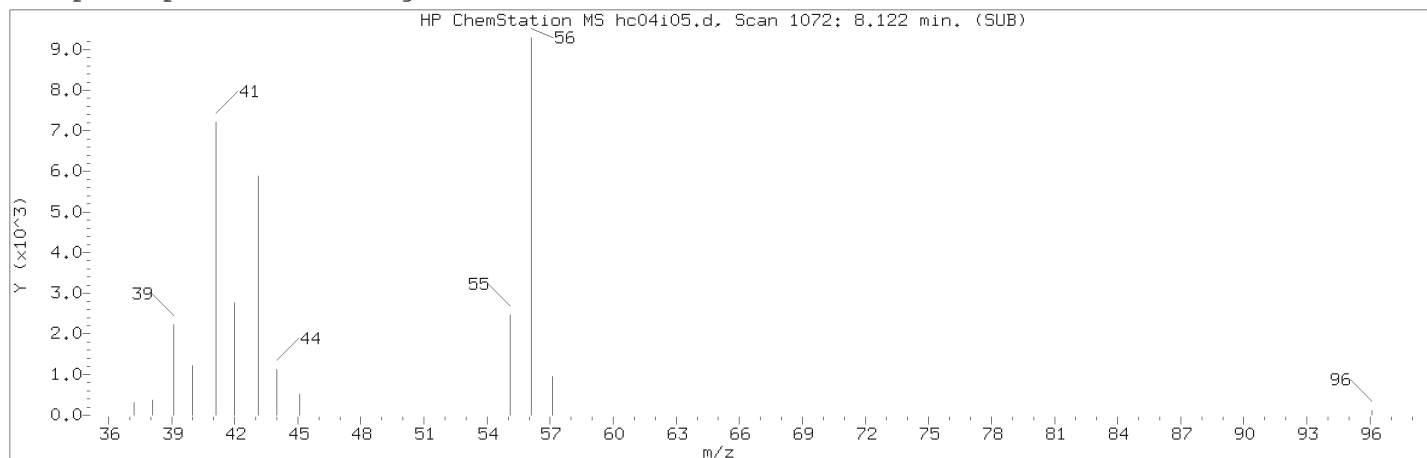
Sample Name: VSTD001

Lab Sample ID: VSTD001

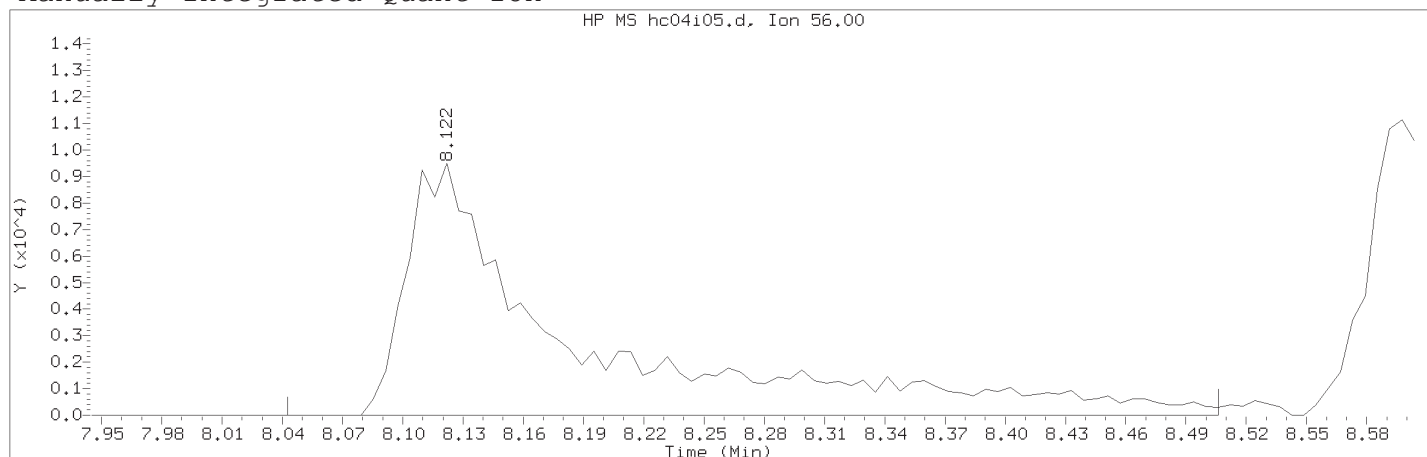
Compound Number : 57
 Compound Name : 1,2-Dichloroethane-d4
 Scan Number : 943
 Retention Time (minutes) : 7.336
 Quant Ion : 104.00
 Area : 49350
 On-column Amount (ng) : 9.5614
 Integration start scan : 933
 Y at integration start : 0

Integration stop scan: 949
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number	: 65	
Compound Name	: n-Butanol	
Scan Number	: 1072	
Retention Time (minutes)	: 8.122	
Quant Ion	: 56.00	
Area (flag)	: 53921M	
On-Column Amount (ng)	: 85.5648	
Integration start scan	: 1058	Integration stop scan: 1134
Y at integration start	: 0	Y at integration end: 0

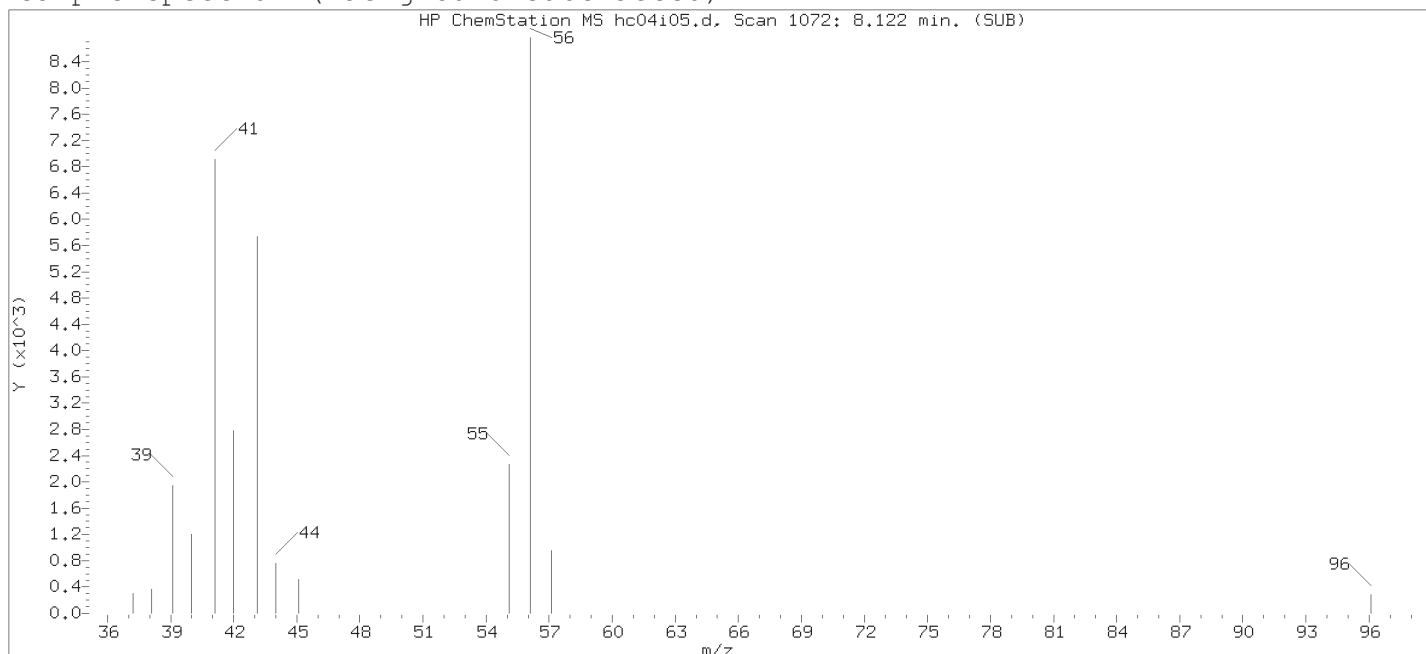
Reason for manual integration: improper integration

Analyst responsible for change:

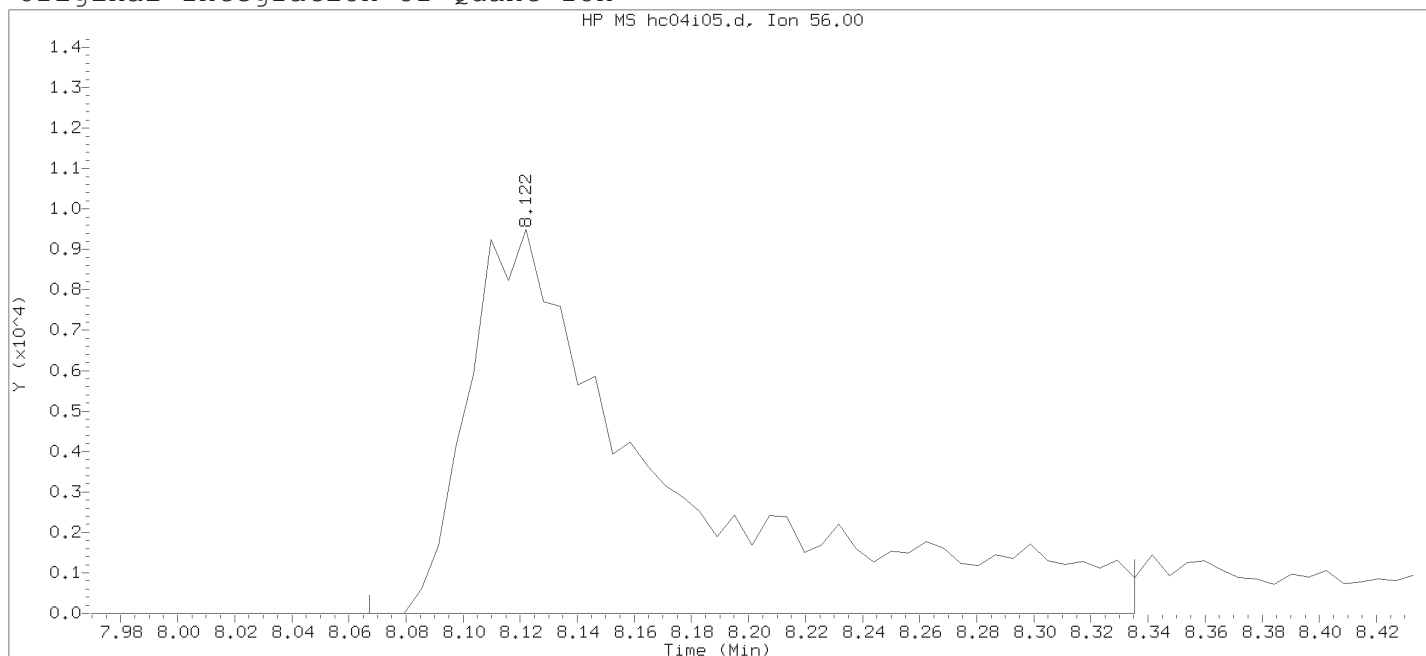
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:14

Date, time and analyst ID of latest file update: 04-Oct-2016 12:14 Automation

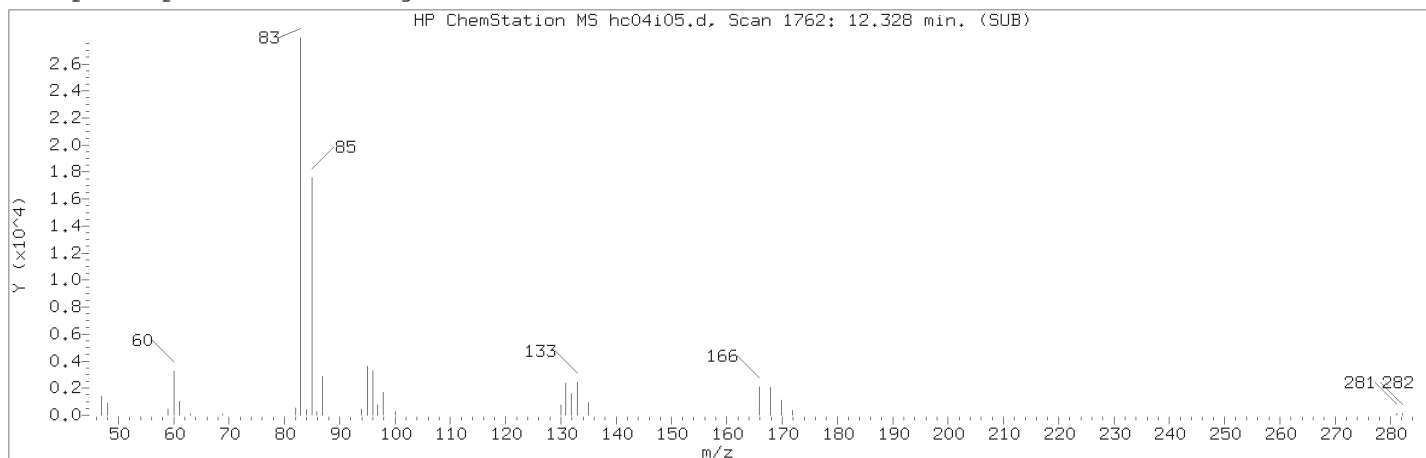
Sample Name: VSTD001

Lab Sample ID: VSTD001

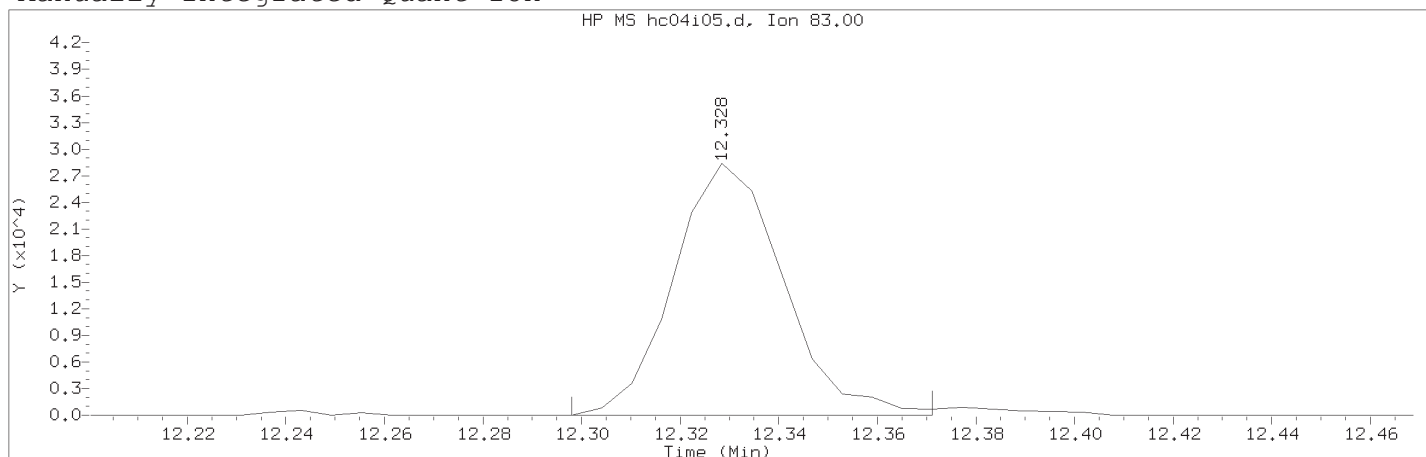
Compound Number : 65
 Compound Name : n-Butanol
 Scan Number : 1072
 Retention Time (minutes) : 8.122
 Quant Ion : 56.00
 Area : 45925
 On-column Amount (ng) : 85.7160
 Integration start scan : 1062
 Y at integration start : 0

Integration stop scan: 1106
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number	: 113	
Compound Name	: 1,1,2,2-Tetrachloroethane	
Scan Number	: 1762	
Retention Time (minutes)	: 12.328	
Quant Ion	: 83.00	
Area (flag)	: 43816M	
On-Column Amount (ng)	: 1.0465	
Integration start scan	: 1756	Integration stop scan: 1768
Y at integration start	: 0	Y at integration end: 0

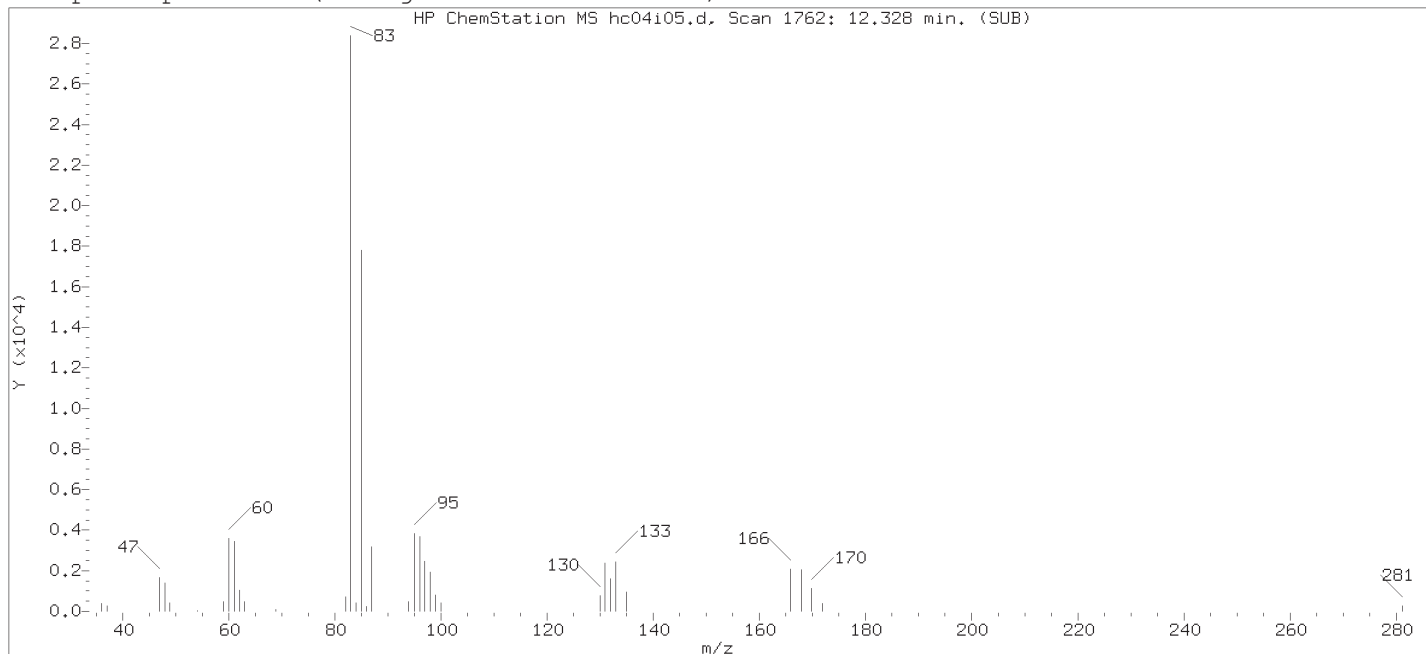
Reason for manual integration: improper integration

Analyst responsible for change:

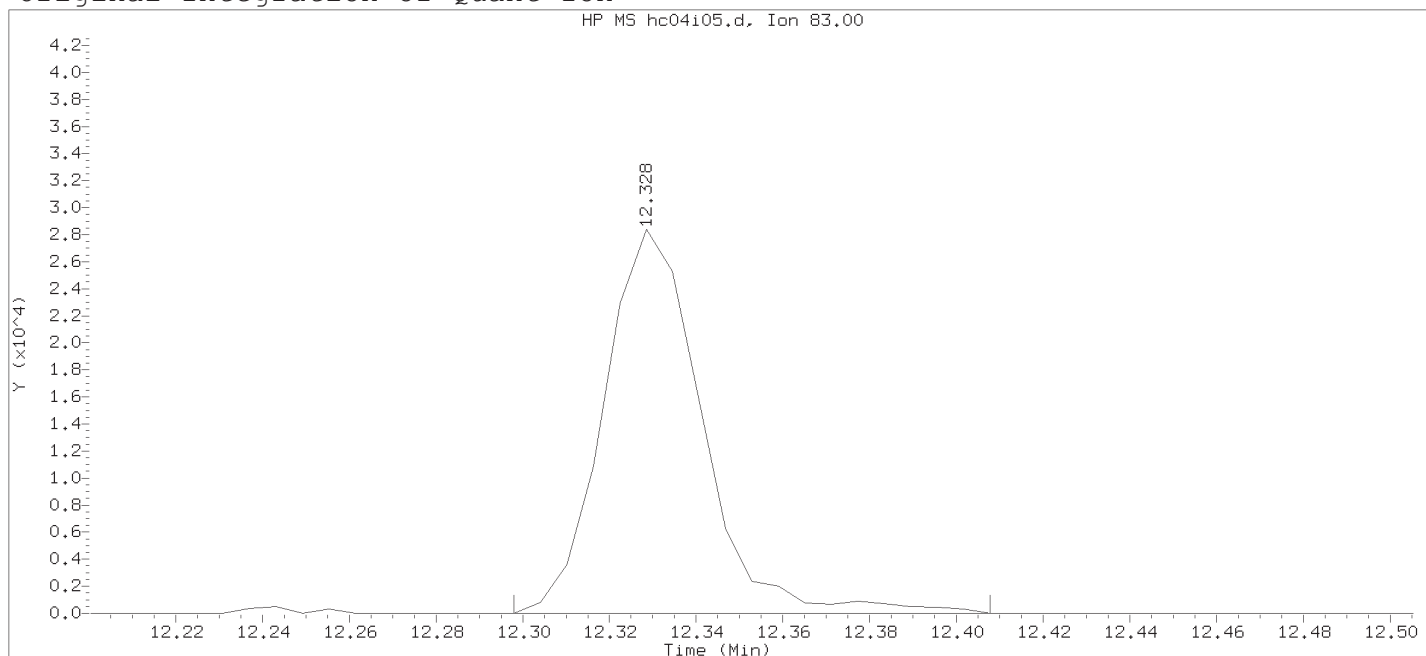
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:14

Date, time and analyst ID of latest file update: 04-Oct-2016 12:14 Automation

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number : 113

Compound Name : 1,1,2,2-Tetrachloroethane

Scan Number : 1762

Retention Time (minutes) : 12.328

Quant Ion : 83.00

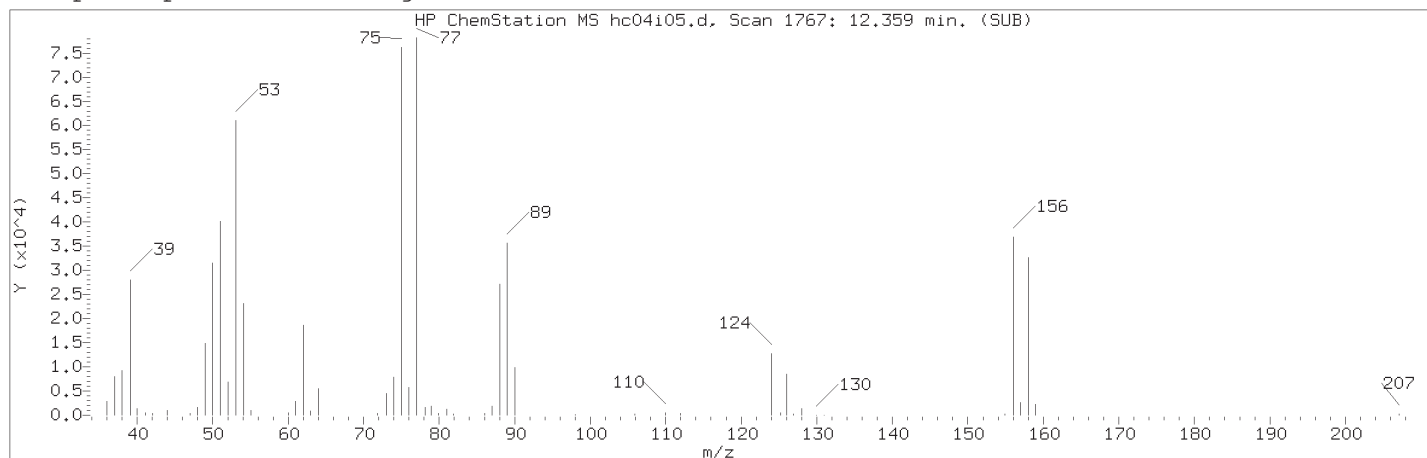
Area : 44840

On-column Amount (ng) : 1.0308

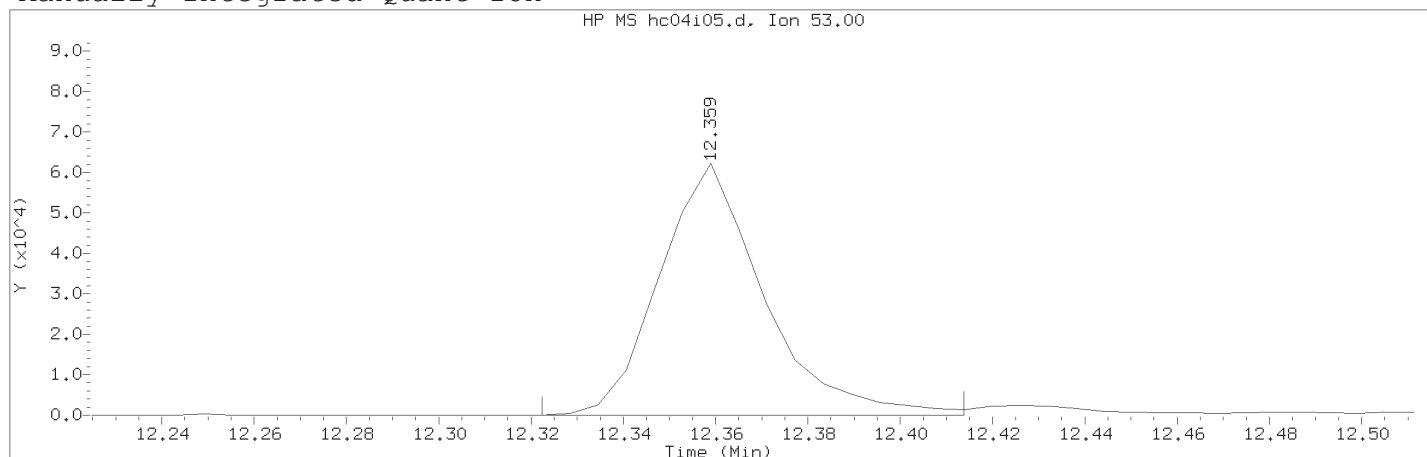
Integration start scan : 1756 Integration stop scan: 1774

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number	: 115	
Compound Name	: trans-1,4-Dichloro-2-butene	
Scan Number	: 1767	
Retention Time (minutes)	: 12.359	
Quant Ion	: 53.00	
Area (flag)	: 97320A	
On-Column Amount (ng)	: 8.5990	
Integration start scan	: 1760	Integration stop scan: 1775
Y at integration start	: 0	Y at integration end: 0

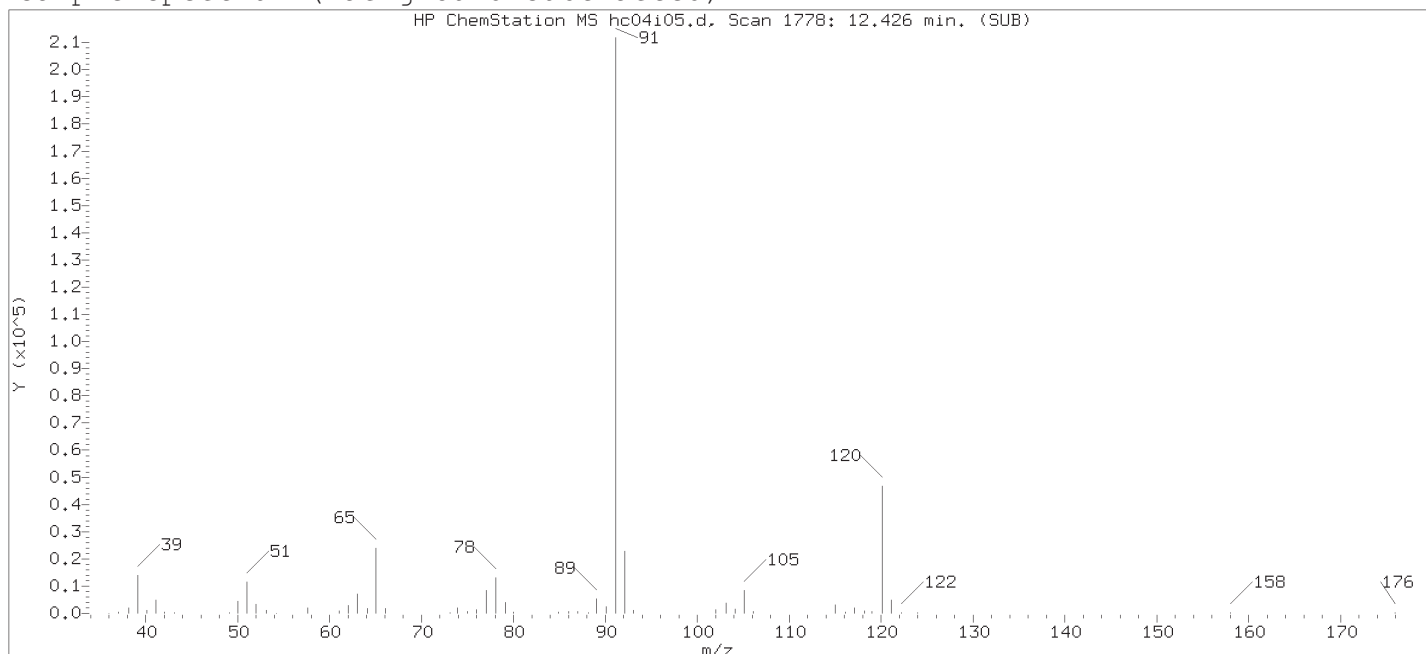
Reason for manual integration: improper integration

Analyst responsible for change:

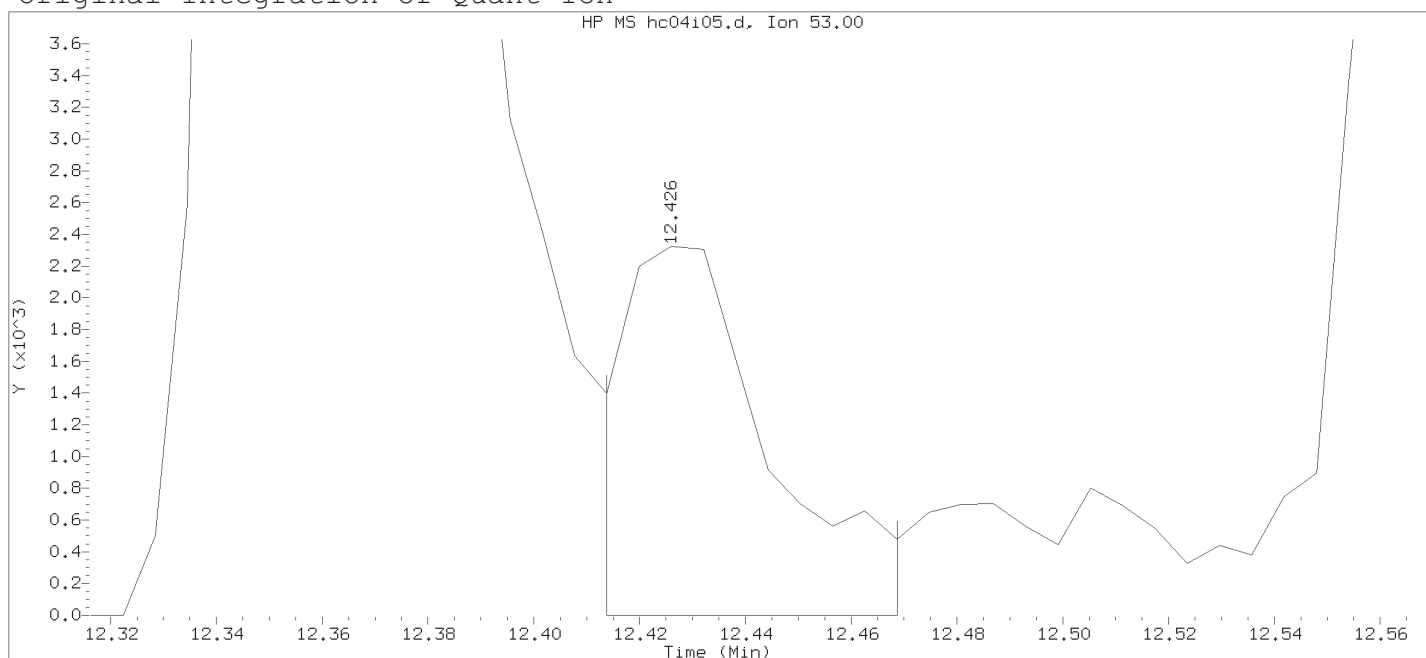
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:14

Date, time and analyst ID of latest file update: 04-Oct-2016 12:14 Automation

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number : 115

Compound Name : trans-1,4-Dichloro-2-butene

Scan Number : 1778

Retention Time (minutes) : 12.426

Quant Ion : 53.00

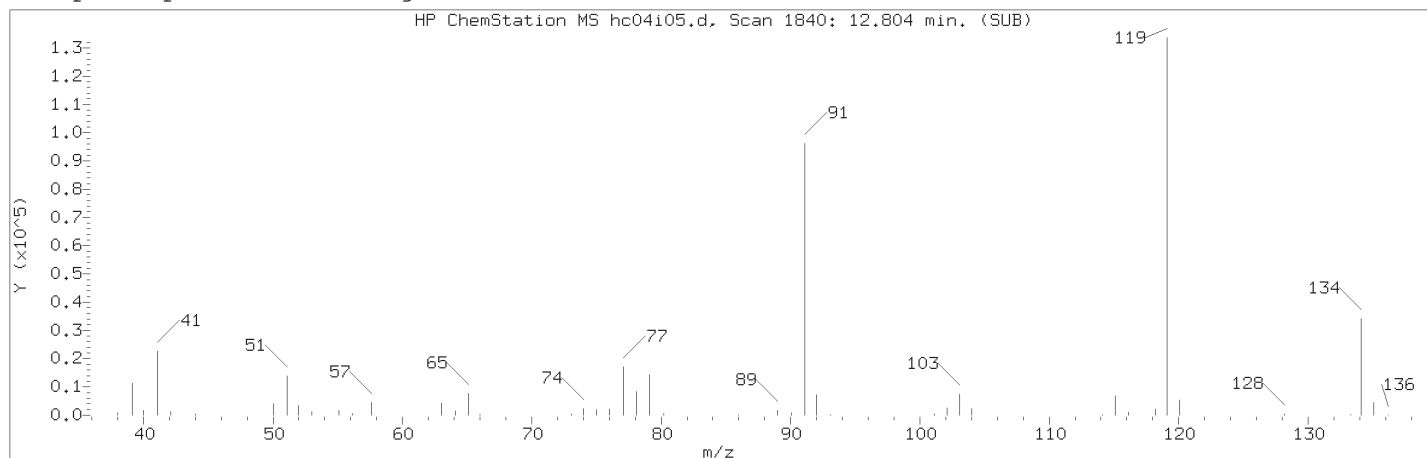
Area : 4468

On-column Amount (ng) : 1.3996

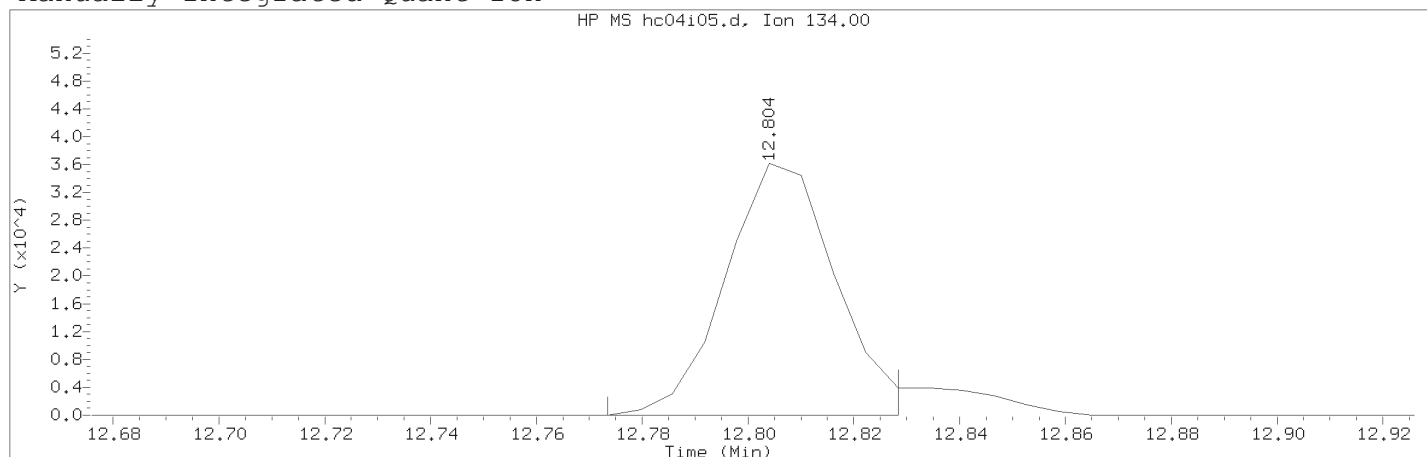
Integration start scan : 1775 Integration stop scan: 1784

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number	: 125	
Compound Name	: tert-Butylbenzene	
Scan Number	: 1840	
Retention Time (minutes)	: 12.804	
Quant Ion	: 134.00	
Area (flag)	: 52401M	
On-Column Amount (ng)	: 0.9755	
Integration start scan	: 1834	Integration stop scan: 1843
Y at integration start	: 0	Y at integration end: 0

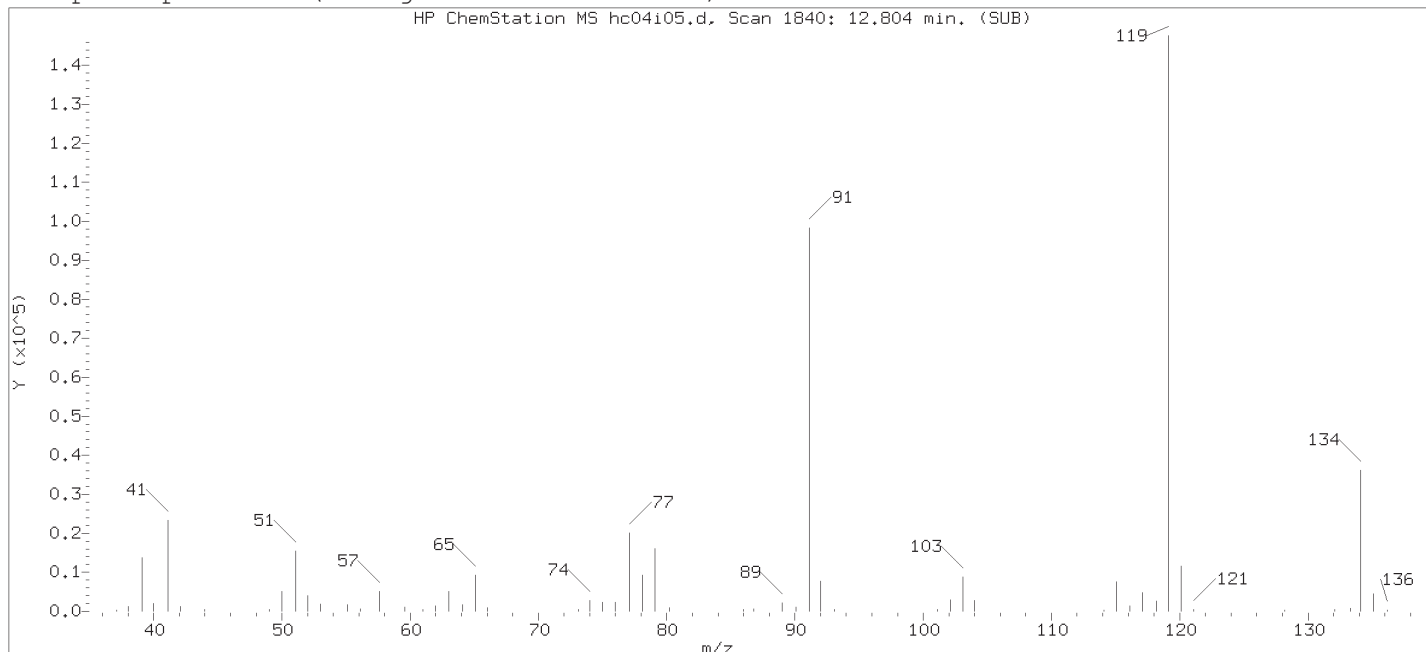
Reason for manual integration: improper integration

Analyst responsible for change:

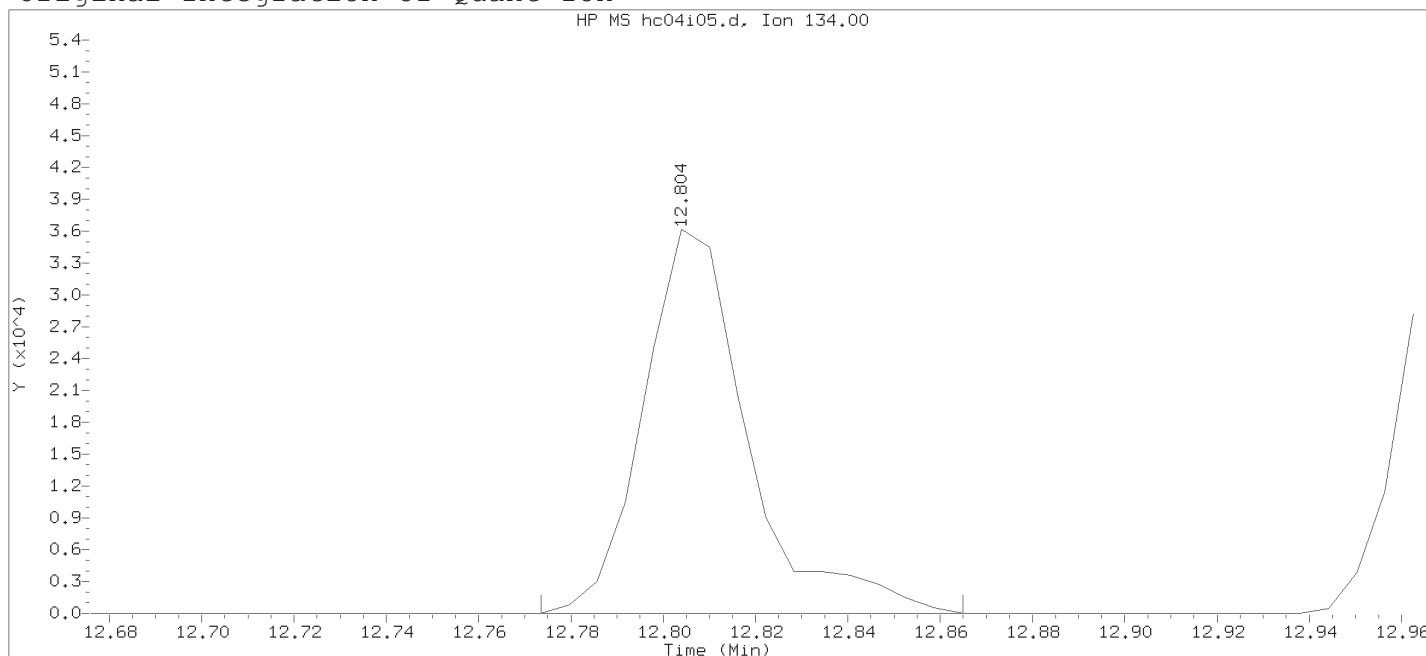
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:14

Date, time and analyst ID of latest file update: 04-Oct-2016 12:14 Automation

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number : 125

Compound Name : tert-Butylbenzene

Scan Number : 1840

Retention Time (minutes): 12.804

Quant Ion : 134.00

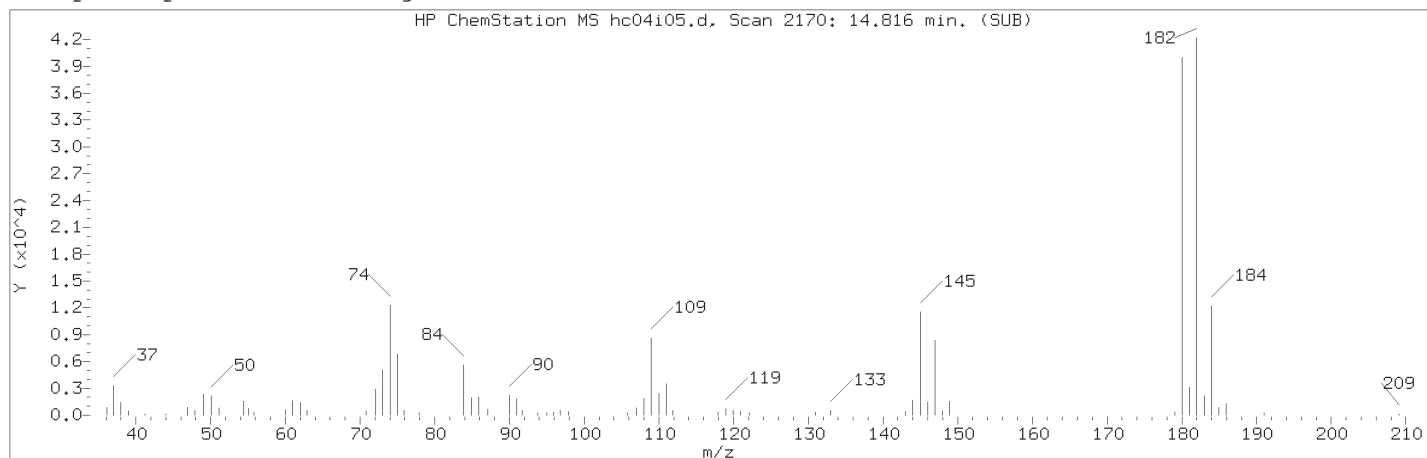
Area : 56879

On-column Amount (ng) : 0.9839

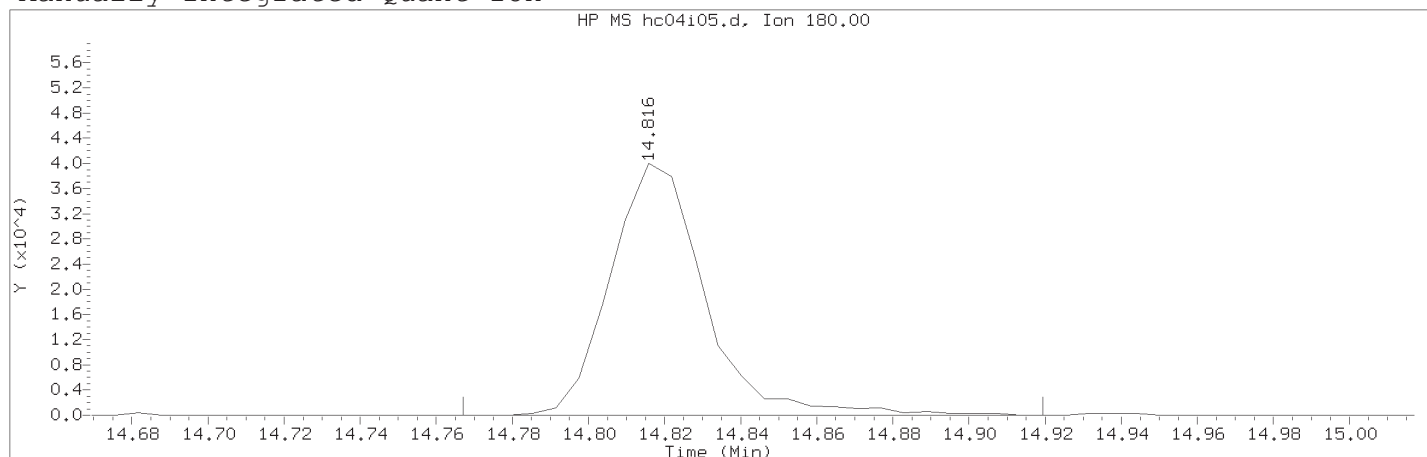
Integration start scan : 1834 Integration stop scan: 1849

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number	: 148	
Compound Name	: 1,2,3-Trichlorobenzene	
Scan Number	: 2170	
Retention Time (minutes)	: 14.816	
Quant Ion	: 180.00	
Area (flag)	: 68713M	
On-Column Amount (ng)	: 0.9810	
Integration start scan	: 2161	Integration stop scan: 2186
Y at integration start	: 0	Y at integration end: 0

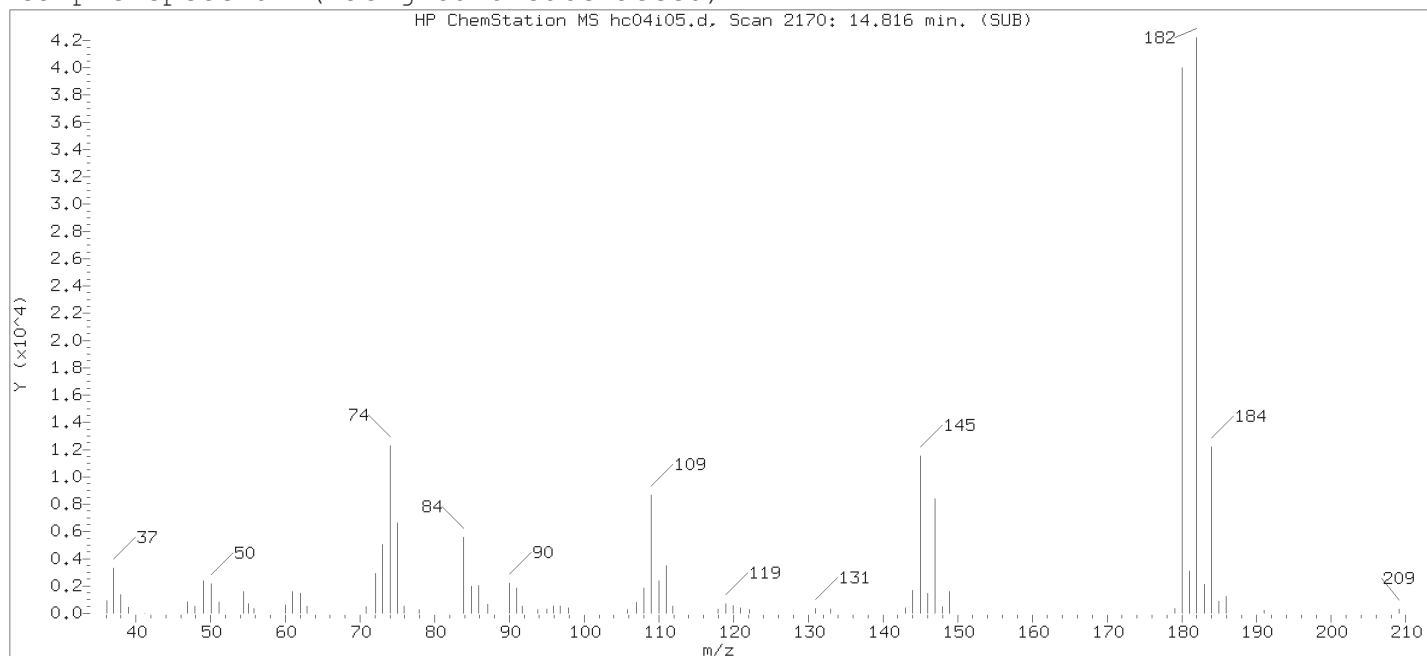
Reason for manual integration: improper integration

Analyst responsible for change:

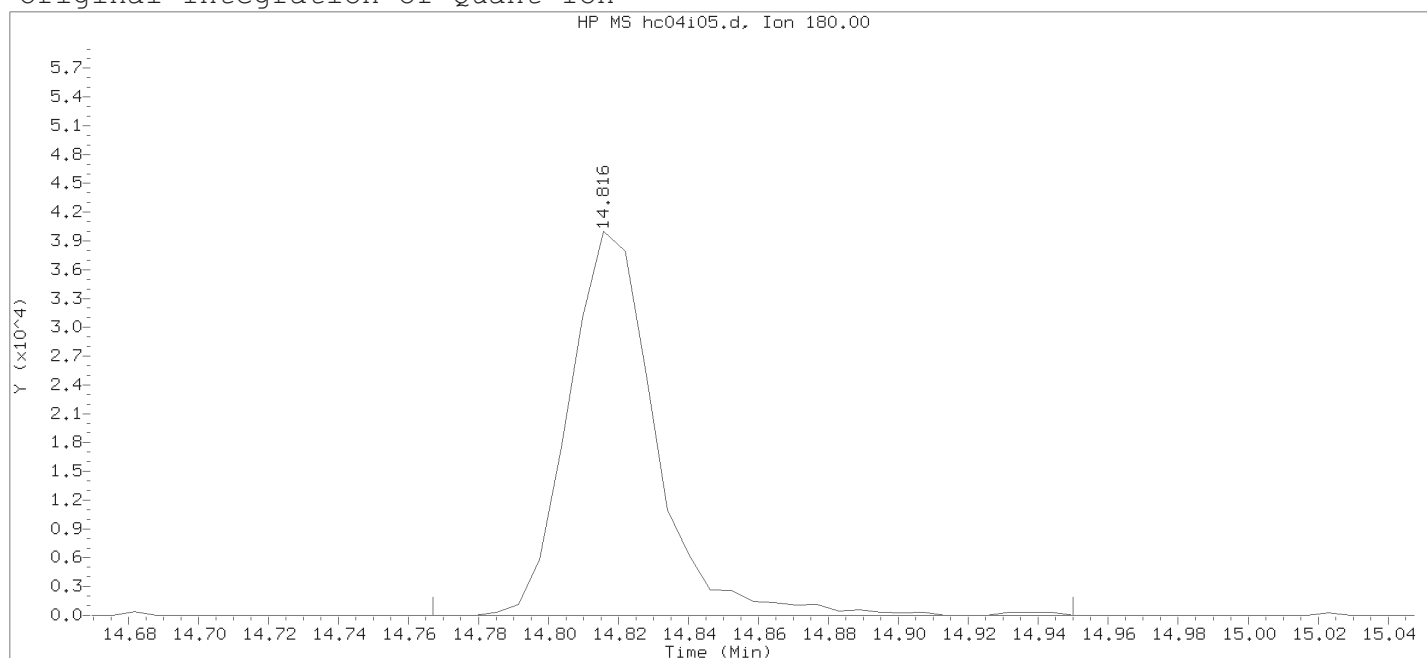
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 11:55

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:14

Date, time and analyst ID of latest file update: 04-Oct-2016 12:14 Automation

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number : 148

Compound Name : 1,2,3-Trichlorobenzene

Scan Number : 2170

Retention Time (minutes): 14.816

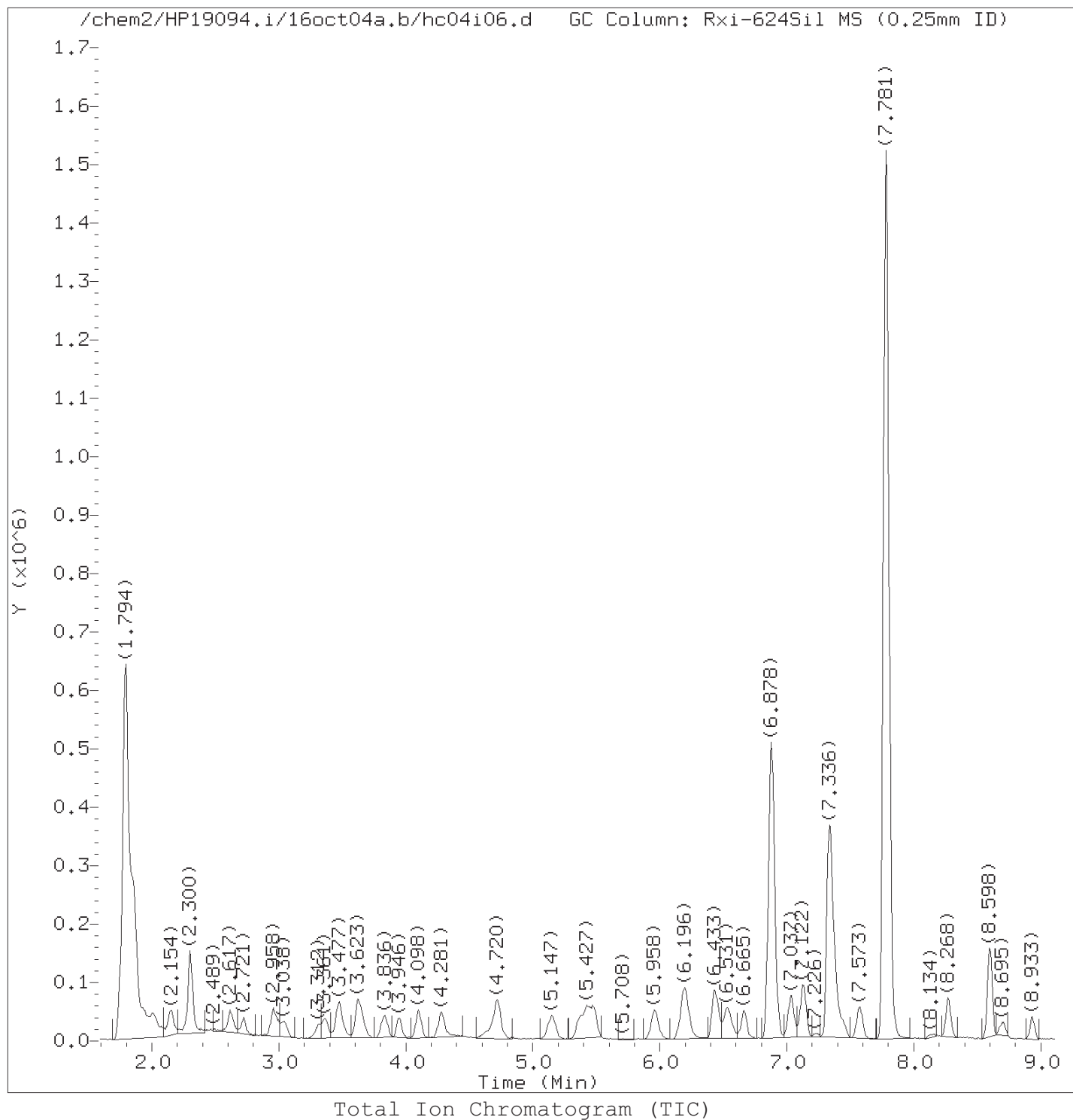
Quant Ion : 180.00

Area : 69056

On-column Amount (ng) : 1.0213

Integration start scan : 2161 Integration stop scan: 2191

Y at integration start : 0 Y at integration end: 0



Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d
Injection date and time: 04-OCT-2016 12:15

Instrument ID: HP19094.i
Analyst ID: kel01973

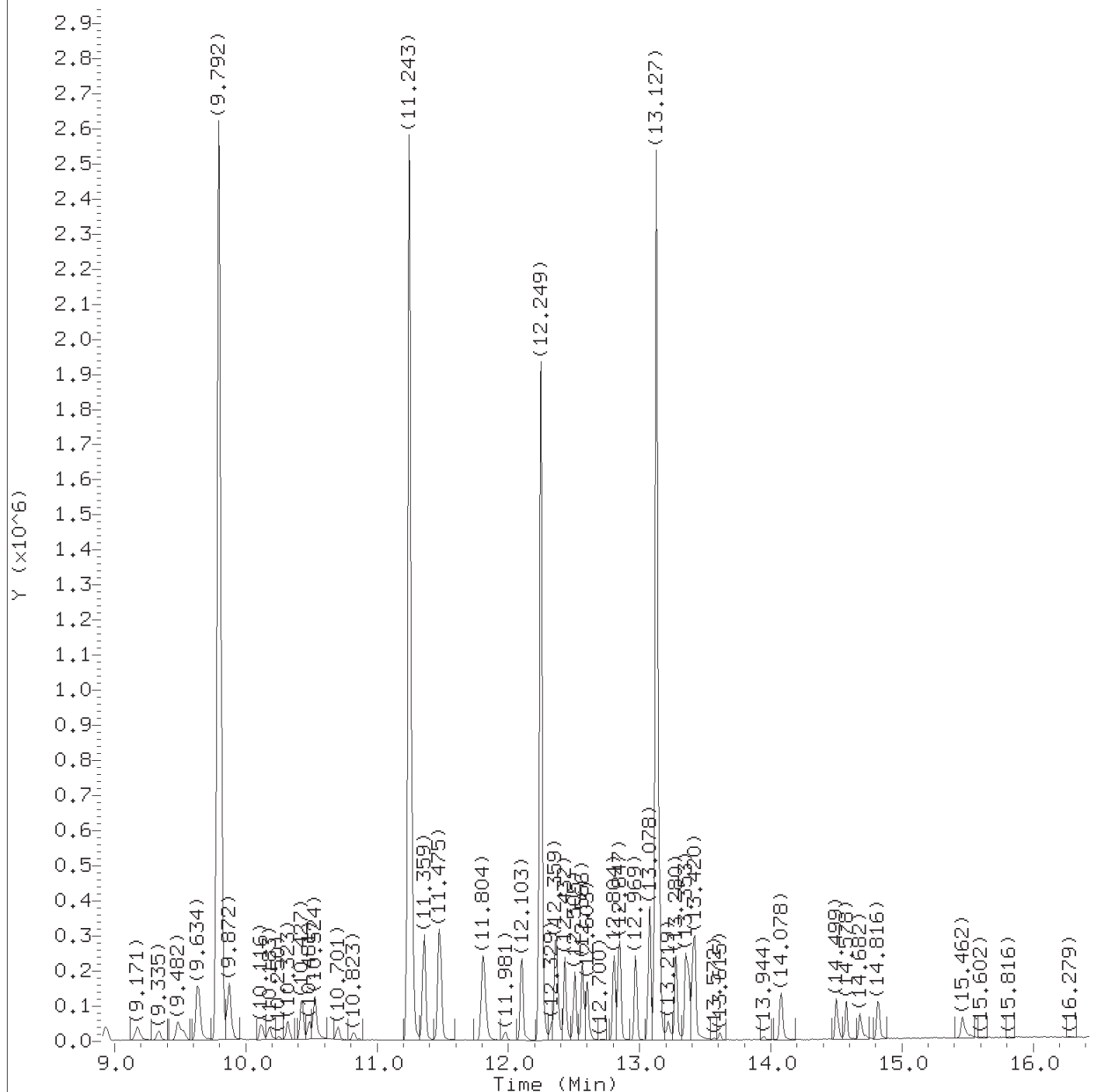
Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:29
Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

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on 10/04/2016 at 15:34.

Target 3.5 esignature user ID: kel01973
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Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d
Injection date and time: 04-OCT-2016 12:15

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:29
Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d
 Injection date and time: 04-OCT-2016 12:15

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:29
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.001	85	48558	0.546
2) Chloromethane	(2)	2.148	50	54403	0.572
5) Vinyl Chloride	(2)	2.294	62	47314	0.558
6) 1,3-Butadiene	(2)	2.300	39	74548M	0.573
7) Bromomethane	(2)	2.617	94	31797	0.584
8) Chloroethane	(2)	2.727	64	27441	0.572
9) Dichlorofluoromethane	(2)	2.958	67	64866	0.566
10) Trichlorofluoromethane	(2)	3.038	101	57165	0.555
11) Ethyl ether	(2)	3.312	59	20014	0.527
12) Freon 123a	(2)	3.355	67	40577	0.568
13) Acrolein	(1)	3.477	56	114771	26.923
15) 1,1-Dichloroethene	(2)	3.623	96	26249	0.547
16) Freon 113	(2)	3.660	101	26837	0.512
14) Acetone	(1)	3.660	43	29357	5.144
17) Methyl Iodide	(2)	3.824	142	48522	0.529
18) Carbon Disulfide	(2)	3.946	76	77950	0.536
21) Methyl Acetate	(1)	4.086	43	12607	0.682
22) Allyl Chloride	(2)	4.098	41	56847	0.544
23) Methylene Chloride	(2)	4.281	84	28277	0.549
26)*t-Butyl Alcohol-d10	(1)	4.294	65	59277M	50.000
28) t-Butyl Alcohol	(1)	4.415	59	14332	9.102
29) Acrylonitrile	(1)	4.617	53	14916	2.221
30) Methyl Tertiary Butyl Ether	(2)	4.696	73	58877	0.526
31) trans-1,2-Dichloroethene	(2)	4.720	96	28485	0.524
32) n-Hexane	(2)	5.159	57	41949	0.506
33) 1,1-Dichloroethane	(2)	5.367	63	57858	0.540
34) di-Isopropyl Ether	(2)	5.427	45	101644	0.529
35) 2-Chloro-1,3-Butadiene	(2)	5.482	53	52648	0.531
37) Ethyl t-butyl ether	(2)	5.958	59	80852	0.519
40) 1,2-Dichloroethene (Total)	(2)		96	59531	1.044
38) 2-Butanone	(1)	6.165	43	53210	5.269
39) cis-1,2-Dichloroethene	(2)	6.183	96	31046	0.521
41) 2,2-Dichloropropane	(2)	6.208	77	45114	0.519
42) Propionitrile	(1)	6.238	54	20448	9.180
45) Methacrylonitrile	(1)	6.427	67	54742	5.756
47) Bromochloromethane	(2)	6.525	128	12232	0.512
48) Tetrahydrofuran	(1)	6.549	71	13804	5.303
49) Chloroform	(2)	6.665	83	55172	0.533

M = Compound was manually integrated.

* = Compound is an internal standard.

page 1 of 4

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 on 10/04/2016 at 15:34.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d
 Injection date and time: 04-OCT-2016 12:15

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:29
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
50) \$Dibromofluoromethane	(2)	6.878	113	479342	9.988
50) \$Dibromofluoromethane	(2)	6.878	111	487670	9.938
51) 1,1,1-Trichloroethane	(2)	6.915	97	50602	0.543
52) Cyclohexane	(2)	7.031	56	63166	0.578
52) Cyclohexane	(2)	7.037	84	51177	0.567
52) Cyclohexane	(2)	7.025	69	16105	0.522
55) 1,1-Dichloropropene	(2)	7.128	75	43958	0.522
54) Carbon Tetrachloride	(2)	7.134	117	41886	0.521
56) Isobutyl Alcohol	(1)	7.214	41	15299	25.088
57) \$1,2-Dichloroethane-d4	(2)	7.336	102	78575	10.192
57) \$1,2-Dichloroethane-d4	(2)	7.336	65	441007	10.391
57) \$1,2-Dichloroethane-d4	(2)	7.342	104	51199	10.379
58) Benzene	(2)	7.384	78	117532	0.524
59) 1,2-Dichloroethane	(2)	7.439	62	33212	0.531
60) t-Amyl methyl ether	(2)	7.573	73	62900	0.498
63) *Fluorobenzene	(2)	7.781	96	2092367	10.000
62) n-Heptane	(2)	7.817	43	51269	0.514
65) n-Butanol	(1)	8.134	56	22910M	51.437
67) Trichloroethene	(2)	8.274	95	32449	0.528
70) 1,2-Dichloropropane	(2)	8.591	63	30041	0.526
69) Methylcyclohexane	(2)	8.598	83	52709	0.491
71) Methyl Methacrylate	(1)	8.677	69	9506	0.543
73) Dibromomethane	(2)	8.707	93	13038	0.545
72) 1,4-Dioxane	(1)	8.720	88	1716	16.907
74) Bromodichloromethane	(2)	8.933	83	34304	0.524
76) 2-Nitropropane	(1)	9.171	41	35796	5.527
80) cis-1,3-Dichloropropene	(2)	9.488	75	36906	0.497
81) 4-Methyl-2-Pentanone	(1)	9.634	43	154898	5.739
82) \$Toluene-d8	(3)	9.792	98	2054352	10.193
82) \$Toluene-d8	(3)	9.792	100	1308863	10.099
83) Toluene	(3)	9.872	92	72855	0.526
84) trans-1,3-Dichloropropene	(3)	10.116	75	28971	0.515
85) 1,3-Dichloropropene (total)	(3)		75	65877	1.012
86) Ethyl Methacrylate	(3)	10.177	69	21763	0.502
88) 1,1,2-Trichloroethane	(3)	10.323	97	17302	0.543
89) Tetrachloroethene	(3)	10.427	166	36536	0.551
90) 1,3-Dichloropropane	(3)	10.487	76	30650	0.529
91) 2-Hexanone	(1)	10.524	43	108239	5.793

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/04/2016 at 15:34.
 Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d
 Injection date and time: 04-OCT-2016 12:15

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:29
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
93) Dibromochloromethane	(3)	10.701	129	19862	0.502
95) 1,2-Dibromoethane	(3)	10.823	107	16193	0.537
97) *Chlorobenzene-d5	(3)	11.243	117	1334284	10.000
98) Chlorobenzene	(3)	11.274	112	76967	0.522
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	26776	0.528
100) Ethylbenzene	(3)	11.359	91	144208	0.529
101) m+p-Xylene	(3)	11.475	106	107132	1.046
105) Xylene (Total)	(3)		106	158103	1.557
104) o-Xylene	(3)	11.804	106	50971	0.510
106) Styrene	(3)	11.823	104	77408	0.507
107) Bromoform	(3)	11.981	173	11627	0.537
108) Isopropylbenzene	(3)	12.103	105	141305	0.525
111) \$4-Bromofluorobenzene	(3)	12.249	95	588459	9.931
111) \$4-Bromofluorobenzene	(3)	12.249	174	529217	9.980
113) 1,1,2,2-Tetrachloroethane	(4)	12.329	83	19656	0.528
115) trans-1,4-Dichloro-2-butene	(1)	12.359	53	46127	5.767
114) Bromobenzene	(4)	12.365	156	32673	0.544
116) 1,2,3-Trichloropropane	(4)	12.383	110	5293	0.532
117) n-Propylbenzene	(4)	12.432	91	166016	0.522
119) 2-Chlorotoluene	(4)	12.505	126	32078	0.533
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	117015	0.534
122) 4-Chlorotoluene	(4)	12.603	126	32420	0.527
125) tert-Butylbenzene	(4)	12.804	134	24181M	0.506
126) Pentachloroethane	(4)	12.841	167	18718	0.506
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	114549	0.518
128) sec-Butylbenzene	(4)	12.969	105	148227	0.516
131) 1,3-Dichlorobenzene	(4)	13.072	146	59839	0.512
132) p-Isopropyltoluene	(4)	13.078	119	121955	0.509
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	602014	10.000
134) 1,4-Dichlorobenzene	(4)	13.145	146	66695	0.549
135) 1,2,3-Trimethylbenzene	(4)	13.152	120	51934	0.543
136) Benzyl Chloride	(4)	13.219	126	5587	0.441
138) n-Butylbenzene	(4)	13.371	92	54740	0.476
139) 1,2-Dichlorobenzene	(4)	13.402	146	54818	0.528
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	2172	0.553
145) 1,2,4-Trichlorobenzene	(4)	14.499	180	40509	0.547
146) Hexachlorobutadiene	(4)	14.578	225	18466	0.525
147) Naphthalene	(4)	14.682	128	63169M	0.562

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/04/2016 at 15:34.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 12:15 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:29
Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.5

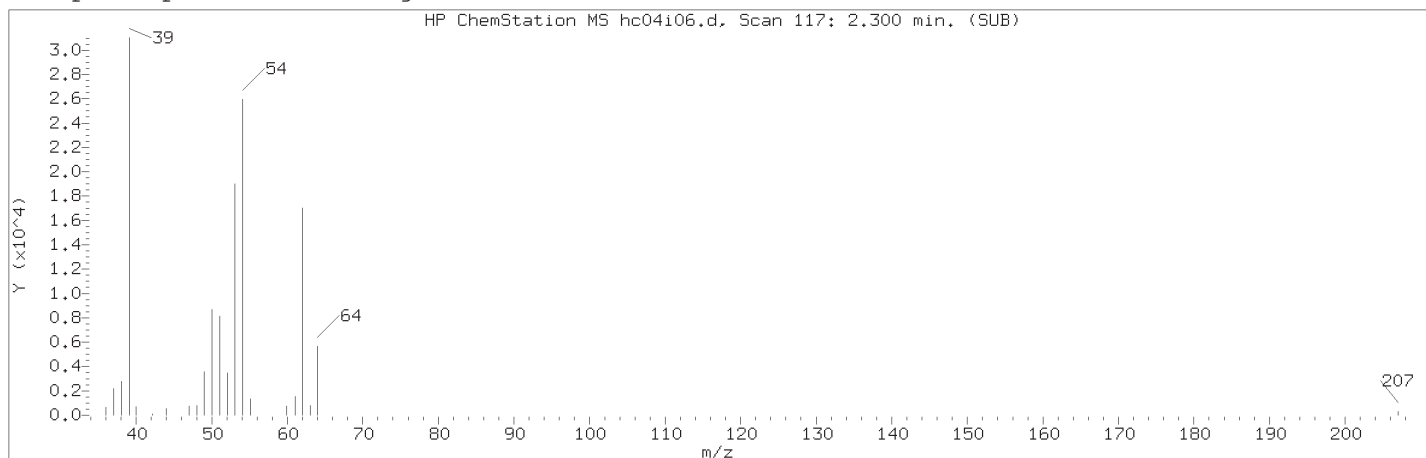
Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
148) 1,2,3-Trichlorobenzene	(4)	14.822	180	35657	0.572

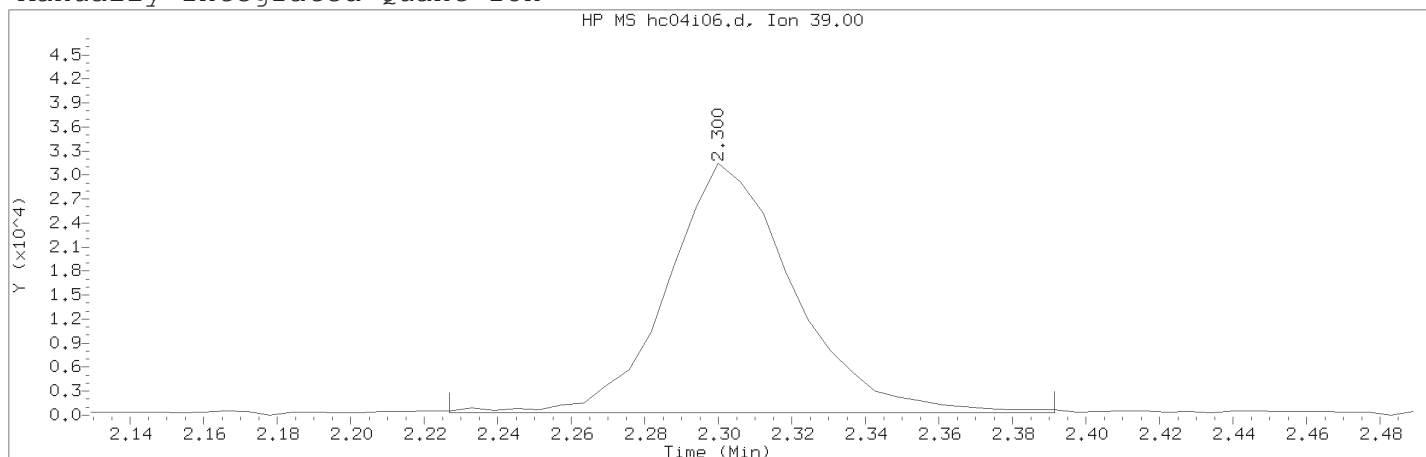
page 4 of 4

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on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:15

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compound Number	: 6	
Compound Name	: 1,3-Butadiene	
Scan Number	: 117	
Retention Time (minutes)	: 2.300	
Quant Ion	: 39.00	
Area (flag)	: 74548M	
On-Column Amount (ng)	: 0.5732	
Integration start scan	: 104	Integration stop scan: 131
Y at integration start	: 298	Y at integration end: 298

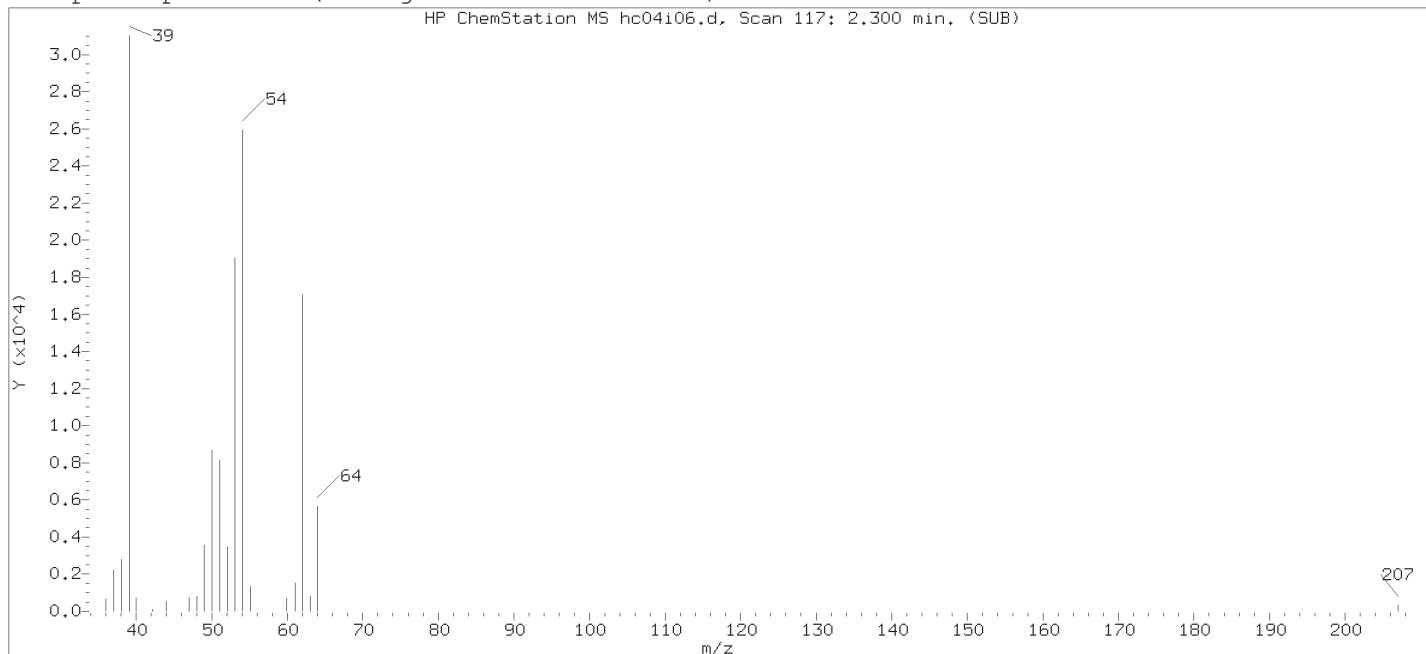
Reason for manual integration: improper integration

Analyst responsible for change:

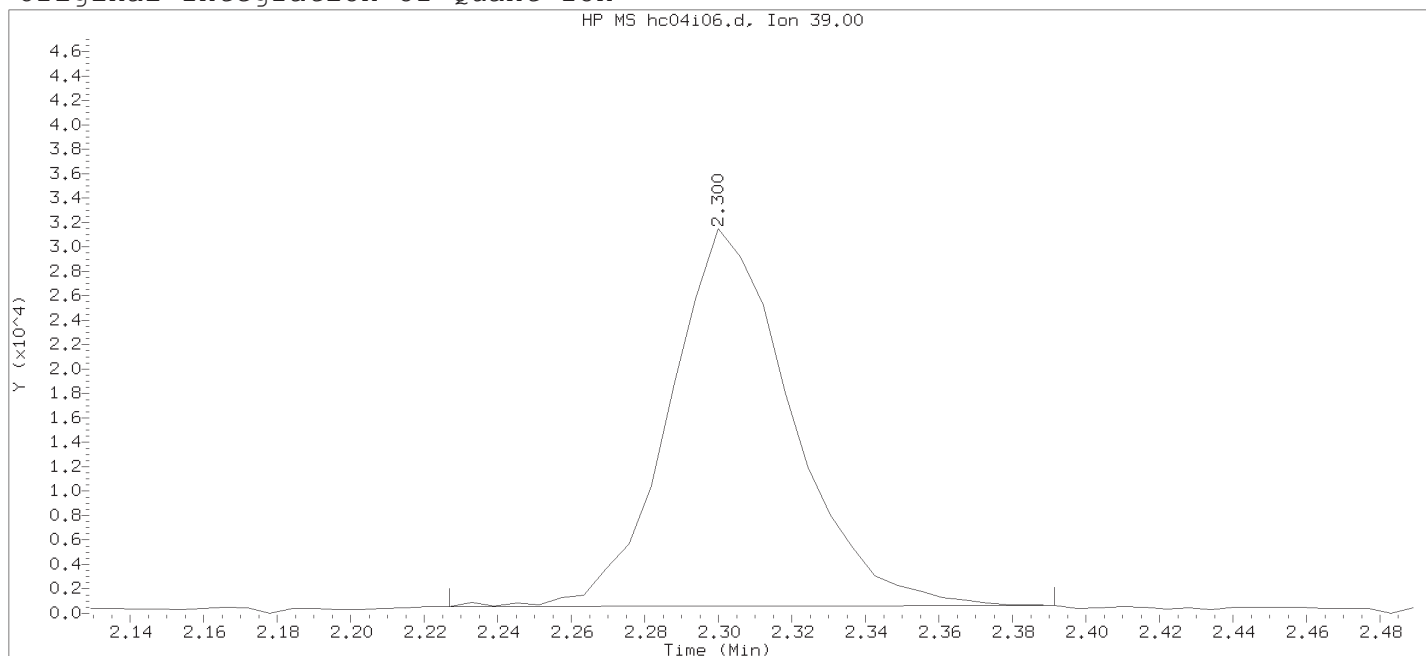
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:15

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:34

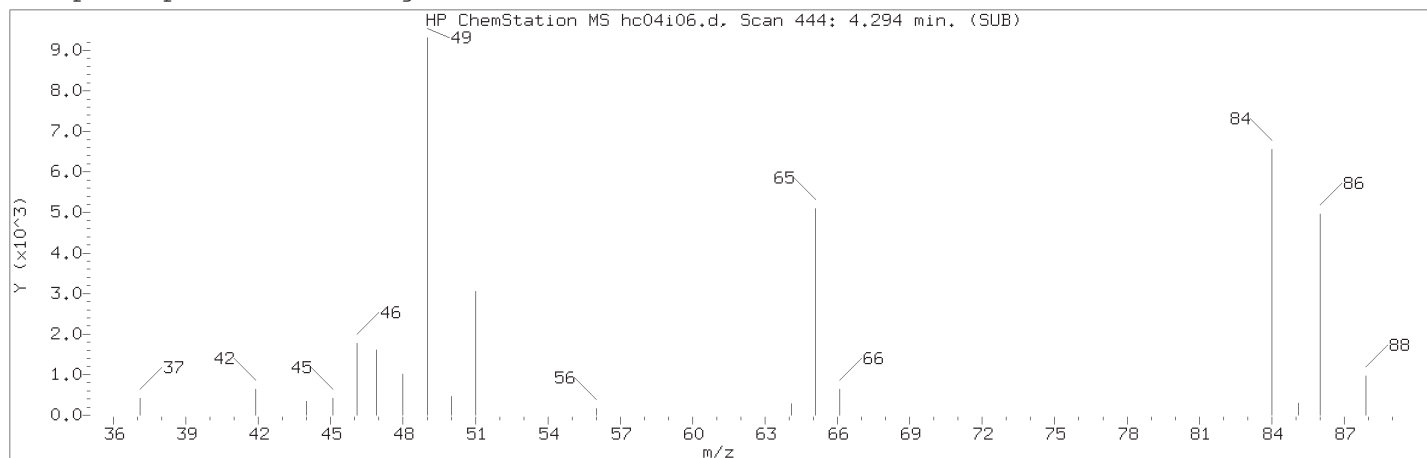
Date, time and analyst ID of latest file update: 04-Oct-2016 12:35 Automation

Sample Name: VSTD0.5

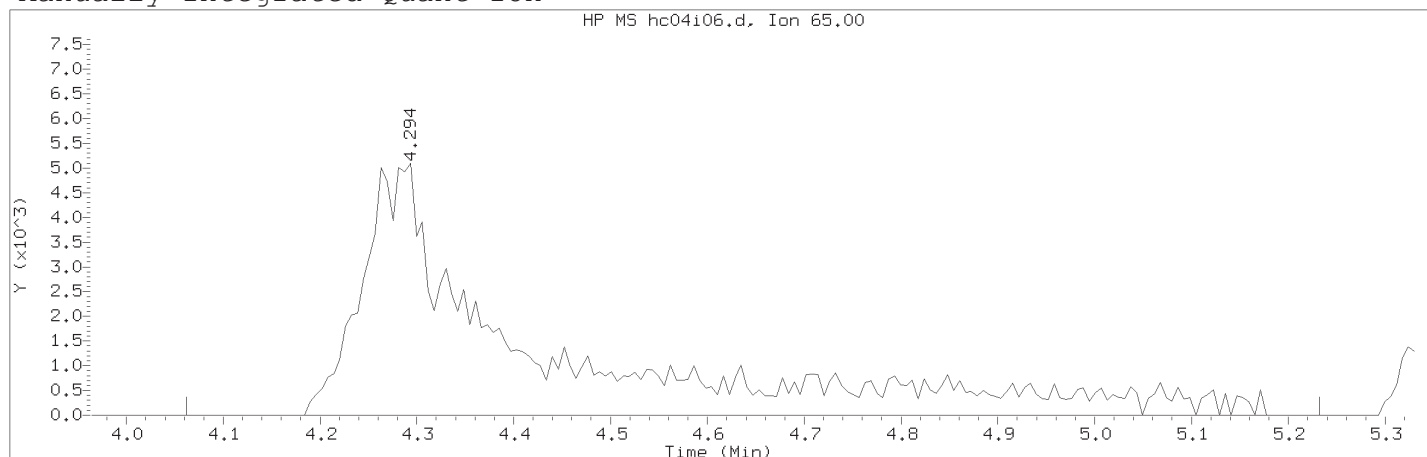
Lab Sample ID: VSTD0.5

Compound Number	: 6	
Compound Name	: 1,3-Butadiene	
Scan Number	: 117	
Retention Time (minutes)	: 2.300	
Quant Ion	: 39.00	
Area	: 71522	
On-column Amount (ng)	: 0.5923	
Integration start scan	: 104	Integration stop scan: 131
Y at integration start	: 530	Y at integration end: 657

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:15

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compound Number	: 26	
Compound Name	: t-Butyl Alcohol-d10	
Scan Number	: 444	
Retention Time (minutes)	: 4.294	
Quant Ion	: 65.00	
Area (flag)	: 59277M	
On-Column Amount (ng)	: 50.0000	
Integration start scan	: 405	Integration stop scan: 597
Y at integration start	: 0	Y at integration end: 0

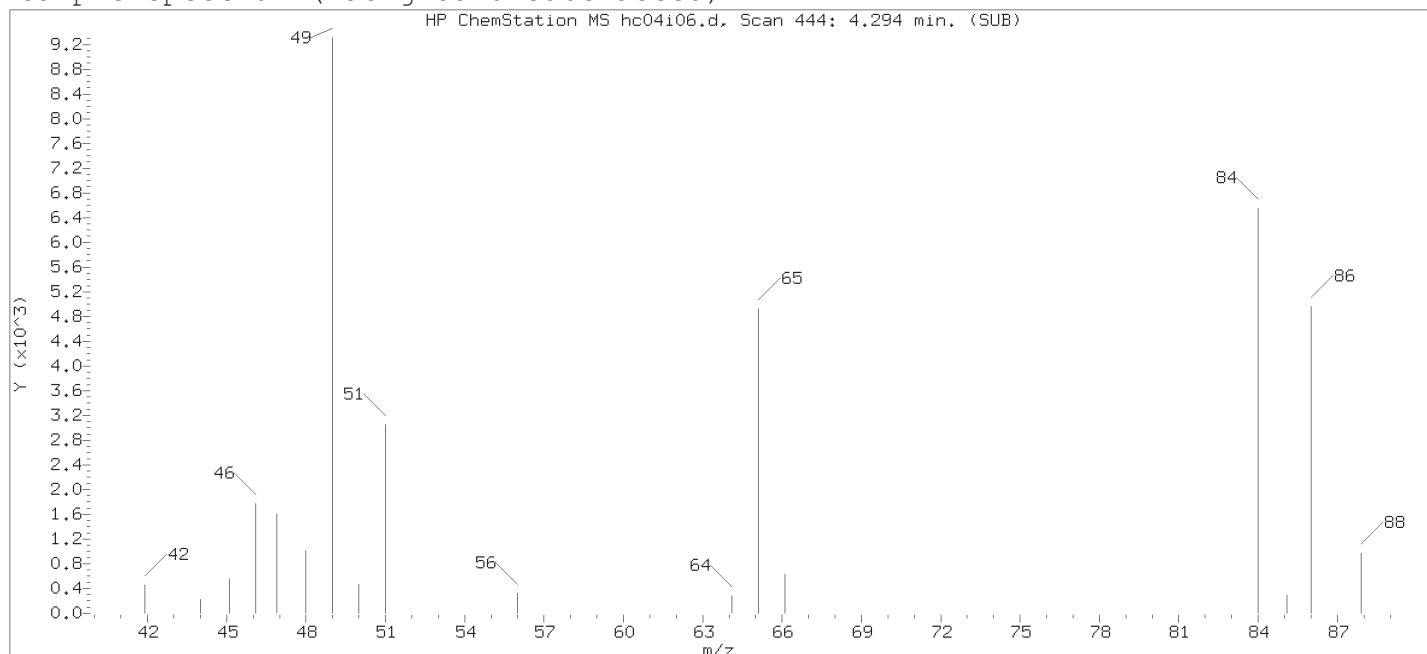
Reason for manual integration: improper integration

Analyst responsible for change:

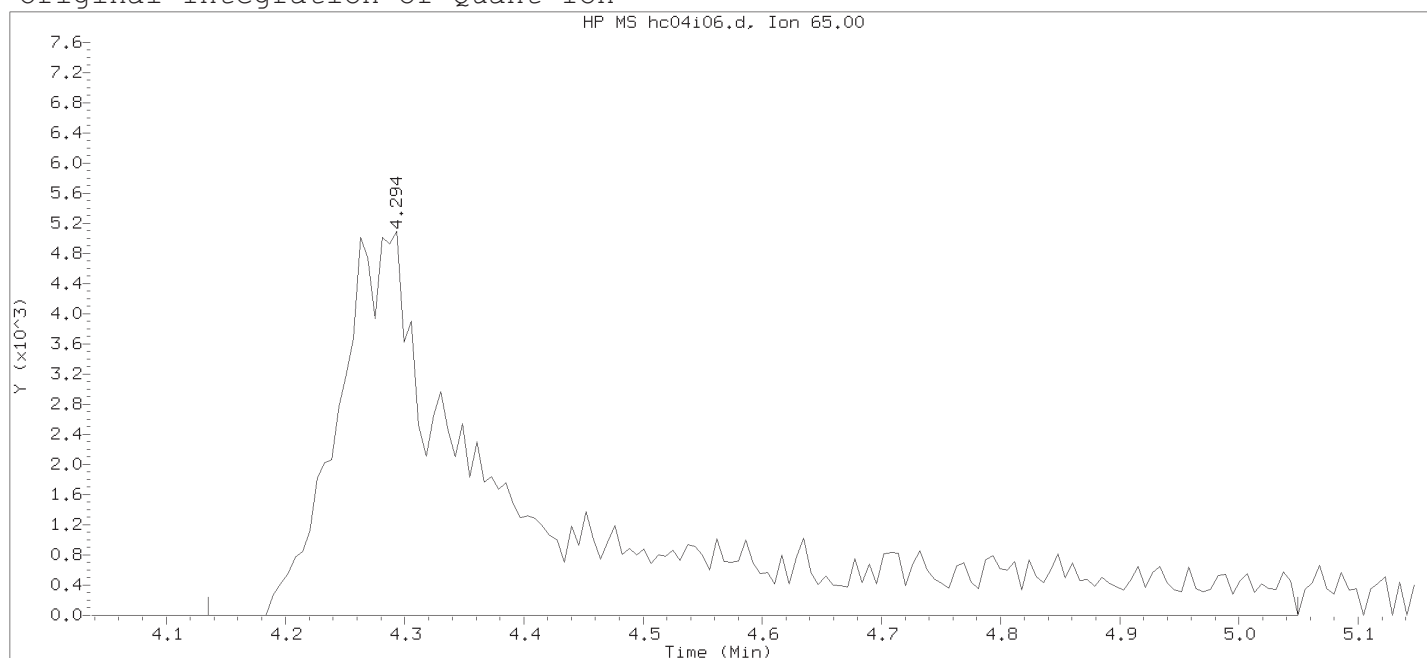
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:15

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:34

Date, time and analyst ID of latest file update: 04-Oct-2016 12:35 Automation

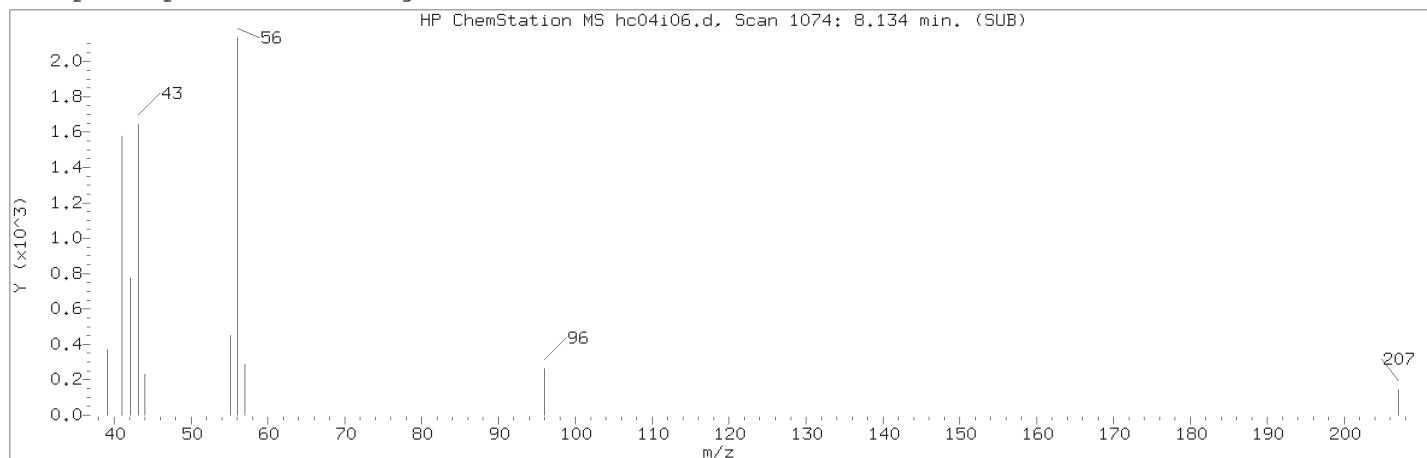
Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

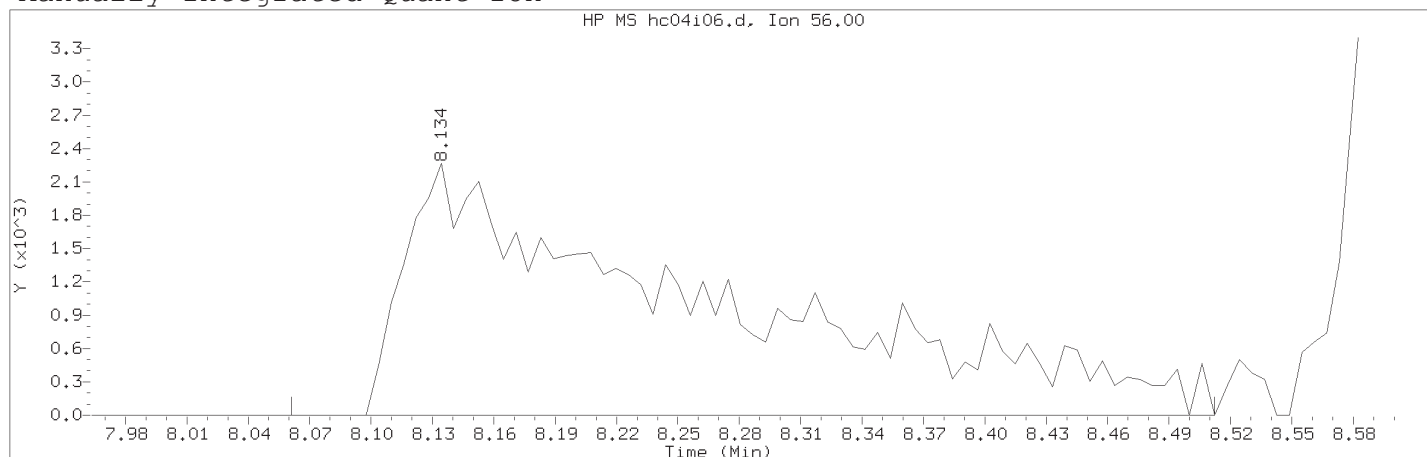
Compound Number : 26
 Compound Name : t-Butyl Alcohol-d10
 Scan Number : 444
 Retention Time (minutes) : 4.294
 Quant Ion : 65.00
 Area : 56873
 On-column Amount (ng) : 50.0000
 Integration start scan : 417
 Y at integration start : 0

Integration stop scan: 567
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:15

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compound Number	: 65	
Compound Name	: n-Butanol	
Scan Number	: 1074	
Retention Time (minutes)	: 8.134	
Quant Ion	: 56.00	
Area (flag)	: 22910M	
On-Column Amount (ng)	: 51.4372	
Integration start scan	: 1061	Integration stop scan: 1135
Y at integration start	: 0	Y at integration end: 0

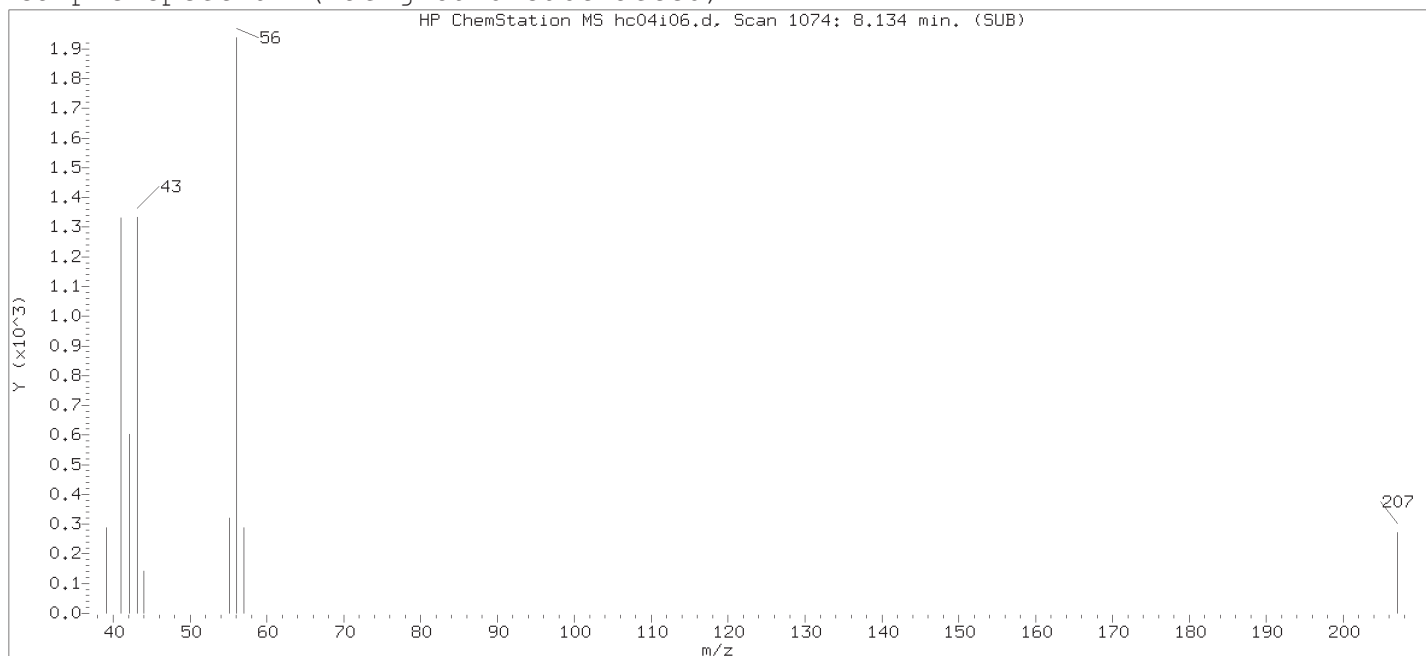
Reason for manual integration: improper integration

Analyst responsible for change:

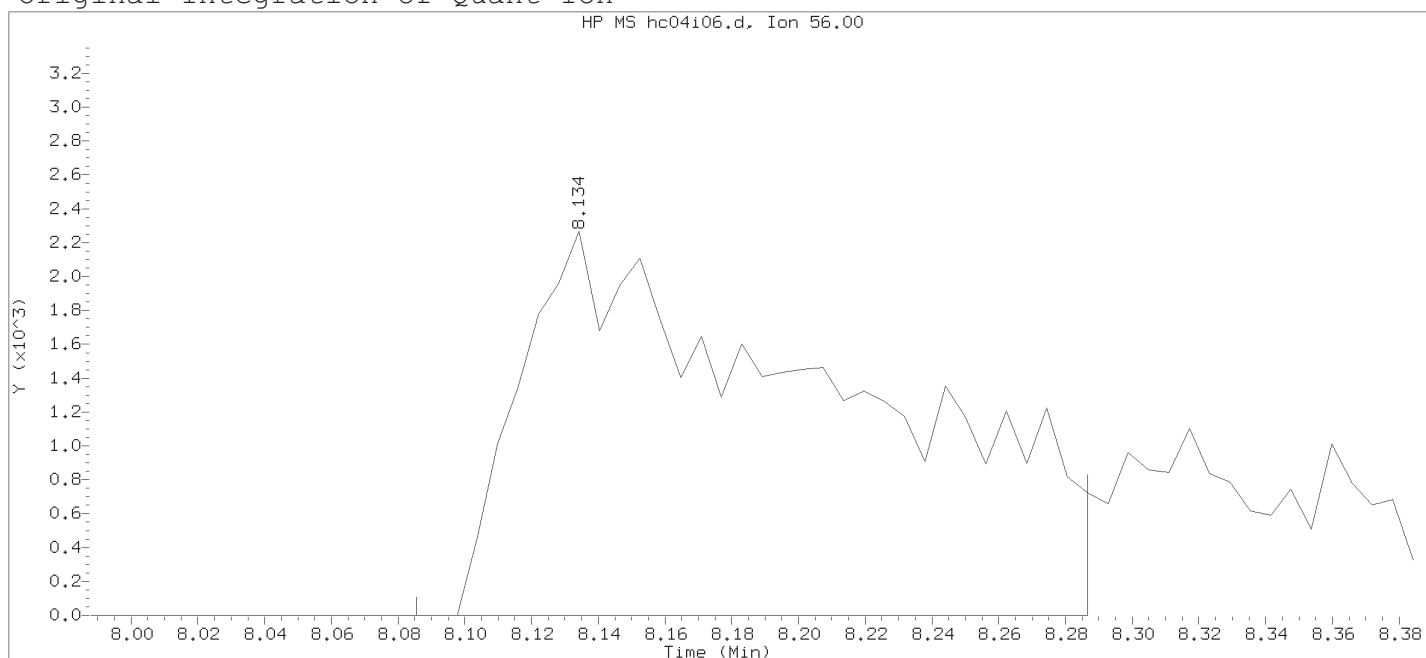
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:15

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:34

Date, time and analyst ID of latest file update: 04-Oct-2016 12:35 Automation

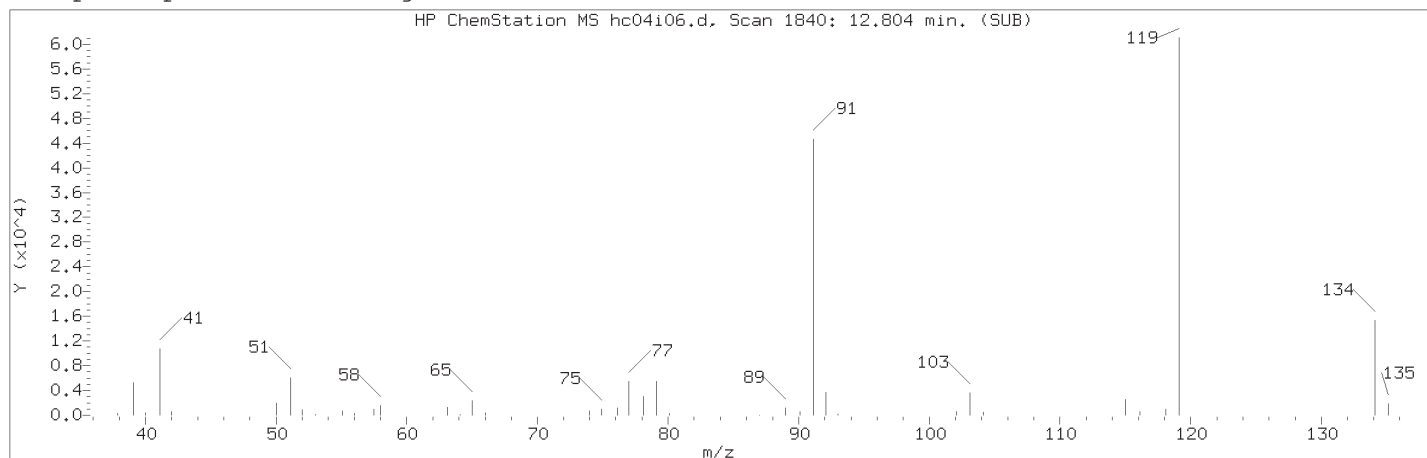
Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

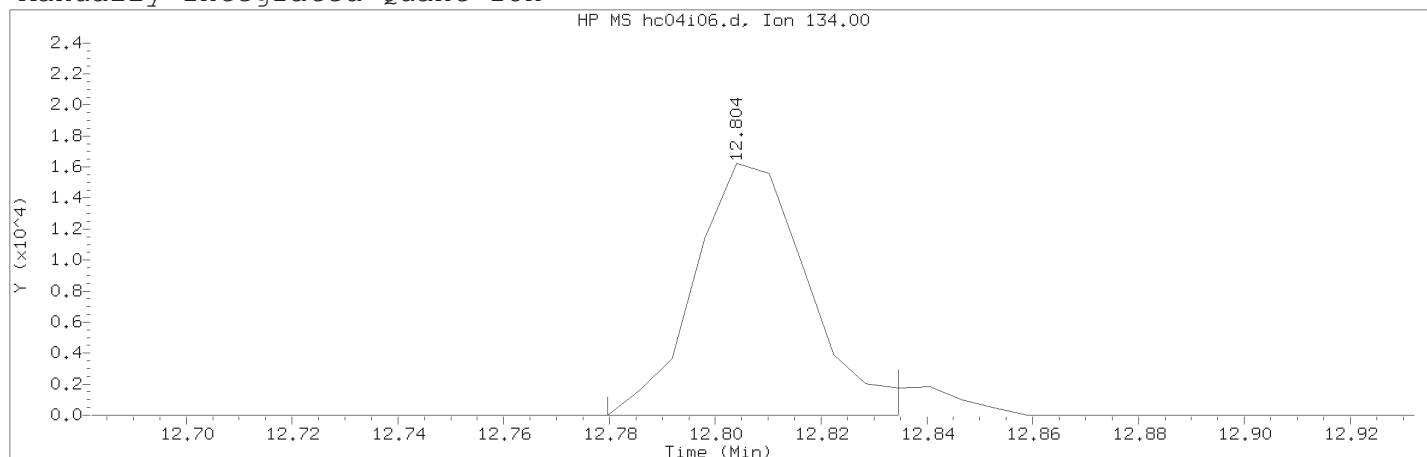
Compound Number : 65
 Compound Name : n-Butanol
 Scan Number : 1074
 Retention Time (minutes): 8.134
 Quant Ion : 56.00
 Area : 15310
 On-column Amount (ng) : 37.7500
 Integration start scan : 1065
 Y at integration start : 0

Integration stop scan: 1098
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:15

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compound Number	: 125	
Compound Name	: tert-Butylbenzene	
Scan Number	: 1840	
Retention Time (minutes)	: 12.804	
Quant Ion	: 134.00	
Area (flag)	: 24181M	
On-Column Amount (ng)	: 0.5062	
Integration start scan	: 1835	Integration stop scan: 1844
Y at integration start	: 0	Y at integration end: 0

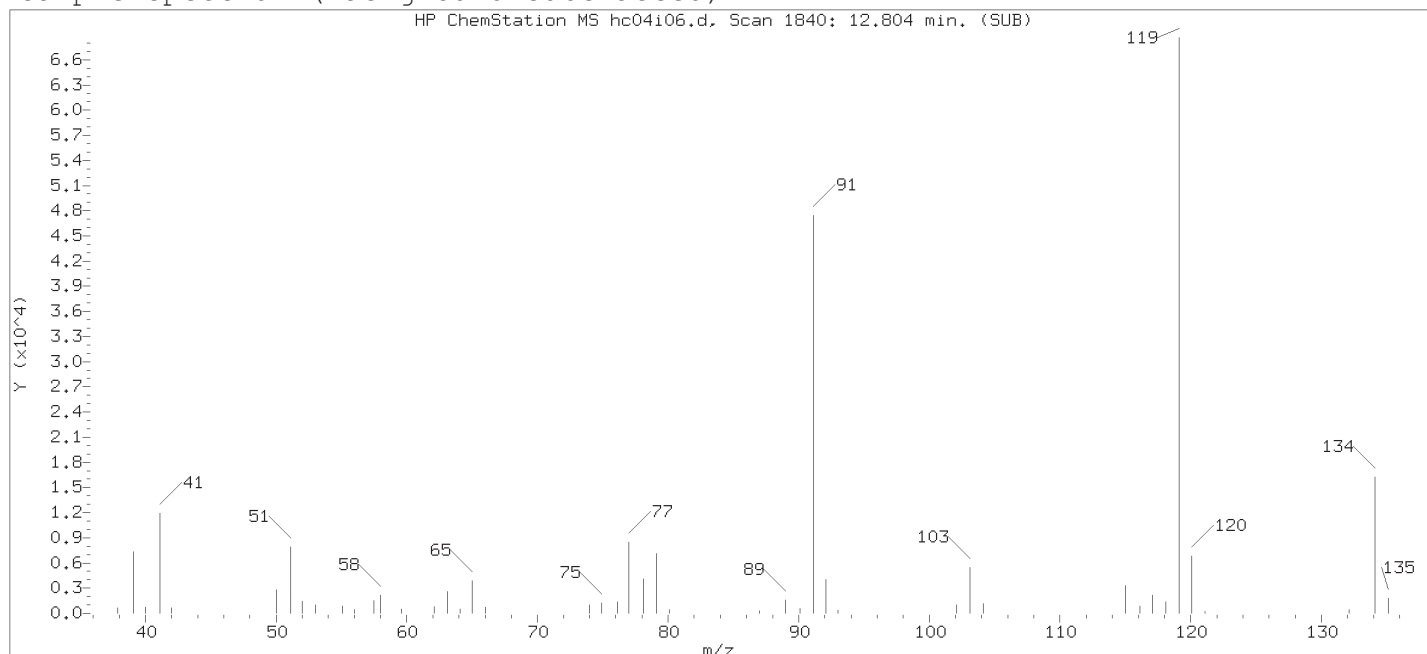
Reason for manual integration: improper integration

Analyst responsible for change:

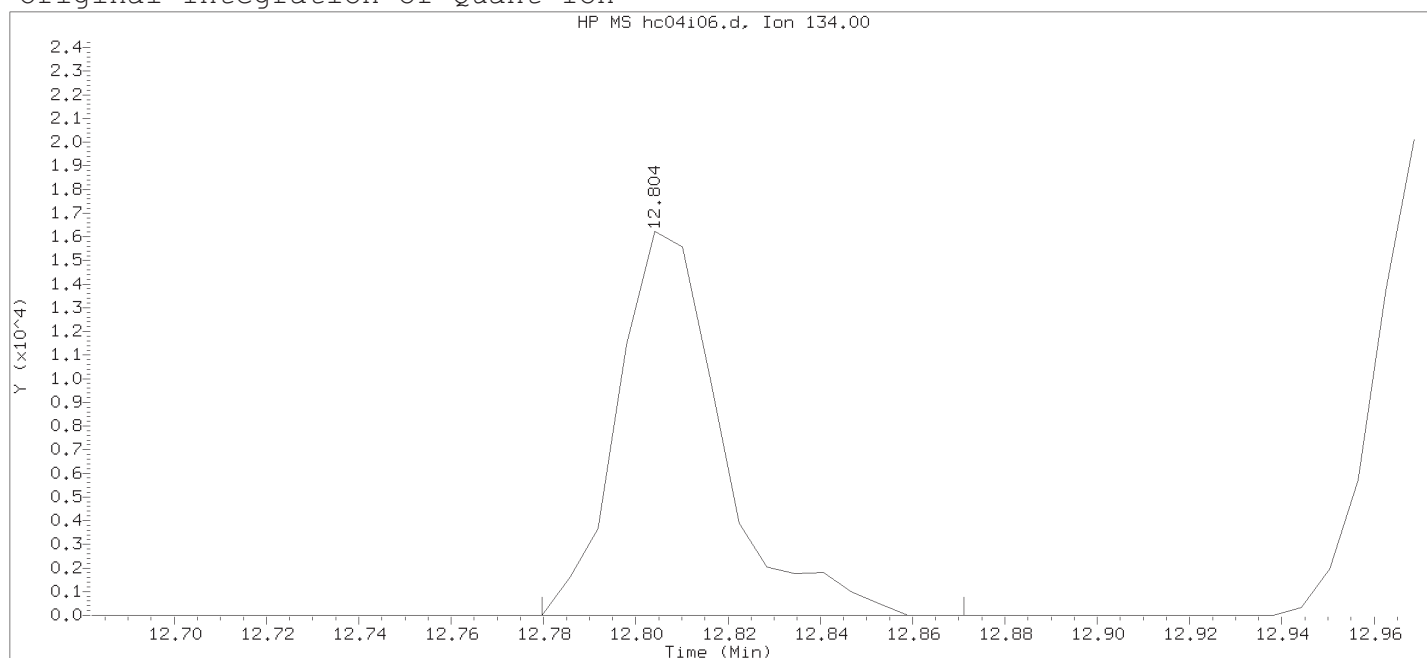
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:15

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:34

Date, time and analyst ID of latest file update: 04-Oct-2016 12:35 Automation

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compound Number : 125

Compound Name : tert-Butylbenzene

Scan Number : 1840

Retention Time (minutes): 12.804

Quant Ion : 134.00

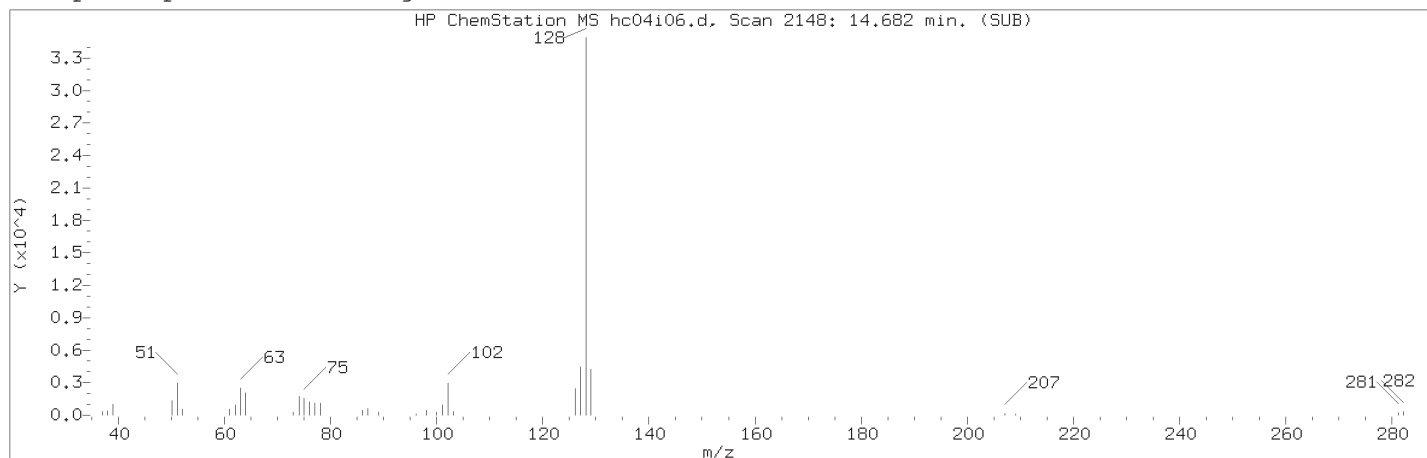
Area : 25380

On-column Amount (ng) : 0.4976

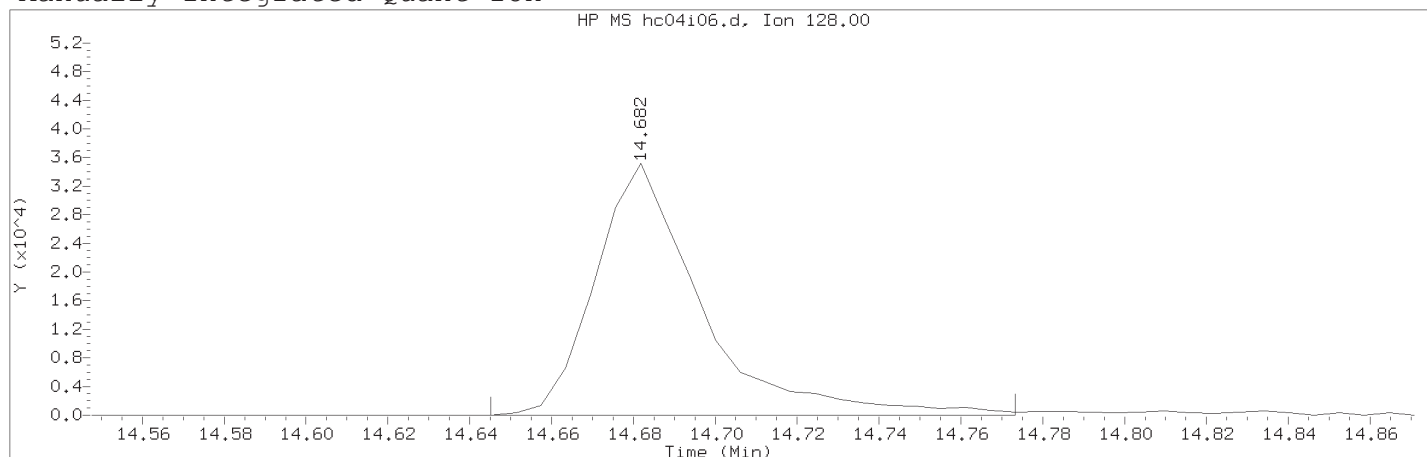
Integration start scan : 1835 Integration stop scan: 1850

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:15

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compound Number : 147
 Compound Name : Naphthalene
 Scan Number : 2148
 Retention Time (minutes): 14.682
 Quant Ion : 128.00
 Area (flag) : 63169M
 On-Column Amount (ng) : 0.5624
 Integration start scan : 2141
 Y at integration start : 0

Integration stop scan: 2162
 Y at integration end: 0

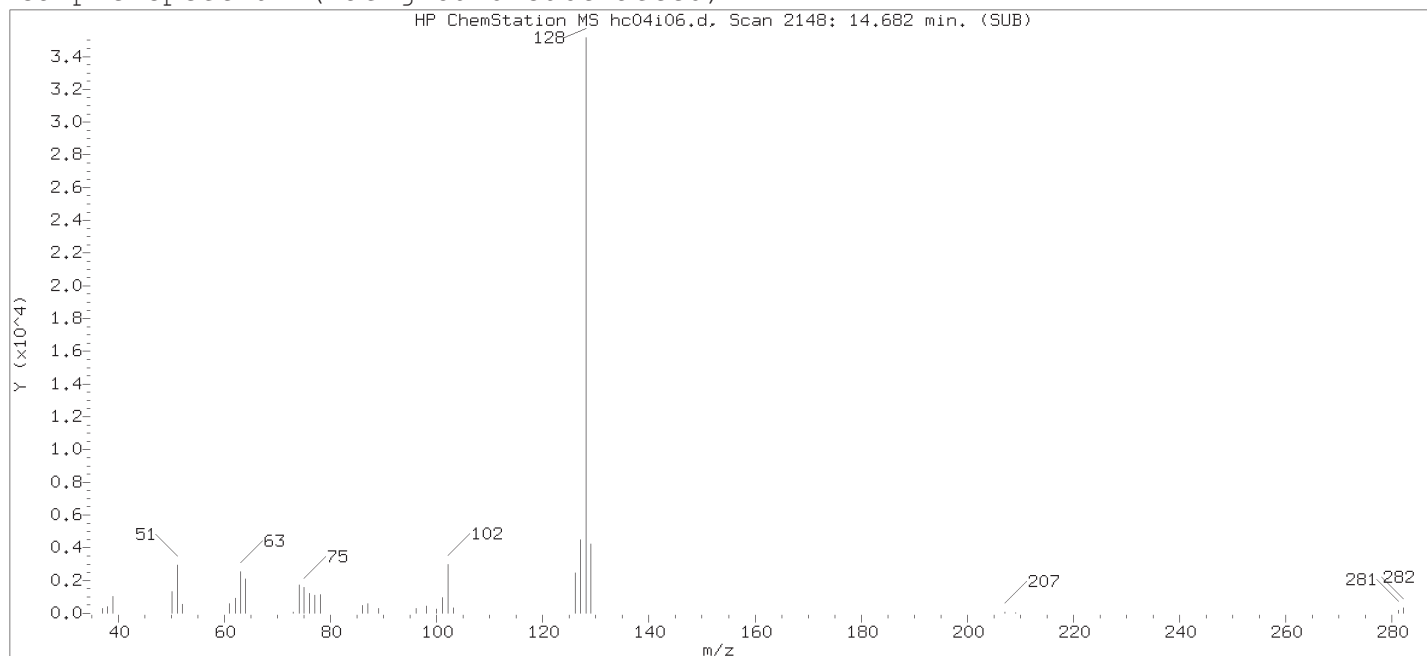
Reason for manual integration: improper integration

Analyst responsible for change:

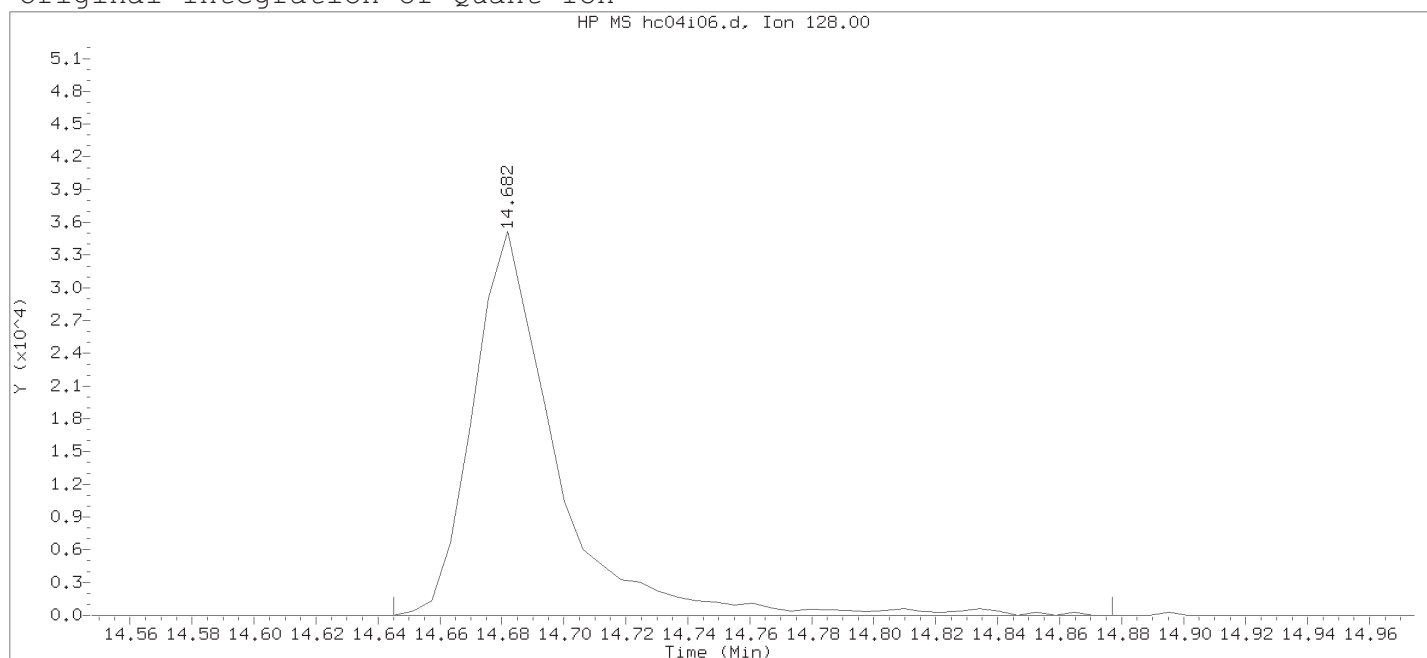
Digitally signed by Kerri E. Koch Legerlotz
 on 10/04/2016 at 15:34.
 Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
 PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:15

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:34

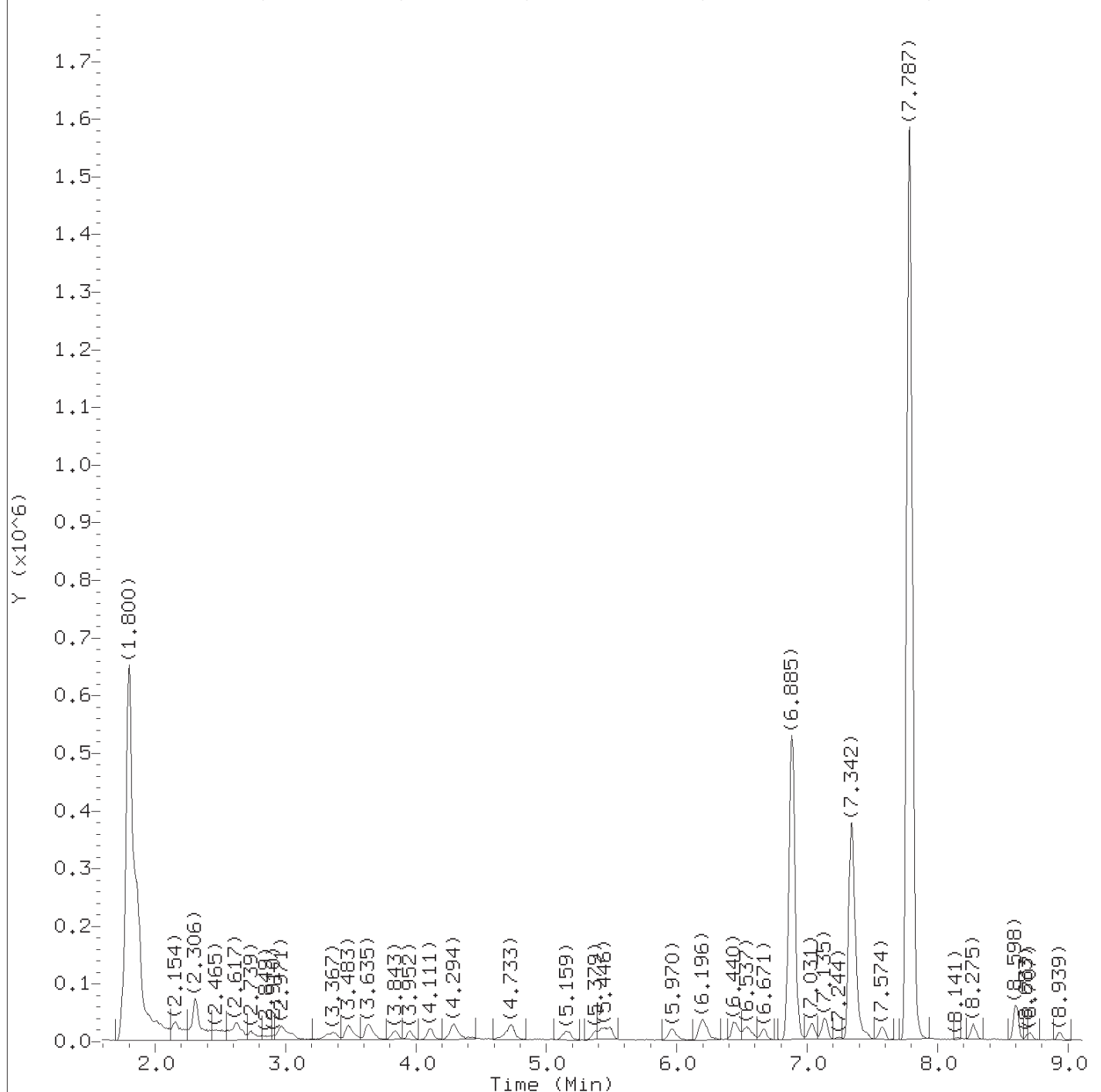
Date, time and analyst ID of latest file update: 04-Oct-2016 12:35 Automation

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compound Number : 147
 Compound Name : Naphthalene
 Scan Number : 2148
 Retention Time (minutes): 14.682
 Quant Ion : 128.00
 Area : 65160
 On-column Amount (ng) : 0.5761
 Integration start scan : 2141
 Y at integration start : 0

Integration stop scan: 2179
 Y at integration end: 0



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d
Injection date and time: 04-OCT-2016 12:36

Instrument ID: HP19094.i
Analyst ID: kel01973

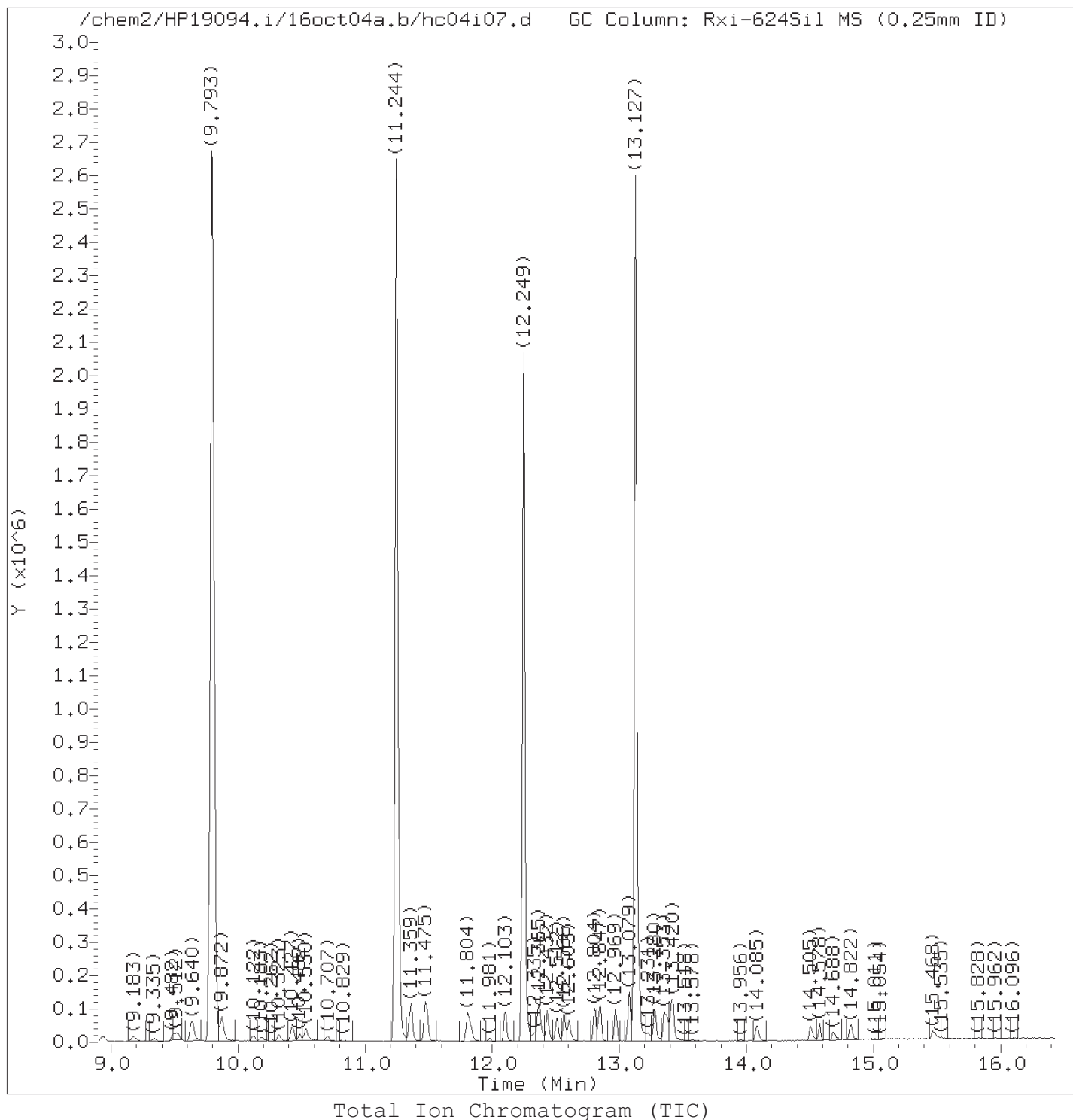
Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:29
Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

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on 10/04/2016 at 15:34.

Target 3.5 esignature User ID: kel01973
RAE76 Page 368 of 883



Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 12:36 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:29
Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d
 Injection date and time: 04-OCT-2016 12:36

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:29
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.014	85	18100	0.194
2) Chloromethane	(2)	2.160	50	23026	0.230
5) Vinyl Chloride	(2)	2.300	62	19132	0.214
6) 1,3-Butadiene	(2)	2.306	39	29010	0.212
7) Bromomethane	(2)	2.623	94	12338	0.215
8) Chloroethane	(2)	2.727	64	11035	0.219
9) Dichlorofluoromethane	(2)	2.965	67	25531	0.212
10) Trichlorofluoromethane	(2)	3.032	101	21957	0.203
11) Ethyl ether	(2)	3.318	59	7615	0.191
12) Freon 123a	(2)	3.379	67	15191	0.202
13) Acrolein	(1)	3.483	56	50544	10.764
15) 1,1-Dichloroethene	(2)	3.629	96	10052	0.199
16) Freon 113	(2)	3.648	101	10986	0.199
14) Acetone	(1)	3.666	43	14768	2.349
17) Methyl Iodide	(2)	3.824	142	19726	0.205
18) Carbon Disulfide	(2)	3.952	76	34436	0.225
21) Methyl Acetate	(1)	4.105	43	5555	0.273
22) Allyl Chloride	(2)	4.111	41	22602	0.206
23) Methylene Chloride	(2)	4.288	84	11316	0.209
26)*t-Butyl Alcohol-d10	(1)	4.312	65	65291M	50.000
28) t-Butyl Alcohol	(1)	4.428	59	5921	3.414
29) Acrylonitrile	(1)	4.629	53	7191M	0.972
30) Methyl Tertiary Butyl Ether	(2)	4.696	73	23372	0.199
31) trans-1,2-Dichloroethene	(2)	4.733	96	12422	0.217
32) n-Hexane	(2)	5.159	57	15825	0.181
33) 1,1-Dichloroethane	(2)	5.367	63	22778	0.202
34) di-Isopropyl Ether	(2)	5.446	45	38886	0.193
35) 2-Chloro-1,3-Butadiene	(2)	5.501	53	20162	0.193
37) Ethyl t-butyl ether	(2)	5.958	59	32295	0.197
40) 1,2-Dichloroethene (Total)	(2)		96	25236	0.421
38) 2-Butanone	(1)	6.171	43	23635	2.125
39) cis-1,2-Dichloroethene	(2)	6.196	96	12814	0.204
41) 2,2-Dichloropropane	(2)	6.214	77	18334	0.201
42) Propionitrile	(1)	6.251	54	9740	3.970
45) Methacrylonitrile	(1)	6.434	67	21904	2.091
47) Bromochloromethane	(2)	6.531	128	4937	0.196
48) Tetrahydrofuran	(1)	6.562	71	6128	2.137
49) Chloroform	(2)	6.677	83	22132	0.203

M = Compound was manually integrated.

* = Compound is an internal standard.

page 1 of 4

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 on 10/04/2016 at 15:34.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d
 Injection date and time: 04-OCT-2016 12:36

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:29
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
50) \$Dibromofluoromethane	(2)	6.879	113	505645	10.018
50) \$Dibromofluoromethane	(2)	6.885	111	516457	10.007
51) 1,1,1-Trichloroethane	(2)	6.915	97	19538	0.199
52) Cyclohexane	(2)	7.031	56	22517	0.196
52) Cyclohexane	(2)	7.049	84	19846	0.209
52) Cyclohexane	(2)	7.049	69	6334	0.195
55) 1,1-Dichloropropene	(2)	7.129	75	17580	0.199
54) Carbon Tetrachloride	(2)	7.147	117	16670	0.197
56) Isobutyl Alcohol	(1)	7.244	41	7480	11.136
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	83020	10.239
57) \$1,2-Dichloroethane-d4	(2)	7.342	65	459741	10.299
57) \$1,2-Dichloroethane-d4	(2)	7.342	104	52727	10.163
58) Benzene	(2)	7.391	78	48224	0.204
59) 1,2-Dichloroethane	(2)	7.452	62	14563	0.222
60) t-Amyl methyl ether	(2)	7.574	73	26471	0.199
63) *Fluorobenzene	(2)	7.787	96	2200643	10.000
62) n-Heptane	(2)	7.824	43	20542	0.196
65) n-Butanol	(1)	8.159	56	7719M	15.734
67) Trichloroethene	(2)	8.281	95	13125	0.203
69) Methylcyclohexane	(2)	8.598	83	20486	0.181
70) 1,2-Dichloropropene	(2)	8.604	63	11708	0.195
71) Methyl Methacrylate	(1)	8.683	69	2871M	0.149
73) Dibromomethane	(2)	8.714	93	4844	0.192
74) Bromodichloromethane	(2)	8.933	83	13680	0.199
76) 2-Nitropropane	(1)	9.183	41	15570	2.182
80) cis-1,3-Dichloropropene	(2)	9.482	75	15015	0.192
81) 4-Methyl-2-Pentanone	(1)	9.640	43	62066	2.088
82) \$Toluene-d8	(3)	9.799	98	2144109	10.022
82) \$Toluene-d8	(3)	9.793	100	1376822	10.008
83) Toluene	(3)	9.872	92	30844	0.210
84) trans-1,3-Dichloropropene	(3)	10.122	75	10747	0.180
85) 1,3-Dichloropropene (total)	(3)		75	25762	0.372
86) Ethyl Methacrylate	(3)	10.183	69	8210	0.178
88) 1,1,2-Trichloroethane	(3)	10.323	97	6472	0.191
89) Tetrachloroethene	(3)	10.427	166	13889	0.197
90) 1,3-Dichloropropene	(3)	10.488	76	12029	0.196
91) 2-Hexanone	(1)	10.530	43	43733	2.125
93) Dibromochloromethane	(3)	10.707	129	8102	0.193

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/04/2016 at 15:34.
 Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d
 Injection date and time: 04-OCT-2016 12:36

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:29
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
95) 1,2-Dibromoethane	(3)	10.835	107	5864	0.183
97) *Chlorobenzene-d5	(3)	11.244	117	1416303M	10.000
98) Chlorobenzene	(3)	11.274	112	32476	0.207
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	10606	0.197
100) Ethylbenzene	(3)	11.366	91	57205	0.198
101) m+p-Xylene	(3)	11.475	106	40888	0.376
105) Xylene (Total)	(3)		106	61587	0.571
104) o-Xylene	(3)	11.804	106	20699	0.195
106) Styrene	(3)	11.823	104	28975	0.179
107) Bromoform	(3)	11.981	173	4362	0.190
108) Isopropylbenzene	(3)	12.103	105	54632	0.191
111) \$4-Bromofluorobenzene	(3)	12.249	95	632197	10.051
111) \$4-Bromofluorobenzene	(3)	12.249	174	560874	9.965
113) 1,1,2,2-Tetrachloroethane	(4)	12.335	83	7473	0.190
115) trans-1,4-Dichloro-2-butene	(1)	12.365	53	14834	1.684
114) Bromobenzene	(4)	12.365	156	12803	0.202
116) 1,2,3-Trichloropropane	(4)	12.390	110	2222	0.212
117) n-Propylbenzene	(4)	12.432	91	64533	0.192
119) 2-Chlorotoluene	(4)	12.512	126	12655	0.199
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	42104	0.182
122) 4-Chlorotoluene	(4)	12.603	126	13535	0.208
125) tert-Butylbenzene	(4)	12.804	134	10624M	0.210
126) Pentachloroethane	(4)	12.835	167	7016	0.180
127) 1,2,4-Trimethylbenzene	(4)	12.853	105	45540	0.195
128) sec-Butylbenzene	(4)	12.969	105	59995M	0.198
131) 1,3-Dichlorobenzene	(4)	13.079	146	24578	0.199
132) p-Isopropyltoluene	(4)	13.079	119	48032	0.190
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	636044	10.000
134) 1,4-Dichlorobenzene	(4)	13.146	146	27674	0.216
135) 1,2,3-Trimethylbenzene	(4)	13.152	120	20265M	0.200
136) Benzyl Chloride	(4)	13.225	126	2230	0.167
138) n-Butylbenzene	(4)	13.377	92	23839	0.196
139) 1,2-Dichlorobenzene	(4)	13.408	146	22995	0.210
143) 1,2-Dibromo-3-chloropropane	(1)	13.950	155	737	0.170
145) 1,2,4-Trichlorobenzene	(4)	14.505	180	17287	0.221
146) Hexachlorobutadiene	(4)	14.578	225	8122	0.218
147) Naphthalene	(4)	14.688	128	27700	0.233
148) 1,2,3-Trichlorobenzene	(4)	14.822	180	16666	0.253

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/04/2016 at 15:34.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 12:36 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:29
Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

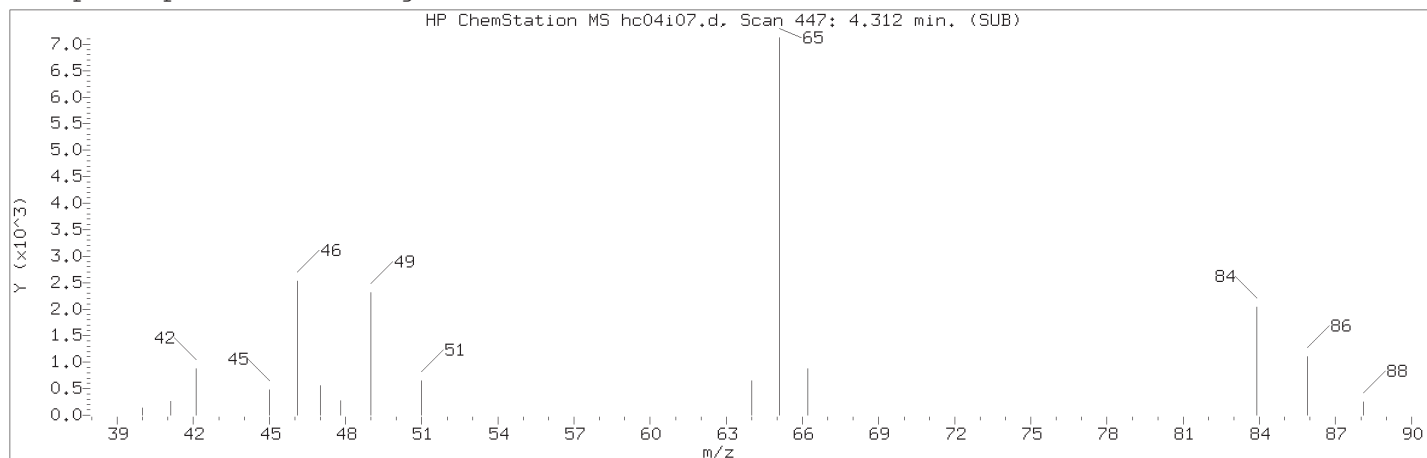
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====

M = Compound was manually integrated.
* = Compound is an internal standard.
\$ = Compound is a surrogate standard.

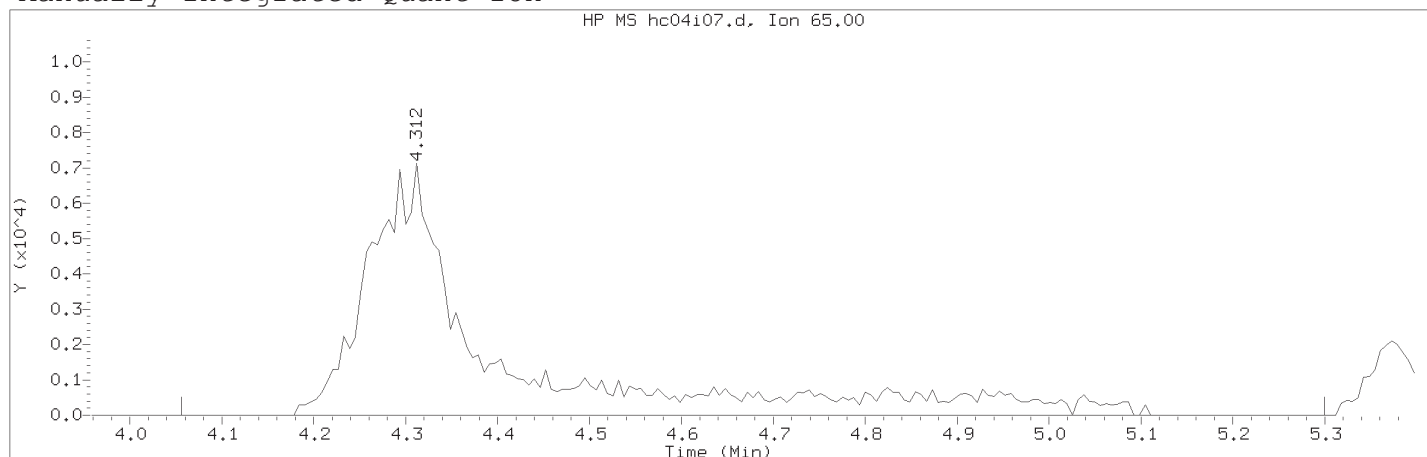
page 4 of 4

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number	: 26	
Compound Name	: t-Butyl Alcohol-d10	
Scan Number	: 447	
Retention Time (minutes)	: 4.312	
Quant Ion	: 65.00	
Area (flag)	: 65291M	
On-Column Amount (ng)	: 50.0000	
Integration start scan	: 404	Integration stop scan: 608
Y at integration start	: 0	Y at integration end: 0

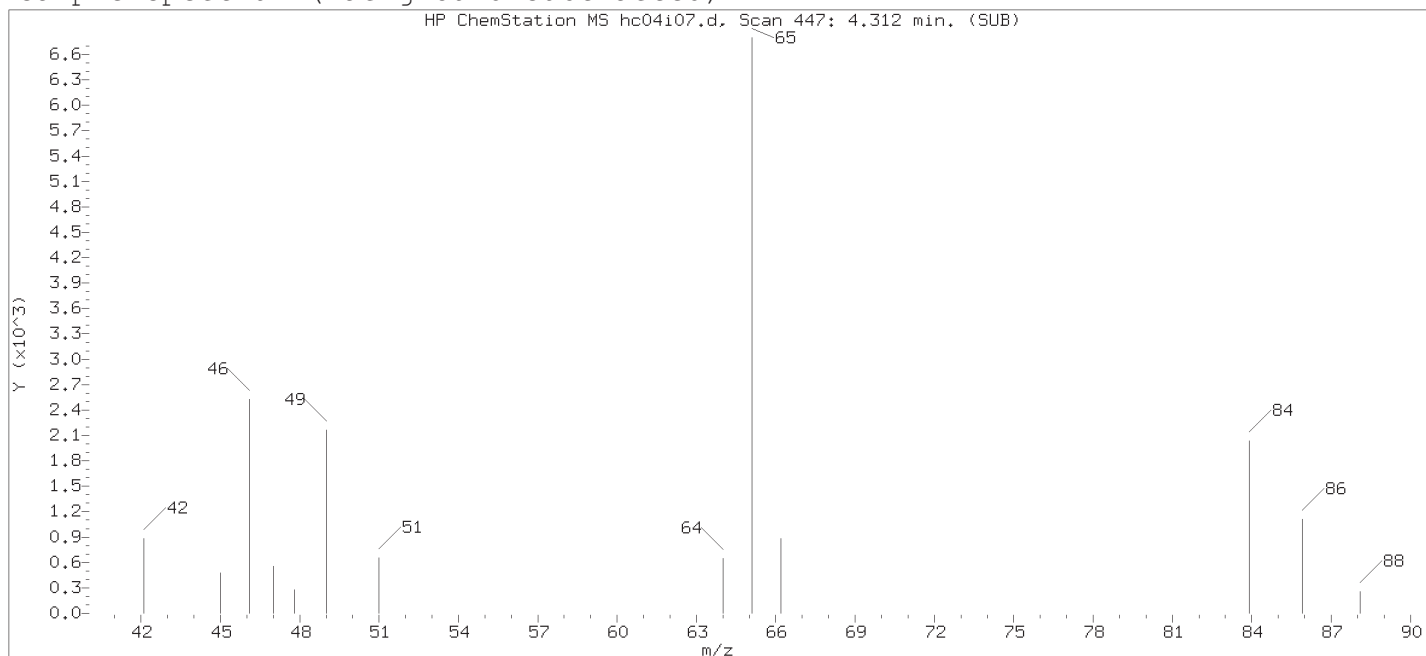
Reason for manual integration: improper integration

Analyst responsible for change:

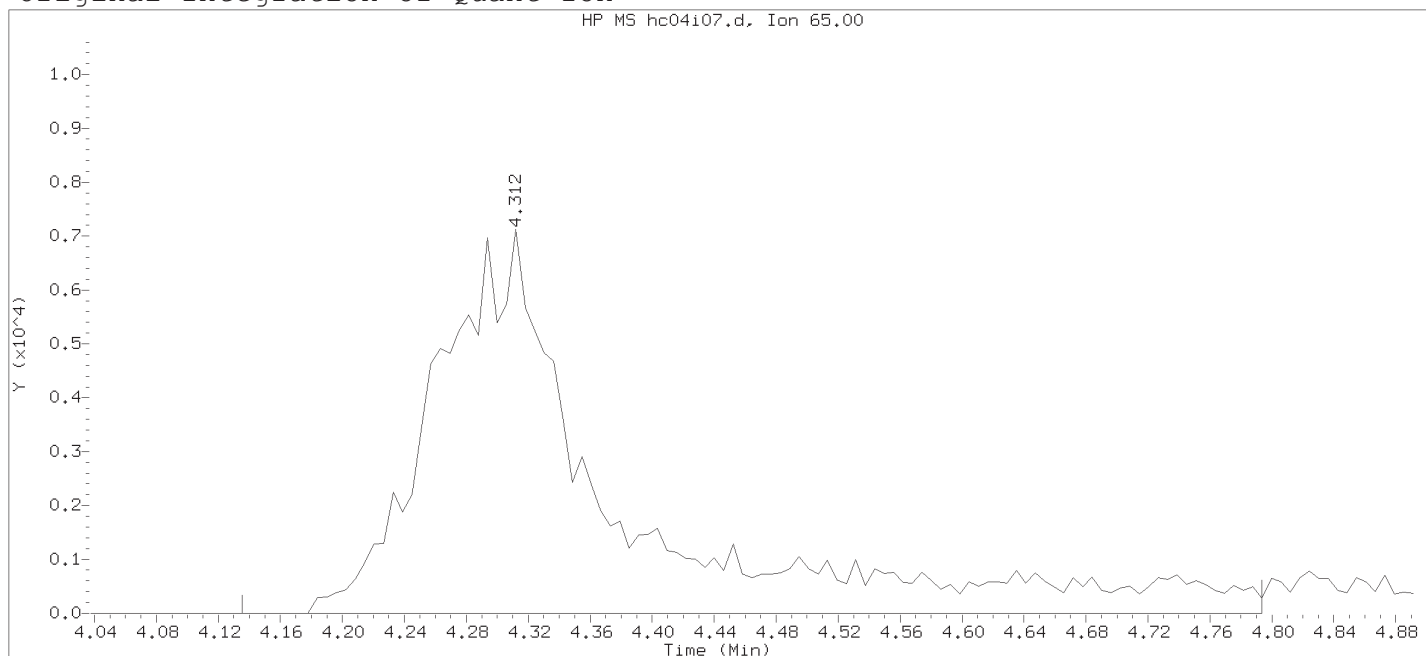
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:55

Date, time and analyst ID of latest file update: 04-Oct-2016 12:55 Automation

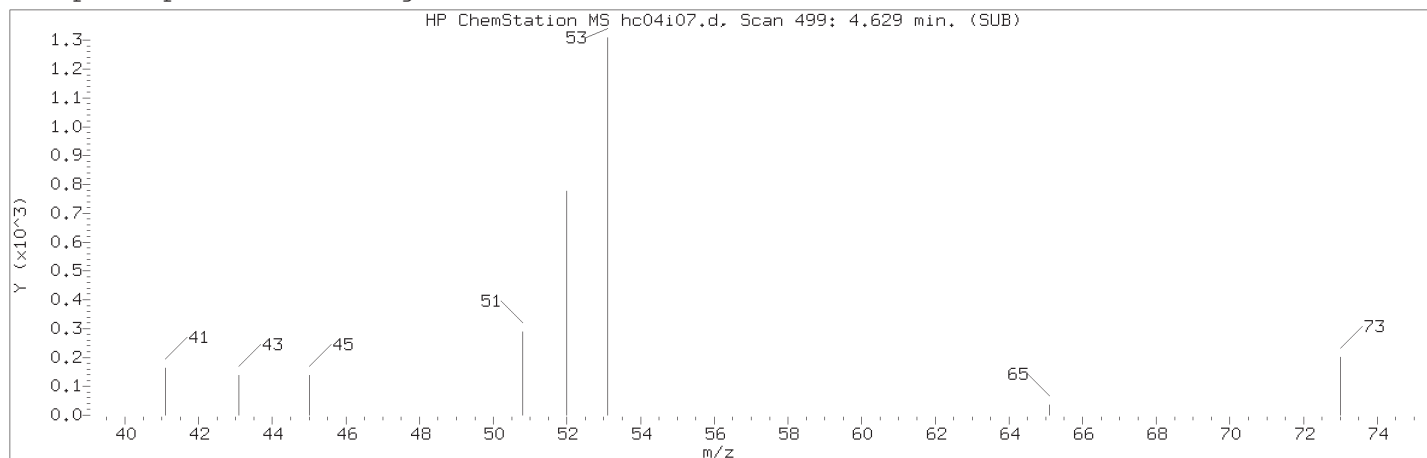
Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

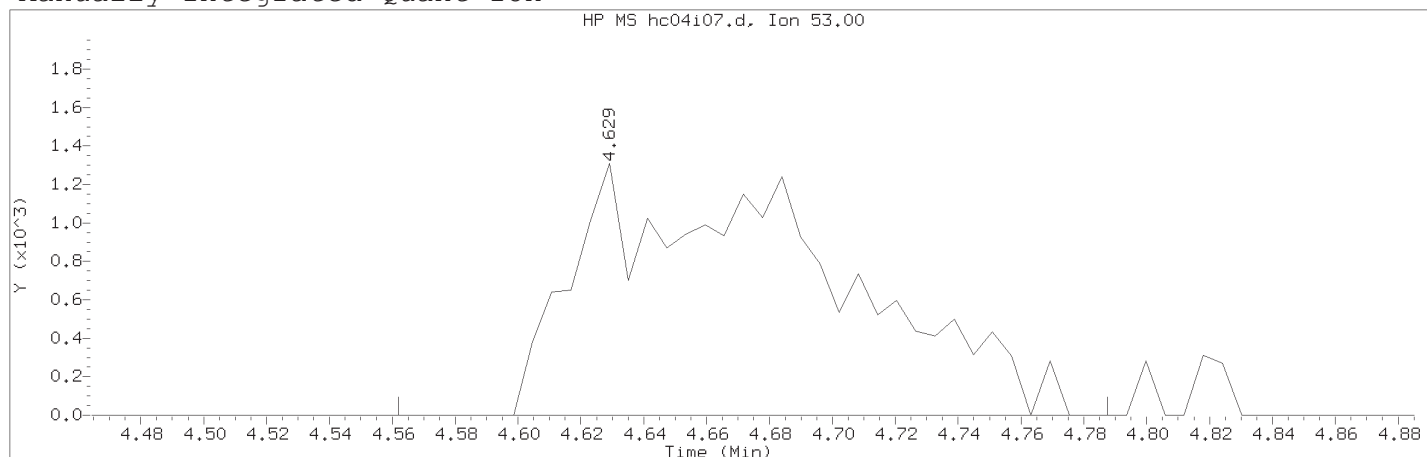
Compound Number : 26
 Compound Name : t-Butyl Alcohol-d10
 Scan Number : 447
 Retention Time (minutes): 4.312
 Quant Ion : 65.00
 Area : 56892
 On-column Amount (ng) : 50.0000
 Integration start scan : 417
 Y at integration start : 0

Integration stop scan: 525
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number	: 29	
Compound Name	: Acrylonitrile	
Scan Number	: 499	
Retention Time (minutes)	: 4.629	
Quant Ion	: 53.00	
Area (flag)	: 7191M	
On-Column Amount (ng)	: 0.9722	
Integration start scan	: 487	Integration stop scan: 524
Y at integration start	: 0	Y at integration end: 0

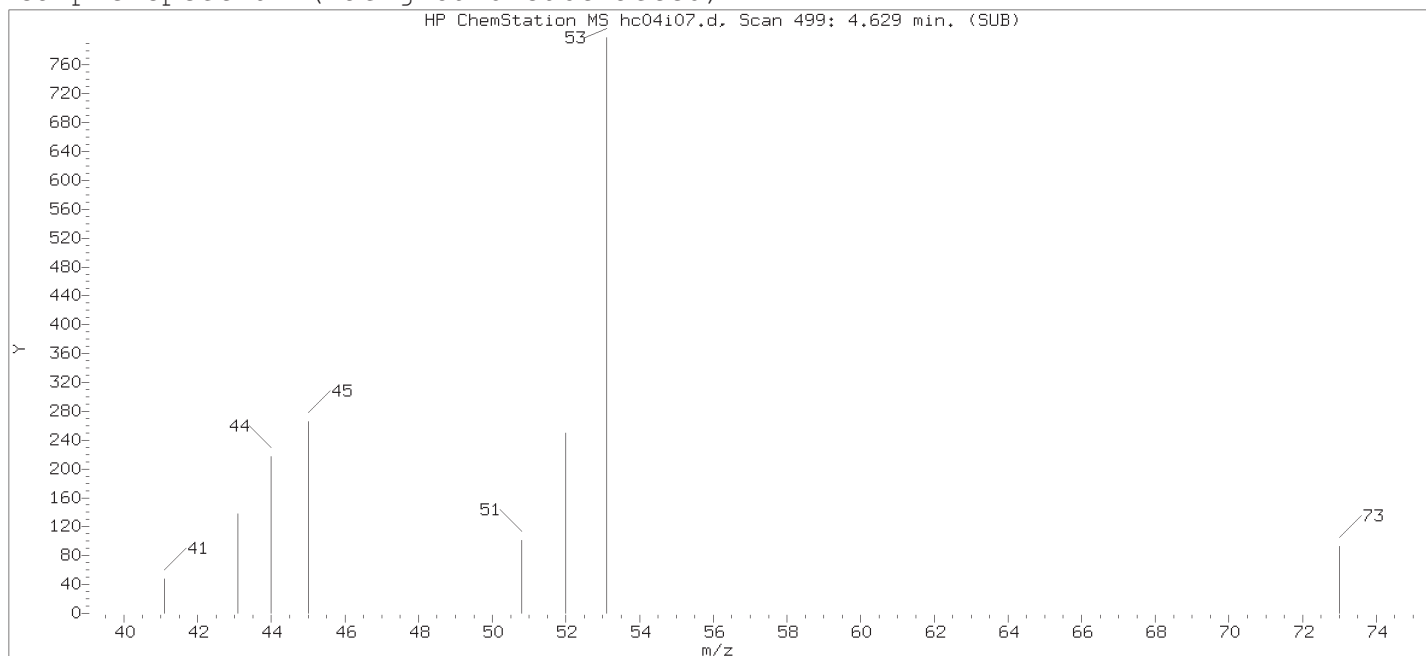
Reason for manual integration: improper integration

Analyst responsible for change:

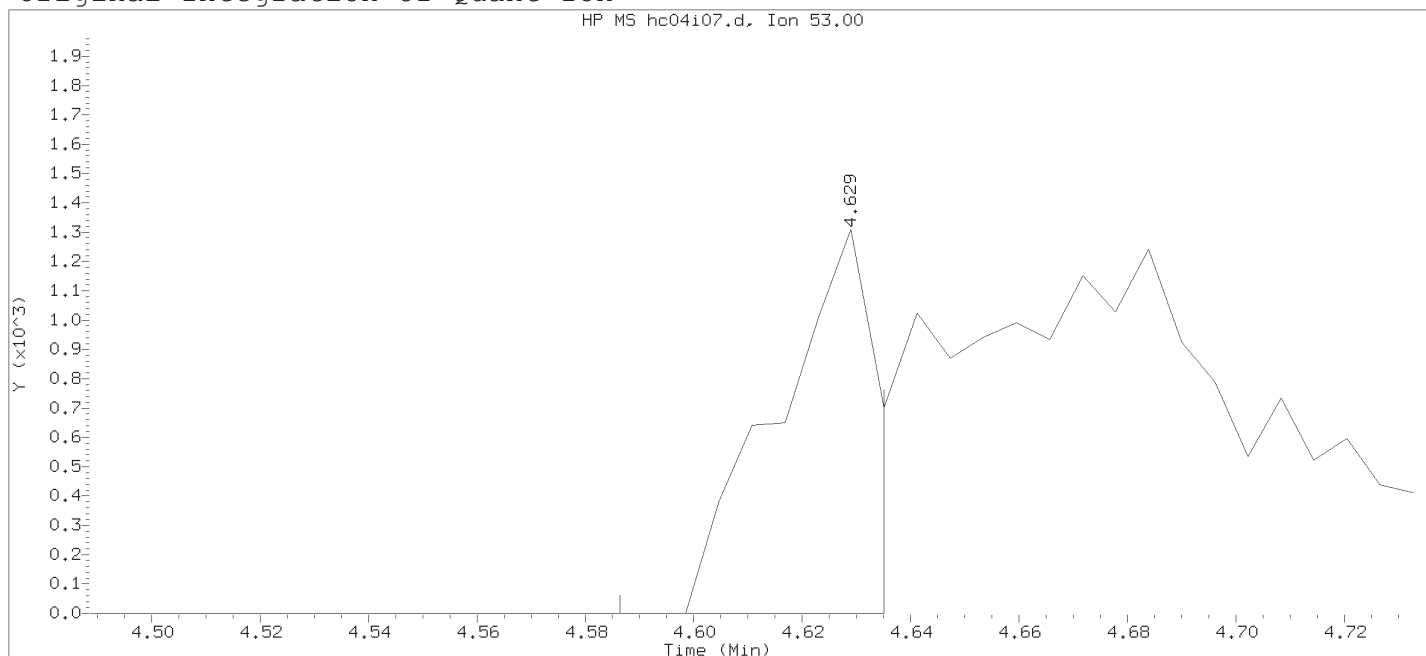
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:55

Date, time and analyst ID of latest file update: 04-Oct-2016 12:55 Automation

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number

: 29

Compound Name

: Acrylonitrile

Scan Number

: 499

Retention Time (minutes)

: 4.629

Quant Ion

: 53.00

Area

: 1587

On-column Amount (ng)

: 0.2744

Integration start scan

: 491

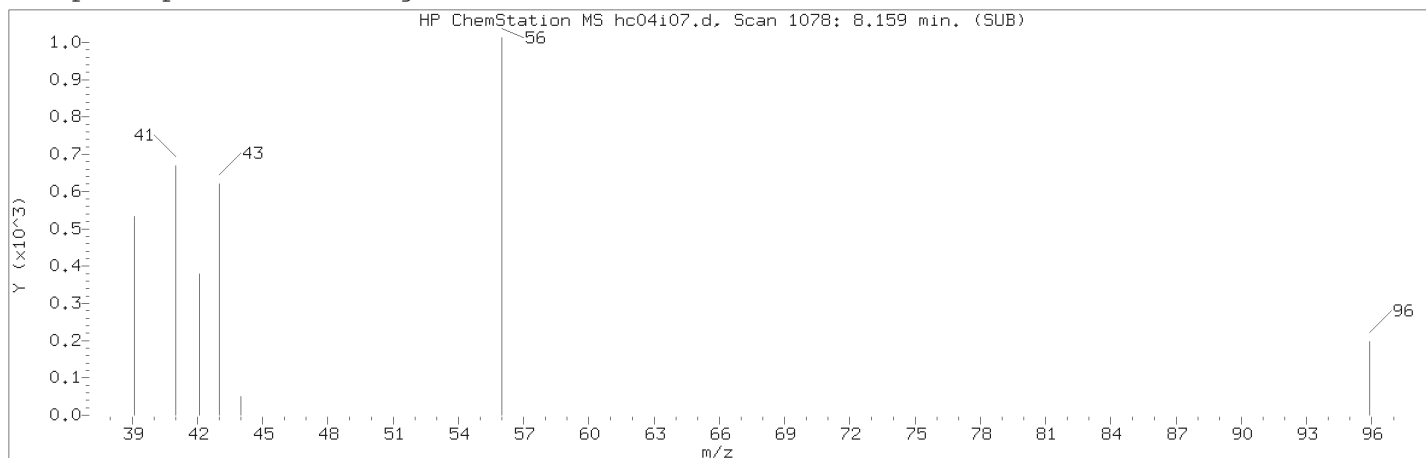
Integration stop scan: 499

Y at integration start

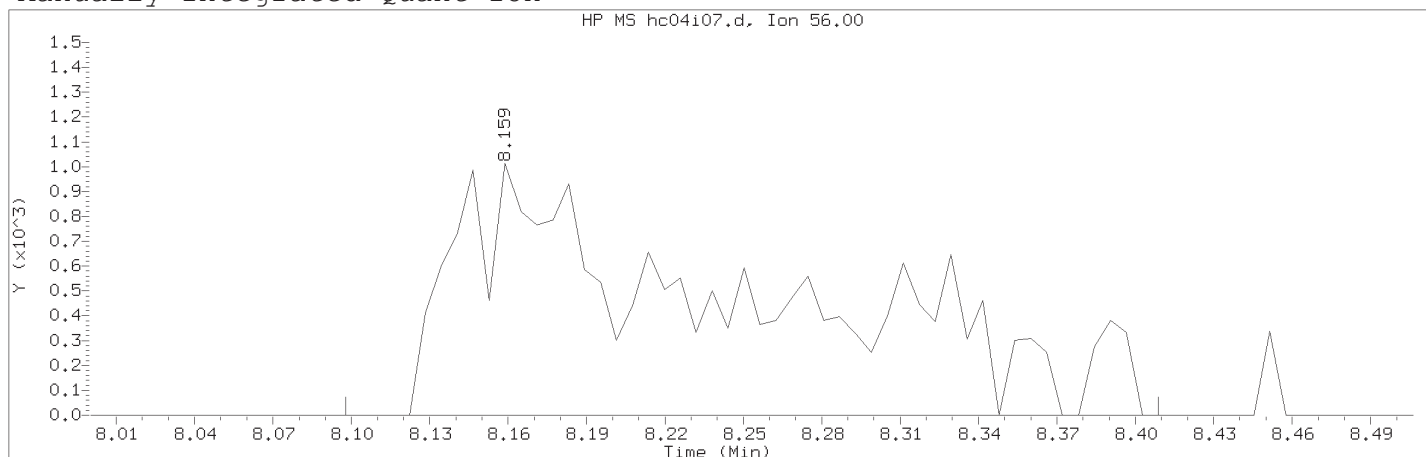
: 0

Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number	: 65	
Compound Name	: n-Butanol	
Scan Number	: 1078	
Retention Time (minutes)	: 8.159	
Quant Ion	: 56.00	
Area (flag)	: 7719M	
On-Column Amount (ng)	: 15.7343	
Integration start scan	: 1067	Integration stop scan: 1118
Y at integration start	: 0	Y at integration end: 0

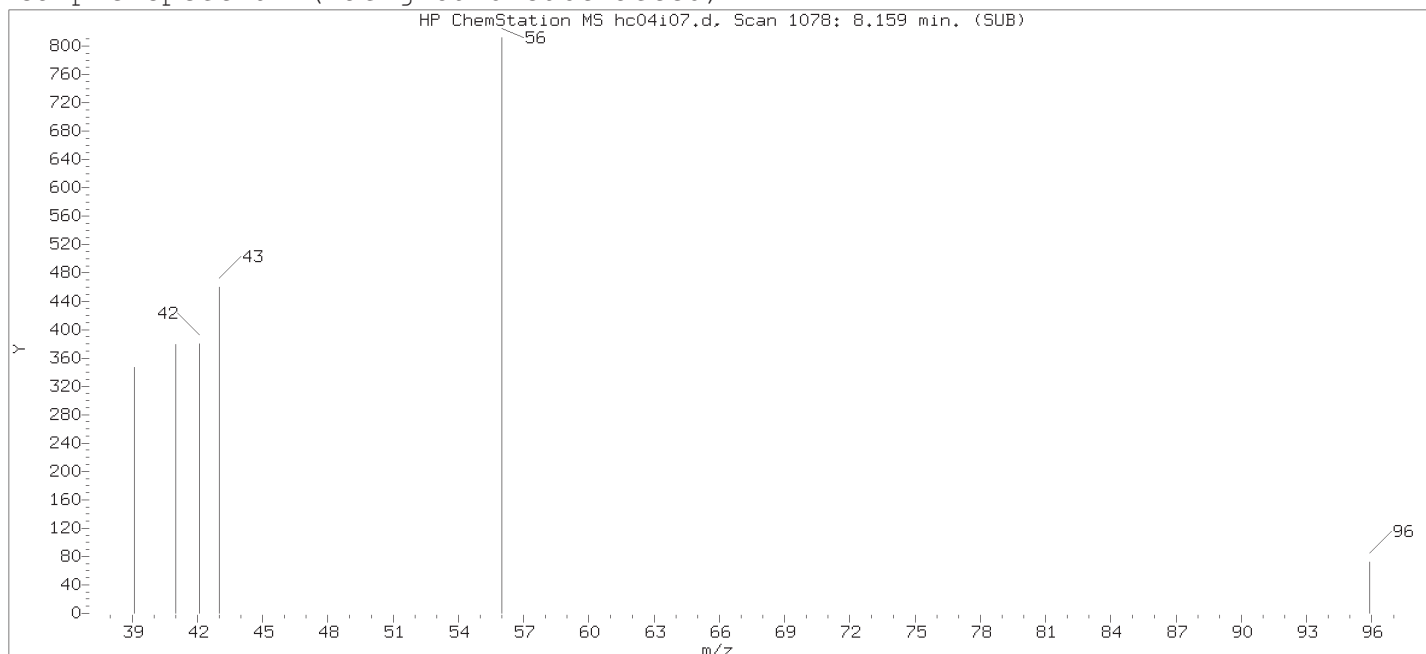
Reason for manual integration: improper integration

Analyst responsible for change:

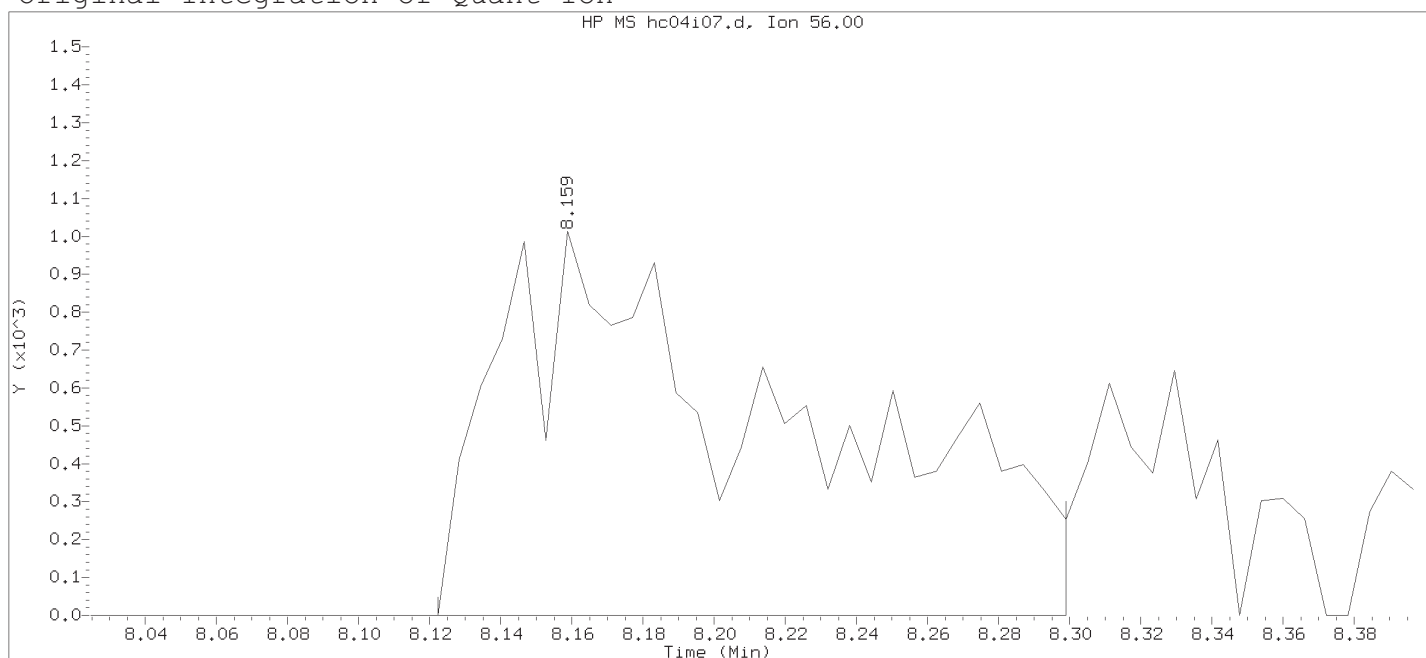
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:55

Date, time and analyst ID of latest file update: 04-Oct-2016 12:55 Automation

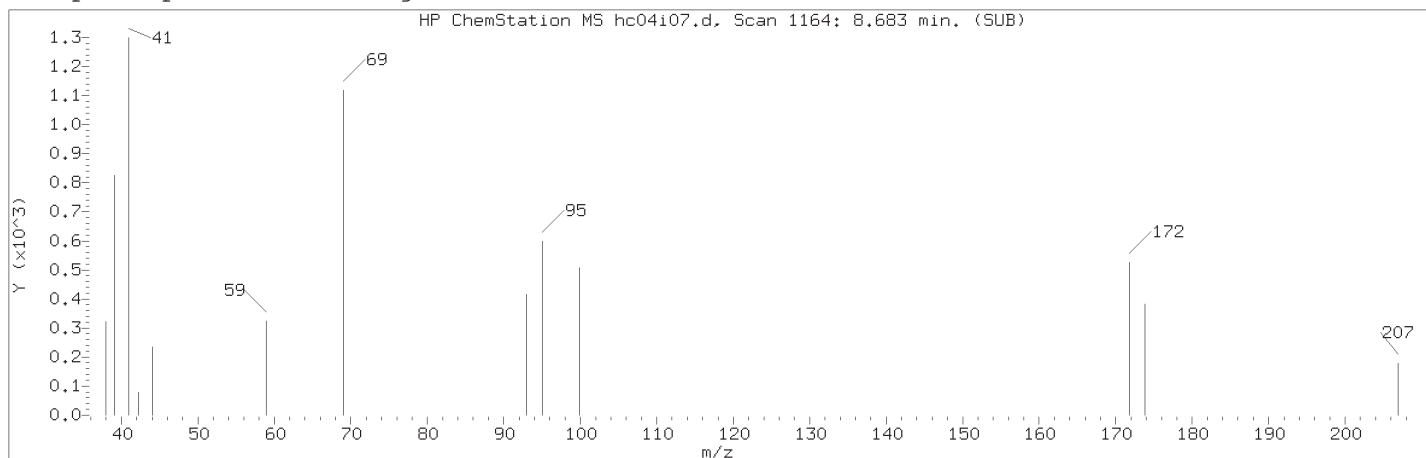
Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

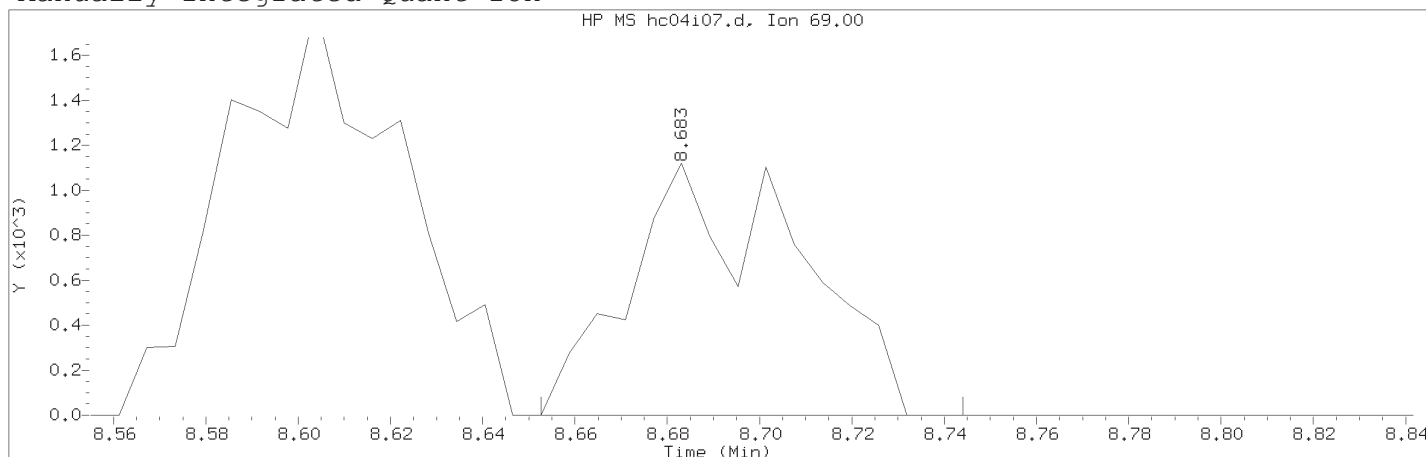
Compound Number : 65
 Compound Name : n-Butanol
 Scan Number : 1078
 Retention Time (minutes) : 8.159
 Quant Ion : 56.00
 Area : 5806
 On-column Amount (ng) : 14.5306
 Integration start scan : 1071
 Y at integration start : 0

Integration stop scan: 1100
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number	: 71	
Compound Name	: Methyl Methacrylate	
Scan Number	: 1164	
Retention Time (minutes)	: 8.683	
Quant Ion	: 69.00	
Area (flag)	: 2871M	
On-Column Amount (ng)	: 0.1489	
Integration start scan	: 1158	Integration stop scan: 1173
Y at integration start	: 0	Y at integration end: 0

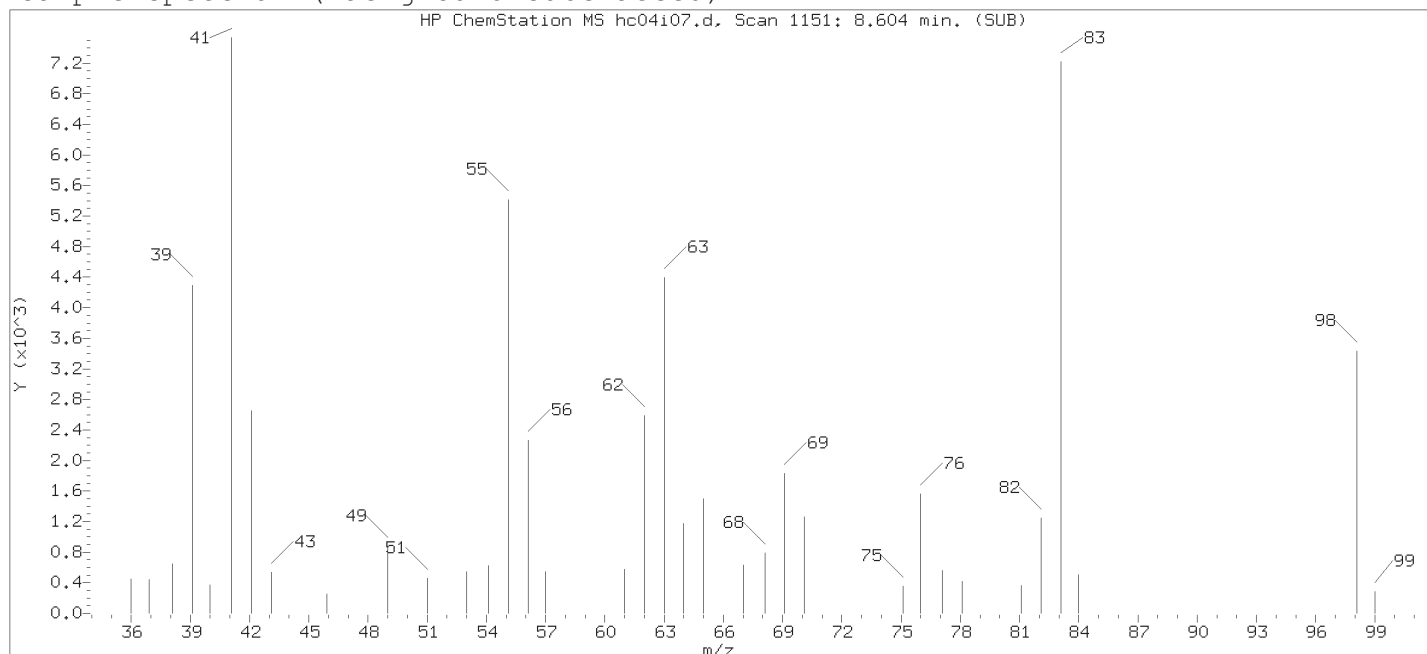
Reason for manual integration: improper integration

Analyst responsible for change:

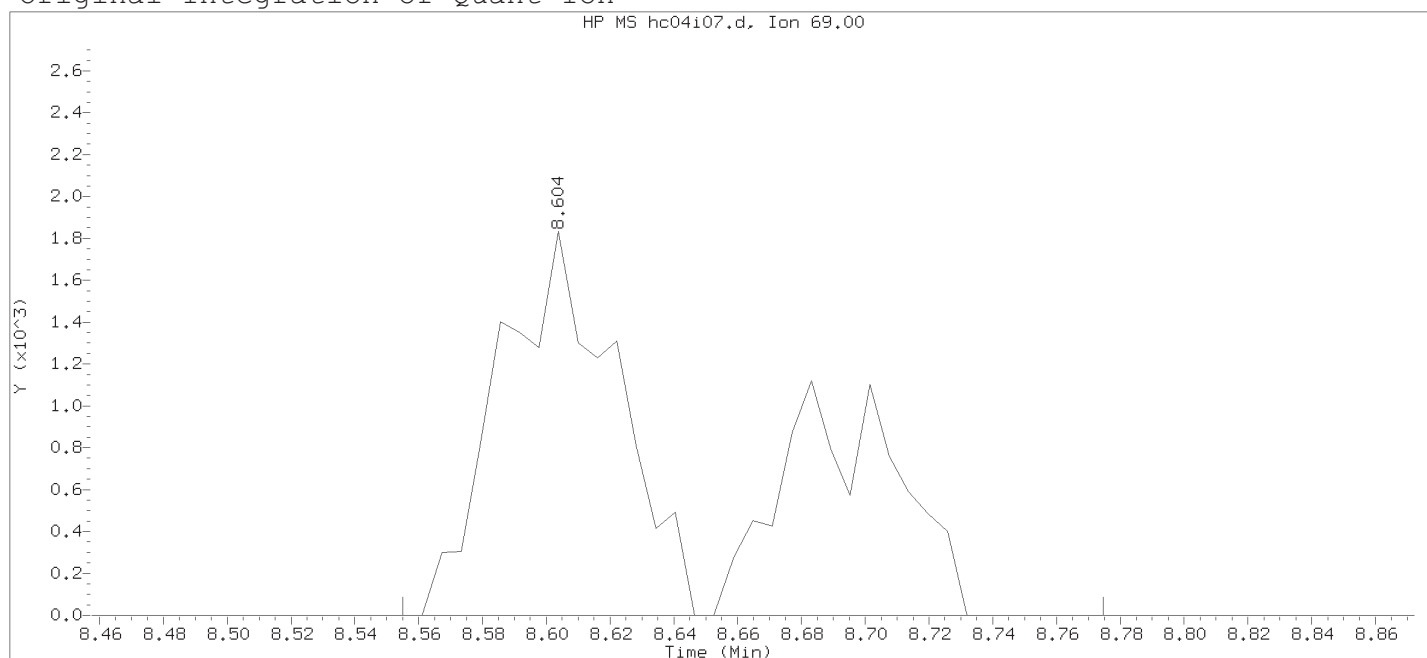
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:55

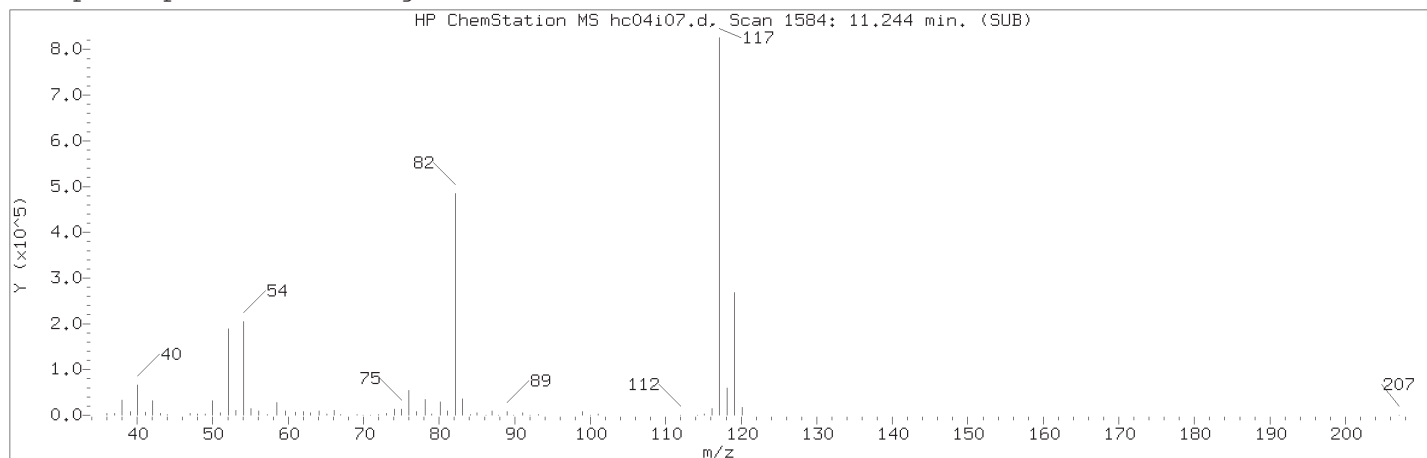
Date, time and analyst ID of latest file update: 04-Oct-2016 12:55 Automation

Sample Name: VSTD0.2

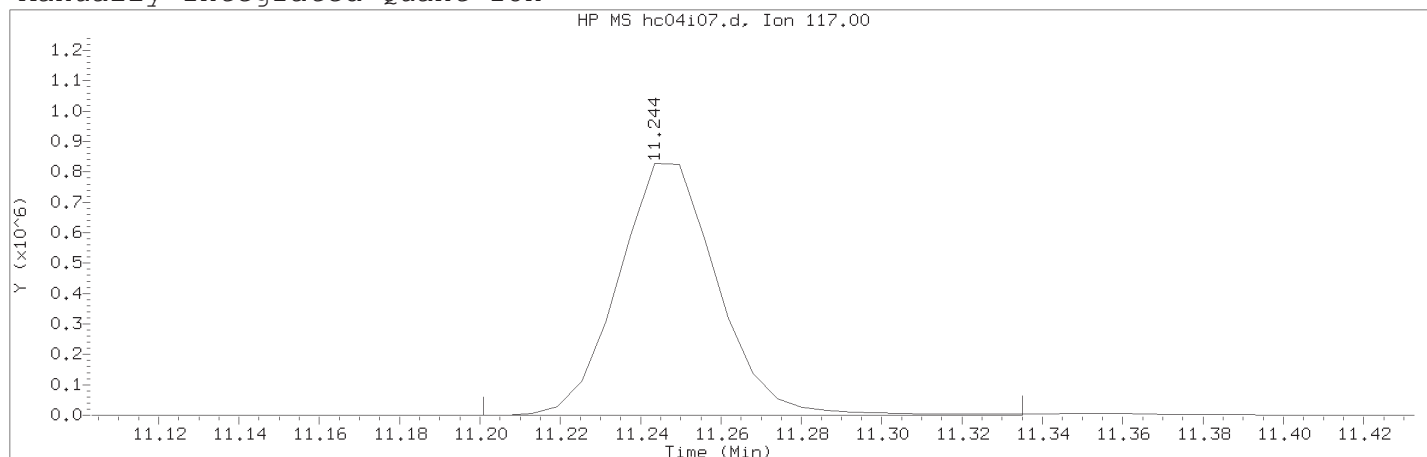
Lab Sample ID: VSTD0.2

Compound Number	: 71	
Compound Name	: Methyl Methacrylate	
Scan Number	: 1151	
Retention Time (minutes)	: 8.604	
Quant Ion	: 69.00	
Area	: 7571	
On-column Amount (ng)	: 0.3659	
Integration start scan	: 1142	Integration stop scan: 1178
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number	: 97	
Compound Name	: Chlorobenzene-d5	
Scan Number	: 1584	
Retention Time (minutes)	: 11.244	
Quant Ion	: 117.00	
Area (flag)	: 1416303M	
On-Column Amount (ng)	: 10.0000	
Integration start scan	: 1576	Integration stop scan: 1598
Y at integration start	: 0	Y at integration end: 0

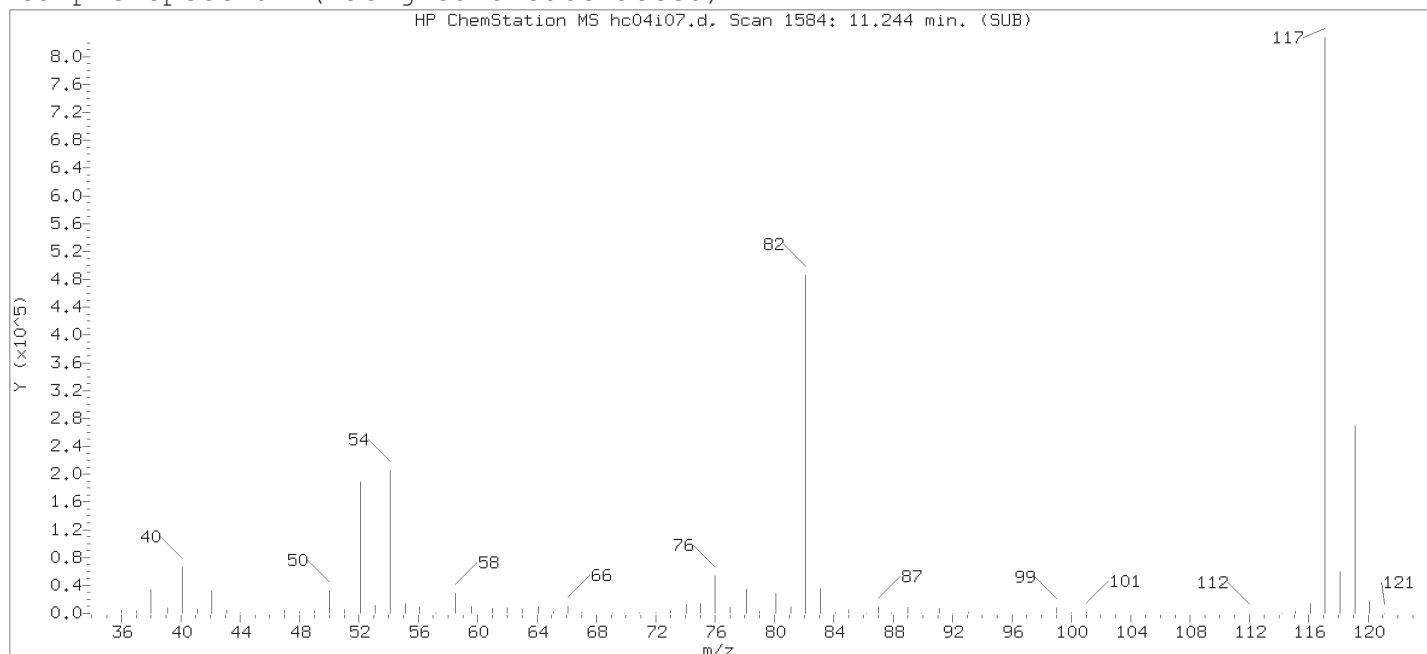
Reason for manual integration: improper integration

Analyst responsible for change:

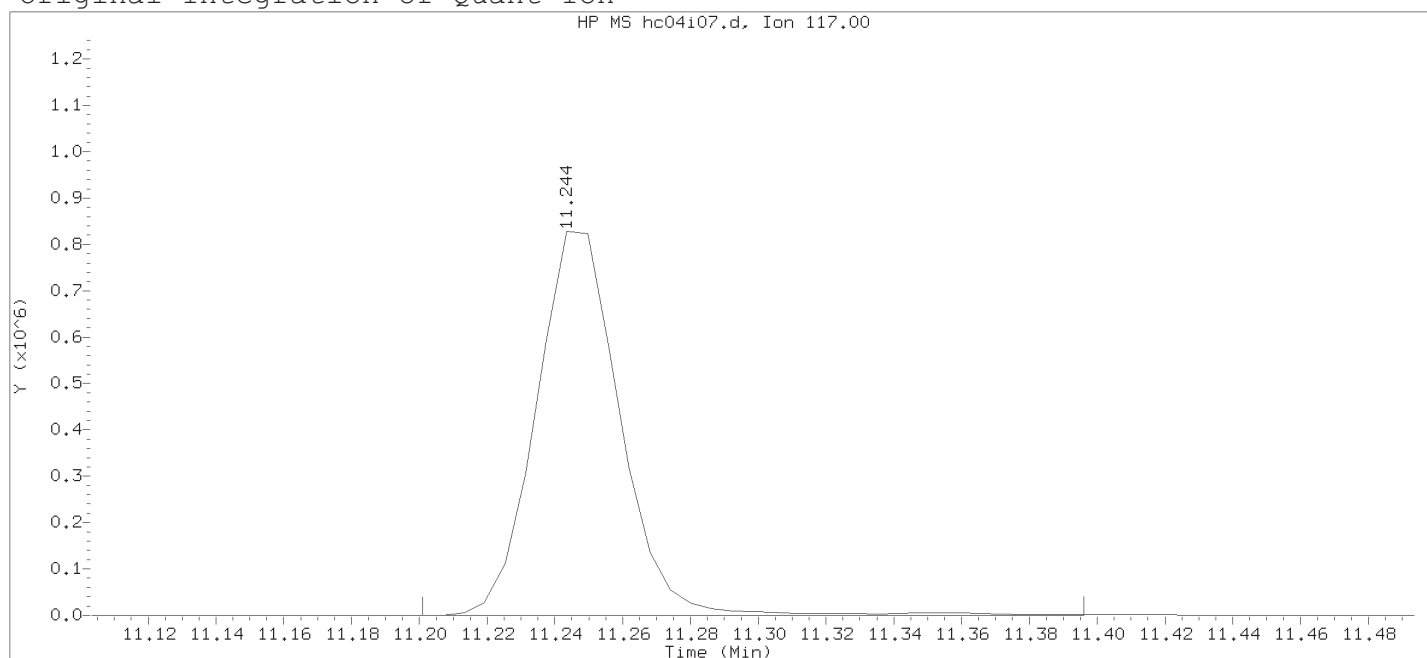
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:55

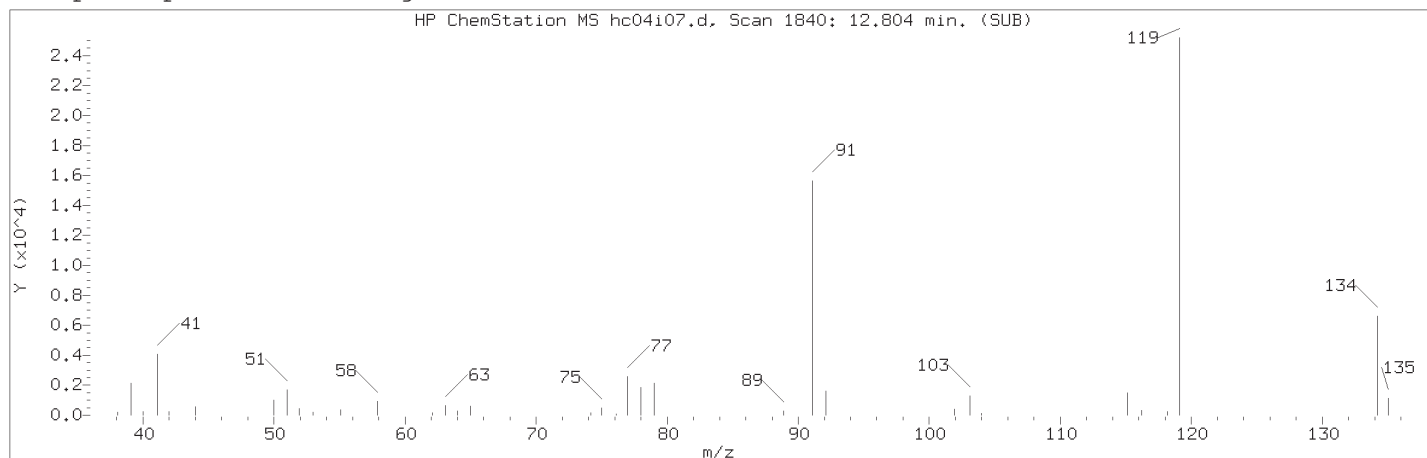
Date, time and analyst ID of latest file update: 04-Oct-2016 12:55 Automation

Sample Name: VSTD0.2

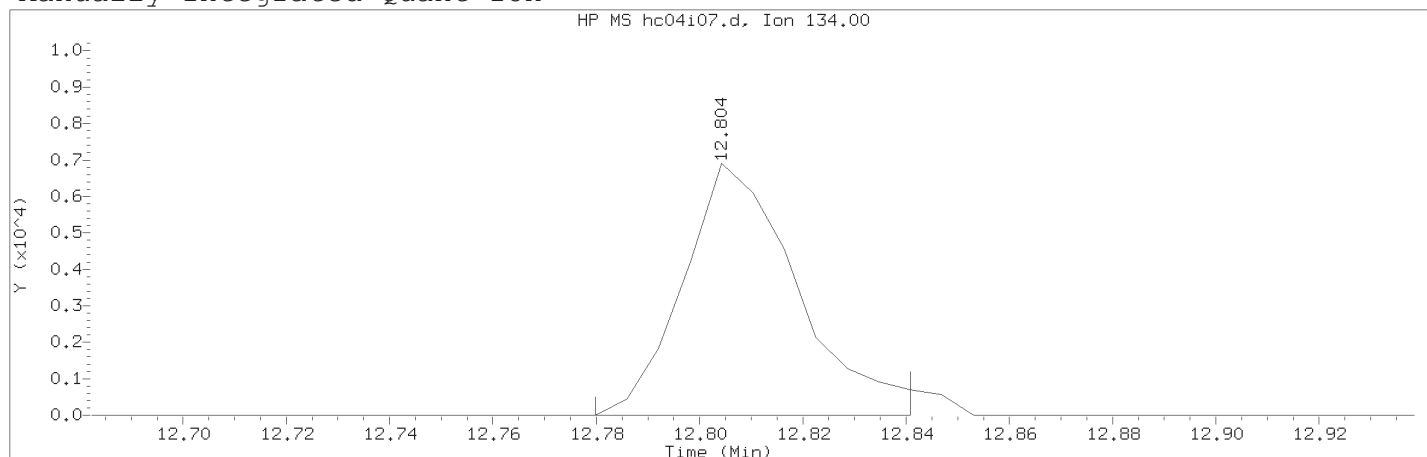
Lab Sample ID: VSTD0.2

Compound Number	: 97	
Compound Name	: Chlorobenzene-d5	
Scan Number	: 1584	
Retention Time (minutes)	: 11.244	
Quant Ion	: 117.00	
Area	: 1427811	
On-column Amount (ng)	: 10.0000	
Integration start scan	: 1576	Integration stop scan: 1608
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number	: 125	
Compound Name	: tert-Butylbenzene	
Scan Number	: 1840	
Retention Time (minutes)	: 12.804	
Quant Ion	: 134.00	
Area (flag)	: 10624M	
On-Column Amount (ng)	: 0.2105	
Integration start scan	: 1835	Integration stop scan: 1845
Y at integration start	: 0	Y at integration end: 0

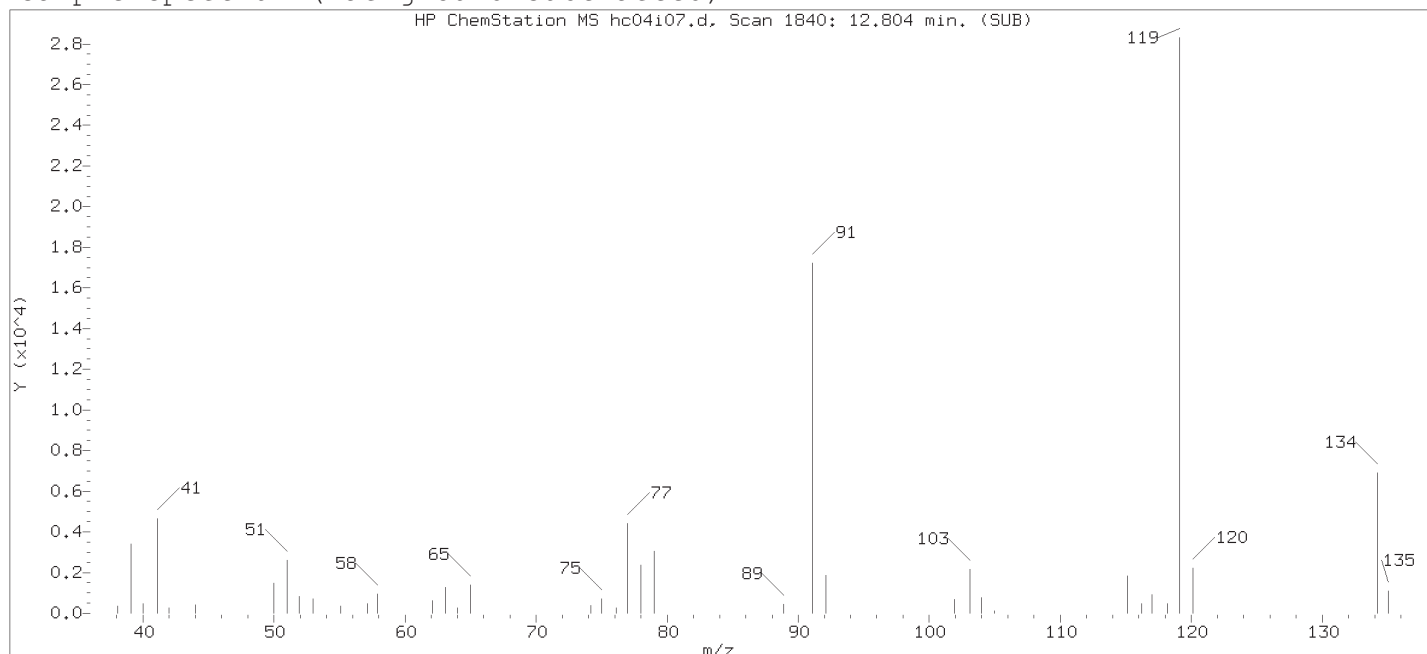
Reason for manual integration: improper integration

Analyst responsible for change:

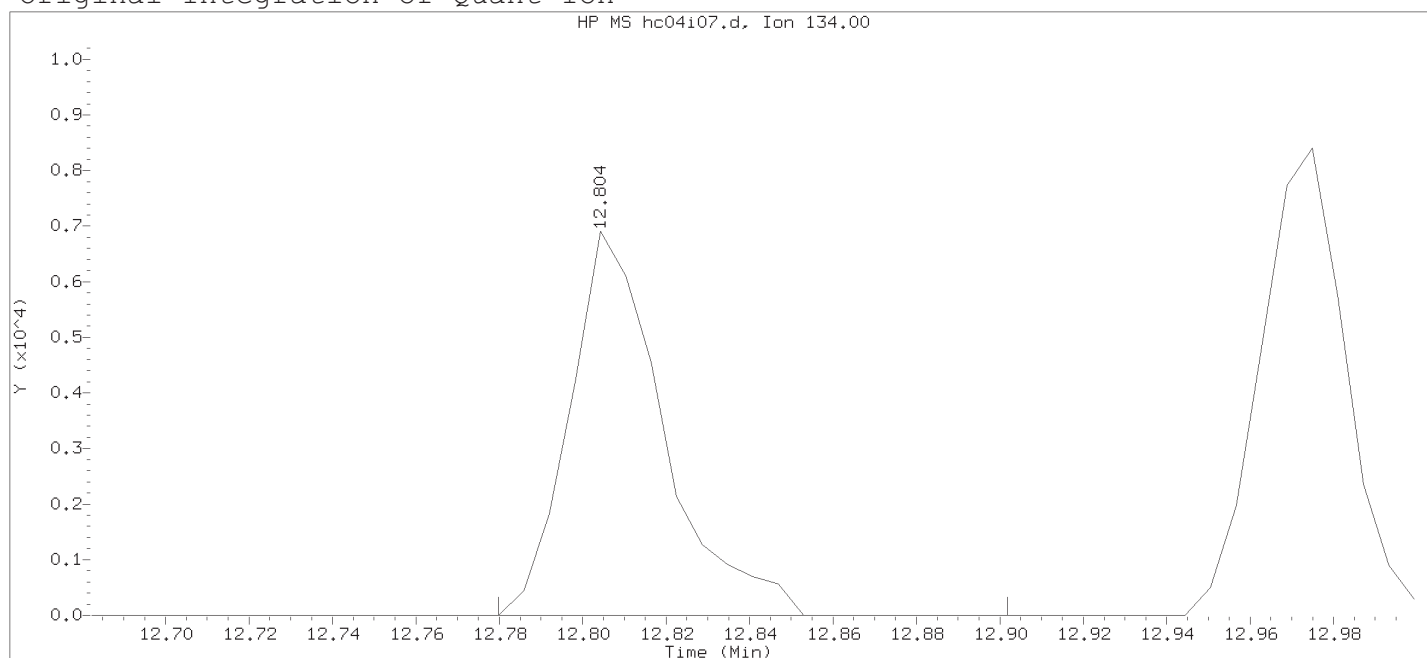
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:55

Date, time and analyst ID of latest file update: 04-Oct-2016 12:55 Automation

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number : 125

Compound Name : tert-Butylbenzene

Scan Number : 1840

Retention Time (minutes): 12.804

Quant Ion : 134.00

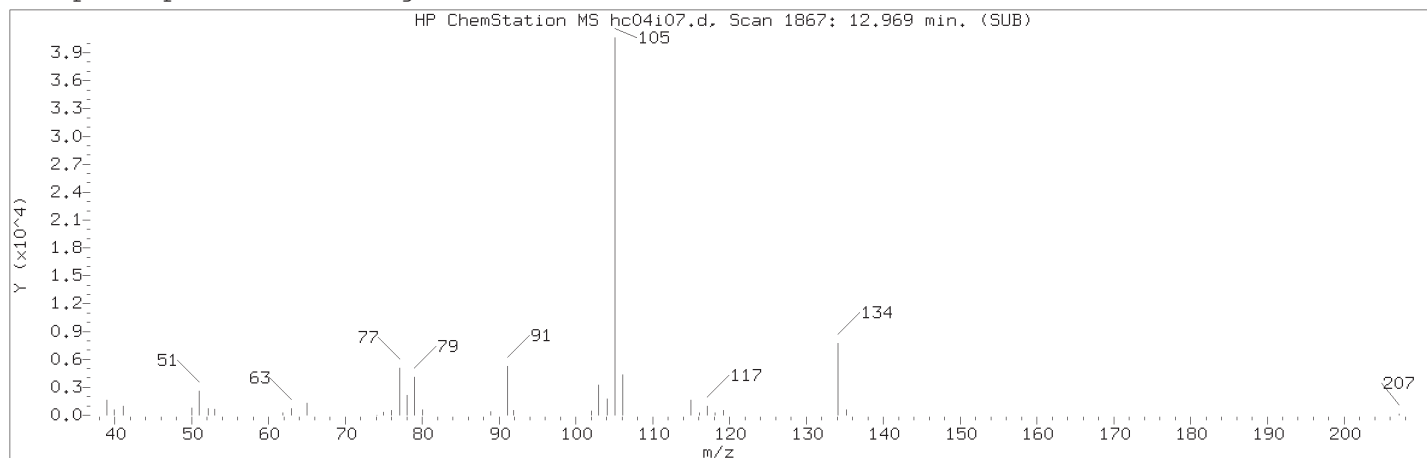
Area : 10831

On-column Amount (ng) : 0.2143

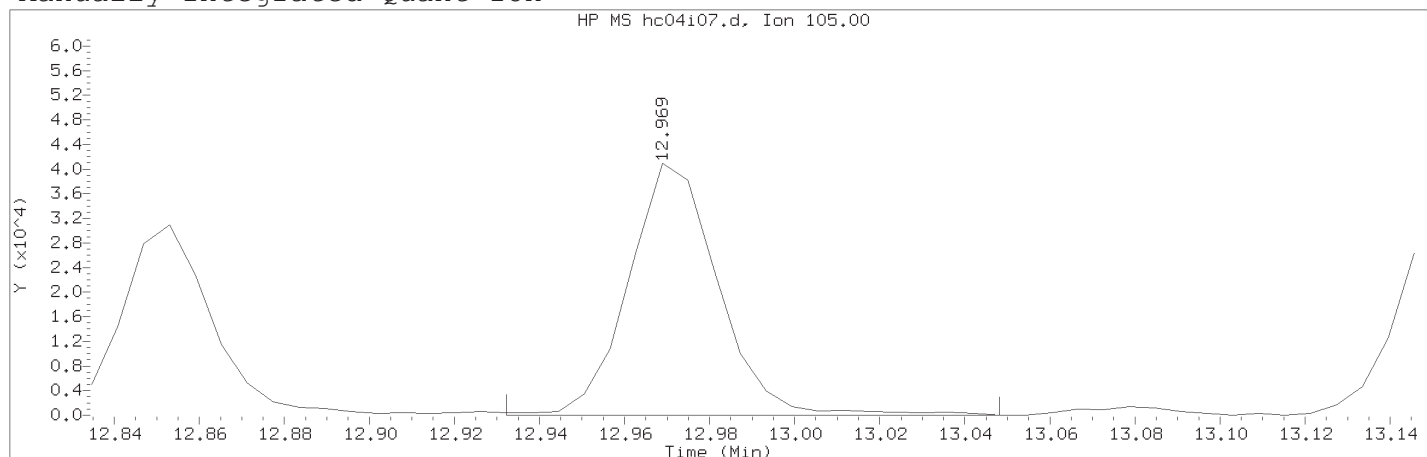
Integration start scan : 1835 Integration stop scan: 1855

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number	: 128	
Compound Name	: sec-Butylbenzene	
Scan Number	: 1867	
Retention Time (minutes)	: 12.969	
Quant Ion	: 105.00	
Area (flag)	: 59995M	
On-Column Amount (ng)	: 0.1976	
Integration start scan	: 1860	Integration stop scan: 1879
Y at integration start	: 0	Y at integration end: 0

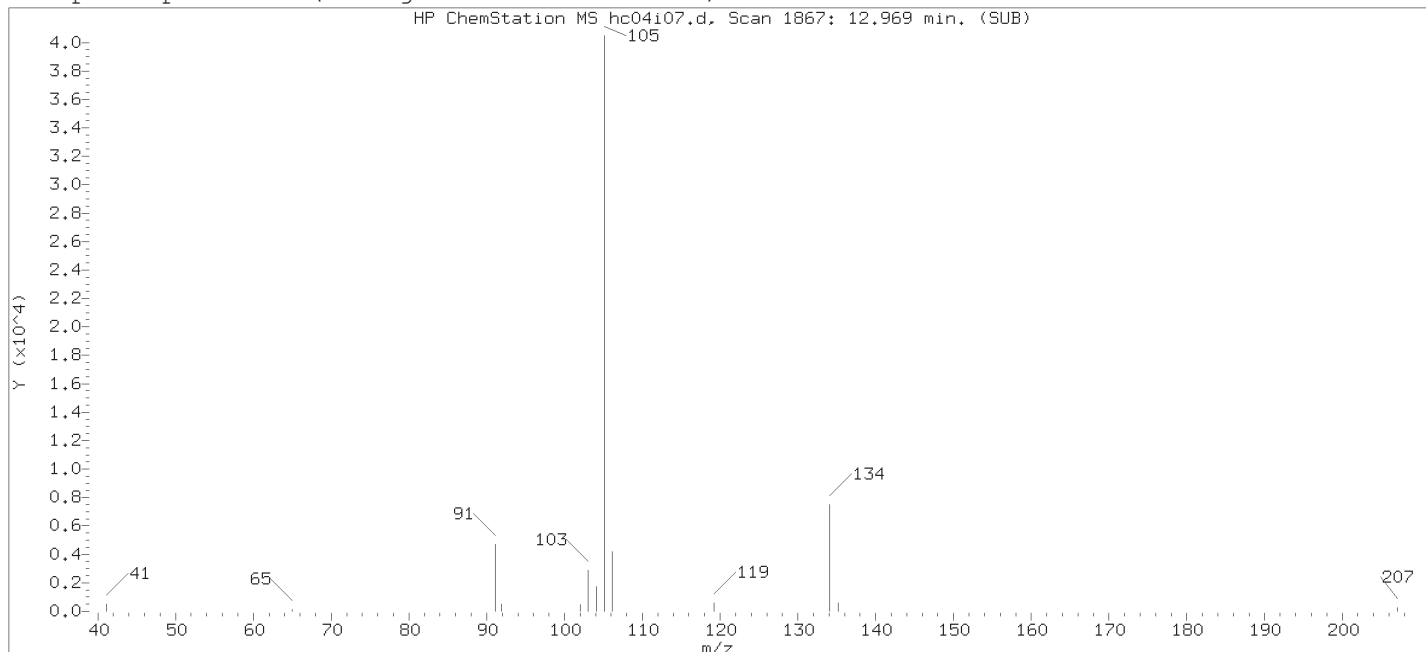
Reason for manual integration: improper integration

Analyst responsible for change:

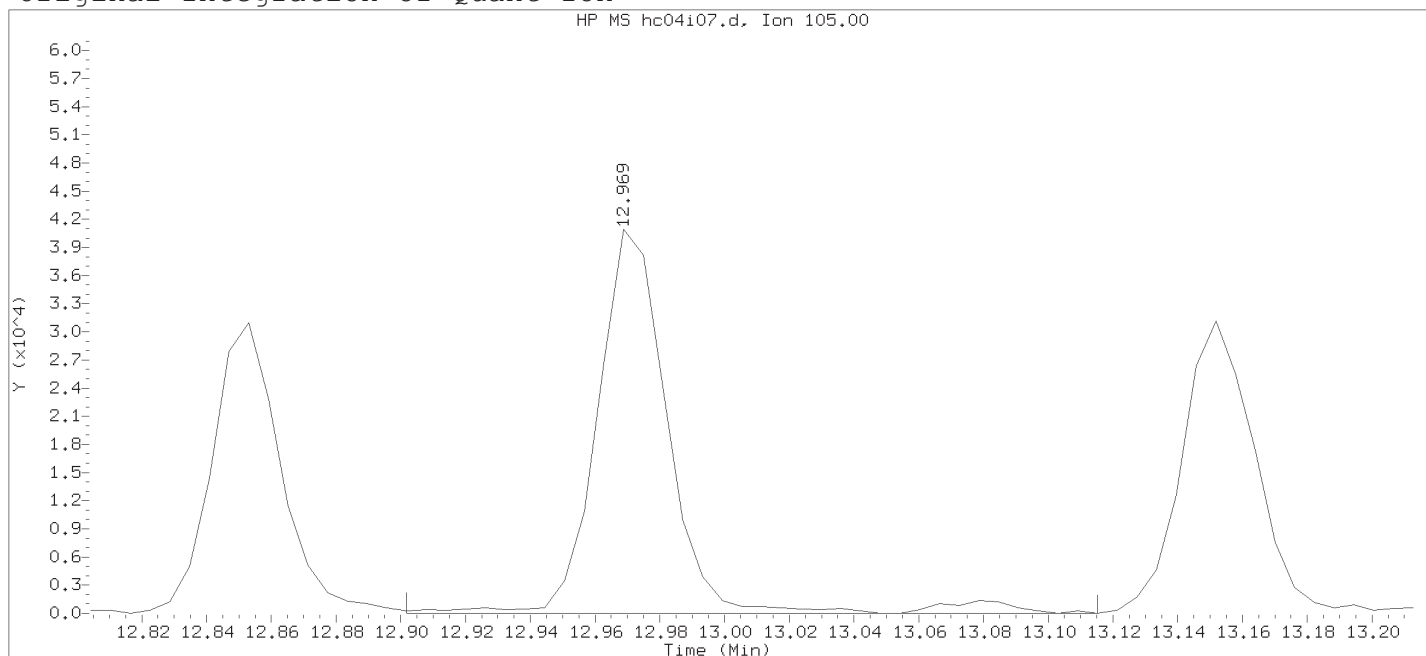
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:55

Date, time and analyst ID of latest file update: 04-Oct-2016 12:55 Automation

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number : 128

Compound Name : sec-Butylbenzene

Scan Number : 1867

Retention Time (minutes) : 12.969

Quant Ion : 105.00

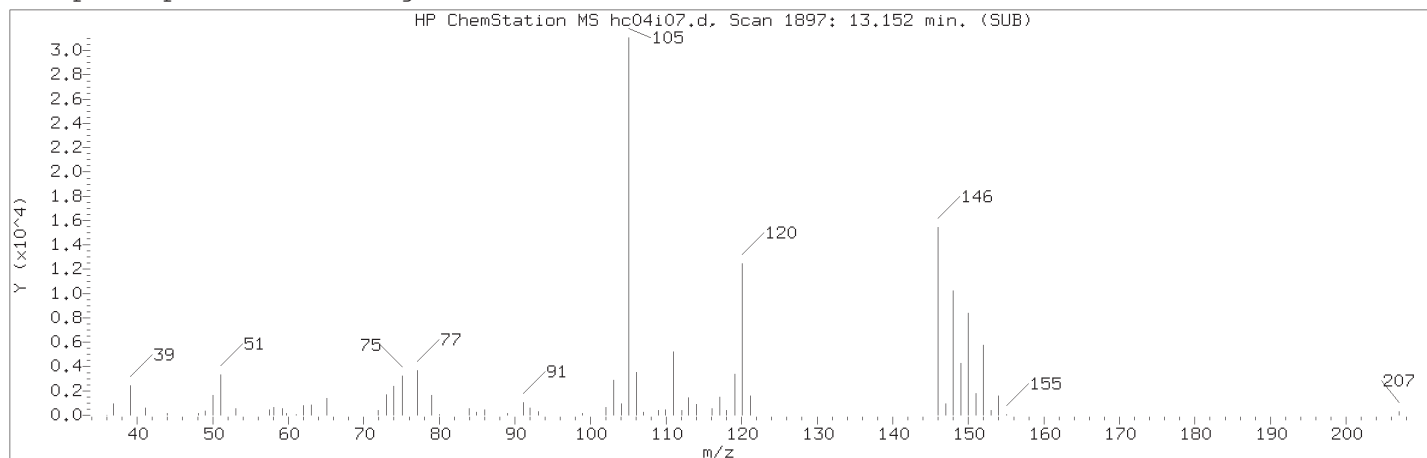
Area : 62817

On-column Amount (ng) : 0.2064

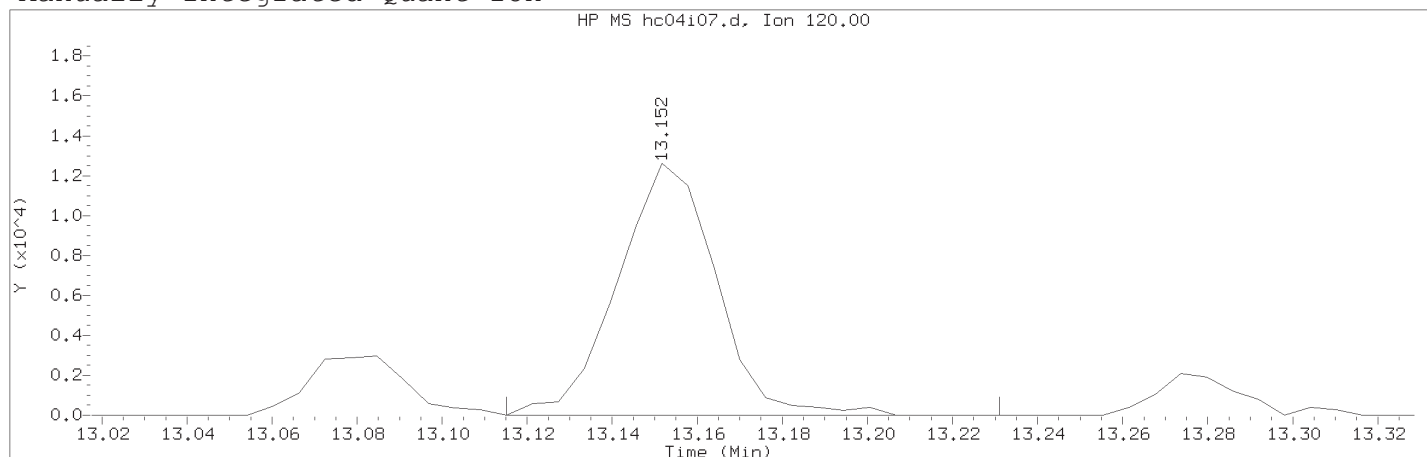
Integration start scan : 1855 Integration stop scan: 1890

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:29

Date, time and analyst ID of latest file update: 04-Oct-2016 15:29 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number	: 135	
Compound Name	: 1,2,3-Trimethylbenzene	
Scan Number	: 1897	
Retention Time (minutes)	: 13.152	
Quant Ion	: 120.00	
Area (flag)	: 20265M	
On-Column Amount (ng)	: 0.2005	
Integration start scan	: 1890	Integration stop scan: 1909
Y at integration start	: 0	Y at integration end: 0

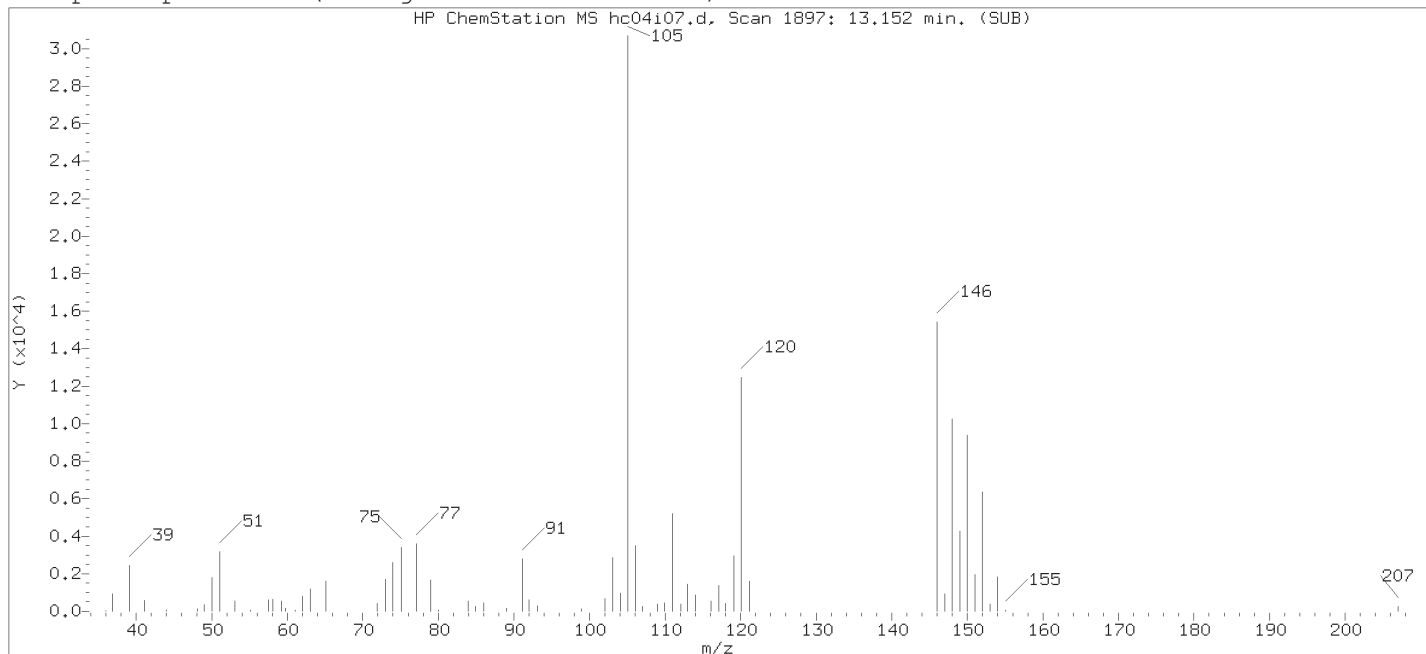
Reason for manual integration: improper integration

Analyst responsible for change:

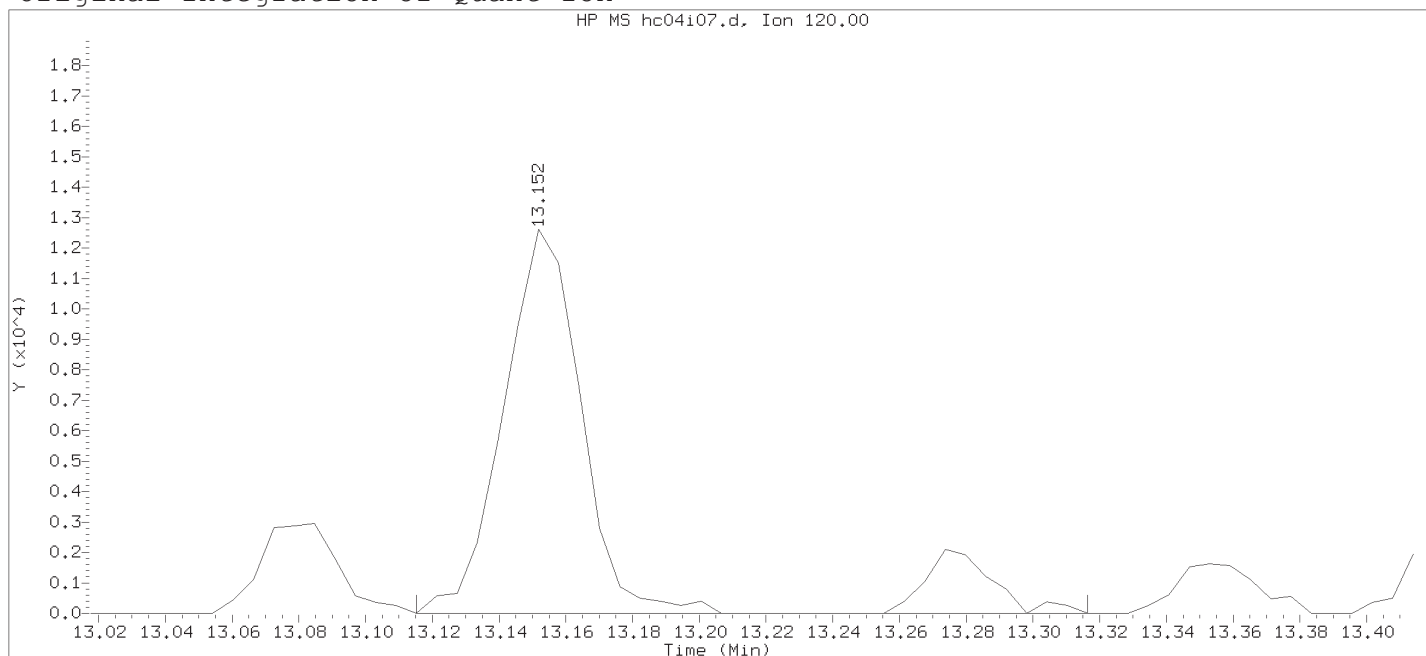
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:34.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:50.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:36

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:55

Date, time and analyst ID of latest file update: 04-Oct-2016 12:55 Automation

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number : 135

Compound Name : 1,2,3-Trimethylbenzene

Scan Number : 1897

Retention Time (minutes): 13.152

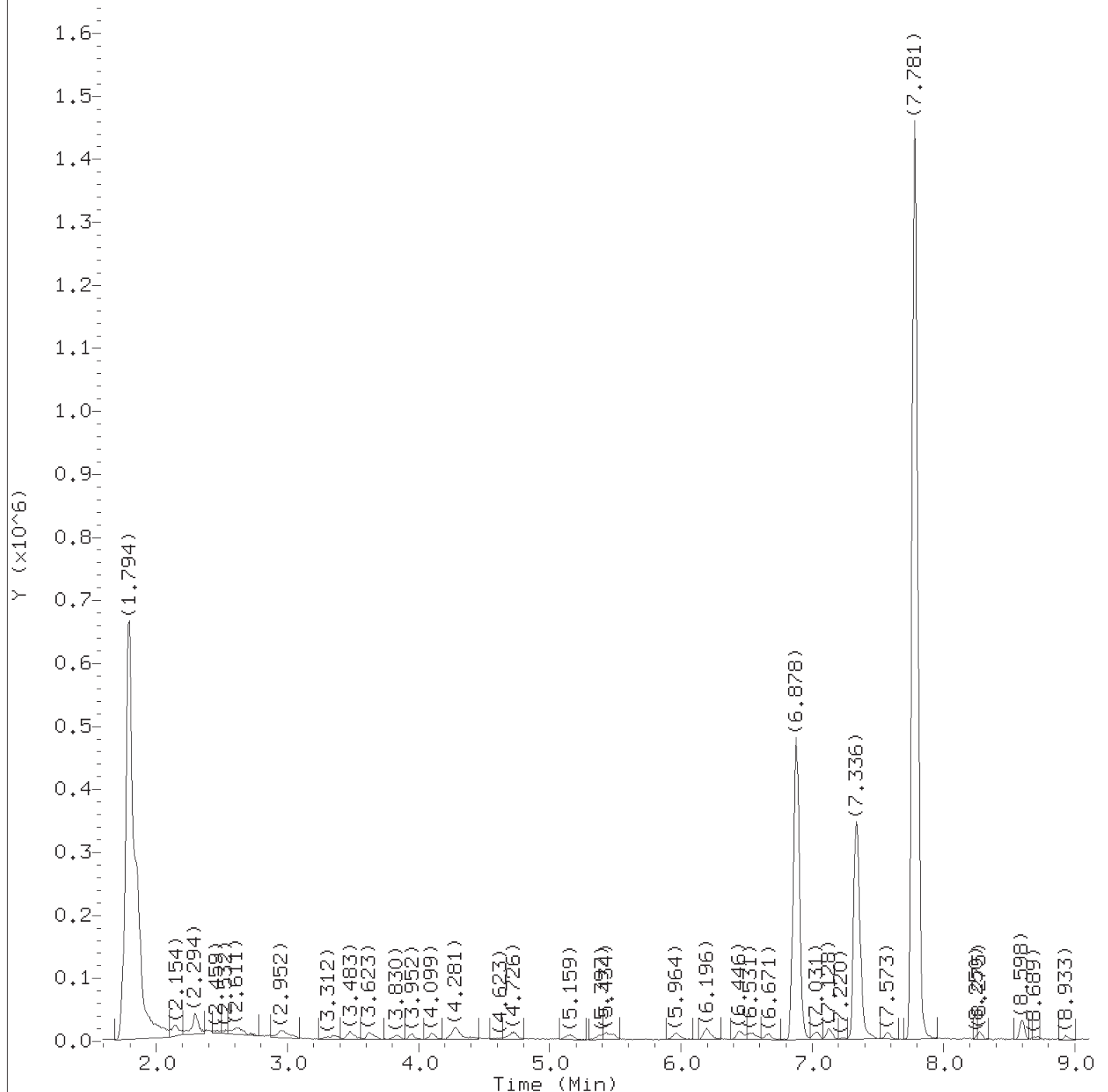
Quant Ion : 120.00

Area : 23231

On-column Amount (ng) : 0.2275

Integration start scan : 1890 Integration stop scan: 1923

Y at integration start : 0 Y at integration end: 0



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d
Injection date and time: 04-OCT-2016 12:56

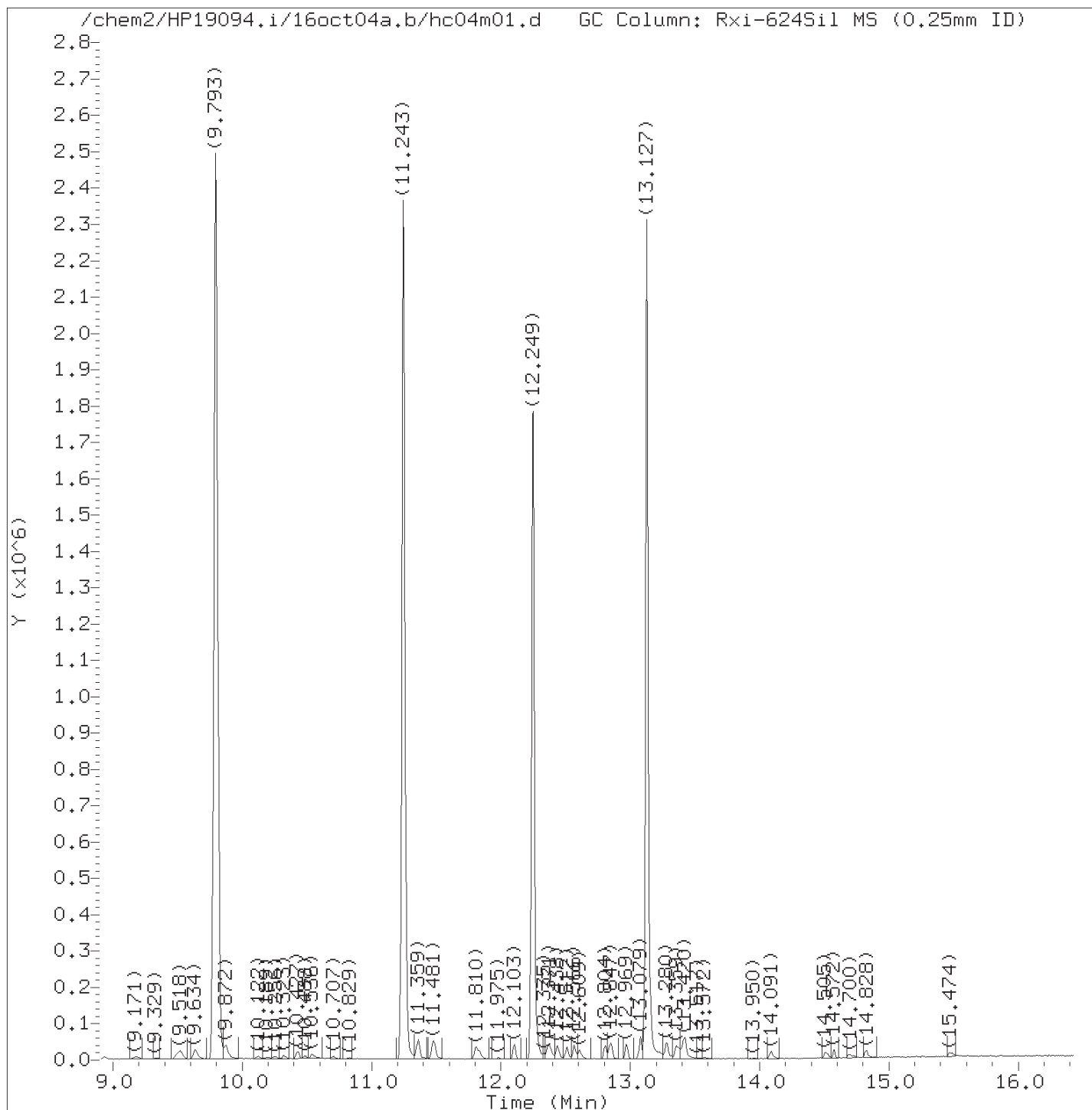
Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:33
Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d
Injection date and time: 04-OCT-2016 12:56

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:33
Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.

Target 3.5 esignature User ID: kel01973
RAE76 Page 391 of 883

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d
 Injection date and time: 04-OCT-2016 12:56

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:33
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.026	85	9414	0.109
2) Chloromethane	(2)	2.142	50	12025	0.130
5) Vinyl Chloride	(2)	2.294	62	8936	0.108
6) 1,3-Butadiene	(2)	2.306	39	16639M	0.131
7) Bromomethane	(2)	2.623	94	5415	0.102
8) Chloroethane	(2)	2.721	64	5397	0.116
9) Dichlorofluoromethane	(2)	2.952	67	12783	0.115
10) Trichlorofluoromethane	(2)	3.038	101	10226	0.102
11) Ethyl ether	(2)	3.312	59	3721	0.101
12) Freon 123a	(2)	3.367	67	6664	0.096
13) Acrolein	(1)	3.477	56	21269	4.794
15) 1,1-Dichloroethene	(2)	3.623	96	5028	0.108
16) Freon 113	(2)	3.641	101	4233	0.083
14) Acetone	(1)	3.672	43	7749	1.305
17) Methyl Iodide	(2)	3.824	142	8559	0.096
18) Carbon Disulfide	(2)	3.952	76	18036M	0.127
21) Methyl Acetate	(1)	4.092	43	1547M	0.336
22) Allyl Chloride	(2)	4.111	41	11325	0.111
26)*t-Butyl Alcohol-d10	(1)	4.269	65	61694	50.000
23) Methylene Chloride	(2)	4.281	84	5709	0.114
28) t-Butyl Alcohol	(1)	4.416	59	1842	1.148
29) Acrylonitrile	(1)	4.647	53	2722	0.389
30) Methyl Tertiary Butyl Ether	(2)	4.696	73	10114	0.093
31) trans-1,2-Dichloroethene	(2)	4.726	96	5555	0.105
32) n-Hexane	(2)	5.165	57	6580	0.082
33) 1,1-Dichloroethane	(2)	5.373	63	10017	0.096
34) di-Isopropyl Ether	(2)	5.434	45	18310	0.098
35) 2-Chloro-1,3-Butadiene	(2)	5.495	53	9182	0.095
37) Ethyl t-butyl ether	(2)	5.964	59	13990	0.092
40) 1,2-Dichloroethene (Total)	(2)		96	11665	0.210
38) 2-Butanone	(1)	6.184	43	9965	0.948
41) 2,2-Dichloropropane	(2)	6.196	77	8249	0.097
39) cis-1,2-Dichloroethene	(2)	6.196	96	6110	0.105
42) Propionitrile	(1)	6.281	54	3016	1.301
45) Methacrylonitrile	(1)	6.452	67	8775	0.887
47) Bromochloromethane	(2)	6.525	128	2193	0.094
48) Tetrahydrofuran	(1)	6.549	71	2855	1.054
49) Chloroform	(2)	6.671	83	10721	0.106

M = Compound was manually integrated.

* = Compound is an internal standard.

page 1 of 3

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 on 10/04/2016 at 15:40.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d
 Injection date and time: 04-OCT-2016 12:56

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 15:33
 Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
50) \$Dibromofluoromethane	(2)	6.878	113	460279	9.851
51) 1,1,1-Trichloroethane	(2)	6.915	97	9311	0.103
52) Cyclohexane	(2)	7.025	56	9806	0.092
55) 1,1-Dichloropropene	(2)	7.128	75	7695	0.094
54) Carbon Tetrachloride	(2)	7.128	117	6994	0.089
56) Isobutyl Alcohol	(1)	7.250	41	1767	2.784
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	77318	10.300
58) Benzene	(2)	7.391	78	21439	0.098
59) 1,2-Dichloroethane	(2)	7.445	62	7347	0.121
60) t-Amyl methyl ether	(2)	7.567	73	11191	0.091
63) *Fluorobenzene	(2)	7.781	96	2037214	10.000
62) n-Heptane	(2)	7.811	43	9340	0.096
65) n-Butanol	(1)	8.189	56	1449	3.126
67) Trichloroethene	(2)	8.281	95	6215	0.104
70) 1,2-Dichloropropane	(2)	8.598	63	5224	0.094
69) Methylcyclohexane	(2)	8.610	83	11371	0.109
71) Methyl Methacrylate	(1)	8.671	69	930M	0.051
73) Dibromomethane	(2)	8.701	93	2126	0.091
74) Bromodichloromethane	(2)	8.933	83	5847	0.092
76) 2-Nitropropane	(1)	9.183	41	7366	1.093
80) cis-1,3-Dichloropropene	(2)	9.494	75	6072	0.084
81) 4-Methyl-2-Pentanone	(1)	9.640	43	27813	0.990
82) \$Toluene-d8	(3)	9.793	98	1984496	10.156
83) Toluene	(3)	9.872	92	13330	0.099
84) trans-1,3-Dichloropropene	(3)	10.122	75	5015	0.092
85) 1,3-Dichloropropene (total)	(3)		75	11087	0.176
86) Ethyl Methacrylate	(3)	10.189	69	3185	0.076
88) 1,1,2-Trichloroethane	(3)	10.323	97	3348	0.108
89) Tetrachloroethene	(3)	10.433	166	6522	0.101
90) 1,3-Dichloropropane	(3)	10.488	76	5029	0.090
91) 2-Hexanone	(1)	10.536	43	18146	0.933
93) Dibromochloromethane	(3)	10.701	129	3301	0.086
95) 1,2-Dibromoethane	(3)	10.829	107	2424	0.083
97) *Chlorobenzene-d5	(3)	11.243	117	1293534	10.000
98) Chlorobenzene	(3)	11.274	112	14866	0.104
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	4678	0.095
100) Ethylbenzene	(3)	11.359	91	26353	0.100
101) m+p-Xylene	(3)	11.481	106	18239	0.184

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/04/2016 at 15:40.
 Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d
Injection date and time: 04-OCT-2016 12:56

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:33
Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
105) Xylene (Total)	(3)		106	27109	0.275
104) o-Xylene	(3)	11.804	106	8870	0.092
106) Styrene	(3)	11.835	104	13061	0.088
107) Bromoform	(3)	11.981	173	2097	0.100
108) Isopropylbenzene	(3)	12.103	105	24961	0.096
111) \$4-Bromofluorobenzene	(3)	12.243	95	572854	9.972
113) 1,1,2,2-Tetrachloroethane	(4)	12.335	83	3414	0.096
114) Bromobenzene	(4)	12.365	156	5720	0.100
115) trans-1,4-Dichloro-2-butene	(1)	12.371	53	7530M	0.905
116) 1,2,3-Trichloropropane	(4)	12.390	110	1014	0.107
117) n-Propylbenzene	(4)	12.438	91	28431	0.093
119) 2-Chlorotoluene	(4)	12.512	126	5787	0.101
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	18790	0.090
122) 4-Chlorotoluene	(4)	12.609	126	5623	0.096
125) tert-Butylbenzene	(4)	12.804	134	3884M	0.085
126) Pentachloroethane	(4)	12.841	167	3373	0.095
127) 1,2,4-Trimethylbenzene	(4)	12.853	105	19806	0.094
128) sec-Butylbenzene	(4)	12.969	105	25519	0.093
131) 1,3-Dichlorobenzene	(4)	13.079	146	11440	0.103
132) p-Isopropyltoluene	(4)	13.079	119	19174	0.084
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	575339	10.000
134) 1,4-Dichlorobenzene	(4)	13.146	146	13157	0.113
135) 1,2,3-Trimethylbenzene	(4)	13.158	120	9940M	0.109
136) Benzyl Chloride	(4)	13.237	126	689	0.057
138) n-Butylbenzene	(4)	13.383	92	9602	0.087
139) 1,2-Dichlorobenzene	(4)	13.408	146	9604	0.097
143) 1,2-Dibromo-3-chloropropane	(1)	13.950	155	193	0.047
145) 1,2,4-Trichlorobenzene	(4)	14.517	180	8880	0.126
146) Hexachlorobutadiene	(4)	14.578	225	3757	0.112
147) Naphthalene	(4)	14.694	128	12628M	0.118
148) 1,2,3-Trichlorobenzene	(4)	14.828	180	8148	0.137

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

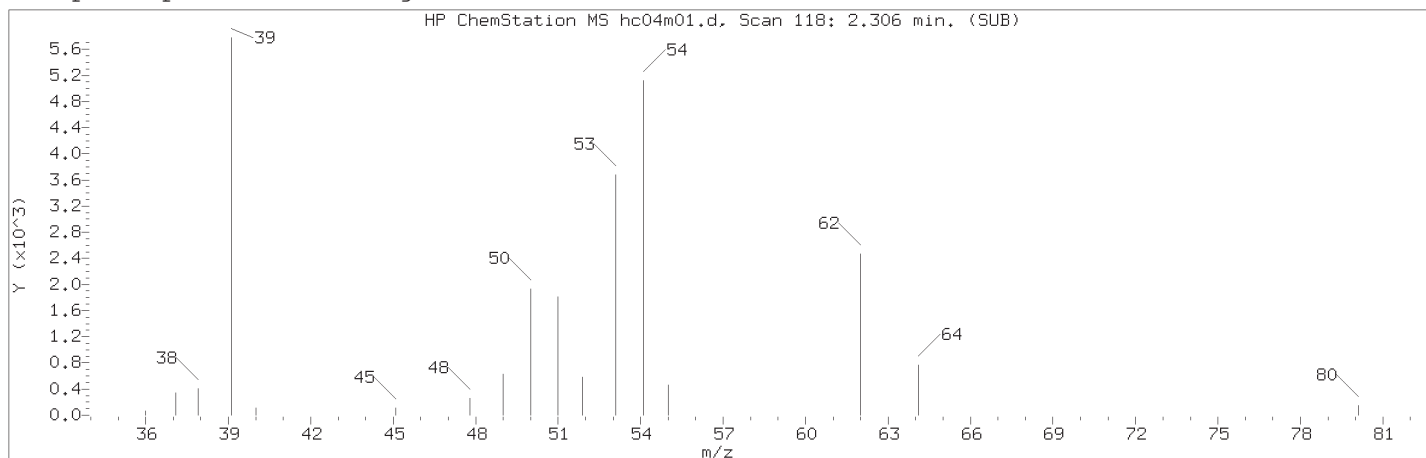
page 3 of 3

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on 10/04/2016 at 15:40.

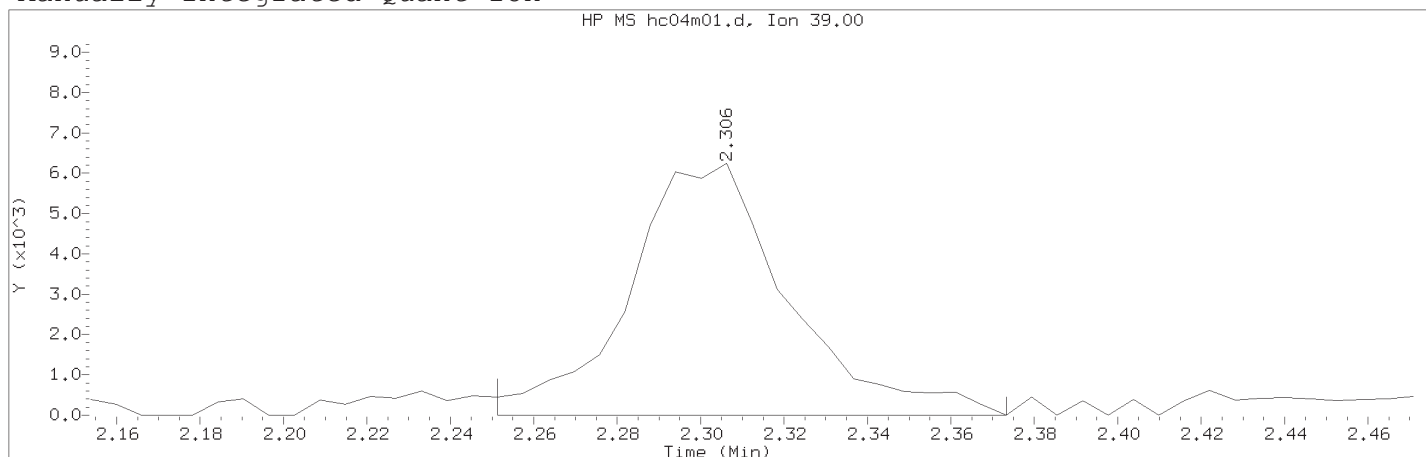
Target 3.5 esignature user ID: kel01973

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Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:33

Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number	: 6	
Compound Name	: 1,3-Butadiene	
Scan Number	: 118	
Retention Time (minutes)	: 2.306	
Quant Ion	: 39.00	
Area (flag)	: 16639M	
On-Column Amount (ng)	: 0.1314	
Integration start scan	: 108	Integration stop scan: 128
Y at integration start	: 0	Y at integration end: 0

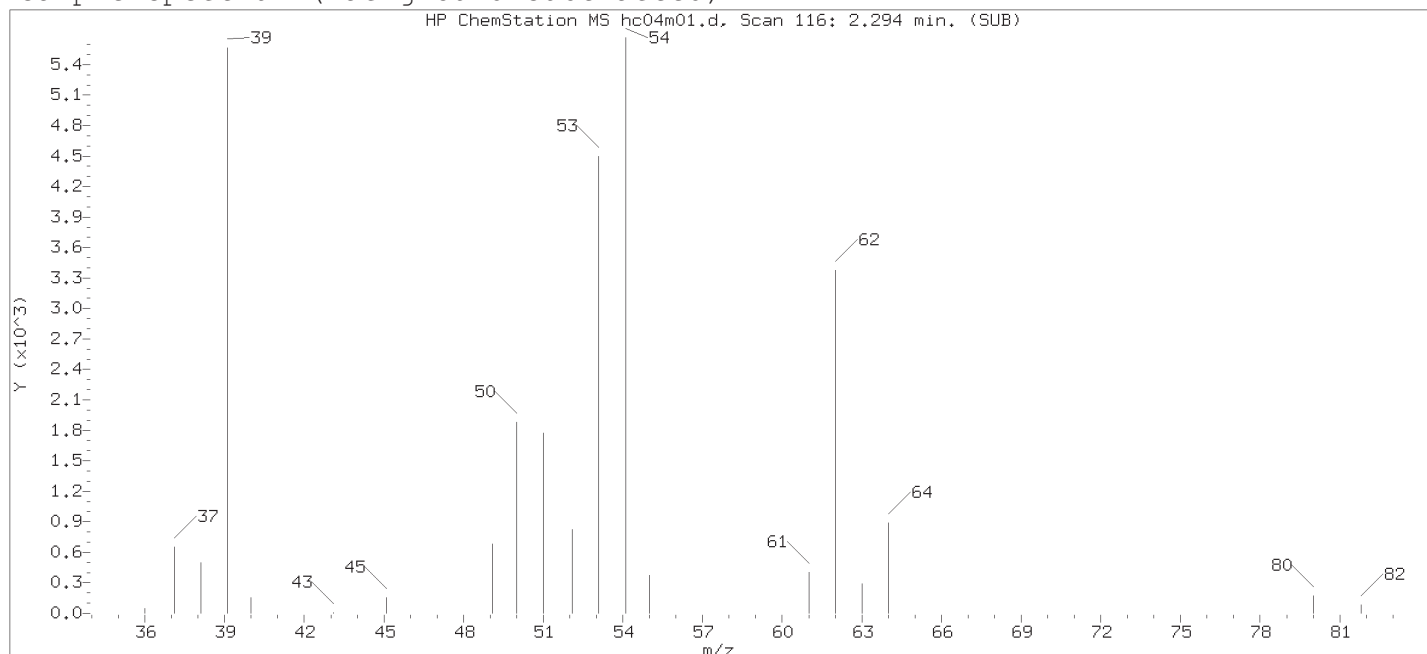
Reason for manual integration: improper integration

Analyst responsible for change:

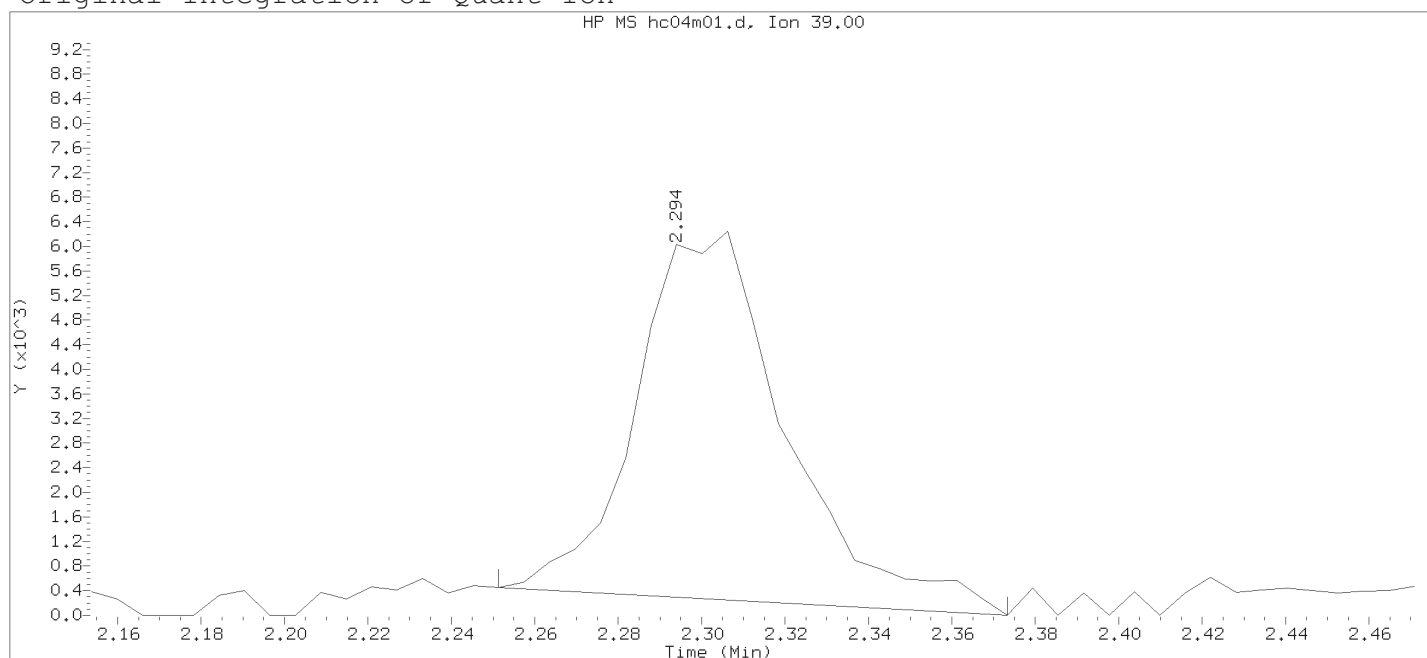
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:51.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:56

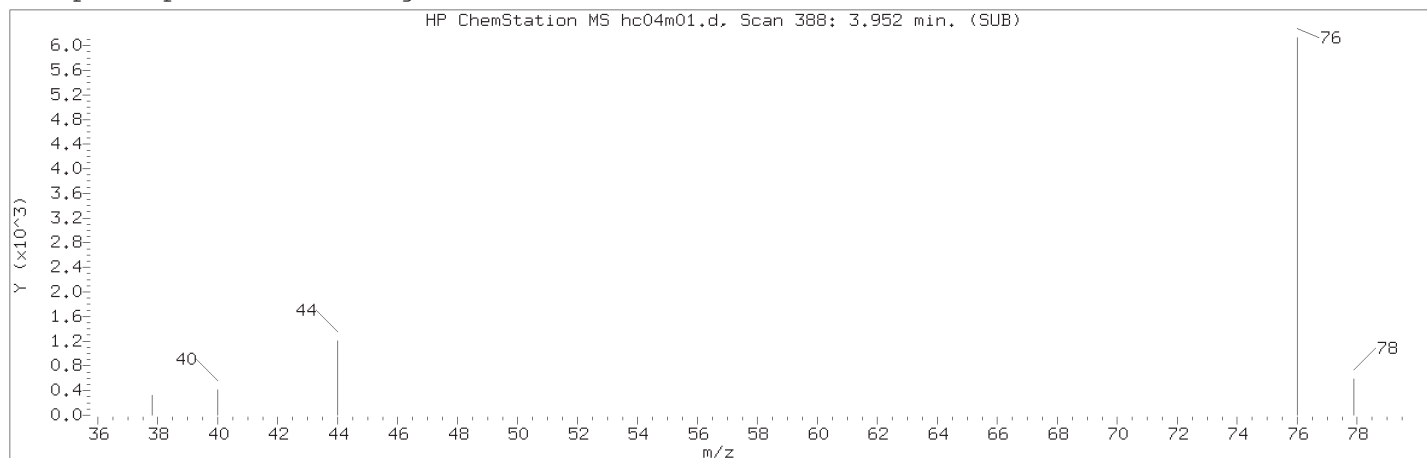
Date, time and analyst ID of latest file update: 04-Oct-2016 13:16 Automation

Sample Name: MDL0.1

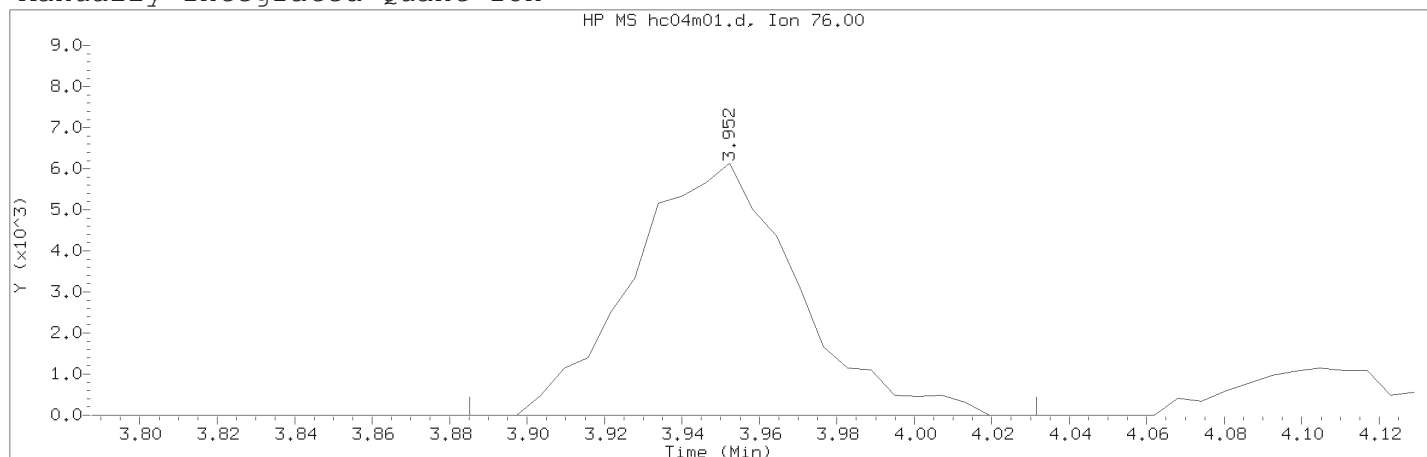
Lab Sample ID: MDL0.1

Compound Number	: 6	
Compound Name	: 1,3-Butadiene	
Scan Number	: 116	
Retention Time (minutes)	: 2.294	
Quant Ion	: 39.00	
Area	: 14914	
On-column Amount (ng)	: 0.1190	
Integration start scan	: 108	Integration stop scan: 128
Y at integration start	: 449	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 12:56 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:33
Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

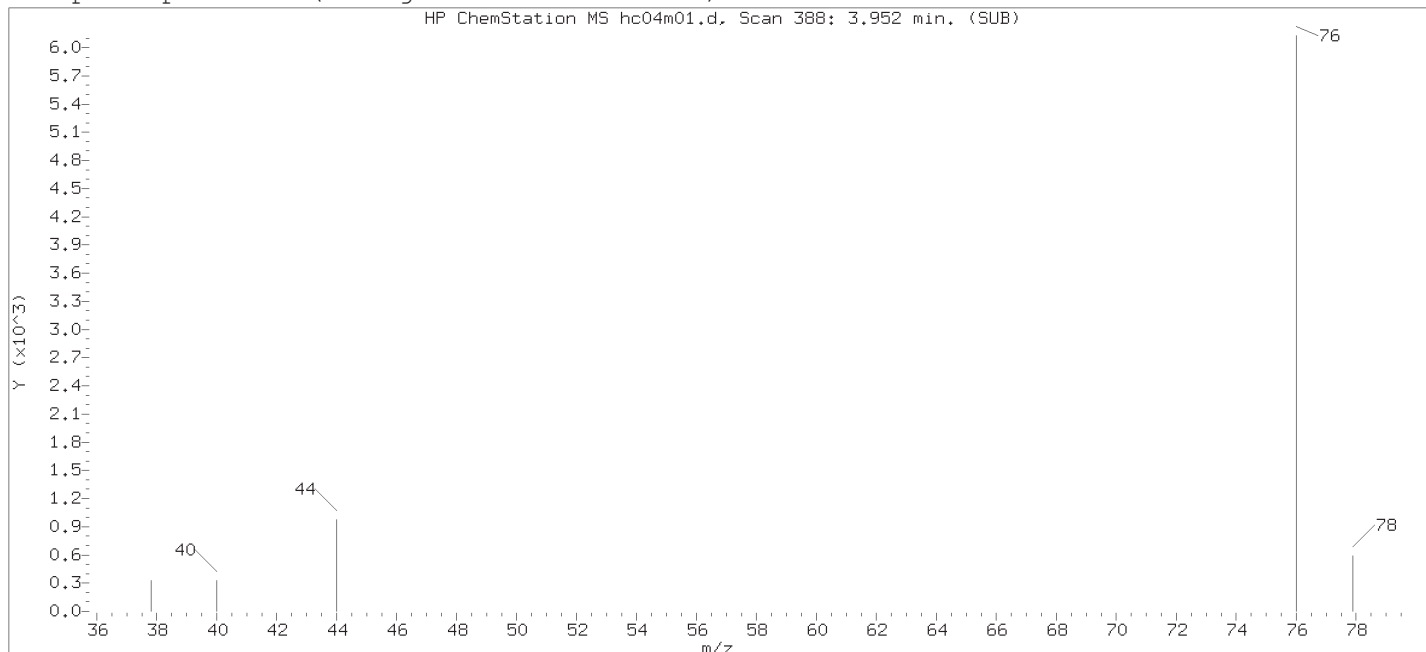
Compound Number : 18
Compound Name : Carbon Disulfide
Scan Number : 388
Retention Time (minutes): 3.952
Quant Ion : 76.00
Area (flag) : 18036M
On-Column Amount (ng) : 0.1273
Integration start scan : 376 Integration stop scan: 400
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

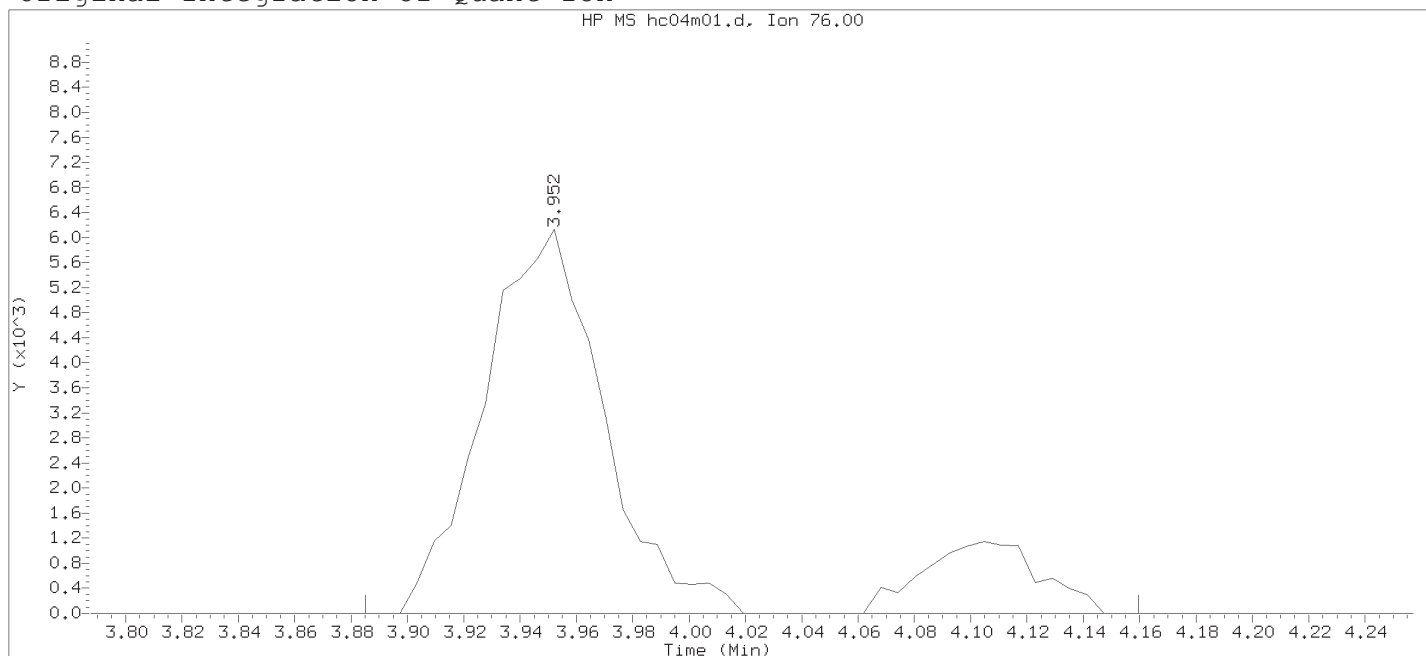
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:51.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:56

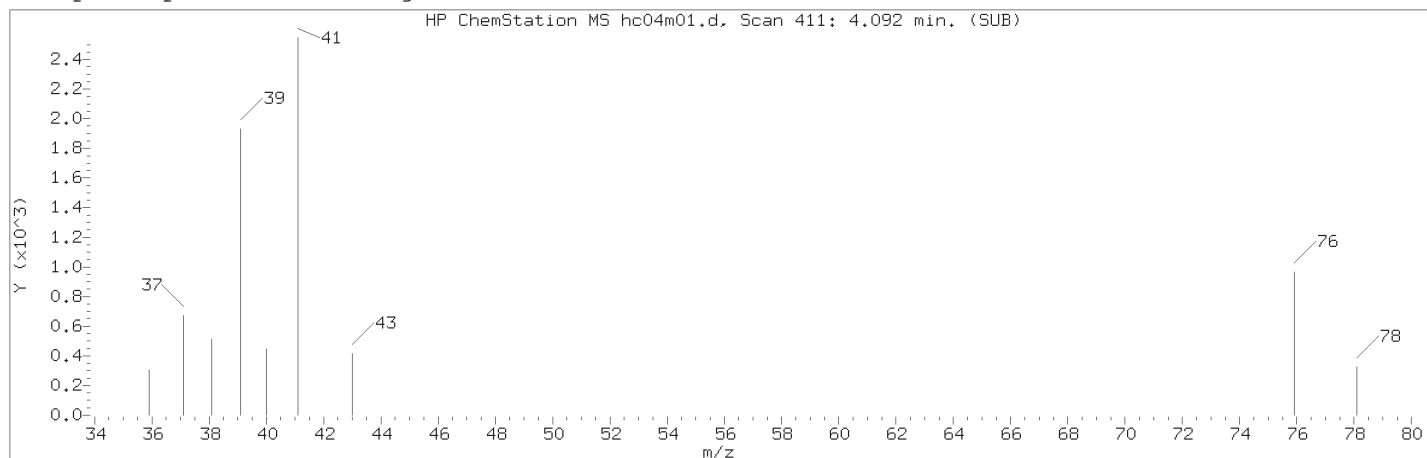
Date, time and analyst ID of latest file update: 04-Oct-2016 13:16 Automation

Sample Name: MDL0.1

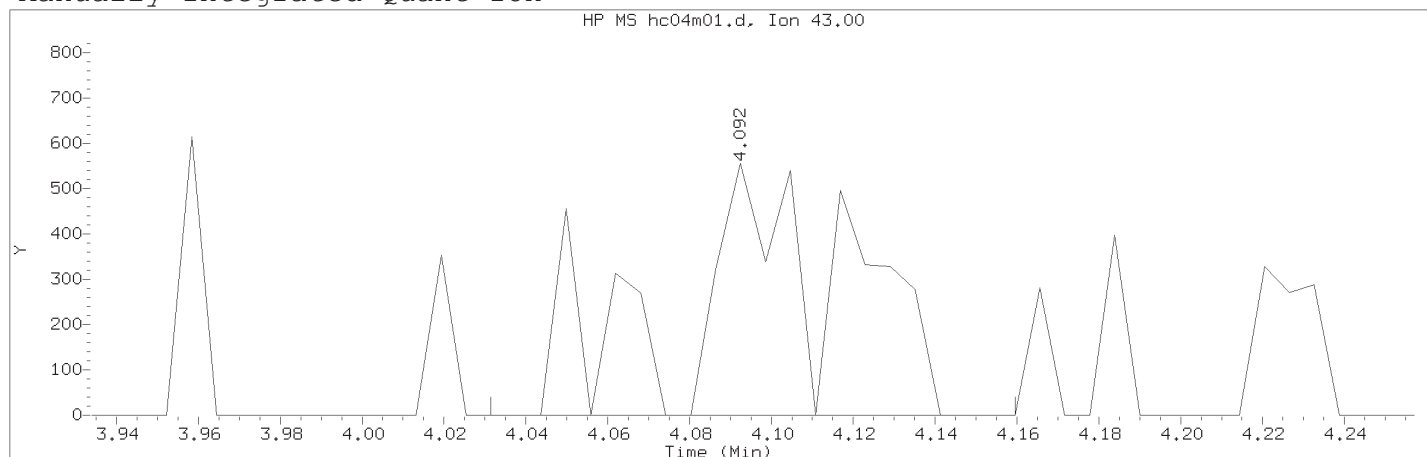
Lab Sample ID: MDL0.1

Compound Number	: 18	
Compound Name	: Carbon Disulfide	
Scan Number	: 388	
Retention Time (minutes)	: 3.952	
Quant Ion	: 76.00	
Area	: 21404	
On-column Amount (ng)	: 0.1543	
Integration start scan	: 376	Integration stop scan: 421
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:33

Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number	: 21	
Compound Name	: Methyl Acetate	
Scan Number	: 411	
Retention Time (minutes)	: 4.092	
Quant Ion	: 43.00	
Area (flag)	: 1547M	
On-Column Amount (ng)	: 0.3365	
Integration start scan	: 400	Integration stop scan: 421
Y at integration start	: 0	Y at integration end: 0

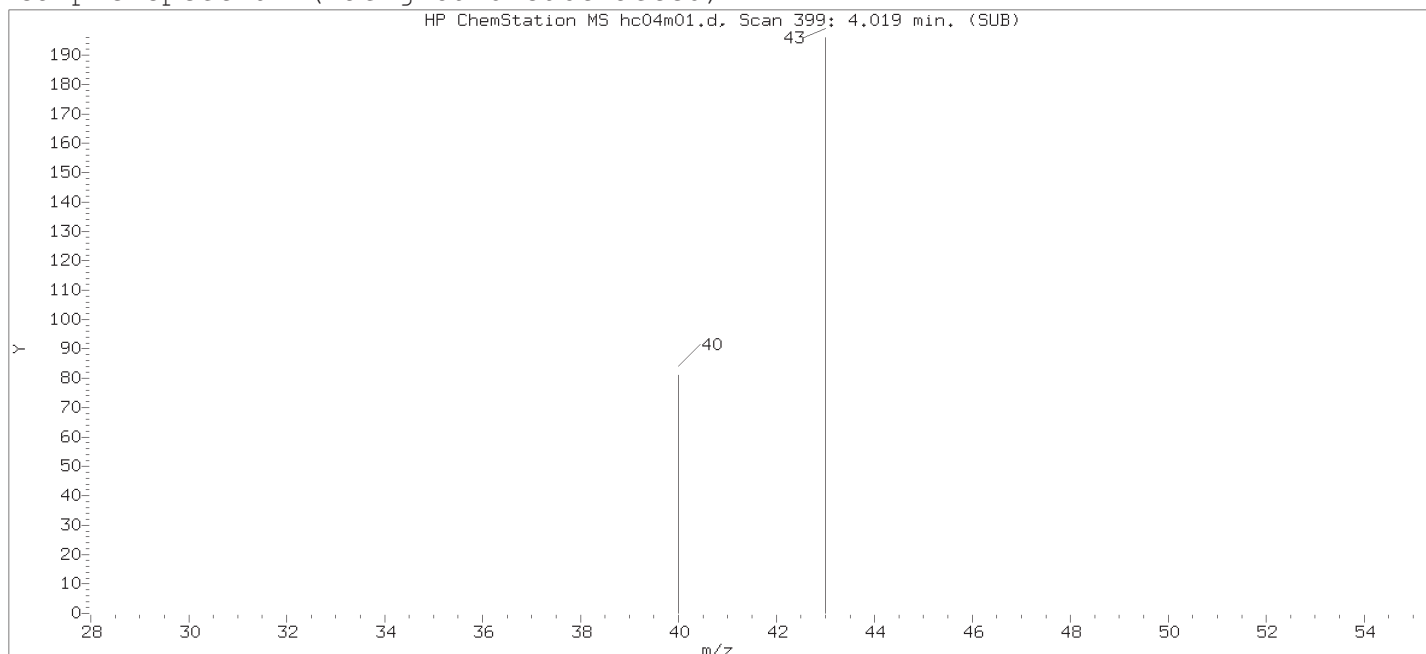
Reason for manual integration: improper integration

Analyst responsible for change:

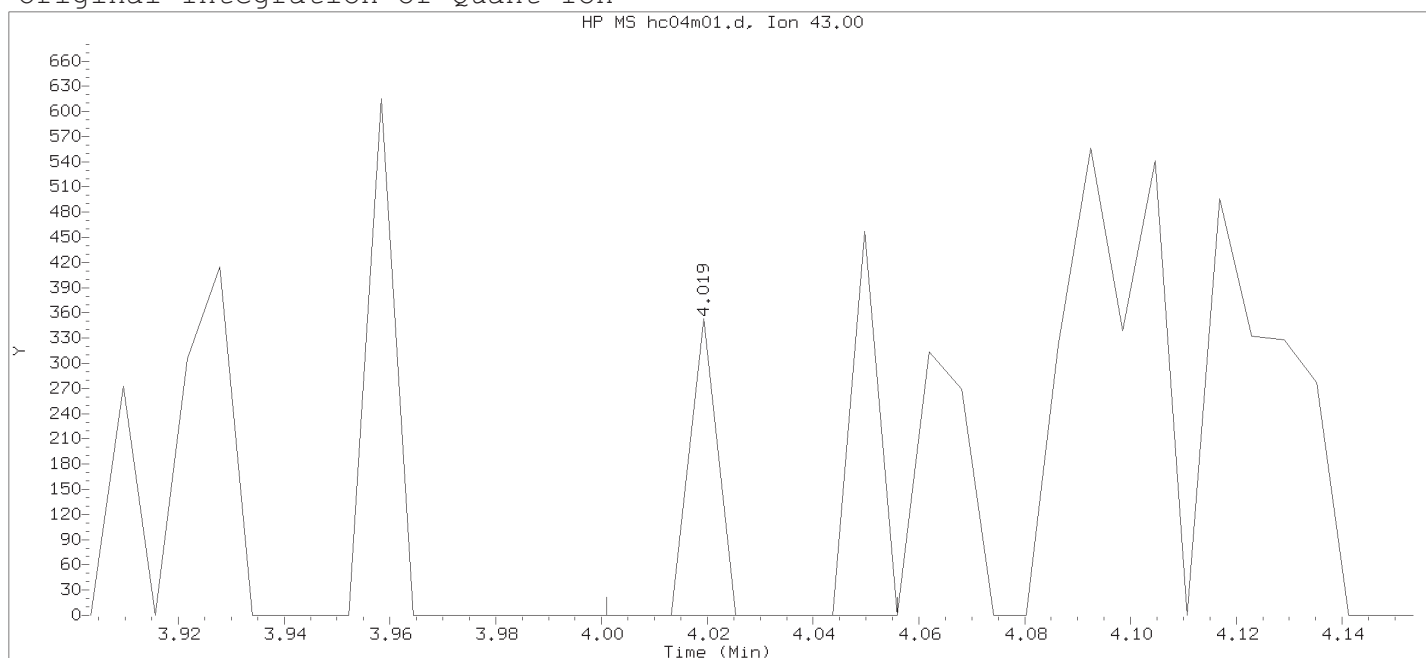
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:51.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:56

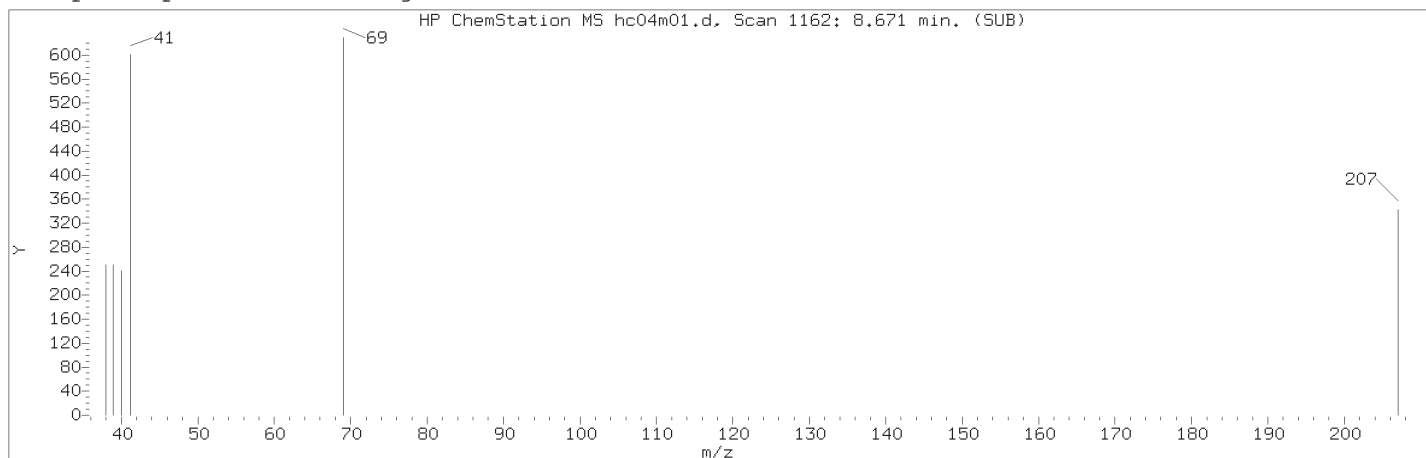
Date, time and analyst ID of latest file update: 04-Oct-2016 13:16 Automation

Sample Name: MDL0.1

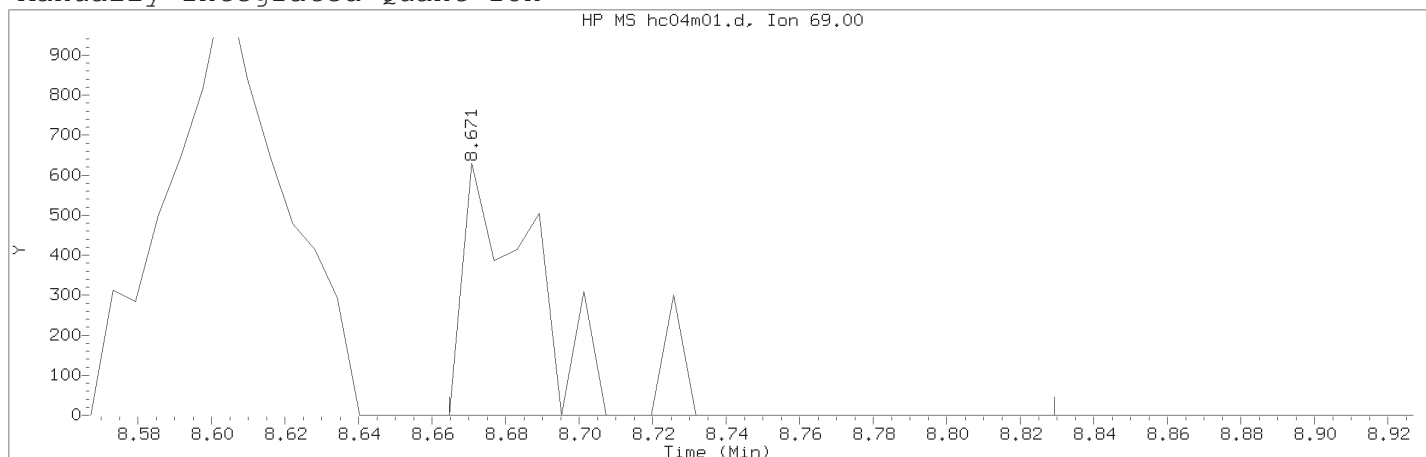
Lab Sample ID: MDL0.1

Compound Number	: 21	
Compound Name	: Methyl Acetate	
Scan Number	: 399	
Retention Time (minutes)	: 4.019	
Quant Ion	: 43.00	
Area	: 296	
On-column Amount (ng)	: 0.0155	
Integration start scan	: 395	Integration stop scan: 404
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 12:56 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 15:33
Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

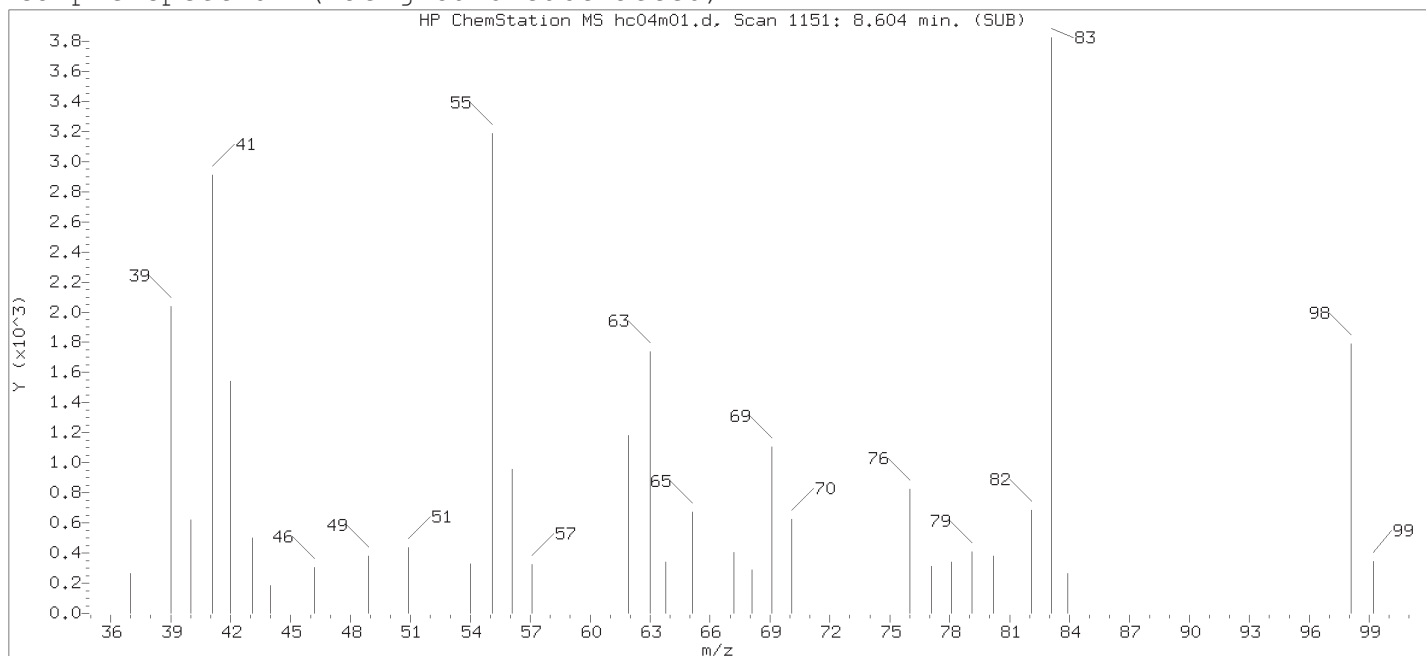
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1162
Retention Time (minutes): 8.671
Quant Ion : 69.00
Area (flag) : 930M
On-Column Amount (ng) : 0.0510
Integration start scan : 1160 Integration stop scan: 1187
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

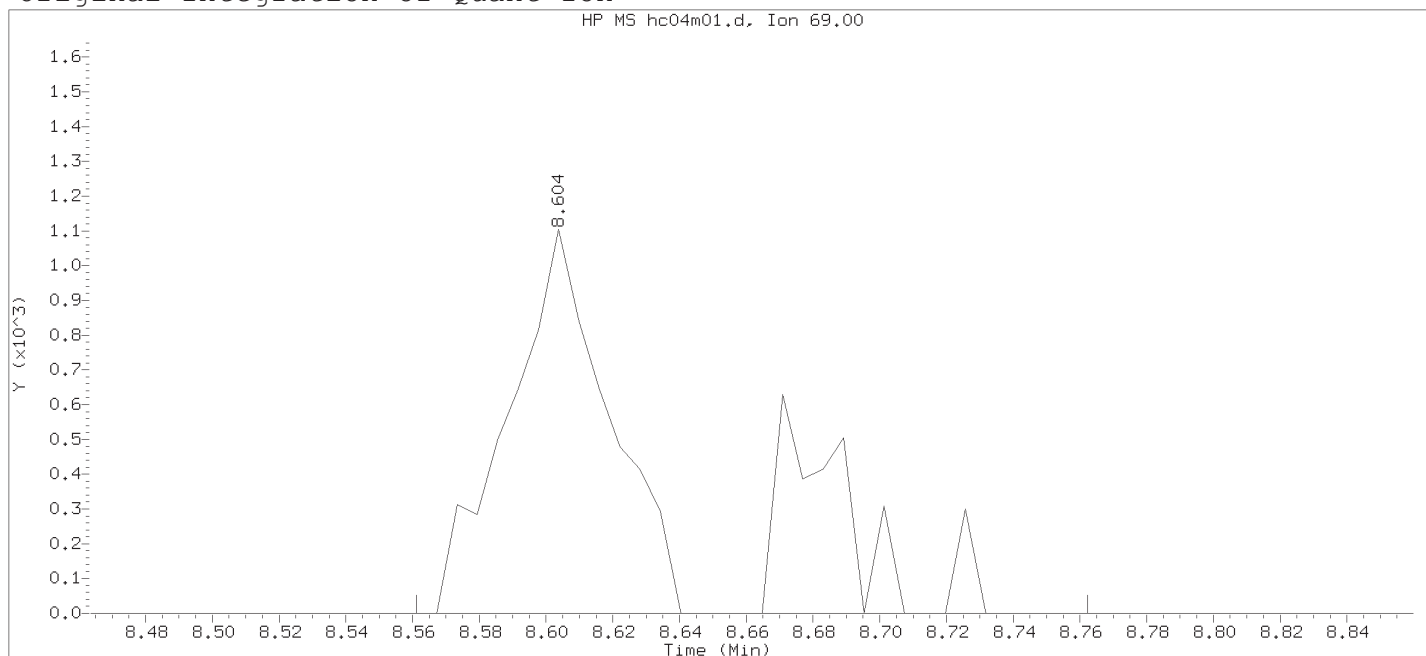
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:51.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:56

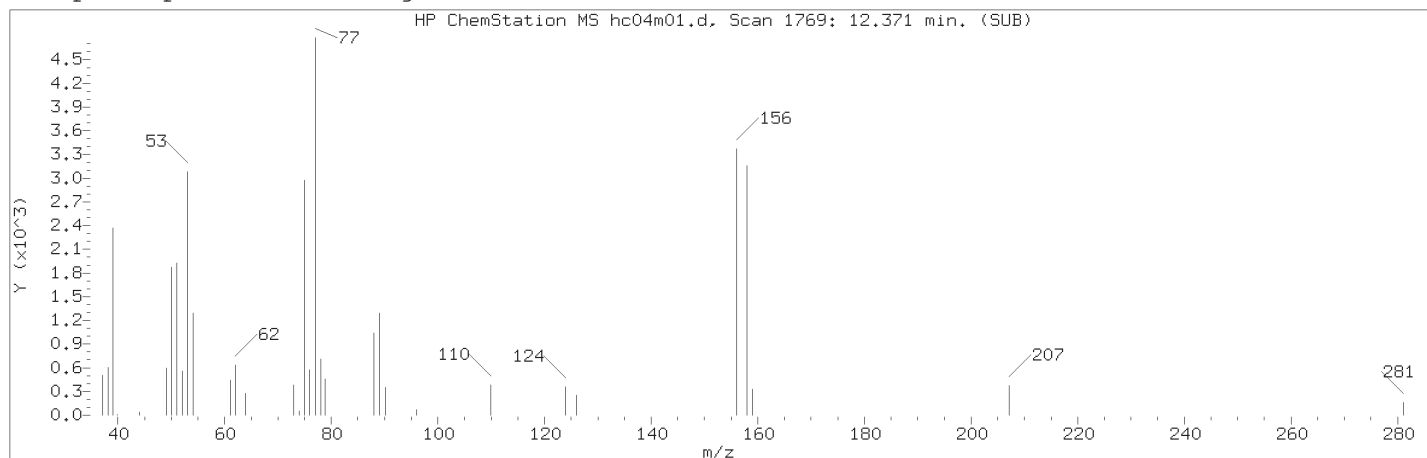
Date, time and analyst ID of latest file update: 04-Oct-2016 13:16 Automation

Sample Name: MDL0.1

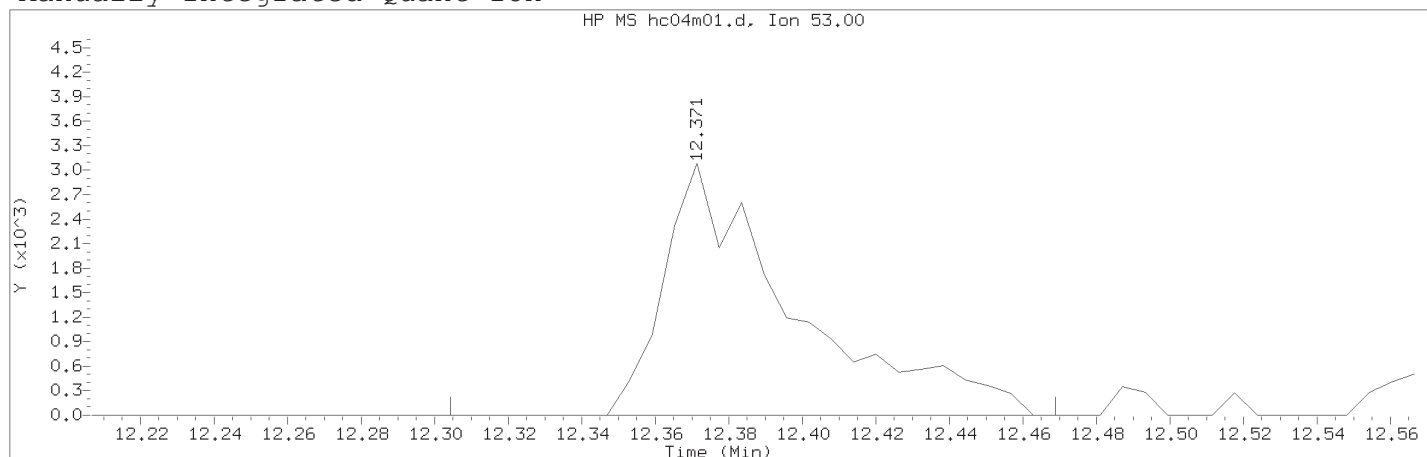
Lab Sample ID: MDL0.1

Compound Number	: 71	
Compound Name	: Methyl Methacrylate	
Scan Number	: 1151	
Retention Time (minutes)	: 8.604	
Quant Ion	: 69.00	
Area	: 3245	
On-column Amount (ng)	: 0.1718	
Integration start scan	: 1143	Integration stop scan: 1176
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:33

Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number	: 115	
Compound Name	: trans-1,4-Dichloro-2-butene	
Scan Number	: 1769	
Retention Time (minutes)	: 12.371	
Quant Ion	: 53.00	
Area (flag)	: 7530M	
On-Column Amount (ng)	: 0.9045	
Integration start scan	: 1757	Integration stop scan: 1784
Y at integration start	: 0	Y at integration end: 0

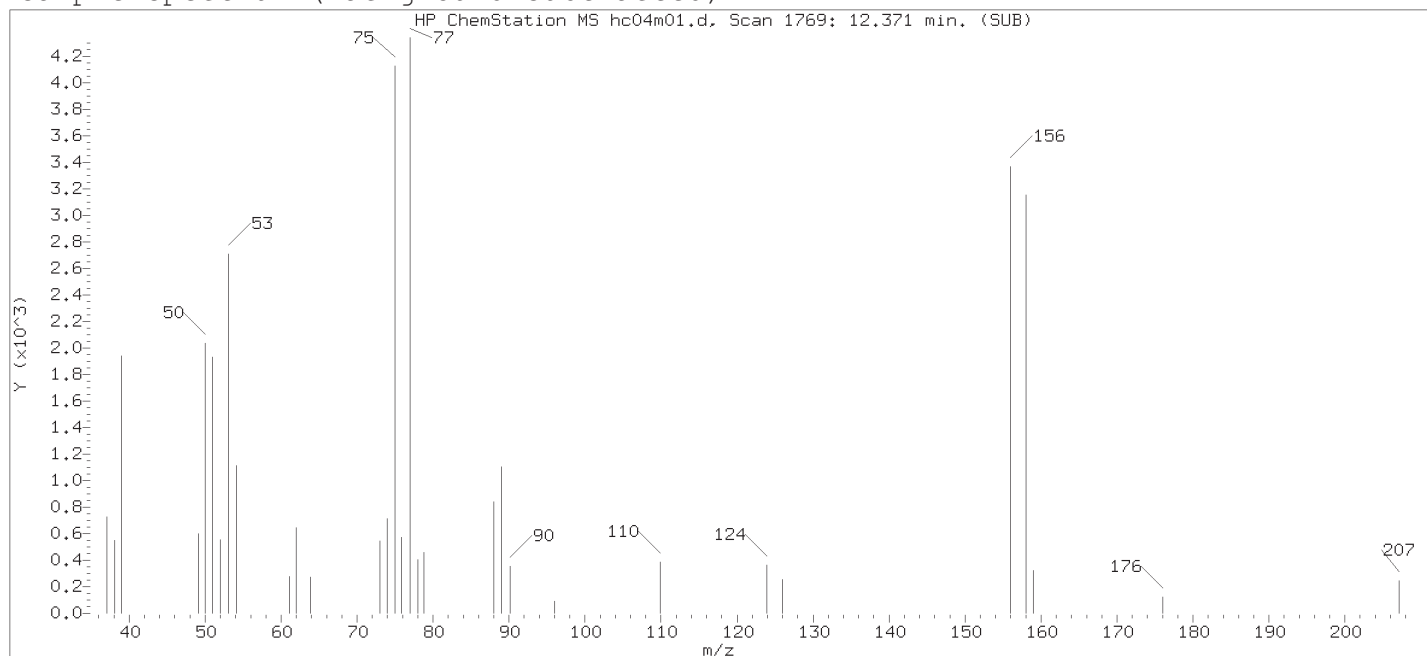
Reason for manual integration: improper integration

Analyst responsible for change:

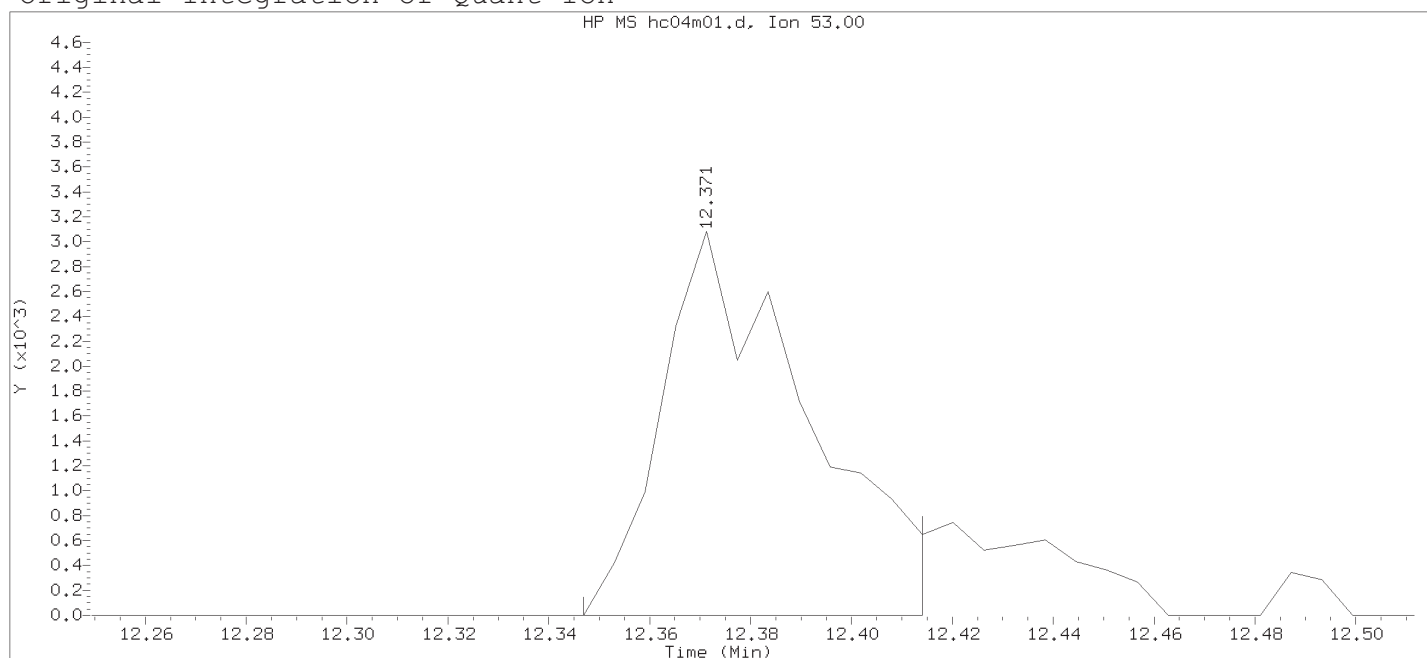
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:51.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:56

Date, time and analyst ID of latest file update: 04-Oct-2016 13:16 Automation

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number : 115

Compound Name : trans-1,4-Dichloro-2-butene

Scan Number : 1769

Retention Time (minutes): 12.371

Quant Ion : 53.00

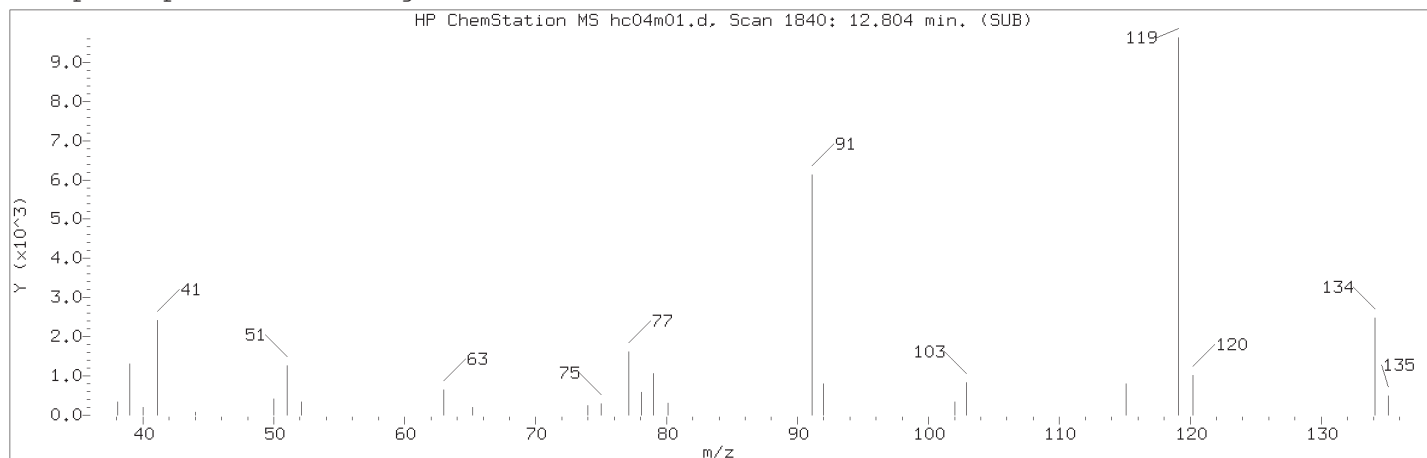
Area : 6134

On-column Amount (ng) : 0.7179

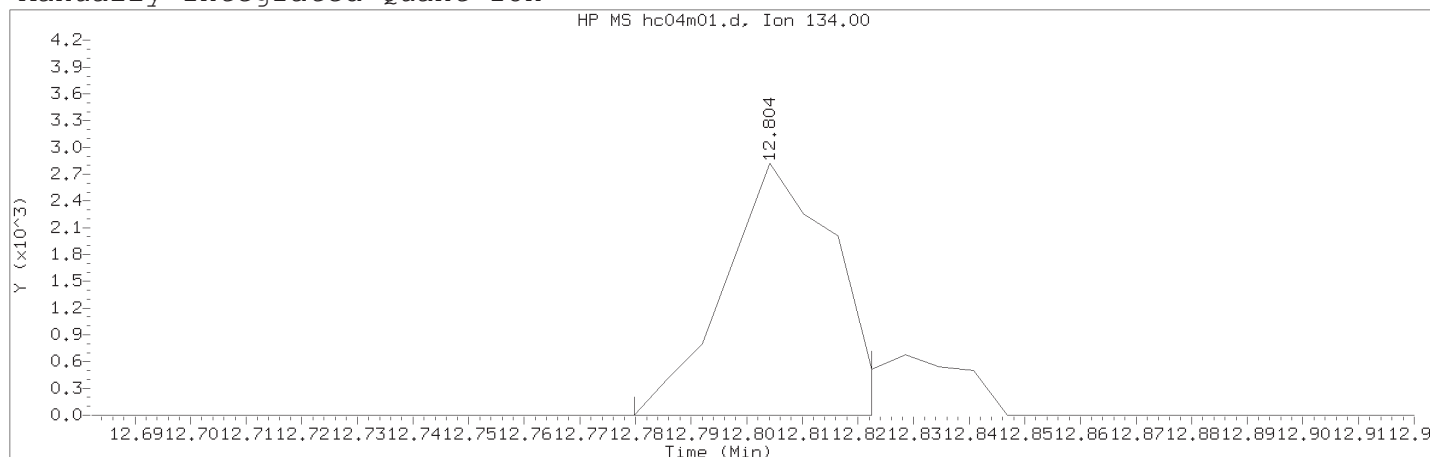
Integration start scan : 1764 Integration stop scan: 1775

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:33

Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number	: 125	
Compound Name	: tert-Butylbenzene	
Scan Number	: 1840	
Retention Time (minutes)	: 12.804	
Quant Ion	: 134.00	
Area (flag)	: 3884M	
On-Column Amount (ng)	: 0.0851	
Integration start scan	: 1835	Integration stop scan: 1842
Y at integration start	: 0	Y at integration end: 0

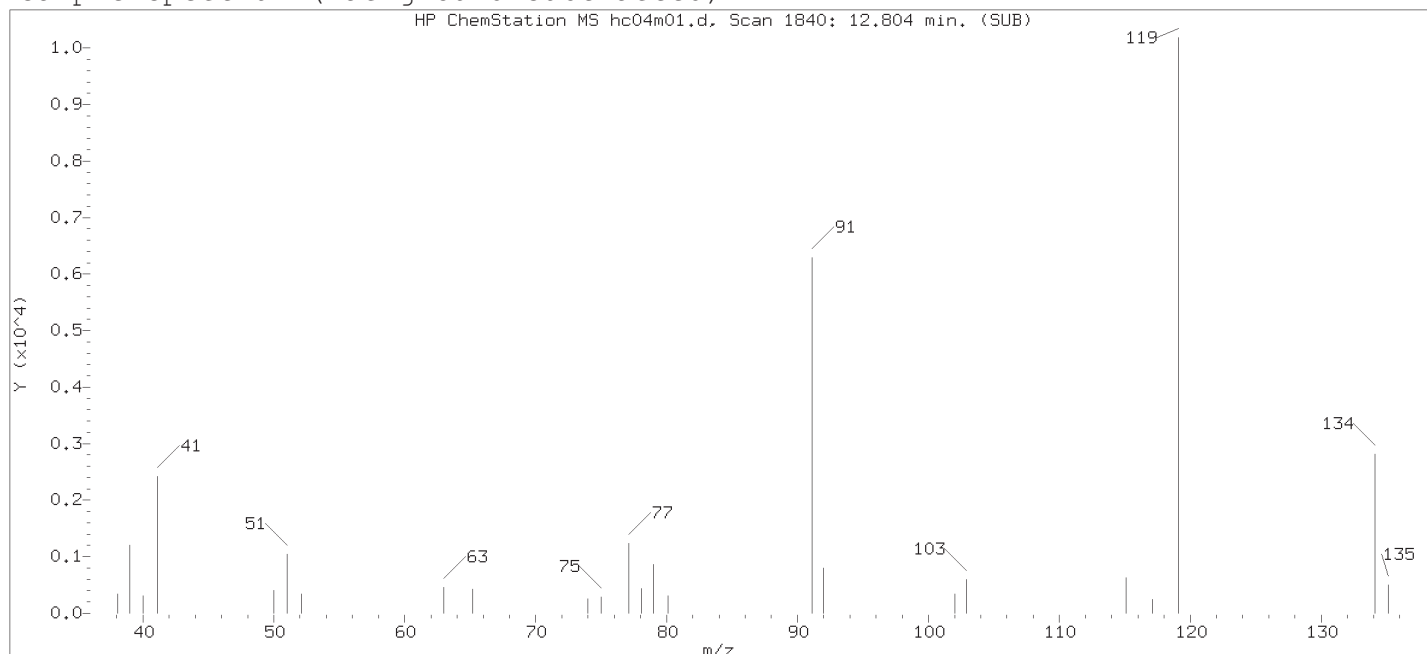
Reason for manual integration: improper integration

Analyst responsible for change:

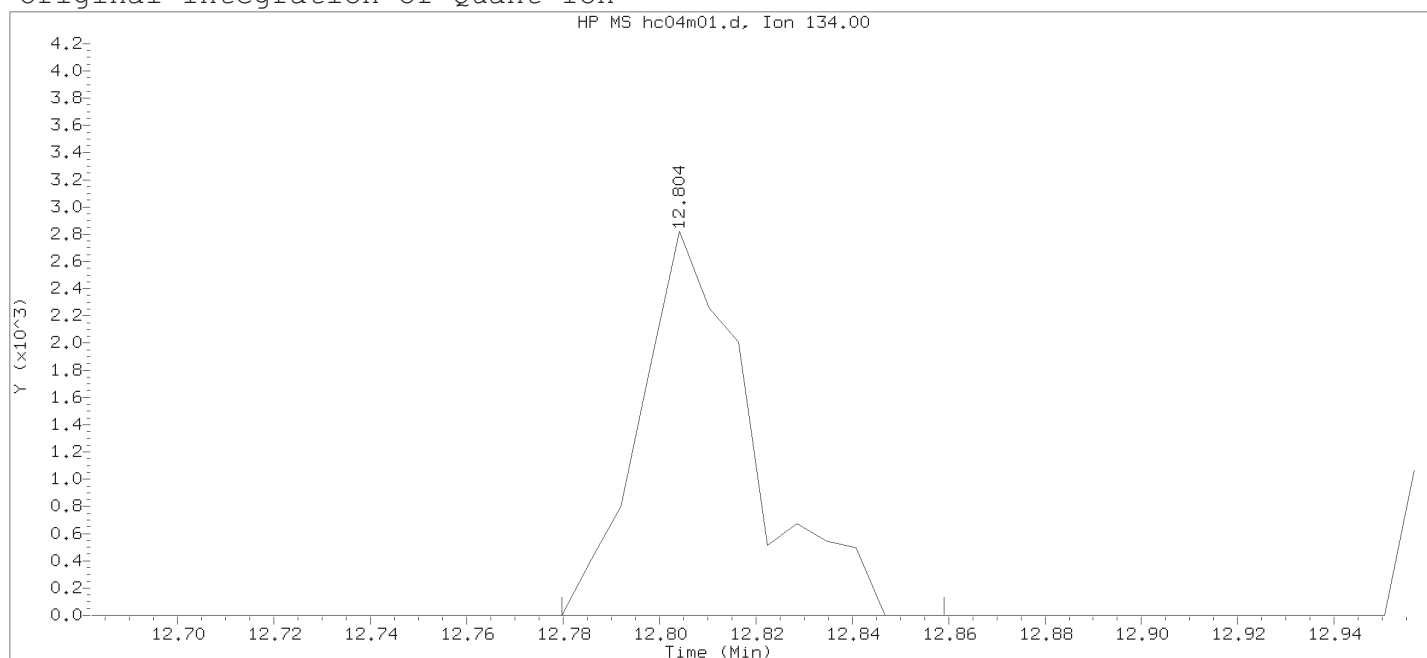
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:51.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:56

Date, time and analyst ID of latest file update: 04-Oct-2016 13:16 Automation

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number : 125

Compound Name : tert-Butylbenzene

Scan Number : 1840

Retention Time (minutes): 12.804

Quant Ion : 134.00

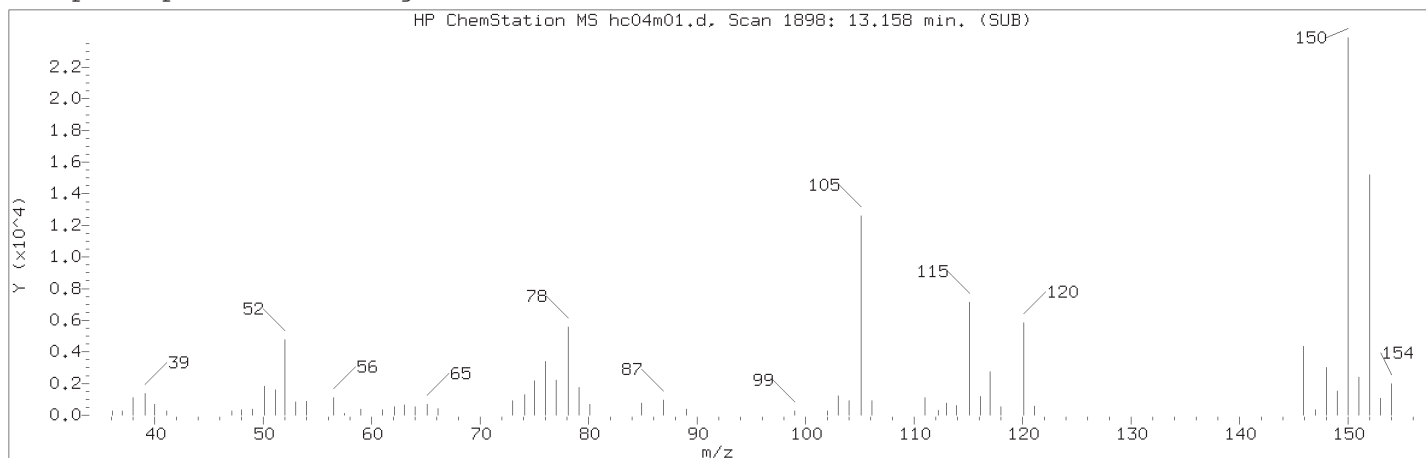
Area : 4513

On-column Amount (ng) : 0.0997

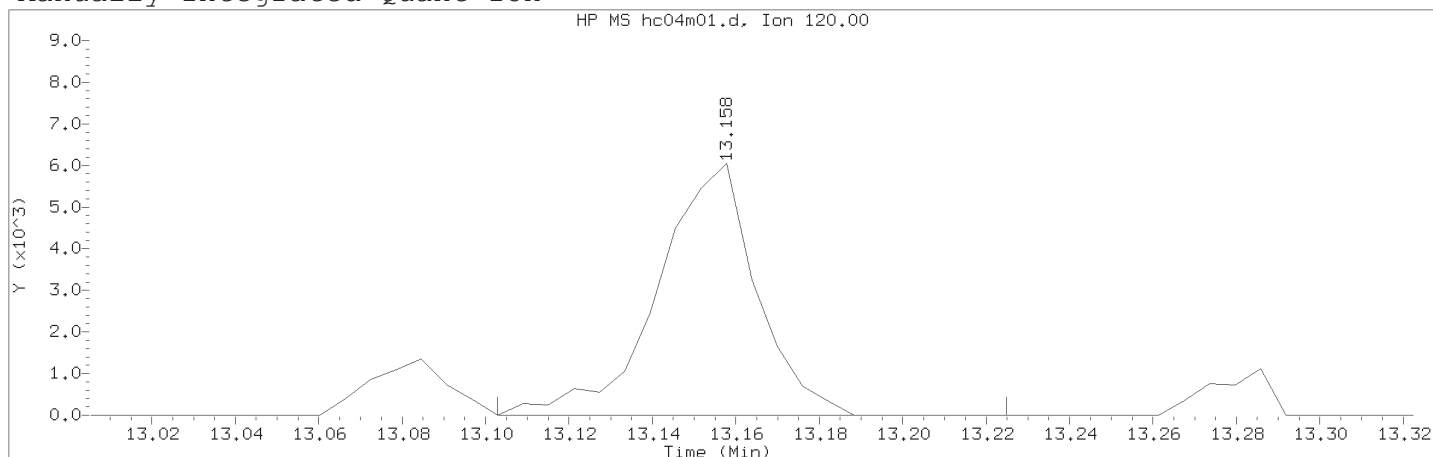
Integration start scan : 1835 Integration stop scan: 1848

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:33

Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number	: 135	
Compound Name	: 1,2,3-Trimethylbenzene	
Scan Number	: 1898	
Retention Time (minutes)	: 13.158	
Quant Ion	: 120.00	
Area (flag)	: 9940M	
On-Column Amount (ng)	: 0.1087	
Integration start scan	: 1888	Integration stop scan: 1908
Y at integration start	: 0	Y at integration end: 0

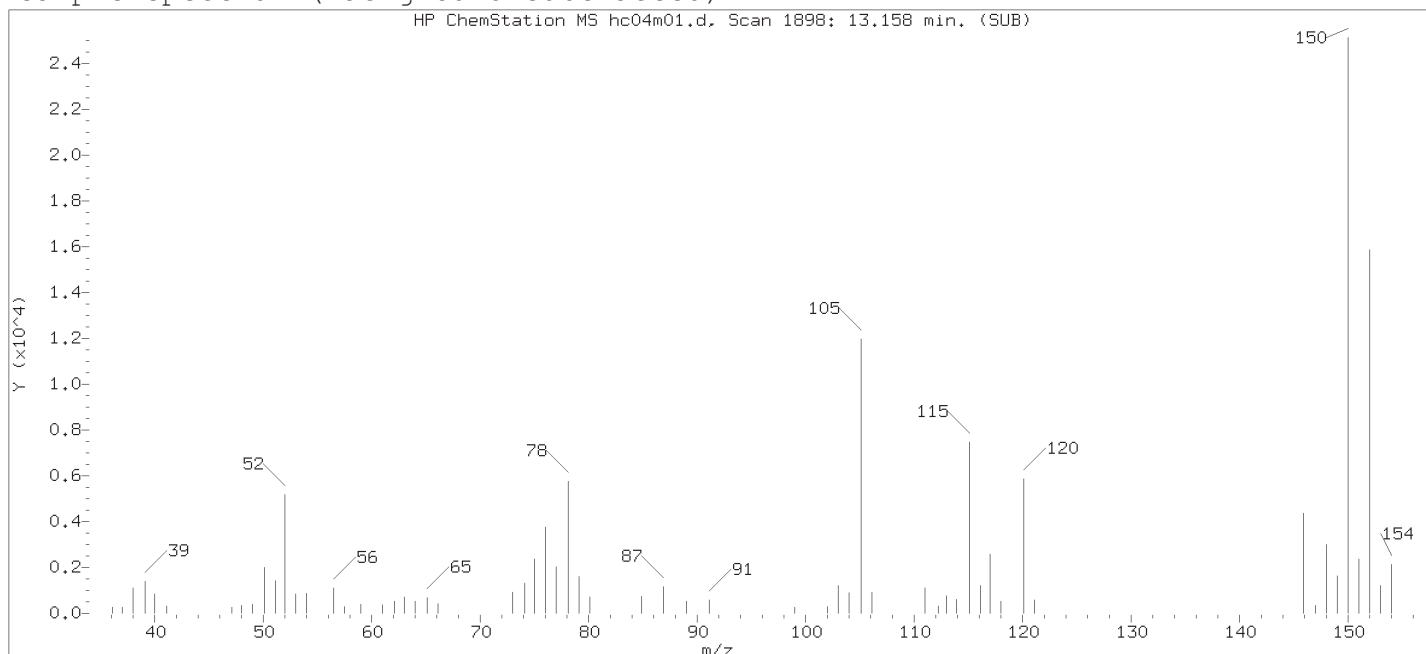
Reason for manual integration: improper integration

Analyst responsible for change:

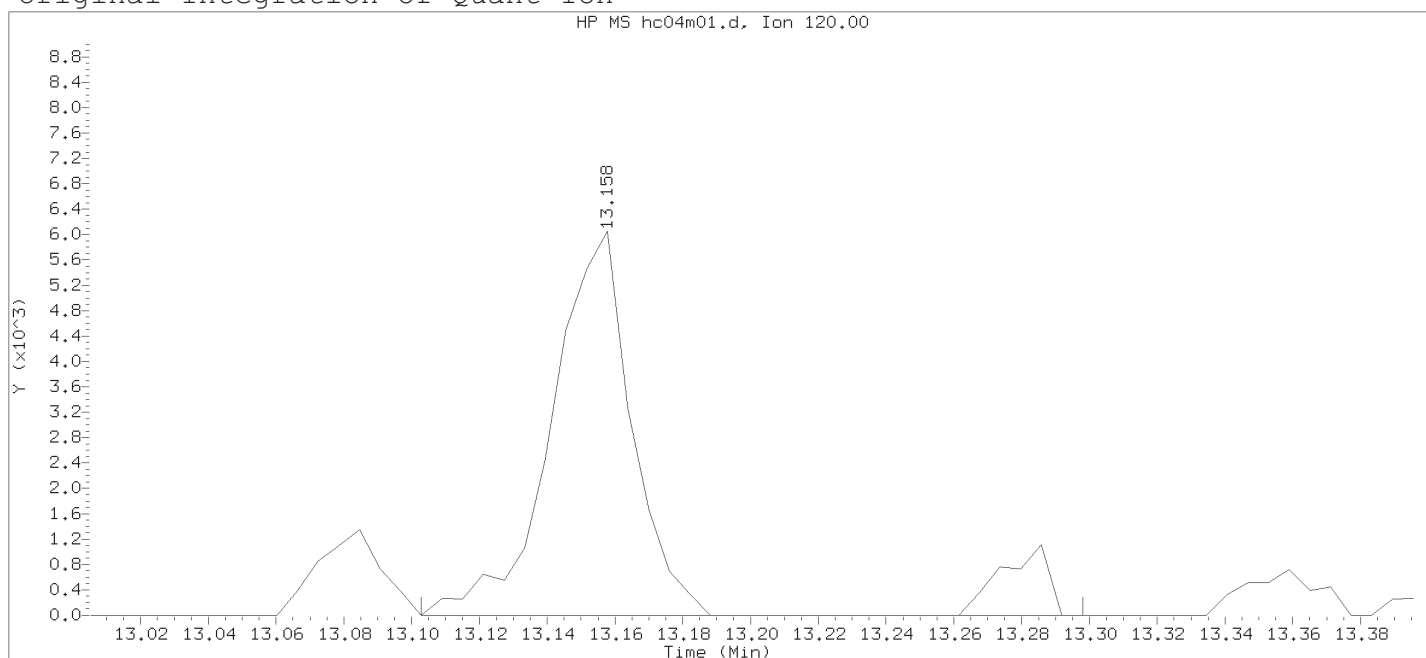
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:51.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:56

Date, time and analyst ID of latest file update: 04-Oct-2016 13:16 Automation

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number : 135

Compound Name : 1,2,3-Trimethylbenzene

Scan Number : 1898

Retention Time (minutes) : 13.158

Quant Ion : 120.00

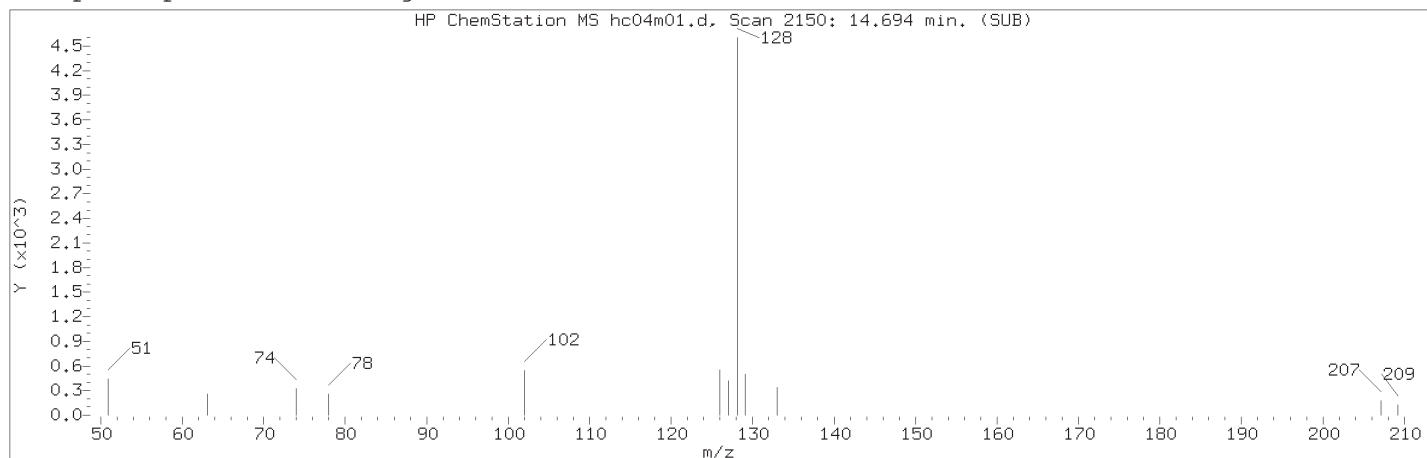
Area : 11021

On-column Amount (ng) : 0.1206

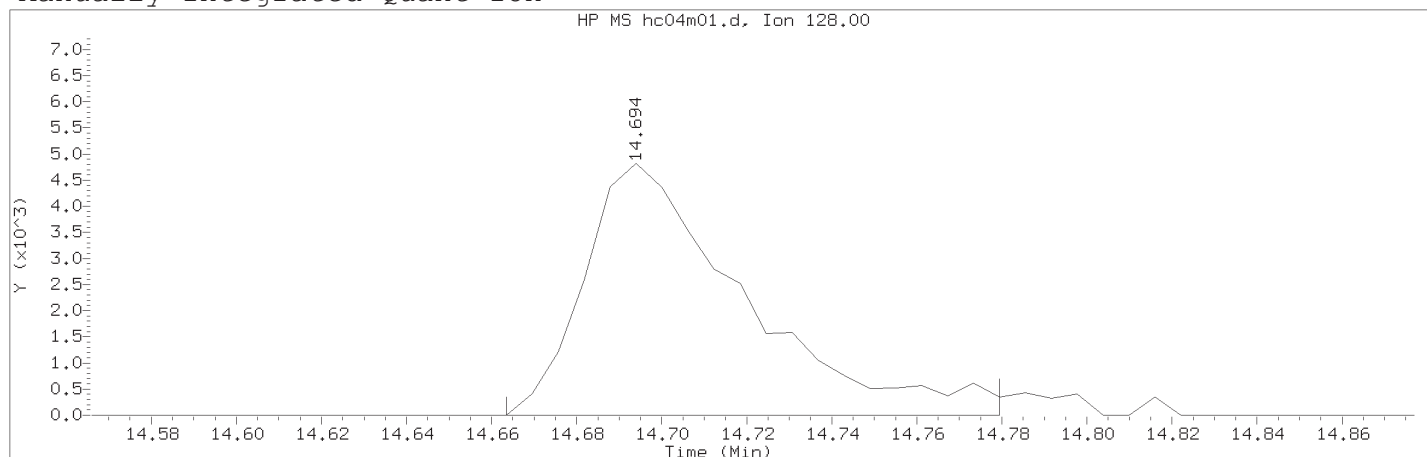
Integration start scan : 1888 Integration stop scan: 1920

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 15:33

Date, time and analyst ID of latest file update: 04-Oct-2016 15:39 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number	: 147	
Compound Name	: Naphthalene	
Scan Number	: 2150	
Retention Time (minutes)	: 14.694	
Quant Ion	: 128.00	
Area (flag)	: 12628M	
On-Column Amount (ng)	: 0.1176	
Integration start scan	: 2144	Integration stop scan: 2163
Y at integration start	: 0	Y at integration end: 0

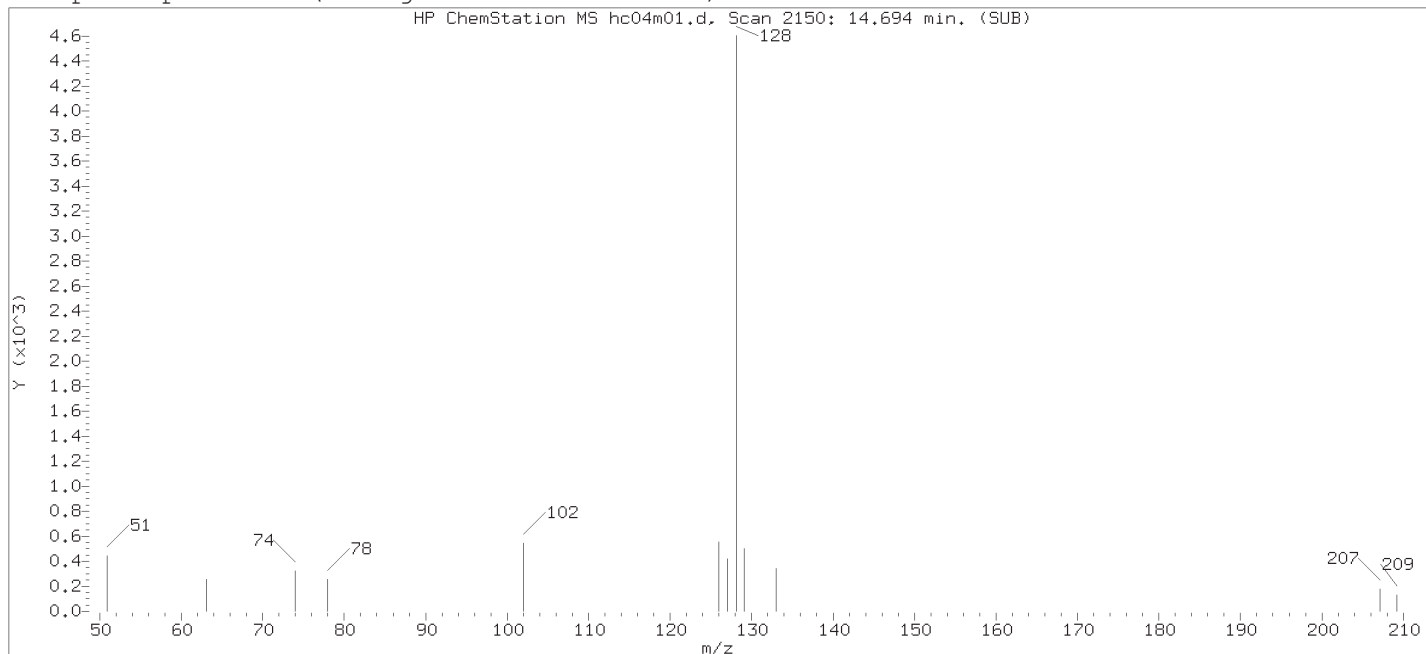
Reason for manual integration: improper integration

Analyst responsible for change:

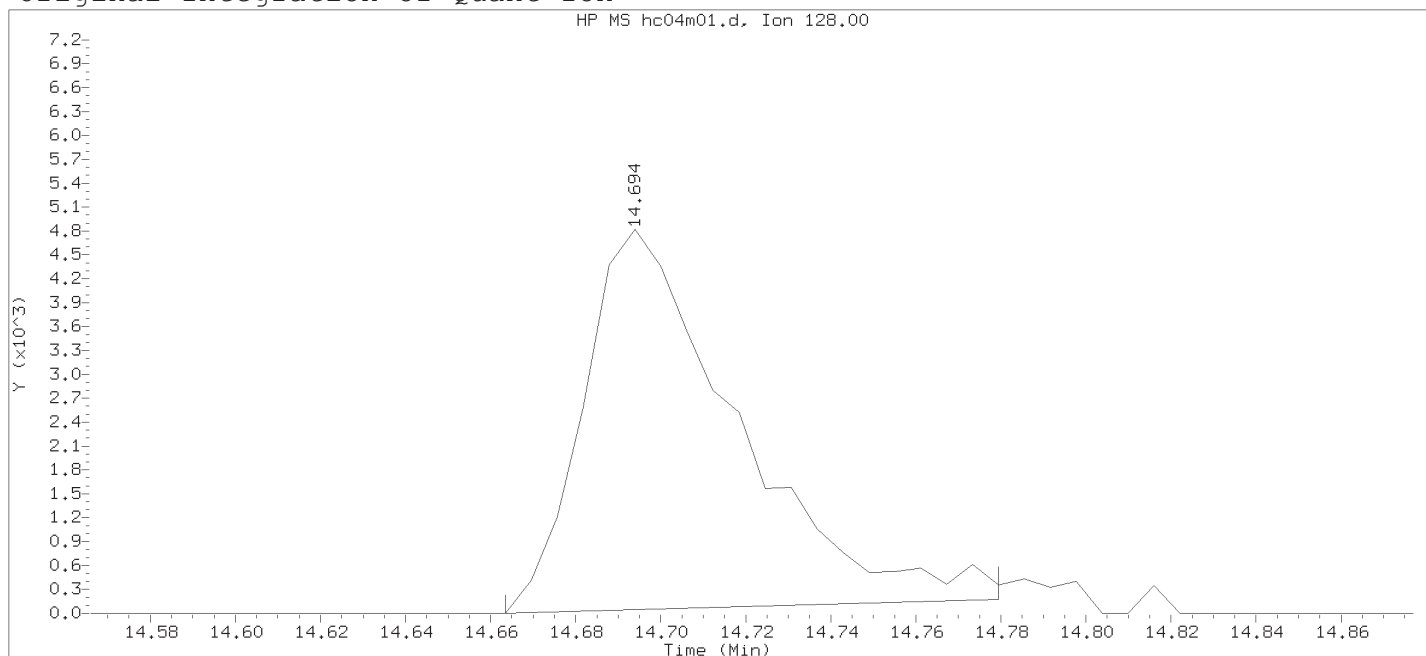
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:51.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 12:56

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 12:56

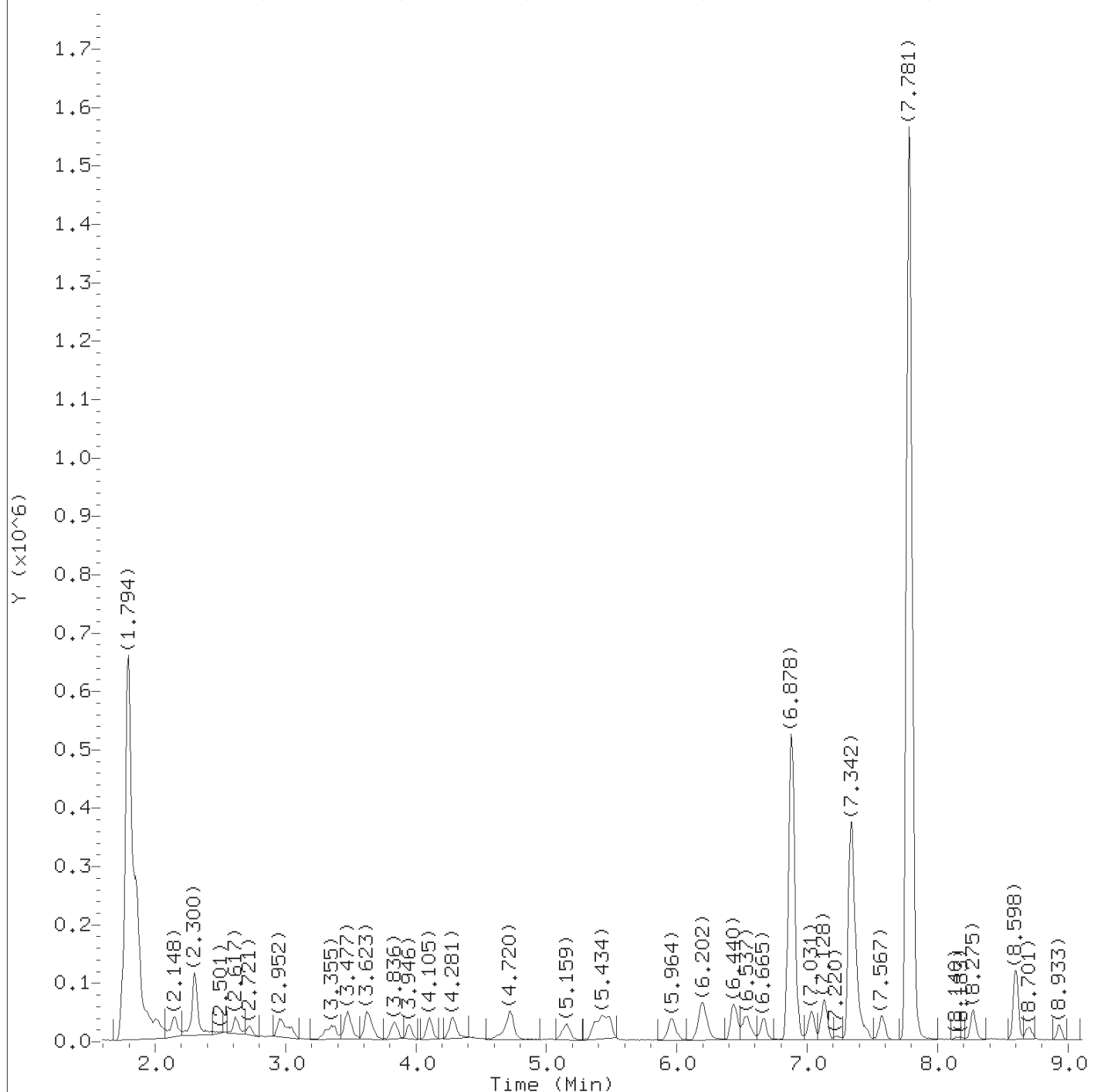
Date, time and analyst ID of latest file update: 04-Oct-2016 13:16 Automation

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number : 147
 Compound Name : Naphthalene
 Scan Number : 2150
 Retention Time (minutes) : 14.694
 Quant Ion : 128.00
 Area : 11953
 On-column Amount (ng) : 0.1145
 Integration start scan : 2144
 Y at integration start : 0

Integration stop scan: 2163
 Y at integration end: 176



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04m02.d
Injection date and time: 04-OCT-2016 13:17

Instrument ID: HP19094.i
Analyst ID: kel01973

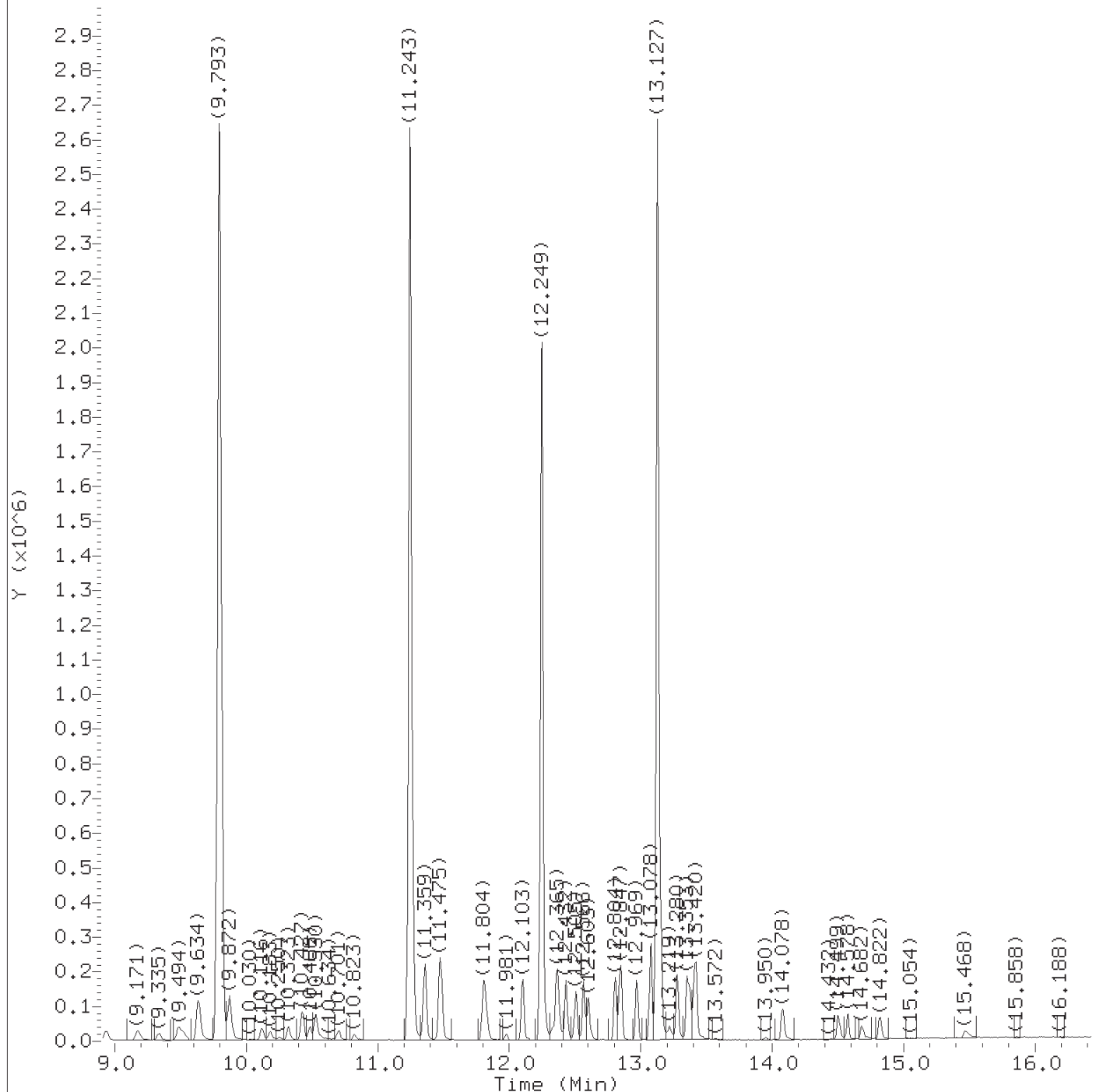
Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 14DIOX
Calibration date and time: 04-OCT-2016 15:33
Date, time and analyst ID of latest file update: 04-Oct-2016 15:40 kel01973

Sample Name: MDL0.4

Lab Sample ID: MDL0.4

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.

Target 3.5 esignature user ID: kel01973
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Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04m02.d
Injection date and time: 04-OCT-2016 13:17

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m
Calibration date and time: 04-OCT-2016 15:33

Sublist used: 14DIOX

Date, time and analyst ID of latest file update: 04-Oct-2016 15:40 kel01973

Sample Name: MDL0.4

Lab Sample ID: MDL0.4

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.

Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04m02.d
Injection date and time: 04-OCT-2016 13:17

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 14DIOX
Calibration date and time: 04-OCT-2016 15:33
Date, time and analyst ID of latest file update: 04-Oct-2016 15:40 kel01973

Sample Name: MDL0.4

Lab Sample ID: MDL0.4

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26) *t-Butyl Alcohol-d10	(1)	4.281	65	63290	50.000
50) \$Dibromofluoromethane	(2)	6.878	113	488429	9.848
57) \$1,2-Dichloroethane-d4	(2)	7.336	102	81868	10.275
63) *Fluorobenzene	(2)	7.781	96	2162526	10.000
72) 1,4-Dioxane	(1)	8.738	88	105M	50.899
82) \$Toluene-d8	(3)	9.793	98	2102105	10.043
97) *Chlorobenzene-d5	(3)	11.243	117	1385637	10.000
111) \$4-Bromofluorobenzene	(3)	12.243	95	629090	10.223
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	632807	10.000

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

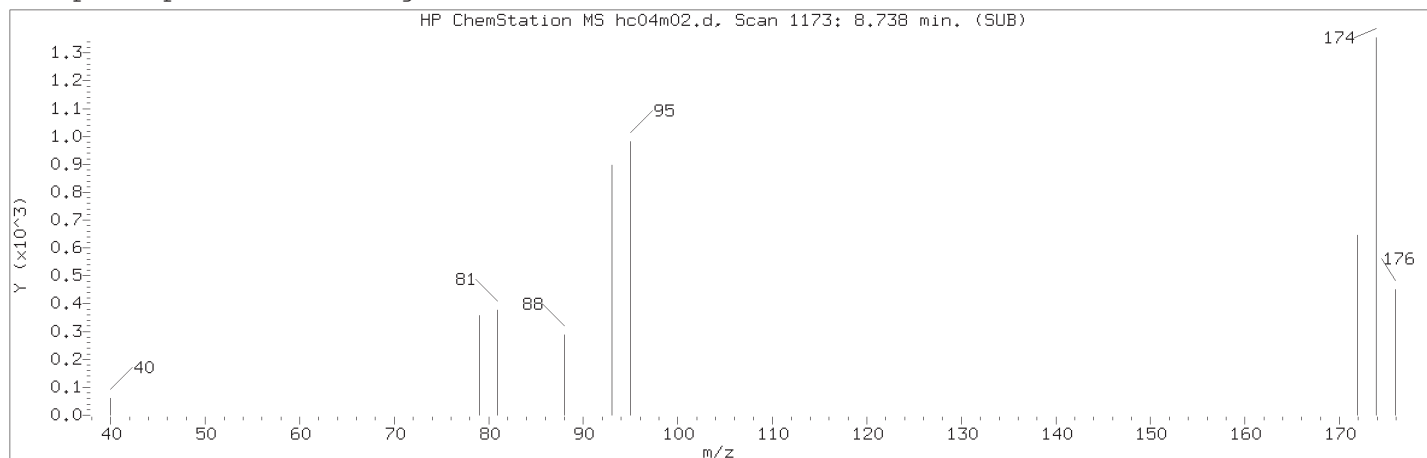
page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.

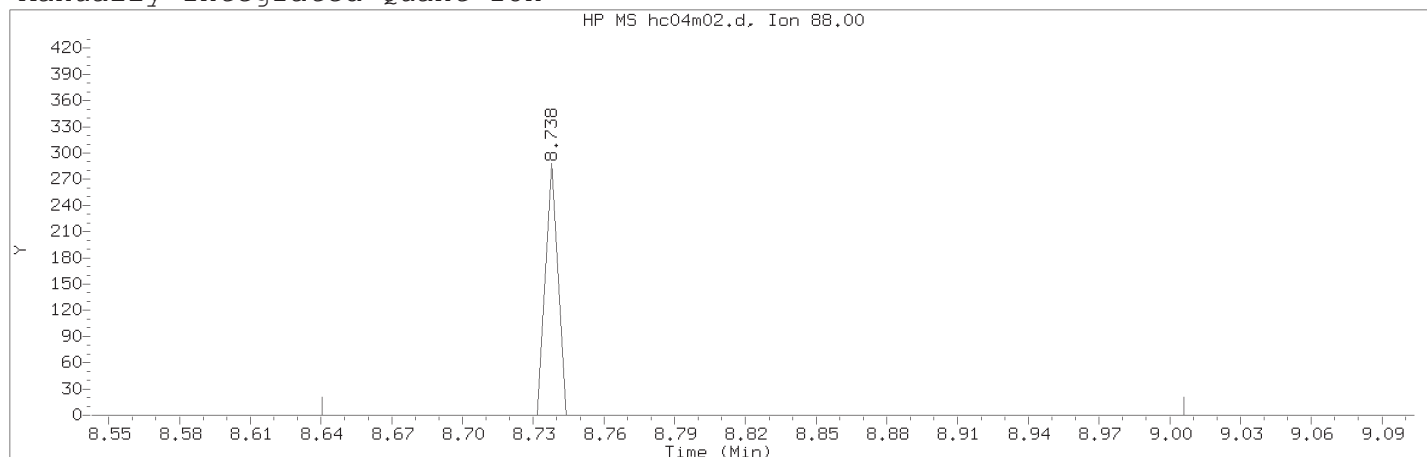
Target 3.5 esignature user ID: kel01973

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Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 13:17

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 14DIOX

Calibration date and time: 04-OCT-2016 15:33

Date, time and analyst ID of latest file update: 04-Oct-2016 15:40 kel01973

Sample Name: MDL0.4

Lab Sample ID: MDL0.4

Compound Number	: 72	
Compound Name	: 1,4-Dioxane	
Scan Number	: 1173	
Retention Time (minutes)	: 8.738	
Quant Ion	: 88.00	
Area (flag)	: 105M	
On-Column Amount (ng)	: 50.8989	
Integration start scan	: 1156	Integration stop scan: 1216
Y at integration start	: 0	Y at integration end: 0

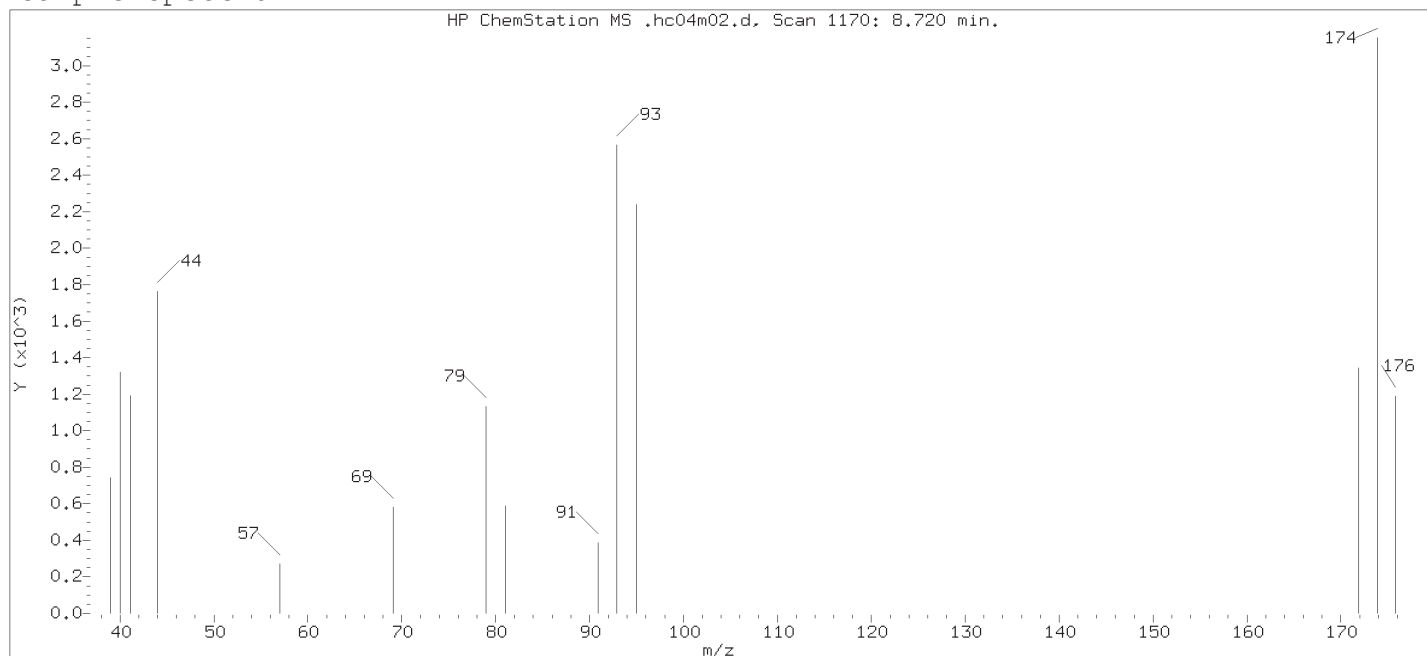
Reason for manual integration: missed peak

Analyst responsible for change:

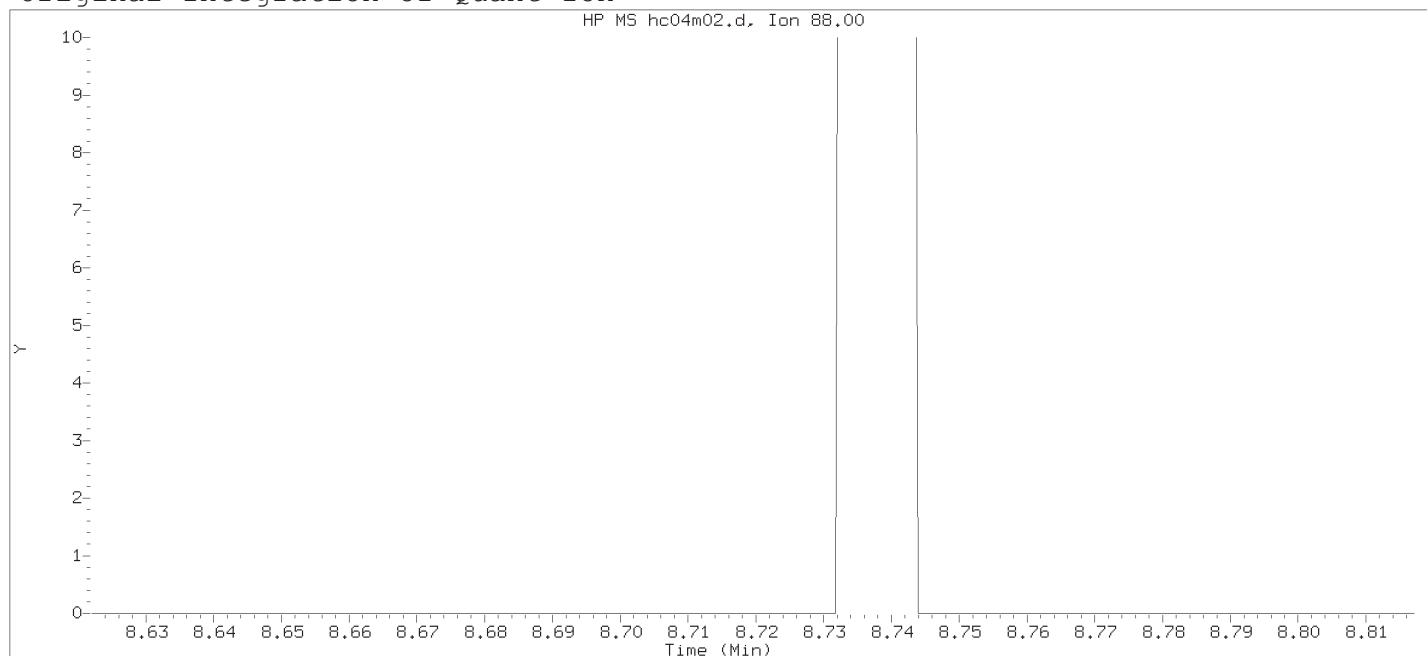
Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 15:40.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 18:51.
PARALLAX ID: msl01251

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04m02.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 13:17

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 14DIOX

Calibration date and time: 04-OCT-2016 12:56

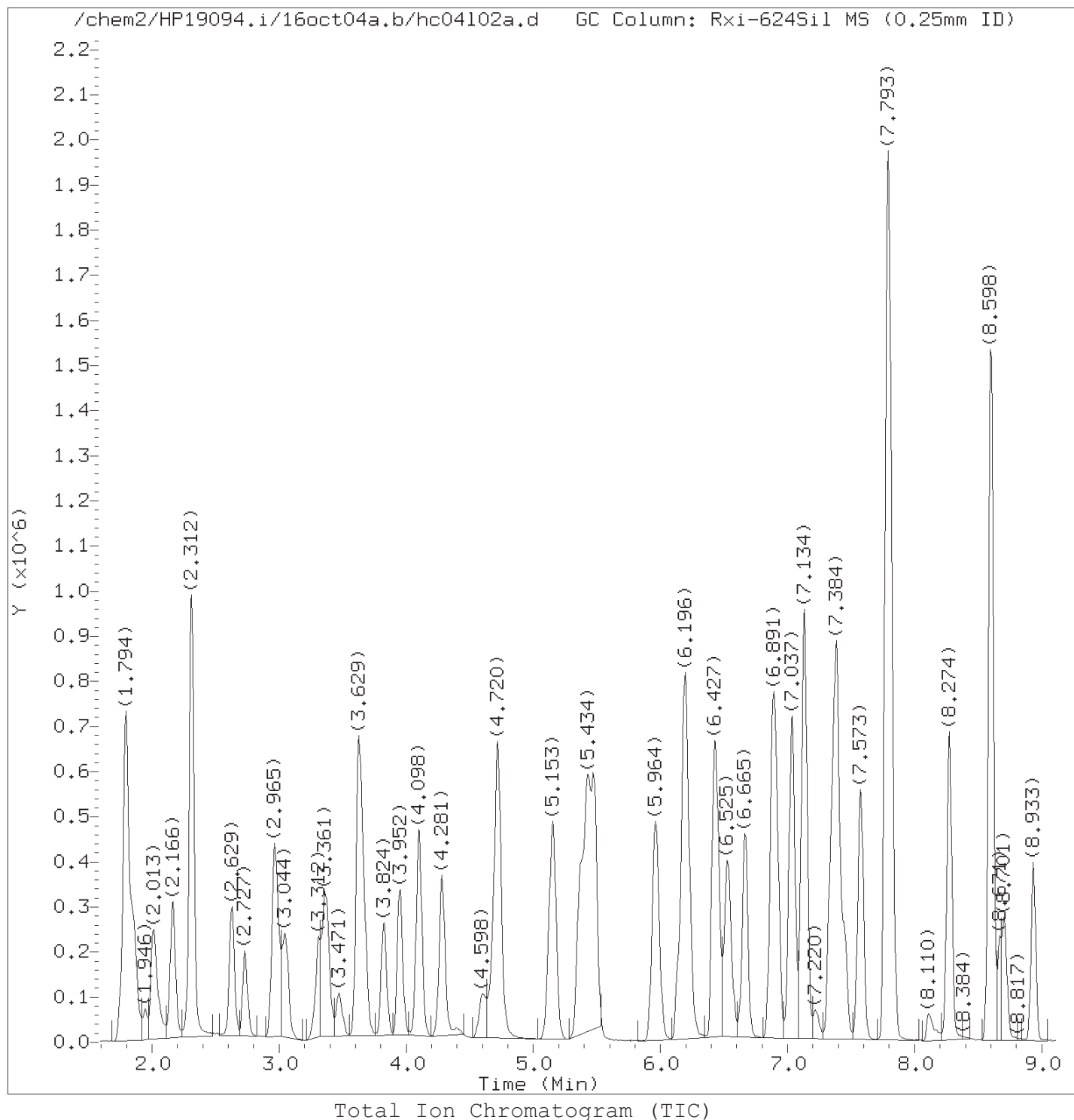
Date, time and analyst ID of latest file update: 04-Oct-2016 13:36 Automation

Sample Name: MDL0.4

Lab Sample ID: MDL0.4

Compound Number : 72
Compound Name : 1,4-Dioxane
Expected RT (minutes) : 8.720
Quant Ion : 88.00

Digitally signed by Kerri E. Koch Legerlotz on 10/04/2016 at 15:40.
Target 3.5 esignature user ID: kel01973



Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d
Injection date and time: 04-OCT-2016 14:26

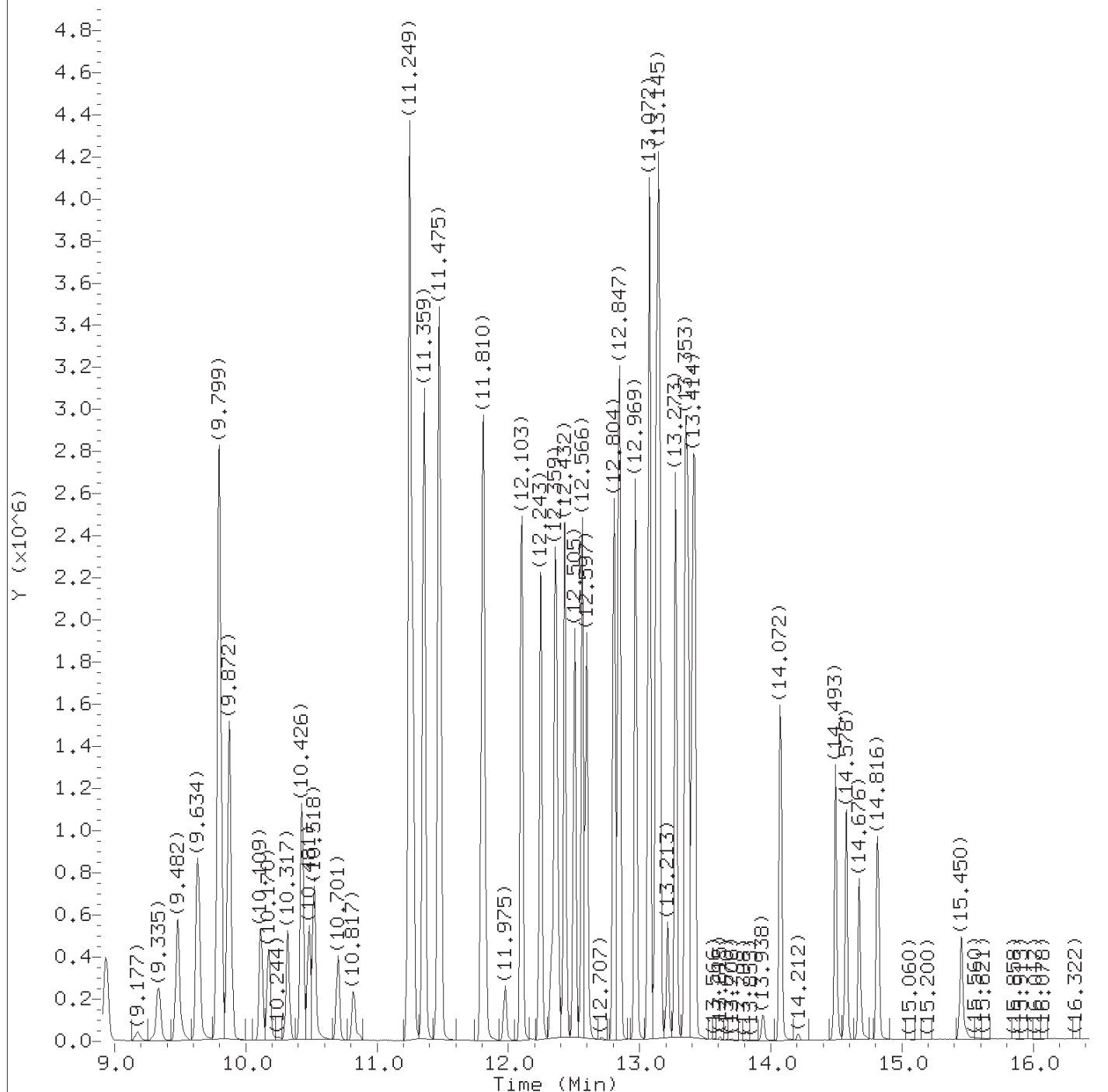
Instrument ID: HP19094.i
Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:30 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 16:30.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 14:26 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:30 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 16:30.

Target 3.5 esignature user ID: kel01973
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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d
 Injection date and time: 04-OCT-2016 14:26

Instrument ID: HP19094.i
 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 04-OCT-2016 16:13
 Date, time and analyst ID of latest file update: 04-Oct-2016 16:30 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.013	85	512132	5.298
2) Chloromethane	(2)	2.166	50	508224	4.912
5) Vinyl Chloride	(2)	2.306	62	460912	4.997
6) 1,3-Butadiene	(2)	2.312	39	504636	3.570
7) Bromomethane	(2)	2.629	94	288841	4.881
8) Chloroethane	(2)	2.727	64	257737	4.943
9) Dichlorofluoromethane	(2)	2.965	67	635173	5.103
10) Trichlorofluoromethane	(2)	3.044	101	555674	4.964
11) Ethyl ether	(2)	3.306	59	187414	4.537
12) Freon 123a	(2)	3.361	67	382810	4.926
13) Acrolein	(1)	3.464	56	181667	38.129
15) 1,1-Dichloroethene	(2)	3.623	96	260591	4.996
14) Acetone	(1)	3.641	43	214524	33.631
16) Freon 113	(2)	3.653	101	284046	4.982
17) Methyl Iodide	(2)	3.824	142	472845	4.743
18) Carbon Disulfide	(2)	3.952	76	761479	4.814
21) Methyl Acetate	(1)	4.074	43	100429	4.967
22) Allyl Chloride	(2)	4.098	41	504927	4.449
26) *t-Butyl Alcohol-d10	(1)	4.275	65	66251M	50.000
23) Methylene Chloride	(2)	4.281	84	269344	4.813
28) t-Butyl Alcohol	(1)	4.397	59	73203	42.484
29) Acrylonitrile	(1)	4.598	53	213238	28.411
30) Methyl Tertiary Butyl Ether	(2)	4.702	73	588286	4.834
31) trans-1,2-Dichloroethene	(2)	4.720	96	294838	4.987
32) n-Hexane	(2)	5.147	57	478023	5.304
33) 1,1-Dichloroethane	(2)	5.366	63	573583	4.927
34) di-Isopropyl Ether	(2)	5.427	45	1014622	4.860
35) 2-Chloro-1,3-Butadiene	(2)	5.482	53	526554	4.885
37) Ethyl t-butyl ether	(2)	5.964	59	811535	4.792
40) 1,2-Dichloroethene (Total)	(2)		96	611421	9.871
38) 2-Butanone	(1)	6.147	43	449523	39.826
39) cis-1,2-Dichloroethene	(2)	6.189	96	316583	4.884
41) 2,2-Dichloropropane	(2)	6.208	77	453576	4.801
42) Propionitrile	(1)	6.214	54	99830	40.101
45) Methacrylonitrile	(1)	6.433	67	425388	40.022
47) Bromochloromethane	(2)	6.525	128	124844	4.803
48) Tetrahydrofuran	(1)	6.543	71	73583	25.292
49) Chloroform	(2)	6.665	83	540098	4.803

M = Compound was manually integrated.

* = Compound is an internal standard.

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Digitally signed by Kerri E. Koch Legerlotz
 on 10/04/2016 at 16:30.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 14:26

Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 16:13

Date, time and analyst ID of latest file update: 04-Oct-2016 16:30 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
50) \$Dibromofluoromethane	(2)	6.878	113	523381	10.033
51) 1,1,1-Trichloroethane	(2)	6.915	97	481182	4.753
52) Cyclohexane	(2)	7.031	56	569485	4.793
55) 1,1-Dichloropropene	(2)	7.128	75	417300	4.559
54) Carbon Tetrachloride	(2)	7.141	117	430237	4.920
56) Isobutyl Alcohol	(1)	7.220	41	85024	124.750
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	83055M	9.911
58) Benzene	(2)	7.384	78	1184111	4.853
59) 1,2-Dichloroethane	(2)	7.445	62	322419M	4.746
60) t-Amyl methyl ether	(2)	7.573	73	650419	4.735
63) *Fluorobenzene	(2)	7.787	96	2274428	10.000
62) n-Heptane	(2)	7.811	43	536195	4.941
65) n-Butanol	(1)	8.110	56	98147	197.160
67) Trichloroethene	(2)	8.274	95	327747	4.902
70) 1,2-Dichloropropane	(2)	8.598	63	307056	4.944
69) Methylcyclohexane	(2)	8.604	83	547296	4.688
71) Methyl Methacrylate	(1)	8.665	69	114137M	5.833
73) Dibromomethane	(2)	8.707	93	127491	4.902
72) 1,4-Dioxane	(1)	8.707	88	14082	84.214
74) Bromodichloromethane	(2)	8.933	83	348972	4.905
76) 2-Nitropropane	(1)	9.177	41	38398M	5.304
80) cis-1,3-Dichloropropene	(2)	9.482	75	394354	4.884
81) 4-Methyl-2-Pentanone	(1)	9.634	43	796289	26.393
82) \$Toluene-d8	(3)	9.799	98	2253992	9.932
83) Toluene	(3)	9.872	92	745678	4.782
84) trans-1,3-Dichloropropene	(3)	10.109	75	314884	4.976
85) 1,3-Dichloropropene (total)	(3)		75	709238	9.859
86) Ethyl Methacrylate	(3)	10.177	69	244547	5.012
88) 1,1,2-Trichloroethane	(3)	10.317	97	173211	4.825
89) Tetrachloroethene	(3)	10.426	166	356754	4.779
90) 1,3-Dichloropropane	(3)	10.481	76	307142	4.707
91) 2-Hexanone	(1)	10.518	43	556490	26.649
93) Dibromochloromethane	(3)	10.701	129	214586	4.820
95) 1,2-Dibromoethane	(3)	10.817	107	167620	4.937
97) *Chlorobenzene-d5	(3)	11.243	117	1502373	10.000
98) Chlorobenzene	(3)	11.274	112	787761	4.741
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	272389	4.770
100) Ethylbenzene	(3)	11.359	91	1458791	4.754

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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on 10/04/2016 at 16:30.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 14:26

Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 16:13

Date, time and analyst ID of latest file update: 04-Oct-2016 16:30 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
101) m+p-Xylene	(3)	11.475	106	1116577	9.684
105) Xylene (Total)	(3)		106	1650623	14.433
104) o-Xylene	(3)	11.798	106	534046	4.749
106) Styrene	(3)	11.816	104	856335	4.976
107) Bromoform	(3)	11.975	173	114584	4.701
108) Isopropylbenzene	(3)	12.103	105	1472225	4.856
111) \$4-Bromofluorobenzene	(3)	12.243	95	665497	9.975
113) 1,1,2,2-Tetrachloroethane	(4)	12.329	83	196835	4.667
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	238785	26.709
114) Bromobenzene	(4)	12.365	156	326949	4.807
116) 1,2,3-Trichloropropane	(4)	12.383	110	56754	5.040
117) n-Propylbenzene	(4)	12.432	91	1768172	4.904
119) 2-Chlorotoluene	(4)	12.505	126	327212	4.801
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	1211847	4.886
122) 4-Chlorotoluene	(4)	12.597	126	335507	4.814
125) tert-Butylbenzene	(4)	12.804	134	254846M	4.710
126) Pentachloroethane	(4)	12.841	167	194026	4.634
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	1211131	4.837
128) sec-Butylbenzene	(4)	12.969	105	1588966	4.882
131) 1,3-Dichlorobenzene	(4)	13.072	146	635274	4.803
132) p-Isopropyltoluene	(4)	13.078	119	1307024	4.813
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	681898	10.000
134) 1,4-Dichlorobenzene	(4)	13.145	146	633803	4.607
135) 1,2,3-Trimethylbenzene	(4)	13.152	120	508350	4.691
136) Benzyl Chloride	(4)	13.213	126	72757M	5.071
138) n-Butylbenzene	(4)	13.371	92	651333	4.996
139) 1,2-Dichlorobenzene	(4)	13.402	146	567120	4.820
143) 1,2-Dibromo-3-chloropropane	(1)	13.944	155	23888	5.437
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	372933	4.450
146) Hexachlorobutadiene	(4)	14.578	225	193304	4.848
147) Naphthalene	(4)	14.676	128	562881	4.424
148) 1,2,3-Trichlorobenzene	(4)	14.816	180	293309	4.157

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

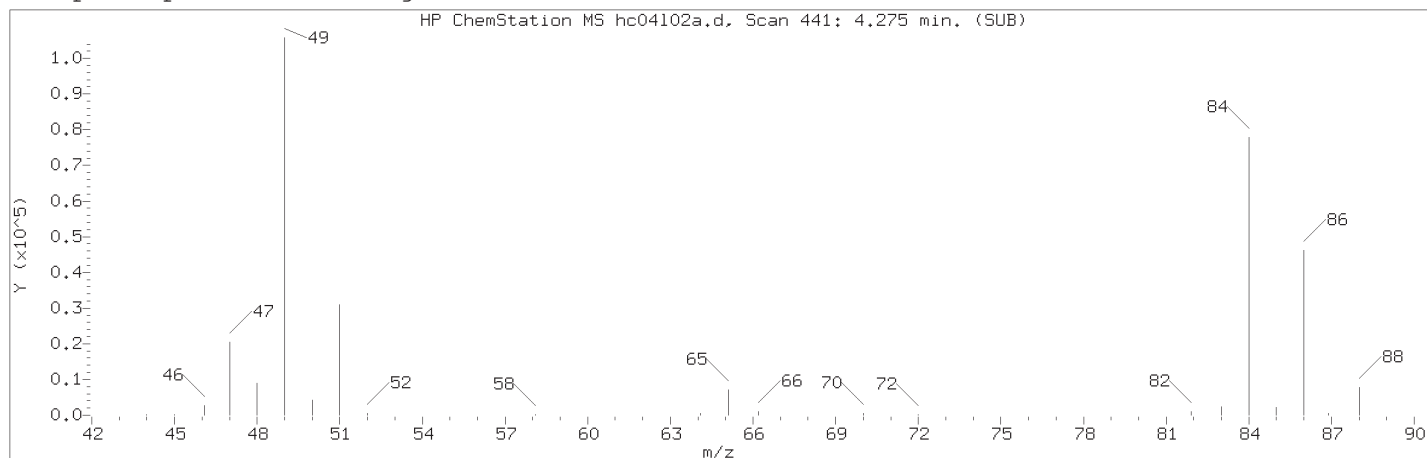
page 3 of 3

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on 10/04/2016 at 16:30.

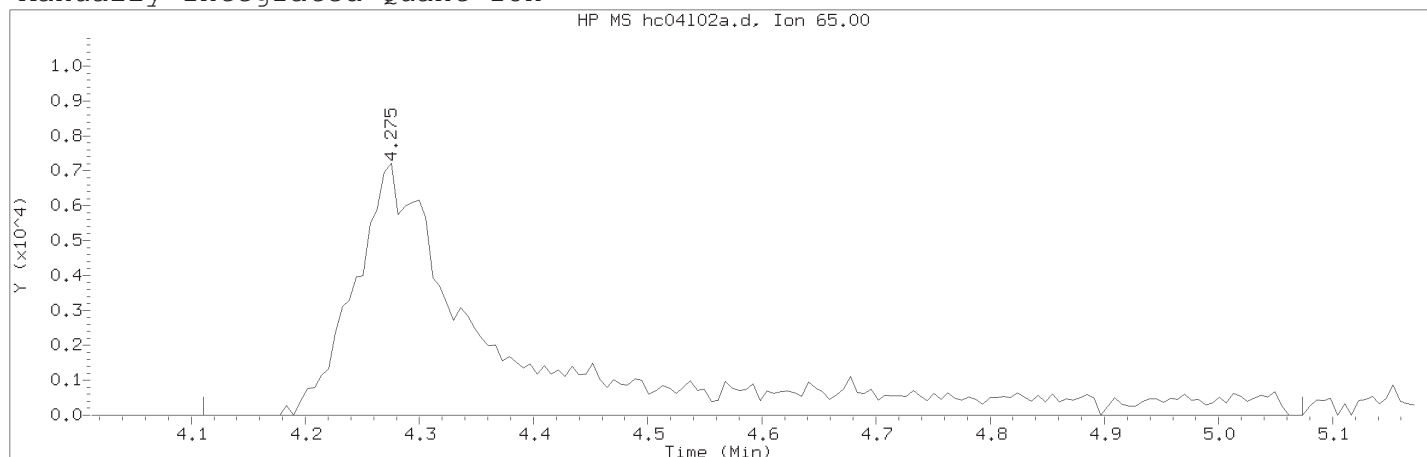
Target 3.5 esignature user ID: kel01973

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Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 14:26 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:30 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

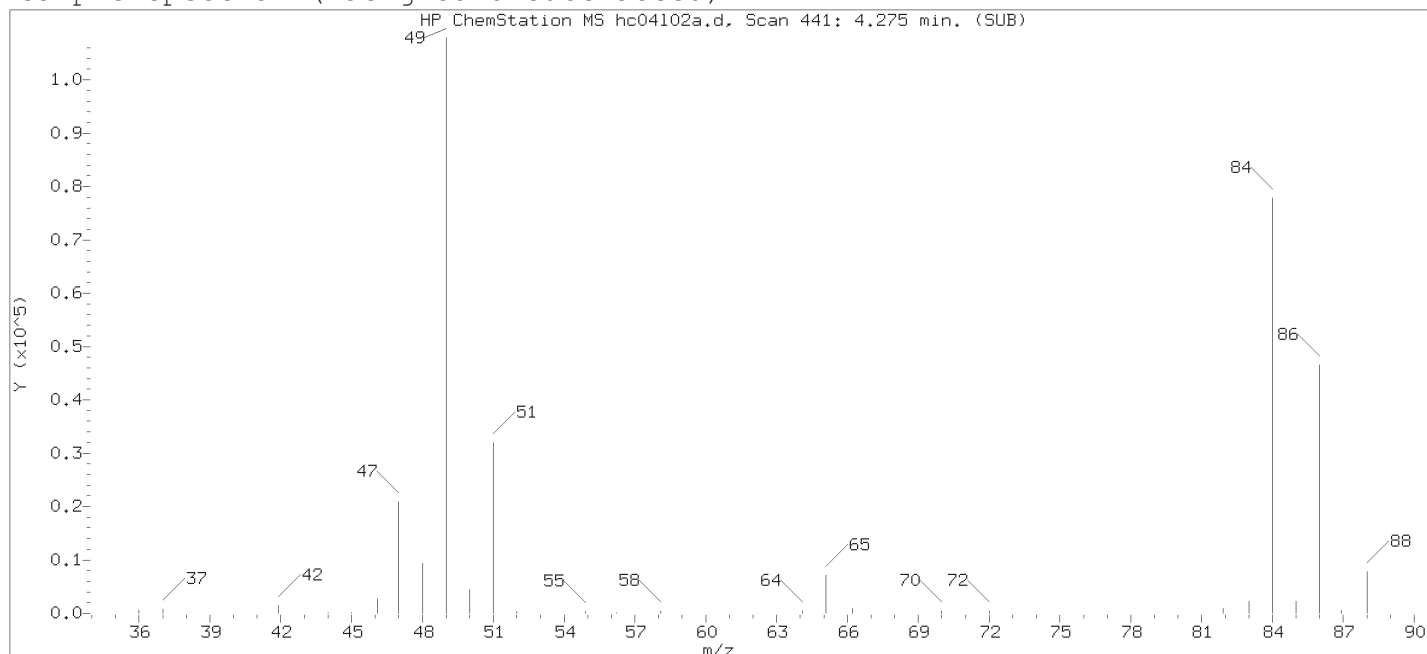
Compound Number	: 26	
Compound Name	: t-Butyl Alcohol-d10	
Scan Number	: 441	
Retention Time (minutes)	: 4.275	
Quant Ion	: 65.00	
Area (flag)	: 66251M	
On-Column Amount (ng)	: 50.0000	
Integration start scan	: 413	Integration stop scan: 571
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

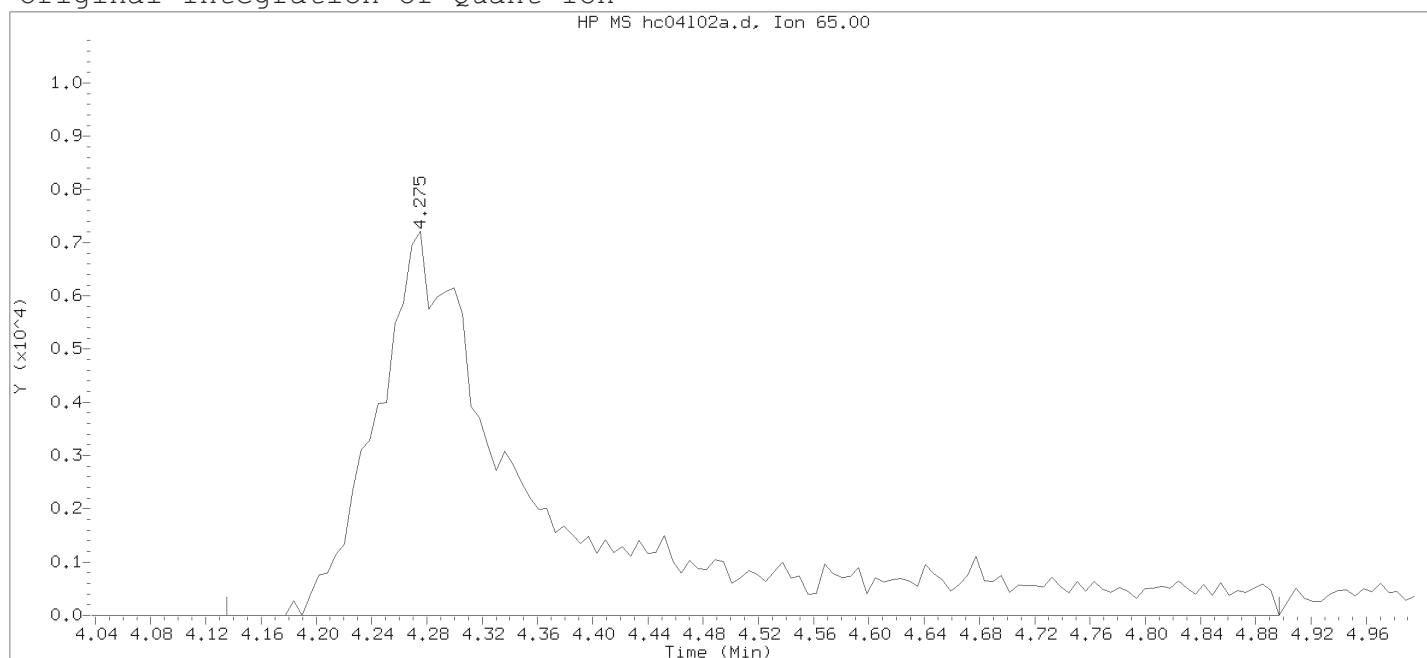
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 16:30.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 19:08.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 14:26 Analyst ID: KEL01973

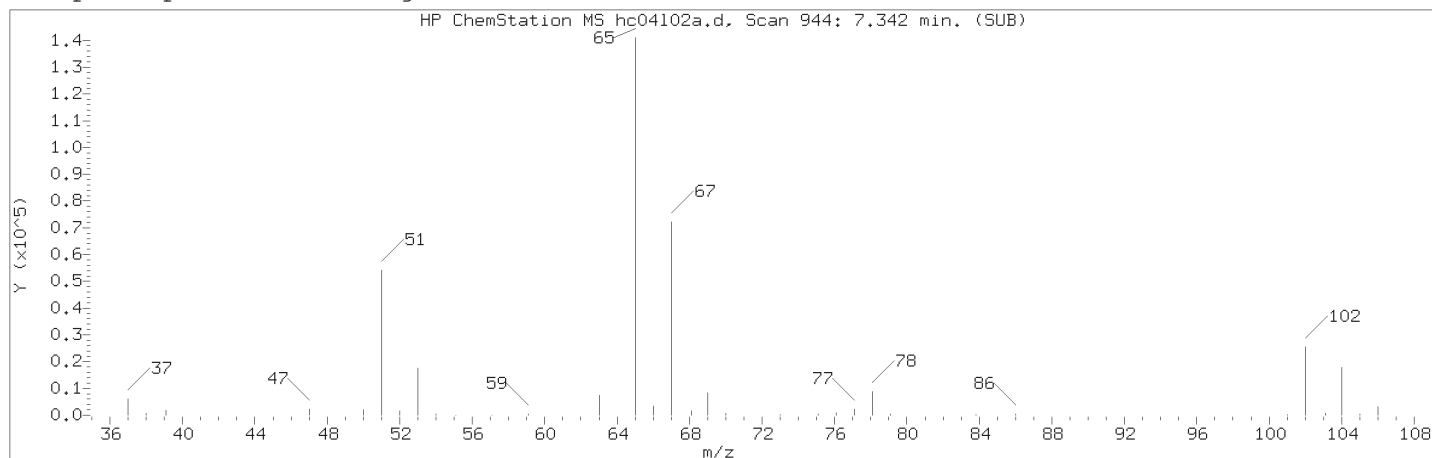
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Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:28 kel01973

Sample Name: LCSHLG

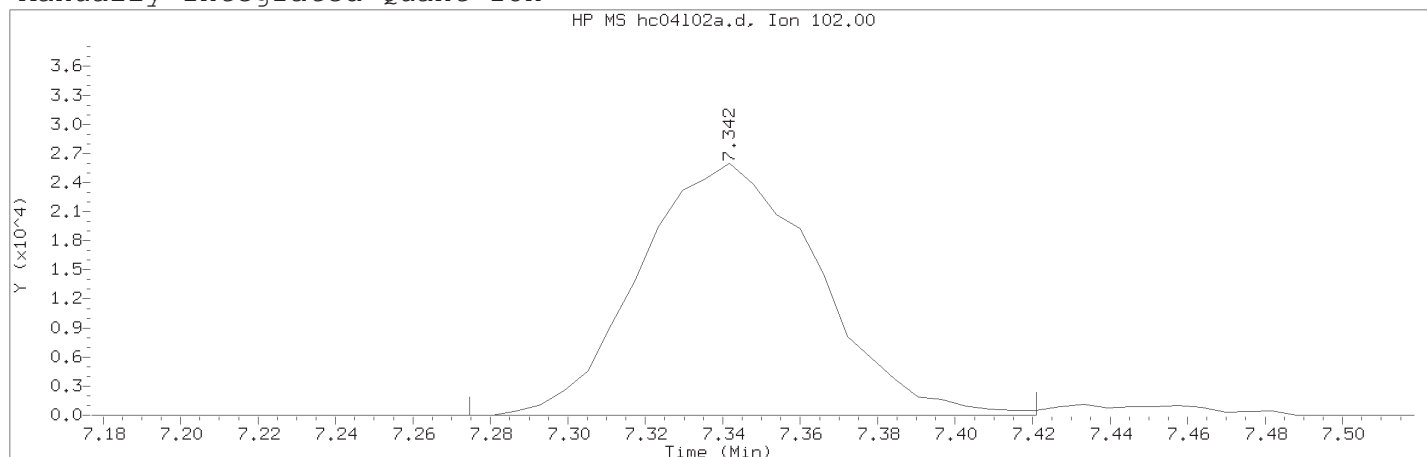
Lab Sample ID: LCSHLG

Compound Number	: 26	
Compound Name	: t-Butyl Alcohol-d10	
Scan Number	: 441	
Retention Time (minutes)	: 4.275	
Quant Ion	: 65.00	
Area	: 62127	
On-column Amount (ng)	: 50.0000	
Integration start scan	: 417	Integration stop scan: 542
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 14:26 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:30 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

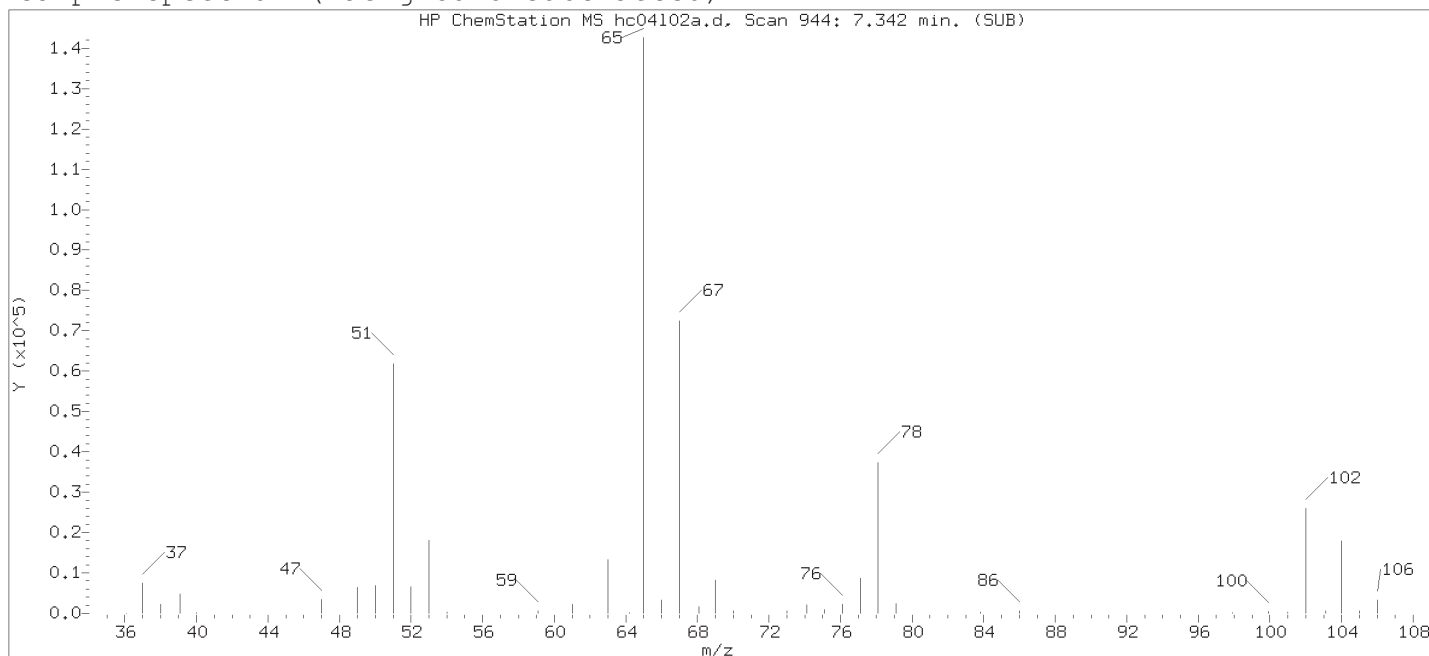
Compound Number	: 57	
Compound Name	: 1,2-Dichloroethane-d4	
Scan Number	: 944	
Retention Time (minutes)	: 7.342	
Quant Ion	: 102.00	
Area (flag)	: 83055M	
On-Column Amount (ng)	: 9.9108	
Integration start scan	: 932	Integration stop scan: 956
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

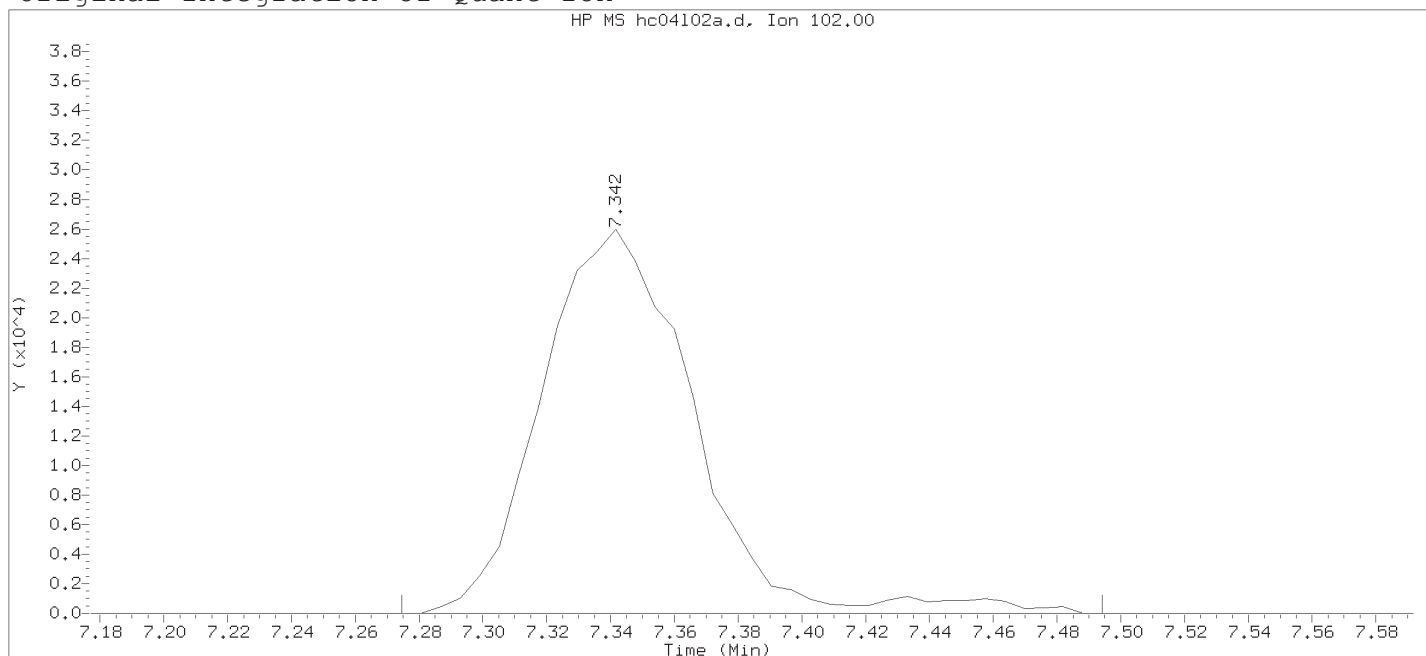
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 16:30.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 19:08.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 14:26 Analyst ID: KEL01973

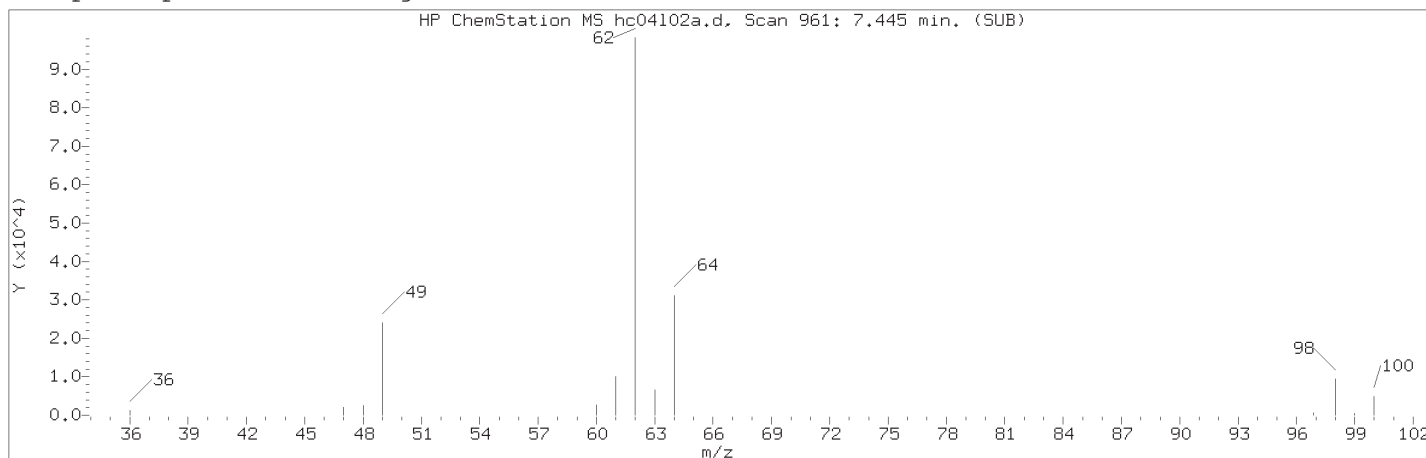
Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:28 kel01973

Sample Name: LCSHLG

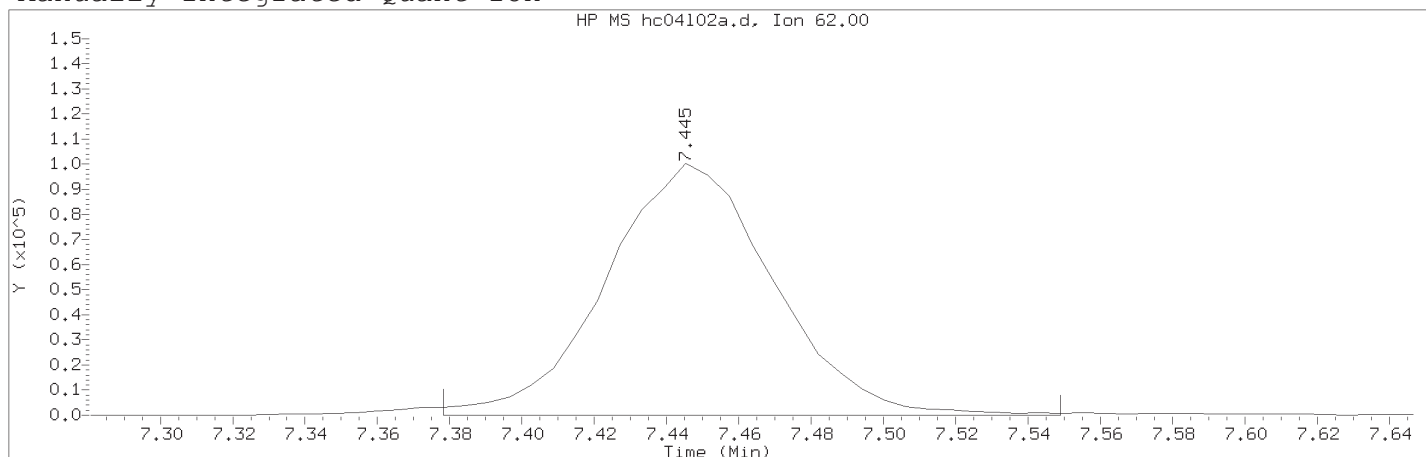
Lab Sample ID: LCSHLG

Compound Number	: 57	
Compound Name	: 1,2-Dichloroethane-d4	
Scan Number	: 944	
Retention Time (minutes)	: 7.342	
Quant Ion	: 102.00	
Area	: 85798	
On-column Amount (ng)	: 10.2381	
Integration start scan	: 932	Integration stop scan: 968
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 14:26 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:30 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

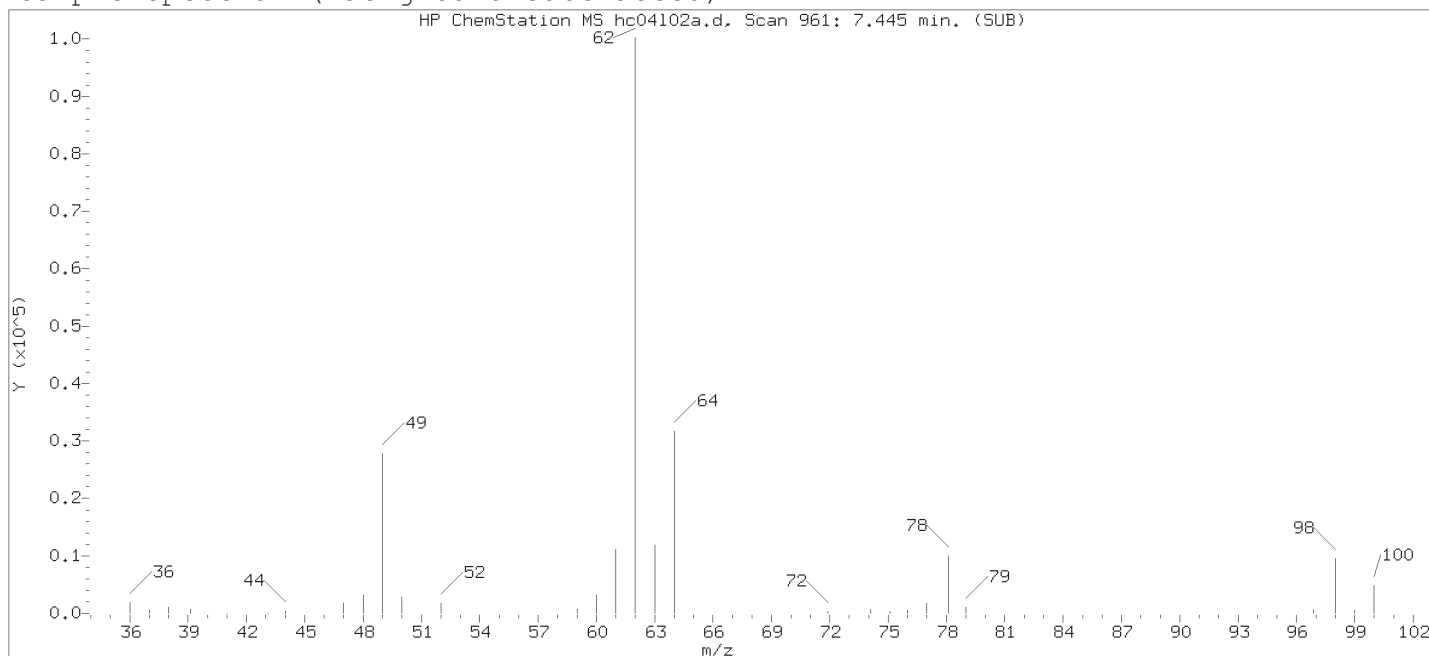
Compound Number	: 59	
Compound Name	: 1,2-Dichloroethane	
Scan Number	: 961	
Retention Time (minutes)	: 7.445	
Quant Ion	: 62.00	
Area (flag)	: 322419M	
On-Column Amount (ng)	: 4.7462	
Integration start scan	: 949	Integration stop scan: 977
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

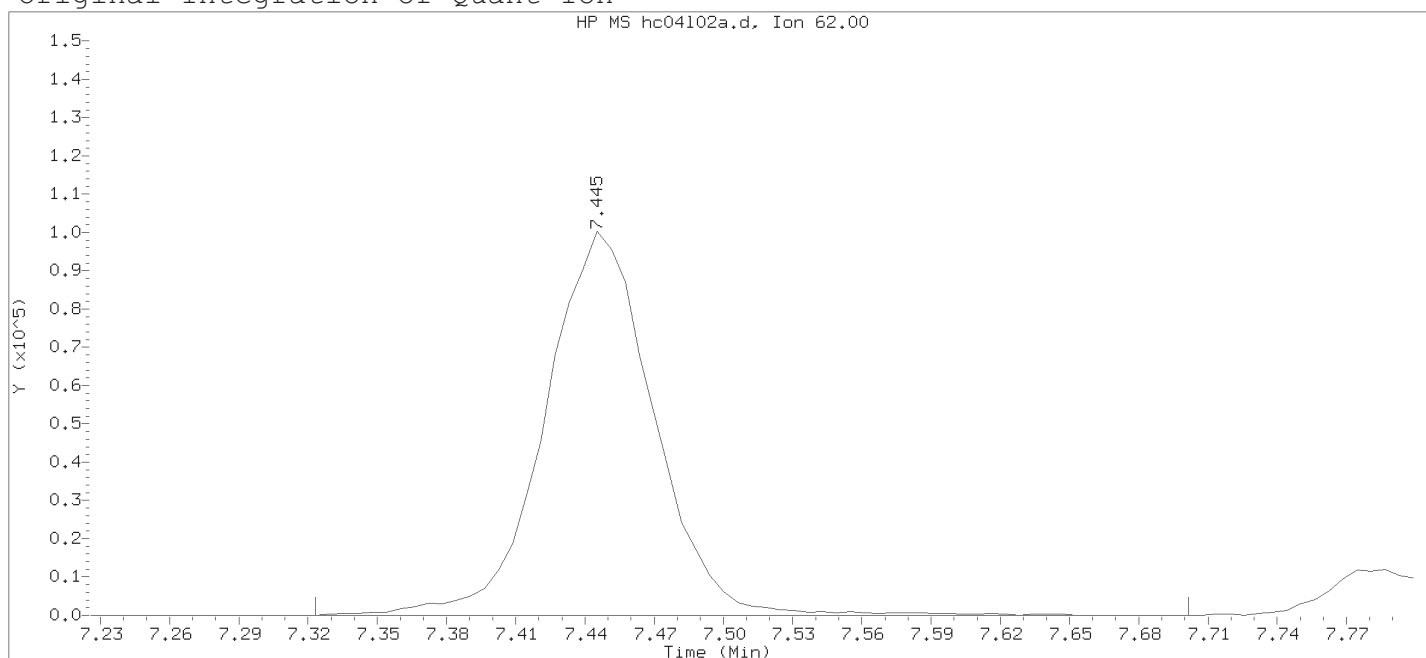
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 16:30.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 19:08.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 14:26

Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 16:13

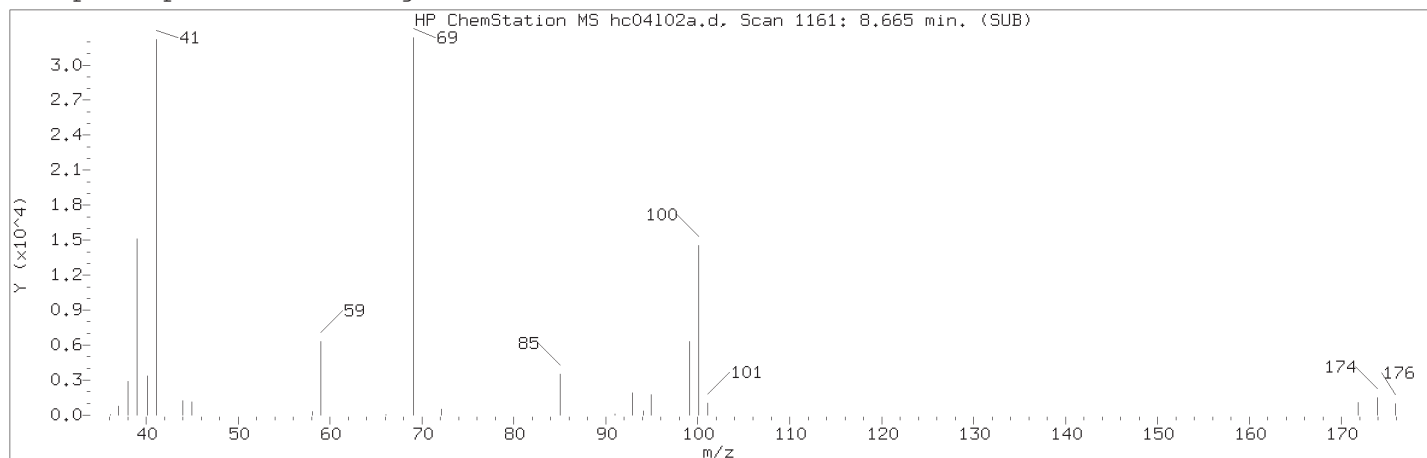
Date, time and analyst ID of latest file update: 04-Oct-2016 16:28 kel01973

Sample Name: LCSHLG

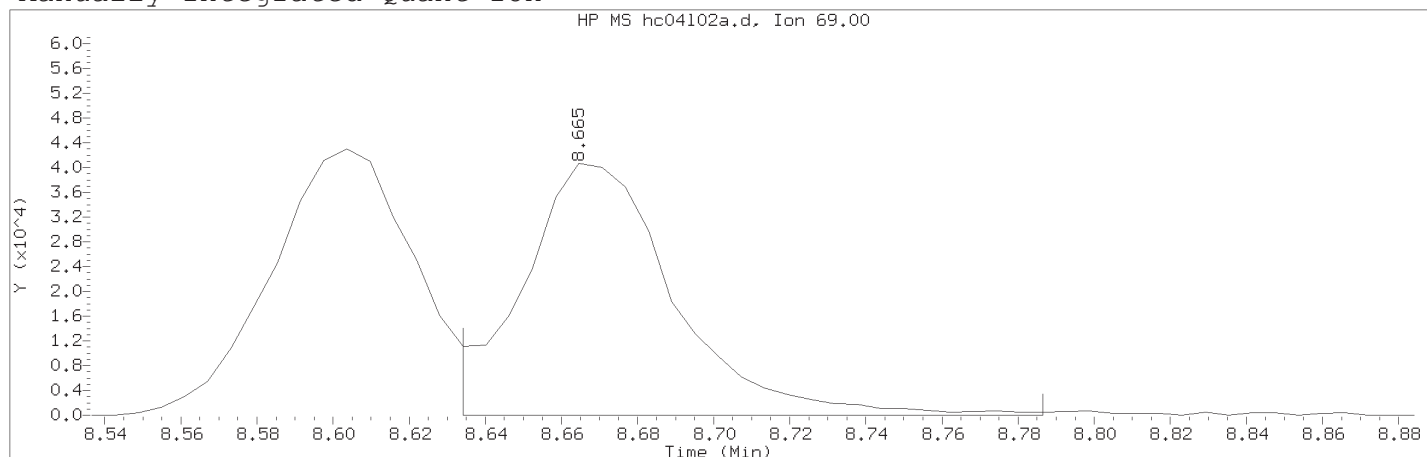
Lab Sample ID: LCSHLG

Compound Number	: 59	
Compound Name	: 1,2-Dichloroethane	
Scan Number	: 961	
Retention Time (minutes)	: 7.445	
Quant Ion	: 62.00	
Area	: 328604	
On-column Amount (ng)	: 4.8372	
Integration start scan	: 940	Integration stop scan: 1002
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 14:26 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:30 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

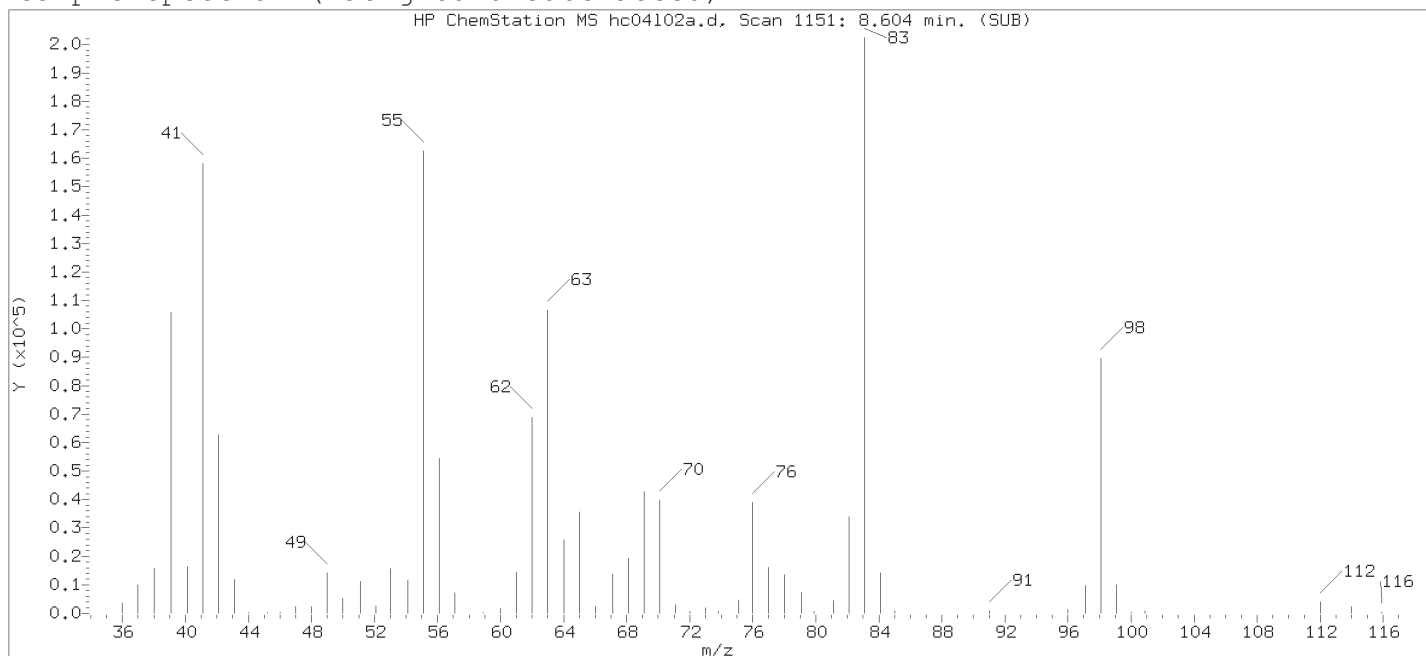
Compound Number	: 71	
Compound Name	: Methyl Methacrylate	
Scan Number	: 1161	
Retention Time (minutes)	: 8.665	
Quant Ion	: 69.00	
Area (flag)	: 114137M	
On-Column Amount (ng)	: 5.8326	
Integration start scan	: 1155	Integration stop scan: 1180
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

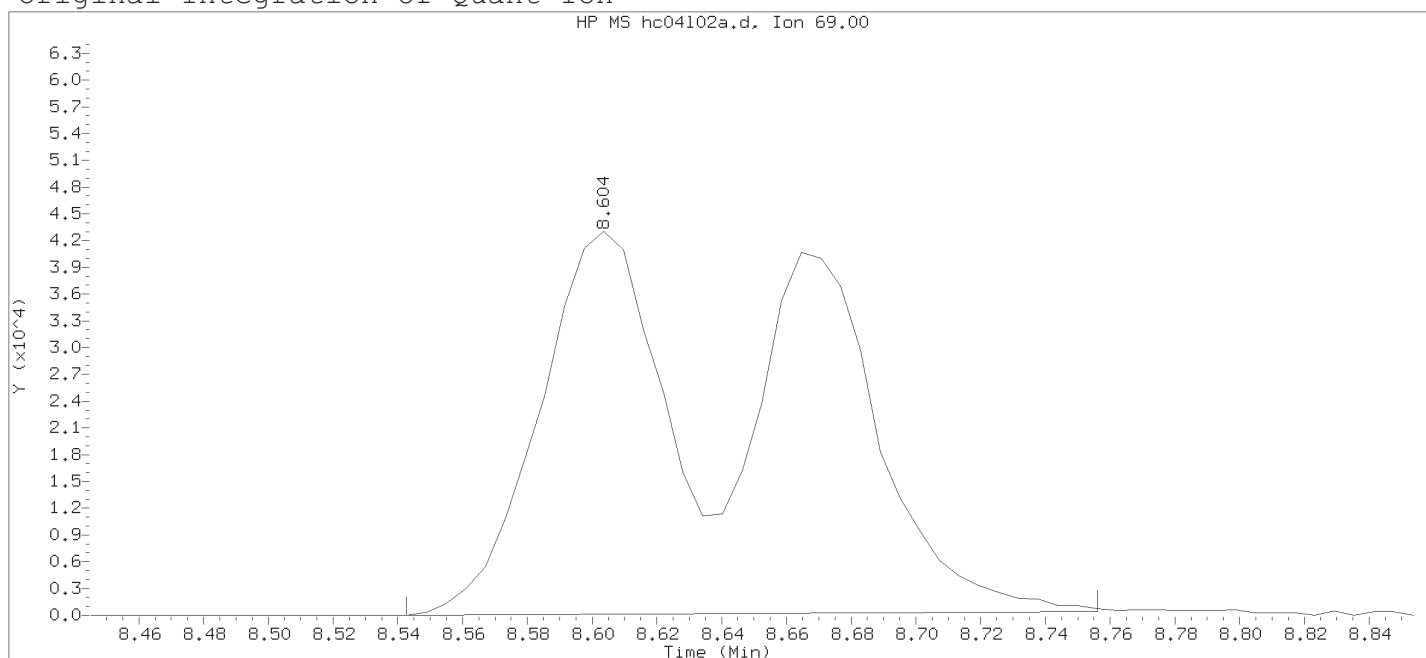
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 16:30.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 19:08.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 14:26

Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 16:13

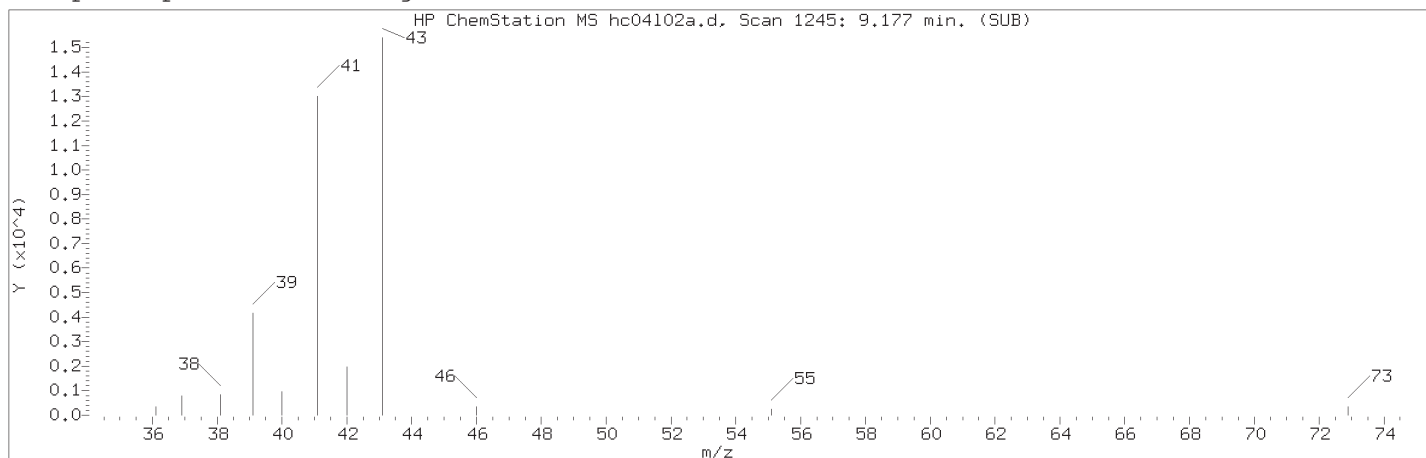
Date, time and analyst ID of latest file update: 04-Oct-2016 16:28 kel01973

Sample Name: LCSHLG

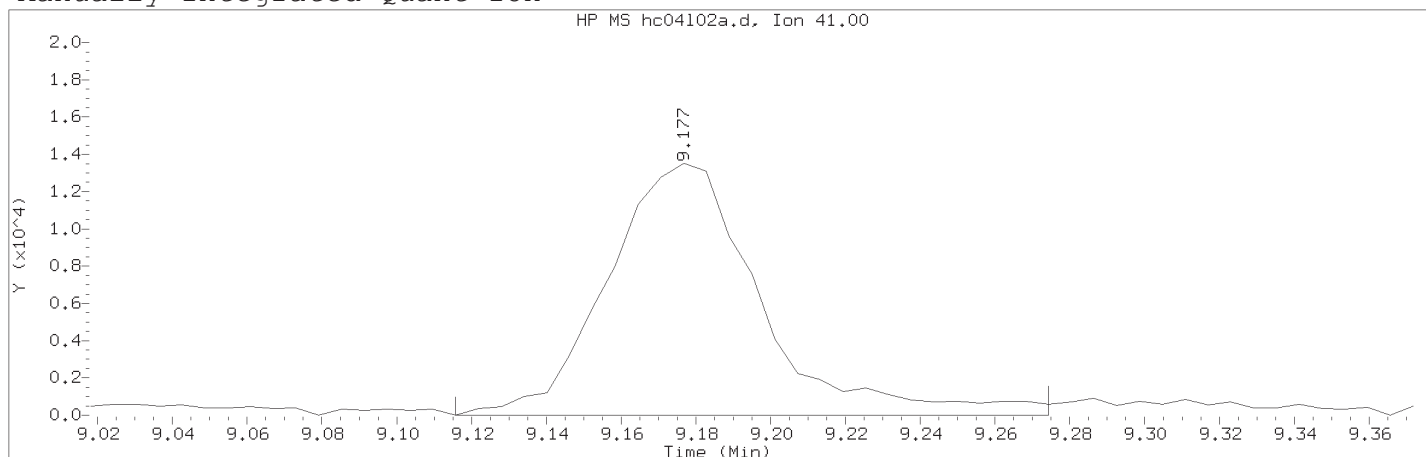
Lab Sample ID: LCSHLG

Compound Number	: 71	
Compound Name	: Methyl Methacrylate	
Scan Number	: 1151	
Retention Time (minutes)	: 8.604	
Quant Ion	: 69.00	
Area	: 218824	
On-column Amount (ng)	: 11.9246	
Integration start scan	: 1140	Integration stop scan: 1175
Y at integration start	: 0	Y at integration end: 381

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 14:26 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:30 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

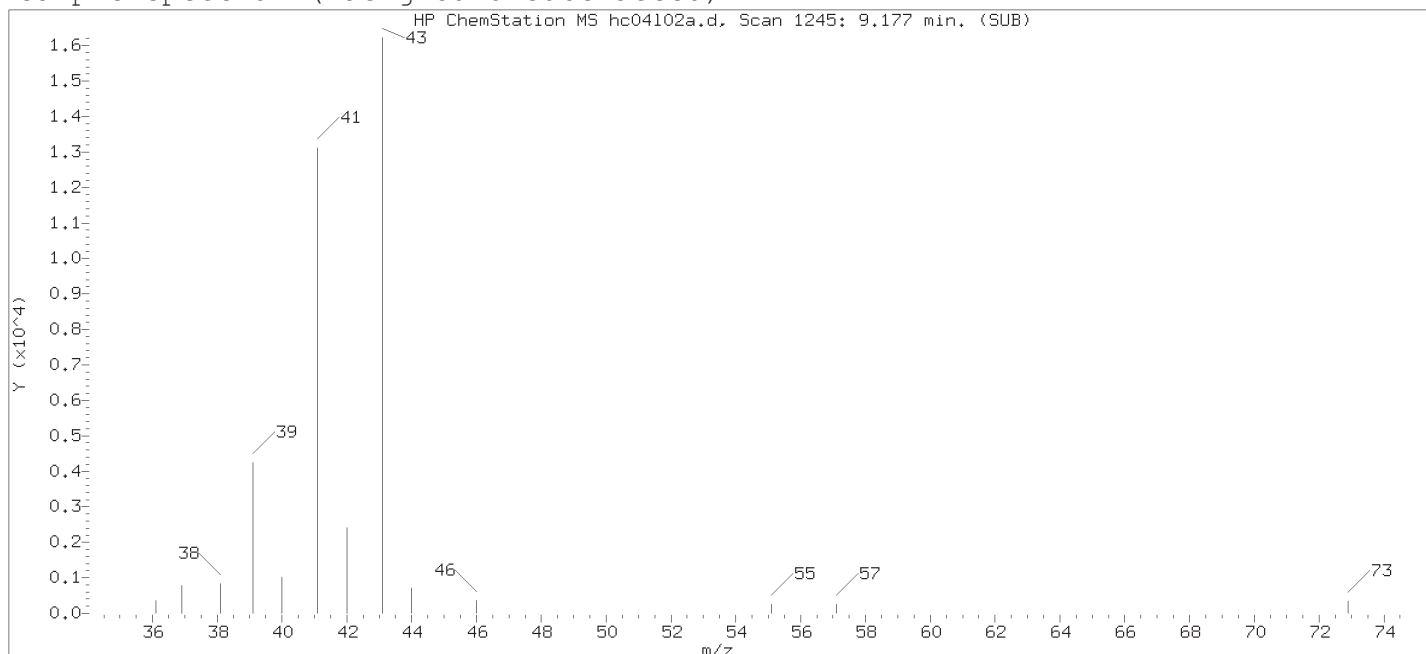
Compound Number	: 76	
Compound Name	: 2-Nitropropane	
Scan Number	: 1245	
Retention Time (minutes)	: 9.177	
Quant Ion	: 41.00	
Area (flag)	: 38398M	
On-Column Amount (ng)	: 5.3042	
Integration start scan	: 1234	Integration stop scan: 1260
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

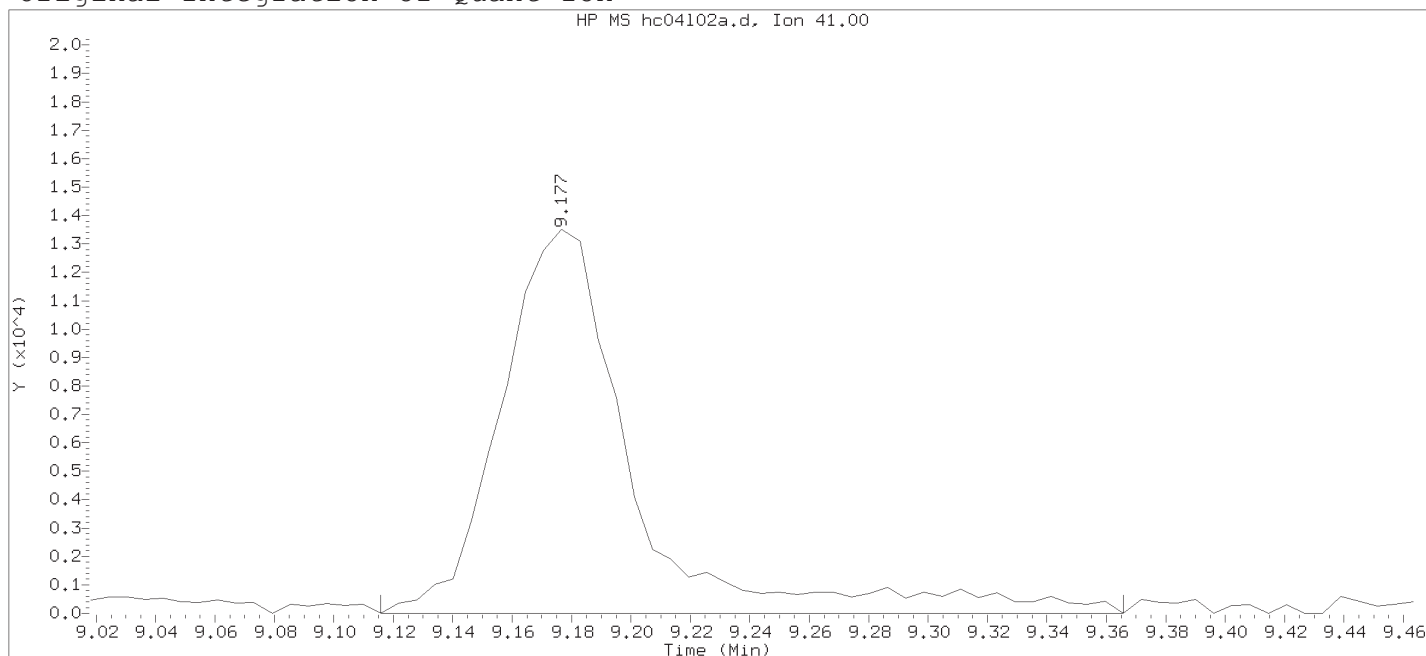
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 16:30.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 19:08.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d

Instrument ID: HP19094.i

Injection date and time: 04-OCT-2016 14:26

Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 04-OCT-2016 16:13

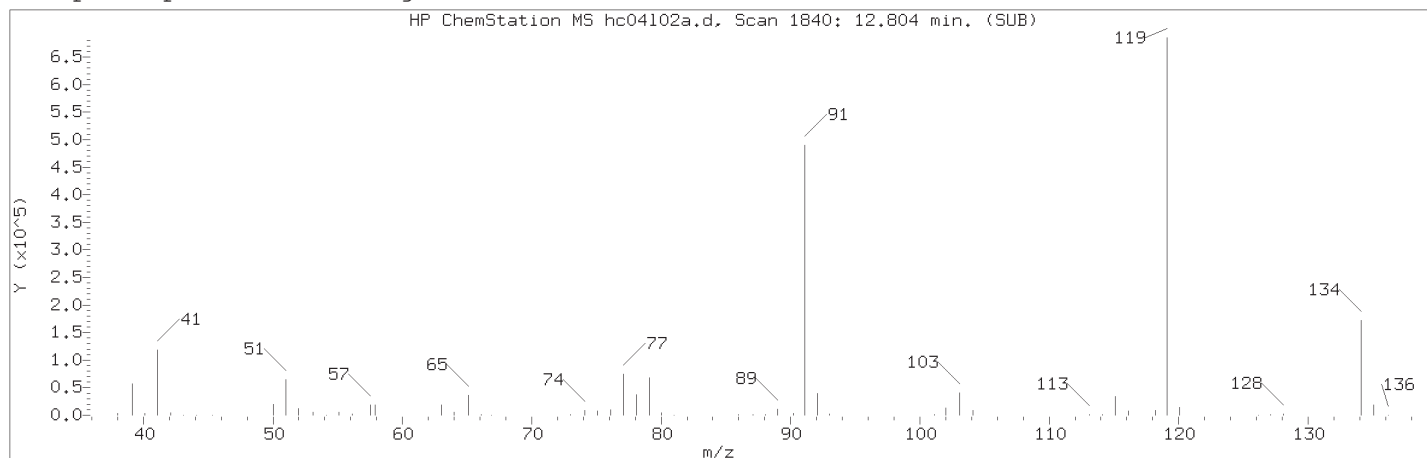
Date, time and analyst ID of latest file update: 04-Oct-2016 16:28 kel01973

Sample Name: LCSHLG

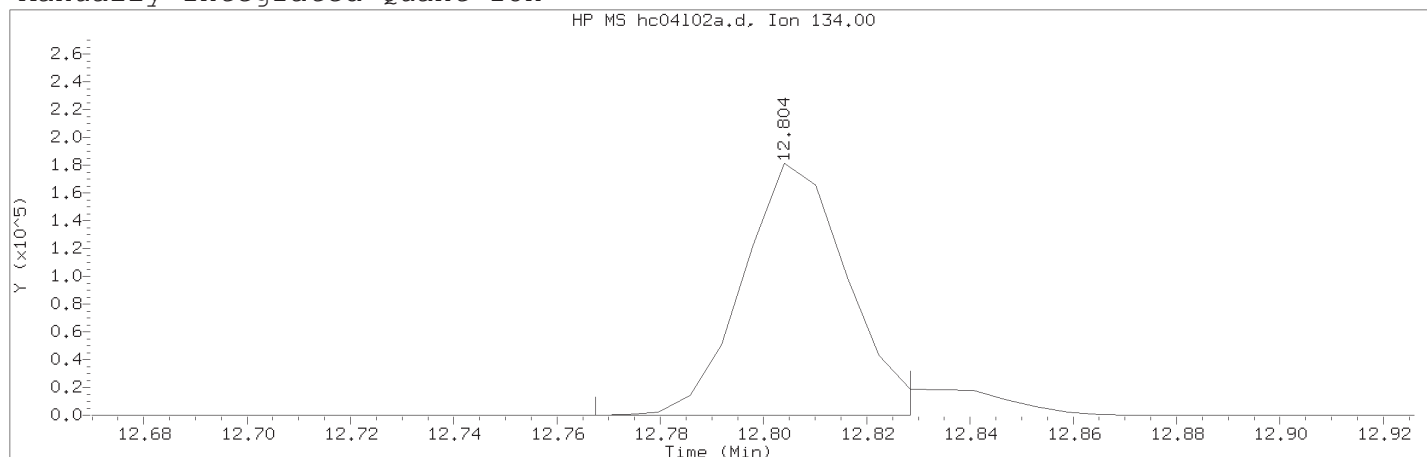
Lab Sample ID: LCSHLG

Compound Number	: 76	
Compound Name	: 2-Nitropropane	
Scan Number	: 1245	
Retention Time (minutes)	: 9.177	
Quant Ion	: 41.00	
Area	: 41341	
On-column Amount (ng)	: 6.0900	
Integration start scan	: 1234	Integration stop scan: 1275
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 14:26 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:30 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

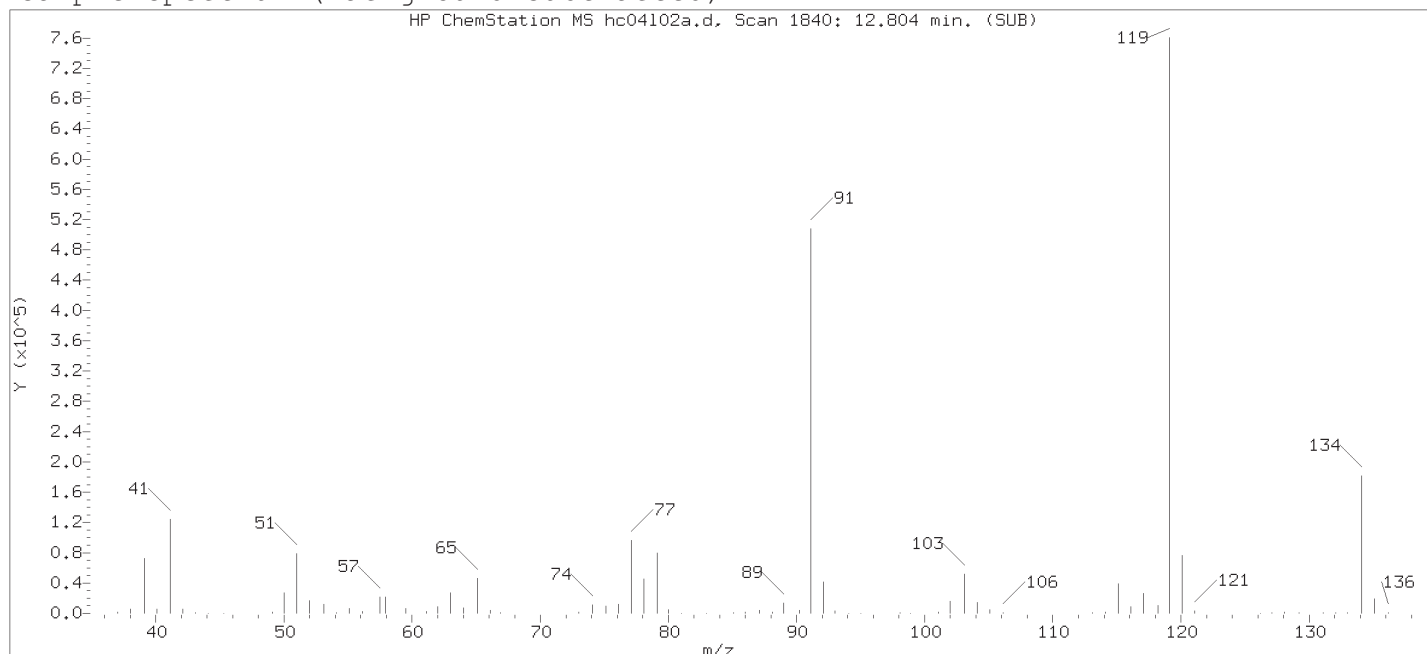
Compound Number	: 125	
Compound Name	: tert-Butylbenzene	
Scan Number	: 1840	
Retention Time (minutes)	: 12.804	
Quant Ion	: 134.00	
Area (flag)	: 254846M	
On-Column Amount (ng)	: 4.7097	
Integration start scan	: 1833	Integration stop scan: 1843
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

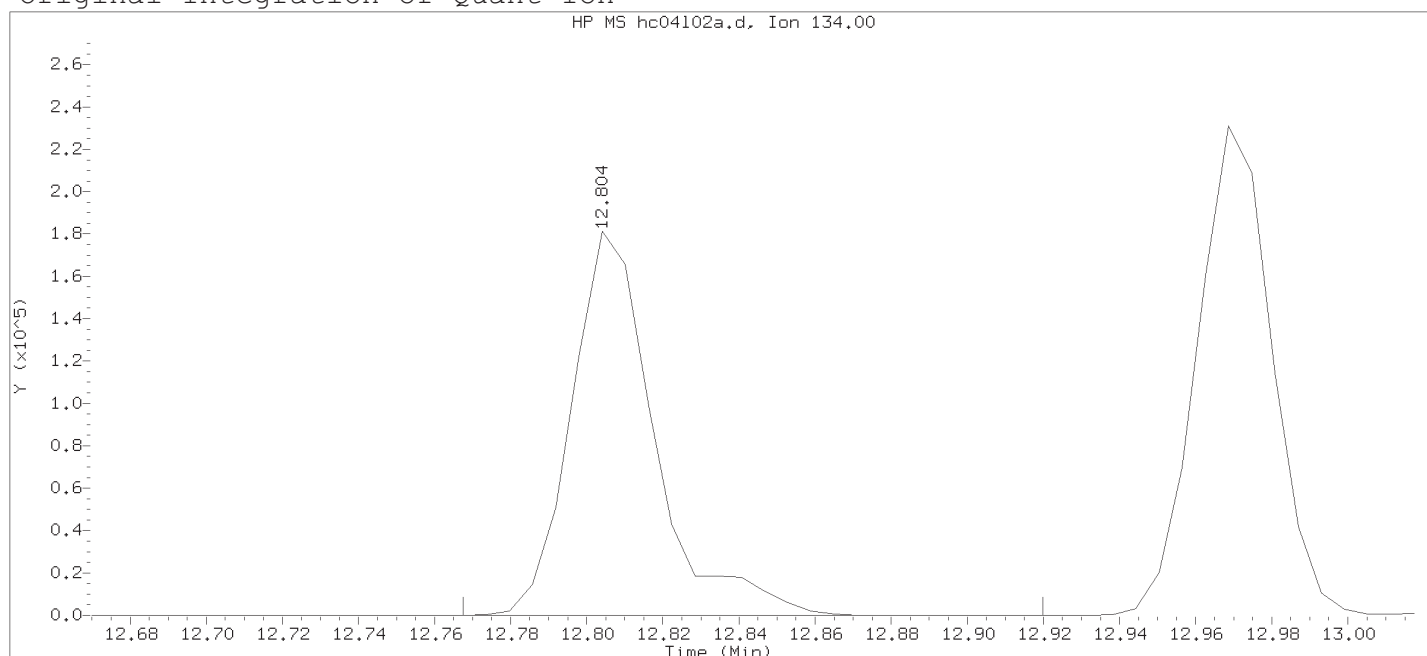
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 16:30.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 19:08.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 14:26 Analyst ID: KEL01973

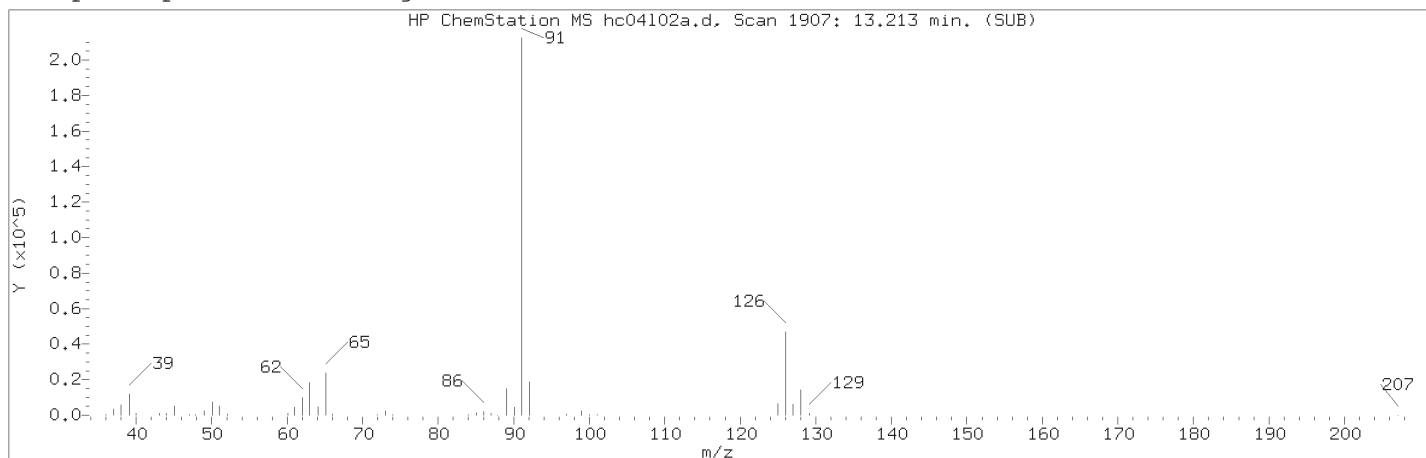
Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:28 kel01973

Sample Name: LCSHLG

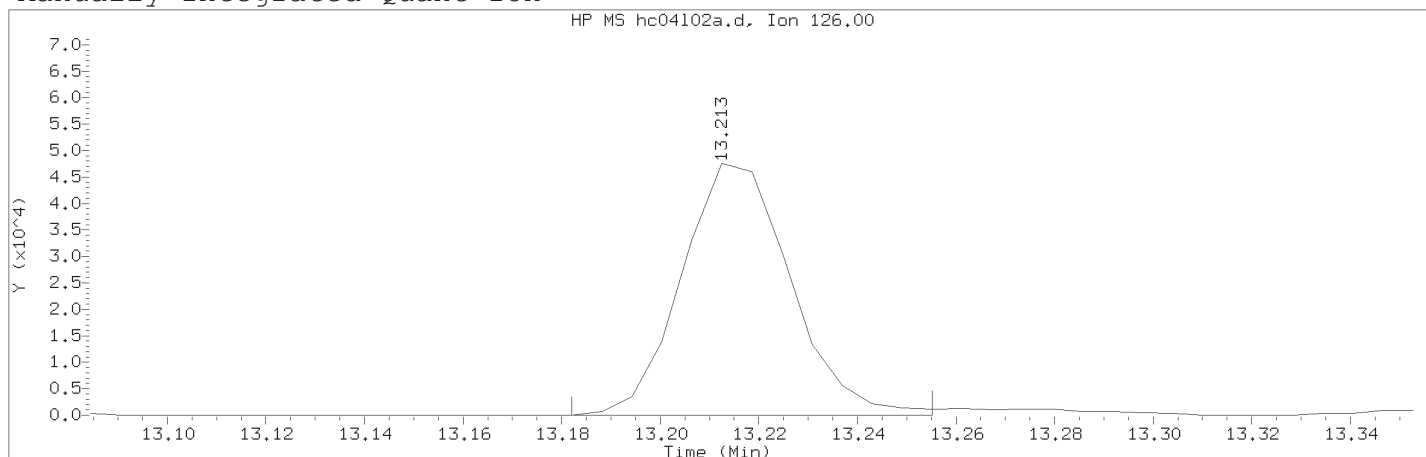
Lab Sample ID: LCSHLG

Compound Number	: 125	
Compound Name	: tert-Butylbenzene	
Scan Number	: 1840	
Retention Time (minutes)	: 12.804	
Quant Ion	: 134.00	
Area	: 275371	
On-column Amount (ng)	: 5.0890	
Integration start scan	: 1833	Integration stop scan: 1858
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 14:26 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:30 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

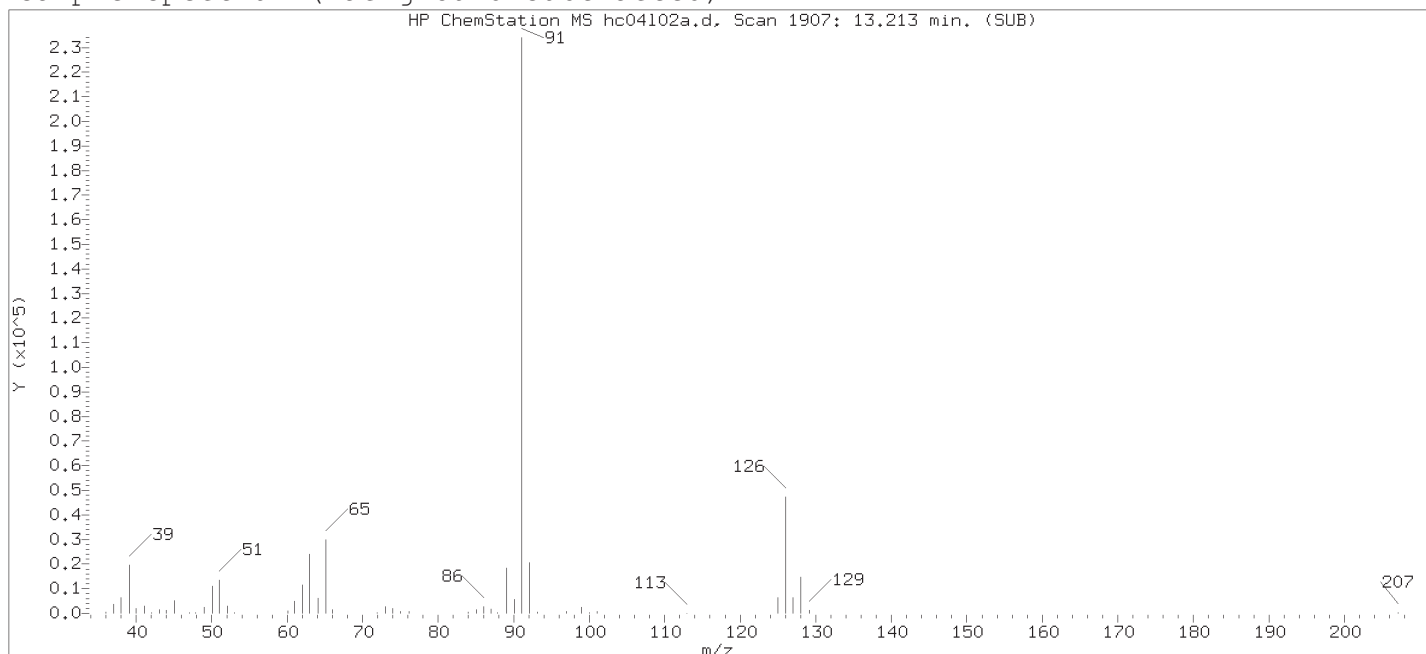
Compound Number : 136
Compound Name : Benzyl Chloride
Scan Number : 1907
Retention Time (minutes): 13.213
Quant Ion : 126.00
Area (flag) : 72757M
On-Column Amount (ng) : 5.0708
Integration start scan : 1901 Integration stop scan: 1913
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

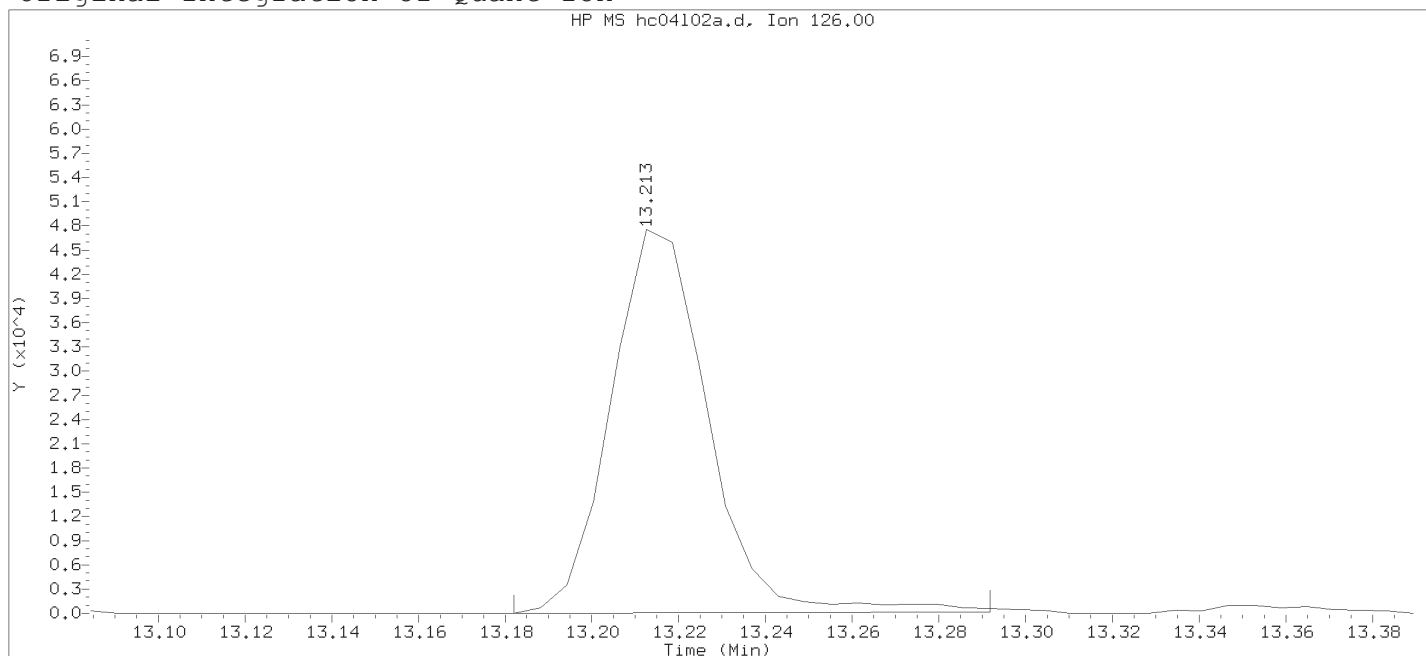
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 10/04/2016 at 16:30.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 10/04/2016 at 19:08.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16oct04a.b/hc04102a.d Instrument ID: HP19094.i
Injection date and time: 04-OCT-2016 14:26 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16oct04a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 04-OCT-2016 16:13
Date, time and analyst ID of latest file update: 04-Oct-2016 16:28 kel01973

Sample Name: LCSHLG

Lab Sample ID: LCSHLG

Compound Number	: 136	
Compound Name	: Benzyl Chloride	
Scan Number	: 1907	
Retention Time (minutes)	: 13.213	
Quant Ion	: 126.00	
Area	: 74236	
On-column Amount (ng)	: 5.1739	
Integration start scan	: 1901	Integration stop scan: 1919
Y at integration start	: 0	Y at integration end: 161

Page 1

Client ID: bfb 50ng

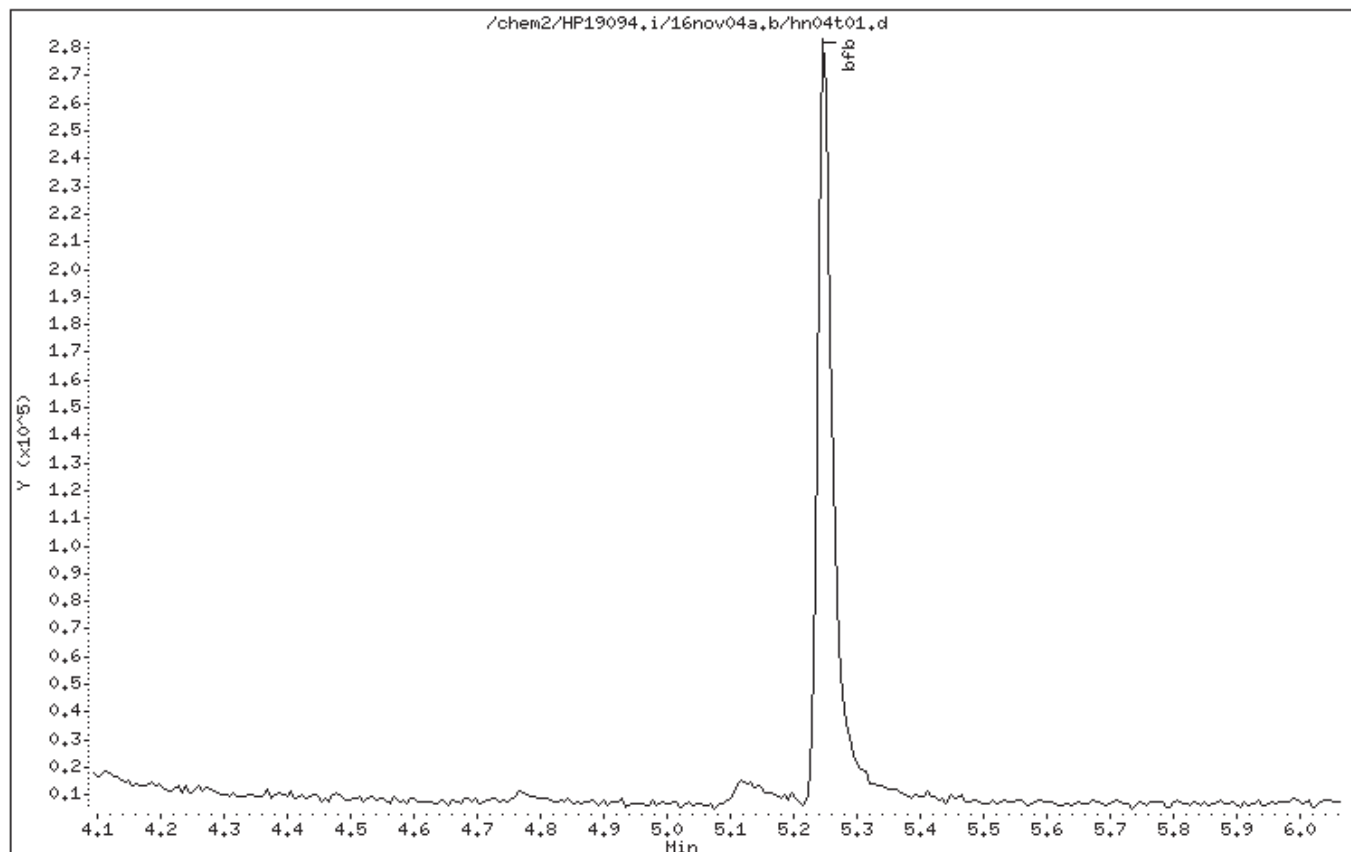
Instrument: HP19094.i

Sample Info: bfb 50ng;bfb AUG22-16;1;3; ; ; ;

Operator: KEL01973

Column phase: Rxi-624Sil MS

Column diameter: 0.25



Digitally signed by Kerri E. Koch Legerlotz on 11/04/2016 at 11:08.
Target 3.5 esignature user ID: kel01973

Date : 04-NOV-2016 11:01

Client ID: bfb 50ng

Instrument: HP19094.i

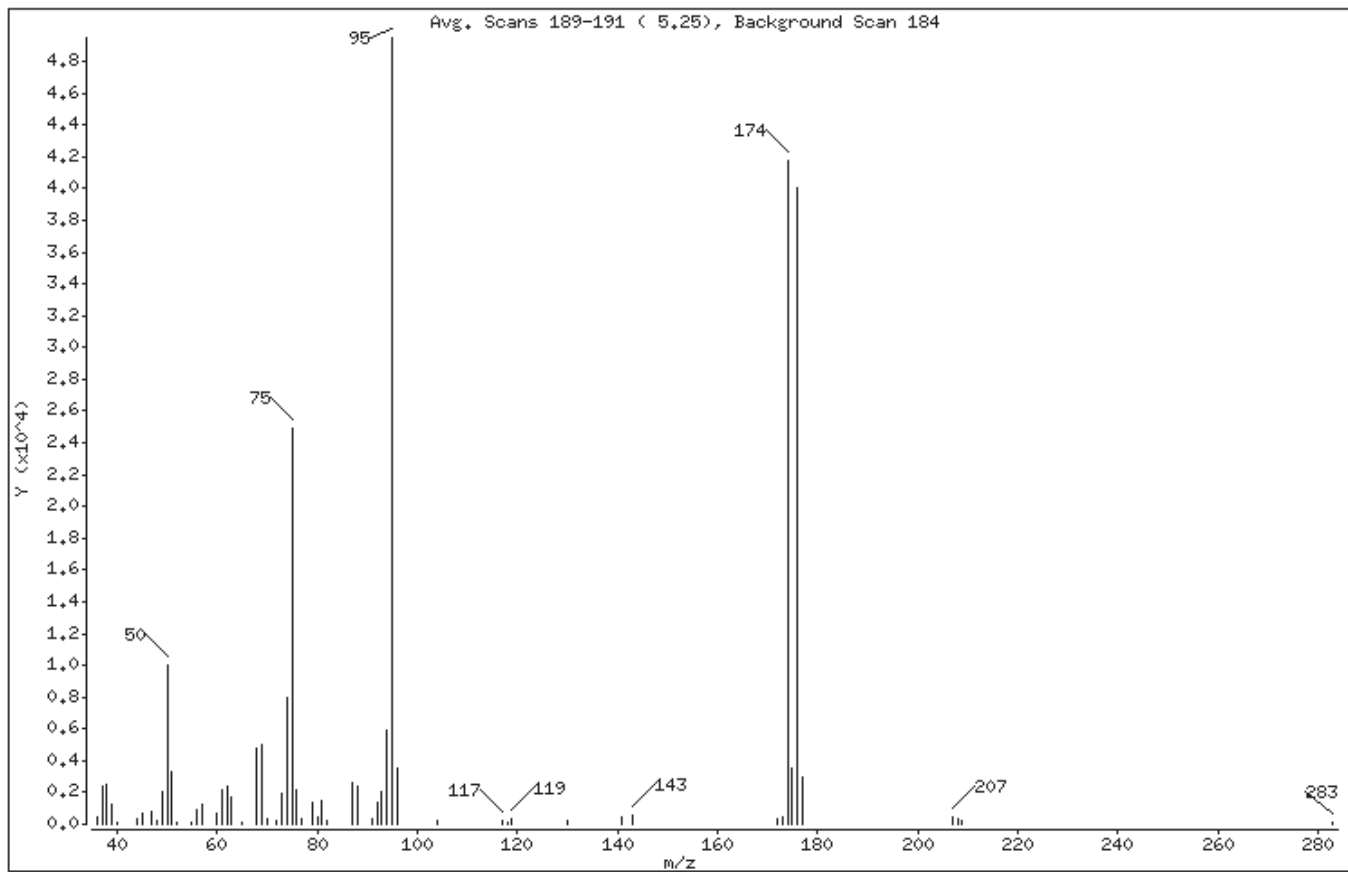
Sample Info: bfb 50ng;bfb AUG22-16;1;3;3;3;3;3

Operator: KEL01973

Column phase: Rxi-624Sil MS

Column diameter: 0.25

1 bfb



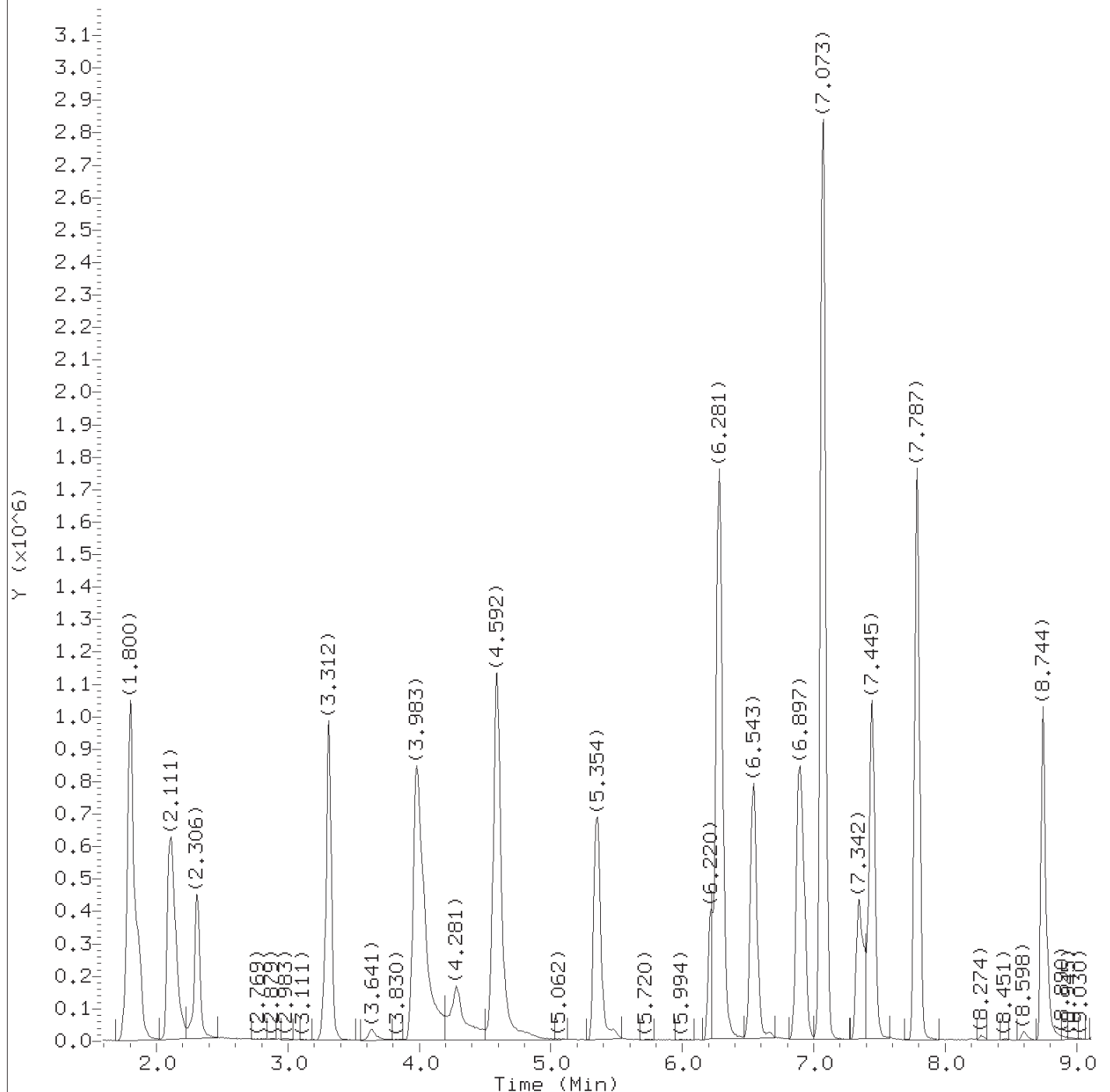
m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.16
75	30.00 - 60.00% of mass 95	50.43
96	5.00 - 9.00% of mass 95	7.20
173	Less than 2.00% of mass 174	0.98 (1.16)
174	50.00 - 100.00% of mass 95	84.34
175	5.00 - 9.00% of mass 174	7.14 (8.46)
176	95.00 - 101.00% of mass 174	80.89 (95.92)
177	5.00 - 9.00% of mass 176	5.90 (7.29)

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Target 3.5 esignature user ID: kel01973

Page 3

Column diameter: 0.25

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36,00	437	57,00	1272	79,00	1343	119,00	305
37,00	2379	60,00	647	80,00	490	130,00	223
38,00	2485	61,00	2168	81,00	1466	141,00	481
39,00	1238	62,00	2406	82,00	280	143,00	526
40,00	136	63,00	1744	87,00	2587	172,00	320
44,00	375	65,00	97	88,00	2432	173,00	485
45,00	655	68,00	4781	91,00	300	174,00	41736
47,00	820	69,00	5053	92,00	1333	175,00	3533
48,00	232	70,00	365	93,00	2052	176,00	40032
49,00	2049	72,00	204	94,00	5880	177,00	2918
50,00	9977	73,00	1969	95,00	49488	207,00	440
51,00	3273	74,00	8019	96,00	3564	208,00	299
52,00	85	75,00	24960	104,00	173	209,00	246
55,00	102	76,00	2210	117,00	263	283,00	83
56,00	934	77,00	329	118,00	92		



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04i01.d
Injection date and time: 04-NOV-2016 11:52

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m
Calibration date and time: 04-NOV-2016 15:17

Sublist used: SMICAL

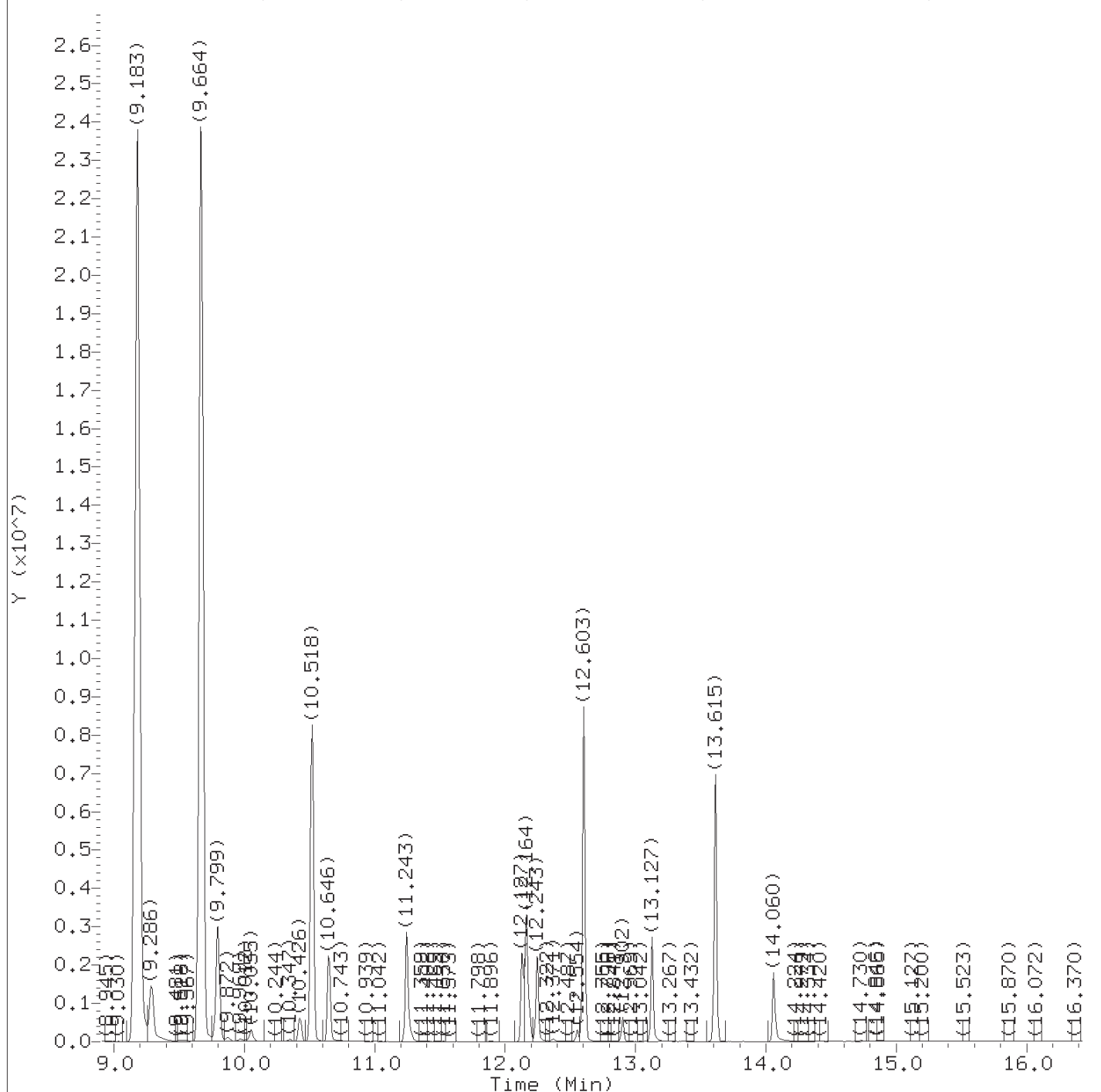
Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.

Target 3.5 esignature user ID: kel01973
RAE76 Page 438 of 883



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04i01.d
Injection date and time: 04-NOV-2016 11:52

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m
Calibration date and time: 04-NOV-2016 15:17

Sublist used: SMICAL

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.

Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04i01.d
Injection date and time: 04-NOV-2016 11:52

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 04-NOV-2016 15:17
Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.111	45	1949462M	26.791
25) Acetonitrile	(1)	3.983	41	3468133M	904.279
26)*t-Butyl Alcohol-d10	(1)	4.257	65	99116M	50.000
36) Vinyl Acetate	(2)	5.354	43	2101931	31.347
43) Methyl Acrylate	(2)	6.281	55	3573376	148.546
53) 1-Chlorobutane	(2)	7.073	56	3214504	27.124
63)*Fluorobenzene	(2)	7.787	96	2236038	10.000
77) Chloroacetonitrile	(2)	9.207	75	1828468	1298.211
78) 2-Chloroethyl vinyl ether	(2)	9.286	63	657485	28.403
97)*Chlorobenzene-d5	(3)	11.243	117	1543200	10.000
109) cis-1,4-Dichloro-2-butene	(1)	12.133	88	489698	69.763
112) Cyclohexanone	(1)	12.164	55	1546877M	1383.179
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	671487	10.000
142) Hexachloroethane	(4)	13.615	117	1245848	26.067

M = Compound was manually integrated.

* = Compound is an internal standard.

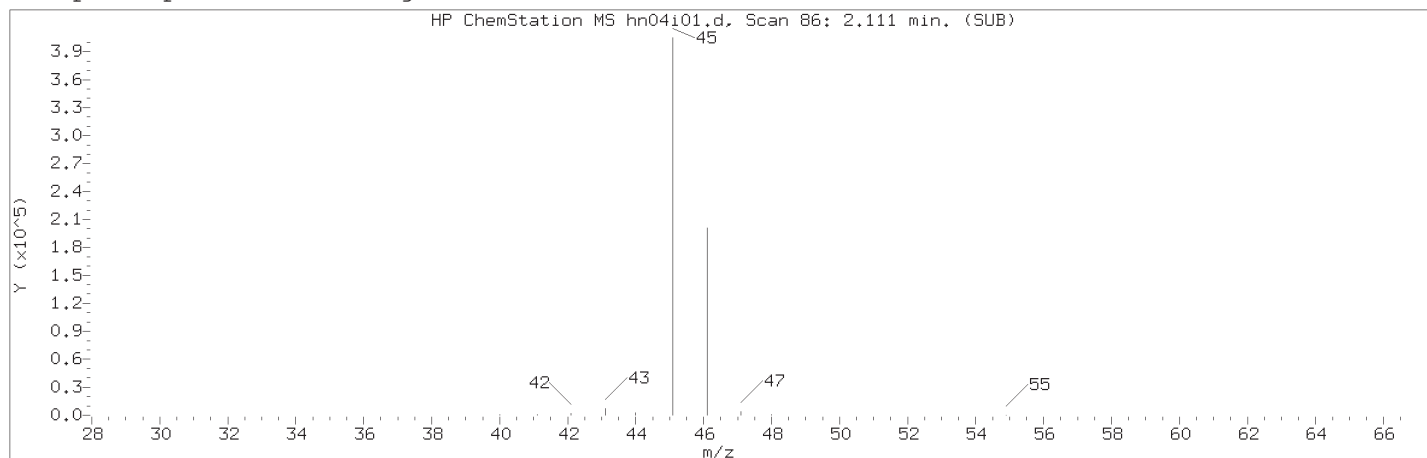
page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.

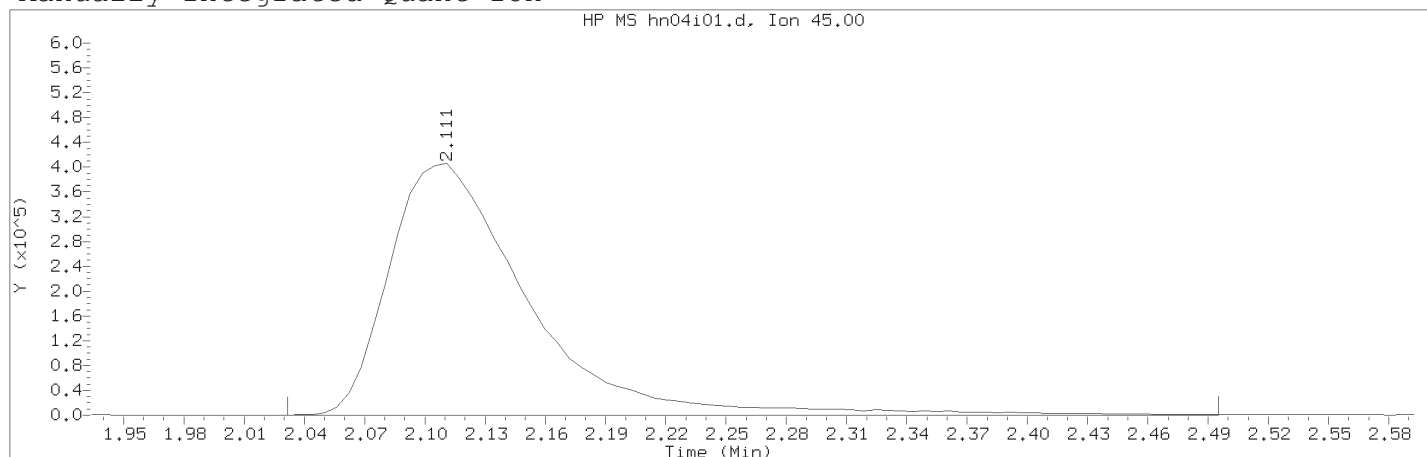
Target 3.5 esignature user ID: kel01973

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Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 11:52

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:17

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compound Number	: 4	
Compound Name	: Dimethyl ether	
Scan Number	: 86	
Retention Time (minutes)	: 2.111	
Quant Ion	: 45.00	
Area (flag)	: 1949462M	
On-Column Amount (ng)	: 26.7907	
Integration start scan	: 72	Integration stop scan: 148
Y at integration start	: 0	Y at integration end: 0

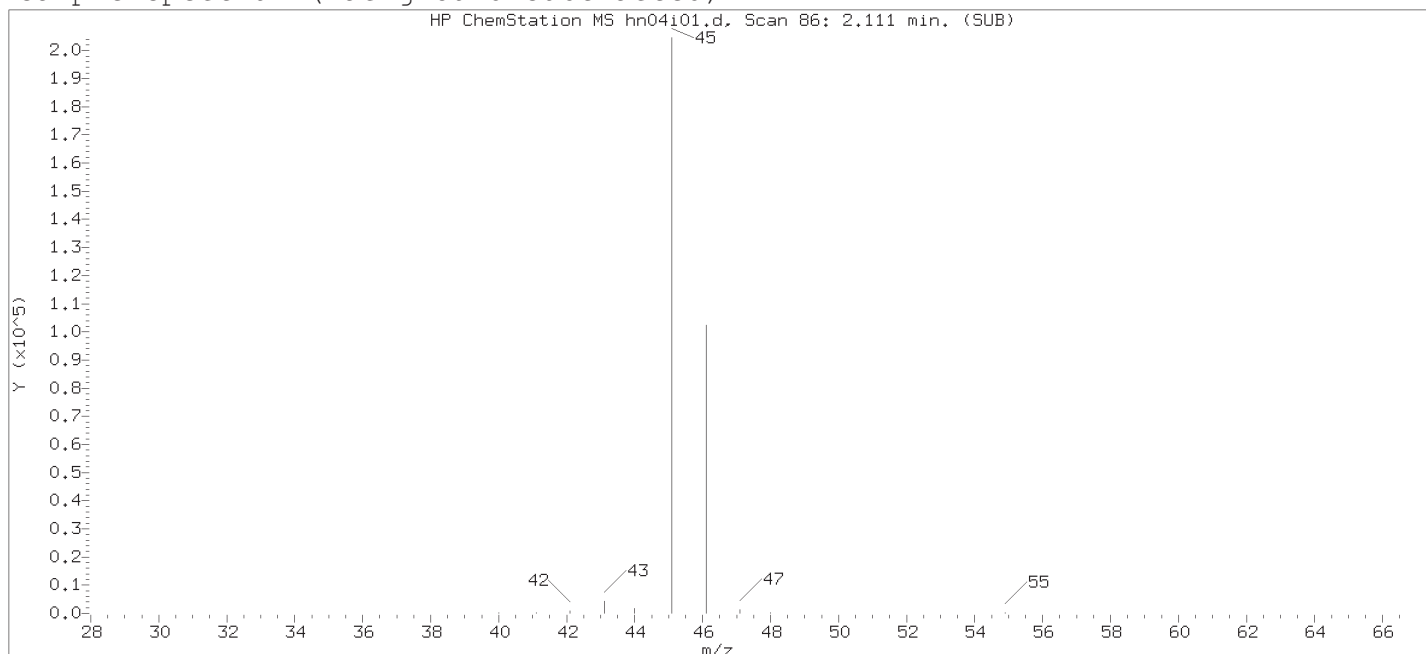
Reason for manual integration: improper integration

Analyst responsible for change:

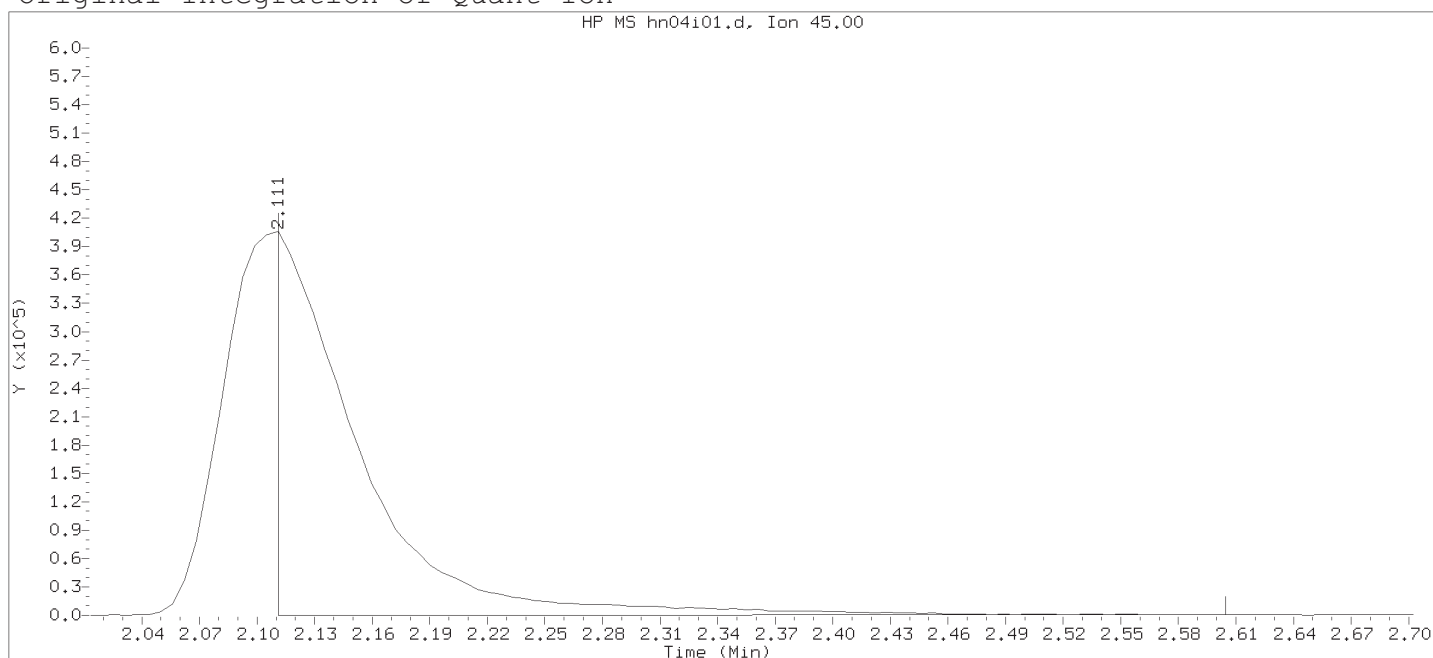
Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 11:52

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:03

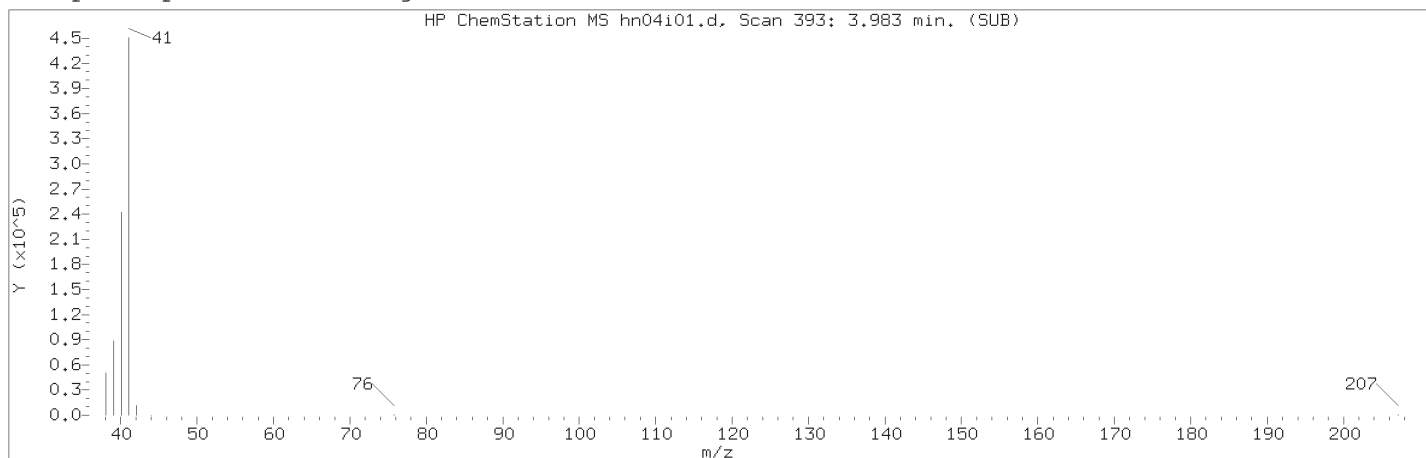
Date, time and analyst ID of latest file update: 04-Nov-2016 15:03 kel01973

Sample Name: VSTD025

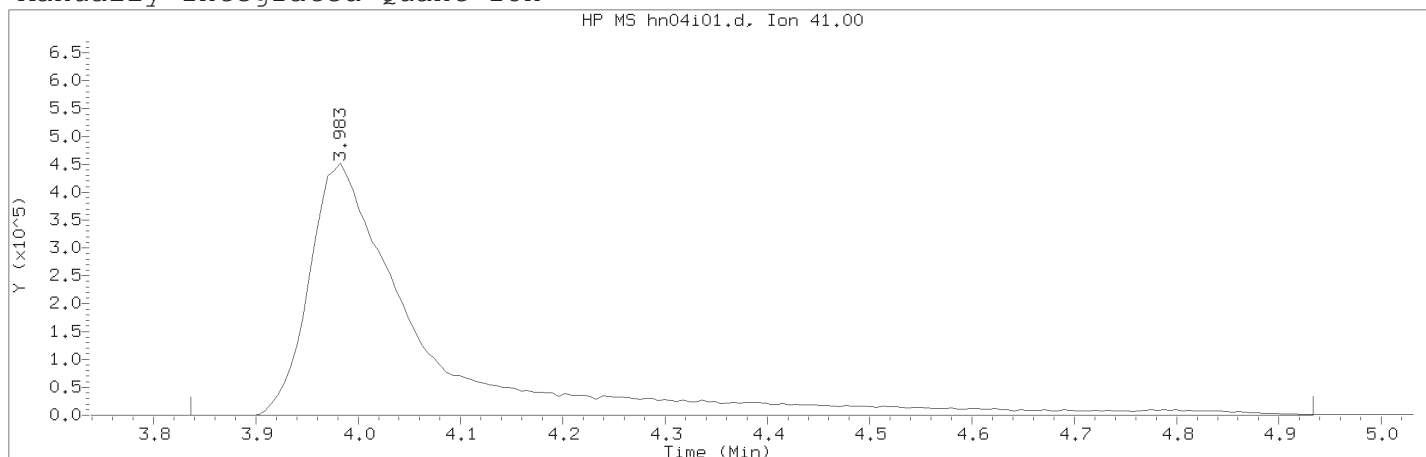
Lab Sample ID: VSTD025

Compound Number	: 4	
Compound Name	: Dimethyl ether	
Scan Number	: 86	
Retention Time (minutes)	: 2.111	
Quant Ion	: 45.00	
Area	: 1166463	
On-column Amount (ng)	: 17.3871	
Integration start scan	: 85	Integration stop scan: 166
Y at integration start	: 0	Y at integration end: 471

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i01.d Instrument ID: HP19094.i
Injection date and time: 04-NOV-2016 11:52 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 04-NOV-2016 15:17
Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

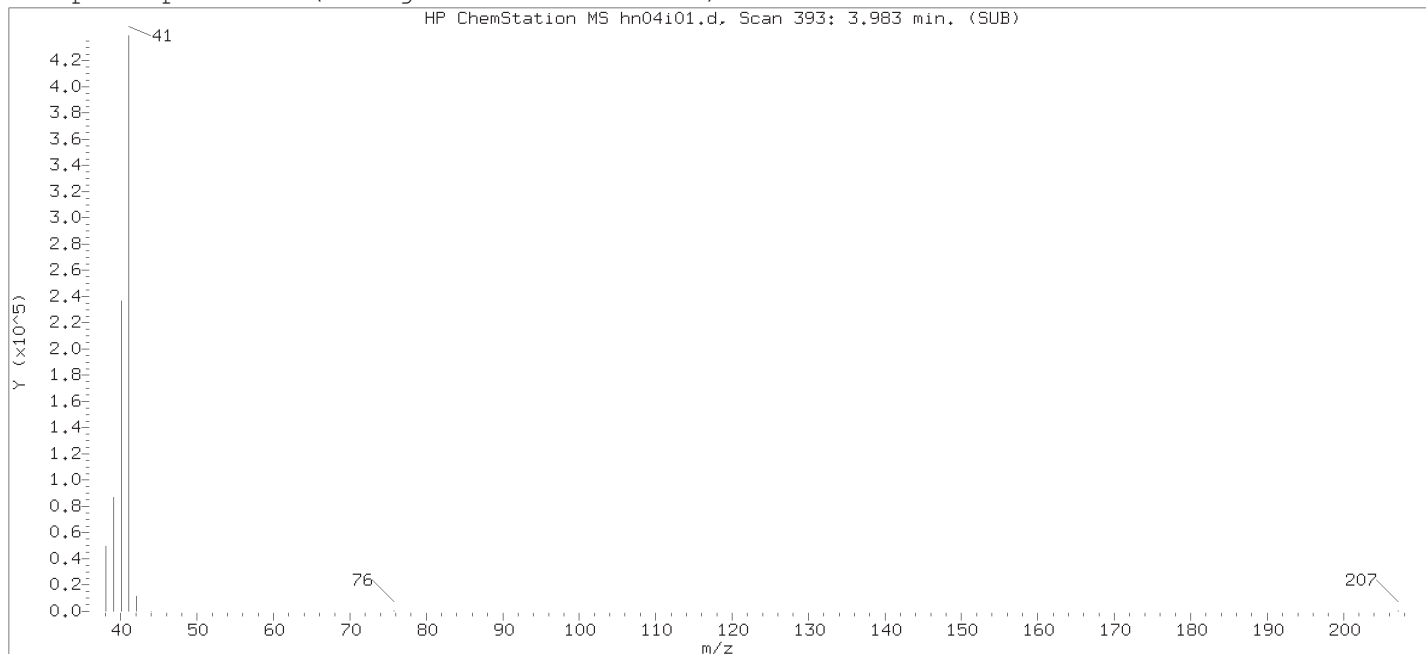
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 393
Retention Time (minutes): 3.983
Quant Ion : 41.00
Area (flag) : 3468133M
On-Column Amount (ng) : 904.2791
Integration start scan : 368 Integration stop scan: 548
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

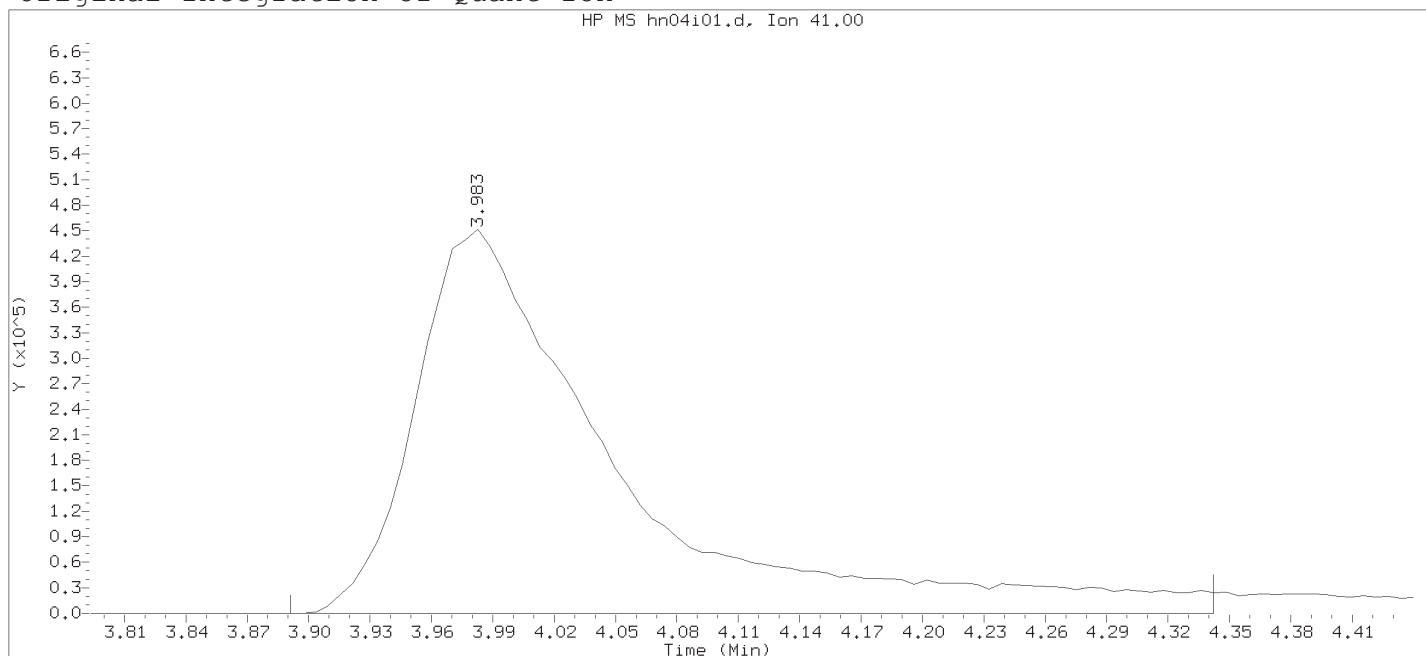
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 11:52

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:03

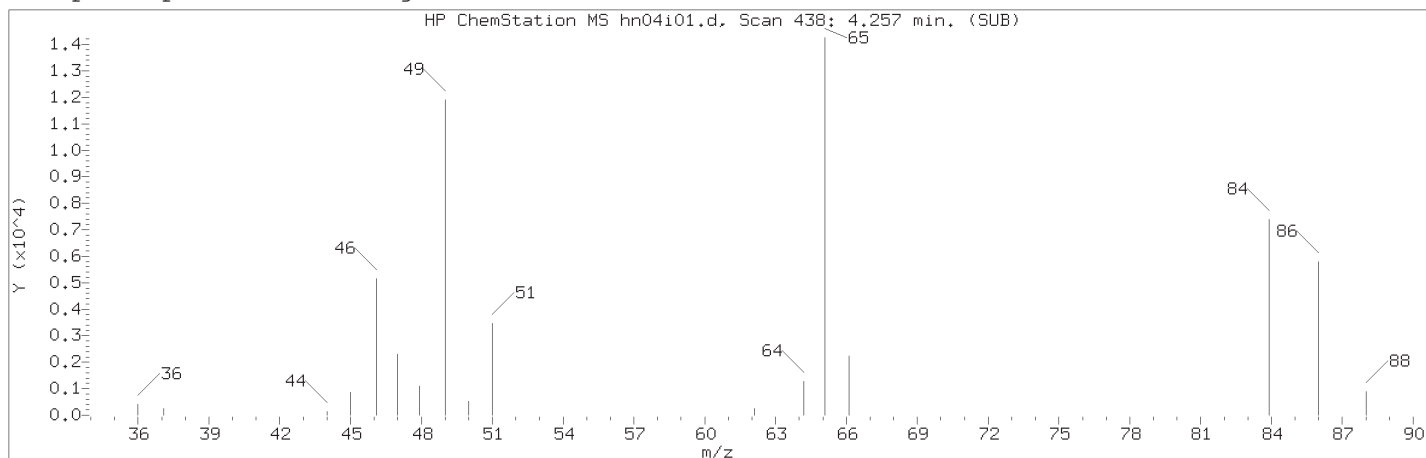
Date, time and analyst ID of latest file update: 04-Nov-2016 15:03 kel01973

Sample Name: VSTD025

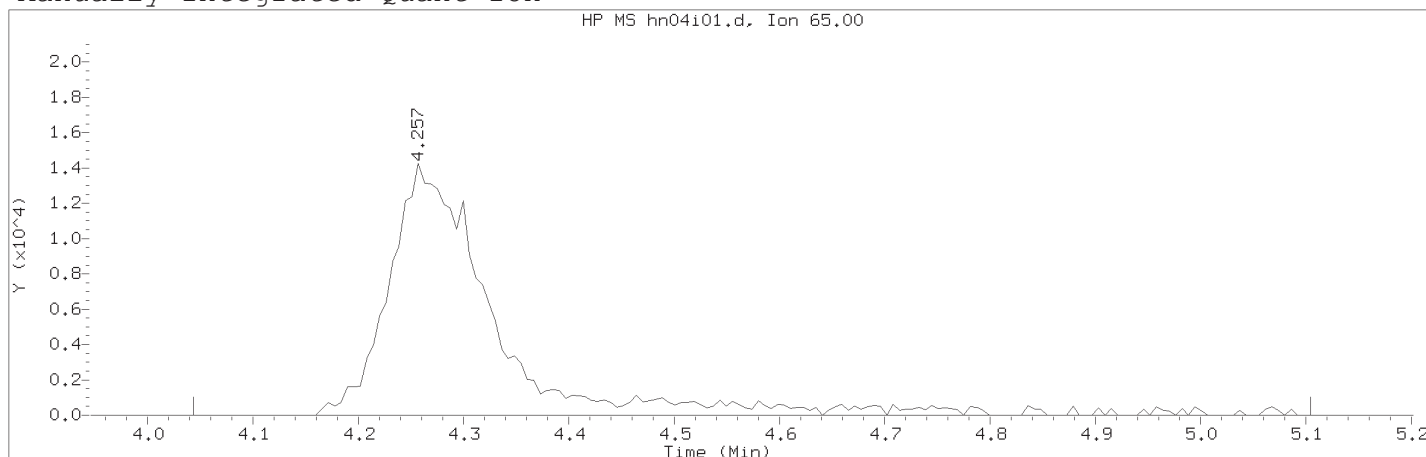
Lab Sample ID: VSTD025

Compound Number	: 25	
Compound Name	: Acetonitrile	
Scan Number	: 393	
Retention Time (minutes)	: 3.983	
Quant Ion	: 41.00	
Area	: 3055417	
On-column Amount (ng)	: 1035.6556	
Integration start scan	: 377	Integration stop scan: 451
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 11:52

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:17

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compound Number	: 26	
Compound Name	: t-Butyl Alcohol-d10	
Scan Number	: 438	
Retention Time (minutes)	: 4.257	
Quant Ion	: 65.00	
Area (flag)	: 99116M	
On-Column Amount (ng)	: 50.0000	
Integration start scan	: 402	Integration stop scan: 576
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

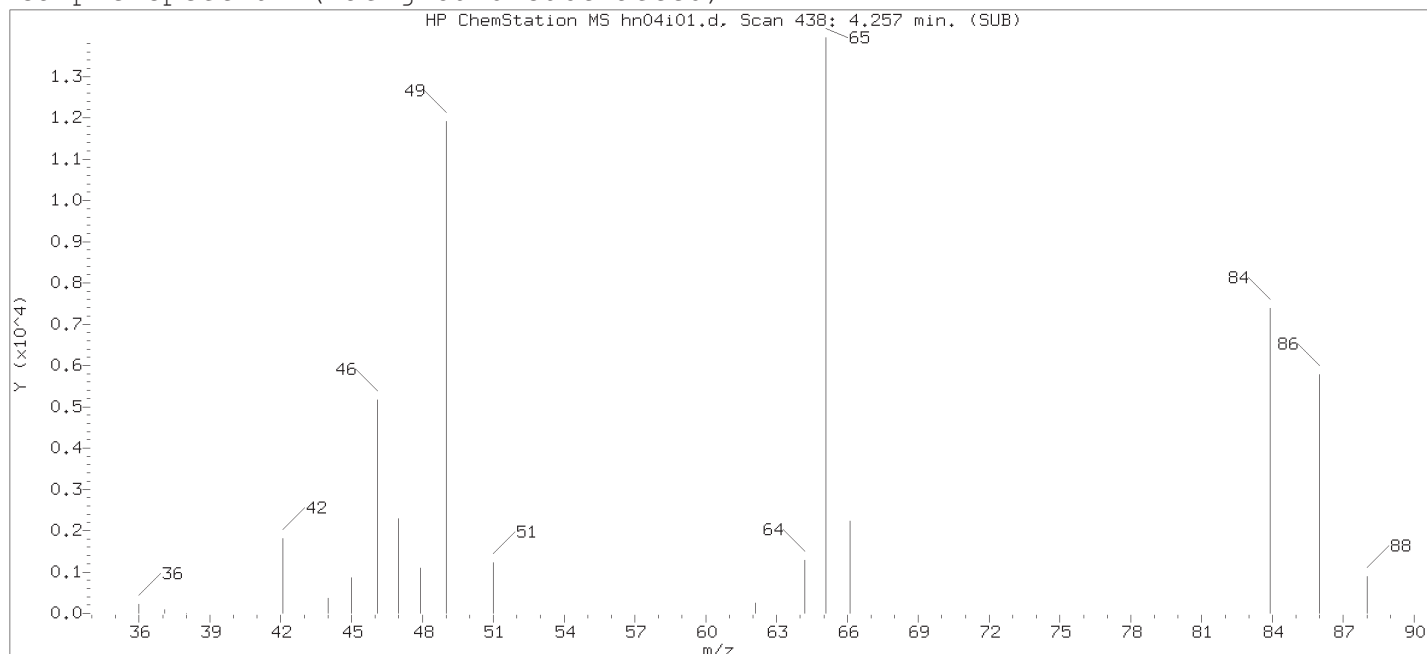
Analyst responsible for change:

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.
Target 3.5 esignature user ID: kel01973

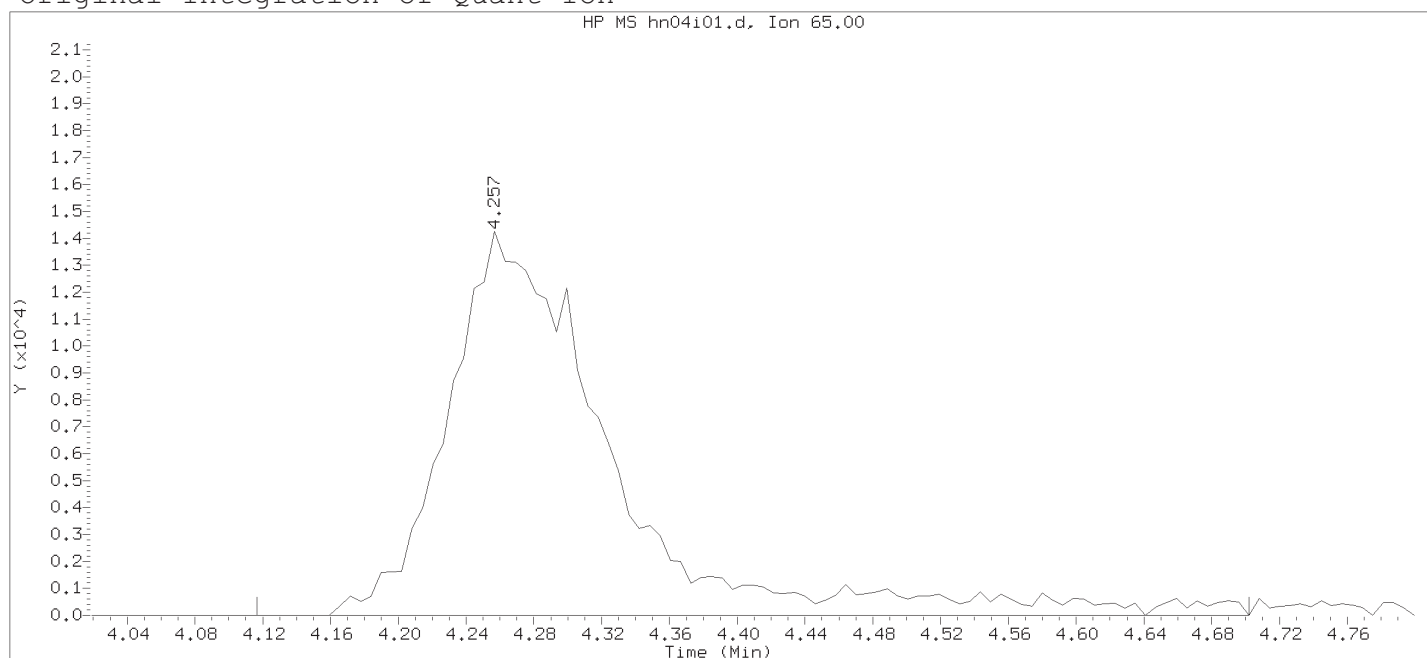
Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.

PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 11:52

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:03

Date, time and analyst ID of latest file update: 04-Nov-2016 15:03 kel01973

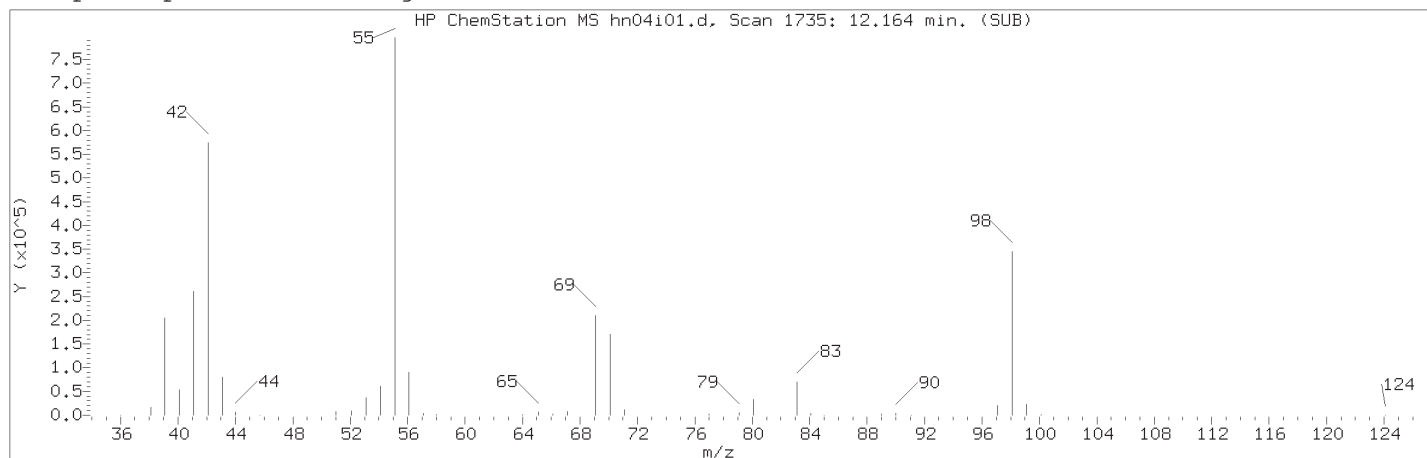
Sample Name: VSTD025

Lab Sample ID: VSTD025

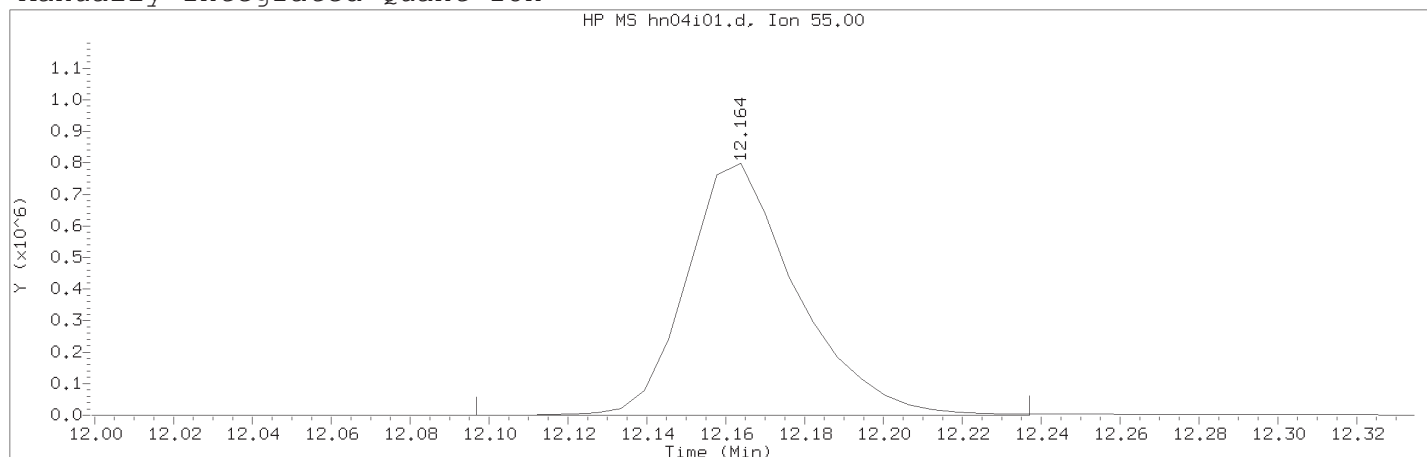
Compound Number : 26
 Compound Name : t-Butyl Alcohol-d10
 Scan Number : 438
 Retention Time (minutes) : 4.257
 Quant Ion : 65.00
 Area : 94643
 On-column Amount (ng) : 50.0000
 Integration start scan : 414
 Y at integration start : 0

Integration stop scan: 510
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 11:52

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:17

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compound Number	: 112	
Compound Name	: Cyclohexanone	
Scan Number	: 1735	
Retention Time (minutes)	: 12.164	
Quant Ion	: 55.00	
Area (flag)	: 1546877M	
On-Column Amount (ng)	: 1383.1793	
Integration start scan	: 1723	Integration stop scan: 1746
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

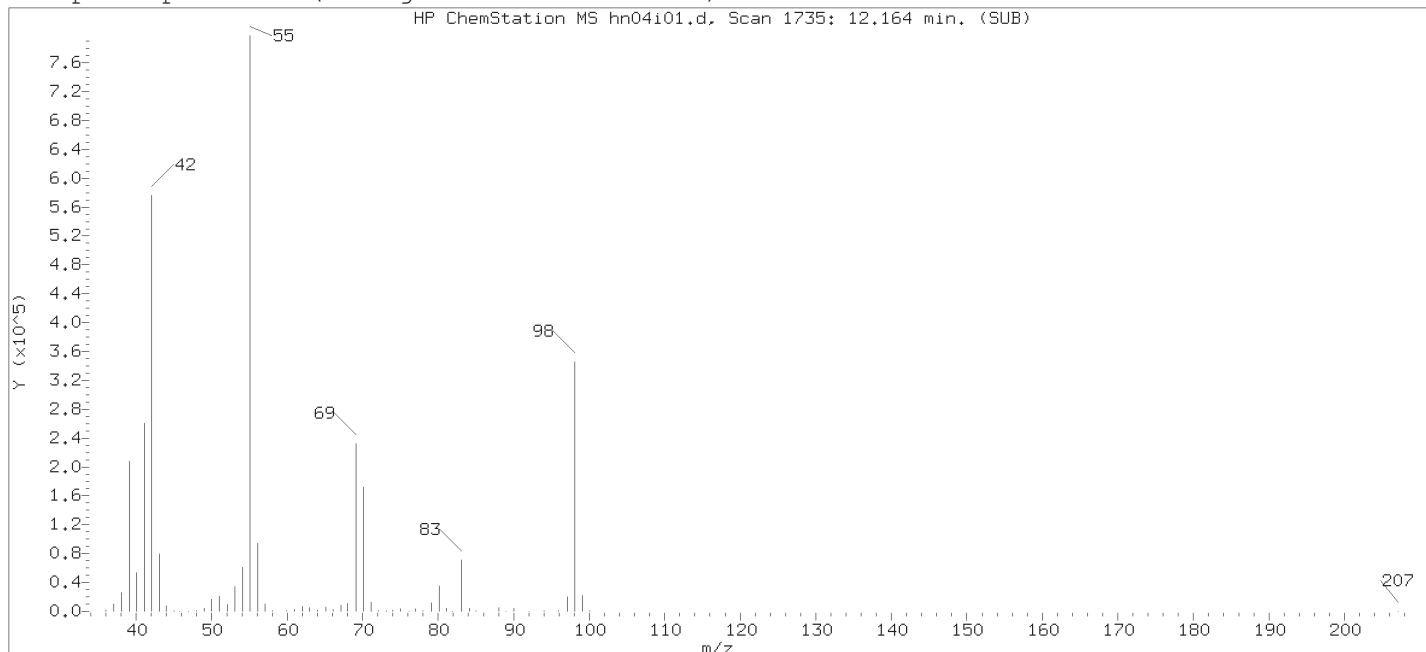
Analyst responsible for change:

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.
Target 3.5 esignature user ID: kel01973

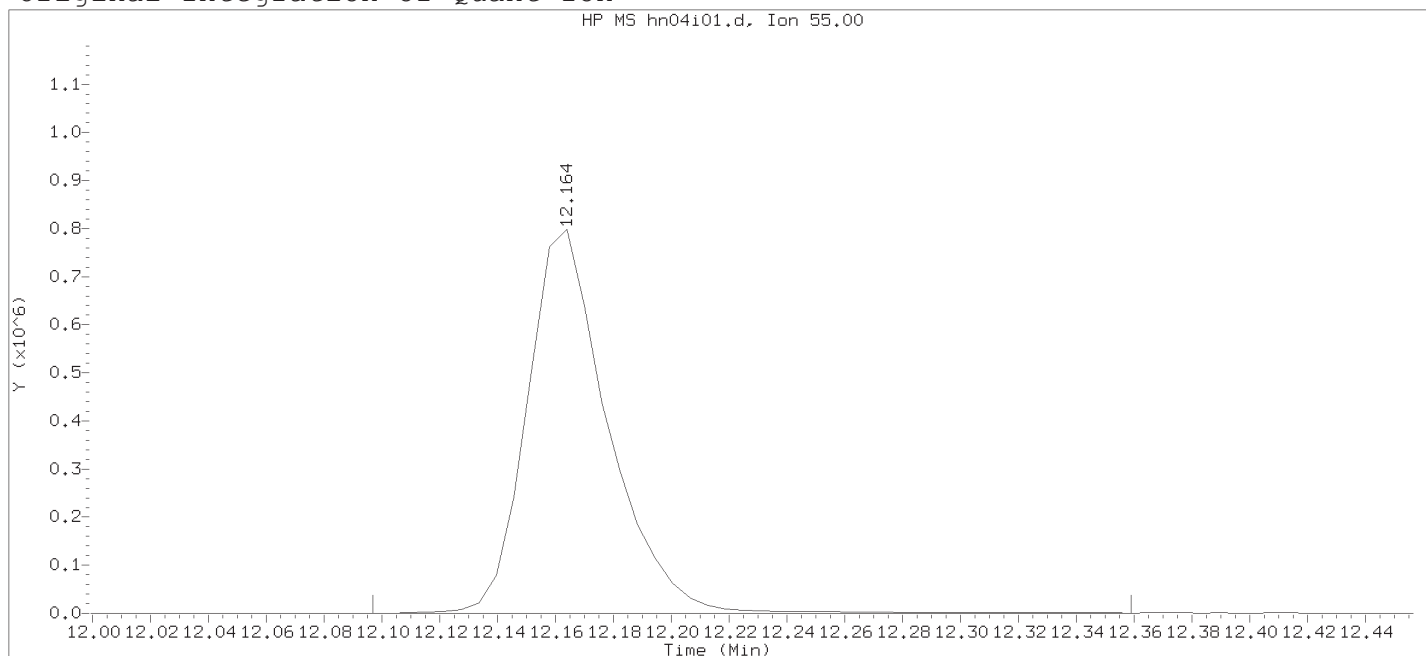
Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.

PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i01.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 11:52

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

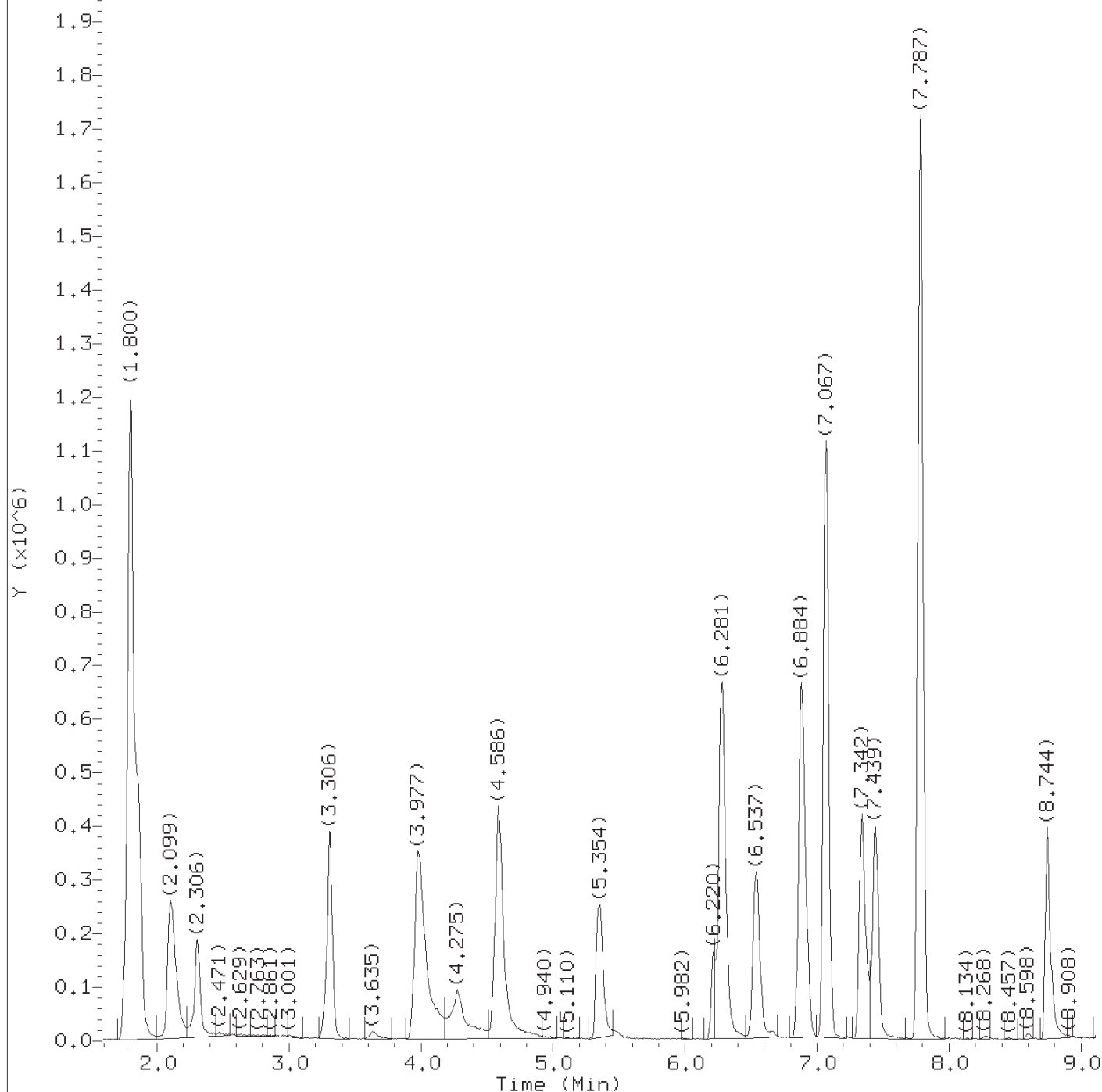
Calibration date and time: 04-NOV-2016 15:03

Date, time and analyst ID of latest file update: 04-Nov-2016 15:03 kel01973

Sample Name: VSTD025

Lab Sample ID: VSTD025

Compound Number	: 112	
Compound Name	: Cyclohexanone	
Scan Number	: 1735	
Retention Time (minutes)	: 12.164	
Quant Ion	: 55.00	
Area	: 1559103	
On-column Amount (ng)	: 1389.9178	
Integration start scan	: 1723	Integration stop scan: 1766
Y at integration start	: 0	Y at integration end: 0



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04i02.d
Injection date and time: 04-NOV-2016 12:12

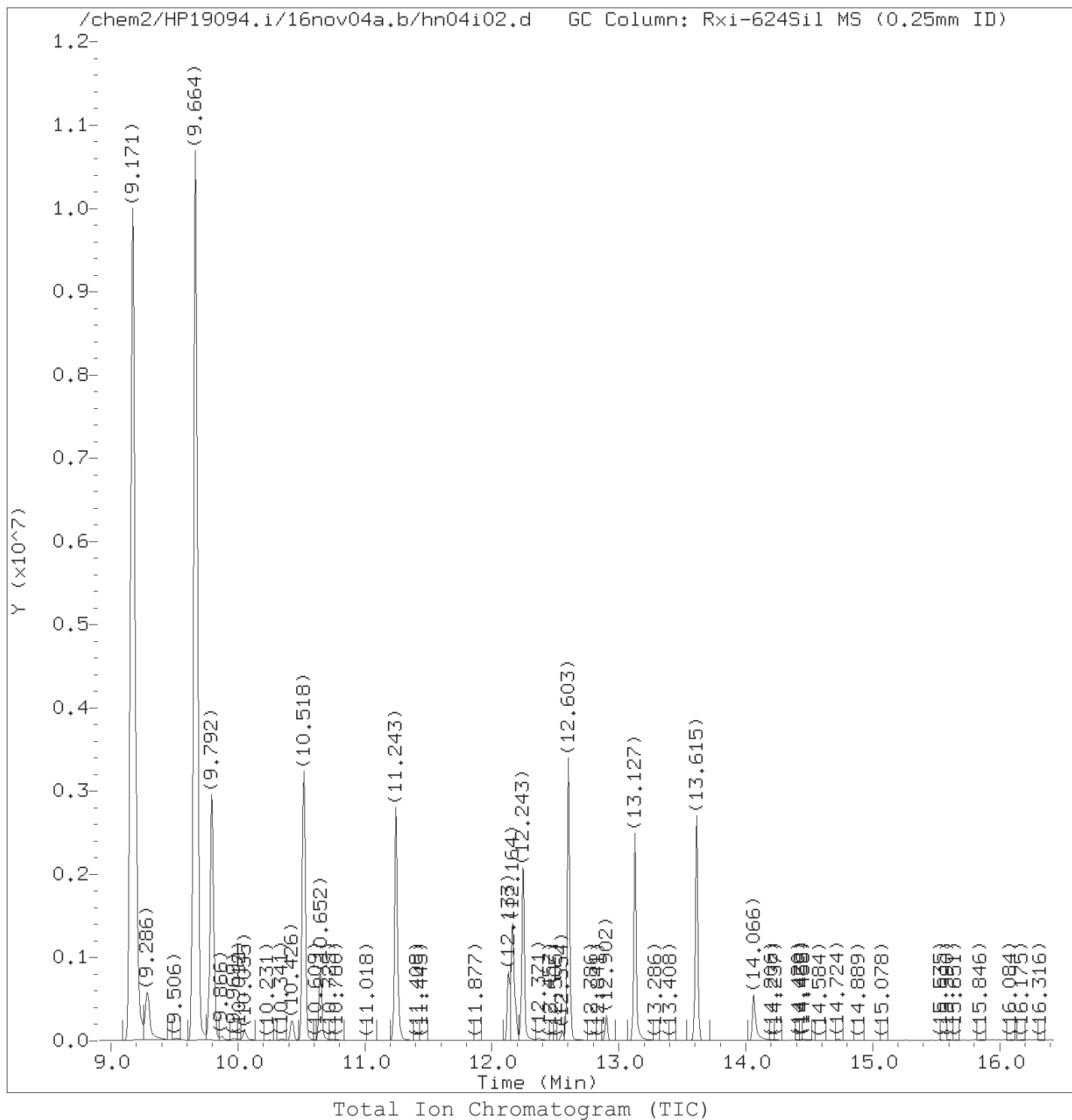
Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 04-NOV-2016 15:25
Date, time and analyst ID of latest file update: 04-Nov-2016 15:25 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:25.
Target 3.5 esignature user ID: kel01973



Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04i02.d
Injection date and time: 04-NOV-2016 12:12

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 04-NOV-2016 15:25
Date, time and analyst ID of latest file update: 04-Nov-2016 15:25 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:25.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 12:12

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:25

Date, time and analyst ID of latest file update: 04-Nov-2016 15:25 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.105	45	758397	10.391
25) Acetonitrile	(1)	3.977	41	1487195M	397.363
26)*t-Butyl Alcohol-d10	(1)	4.269	65	96724M	50.000
36) Vinyl Acetate	(2)	5.354	43	792473	11.784
43) Methyl Acrylate	(2)	6.281	55	1400167	58.033
53) 1-Chlorobutane	(2)	7.067	56	1262614	10.622
63)*Fluorobenzene	(2)	7.787	96	2242683	10.000
77) Chloroacetonitrile	(2)	9.201	75	785948	556.369
78) 2-Chloroethyl vinyl ether	(2)	9.286	63	260791	11.233
97)*Chlorobenzene-d5	(3)	11.243	117	1523957	10.000
109) cis-1,4-Dichloro-2-butene	(1)	12.133	88	177572	20.459
112) Cyclohexanone	(1)	12.164	55	674474M	618.013
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	641693	10.000
142) Hexachloroethane	(4)	13.615	117	475732	10.416

M = Compound was manually integrated.

* = Compound is an internal standard.

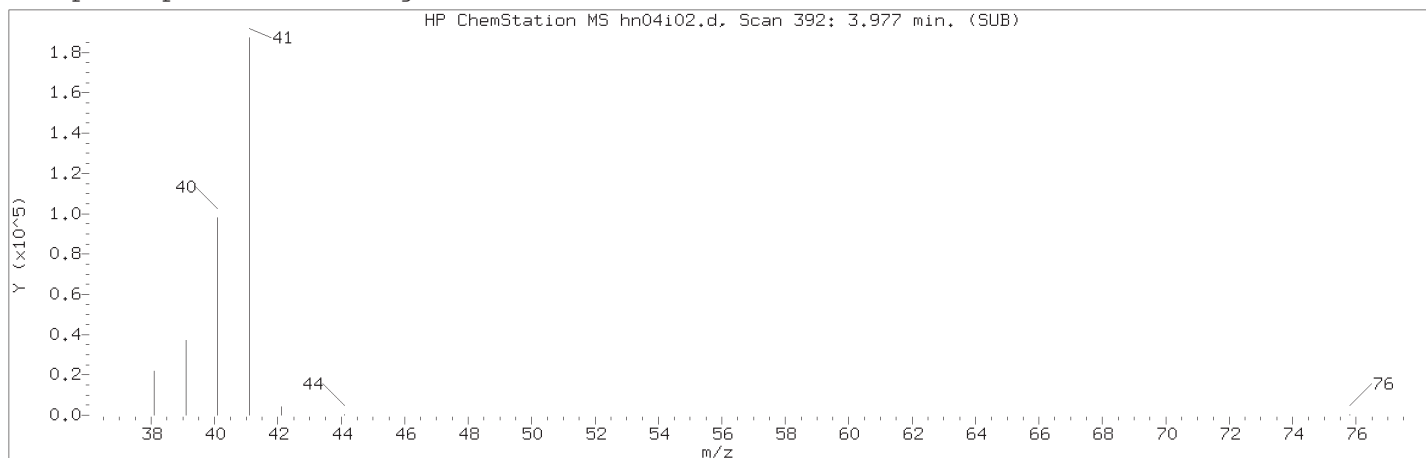
page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:25.

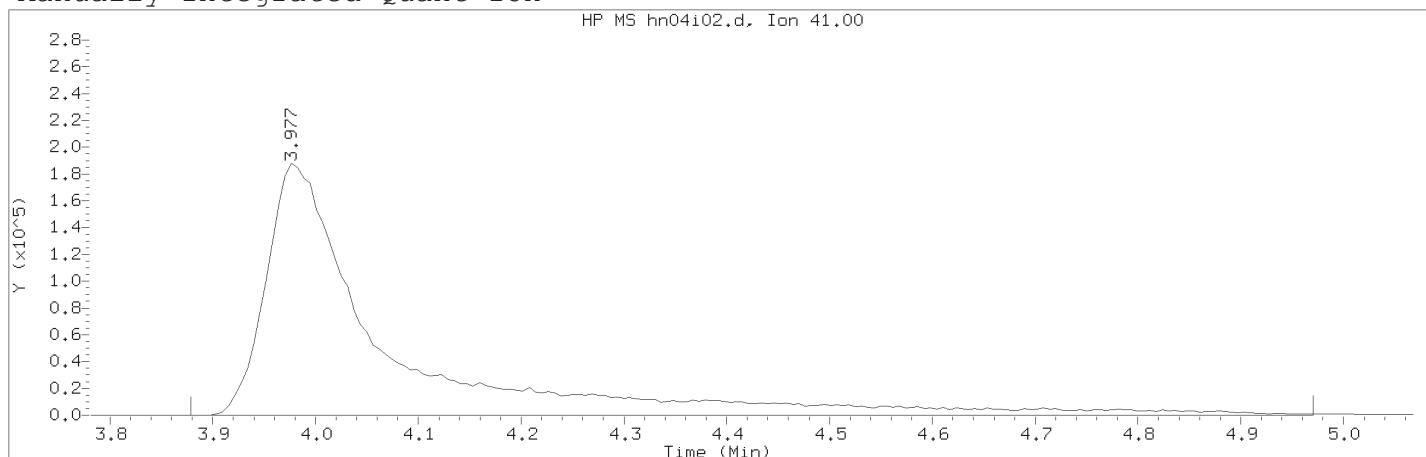
Target 3.5 esignature user ID: kel01973

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Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 12:12

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:25

Date, time and analyst ID of latest file update: 04-Nov-2016 15:25 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 25	
Compound Name	: Acetonitrile	
Scan Number	: 392	
Retention Time (minutes)	: 3.977	
Quant Ion	: 41.00	
Area (flag)	: 1487195M	
On-Column Amount (ng)	: 397.3625	
Integration start scan	: 375	Integration stop scan: 554
Y at integration start	: 0	Y at integration end: 0

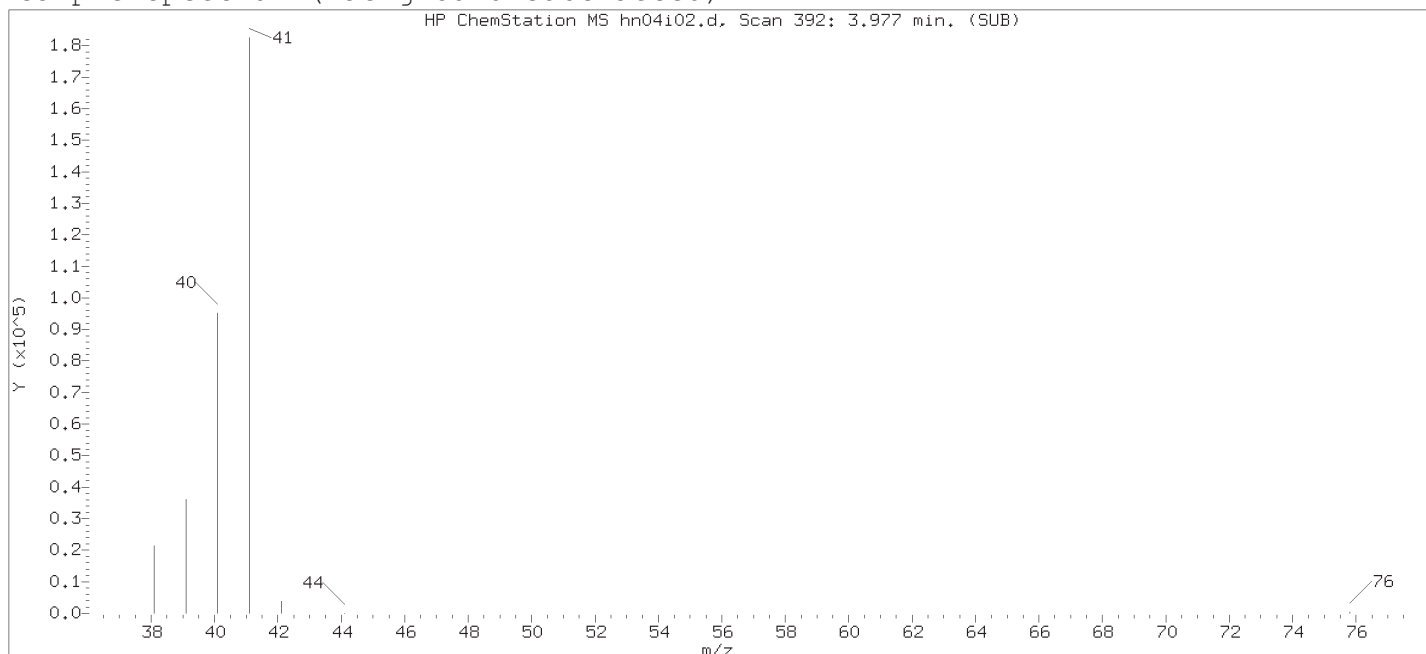
Reason for manual integration: improper integration

Analyst responsible for change:

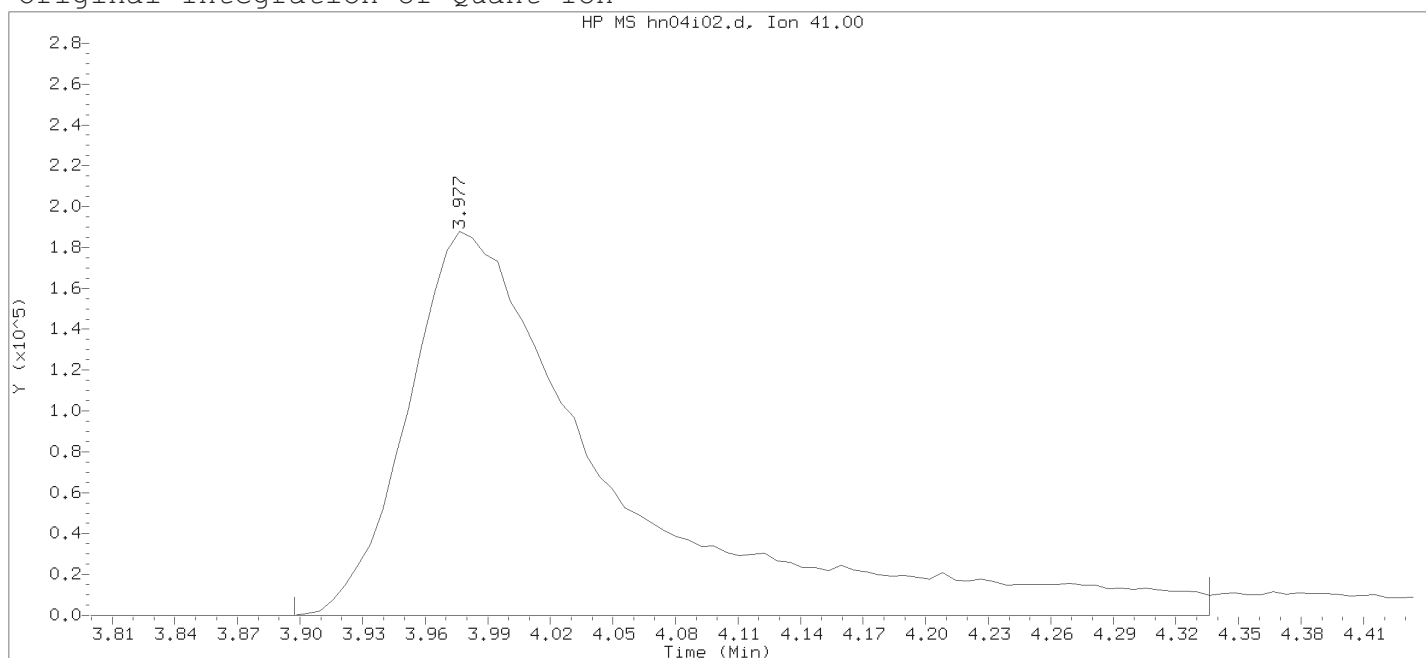
Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:25.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 12:12

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 12:31

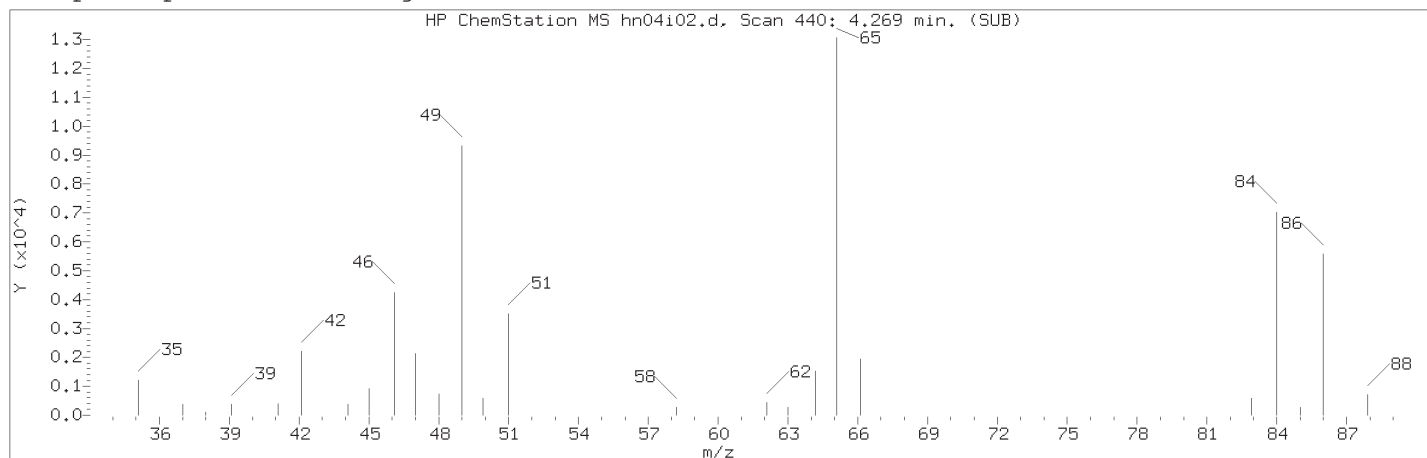
Date, time and analyst ID of latest file update: 04-Nov-2016 12:31 Automation

Sample Name: VSTD010

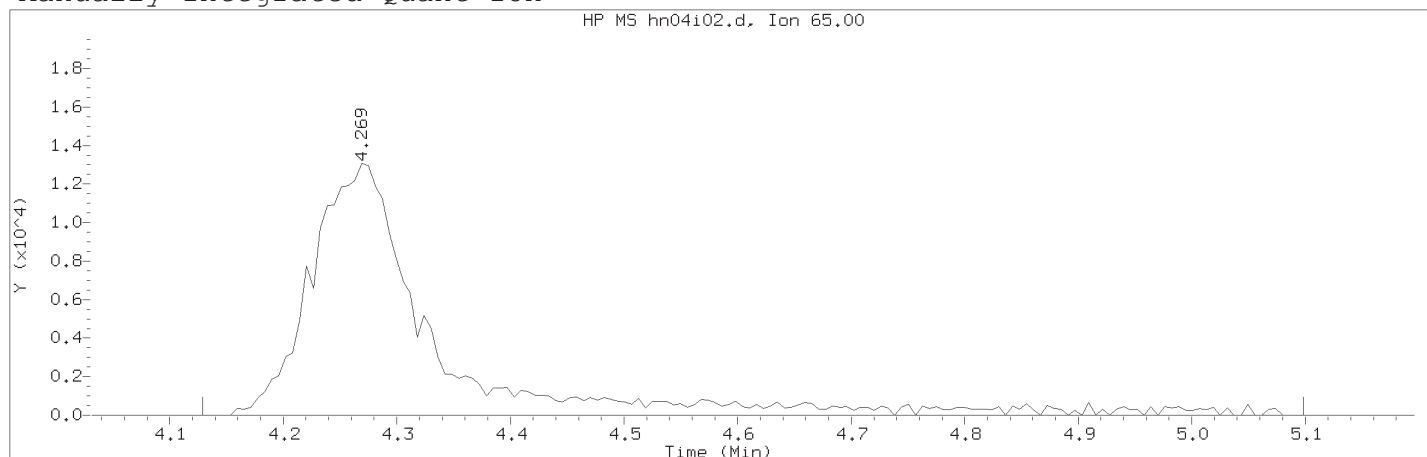
Lab Sample ID: VSTD010

Compound Number	: 25	
Compound Name	: Acetonitrile	
Scan Number	: 392	
Retention Time (minutes)	: 3.977	
Quant Ion	: 41.00	
Area	: 1282661	
On-column Amount (ng)	: 372.1182	
Integration start scan	: 378	Integration stop scan: 450
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 12:12

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:25

Date, time and analyst ID of latest file update: 04-Nov-2016 15:25 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 26	
Compound Name	: t-Butyl Alcohol-d10	
Scan Number	: 440	
Retention Time (minutes)	: 4.269	
Quant Ion	: 65.00	
Area (flag)	: 96724M	
On-Column Amount (ng)	: 50.0000	
Integration start scan	: 416	Integration stop scan: 575
Y at integration start	: 0	Y at integration end: 0

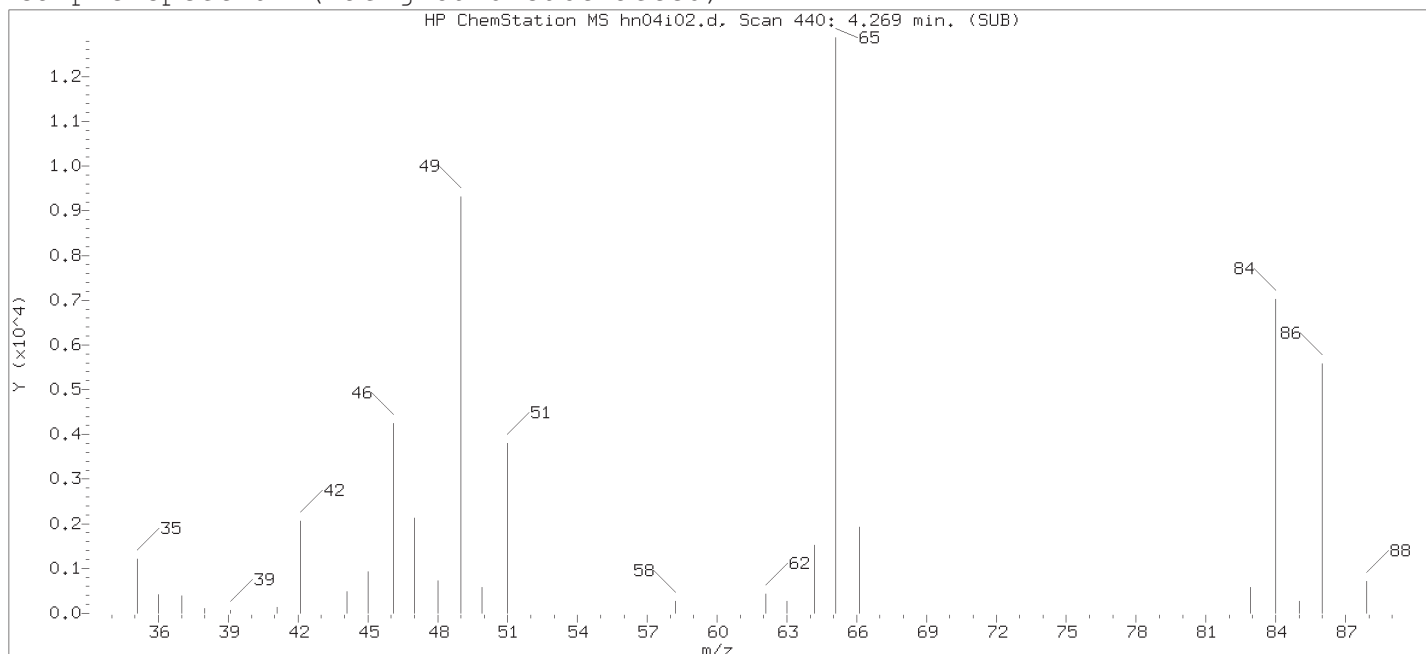
Reason for manual integration: improper integration

Analyst responsible for change:

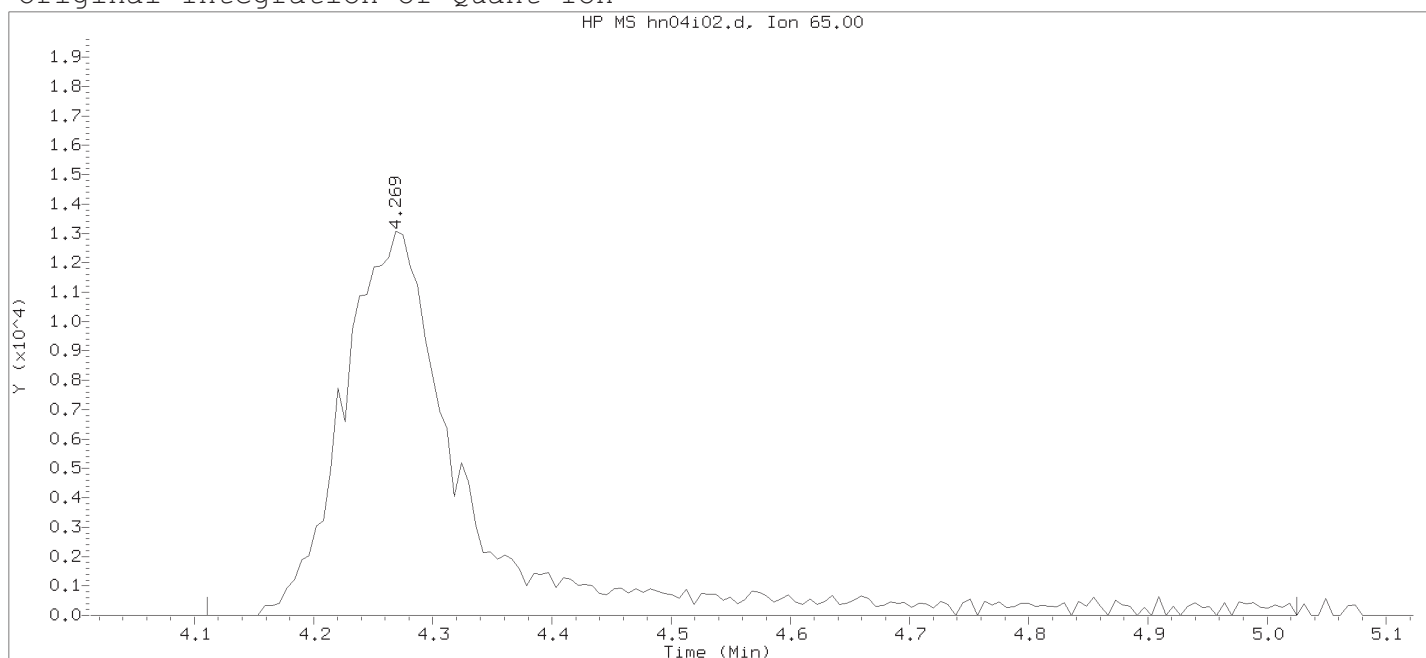
Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:25.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 12:12

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 12:31

Date, time and analyst ID of latest file update: 04-Nov-2016 12:31 Automation

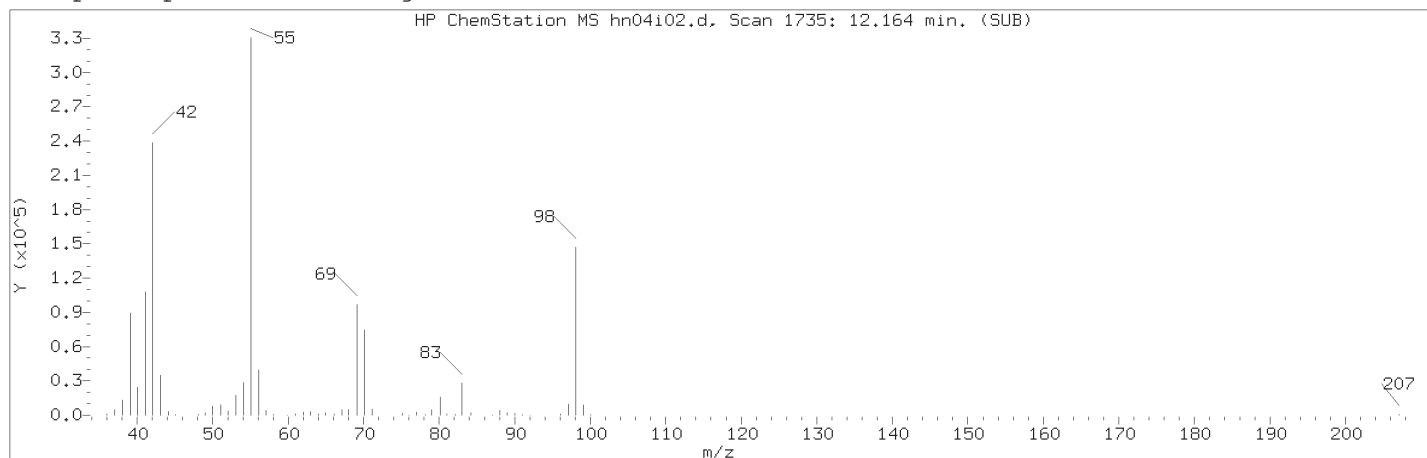
Sample Name: VSTD010

Lab Sample ID: VSTD010

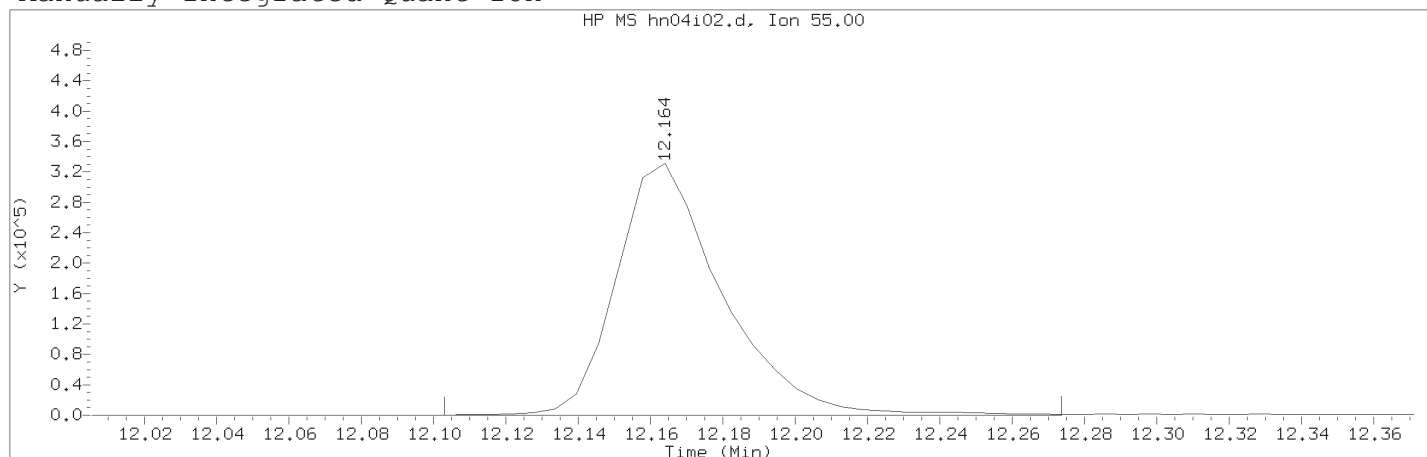
Compound Number : 26
 Compound Name : t-Butyl Alcohol-d10
 Scan Number : 440
 Retention Time (minutes): 4.269
 Quant Ion : 65.00
 Area : 96131
 On-column Amount (ng) : 50.0000
 Integration start scan : 413
 Y at integration start : 0

Integration stop scan: 563
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 12:12

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:25

Date, time and analyst ID of latest file update: 04-Nov-2016 15:25 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 112	
Compound Name	: Cyclohexanone	
Scan Number	: 1735	
Retention Time (minutes)	: 12.164	
Quant Ion	: 55.00	
Area (flag)	: 674474M	
On-Column Amount (ng)	: 618.0127	
Integration start scan	: 1724	Integration stop scan: 1752
Y at integration start	: 0	Y at integration end: 0

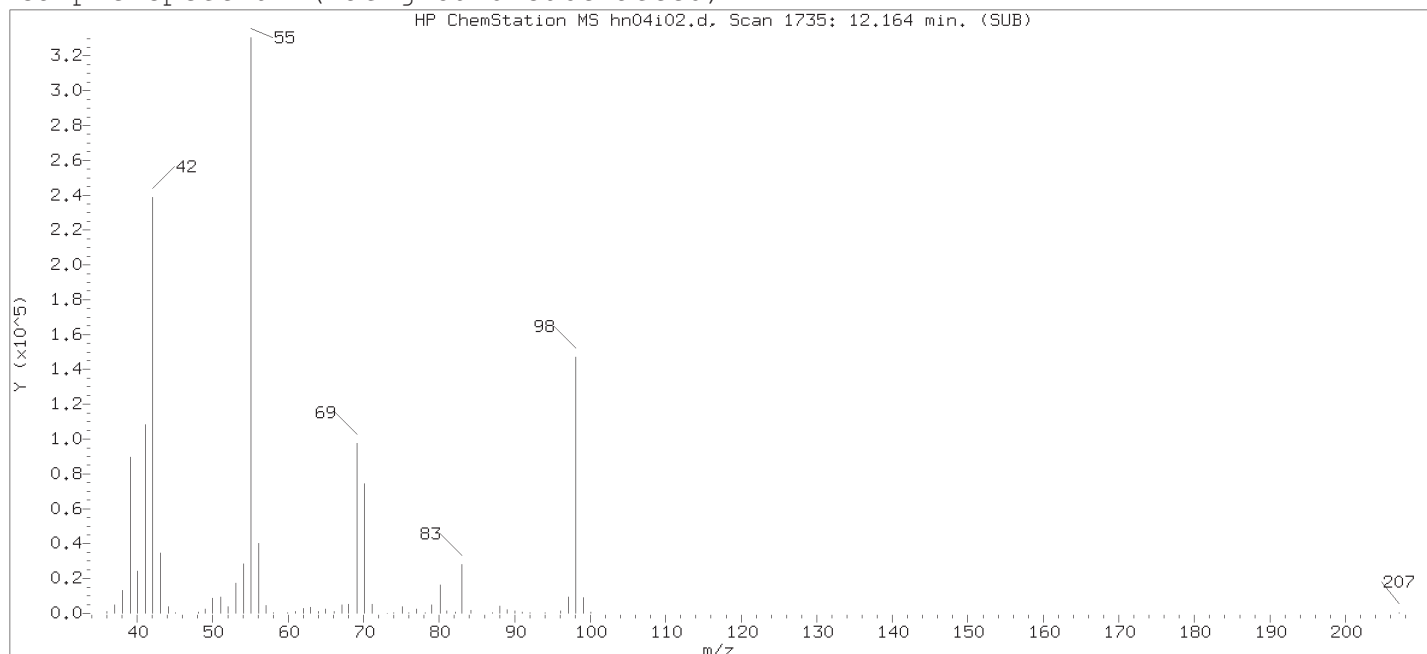
Reason for manual integration: improper integration

Analyst responsible for change:

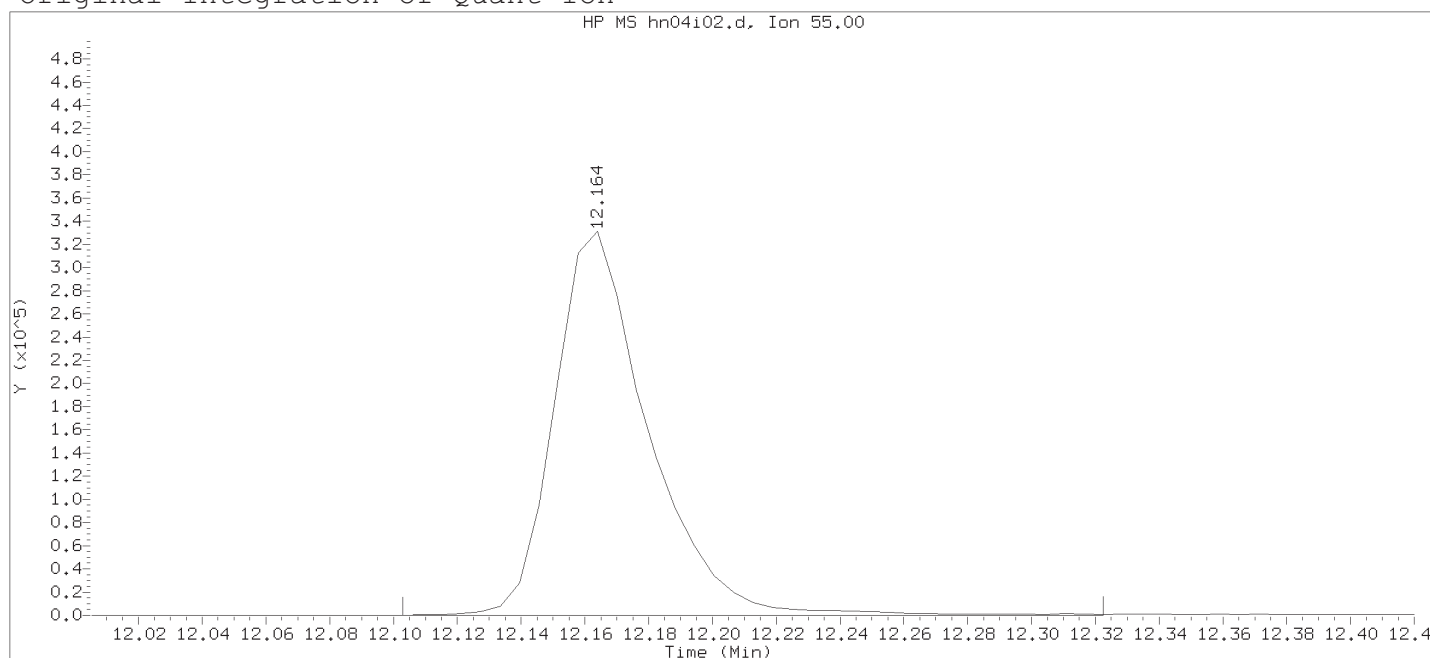
Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:25.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i02.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 12:12

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

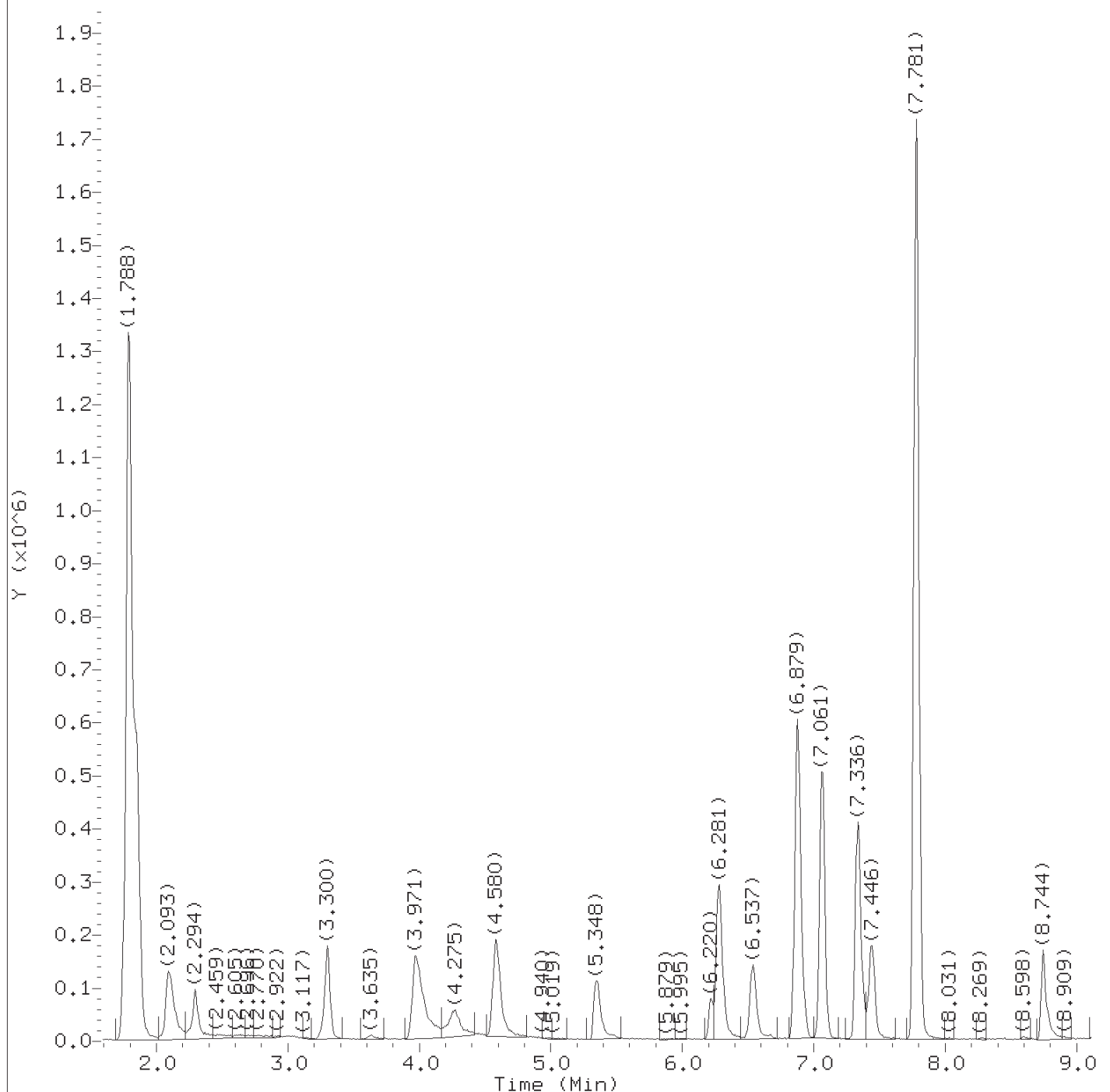
Calibration date and time: 04-NOV-2016 12:31

Date, time and analyst ID of latest file update: 04-Nov-2016 12:31 Automation

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 112	
Compound Name	: Cyclohexanone	
Scan Number	: 1735	
Retention Time (minutes)	: 12.164	
Quant Ion	: 55.00	
Area	: 677416	
On-column Amount (ng)	: 523.9821	
Integration start scan	: 1724	Integration stop scan: 1760
Y at integration start	: 0	Y at integration end: 0



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04i03.d
Injection date and time: 04-NOV-2016 12:33

Instrument ID: HP19094.i
Analyst ID: kel01973

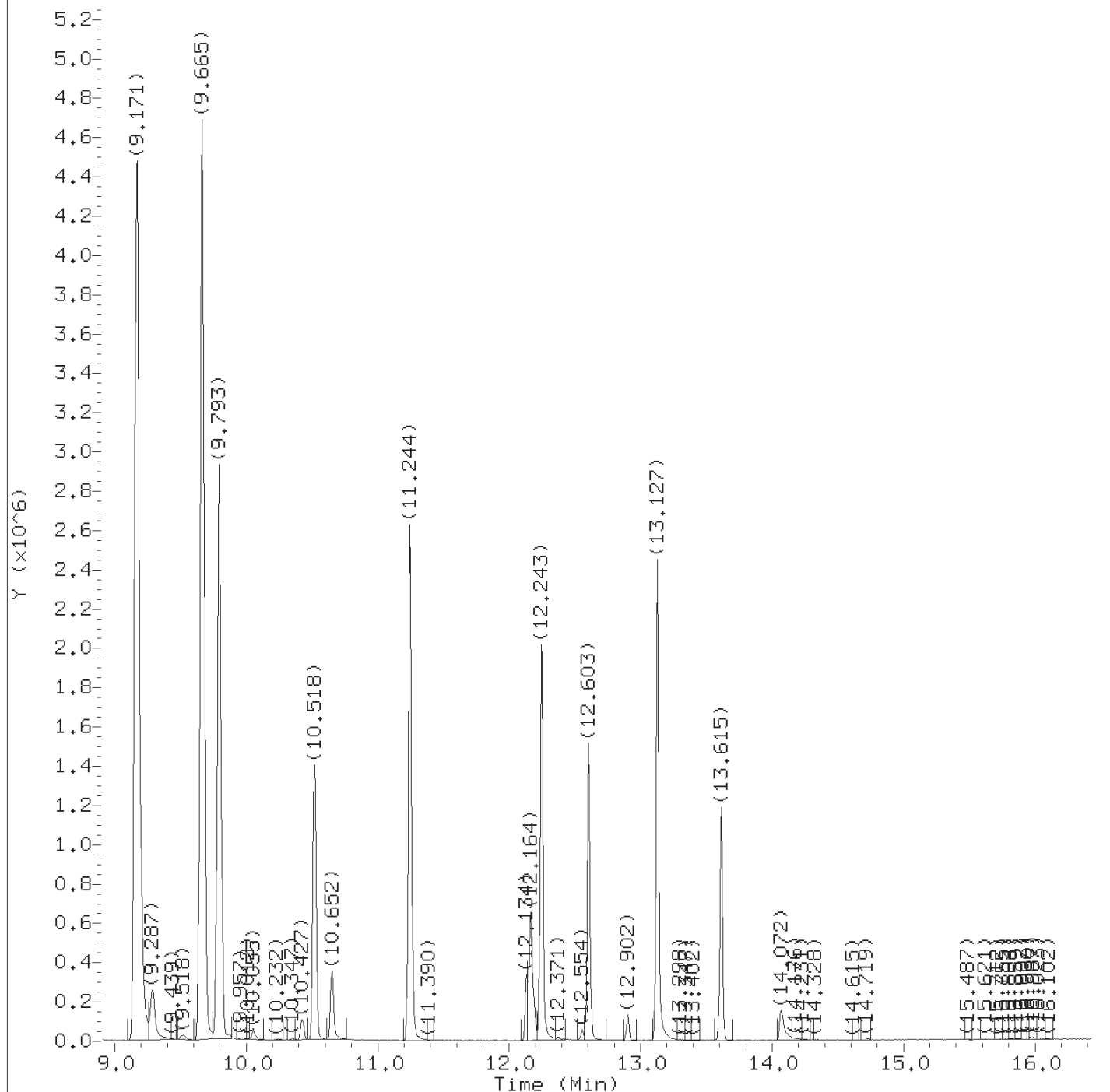
Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 04-NOV-2016 15:17
Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.

Target 3.5 esignature user ID: kel01973
RAE76 Page 458 of 883



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04i03.d
Injection date and time: 04-NOV-2016 12:33

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m
Calibration date and time: 04-NOV-2016 15:17

Sublist used: SMICAL

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.

Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 12:33

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:17

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
4) Dimethyl ether	(2)	2.093	45	364238	5.082
25) Acetonitrile	(1)	3.971	41	696592M	188.388
26)*t-Butyl Alcohol-d10	(1)	4.251	65	95560	50.000
36) Vinyl Acetate	(2)	5.348	43	347185	5.257
43) Methyl Acrylate	(2)	6.281	55	603303	25.461
53) 1-Chlorobutane	(2)	7.061	56	569489	4.878
63)*Fluorobenzene	(2)	7.781	96	2202517	10.000
77) Chloroacetonitrile	(2)	9.201	75	346257	249.584
78) 2-Chloroethyl vinyl ether	(2)	9.287	63	118522	5.198
97)*Chlorobenzene-d5	(3)	11.244	117	1457113	10.000
109) cis-1,4-Dichloro-2-butene	(1)	12.134	88	74568	11.018
112) Cyclohexanone	(1)	12.164	55	315147M	292.283
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	619337	10.000
142) Hexachloroethane	(4)	13.615	117	203943	4.626

M = Compound was manually integrated.

* = Compound is an internal standard.

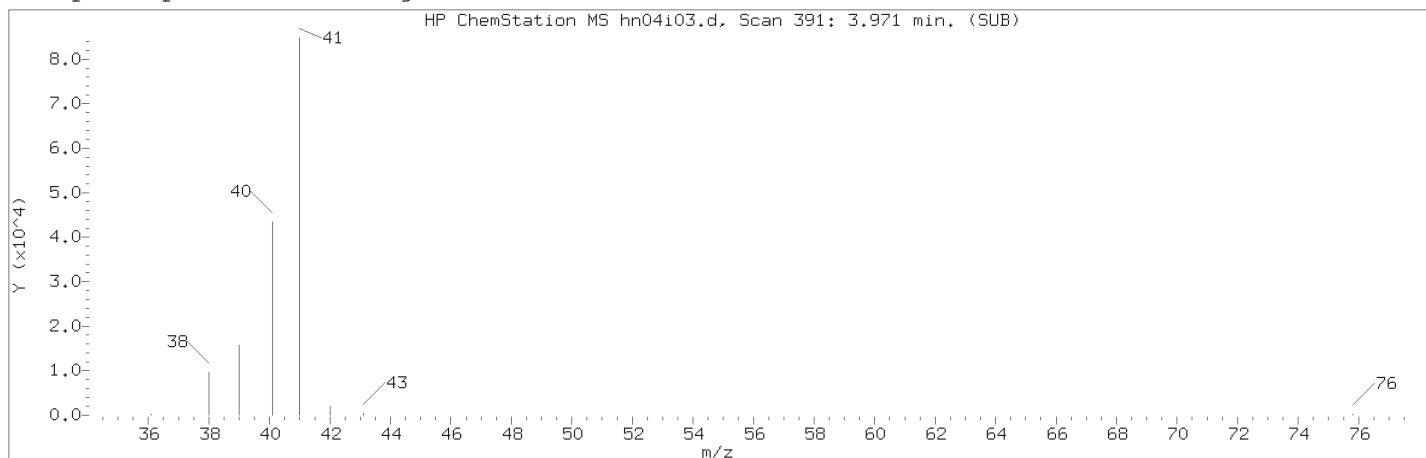
page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.

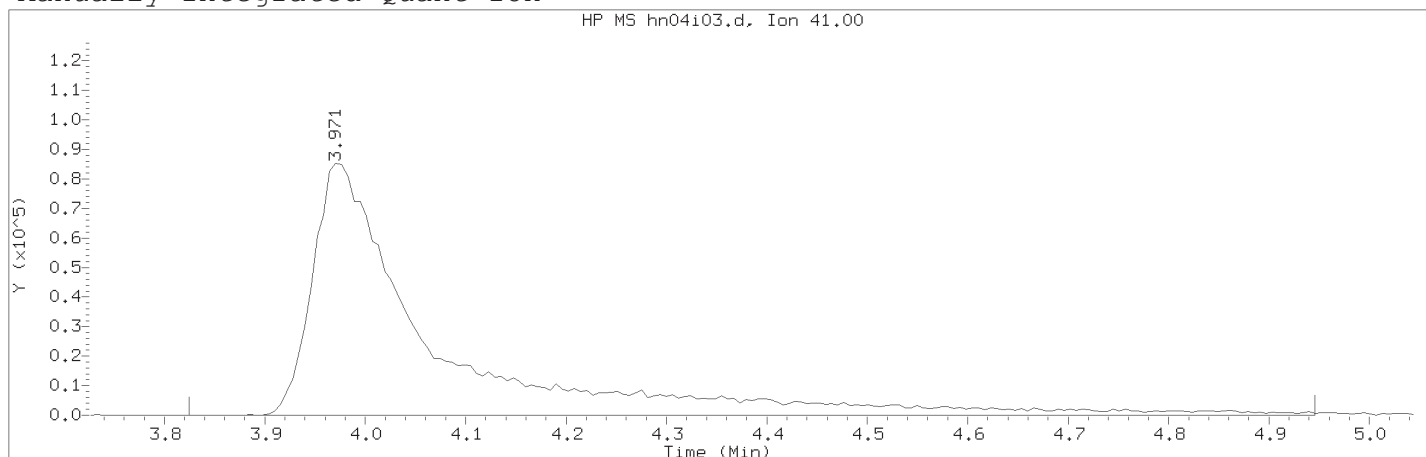
Target 3.5 esignature user ID: kel01973

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Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 12:33

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:17

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number	: 25	
Compound Name	: Acetonitrile	
Scan Number	: 391	
Retention Time (minutes)	: 3.971	
Quant Ion	: 41.00	
Area (flag)	: 696592M	
On-Column Amount (ng)	: 188.3878	
Integration start scan	: 366	Integration stop scan: 550
Y at integration start	: 0	Y at integration end: 0

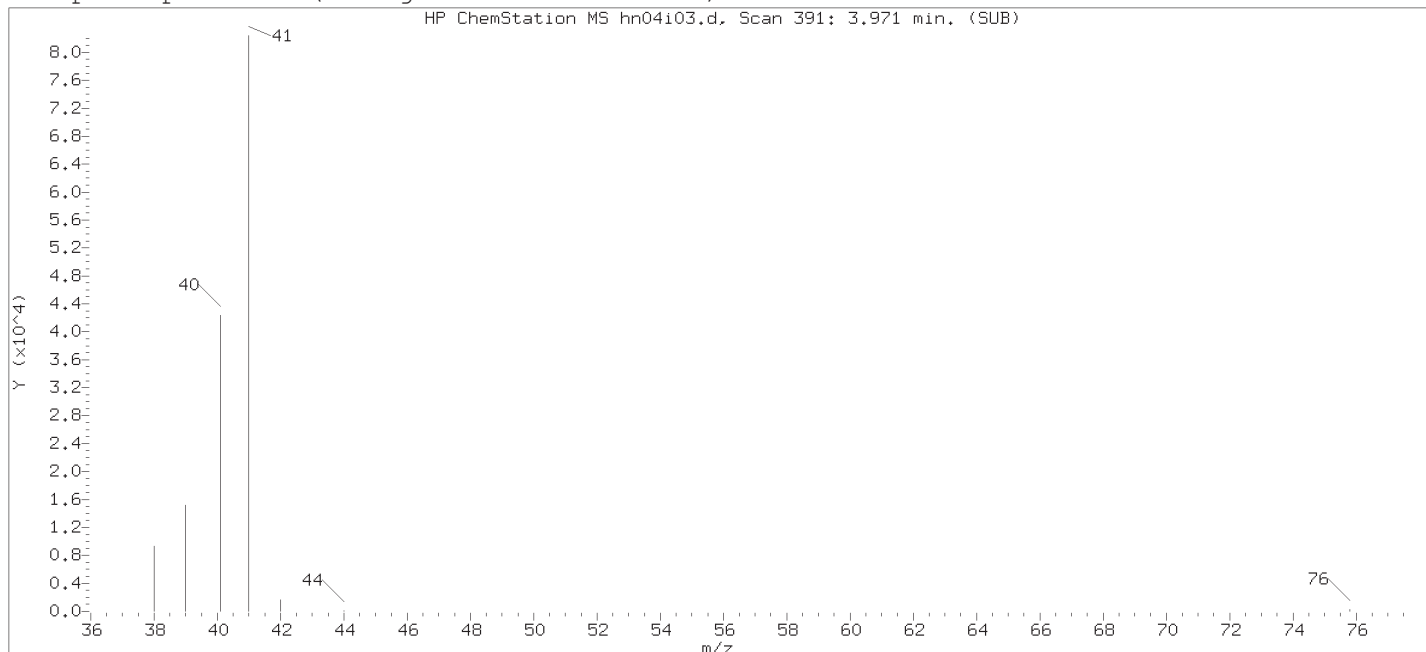
Reason for manual integration: improper integration

Analyst responsible for change:

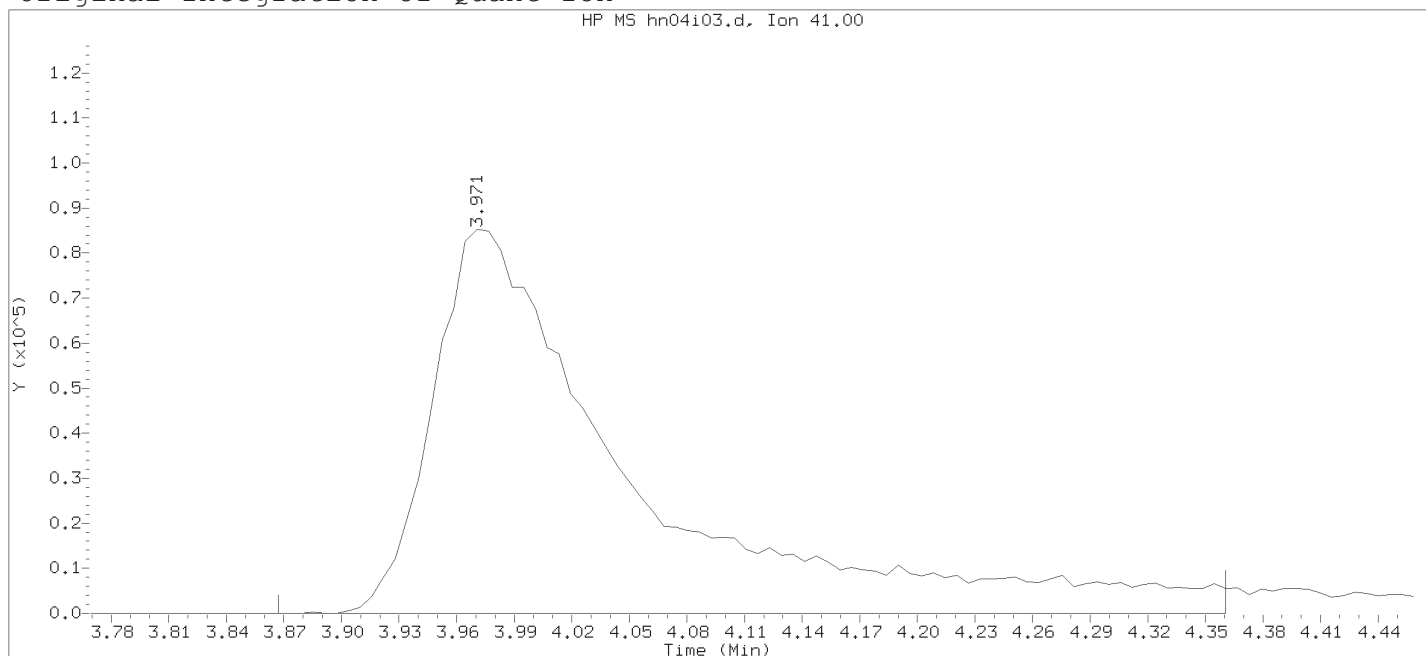
Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 12:33

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:03

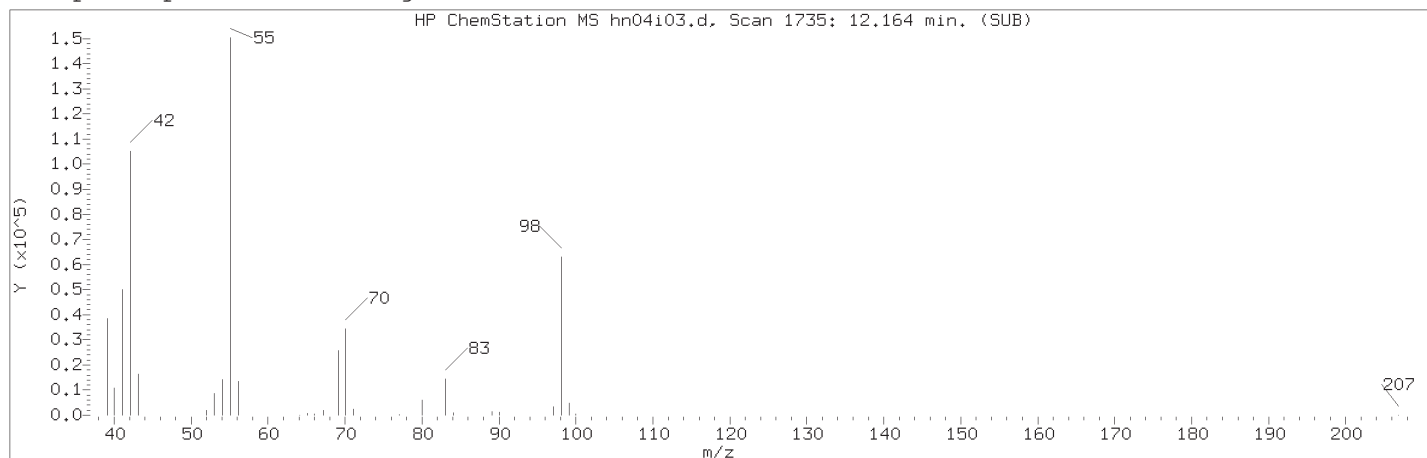
Date, time and analyst ID of latest file update: 04-Nov-2016 15:03 kel01973

Sample Name: VSTD005

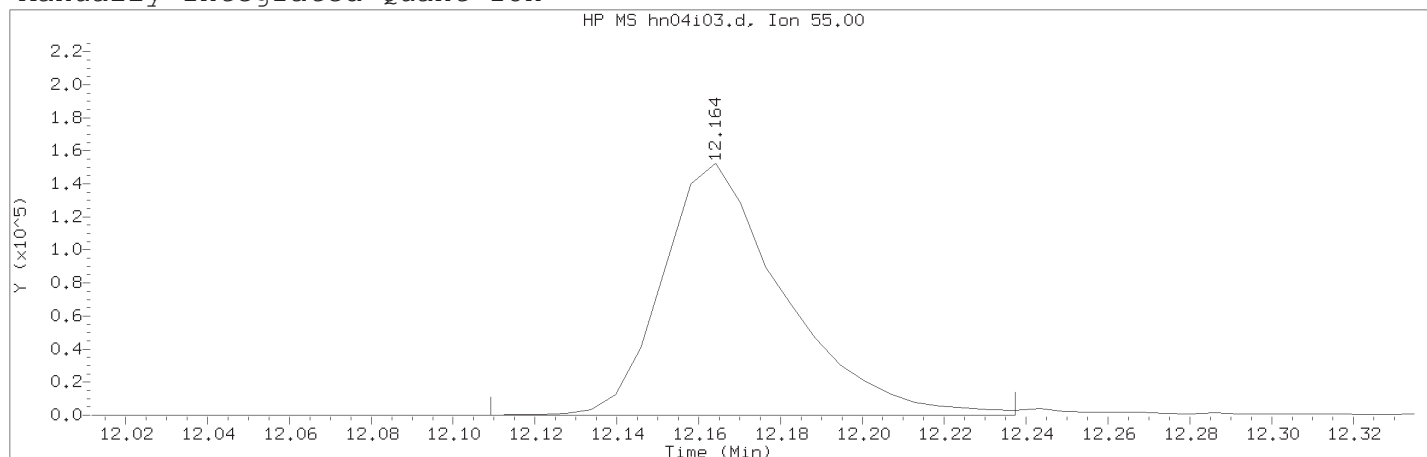
Lab Sample ID: VSTD005

Compound Number	: 25	
Compound Name	: Acetonitrile	
Scan Number	: 391	
Retention Time (minutes)	: 3.971	
Quant Ion	: 41.00	
Area	: 612630	
On-column Amount (ng)	: 202.7596	
Integration start scan	: 373	Integration stop scan: 454
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 12:33

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:17

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number	: 112	
Compound Name	: Cyclohexanone	
Scan Number	: 1735	
Retention Time (minutes)	: 12.164	
Quant Ion	: 55.00	
Area (flag)	: 315147M	
On-Column Amount (ng)	: 292.2830	
Integration start scan	: 1725	Integration stop scan: 1746
Y at integration start	: 0	Y at integration end: 0

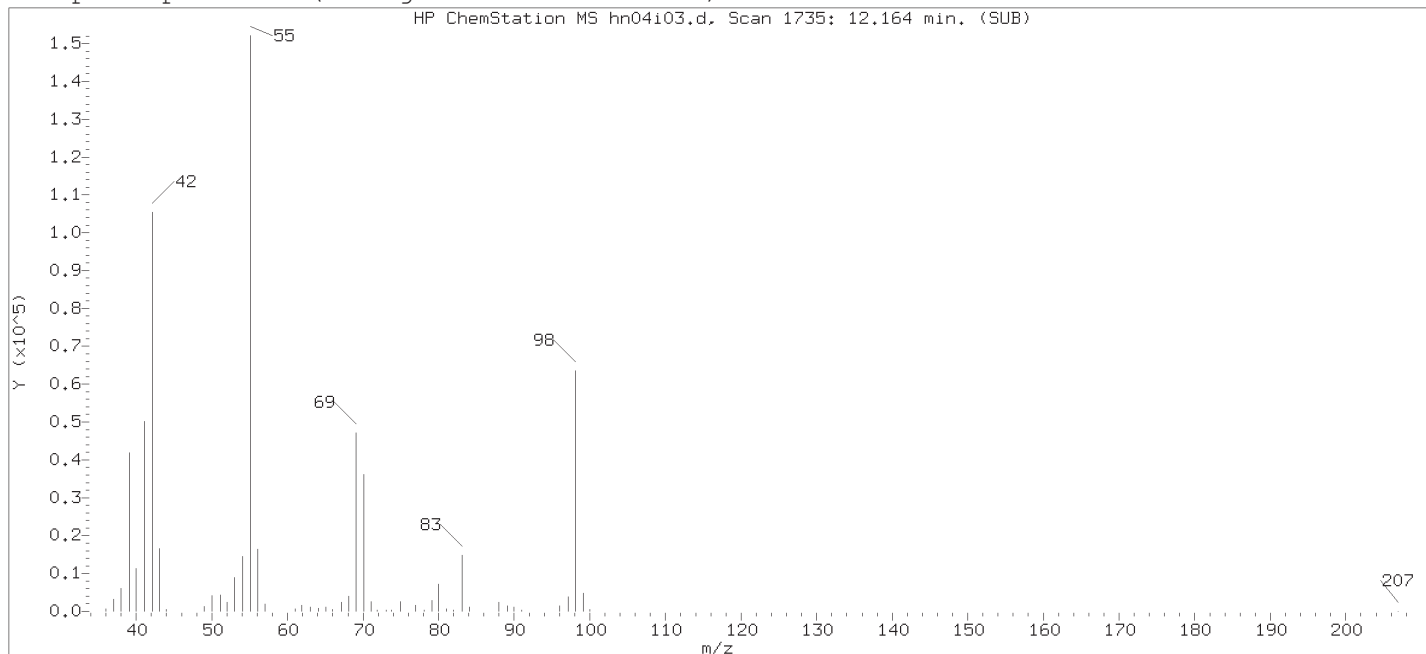
Reason for manual integration: improper integration

Analyst responsible for change:

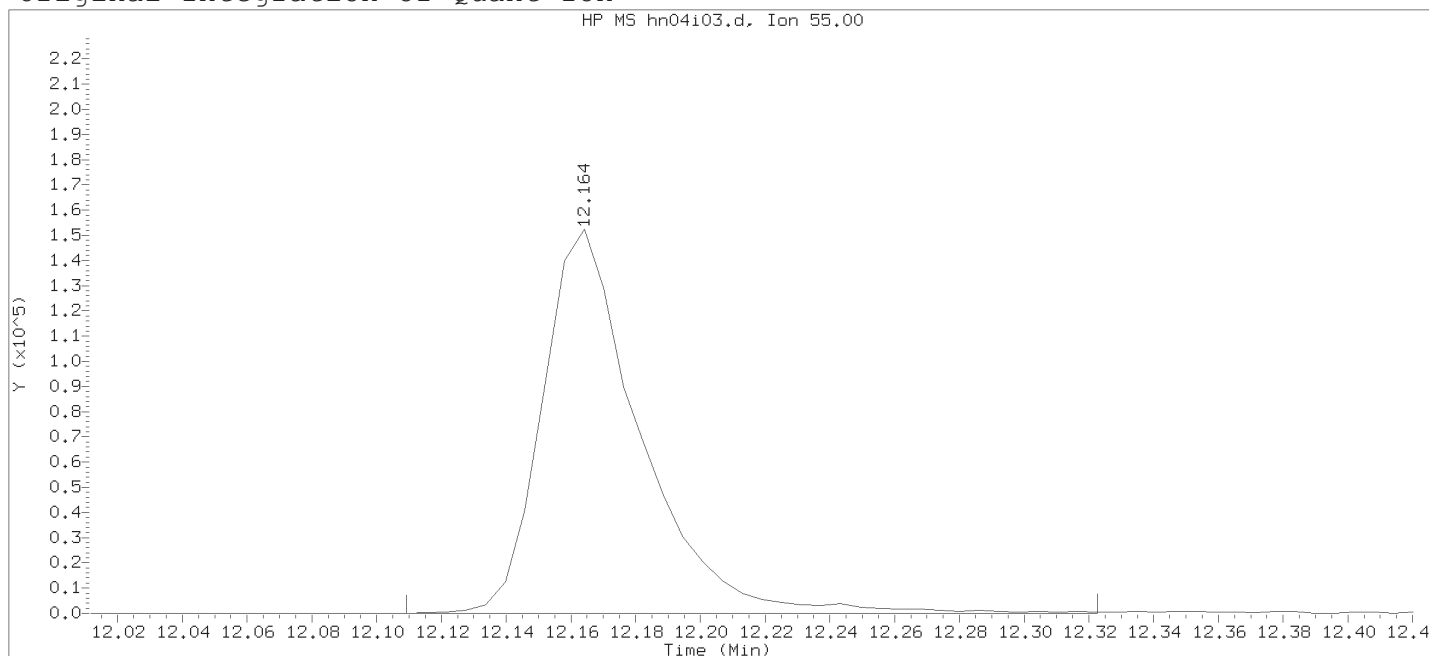
Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i03.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 12:33

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

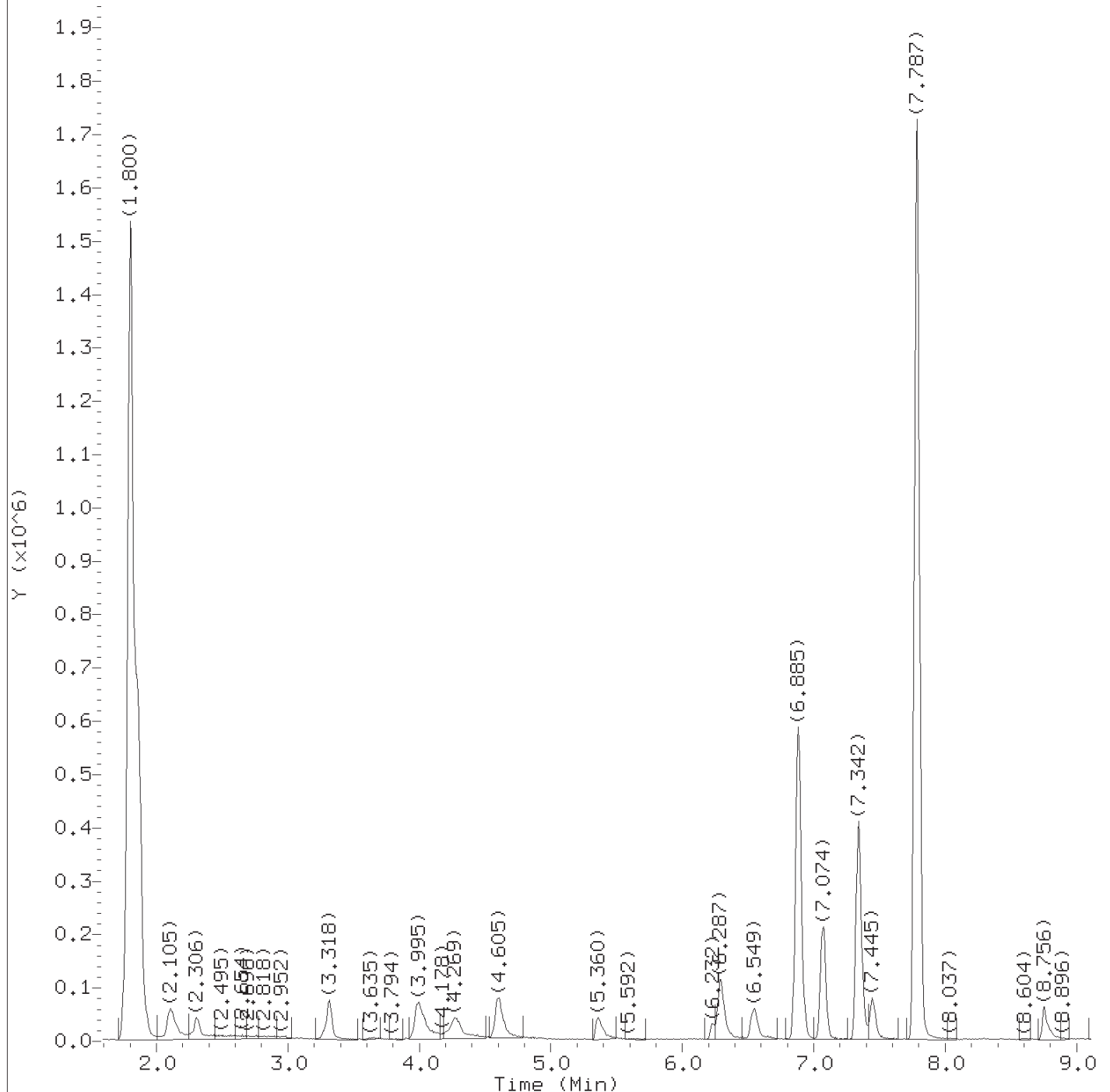
Calibration date and time: 04-NOV-2016 15:03

Date, time and analyst ID of latest file update: 04-Nov-2016 15:03 kel01973

Sample Name: VSTD005

Lab Sample ID: VSTD005

Compound Number	: 112	
Compound Name	: Cyclohexanone	
Scan Number	: 1735	
Retention Time (minutes)	: 12.164	
Quant Ion	: 55.00	
Area	: 321751	
On-column Amount (ng)	: 284.0825	
Integration start scan	: 1725	Integration stop scan: 1760
Y at integration start	: 0	Y at integration end: 0



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04i04.d
Injection date and time: 04-NOV-2016 12:53

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m
Calibration date and time: 04-NOV-2016 15:17

Sublist used: SMICAL

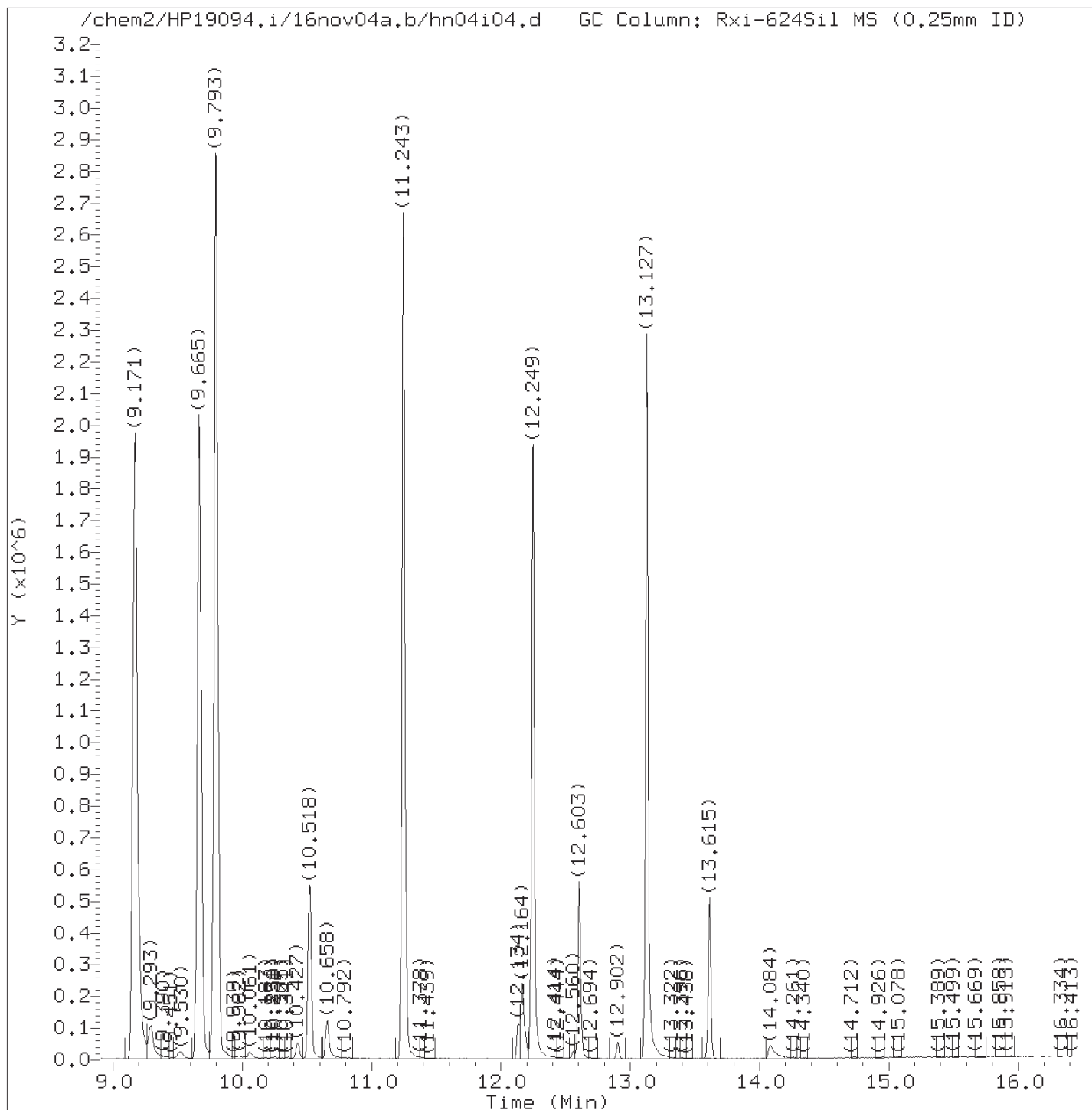
Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:25.

Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 12:53

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:17

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:25.

Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 12:53

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:17

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
4) Dimethyl ether	(2)	2.111	45	145577M	2.010
25) Acetonitrile	(1)	3.995	41	300581M	81.930
26)*t-Butyl Alcohol-d10	(1)	4.269	65	94813	50.000
36) Vinyl Acetate	(2)	5.360	43	128362	1.923
43) Methyl Acrylate	(2)	6.293	55	248644	10.383
53) 1-Chlorobutane	(2)	7.074	56	244831	2.075
63)*Fluorobenzene	(2)	7.787	96	2225940	10.000
77) Chloroacetonitrile	(2)	9.213	75	150997	107.694
78) 2-Chloroethyl vinyl ether	(2)	9.293	63	47068	2.043
97)*Chlorobenzene-d5	(3)	11.243	117	1483645	10.000
109) cis-1,4-Dichloro-2-butene	(1)	12.134	88	27186	4.049
112) Cyclohexanone	(1)	12.164	55	107632M	100.610
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	605130	10.000
142) Hexachloroethane	(4)	13.615	117	88642	2.058

M = Compound was manually integrated.

* = Compound is an internal standard.

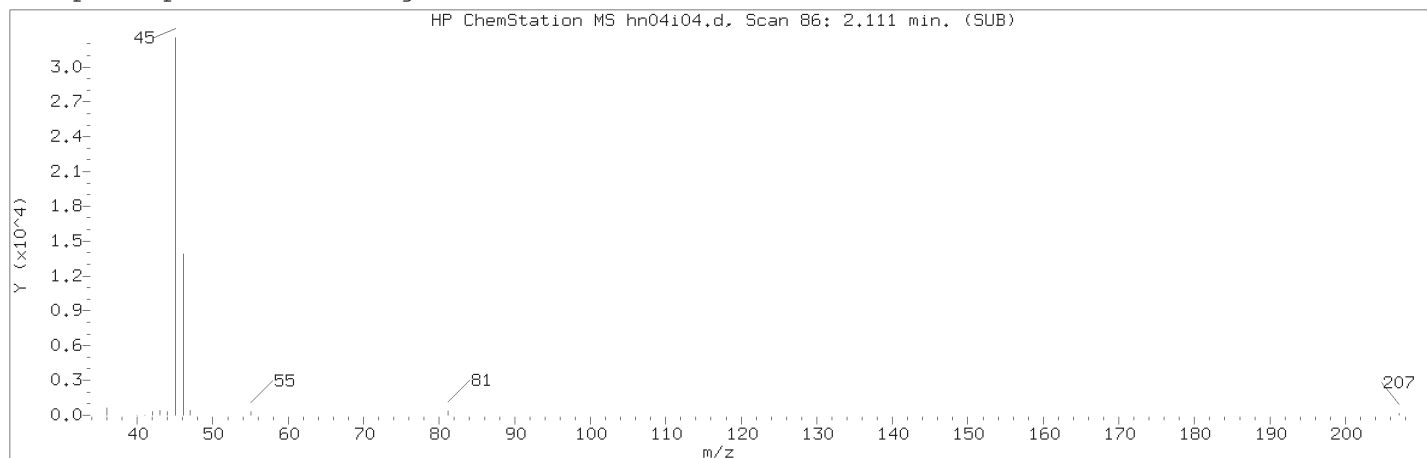
page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:25.

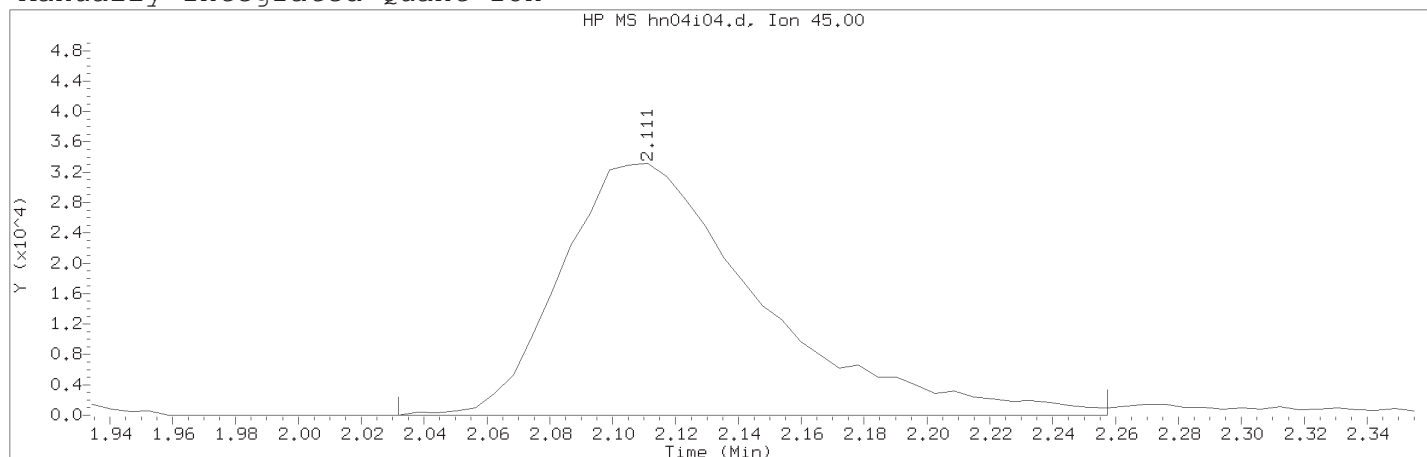
Target 3.5 esignature user ID: kel01973

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Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 12:53

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:17

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number	: 4	
Compound Name	: Dimethyl ether	
Scan Number	: 86	
Retention Time (minutes)	: 2.111	
Quant Ion	: 45.00	
Area (flag)	: 145577M	
On-Column Amount (ng)	: 2.0097	
Integration start scan	: 72	Integration stop scan: 109
Y at integration start	: 0	Y at integration end: 0

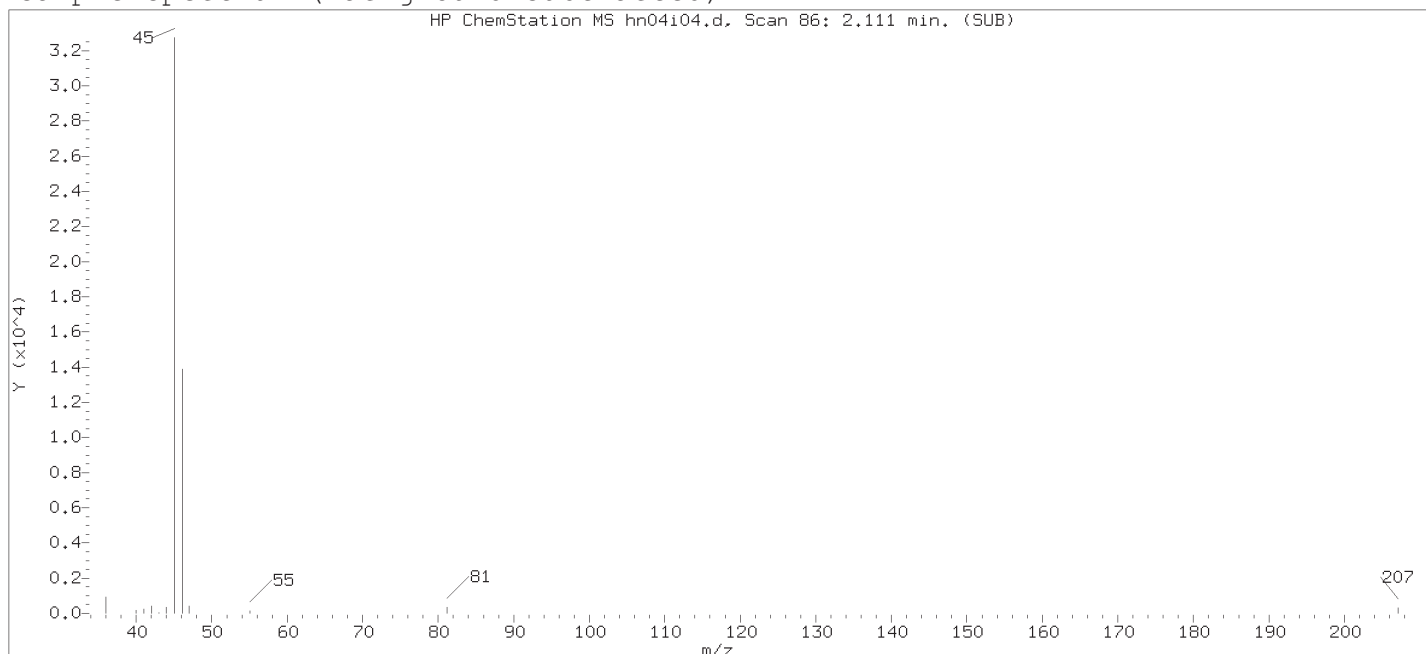
Reason for manual integration: improper integration

Analyst responsible for change:

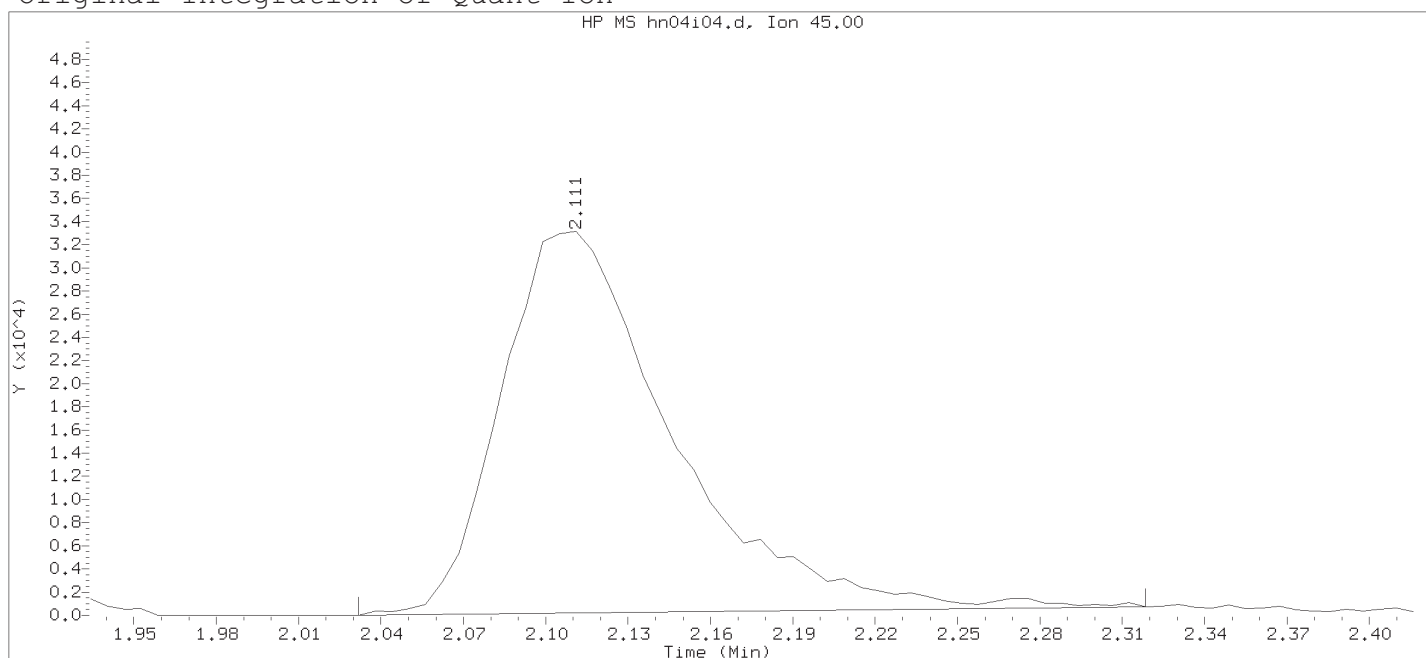
Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:25.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 12:53

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:03

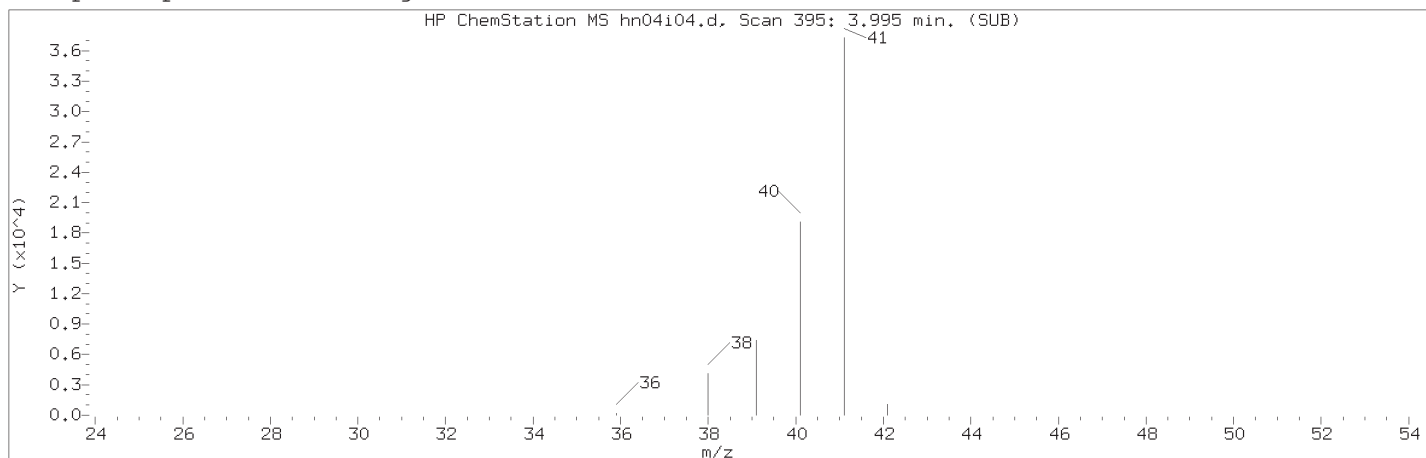
Date, time and analyst ID of latest file update: 04-Nov-2016 15:03 kel01973

Sample Name: VSTD002

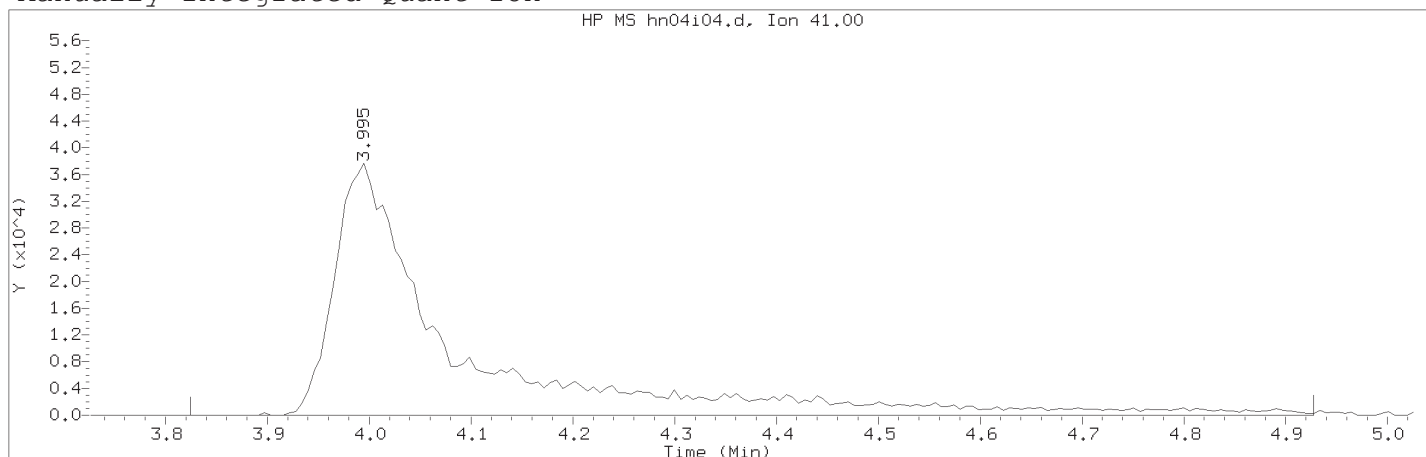
Lab Sample ID: VSTD002

Compound Number	: 4	
Compound Name	: Dimethyl ether	
Scan Number	: 86	
Retention Time (minutes)	: 2.111	
Quant Ion	: 45.00	
Area	: 143242	
On-column Amount (ng)	: 2.1448	
Integration start scan	: 72	Integration stop scan: 119
Y at integration start	: 0	Y at integration end: 708

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i04.d Instrument ID: HP19094.i
Injection date and time: 04-NOV-2016 12:53 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 04-NOV-2016 15:17
Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD002 Lab Sample ID: VSTD002

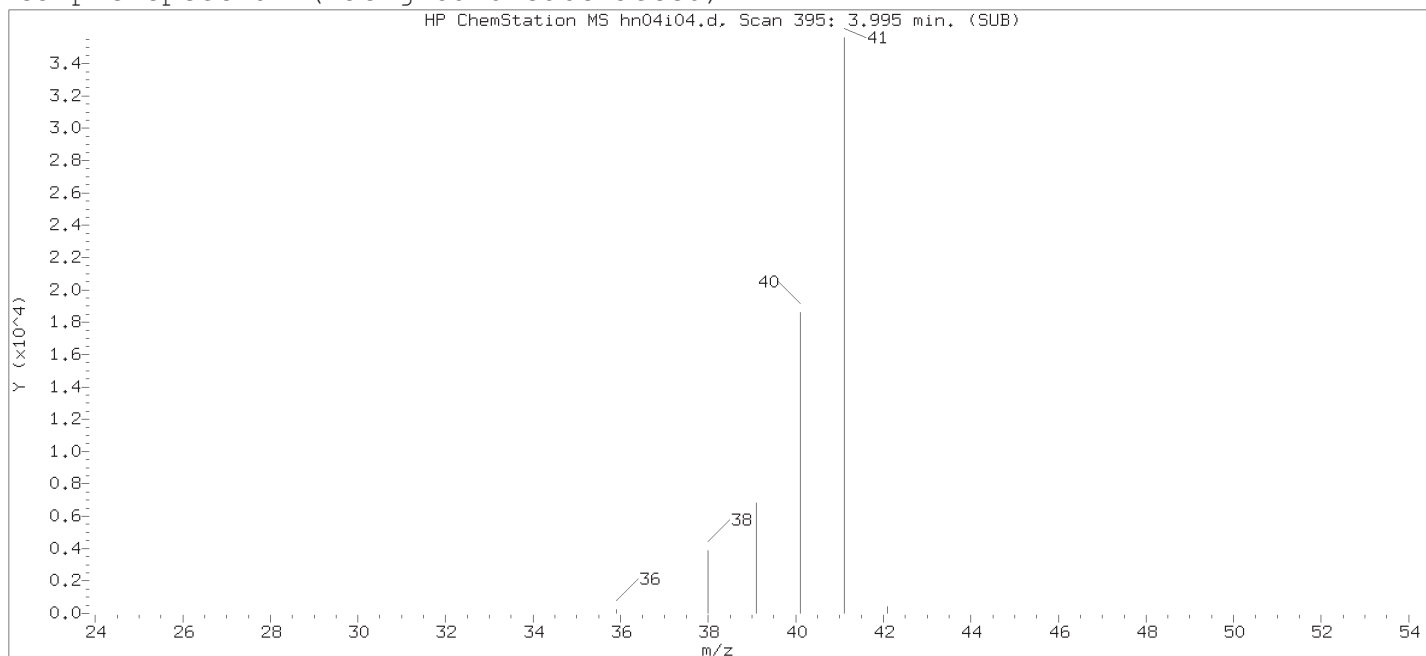
Compound Number	: 25	
Compound Name	: Acetonitrile	
Scan Number	: 395	
Retention Time (minutes)	: 3.995	
Quant Ion	: 41.00	
Area (flag)	: 300581M	
On-Column Amount (ng)	: 81.9302	
Integration start scan	: 366	Integration stop scan: 547
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

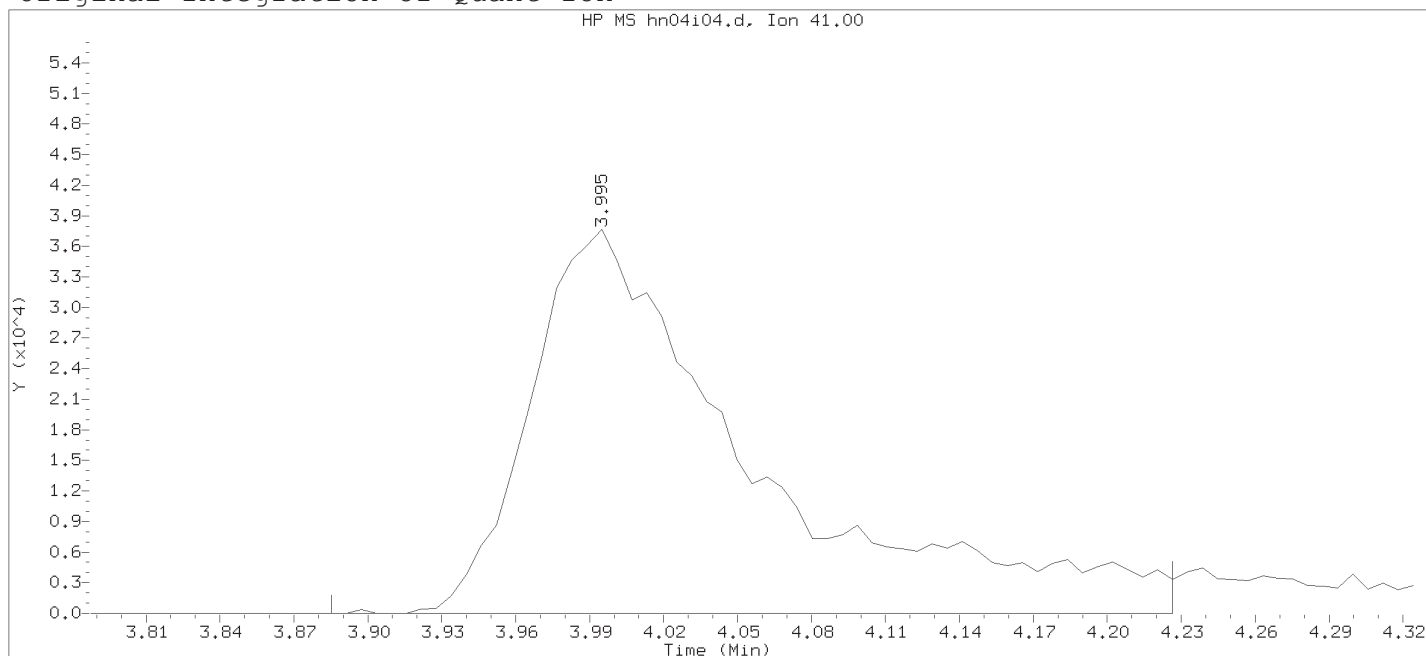
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:25.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 12:53

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:03

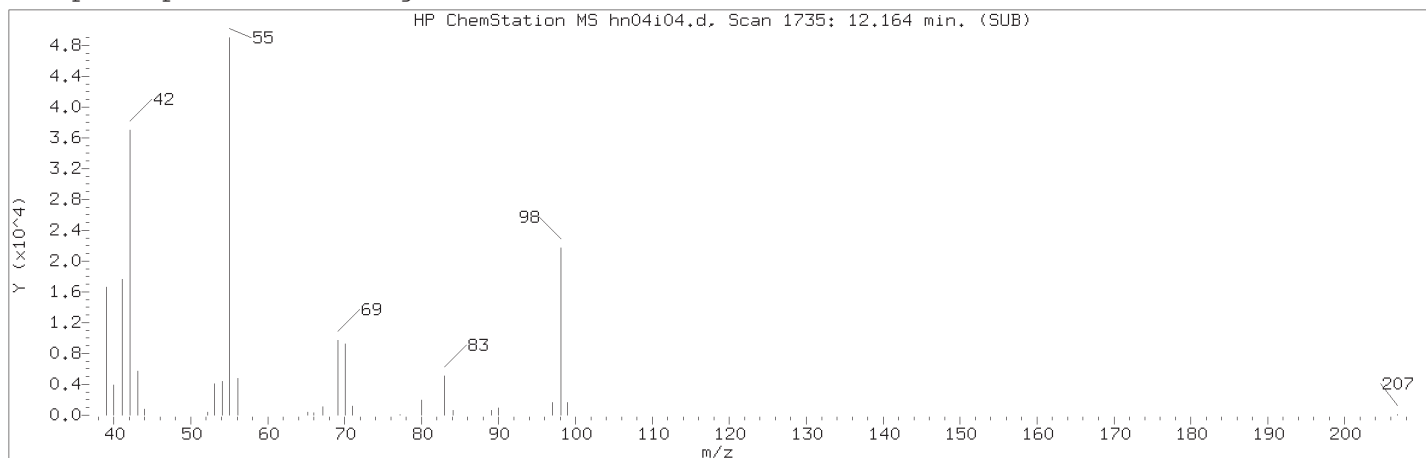
Date, time and analyst ID of latest file update: 04-Nov-2016 15:03 kel01973

Sample Name: VSTD002

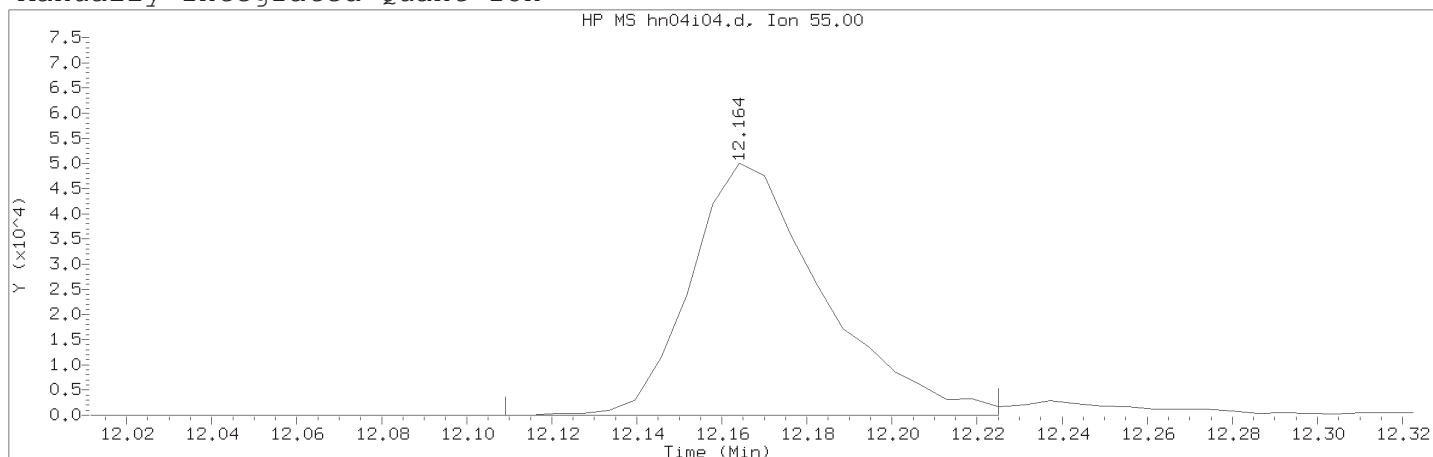
Lab Sample ID: VSTD002

Compound Number	: 25	
Compound Name	: Acetonitrile	
Scan Number	: 395	
Retention Time (minutes)	: 3.995	
Quant Ion	: 41.00	
Area	: 233485	
On-column Amount (ng)	: 77.7482	
Integration start scan	: 376	Integration stop scan: 432
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 12:53

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:17

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number	: 112	
Compound Name	: Cyclohexanone	
Scan Number	: 1735	
Retention Time (minutes)	: 12.164	
Quant Ion	: 55.00	
Area (flag)	: 107632M	
On-Column Amount (ng)	: 100.6097	
Integration start scan	: 1725	Integration stop scan: 1744
Y at integration start	: 0	Y at integration end: 0

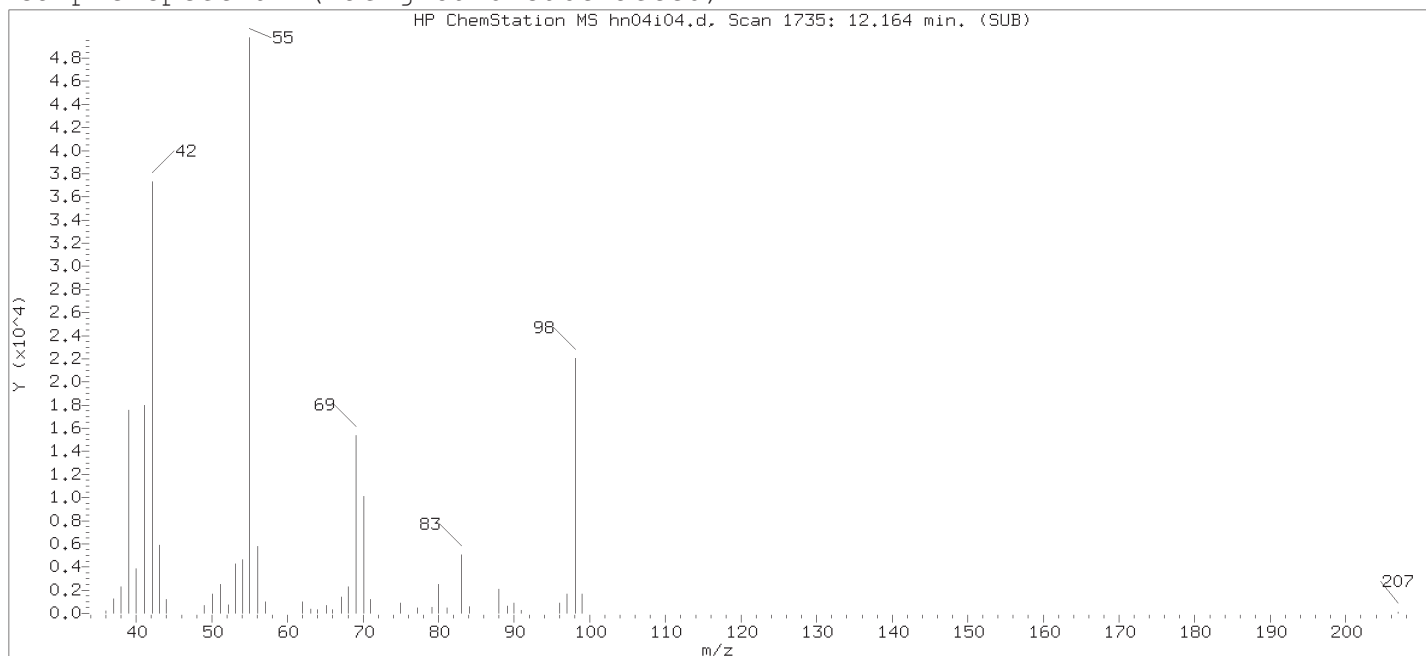
Reason for manual integration: improper integration

Analyst responsible for change:

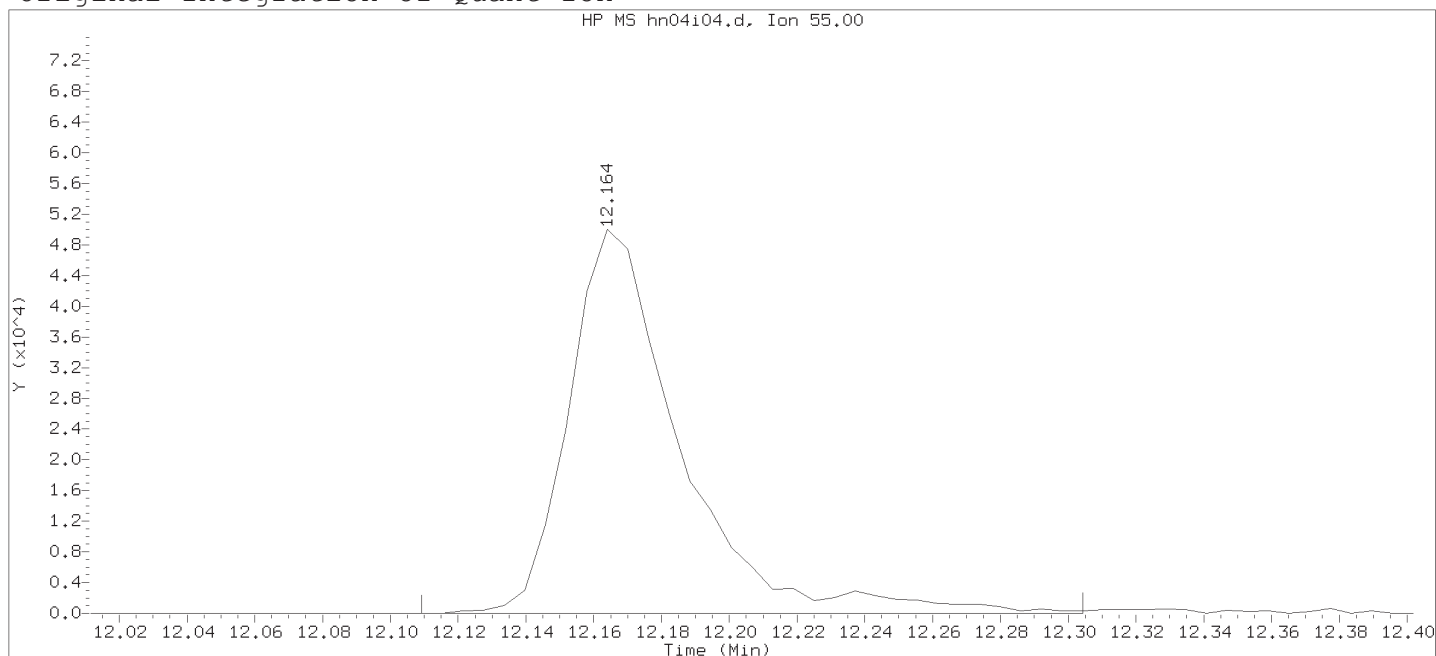
Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:25.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i04.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 12:53

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

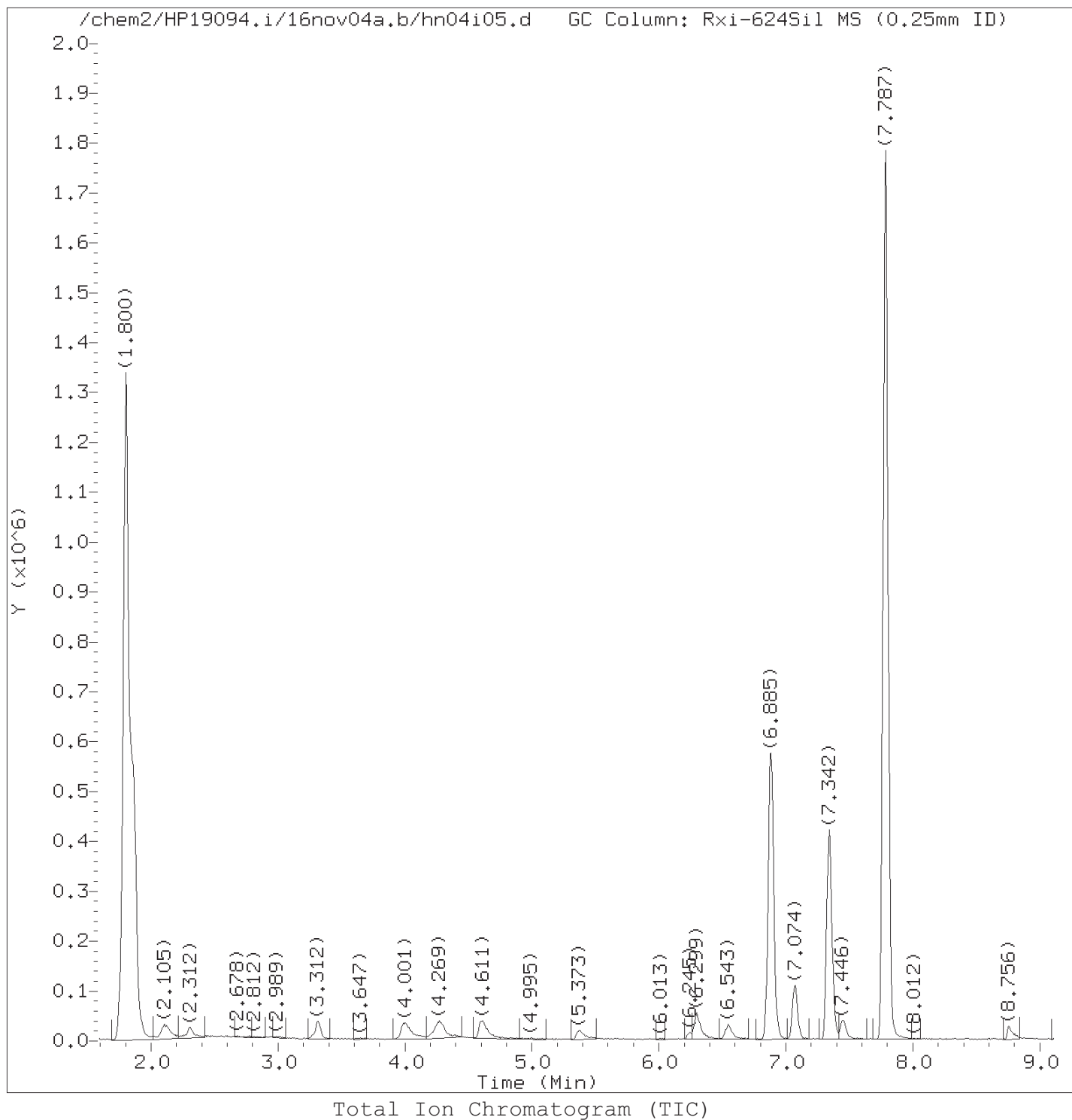
Calibration date and time: 04-NOV-2016 15:03

Date, time and analyst ID of latest file update: 04-Nov-2016 15:03 kel01973

Sample Name: VSTD002

Lab Sample ID: VSTD002

Compound Number	: 112	
Compound Name	: Cyclohexanone	
Scan Number	: 1735	
Retention Time (minutes)	: 12.164	
Quant Ion	: 55.00	
Area	: 113660	
On-column Amount (ng)	: 101.1445	
Integration start scan	: 1725	Integration stop scan: 1757
Y at integration start	: 0	Y at integration end: 0



Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04i05.d
Injection date and time: 04-NOV-2016 13:13

Instrument ID: HP19094.i
Analyst ID: kel01973

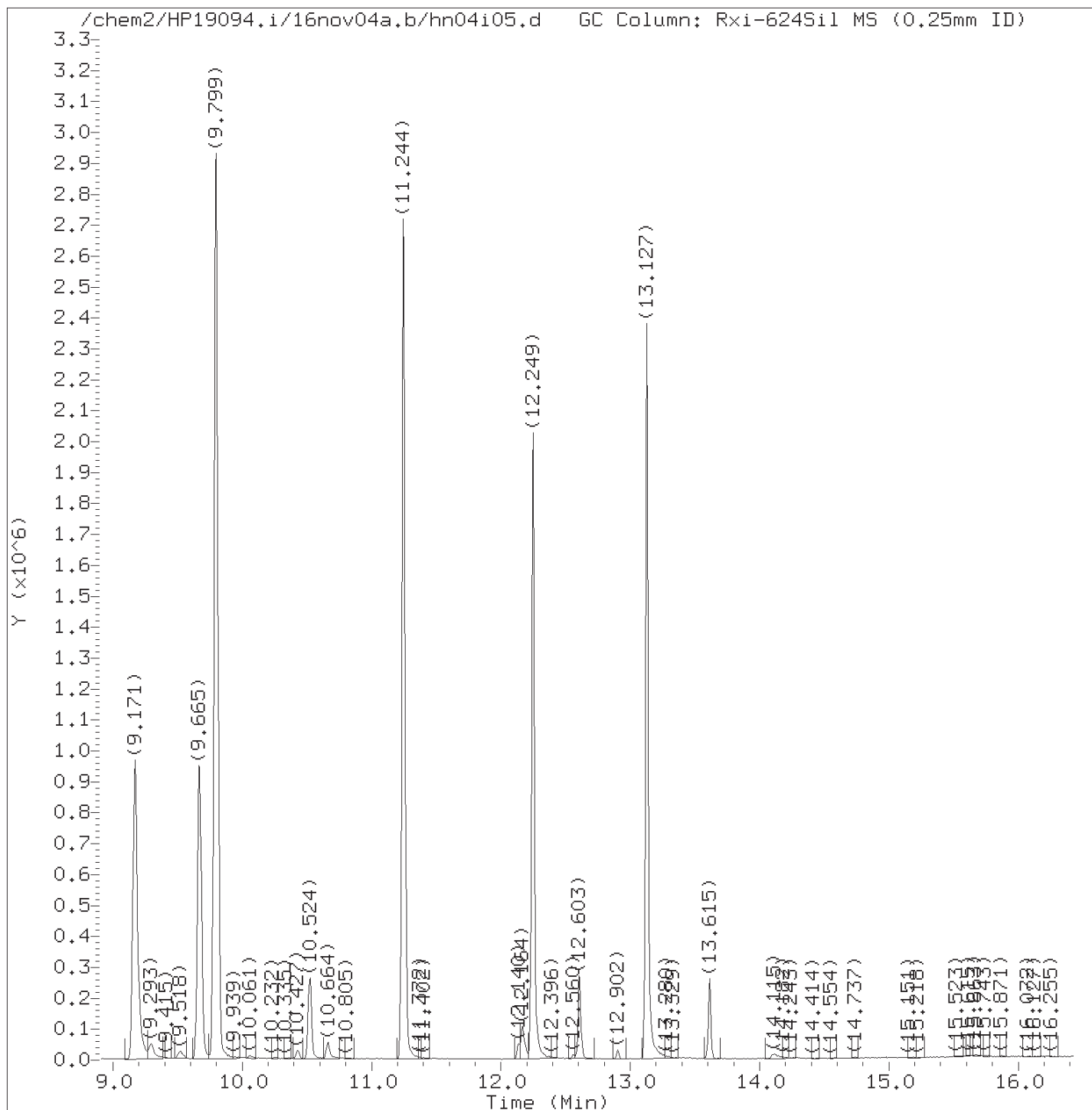
Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 04-NOV-2016 15:17
Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.

Target 3.5 esignature user ID: kel01973
RAE76 Page 474 of 883



Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04i05.d
Injection date and time: 04-NOV-2016 13:13

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 04-NOV-2016 15:17
Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 13:13

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:17

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.105	45	69339M	0.931
25) Acetonitrile	(1)	4.001	41	149224M	37.883
26)*t-Butyl Alcohol-d10	(1)	4.269	65	101800	50.000
36) Vinyl Acetate	(2)	5.373	43	63556	0.926
43) Methyl Acrylate	(2)	6.299	55	112392	4.566
53) 1-Chlorobutane	(2)	7.074	56	118457	0.977
63)*Fluorobenzene	(2)	7.787	96	2287808	10.000
77) Chloroacetonitrile	(2)	9.213	75	68905M	47.815
78) 2-Chloroethyl vinyl ether	(2)	9.293	63	22739	0.960
97)*Chlorobenzene-d5	(3)	11.244	117	1513085	10.000
109) cis-1,4-Dichloro-2-butene	(1)	12.140	88	12356	1.714
112) Cyclohexanone	(1)	12.164	55	51121M	44.506
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	627344	10.000
142) Hexachloroethane	(4)	13.615	117	43995	0.985

M = Compound was manually integrated.

* = Compound is an internal standard.

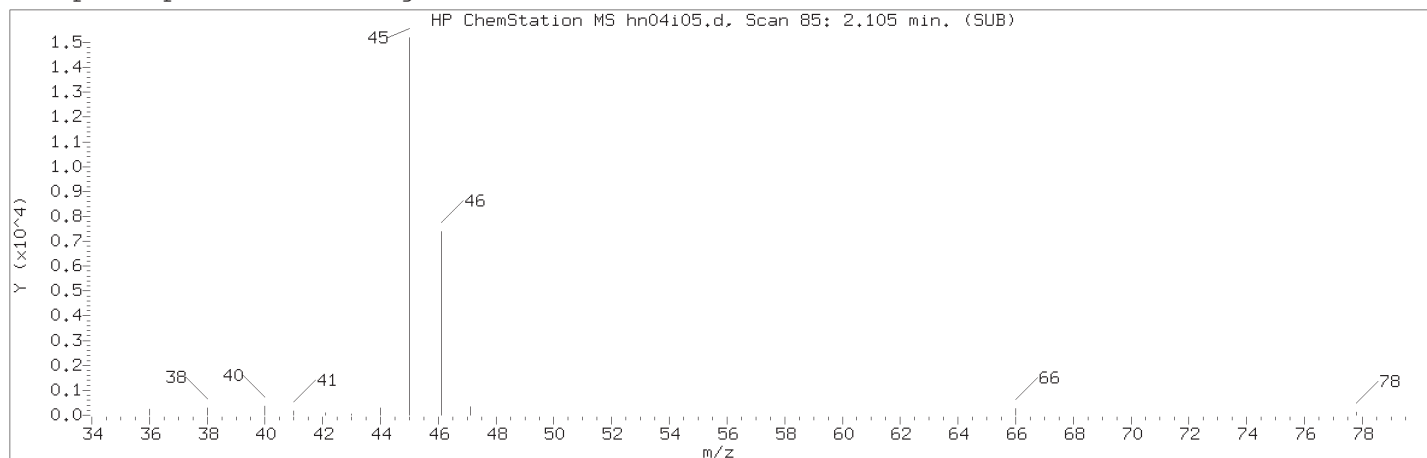
page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.

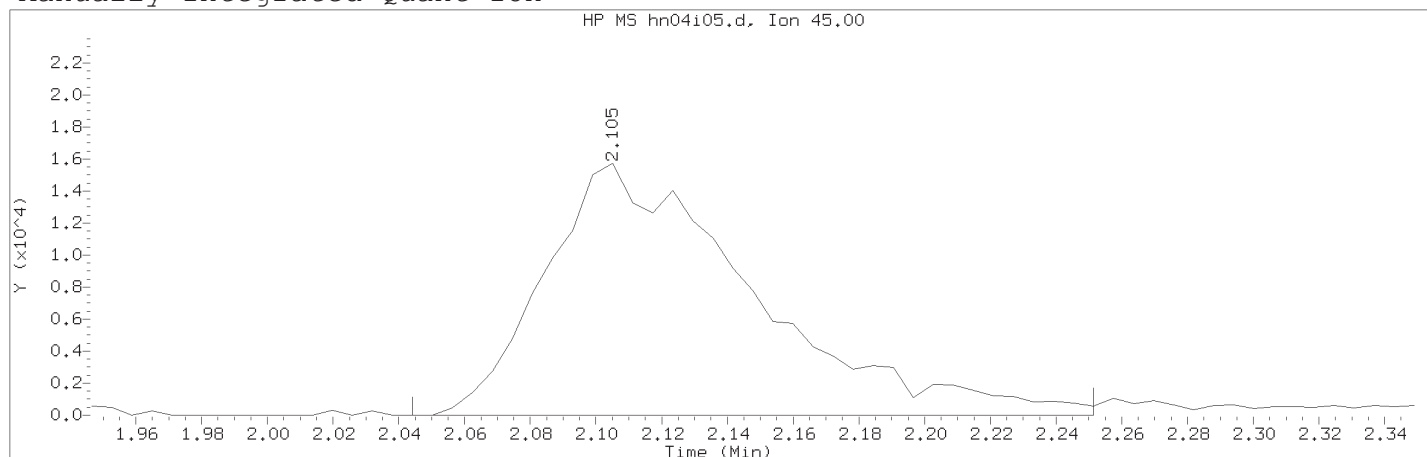
Target 3.5 esignature user ID: kel01973

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Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 13:13

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:17

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number	: 4	
Compound Name	: Dimethyl ether	
Scan Number	: 85	
Retention Time (minutes)	: 2.105	
Quant Ion	: 45.00	
Area (flag)	: 69339M	
On-Column Amount (ng)	: 0.9313	
Integration start scan	: 74	Integration stop scan: 108
Y at integration start	: 0	Y at integration end: 0

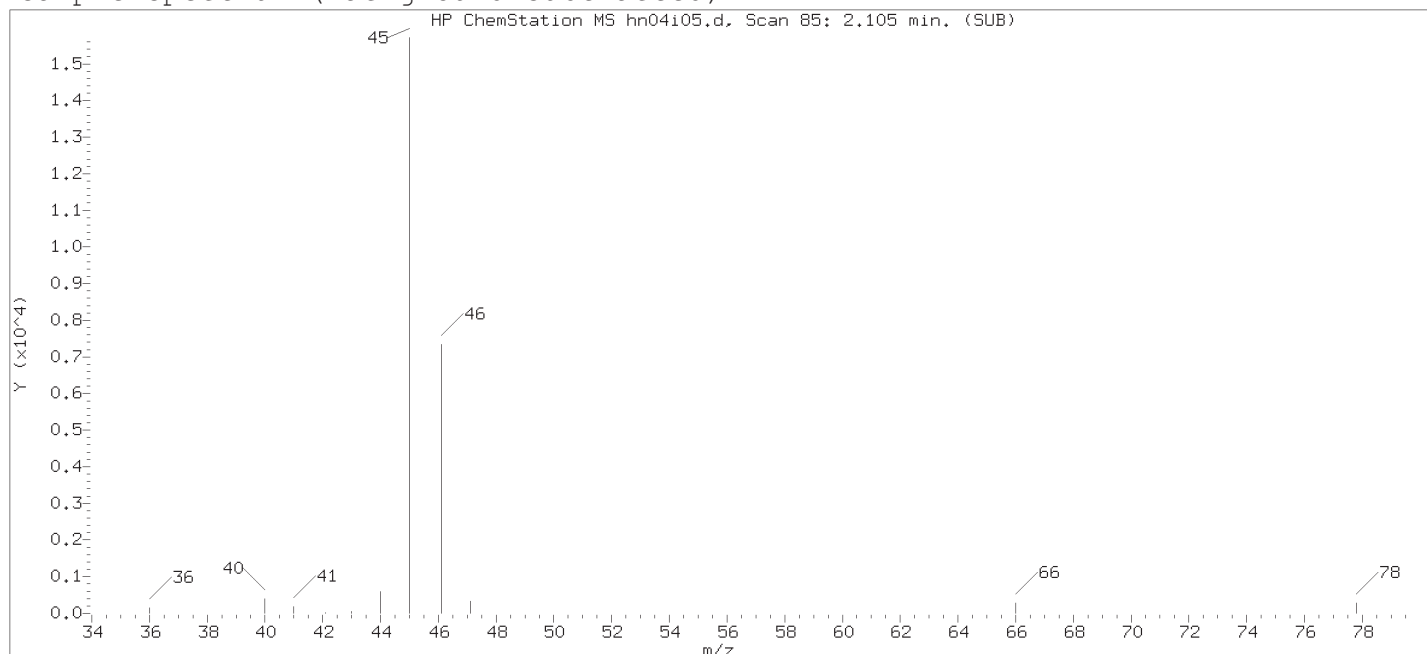
Reason for manual integration: improper integration

Analyst responsible for change:

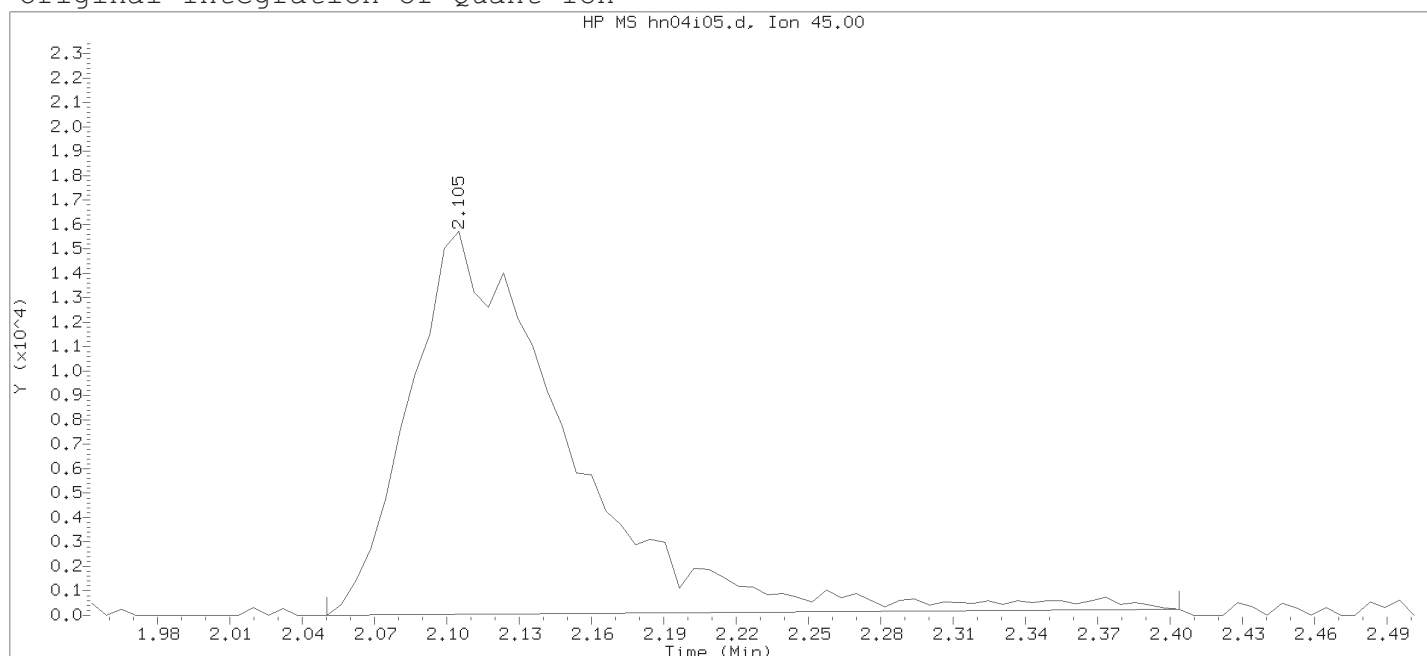
Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 13:13

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:03

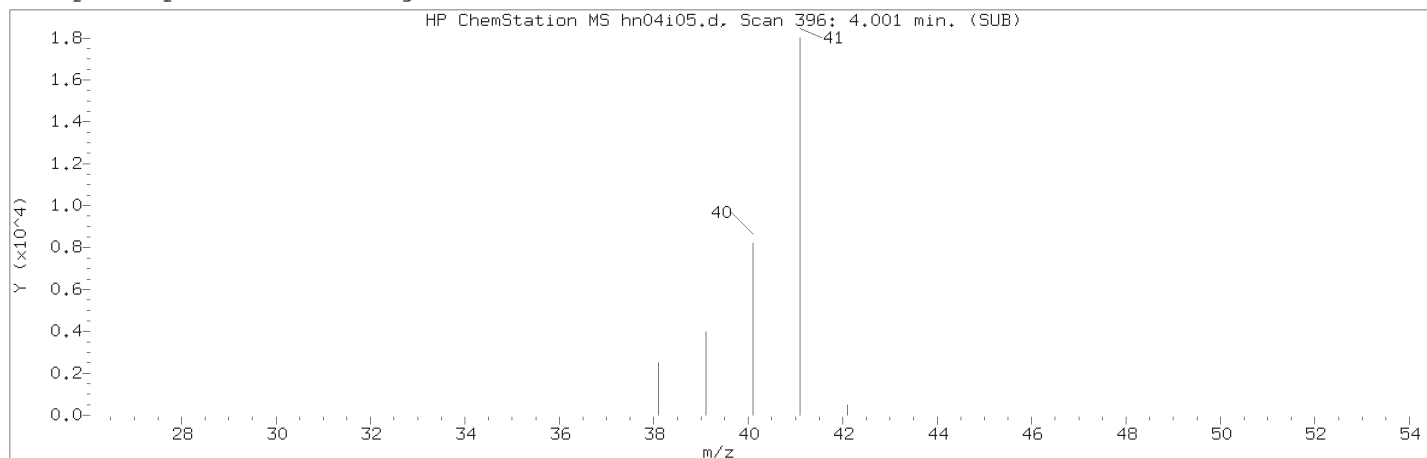
Date, time and analyst ID of latest file update: 04-Nov-2016 15:03 kel01973

Sample Name: VSTD001

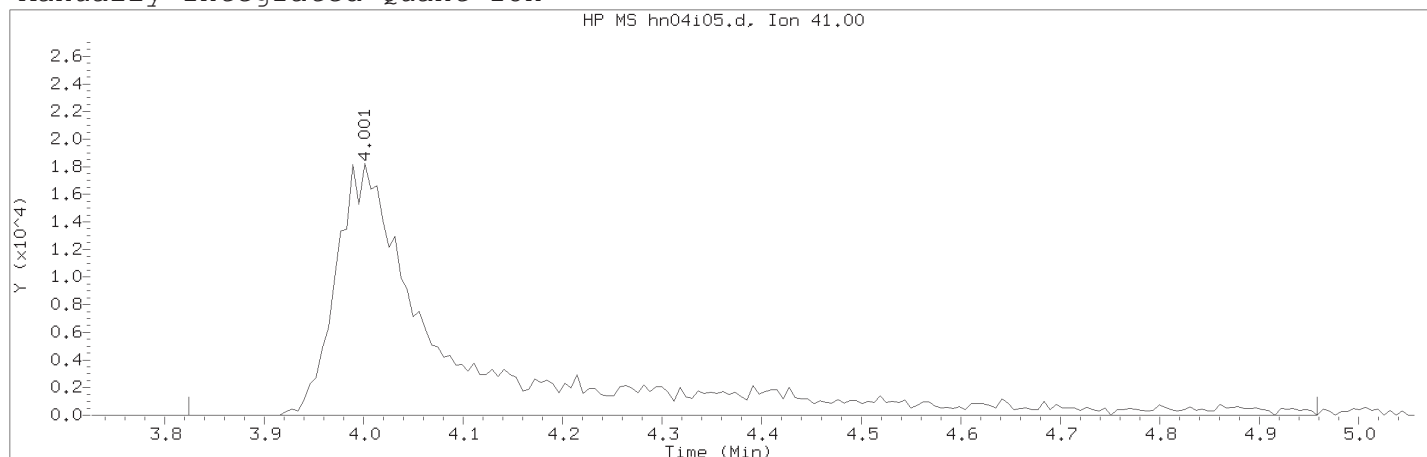
Lab Sample ID: VSTD001

Compound Number	: 4	
Compound Name	: Dimethyl ether	
Scan Number	: 85	
Retention Time (minutes)	: 2.105	
Quant Ion	: 45.00	
Area	: 71693	
On-column Amount (ng)	: 1.0445	
Integration start scan	: 75	Integration stop scan: 133
Y at integration start	: 0	Y at integration end: 256

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 13:13

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:17

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number

: 25

Compound Name

: Acetonitrile

Scan Number

: 396

Retention Time (minutes):

4.001

Quant Ion

: 41.00

Area (flag)

: 149224M

On-Column Amount (ng)

: 37.8827

Integration start scan

: 366

Integration stop scan: 552

Y at integration start

: 0

Y at integration end: 0

Reason for manual integration: improper integration

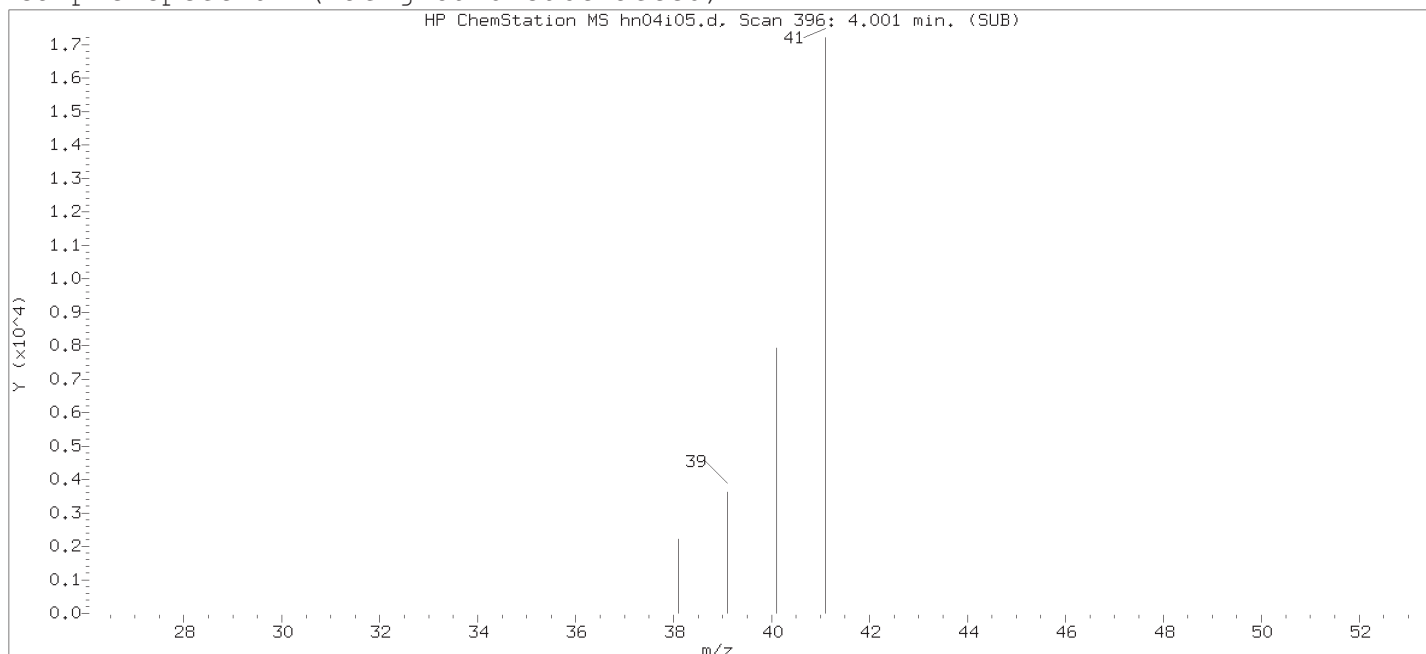
Analyst responsible for change:

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.
Target 3.5 esignature user ID: kel01973

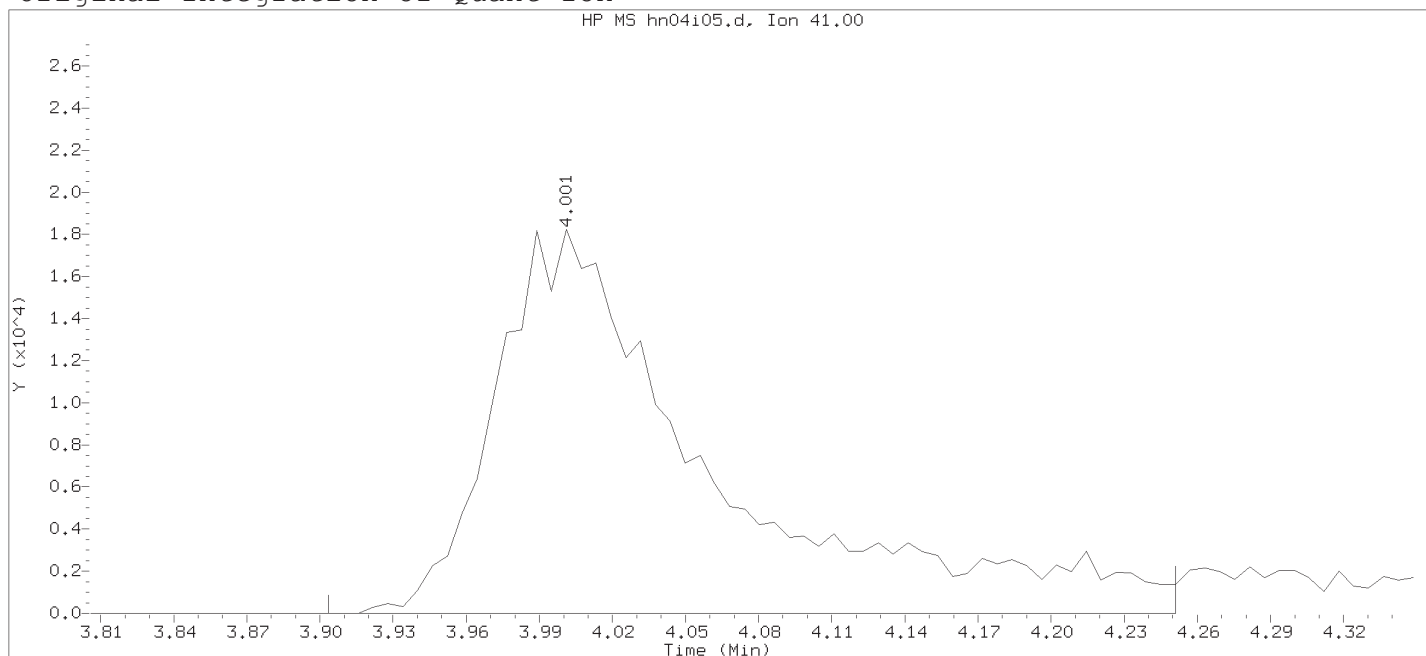
Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.

PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 13:13

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:03

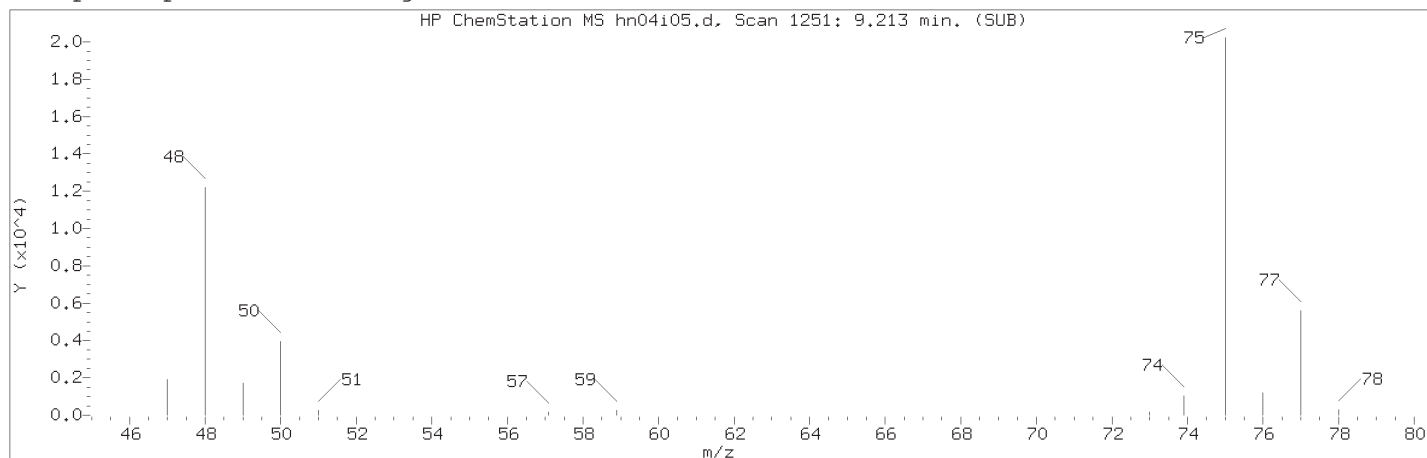
Date, time and analyst ID of latest file update: 04-Nov-2016 15:03 kel01973

Sample Name: VSTD001

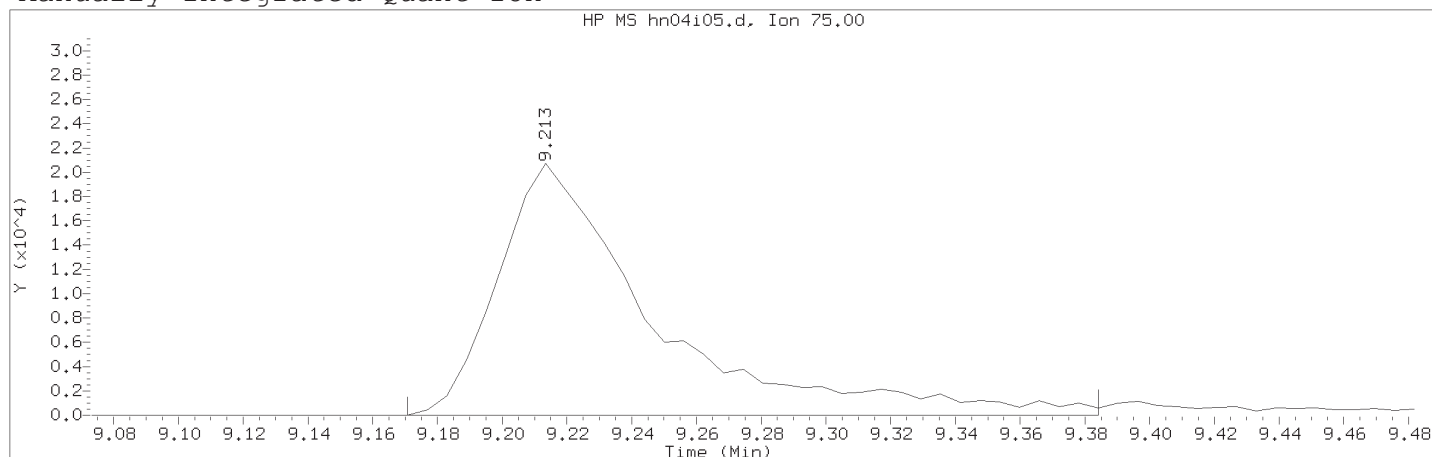
Lab Sample ID: VSTD001

Compound Number	: 25	
Compound Name	: Acetonitrile	
Scan Number	: 396	
Retention Time (minutes)	: 4.001	
Quant Ion	: 41.00	
Area	: 111159	
On-column Amount (ng)	: 34.4744	
Integration start scan	: 379	Integration stop scan: 436
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 13:13

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:17

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number	: 77	
Compound Name	: Chloroacetonitrile	
Scan Number	: 1251	
Retention Time (minutes)	: 9.213	
Quant Ion	: 75.00	
Area (flag)	: 68905M	
On-Column Amount (ng)	: 47.8155	
Integration start scan	: 1243	Integration stop scan: 1278
Y at integration start	: 0	Y at integration end: 0

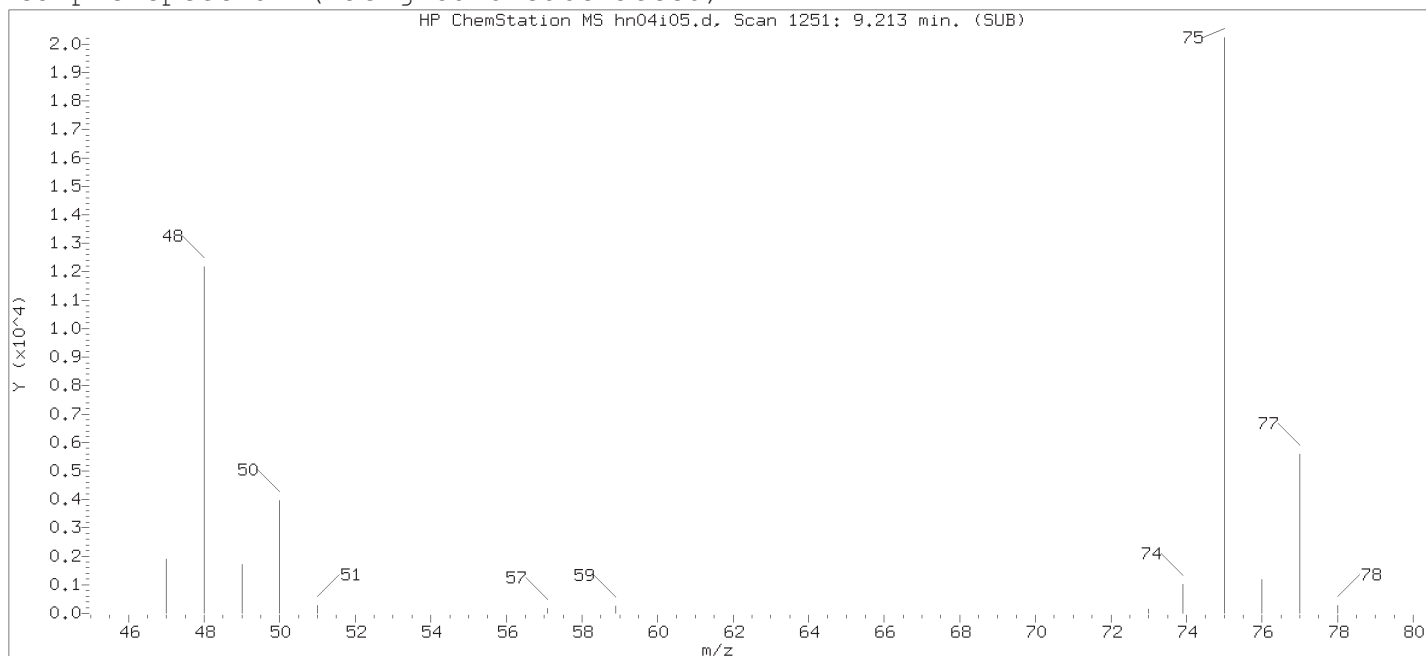
Reason for manual integration: improper integration

Analyst responsible for change:

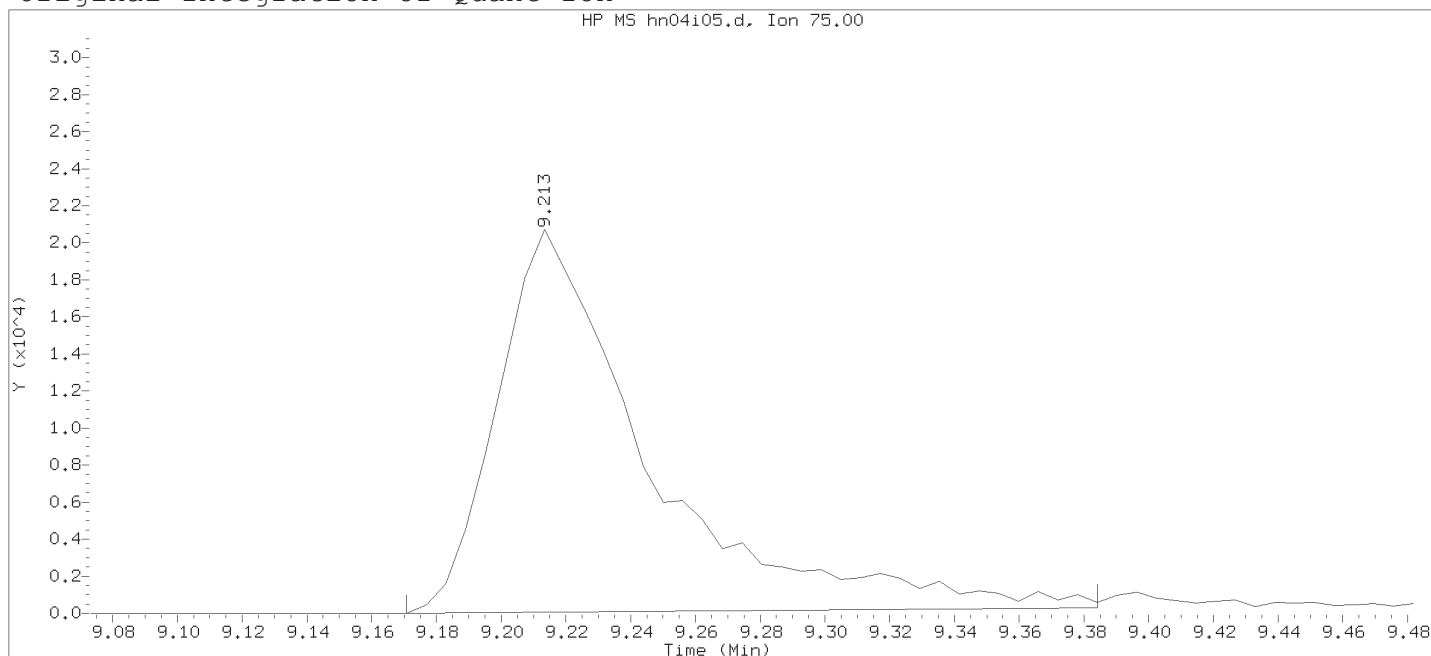
Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 13:13

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:03

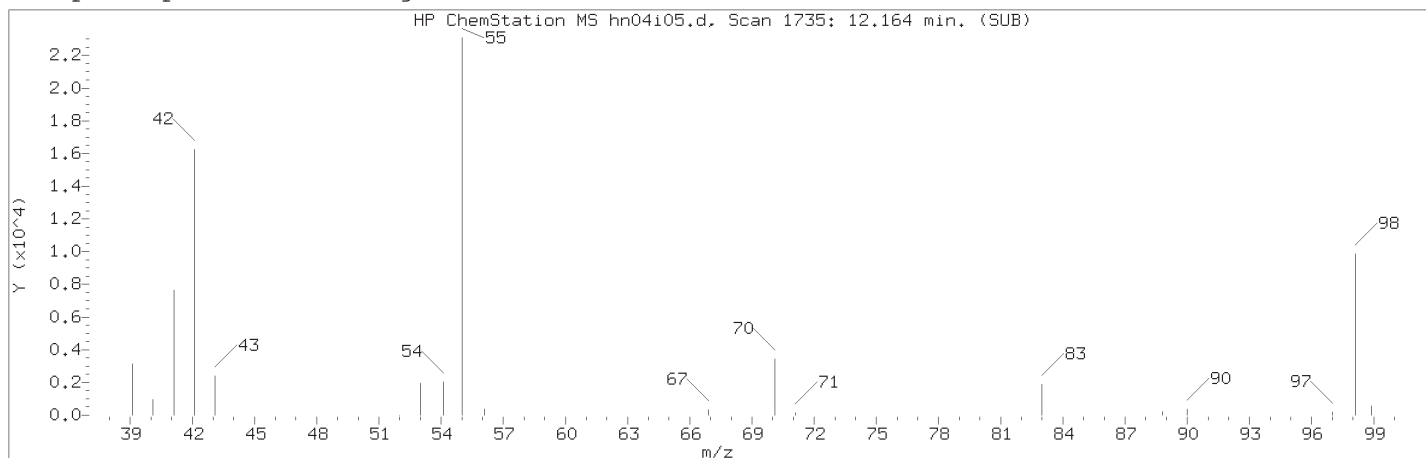
Date, time and analyst ID of latest file update: 04-Nov-2016 15:03 kel01973

Sample Name: VSTD001

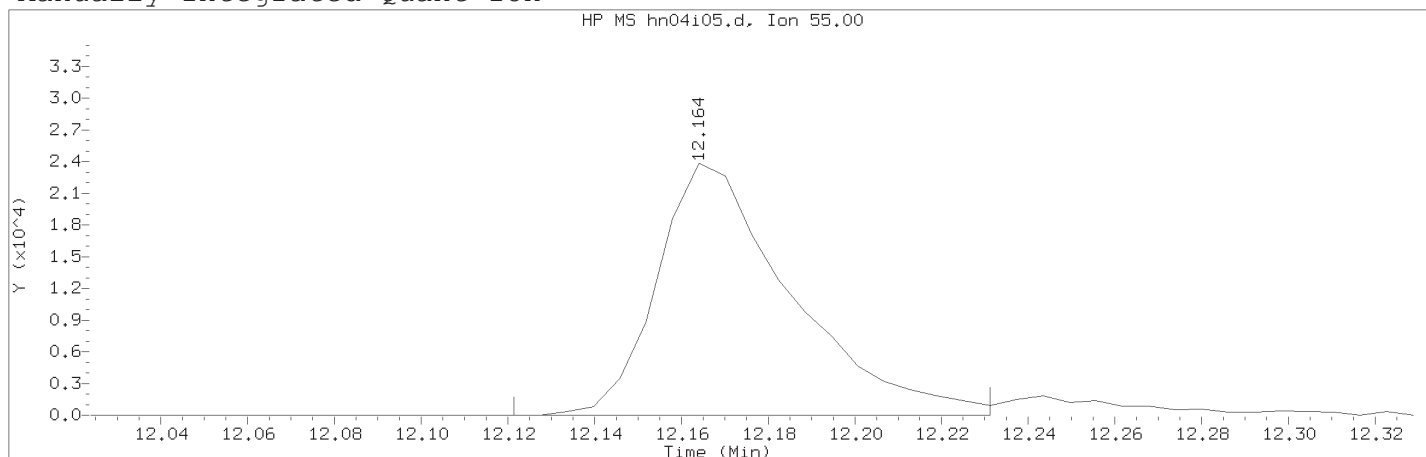
Lab Sample ID: VSTD001

Compound Number	: 77	
Compound Name	: Chloroacetonitrile	
Scan Number	: 1251	
Retention Time (minutes)	: 9.213	
Quant Ion	: 75.00	
Area	: 66928	
On-column Amount (ng)	: 46.8689	
Integration start scan	: 1243	Integration stop scan: 1278
Y at integration start	: 0	Y at integration end: 292

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 13:13

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:17

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number	: 112	
Compound Name	: Cyclohexanone	
Scan Number	: 1735	
Retention Time (minutes)	: 12.164	
Quant Ion	: 55.00	
Area (flag)	: 51121M	
On-Column Amount (ng)	: 44.5059	
Integration start scan	: 1727	Integration stop scan: 1745
Y at integration start	: 0	Y at integration end: 0

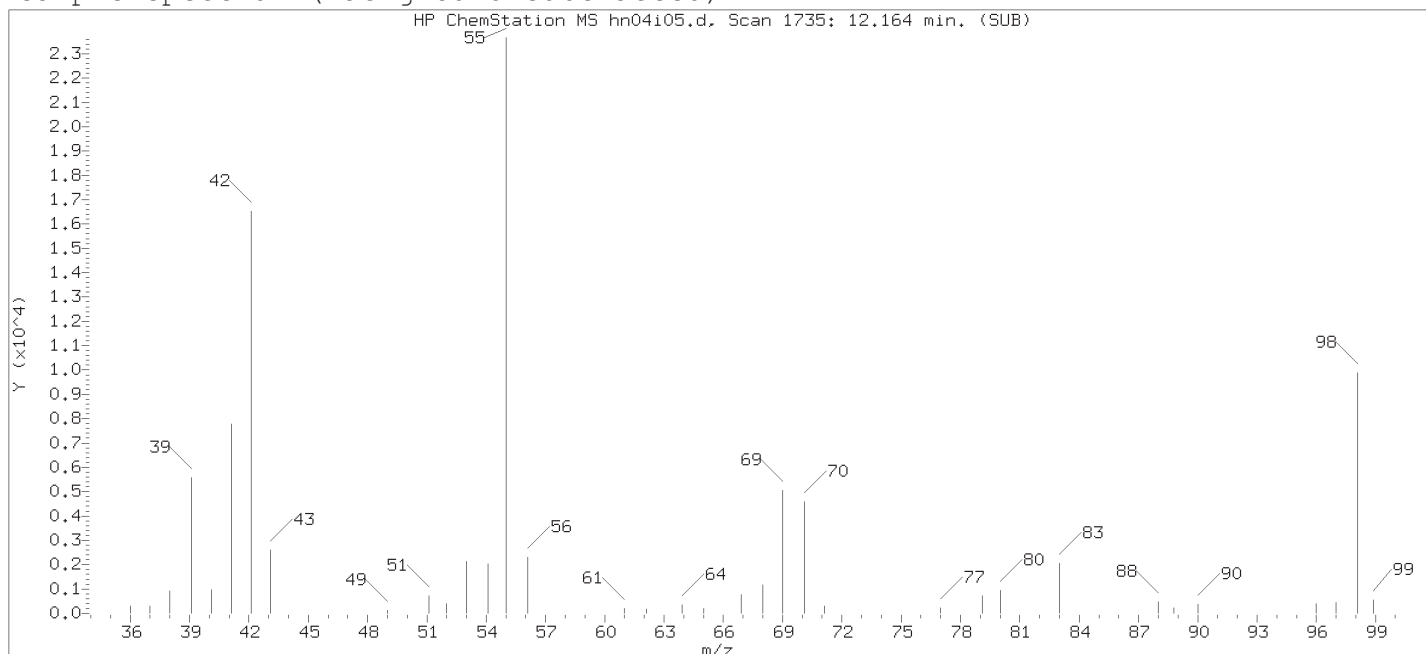
Reason for manual integration: improper integration

Analyst responsible for change:

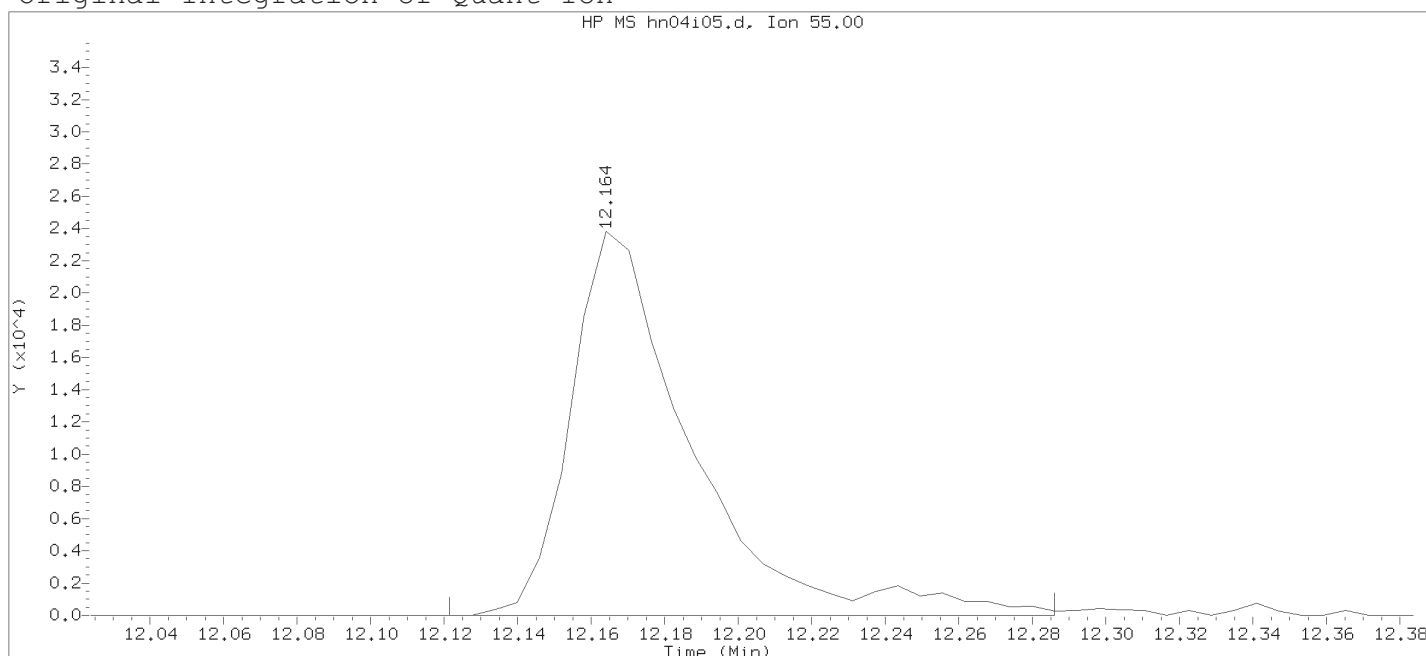
Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i05.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 13:13

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:03

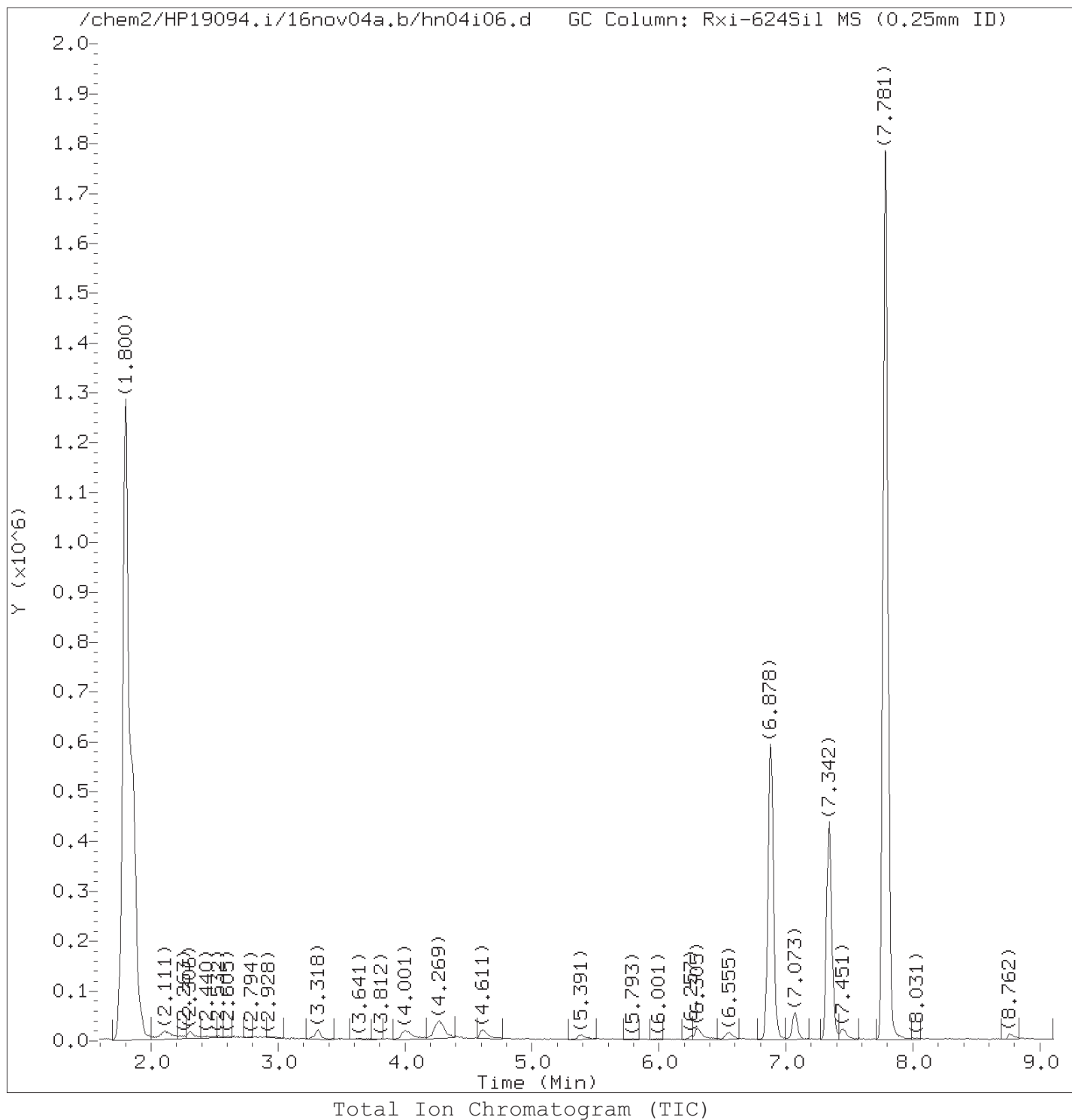
Date, time and analyst ID of latest file update: 04-Nov-2016 15:03 kel01973

Sample Name: VSTD001

Lab Sample ID: VSTD001

Compound Number : 112
 Compound Name : Cyclohexanone
 Scan Number : 1735
 Retention Time (minutes) : 12.164
 Quant Ion : 55.00
 Area : 54362
 On-column Amount (ng) : 45.0562
 Integration start scan : 1727
 Y at integration start : 0

Integration stop scan: 1754
 Y at integration end: 0



Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04i06.d
Injection date and time: 04-NOV-2016 13:34

Instrument ID: HP19094.i
Analyst ID: kel01973

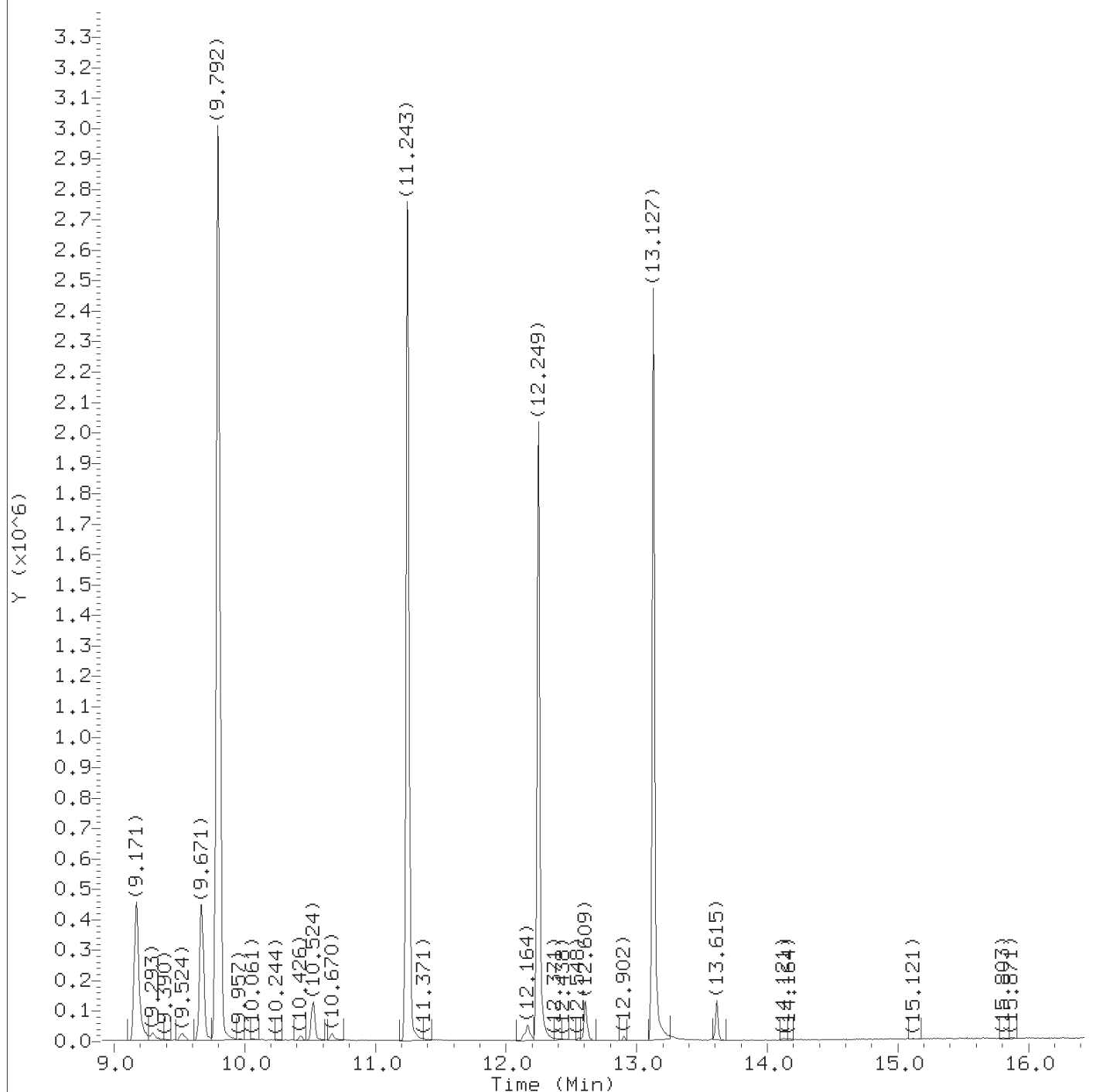
Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 04-NOV-2016 15:17
Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.

Target 3.5 esignature user ID: kel01973
RAE76 Page 485 of 883



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04i06.d
Injection date and time: 04-NOV-2016 13:34

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m
Calibration date and time: 04-NOV-2016 15:17

Sublist used: SMICAL

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.

Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 13:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:17

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
4) Dimethyl ether	(2)	2.111	45	35059M	0.468
25) Acetonitrile	(1)	4.001	41	78725M	19.666
26)*t-Butyl Alcohol-d10	(1)	4.269	65	103453M	50.000
36) Vinyl Acetate	(2)	5.379	43	29795	0.432
43) Methyl Acrylate	(2)	6.305	55	51695M	2.089
53) 1-Chlorobutane	(2)	7.080	56	56220	0.461
63)*Fluorobenzene	(2)	7.787	96	2300257	10.000
77) Chloroacetonitrile	(2)	9.219	75	31894M	22.013
78) 2-Chloroethyl vinyl ether	(2)	9.299	63	9831	0.413
97)*Chlorobenzene-d5	(3)	11.243	117	1538466	10.000
109) cis-1,4-Dichloro-2-butene	(1)	12.140	88	5440	0.742
112) Cyclohexanone	(1)	12.170	55	22726M	19.469
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	630516	10.000
142) Hexachloroethane	(4)	13.615	117	22059	0.492

M = Compound was manually integrated.

* = Compound is an internal standard.

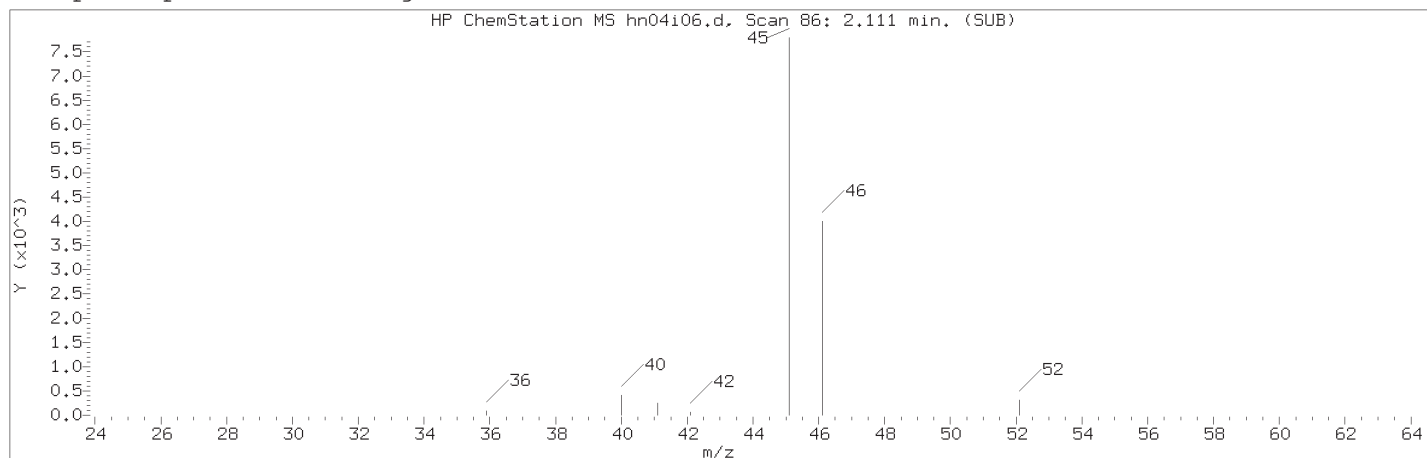
page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.

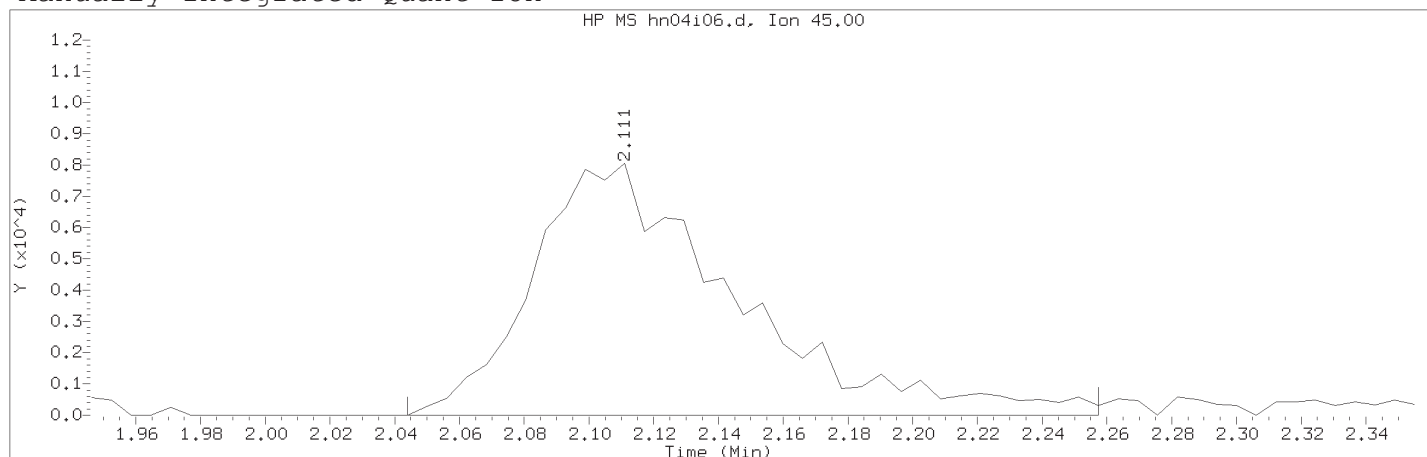
Target 3.5 esignature user ID: kel01973

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Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 13:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:17

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compound Number	: 4	
Compound Name	: Dimethyl ether	
Scan Number	: 86	
Retention Time (minutes)	: 2.111	
Quant Ion	: 45.00	
Area (flag)	: 35059M	
On-Column Amount (ng)	: 0.4684	
Integration start scan	: 74	Integration stop scan: 109
Y at integration start	: 0	Y at integration end: 0

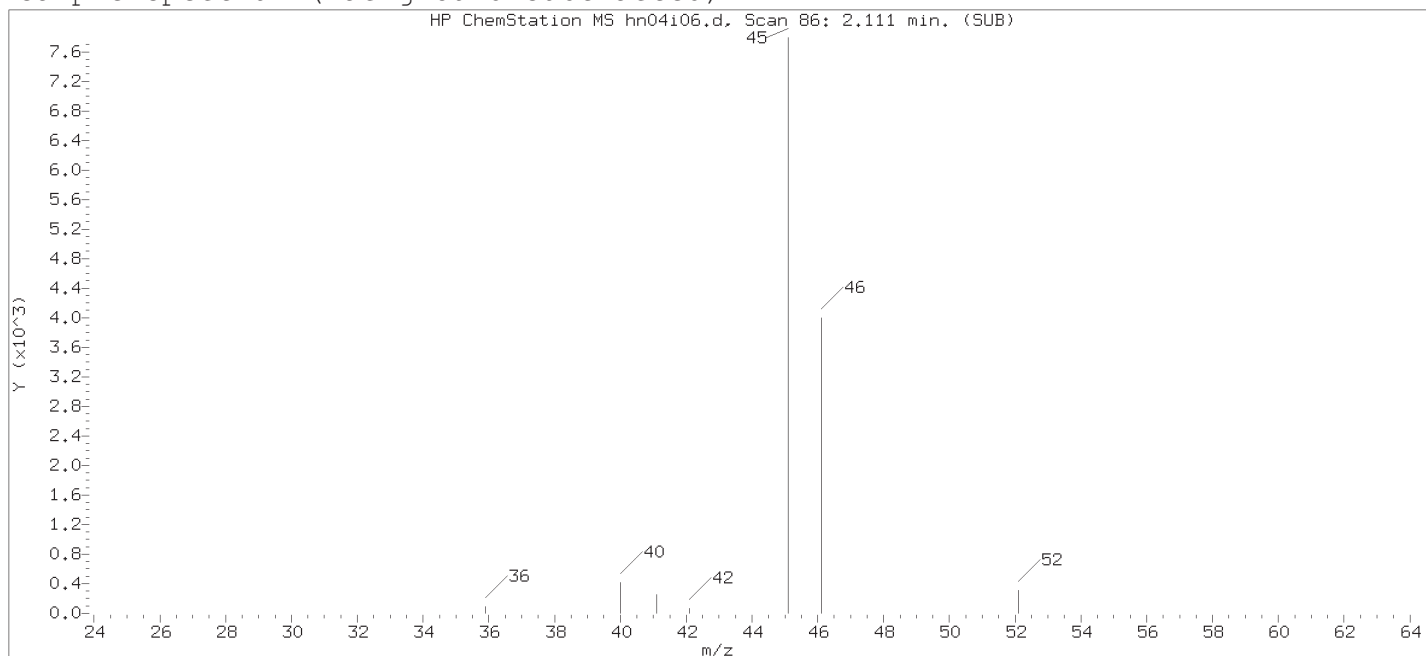
Reason for manual integration: improper integration

Analyst responsible for change:

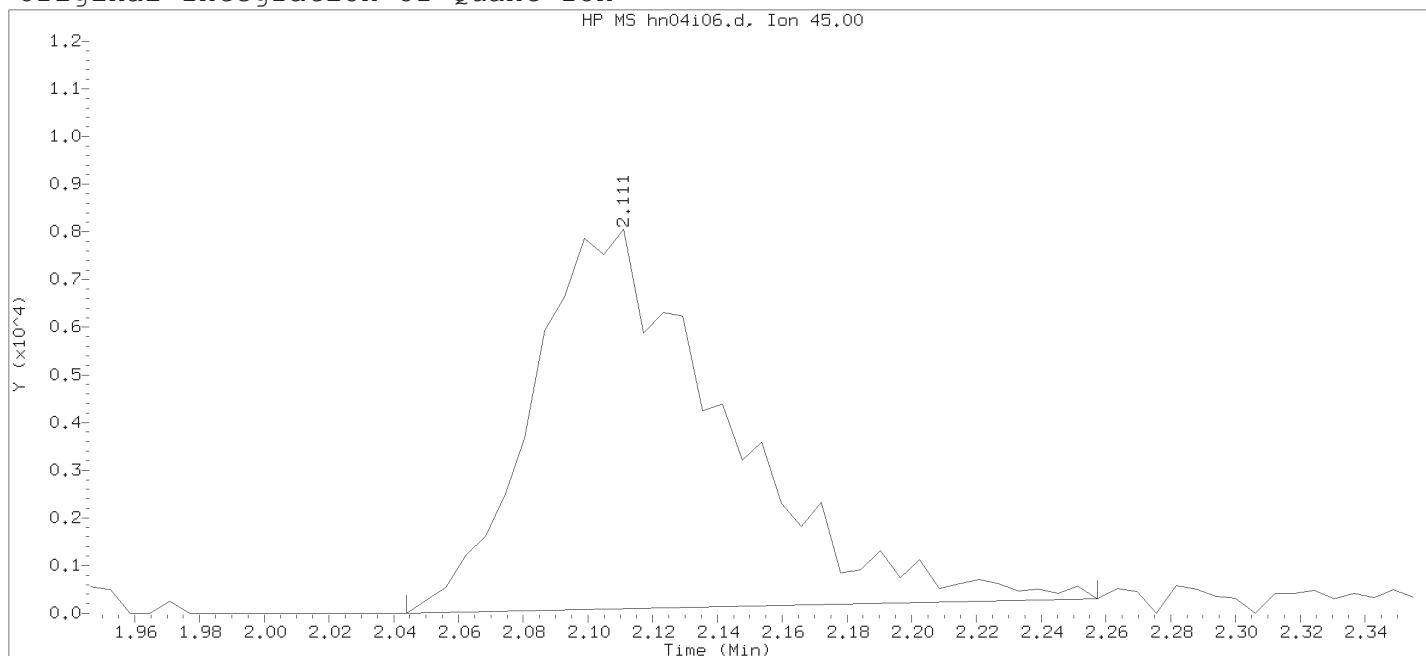
Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 13:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:03

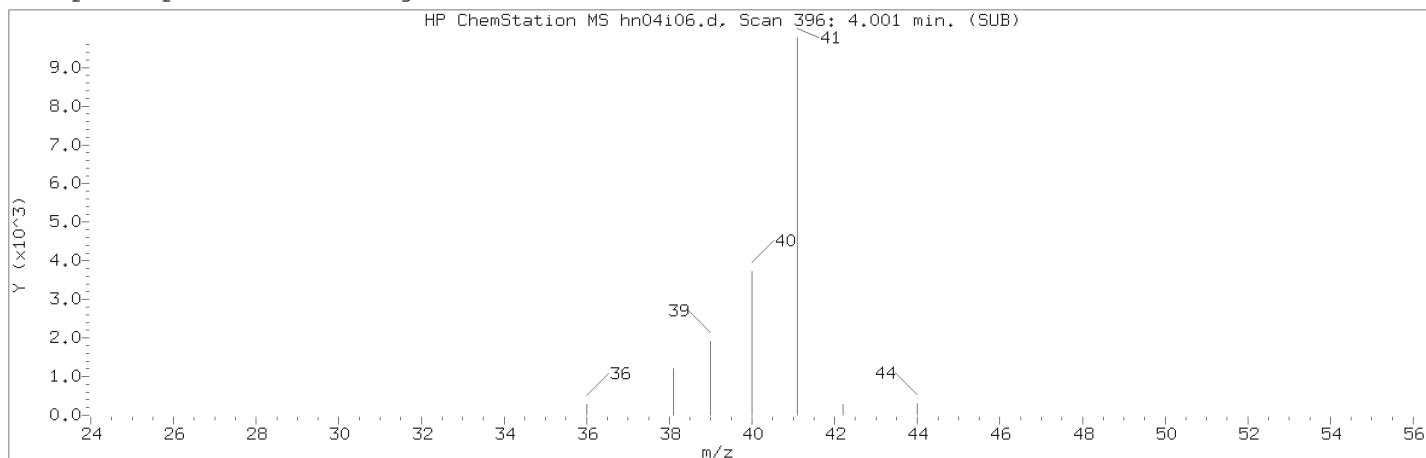
Date, time and analyst ID of latest file update: 04-Nov-2016 15:04 kel01973

Sample Name: VSTD0.5

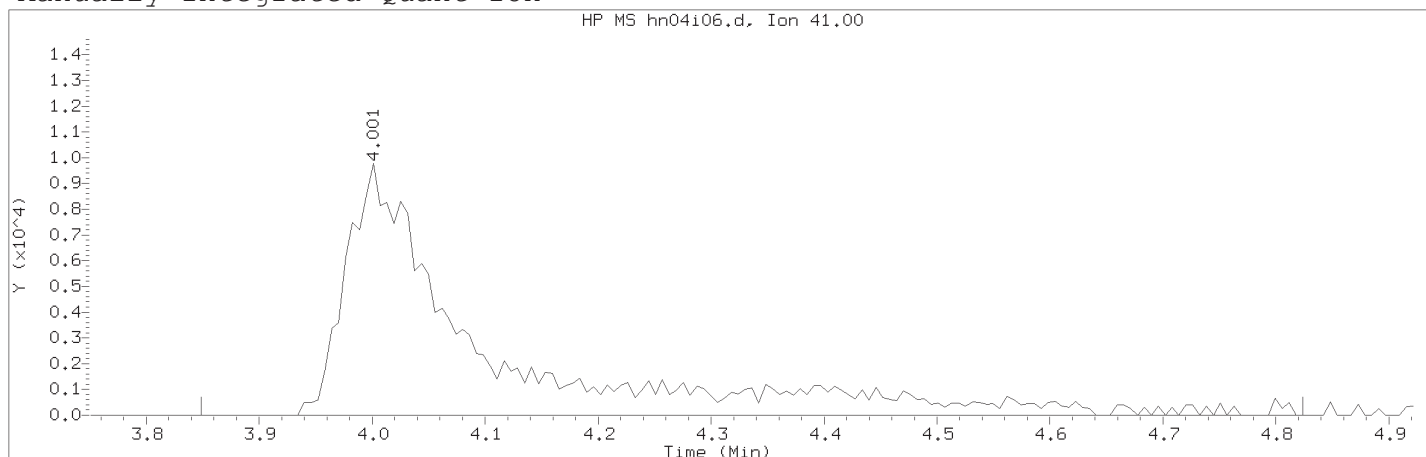
Lab Sample ID: VSTD0.5

Compound Number	: 4	
Compound Name	: Dimethyl ether	
Scan Number	: 86	
Retention Time (minutes)	: 2.111	
Quant Ion	: 45.00	
Area	: 33063	
On-column Amount (ng)	: 0.4791	
Integration start scan	: 74	Integration stop scan: 109
Y at integration start	: 0	Y at integration end: 303

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 13:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:17

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compound Number	: 25	
Compound Name	: Acetonitrile	
Scan Number	: 396	
Retention Time (minutes)	: 4.001	
Quant Ion	: 41.00	
Area (flag)	: 78725M	
On-Column Amount (ng)	: 19.6662	
Integration start scan	: 370	Integration stop scan: 530
Y at integration start	: 0	Y at integration end: 0

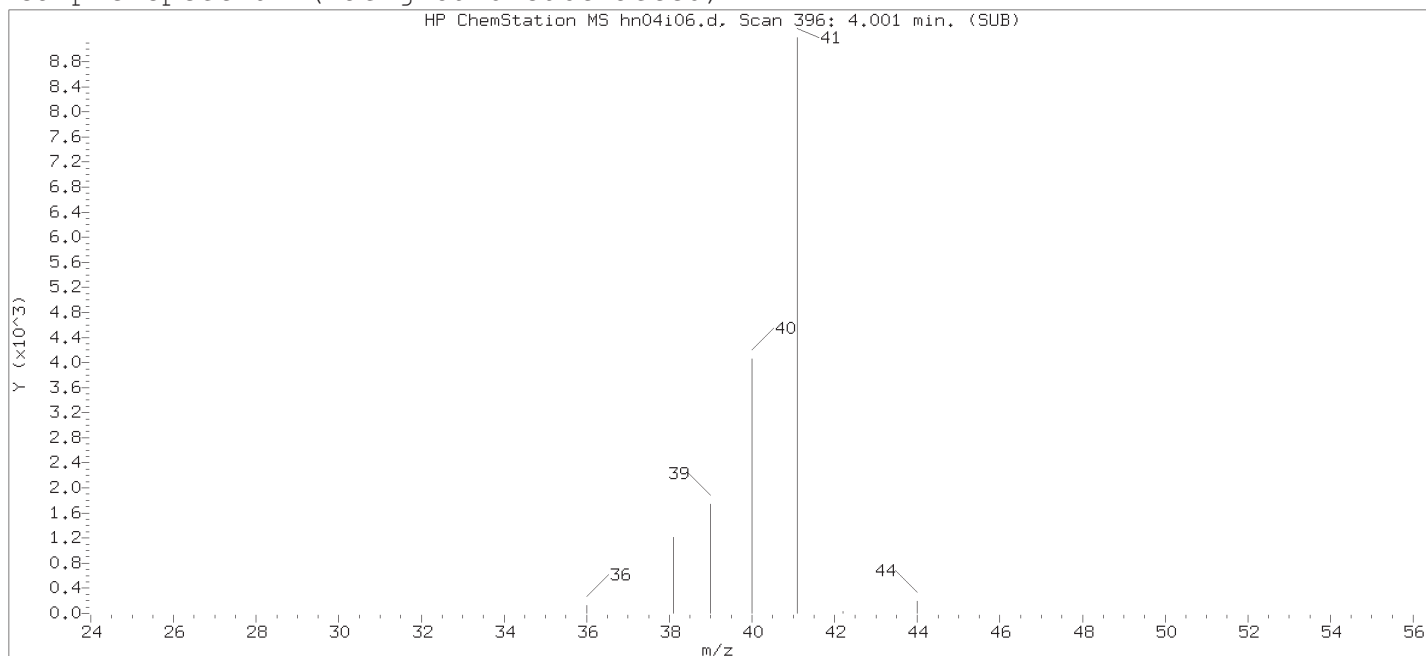
Reason for manual integration: improper integration

Analyst responsible for change:

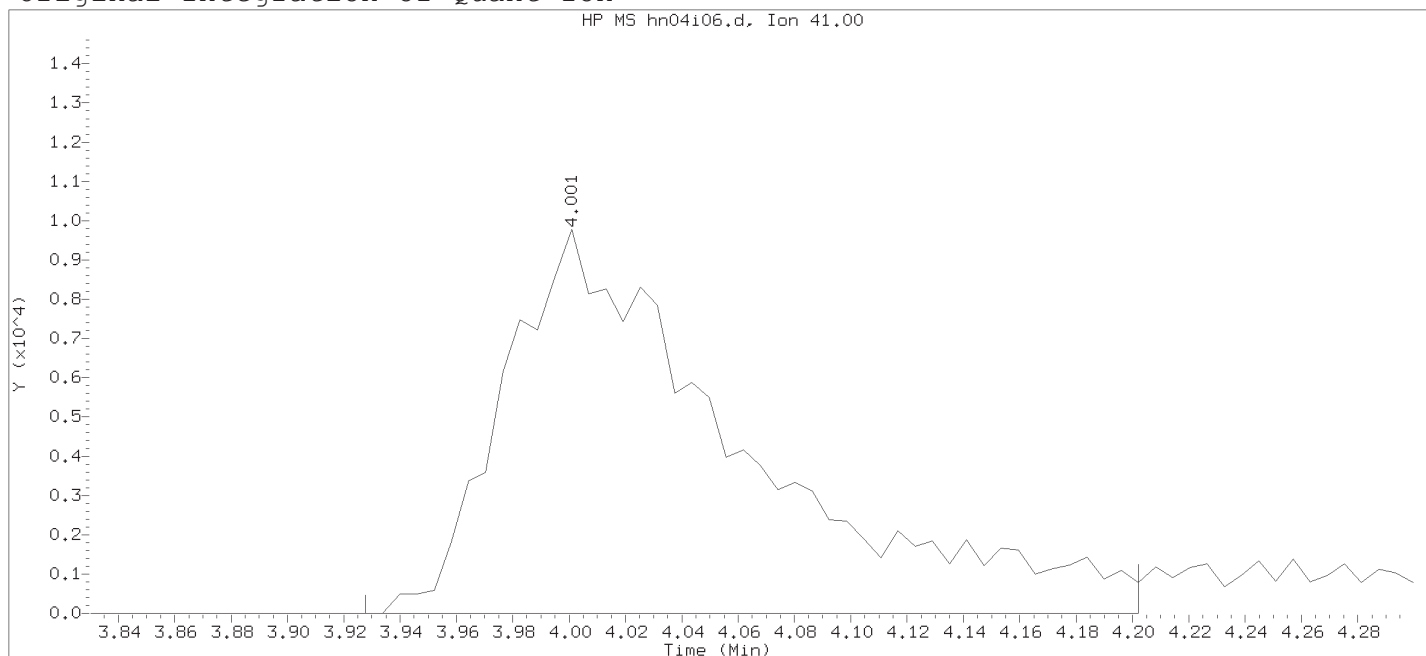
Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 13:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:03

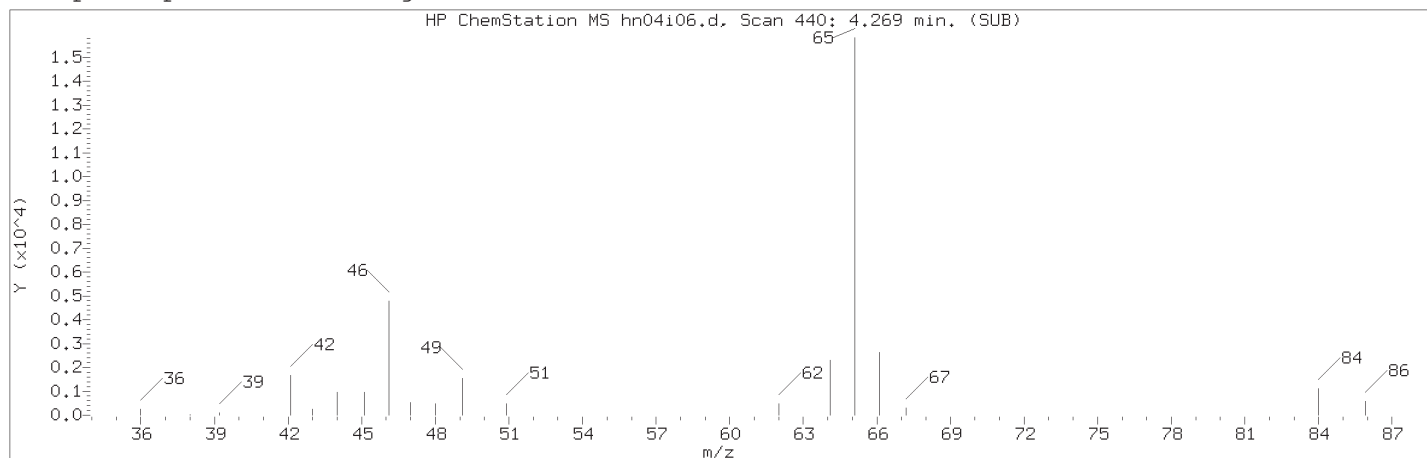
Date, time and analyst ID of latest file update: 04-Nov-2016 15:04 kel01973

Sample Name: VSTD0.5

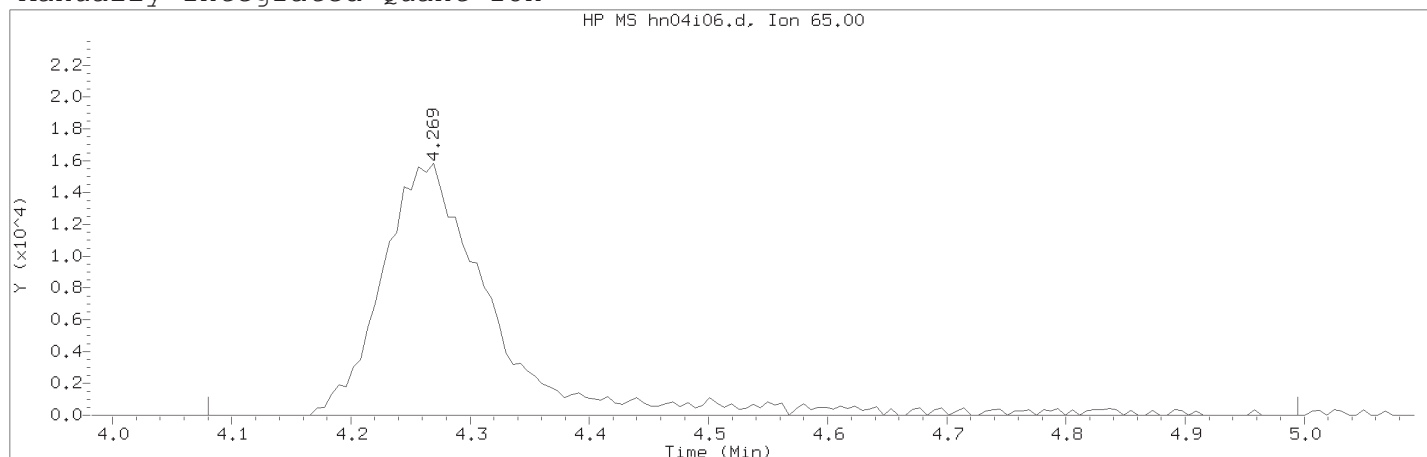
Lab Sample ID: VSTD0.5

Compound Number	: 25	
Compound Name	: Acetonitrile	
Scan Number	: 396	
Retention Time (minutes)	: 4.001	
Quant Ion	: 41.00	
Area	: 57237	
On-column Amount (ng)	: 18.0272	
Integration start scan	: 383	Integration stop scan: 428
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 13:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:17

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compound Number	: 26	
Compound Name	: t-Butyl Alcohol-d10	
Scan Number	: 440	
Retention Time (minutes)	: 4.269	
Quant Ion	: 65.00	
Area (flag)	: 103453M	
On-Column Amount (ng)	: 50.0000	
Integration start scan	: 408	Integration stop scan: 558
Y at integration start	: 0	Y at integration end: 0

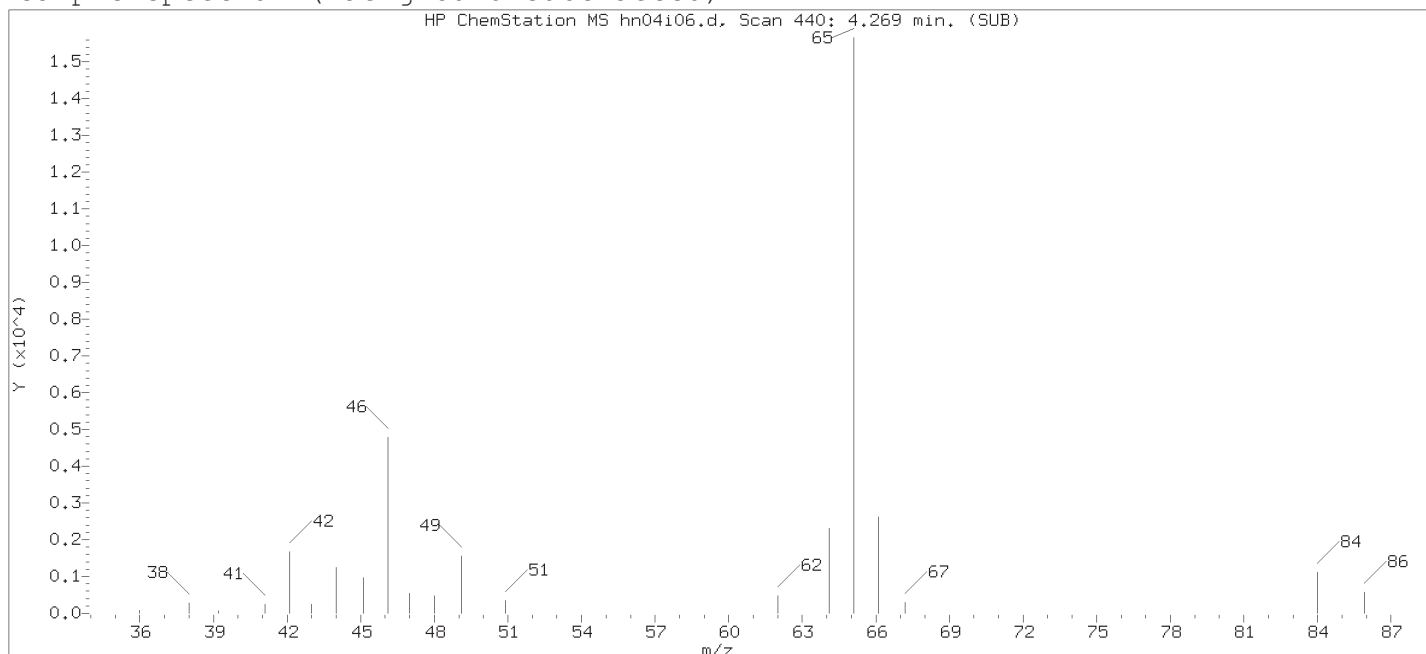
Reason for manual integration: improper integration

Analyst responsible for change:

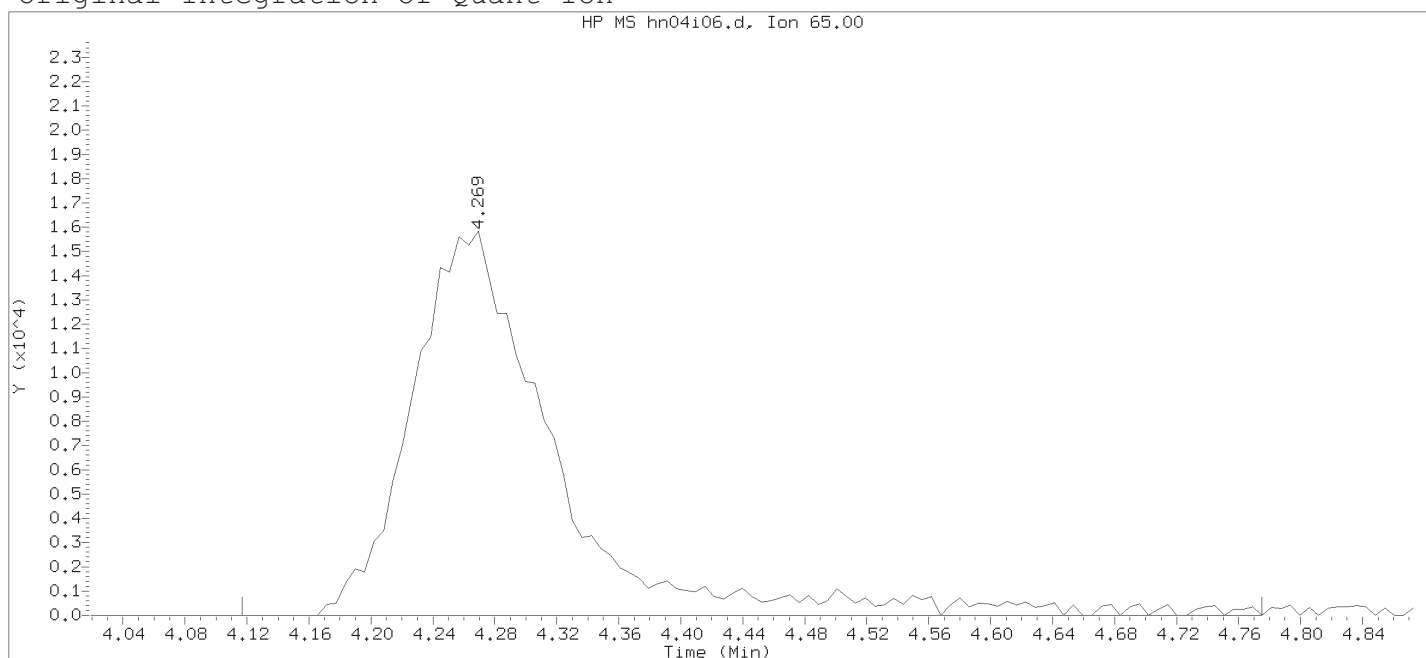
Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 13:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:03

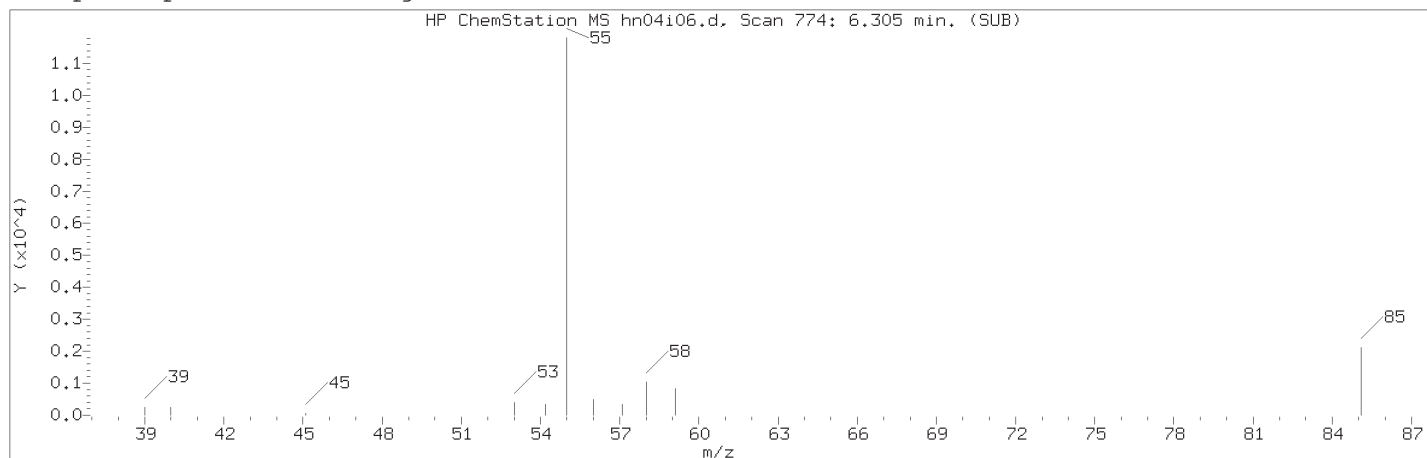
Date, time and analyst ID of latest file update: 04-Nov-2016 15:04 kel01973

Sample Name: VSTD0.5

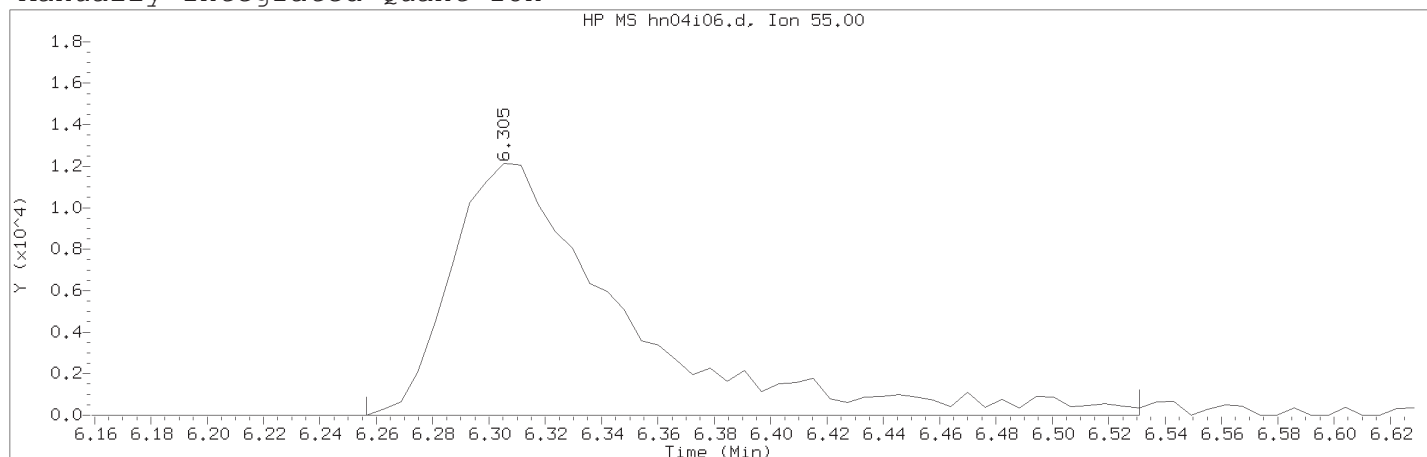
Lab Sample ID: VSTD0.5

Compound Number	: 26	
Compound Name	: t-Butyl Alcohol-d10	
Scan Number	: 440	
Retention Time (minutes)	: 4.269	
Quant Ion	: 65.00	
Area	: 101650	
On-column Amount (ng)	: 50.0000	
Integration start scan	: 414	Integration stop scan: 522
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 13:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:17

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compound Number	: 43	
Compound Name	: Methyl Acrylate	
Scan Number	: 774	
Retention Time (minutes)	: 6.305	
Quant Ion	: 55.00	
Area (flag)	: 51695M	
On-Column Amount (ng)	: 2.0890	
Integration start scan	: 765	Integration stop scan: 810
Y at integration start	: 0	Y at integration end: 0

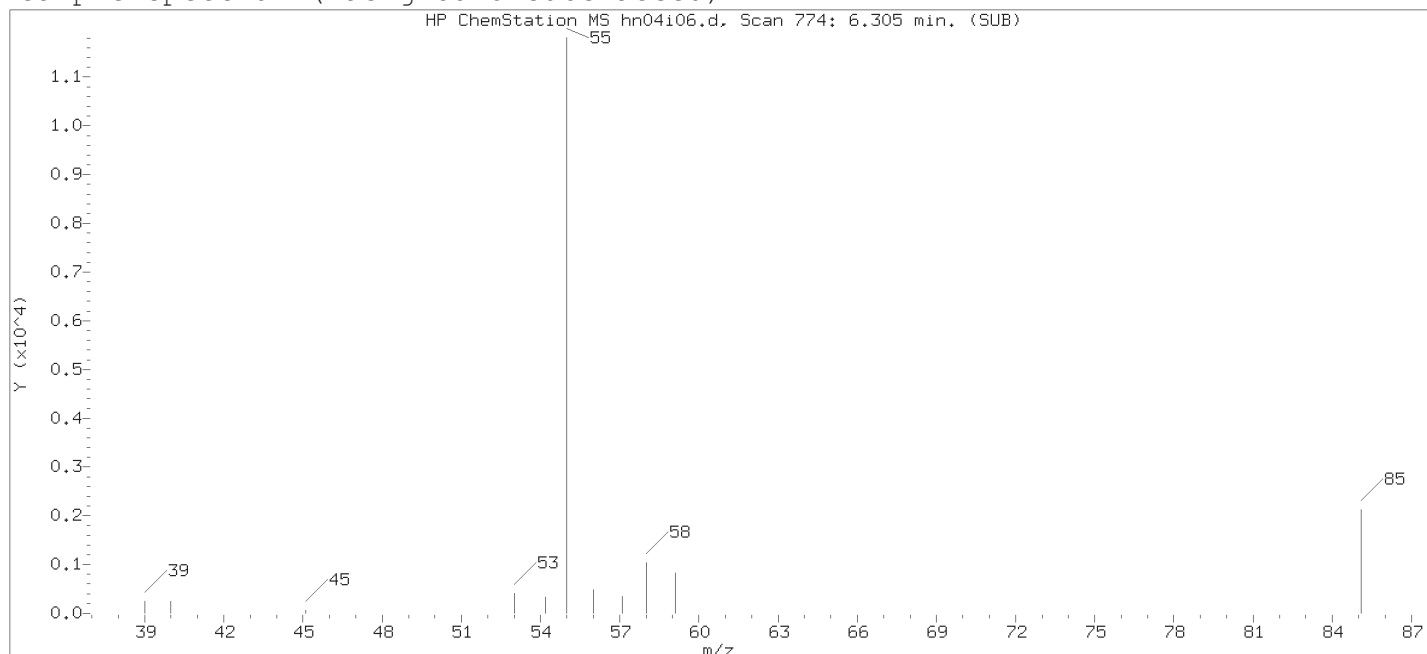
Reason for manual integration: improper integration

Analyst responsible for change:

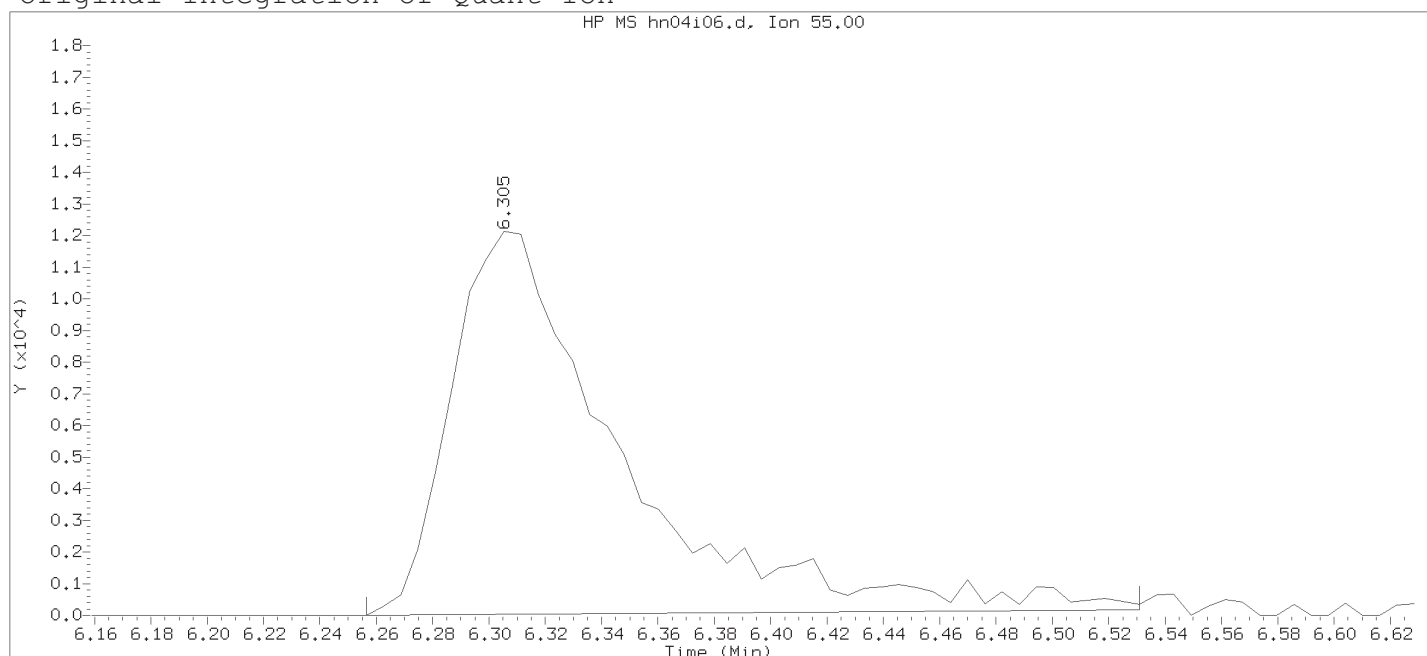
Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 13:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:03

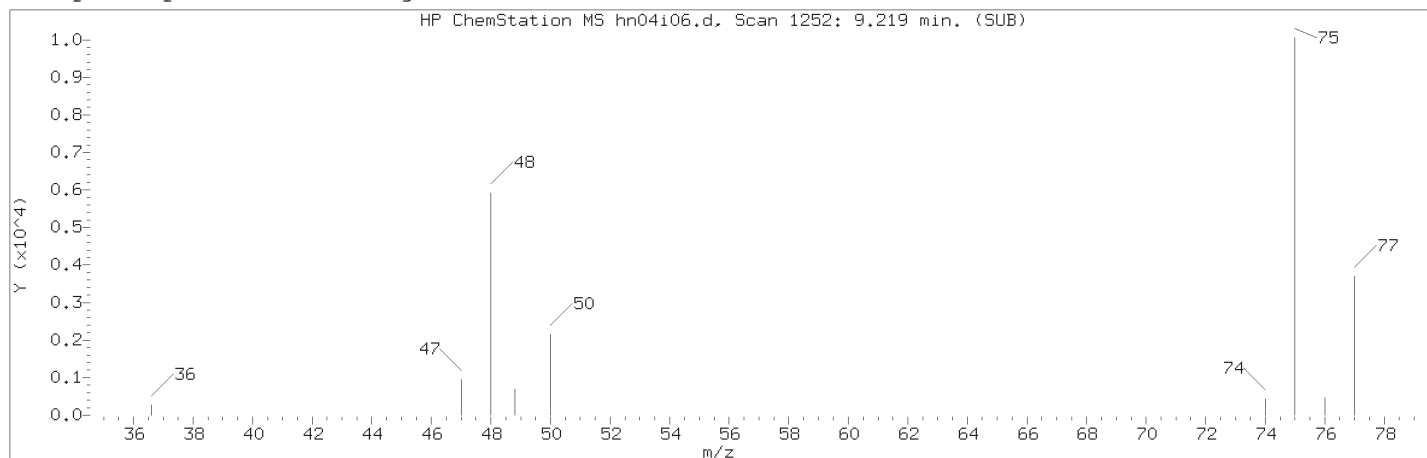
Date, time and analyst ID of latest file update: 04-Nov-2016 15:04 kel01973

Sample Name: VSTD0.5

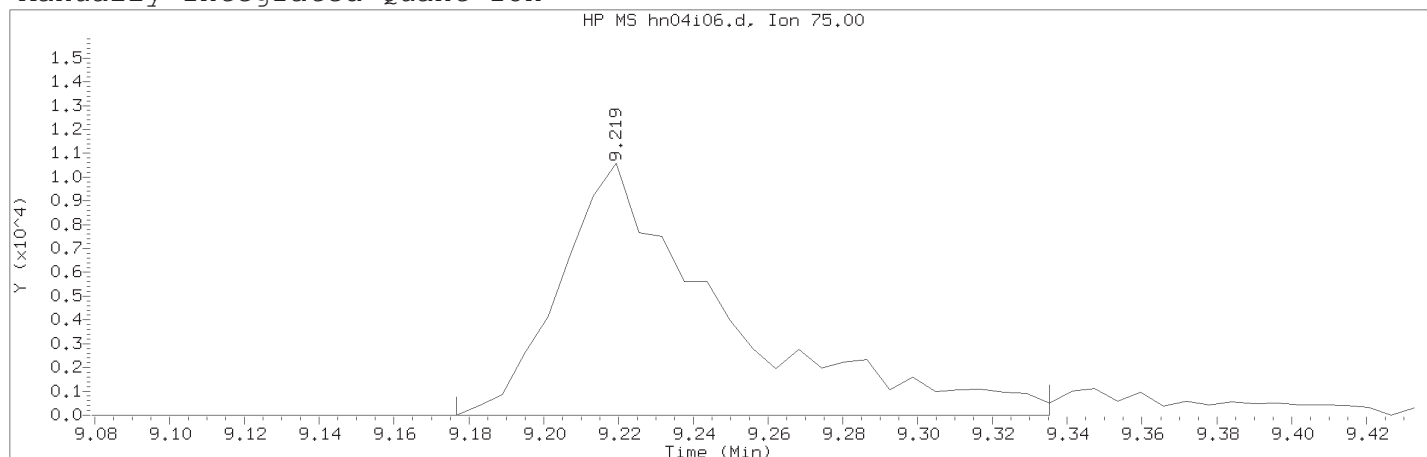
Lab Sample ID: VSTD0.5

Compound Number	: 43	
Compound Name	: Methyl Acrylate	
Scan Number	: 774	
Retention Time (minutes)	: 6.305	
Quant Ion	: 55.00	
Area	: 50233	
On-column Amount (ng)	: 2.1063	
Integration start scan	: 765	Integration stop scan: 810
Y at integration start	: 0	Y at integration end: 170

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 13:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:17

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compound Number	: 77	
Compound Name	: Chloroacetonitrile	
Scan Number	: 1252	
Retention Time (minutes)	: 9.219	
Quant Ion	: 75.00	
Area (flag)	: 31894M	
On-Column Amount (ng)	: 22.0125	
Integration start scan	: 1244	Integration stop scan: 1270
Y at integration start	: 0	Y at integration end: 0

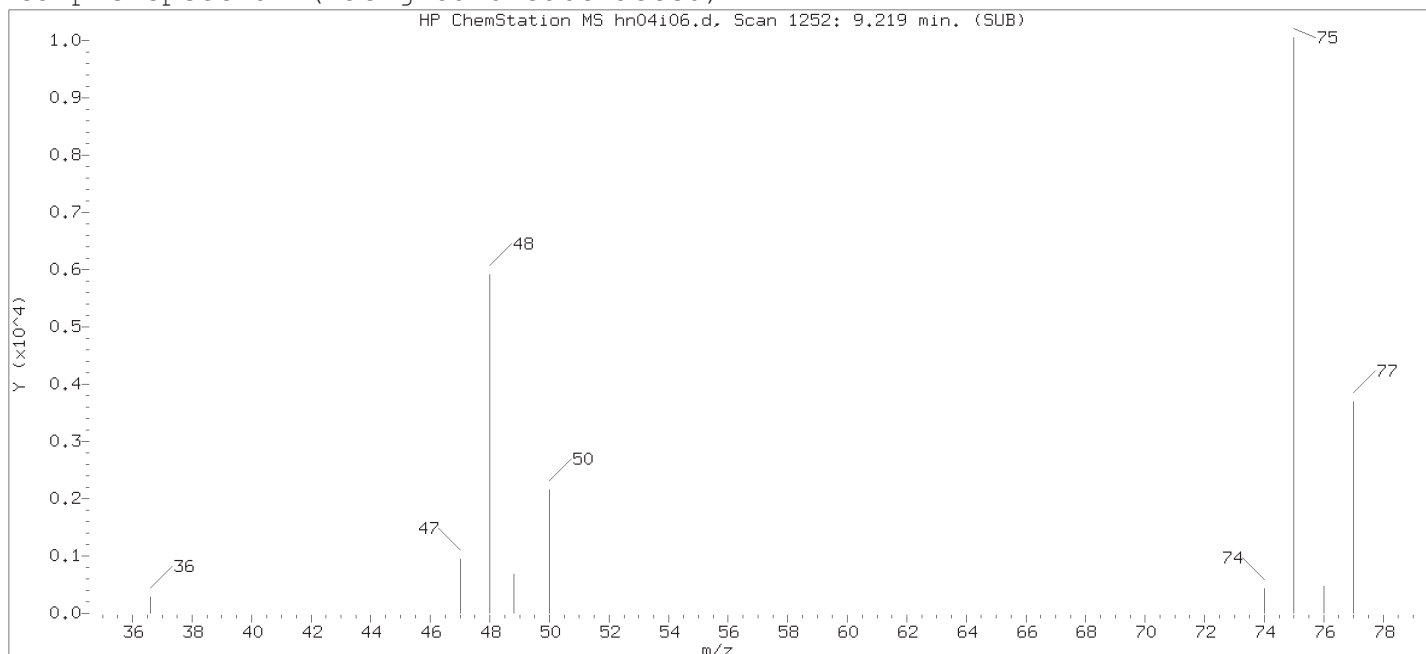
Reason for manual integration: improper integration

Analyst responsible for change:

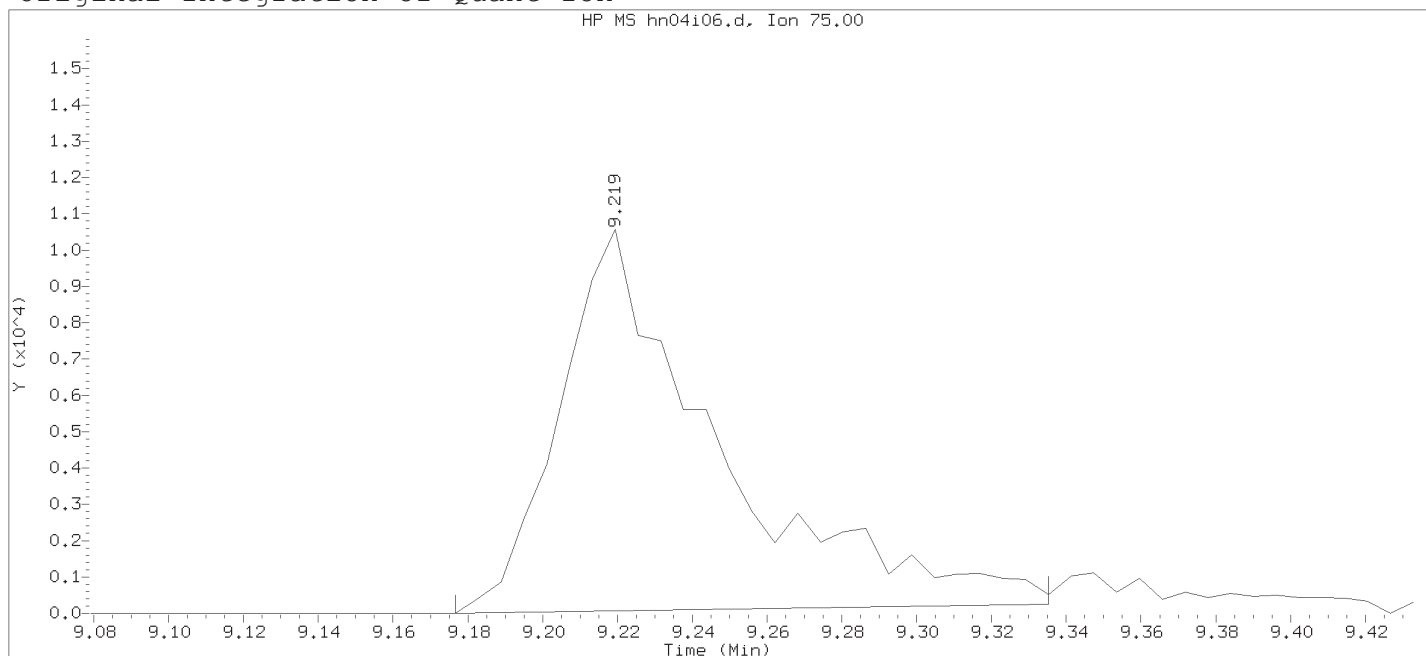
Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 13:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:03

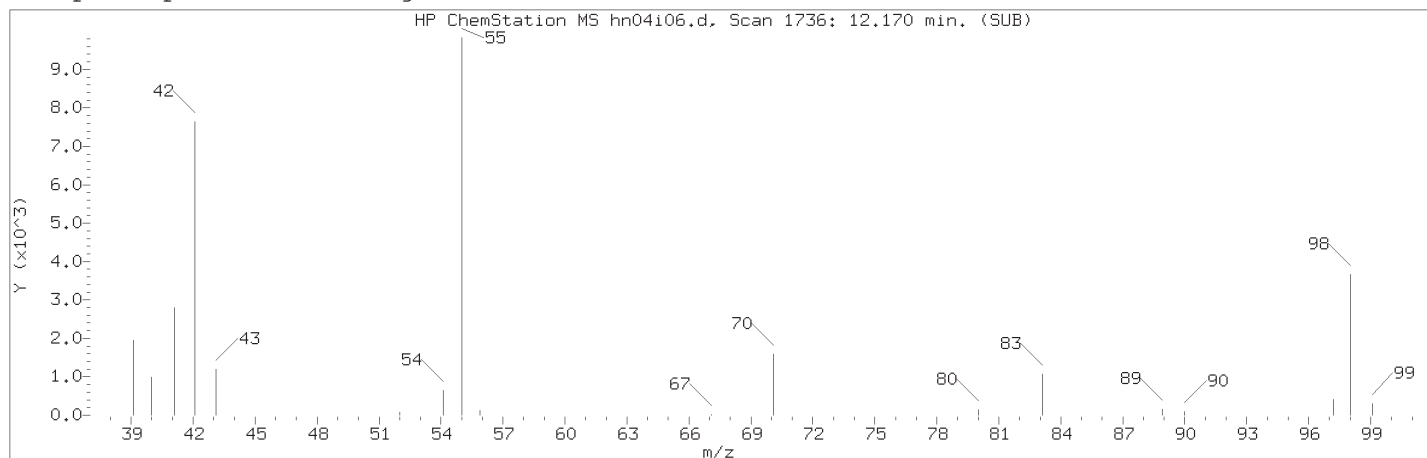
Date, time and analyst ID of latest file update: 04-Nov-2016 15:04 kel01973

Sample Name: VSTD0.5

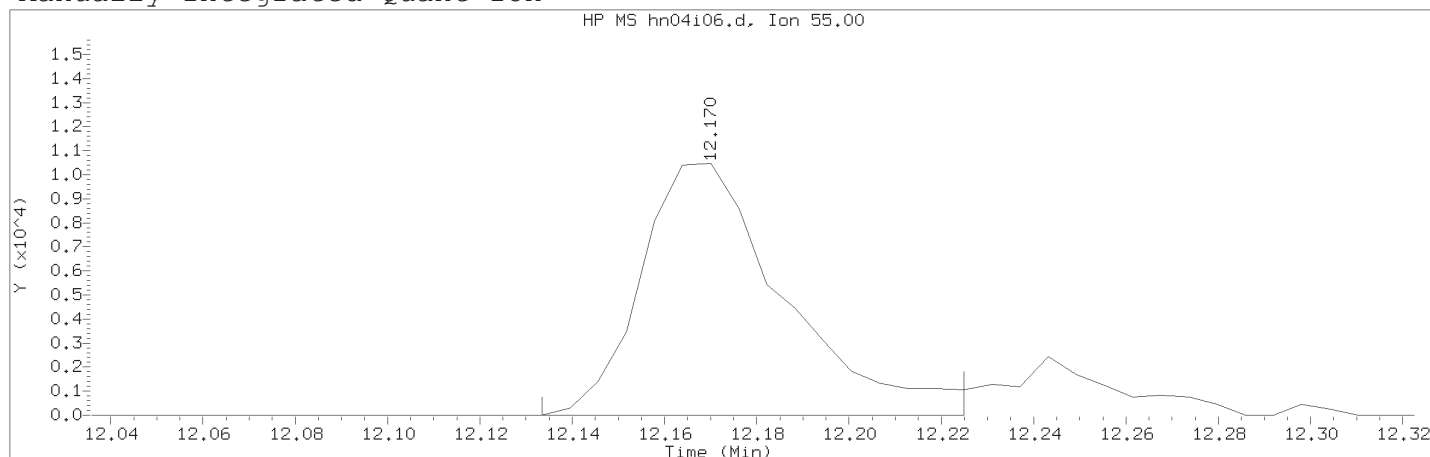
Lab Sample ID: VSTD0.5

Compound Number	: 77	
Compound Name	: Chloroacetonitrile	
Scan Number	: 1252	
Retention Time (minutes)	: 9.219	
Quant Ion	: 75.00	
Area	: 30588	
On-column Amount (ng)	: 21.3049	
Integration start scan	: 1244	Integration stop scan: 1270
Y at integration start	: 0	Y at integration end: 255

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 13:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:17

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compound Number	: 112	
Compound Name	: Cyclohexanone	
Scan Number	: 1736	
Retention Time (minutes)	: 12.170	
Quant Ion	: 55.00	
Area (flag)	: 22726M	
On-Column Amount (ng)	: 19.4691	
Integration start scan	: 1729	Integration stop scan: 1744
Y at integration start	: 0	Y at integration end: 0

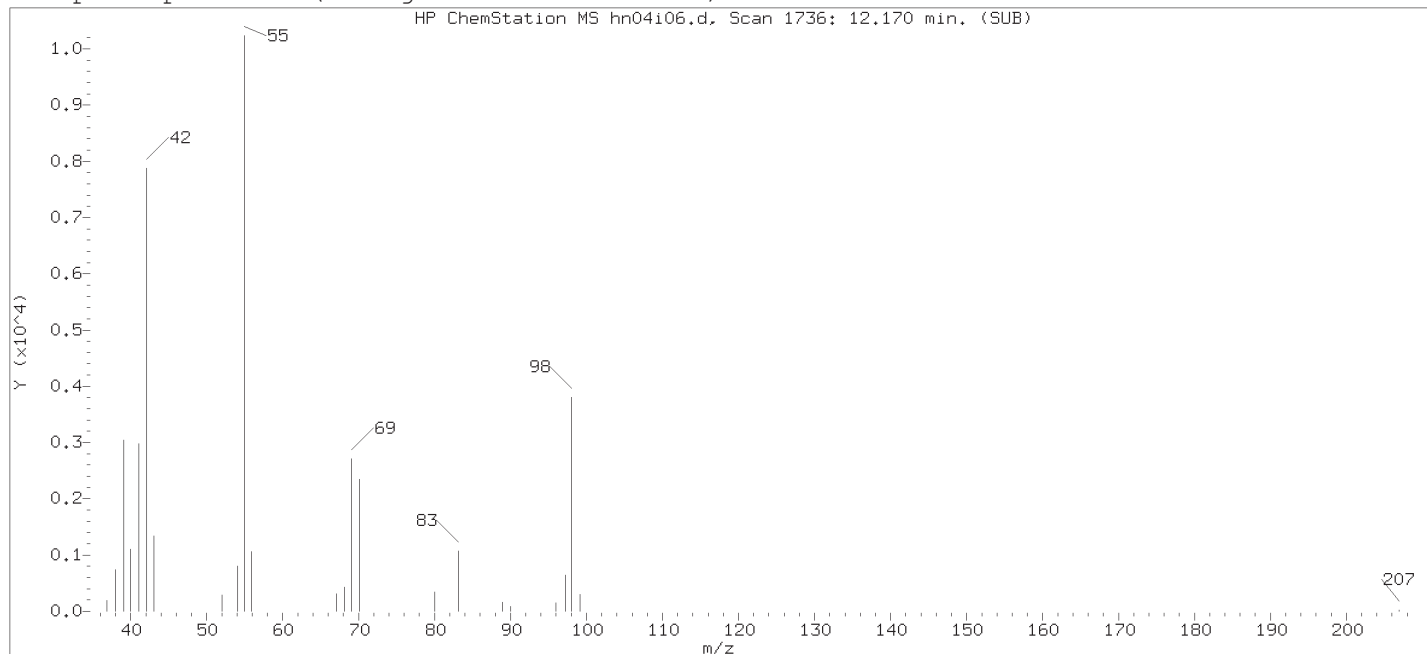
Reason for manual integration: improper integration

Analyst responsible for change:

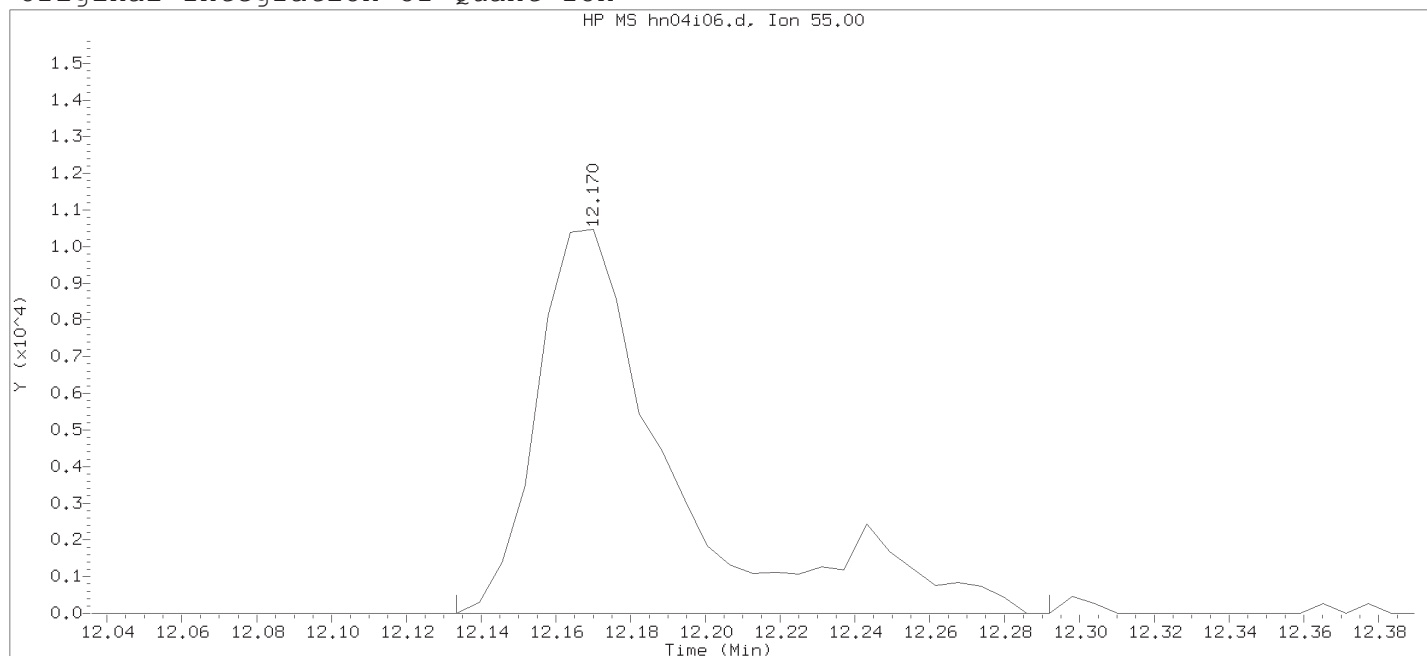
Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i06.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 13:34

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:03

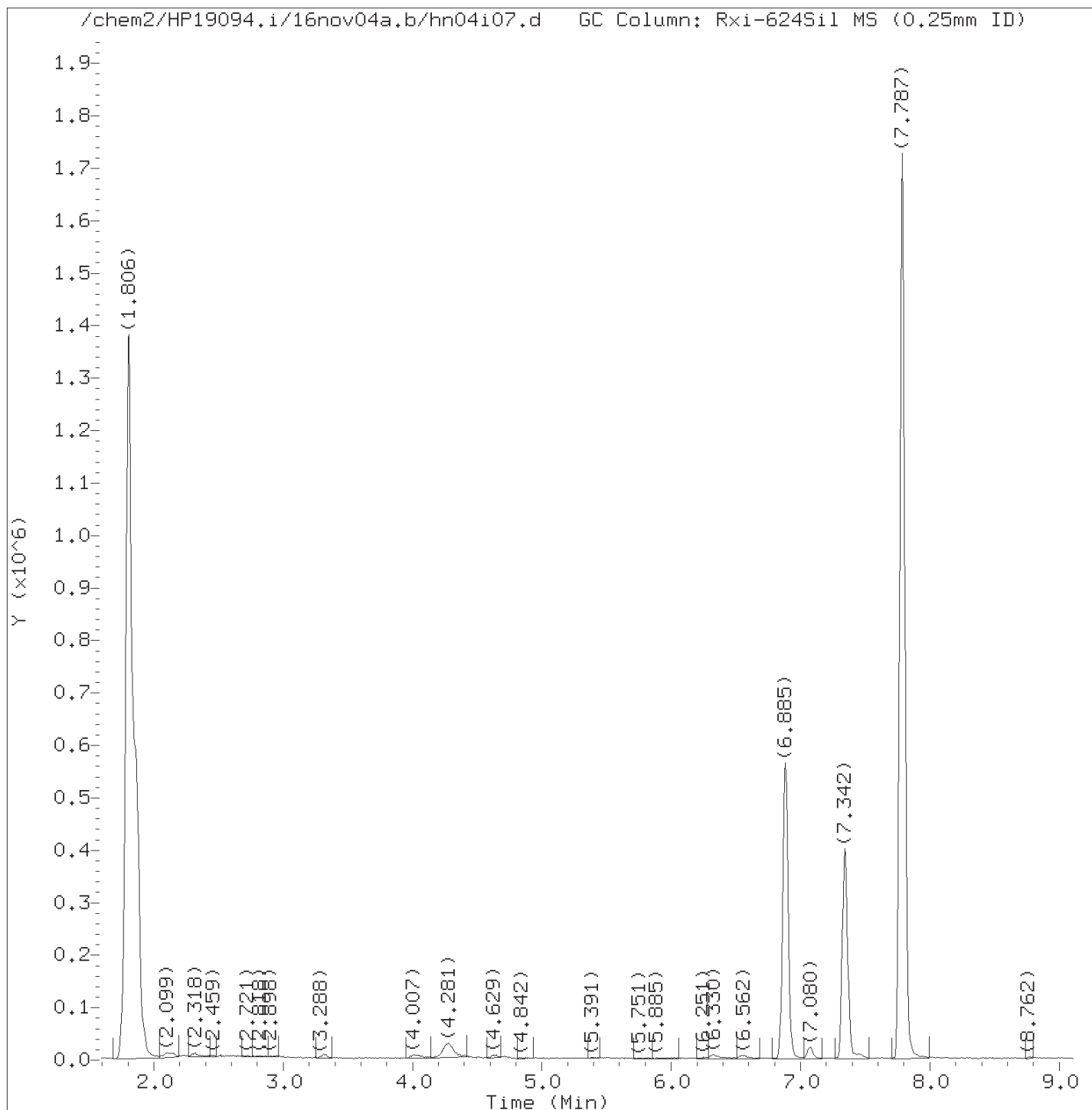
Date, time and analyst ID of latest file update: 04-Nov-2016 15:04 kel01973

Sample Name: VSTD0.5

Lab Sample ID: VSTD0.5

Compound Number : 112
 Compound Name : Cyclohexanone
 Scan Number : 1736
 Retention Time (minutes) : 12.170
 Quant Ion : 55.00
 Area : 26597
 On-column Amount (ng) : 22.0765
 Integration start scan : 1729
 Y at integration start : 0

Integration stop scan: 1755
 Y at integration end: 0



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04i07.d
Injection date and time: 04-NOV-2016 13:54

Instrument ID: HP19094.i
Analyst ID: kel01973

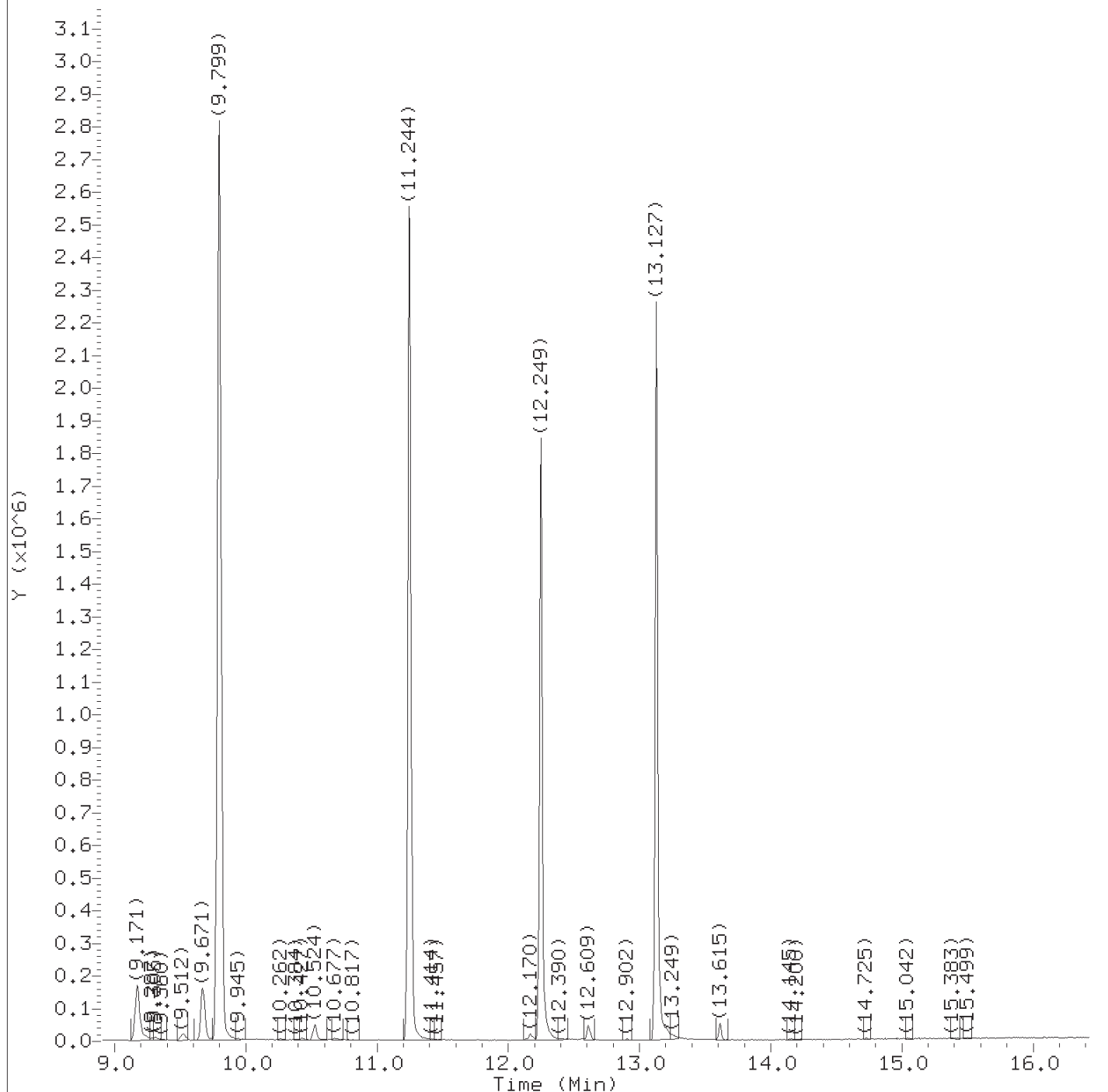
Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 04-NOV-2016 15:17
Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.

Target 3.5 esignature user ID: kel01973
RAE76 Page 500 of 883



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04i07.d
Injection date and time: 04-NOV-2016 13:54

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m
Calibration date and time: 04-NOV-2016 15:17

Sublist used: SMICAL

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.

Target 3.5 esignature User ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04i07.d
Injection date and time: 04-NOV-2016 13:54

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 04-NOV-2016 15:17
Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.099	45	18486	0.258
25) Acetonitrile	(1)	4.025	41	33362M	9.647
26)*t-Butyl Alcohol-d10	(1)	4.257	65	89377	50.000
36) Vinyl Acetate	(2)	5.397	43	10099	0.153
43) Methyl Acrylate	(2)	6.324	55	20028	0.845
53) 1-Chlorobutane	(2)	7.080	56	21952	0.188
63)*Fluorobenzene	(2)	7.787	96	2202196	10.000
77) Chloroacetonitrile	(2)	9.232	75	12992	9.366
78) 2-Chloroethyl vinyl ether	(2)	9.305	63	4076	0.179
97)*Chlorobenzene-d5	(3)	11.244	117	1442473	10.000
109) cis-1,4-Dichloro-2-butene	(1)	12.134	88	1507	0.238
112) Cyclohexanone	(1)	12.170	55	8202	8.133
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	598038	10.000
142) Hexachloroethane	(4)	13.609	117	8454	0.199

M = Compound was manually integrated.

* = Compound is an internal standard.

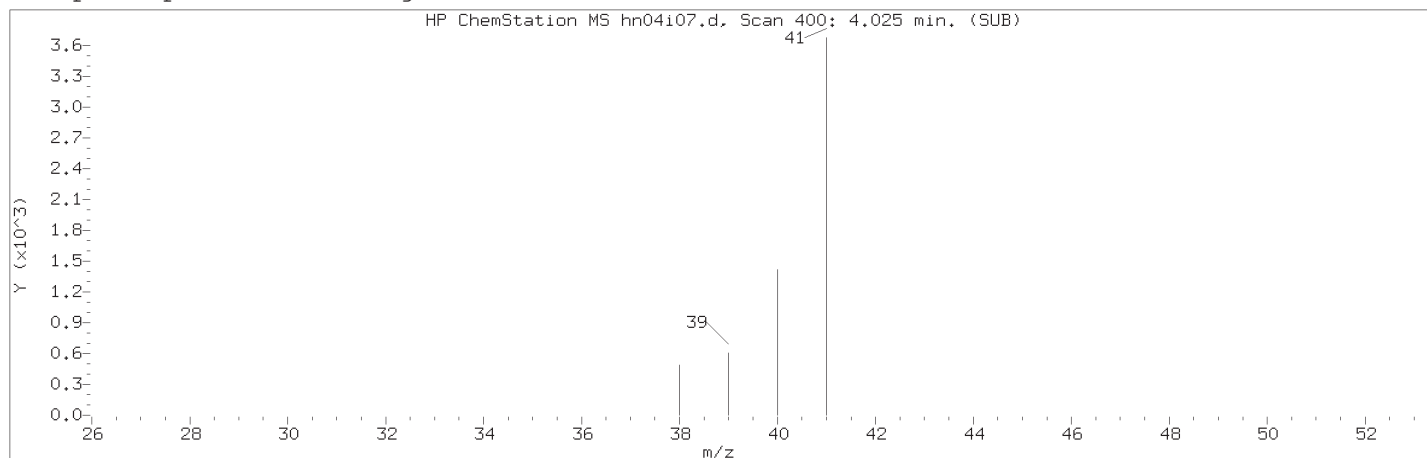
page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.

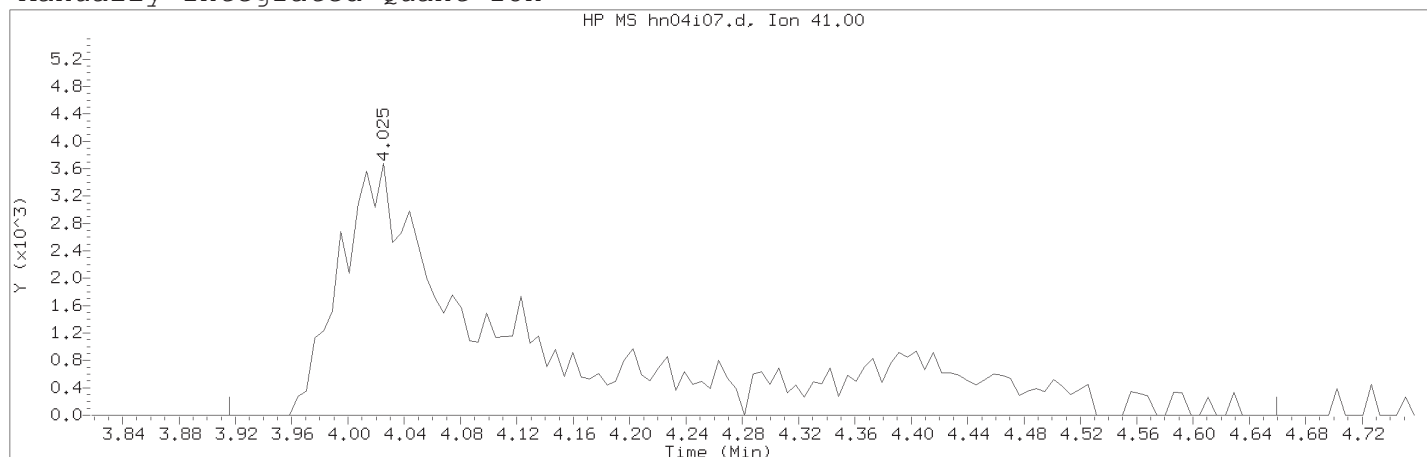
Target 3.5 esignature user ID: kel01973

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Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 13:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 04-NOV-2016 15:17

Date, time and analyst ID of latest file update: 04-Nov-2016 15:17 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number	: 25	
Compound Name	: Acetonitrile	
Scan Number	: 400	
Retention Time (minutes)	: 4.025	
Quant Ion	: 41.00	
Area (flag)	: 33362M	
On-Column Amount (ng)	: 9.6467	
Integration start scan	: 381	Integration stop scan: 503
Y at integration start	: 0	Y at integration end: 0

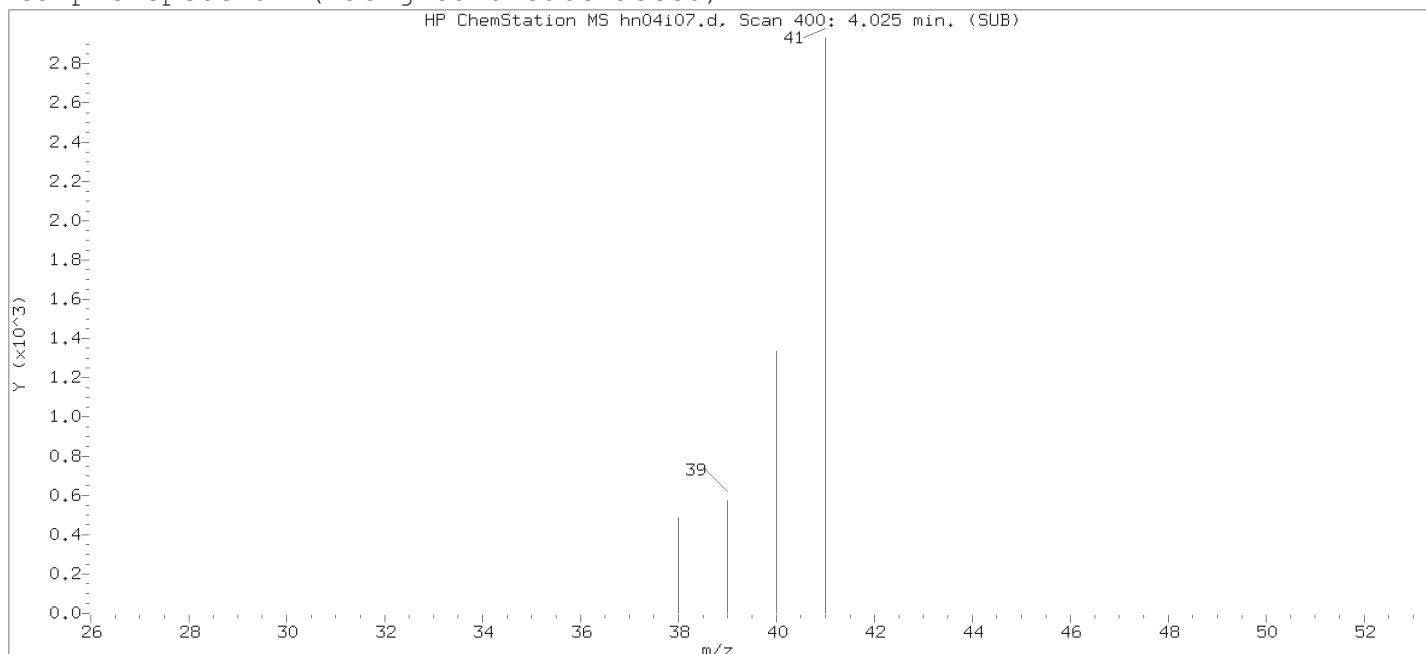
Reason for manual integration: improper integration

Analyst responsible for change:

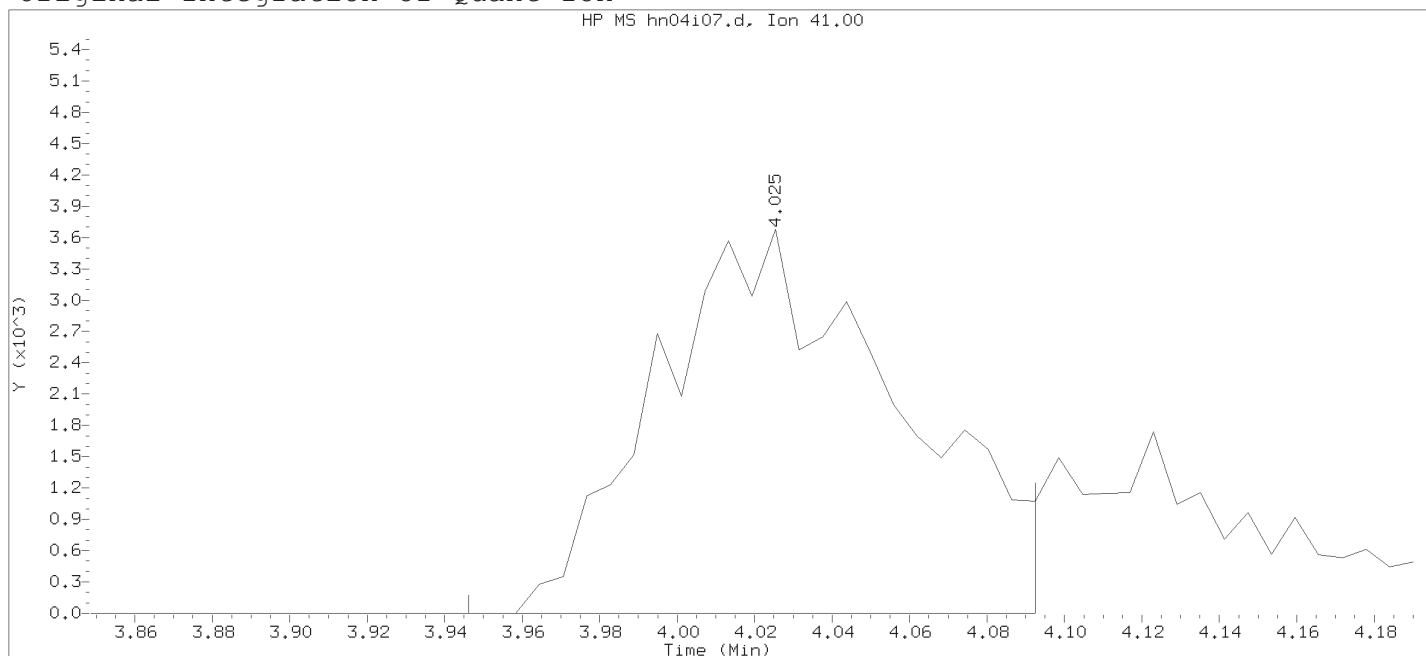
Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:18.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04i07.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 13:54

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMICAL

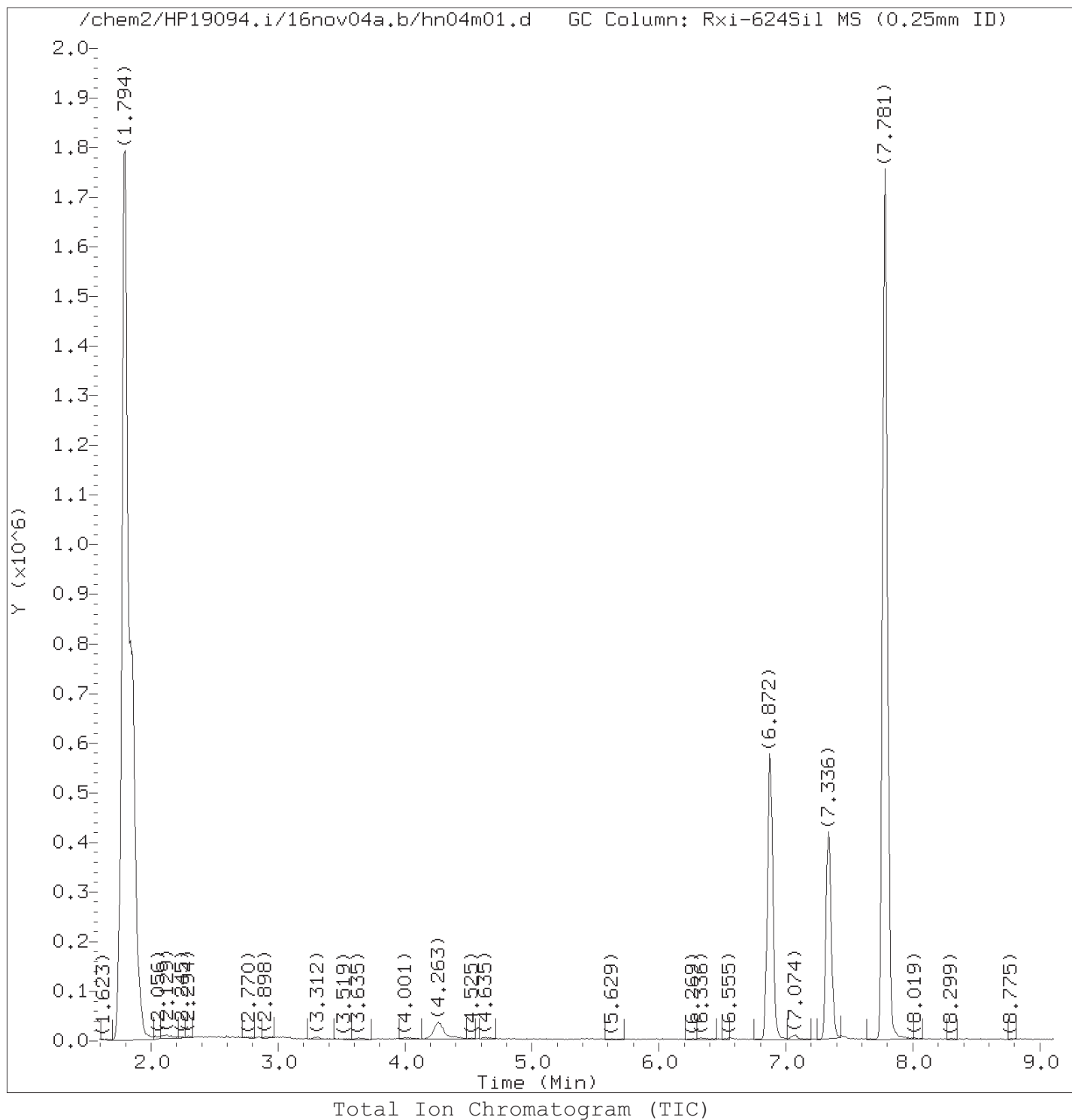
Calibration date and time: 04-NOV-2016 15:04

Date, time and analyst ID of latest file update: 04-Nov-2016 15:04 kel01973

Sample Name: VSTD0.2

Lab Sample ID: VSTD0.2

Compound Number	: 25	
Compound Name	: Acetonitrile	
Scan Number	: 400	
Retention Time (minutes)	: 4.025	
Quant Ion	: 41.00	
Area	: 15885	
On-column Amount (ng)	: 5.8901	
Integration start scan	: 386	Integration stop scan: 410
Y at integration start	: 0	Y at integration end: 0



Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04m01.d
Injection date and time: 04-NOV-2016 14:15

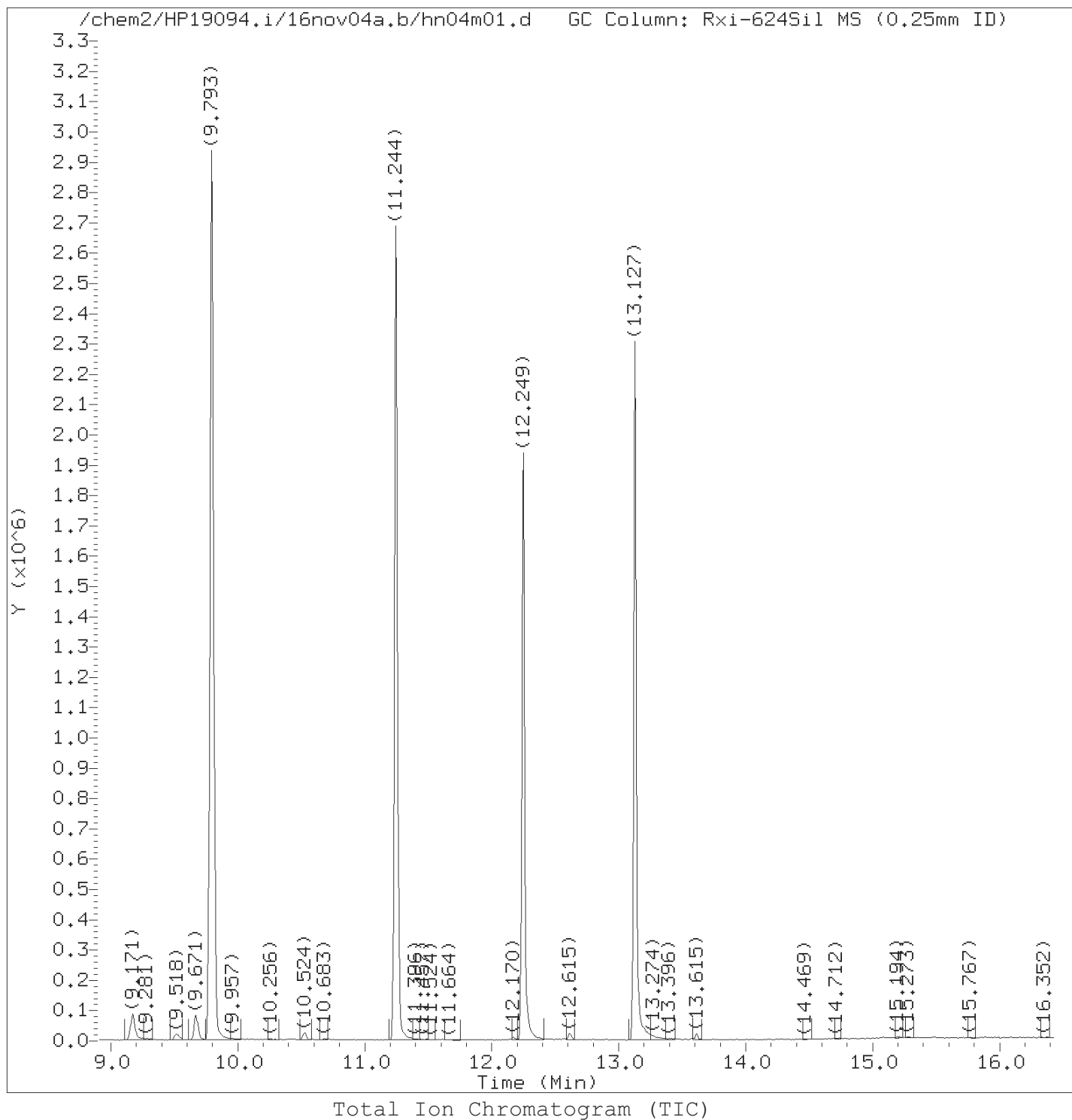
Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 04-NOV-2016 15:25
Date, time and analyst ID of latest file update: 04-Nov-2016 15:27 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:27.
Target 3.5 esignature User ID: kel01973



Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04m01.d
Injection date and time: 04-NOV-2016 14:15

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 04-NOV-2016 15:25
Date, time and analyst ID of latest file update: 04-Nov-2016 15:27 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:27.
Target 3.5 esignature User ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04m01.d
Injection date and time: 04-NOV-2016 14:15

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 04-NOV-2016 15:25
Date, time and analyst ID of latest file update: 04-Nov-2016 15:27 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.105	45	8650	0.118
25) Acetonitrile	(1)	4.025	41	11482M	2.991
26)*t-Butyl Alcohol-d10	(1)	4.263	65	99222	50.000
36) Vinyl Acetate	(2)	5.403	43	4767	0.071
43) Methyl Acrylate	(2)	6.324	55	8544	0.352
50)\$Dibromofluoromethane	(2)	6.872	113	510167	0.000
53) 1-Chlorobutane	(2)	7.074	56	9766	0.082
57)\$1,2-Dichloroethane-d4	(2)	7.336	102	88742	0.000
63)*Fluorobenzene	(2)	7.781	96	2254705	10.000
77) Chloroacetonitrile	(2)	9.244	75	5104	3.594
78) 2-Chloroethyl vinyl ether	(2)	9.317	63	1516	0.065
82)\$Toluene-d8	(3)	9.793	98	2248953	0.000
97)*Chlorobenzene-d5	(3)	11.244	117	1503507	10.000
109) cis-1,4-Dichloro-2-butene	(1)	12.134	88	793	0.679
112) Cyclohexanone	(1)	12.170	55	4399M	3.929
111)\$4-Bromofluorobenzene	(3)	12.249	95	627594	0.000
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	617894	10.000
142) Hexachloroethane	(4)	13.609	117	3632	0.083

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

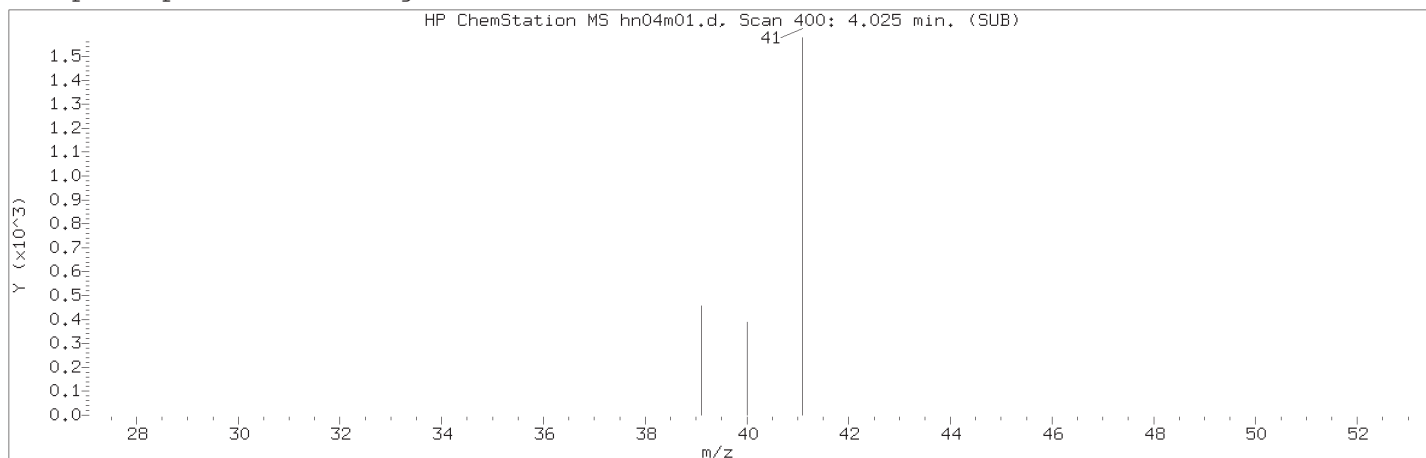
page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:27.

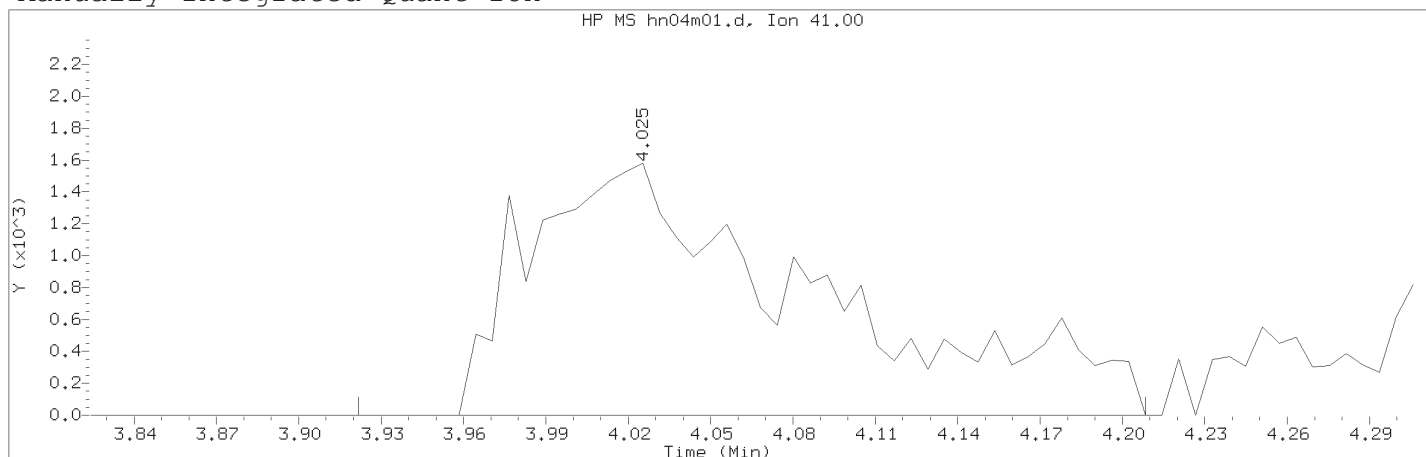
Target 3.5 esignature user ID: kel01973

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Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 14:15

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMQC

Calibration date and time: 04-NOV-2016 15:25

Date, time and analyst ID of latest file update: 04-Nov-2016 15:27 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number	: 25	
Compound Name	: Acetonitrile	
Scan Number	: 400	
Retention Time (minutes)	: 4.025	
Quant Ion	: 41.00	
Area (flag)	: 11482M	
On-Column Amount (ng)	: 2.9906	
Integration start scan	: 382	Integration stop scan: 429
Y at integration start	: 0	Y at integration end: 0

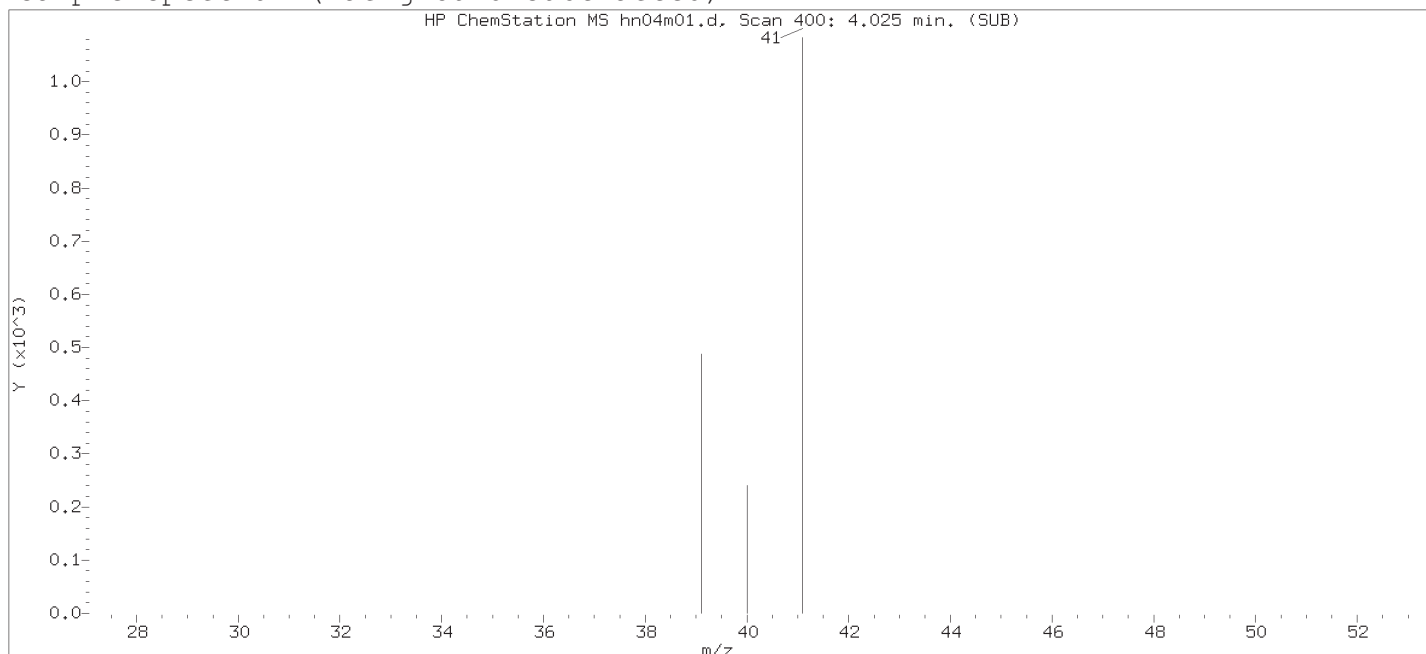
Reason for manual integration: improper integration

Analyst responsible for change:

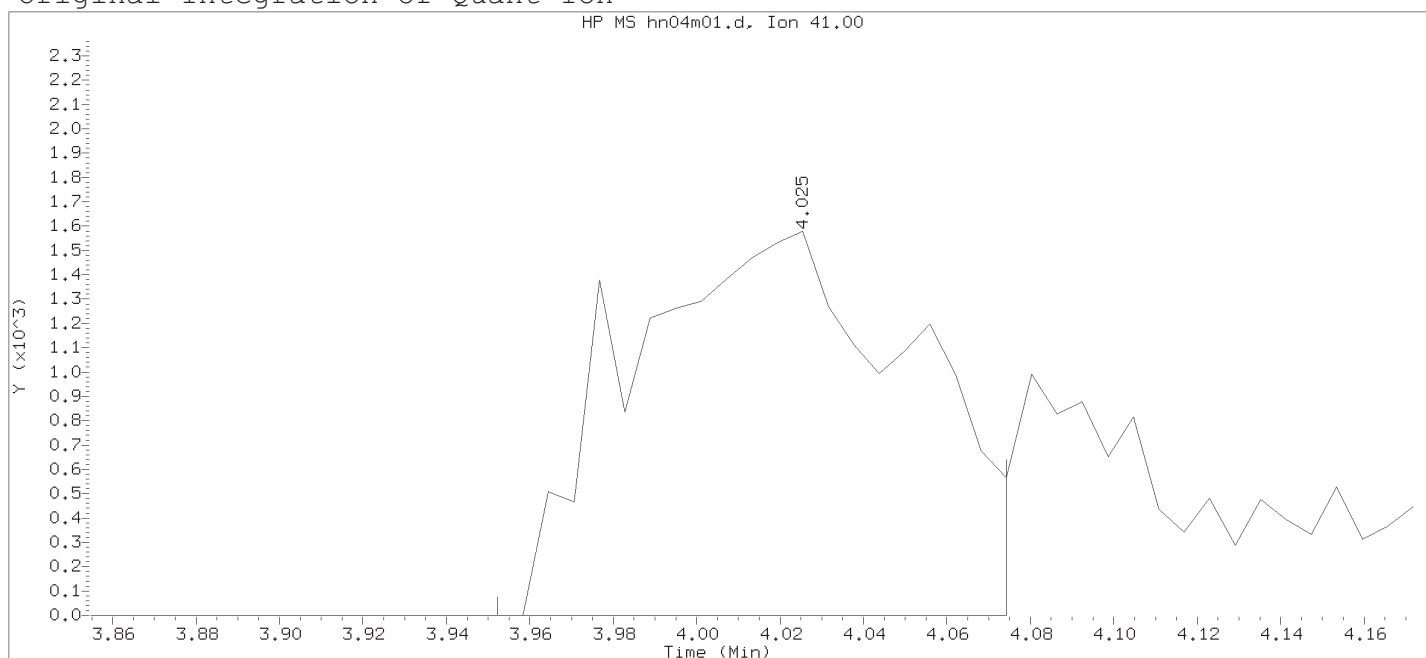
Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:27.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 14:15

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMQC

Calibration date and time: 04-NOV-2016 15:18

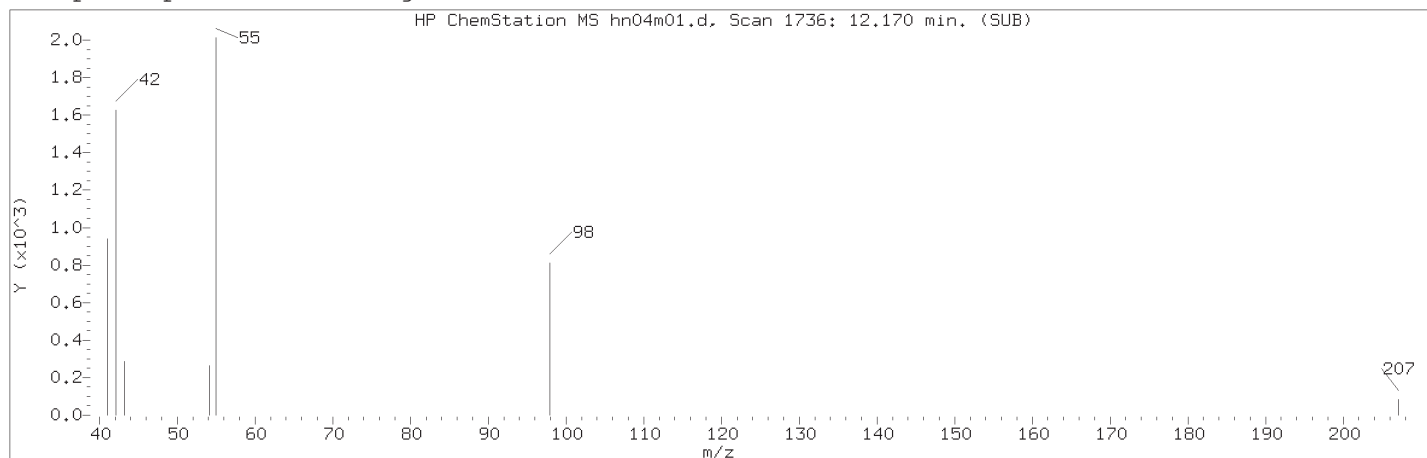
Date, time and analyst ID of latest file update: 04-Nov-2016 15:18 kel01973

Sample Name: MDL0.1

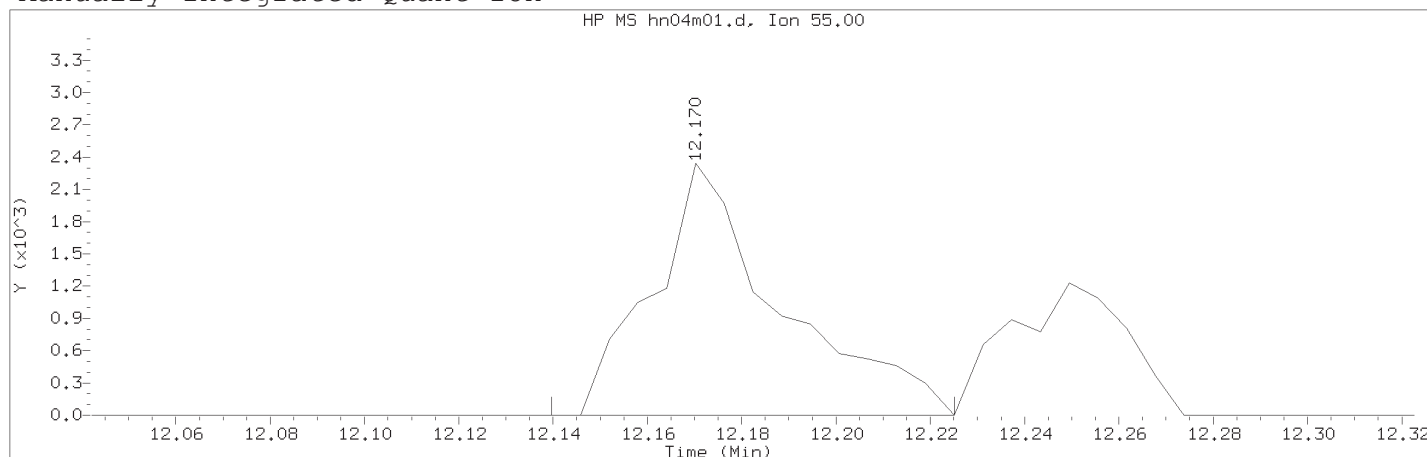
Lab Sample ID: MDL0.1

Compound Number	: 25	
Compound Name	: Acetonitrile	
Scan Number	: 400	
Retention Time (minutes)	: 4.025	
Quant Ion	: 41.00	
Area	: 7511	
On-column Amount (ng)	: 1.9563	
Integration start scan	: 387	Integration stop scan: 407
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 14:15

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMQC

Calibration date and time: 04-NOV-2016 15:25

Date, time and analyst ID of latest file update: 04-Nov-2016 15:27 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number	: 112	
Compound Name	: Cyclohexanone	
Scan Number	: 1736	
Retention Time (minutes)	: 12.170	
Quant Ion	: 55.00	
Area (flag)	: 4399M	
On-Column Amount (ng)	: 3.9293	
Integration start scan	: 1730	Integration stop scan: 1744
Y at integration start	: 0	Y at integration end: 0

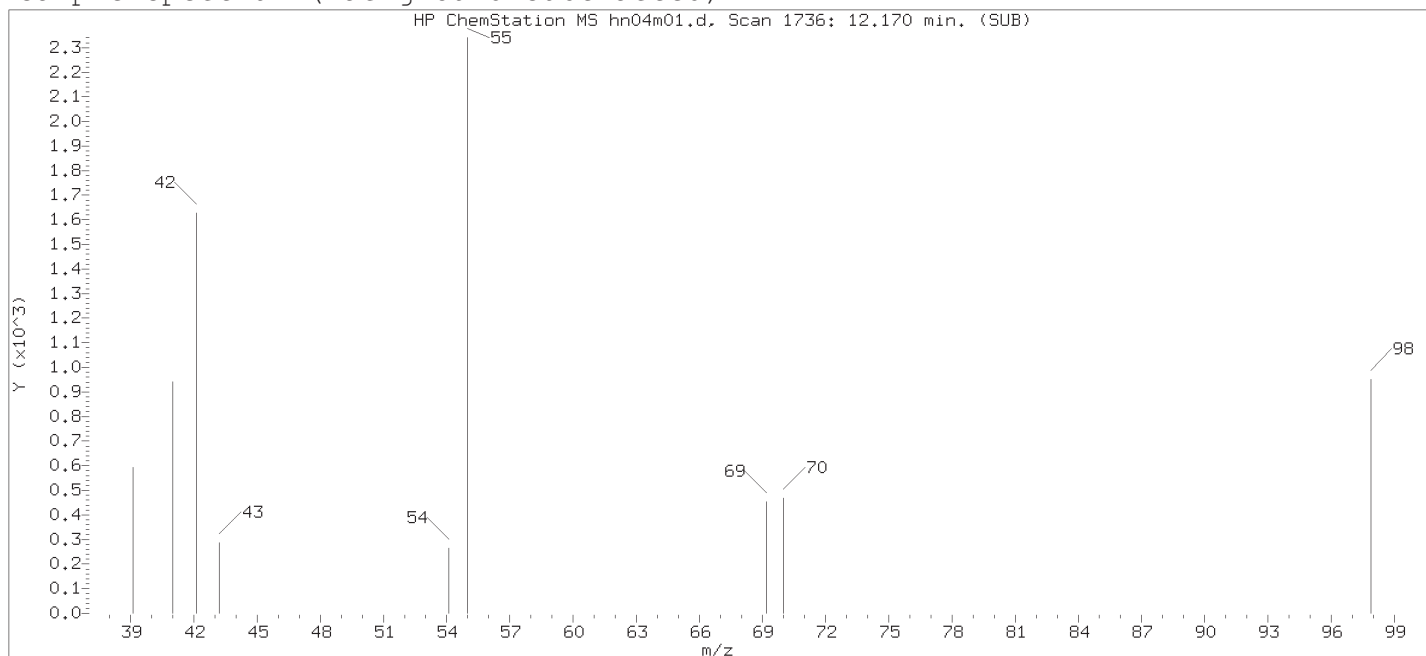
Reason for manual integration: improper integration

Analyst responsible for change:

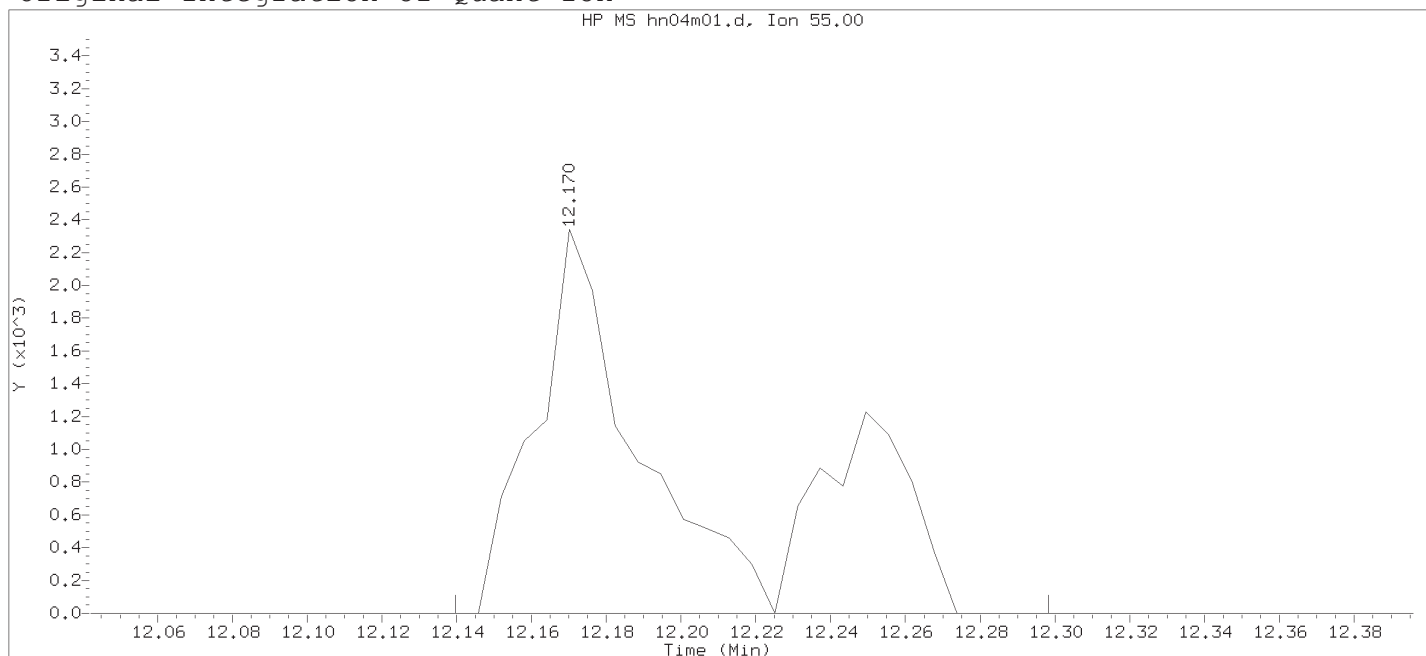
Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:27.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04m01.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 14:15

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMQC

Calibration date and time: 04-NOV-2016 15:18

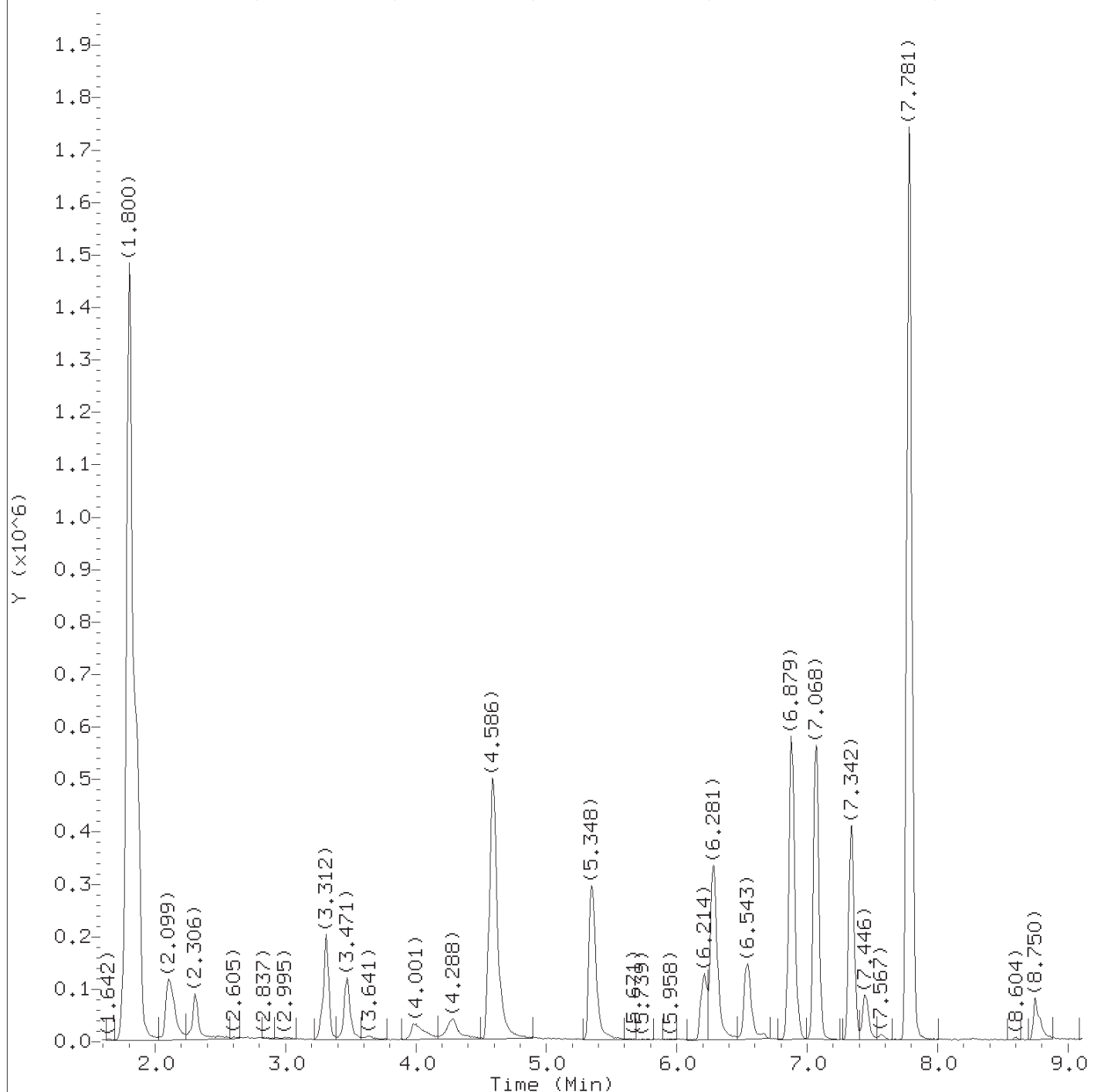
Date, time and analyst ID of latest file update: 04-Nov-2016 15:18 kel01973

Sample Name: MDL0.1

Lab Sample ID: MDL0.1

Compound Number : 112
 Compound Name : Cyclohexanone
 Scan Number : 1736
 Retention Time (minutes) : 12.170
 Quant Ion : 55.00
 Area : 6526
 On-column Amount (ng) : 5.8295
 Integration start scan : 1730
 Y at integration start : 0

Integration stop scan: 1756
 Y at integration end: 0



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04103a.d
Injection date and time: 04-NOV-2016 14:36

Instrument ID: HP19094.i
Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m
Calibration date and time: 04-NOV-2016 15:25

Sublist used: SMQC

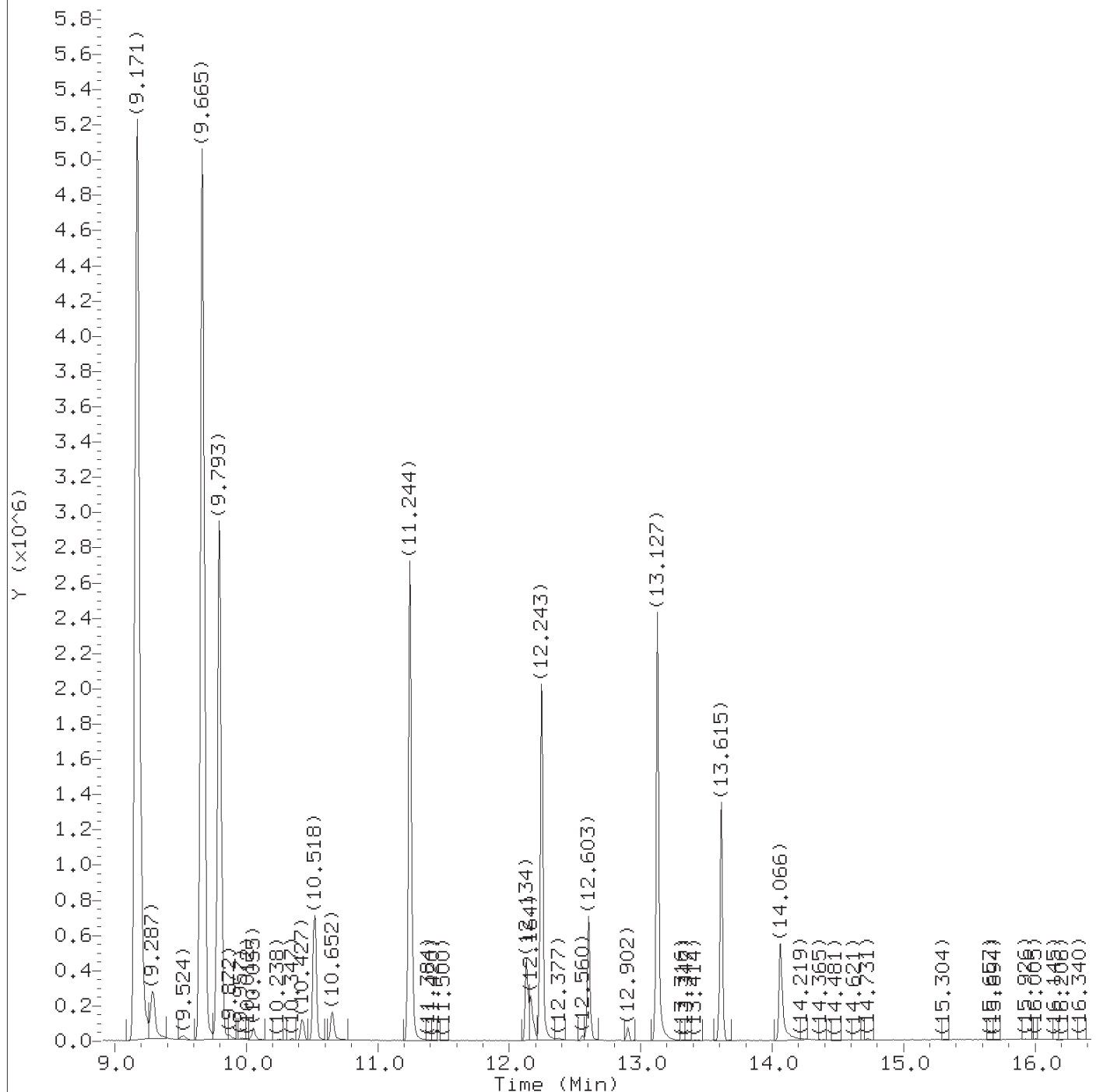
Date, time and analyst ID of latest file update: 04-Nov-2016 15:29 kel01973

Sample Name: LCSHSM

Lab Sample ID: LCSHSM

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:30.

Target 3.5 esignature user ID: kel01973
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Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04103a.d
Injection date and time: 04-NOV-2016 14:36

Instrument ID: HP19094.i
Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m
Calibration date and time: 04-NOV-2016 15:25

Sublist used: SMQC

Date, time and analyst ID of latest file update: 04-Nov-2016 15:29 kel01973

Sample Name: LCSHSM

Lab Sample ID: LCSHSM

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:30.

Target 3.5 esignature user ID: kel01973
RAE76 Page 513 of 883

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov04a.b/hn04103a.d Instrument ID: HP19094.i
Injection date and time: 04-NOV-2016 14:36 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 04-NOV-2016 15:25
Date, time and analyst ID of latest file update: 04-Nov-2016 15:29 kel01973

Sample Name: LCSHSM

Lab Sample ID: LCSHSM

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.099	45	357166M	4.866
25) Acetonitrile	(1)	3.995	41	152849M	43.382
26)*t-Butyl Alcohol-d10	(1)	4.263	65	91055	50.000
36) Vinyl Acetate	(2)	5.348	43	917895	13.570
43) Methyl Acrylate	(2)	6.281	55	697074	28.726
50)\$Dibromofluoromethane	(2)	6.879	113	511076	0.000
53) 1-Chlorobutane	(2)	7.074	56	646188	5.405
57)\$1,2-Dichloroethane-d4	(2)	7.342	102	85235	0.000
63)*Fluorobenzene	(2)	7.781	96	2255598	10.000
77) Chloroacetonitrile	(2)	9.207	75	353121	248.542
78) 2-Chloroethyl vinyl ether	(2)	9.287	63	126914	5.435
82)\$Toluene-d8	(3)	9.793	98	2269449	0.000
97)*Chlorobenzene-d5	(3)	11.244	117	1499415	10.000
109) cis-1,4-Dichloro-2-butene	(1)	12.134	88	104377	13.207
112) Cyclohexanone	(1)	12.164	55	119316M	116.135
111)\$4-Bromofluorobenzene	(3)	12.243	95	657964	0.000
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	635592	10.000
142) Hexachloroethane	(4)	13.615	117	232043	5.129

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

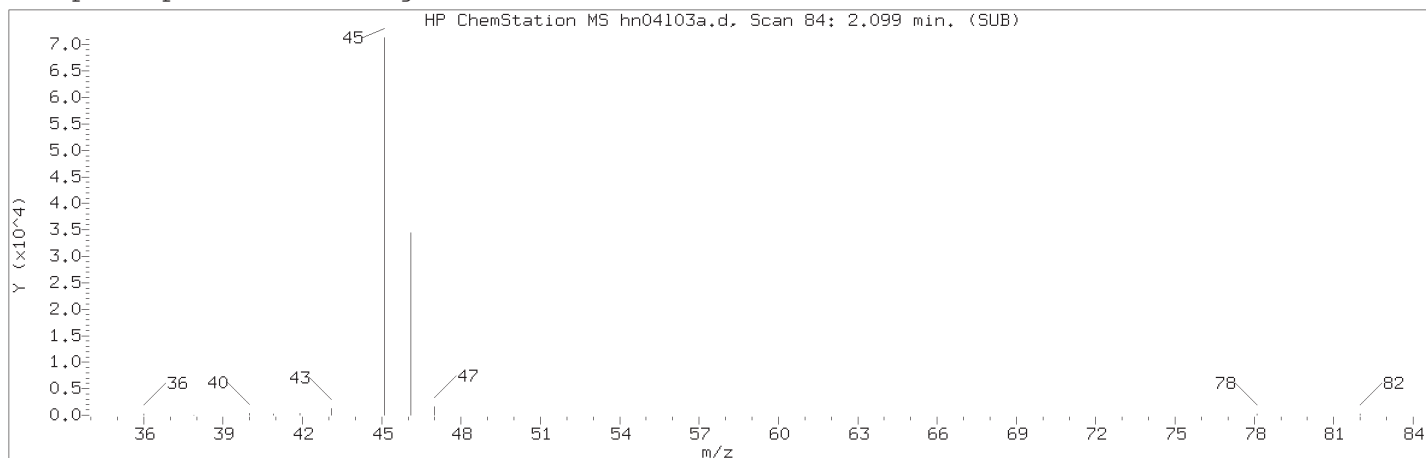
page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:30.

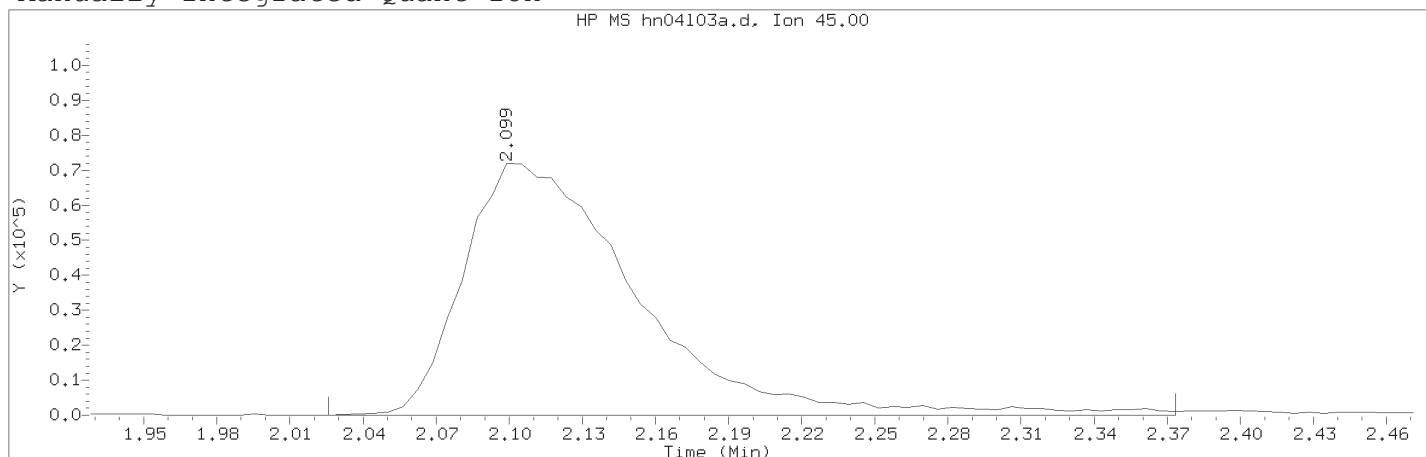
Target 3.5 esignature user ID: kel01973

RAE76 Page 514 of 883

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04103a.d Instrument ID: HP19094.i
Injection date and time: 04-NOV-2016 14:36 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 04-NOV-2016 15:25
Date, time and analyst ID of latest file update: 04-Nov-2016 15:29 kel01973

Sample Name: LCSHSM Lab Sample ID: LCSHSM

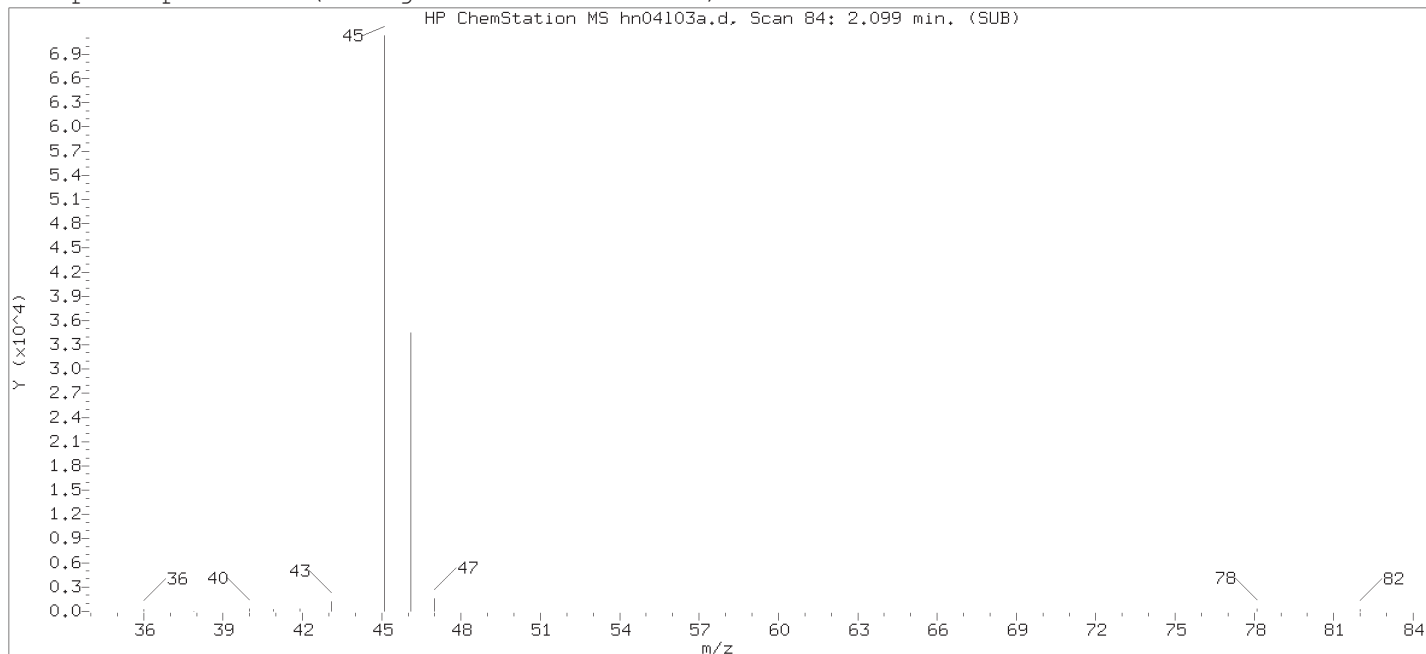
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 84
Retention Time (minutes): 2.099
Quant Ion : 45.00
Area (flag) : 357166M
On-Column Amount (ng) : 4.8658
Integration start scan : 71 Integration stop scan: 128
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

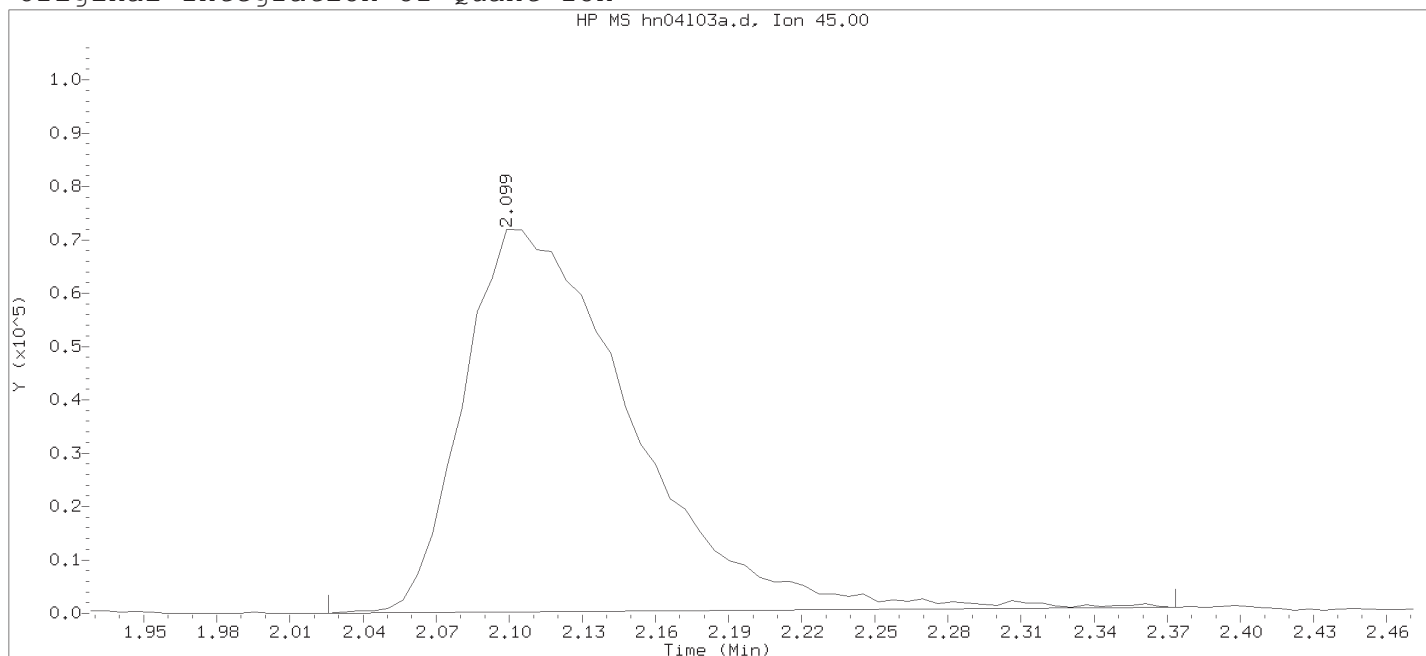
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:30.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04103a.d Instrument ID: HP19094.i
 Injection date and time: 04-NOV-2016 14:36 Analyst ID: KEL01973

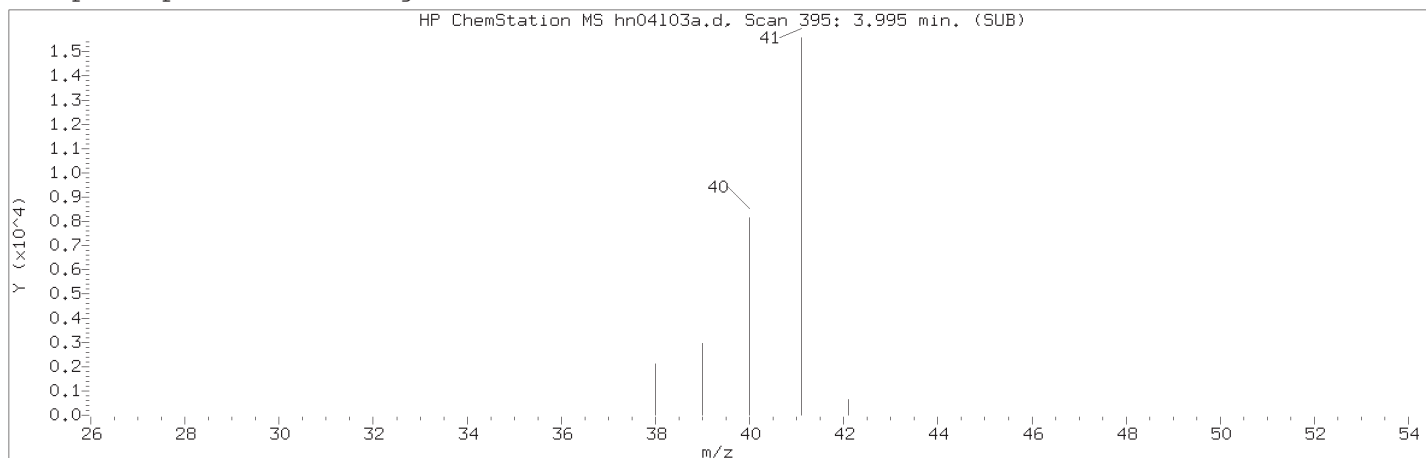
Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m Sublist used: SMQC
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 Date, time and analyst ID of latest file update: 04-Nov-2016 15:20 kel01973

Sample Name: LCSHSM

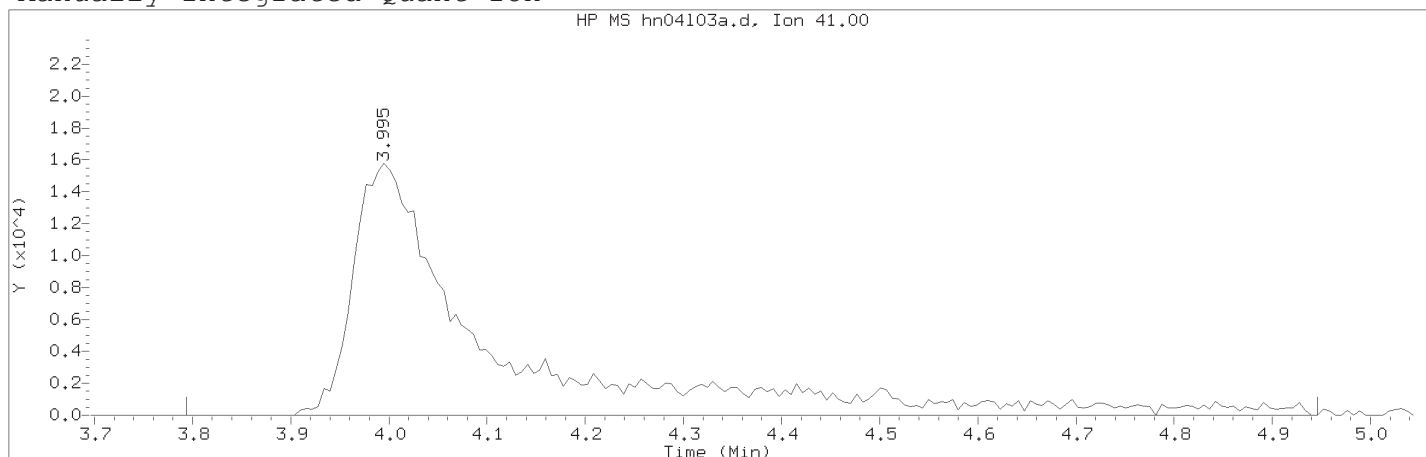
Lab Sample ID: LCSHSM

Compound Number : 4
 Compound Name : Dimethyl ether
 Scan Number : 84
 Retention Time (minutes): 2.099
 Quant Ion : 45.00
 Area : 345314
 On-column Amount (ng) : 4.7044
 Integration start scan : 71 Integration stop scan: 128
 Y at integration start : 0 Y at integration end: 1118

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04103a.d Instrument ID: HP19094.i
Injection date and time: 04-NOV-2016 14:36 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 04-NOV-2016 15:25
Date, time and analyst ID of latest file update: 04-Nov-2016 15:29 kel01973

Sample Name: LCSHSM

Lab Sample ID: LCSHSM

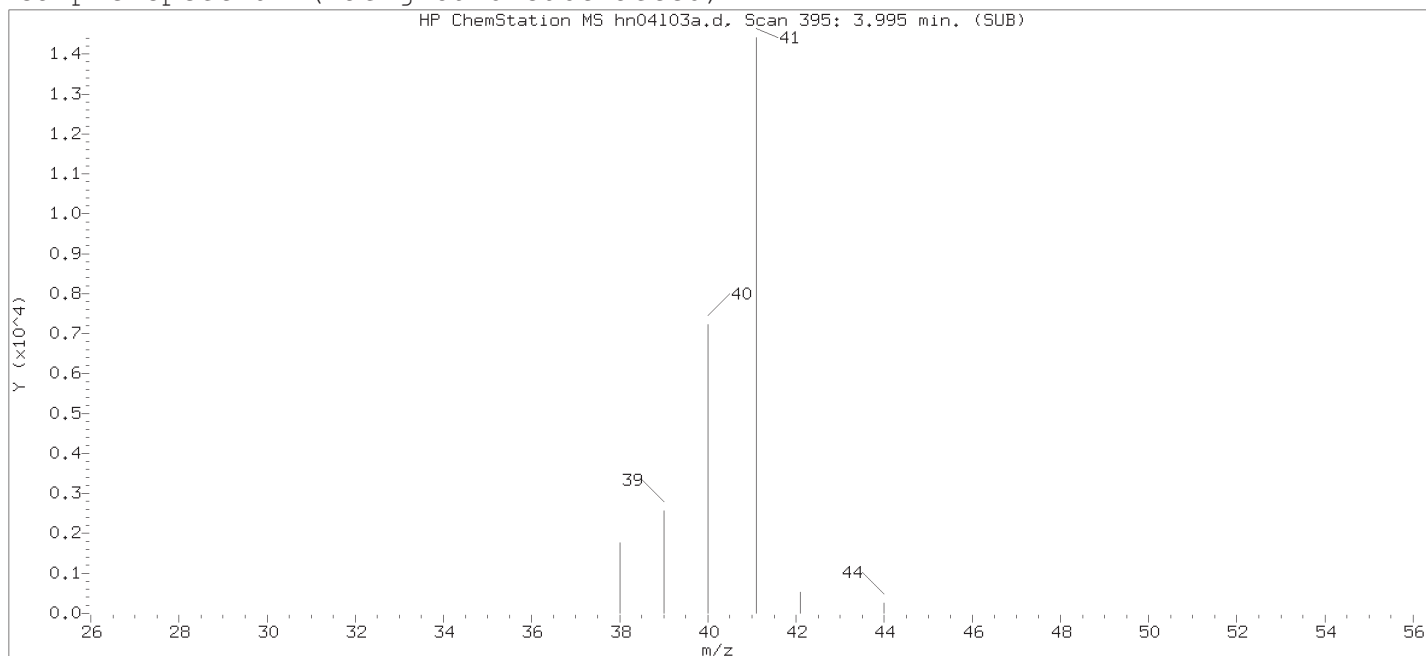
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 395
Retention Time (minutes): 3.995
Quant Ion : 41.00
Area (flag) : 152849M
On-Column Amount (ng) : 43.3822
Integration start scan : 361 Integration stop scan: 550
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

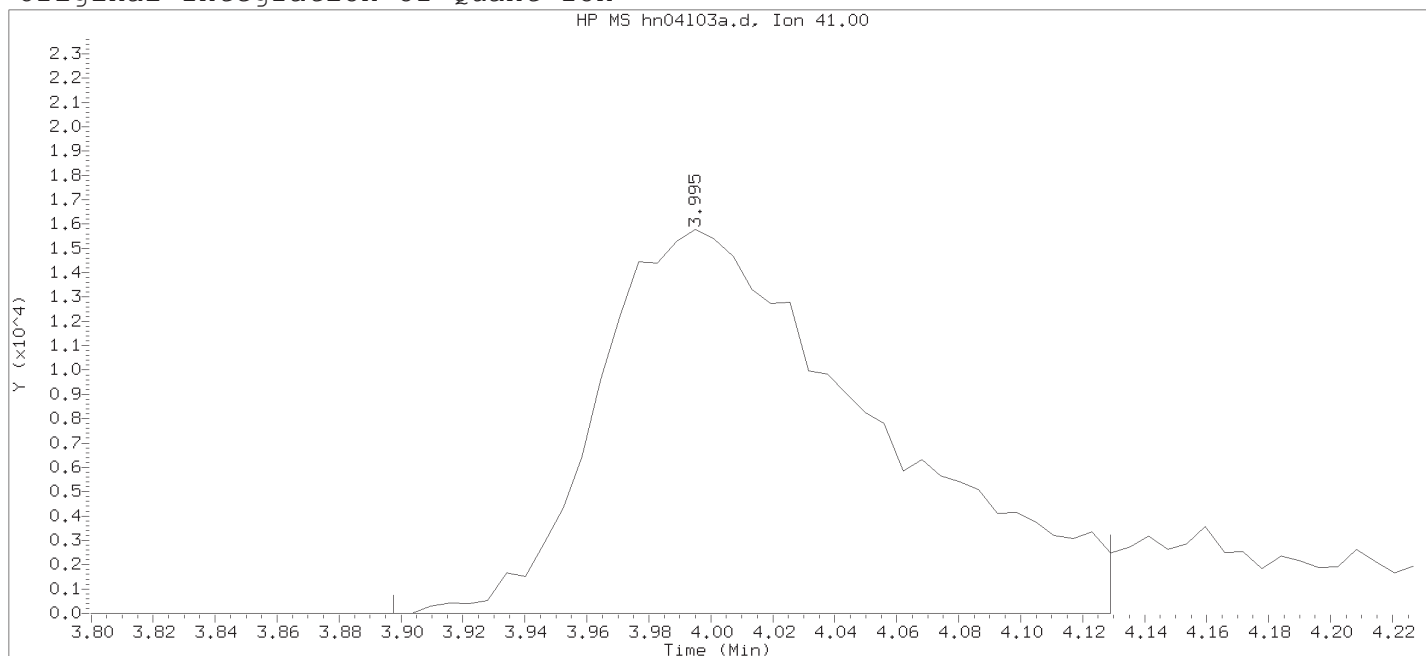
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:30.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04103a.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 14:36

Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMQC

Calibration date and time: 04-NOV-2016 15:18

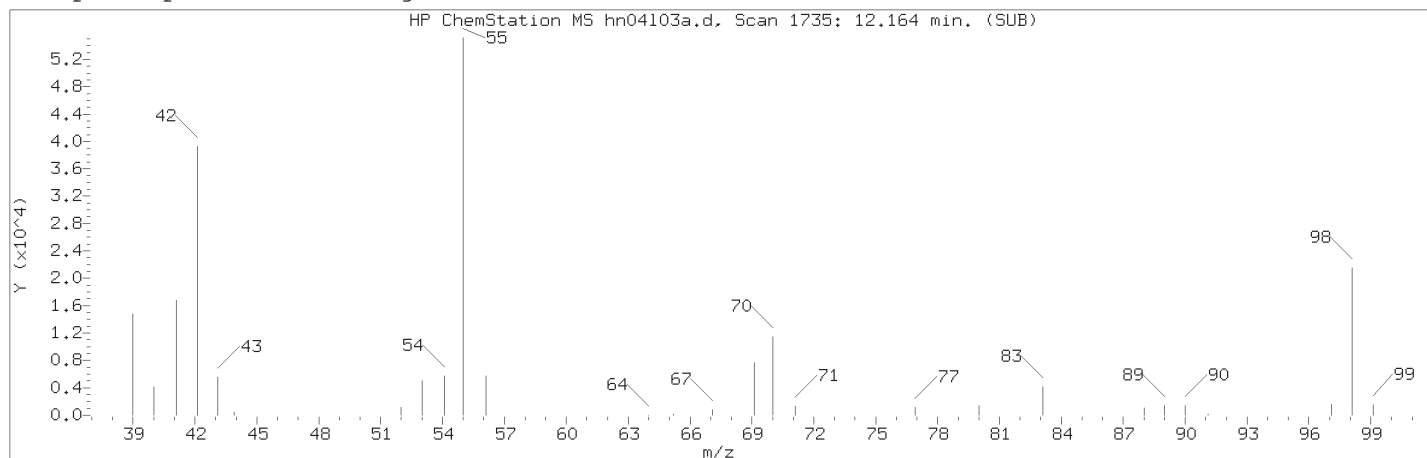
Date, time and analyst ID of latest file update: 04-Nov-2016 15:20 kel01973

Sample Name: LCSHSM

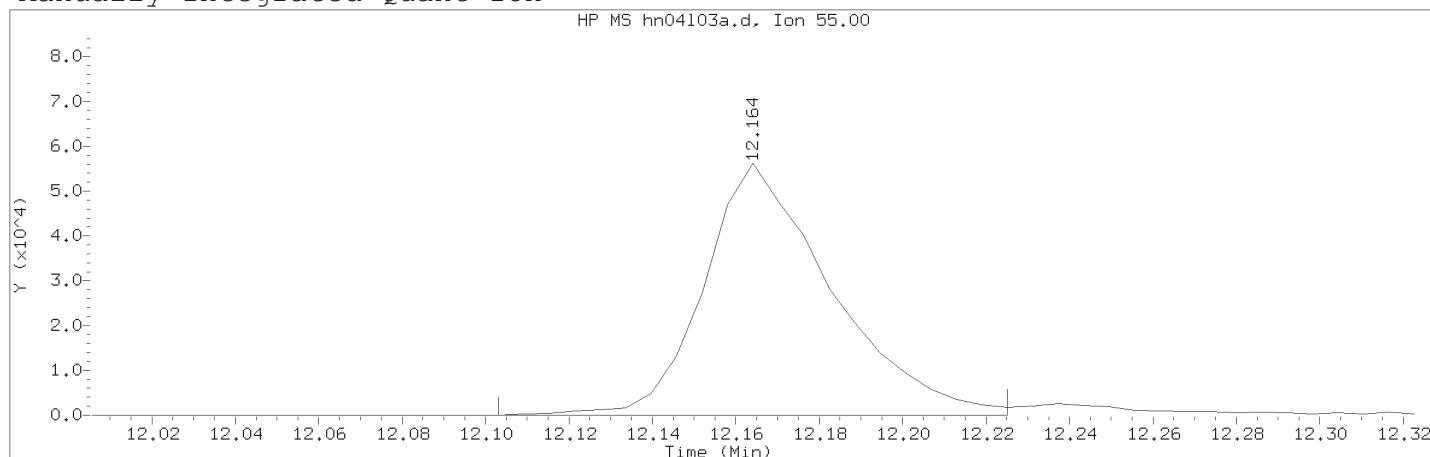
Lab Sample ID: LCSHSM

Compound Number	: 25	
Compound Name	: Acetonitrile	
Scan Number	: 395	
Retention Time (minutes)	: 3.995	
Quant Ion	: 41.00	
Area	: 96977	
On-column Amount (ng)	: 27.5241	
Integration start scan	: 378	Integration stop scan: 416
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04103a.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 14:36

Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMQC

Calibration date and time: 04-NOV-2016 15:25

Date, time and analyst ID of latest file update: 04-Nov-2016 15:29 kel01973

Sample Name: LCSHSM

Lab Sample ID: LCSHSM

Compound Number	: 112	
Compound Name	: Cyclohexanone	
Scan Number	: 1735	
Retention Time (minutes)	: 12.164	
Quant Ion	: 55.00	
Area (flag)	: 119316M	
On-Column Amount (ng)	: 116.1345	
Integration start scan	: 1724	Integration stop scan: 1744
Y at integration start	: 0	Y at integration end: 0

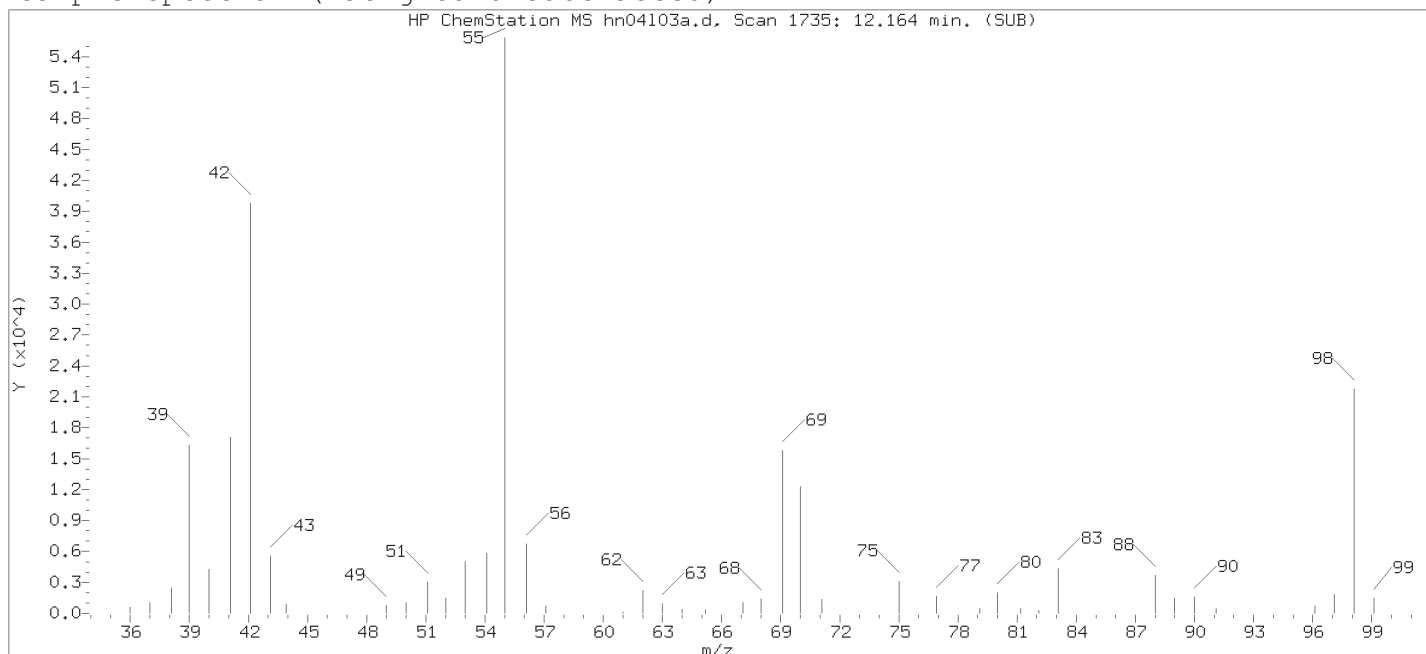
Reason for manual integration: improper integration

Analyst responsible for change:

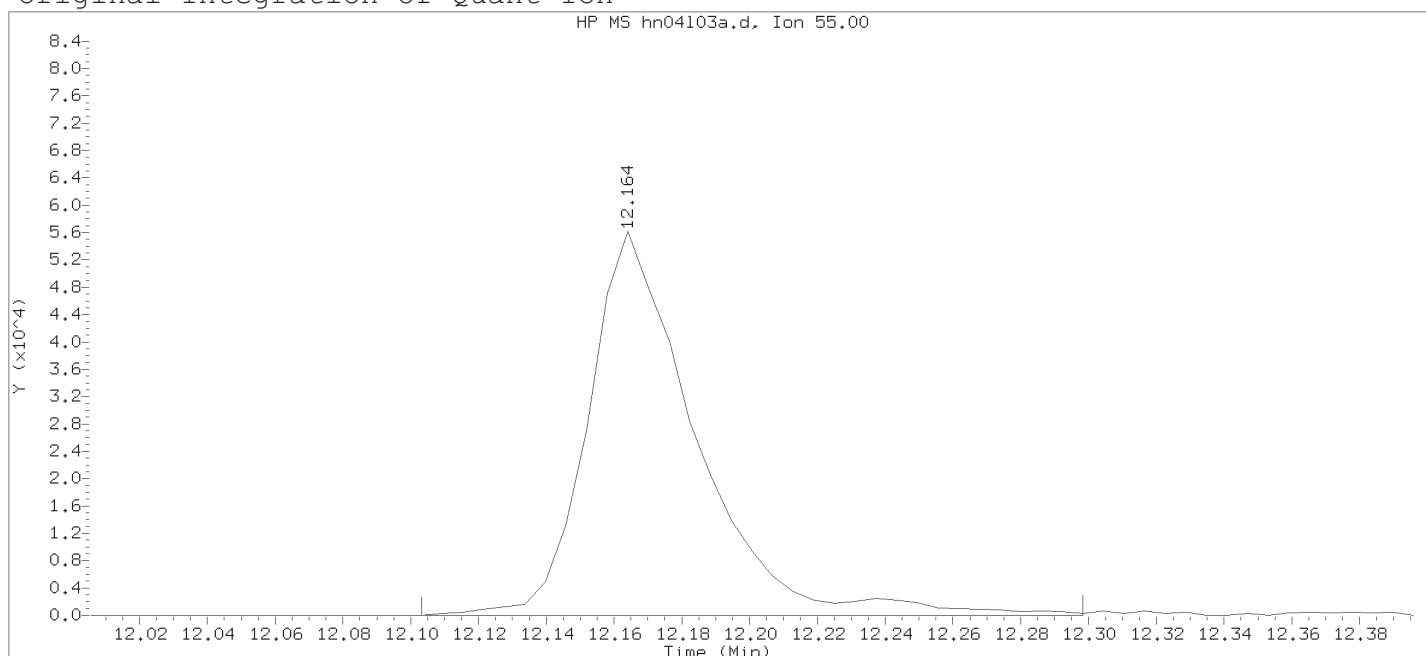
Digitally signed by Kerri E. Koch Legerlotz
on 11/04/2016 at 15:30.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 11/08/2016 at 17:44.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov04a.b/hn04103a.d

Instrument ID: HP19094.i

Injection date and time: 04-NOV-2016 14:36

Analyst ID: KEL01973

Method used: /chem2/HP19094.i/16nov04a.b/m8260c25.m

Sublist used: SMQC

Calibration date and time: 04-NOV-2016 15:18

Date, time and analyst ID of latest file update: 04-Nov-2016 15:20 kel01973

Sample Name: LCSHSM

Lab Sample ID: LCSHSM

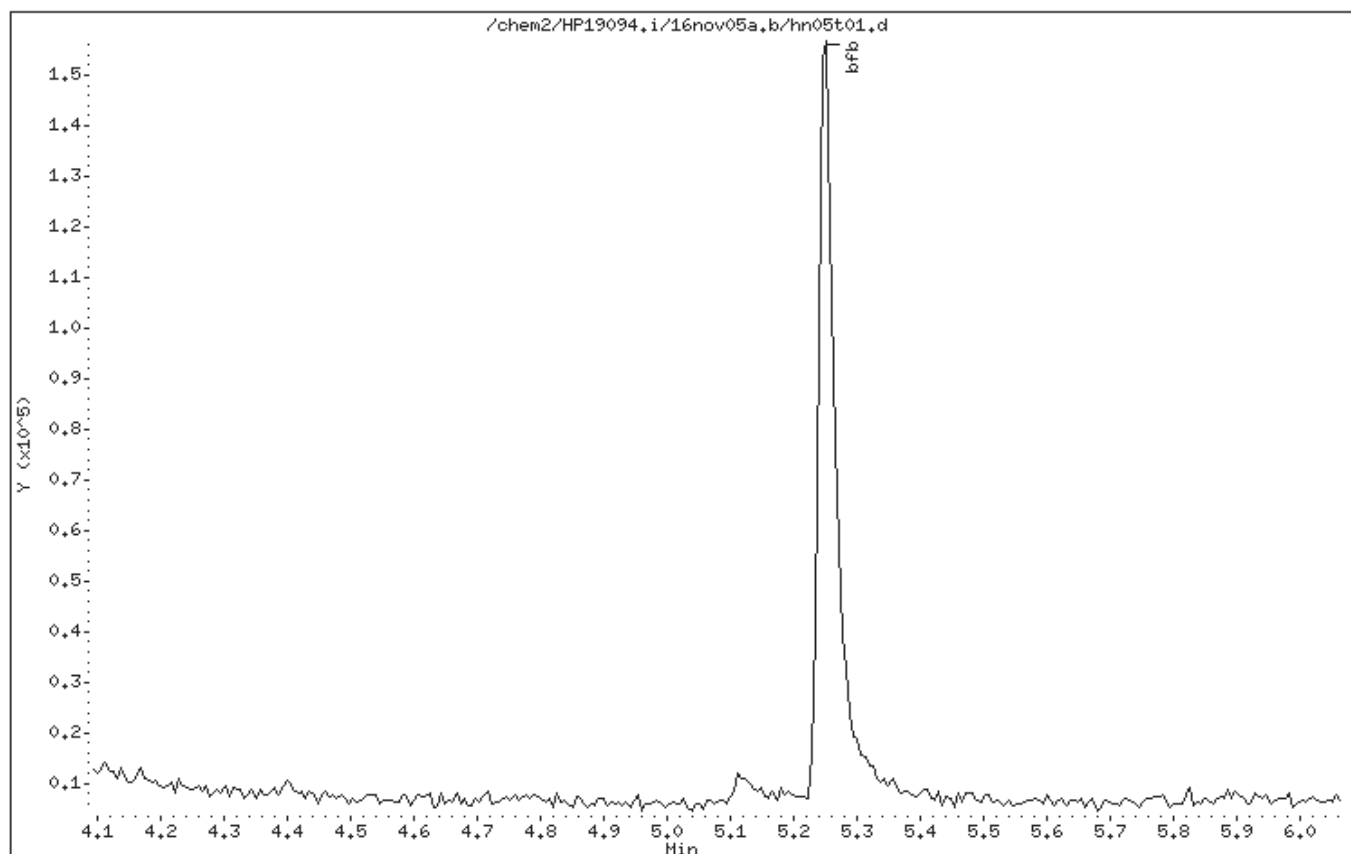
Compound Number	: 112	
Compound Name	: Cyclohexanone	
Scan Number	: 1735	
Retention Time (minutes)	: 12.164	
Quant Ion	: 55.00	
Area	: 124475	
On-column Amount (ng)	: 121.1555	
Integration start scan	: 1724	Integration stop scan: 1756
Y at integration start	: 0	Y at integration end: 0

Page 1

Instrument: HP19094.i

Operator: msk07970

Column diameter: 0.25

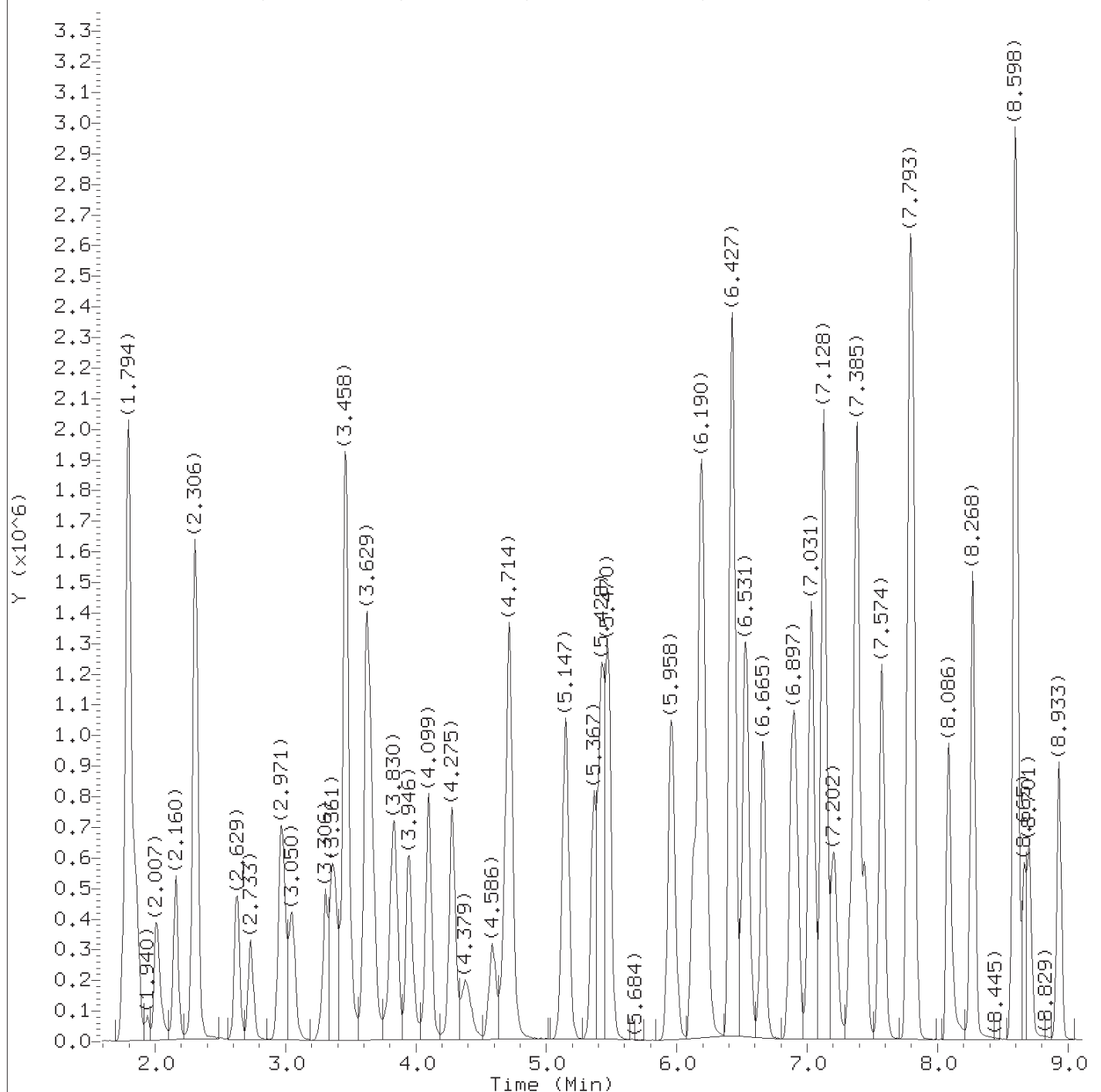


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Page 3

Column diameter: 0.25

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36,00	248	57,00	646	78,00	95	117,00	216
37,00	1237	60,00	304	79,00	763	119,00	87
38,00	1347	61,00	1010	80,00	354	135,00	85
39,00	560	62,00	1317	81,00	612	141,00	186
44,00	100	63,00	929	87,00	1245	143,00	325
45,00	477	68,00	3119	88,00	1609	172,00	133
47,00	149	69,00	2837	91,00	143	173,00	230
48,00	270	70,00	318	92,00	571	174,00	24184
49,00	1159	73,00	1415	93,00	997	175,00	1838
50,00	5081	74,00	4340	94,00	3082	176,00	23032
51,00	1865	75,00	14013	95,00	28944	177,00	1737
56,00	228	76,00	1120	96,00	2313		



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05c01.d
Injection date and time: 05-NOV-2016 08:32

Instrument ID: HP19094.i
Analyst ID: msk07970

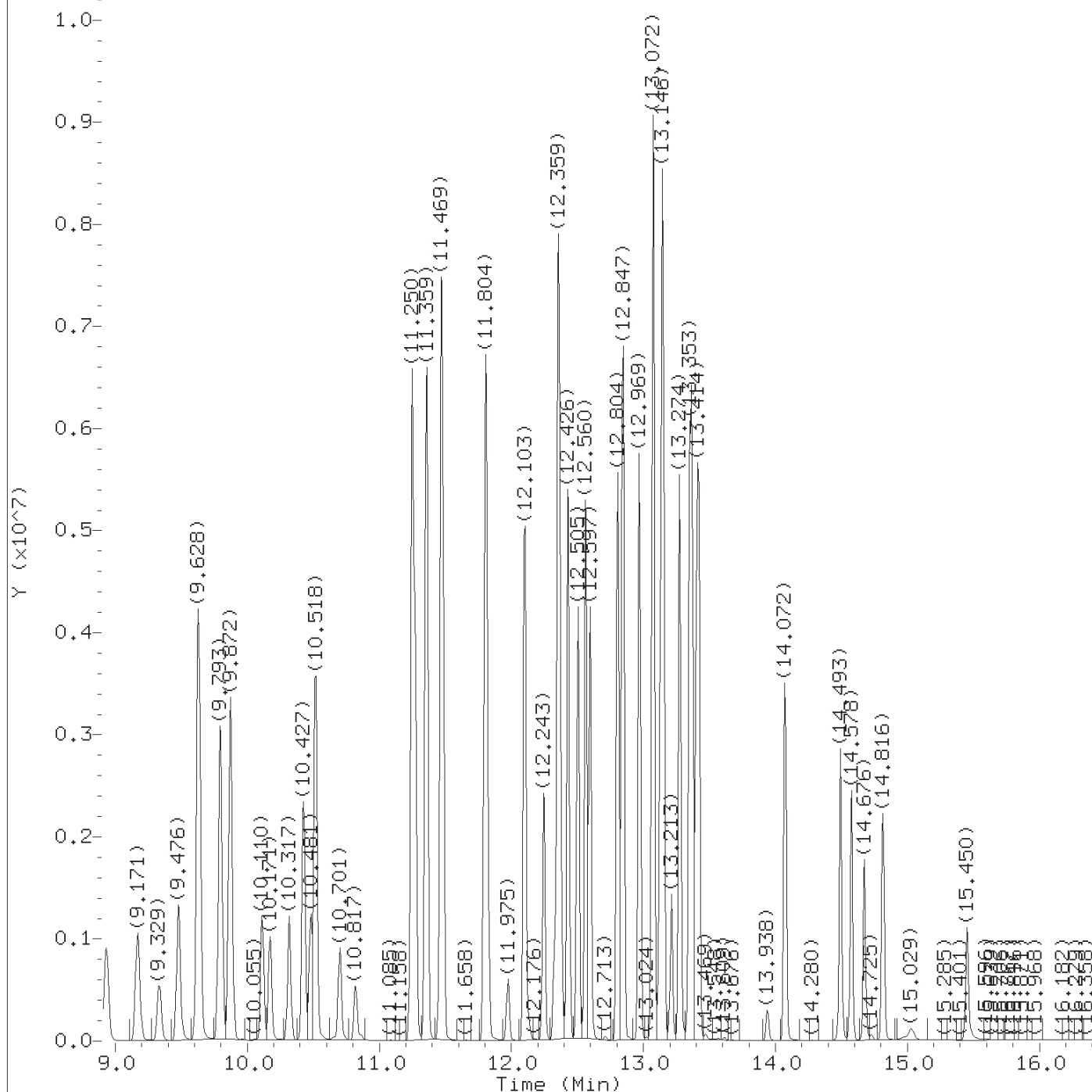
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 09:41 msk07970

Sample Name: VSTD010

Lab Sample ID: VSTD010

Digitally signed by Matthew S. Krause
on 11/05/2016 at 11:02.

Target 3.5 esignature User ID: msk07970
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Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05c01.d
Injection date and time: 05-NOV-2016 08:32

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 09:41 msk07970

Sample Name: VSTD010

Lab Sample ID: VSTD010

Digitally signed by Matthew S. Krause
on 11/05/2016 at 11:02.

Target 3.5 esignature User ID: msk07970
RAE76 Page 525 of 883

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05c01.d
 Injection date and time: 05-NOV-2016 08:32

Instrument ID: HP19094.i
 Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 05-NOV-2016 09:41
 Date, time and analyst ID of latest file update: 05-Nov-2016 09:41 msk07970

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.007	85	779300	7.632
2) Chloromethane	(2)	2.160	50	833196	7.623
5) Vinyl Chloride	(2)	2.300	62	802416	8.235
6) 1,3-Butadiene	(2)	2.312	39	963215	6.450
7) Bromomethane	(2)	2.629	94	509393	8.149
8) Chloroethane	(2)	2.733	64	456137	8.281
9) Dichlorofluoromethane	(2)	2.965	67	1055001	8.023
10) Trichlorofluoromethane	(2)	3.050	101	976697	8.260
11) Ethyl ether	(2)	3.306	59	376886	8.637
12) Freon 123a	(2)	3.361	67	737222	8.981
13) Acrolein	(1)	3.458	56	2890777	369.057
15) 1,1-Dichloroethene	(2)	3.617	96	521803	9.470
14) Acetone	(1)	3.623	43	772249M	73.643
16) Freon 113	(2)	3.660	101	568090	9.432
17) Methyl Iodide	(2)	3.818	142	978531	9.292
18) Carbon Disulfide	(2)	3.946	76	1570789	9.401
21) Methyl Acetate	(1)	4.062	43	210412	6.381
22) Allyl Chloride	(2)	4.099	41	858240	7.159
26) *t-Butyl Alcohol-d10	(1)	4.263	65	108917	50.000
23) Methylene Chloride	(2)	4.281	84	576079	9.744
28) t-Butyl Alcohol	(1)	4.379	59	563242	198.833
29) Acrylonitrile	(1)	4.586	53	528976	42.871
30) Methyl Tertiary Butyl Ether	(2)	4.690	73	1216633	9.465
31) trans-1,2-Dichloroethene	(2)	4.720	96	597803	9.572
32) n-Hexane	(2)	5.147	57	963256	10.117
33) 1,1-Dichloroethane	(2)	5.361	63	1182339	9.614
34) di-Isopropyl Ether	(2)	5.421	45	2069997	9.387
35) 2-Chloro-1,3-Butadiene	(2)	5.476	53	1064675	9.351
37) Ethyl t-butyl ether	(2)	5.958	59	1659569	9.277
40) 1,2-Dichloroethene (Total)	(2)		96	1266552	19.338
38) 2-Butanone	(1)	6.129	43	1445910	77.922
39) cis-1,2-Dichloroethene	(2)	6.184	96	668749	9.767
42) Propionitrile	(1)	6.196	54	801314	195.791
41) 2,2-Dichloropropane	(2)	6.208	77	919341	9.211
45) Methacrylonitrile	(1)	6.427	67	1373486	78.603
47) Bromochloromethane	(2)	6.519	128	239490	8.723
48) Tetrahydrofuran	(1)	6.531	71	368878	77.124
49) Chloroform	(2)	6.665	83	1107035	9.319

M = Compound was manually integrated.

* = Compound is an internal standard.

page 1 of 4

Digitally signed by Matthew S. Krause
 on 11/05/2016 at 11:02.

Target 3.5 esignature user ID: msk07970

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05c01.d
 Injection date and time: 05-NOV-2016 08:32

Instrument ID: HP19094.i
 Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 05-NOV-2016 09:41
 Date, time and analyst ID of latest file update: 05-Nov-2016 09:41 msk07970

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
50) \$Dibromofluoromethane	(2)	6.878	113	546609	9.919
50) \$Dibromofluoromethane	(2)	6.878	111	556646	9.879
51) 1,1,1-Trichloroethane	(2)	6.909	97	943572	8.823
52) Cyclohexane	(2)	7.031	56	1168077	9.307
52) Cyclohexane	(2)	7.031	84	923465	8.916
52) Cyclohexane	(2)	7.031	69	338067	9.551
55) 1,1-Dichloropropene	(2)	7.122	75	927030	9.589
54) Carbon Tetrachloride	(2)	7.135	117	846603	9.164
56) Isobutyl Alcohol	(1)	7.202	41	556174	496.375
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	93896	10.607
57) \$1,2-Dichloroethane-d4	(2)	7.336	65	471687	9.679
57) \$1,2-Dichloroethane-d4	(2)	7.342	104	59231	10.457
58) Benzene	(2)	7.385	78	2573752	9.985
59) 1,2-Dichloroethane	(2)	7.439	62	679620	9.471
60) t-Amyl methyl ether	(2)	7.574	73	1399541	9.644
63) *Fluorobenzene	(2)	7.781	96	2402580	10.000
62) n-Heptane	(2)	7.811	43	1141196	9.956
65) n-Butanol	(1)	8.086	56	887084	1083.946
67) Trichloroethene	(2)	8.268	95	684963	9.699
70) 1,2-Dichloropropane	(2)	8.598	63	678153	10.336
69) Methylcyclohexane	(2)	8.604	83	984953	7.987
71) Methyl Methacrylate	(1)	8.665	69	261890A	8.141
72) 1,4-Dioxane	(1)	8.683	88	106105	527.561
73) Dibromomethane	(2)	8.707	93	277197	10.090
74) Bromodichloromethane	(2)	8.933	83	768616	10.228
76) 2-Nitropropane	(1)	9.171	41	861580	72.395
80) cis-1,3-Dichloropropene	(2)	9.476	75	913760	10.712
81) 4-Methyl-2-Pentanone	(1)	9.628	43	3630789	73.202
82) \$Toluene-d8	(3)	9.793	98	2392253	9.601
82) \$Toluene-d8	(3)	9.793	100	1547706	9.659
83) Toluene	(3)	9.872	92	1624228	9.486
84) trans-1,3-Dichloropropene	(3)	10.110	75	694913	10.001
85) 1,3-Dichloropropene (total)	(3)		75	1608673	20.713
86) Ethyl Methacrylate	(3)	10.171	69	547320	10.216
88) 1,1,2-Trichloroethane	(3)	10.317	97	395461	10.033
89) Tetrachloroethene	(3)	10.427	166	755336	9.216
90) 1,3-Dichloropropane	(3)	10.481	76	717072	10.009
91) 2-Hexanone	(1)	10.518	43	2558781	74.533

A = User selected an alternate hit.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Digitally signed by Matthew S. Krause
 on 11/05/2016 at 11:02.

Target 3.5 esignature user ID: msk07970

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05c01.d
Injection date and time: 05-NOV-2016 08:32

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 09:41 msk07970

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
93) Dibromochloromethane	(3)	10.701	129	483134	9.884
95) 1,2-Dibromoethane	(3)	10.817	107	380274	10.202
97) *Chlorobenzene-d5	(3)	11.243	117	1649583	10.000
98) Chlorobenzene	(3)	11.274	112	1783334	9.774
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	586235	9.350
100) Ethylbenzene	(3)	11.359	91	3188865	9.464
101) m+p-Xylene	(3)	11.475	106	2461409	19.442
105) Xylene (Total)	(3)		106	3646128	29.039
104) o-Xylene	(3)	11.798	106	1184719	9.594
106) Styrene	(3)	11.817	104	1924565	10.186
107) Bromoform	(3)	11.975	173	255767	9.557
108) Isopropylbenzene	(3)	12.103	105	3080066	9.252
111) \$4-Bromofluorobenzene	(3)	12.243	95	737856	10.072
111) \$4-Bromofluorobenzene	(3)	12.249	174	639036	9.748
113) 1,1,2,2-Tetrachloroethane	(4)	12.329	83	474937	10.209
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	1075217	73.156
114) Bromobenzene	(4)	12.365	156	700912	9.343
116) 1,2,3-Trichloropropane	(4)	12.377	110	120591	9.710
117) n-Propylbenzene	(4)	12.426	91	3855234	9.694
119) 2-Chlorotoluene	(4)	12.505	126	728747	9.693
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	2629655	9.613
122) 4-Chlorotoluene	(4)	12.597	126	730363	9.501
125) tert-Butylbenzene	(4)	12.804	134	586228	9.822
126) Pentachloroethane	(4)	12.835	167	404021	8.748
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	2613472	9.463
128) sec-Butylbenzene	(4)	12.969	105	3423628	9.536
131) 1,3-Dichlorobenzene	(4)	13.072	146	1384735	9.492
132) p-Isopropyltoluene	(4)	13.079	119	2896283	9.669
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	752131	10.000
134) 1,4-Dichlorobenzene	(4)	13.146	146	1383104	9.115
135) 1,2,3-Trimethylbenzene	(4)	13.152	120	1017872	8.515
136) Benzyl Chloride	(4)	13.213	126	180586	11.411
138) n-Butylbenzene	(4)	13.365	92	1480850	10.298
139) 1,2-Dichlorobenzene	(4)	13.402	146	1213464	9.350
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	58301	8.072
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	818963	8.859
146) Hexachlorobutadiene	(4)	14.578	225	421449	9.583
147) Naphthalene	(4)	14.676	128	1262924	8.999

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

page 3 of 4

Digitally signed by Matthew S. Krause
on 11/05/2016 at 11:02.

Target 3.5 esignature user ID: msk07970

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05c01.d Instrument ID: HP19094.i
Injection date and time: 05-NOV-2016 08:32 Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 09:41 msk07970

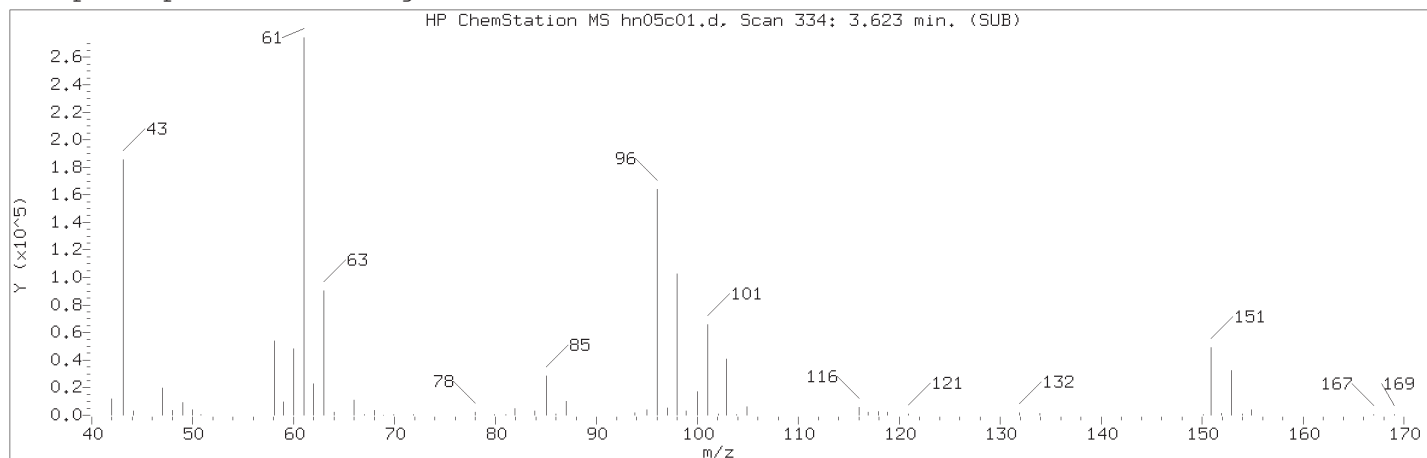
Sample Name: VSTD010

Lab Sample ID: VSTD010

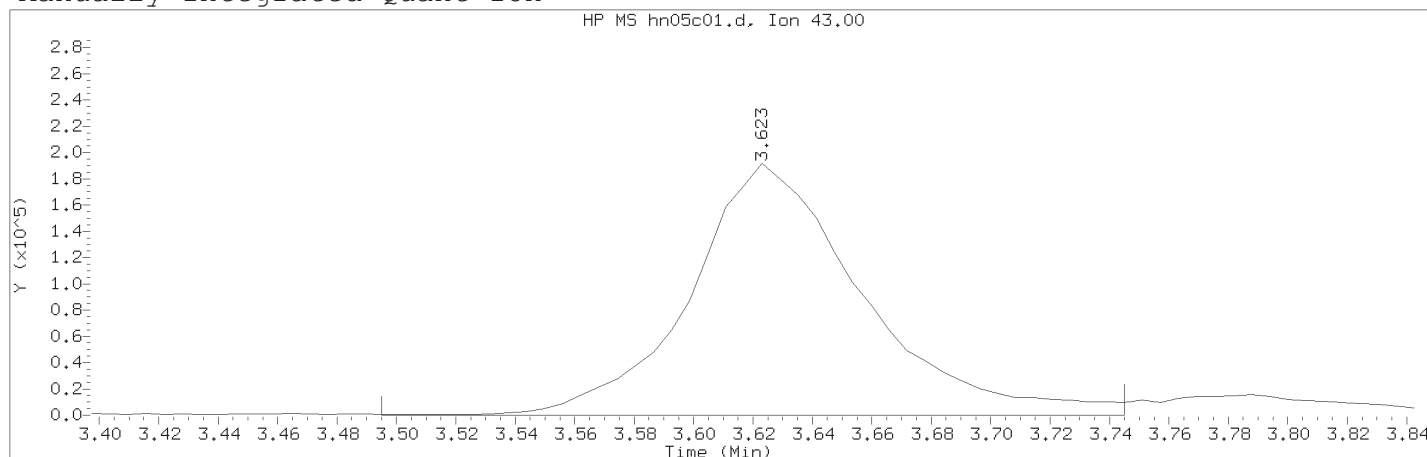
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
148) 1,2,3-Trichlorobenzene	(4)	14.816	180	649788	8.350

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Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Instrument ID: HP19094.i

Injection date and time: 05-NOV-2016 08:32

Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 05-NOV-2016 09:41

Date, time and analyst ID of latest file update: 05-Nov-2016 09:41 msk07970

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 14	
Compound Name	: Acetone	
Scan Number	: 334	
Retention Time (minutes)	: 3.623	
Quant Ion	: 43.00	
Area (flag)	: 772249M	
On-Column Amount (ng)	: 73.6426	
Integration start scan	: 312	Integration stop scan: 353
Y at integration start	: 0	Y at integration end: 0

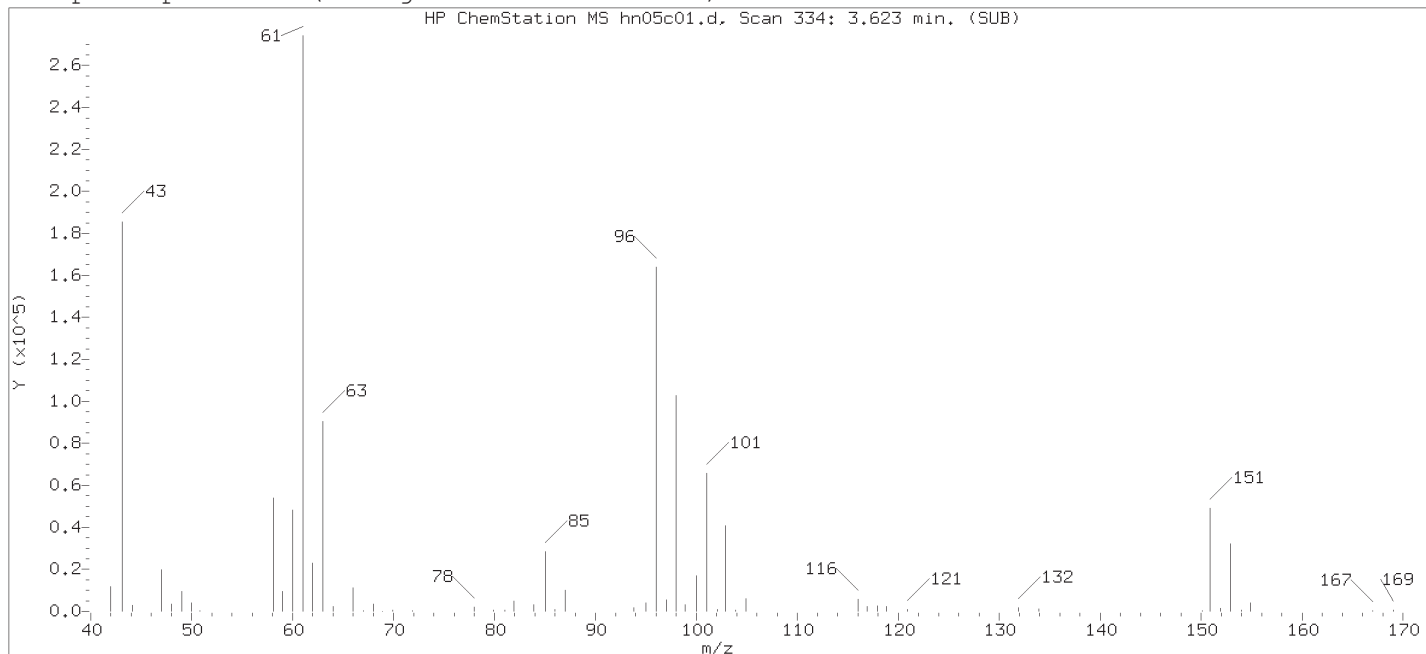
Reason for manual integration: improper integration

Analyst responsible for change:

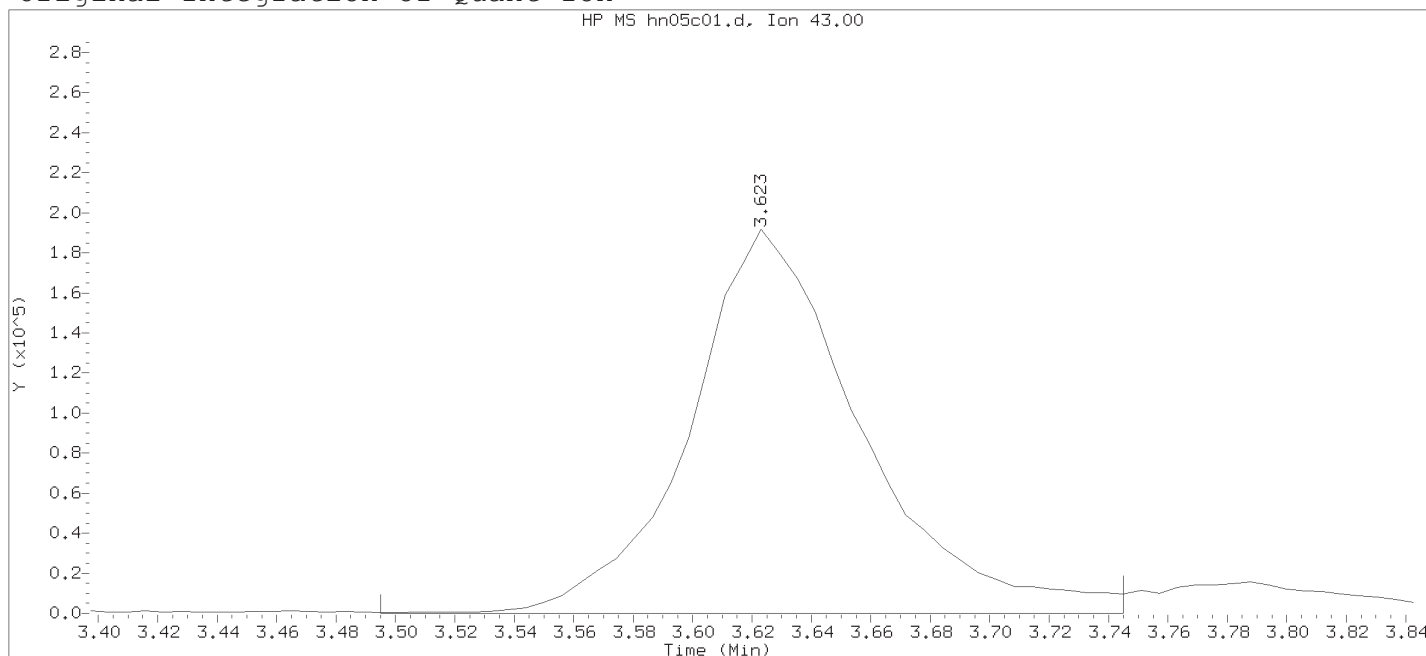
Digitally signed by Matthew S. Krause
on 11/05/2016 at 11:02.
Target 3.5 esignature user ID: msk07970

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 17:01.
PARALLAX ID: sej02002

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Instrument ID: HP19094.i

Injection date and time: 05-NOV-2016 08:32

Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 05-NOV-2016 08:51

Date, time and analyst ID of latest file update: 05-Nov-2016 08:51 Automation

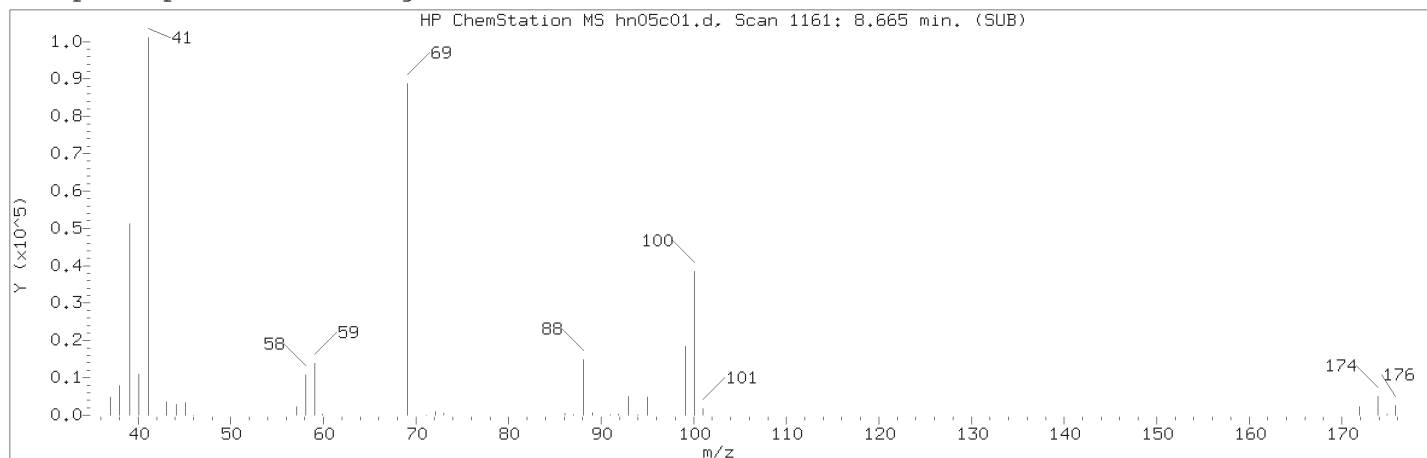
Sample Name: VSTD010

Lab Sample ID: VSTD010

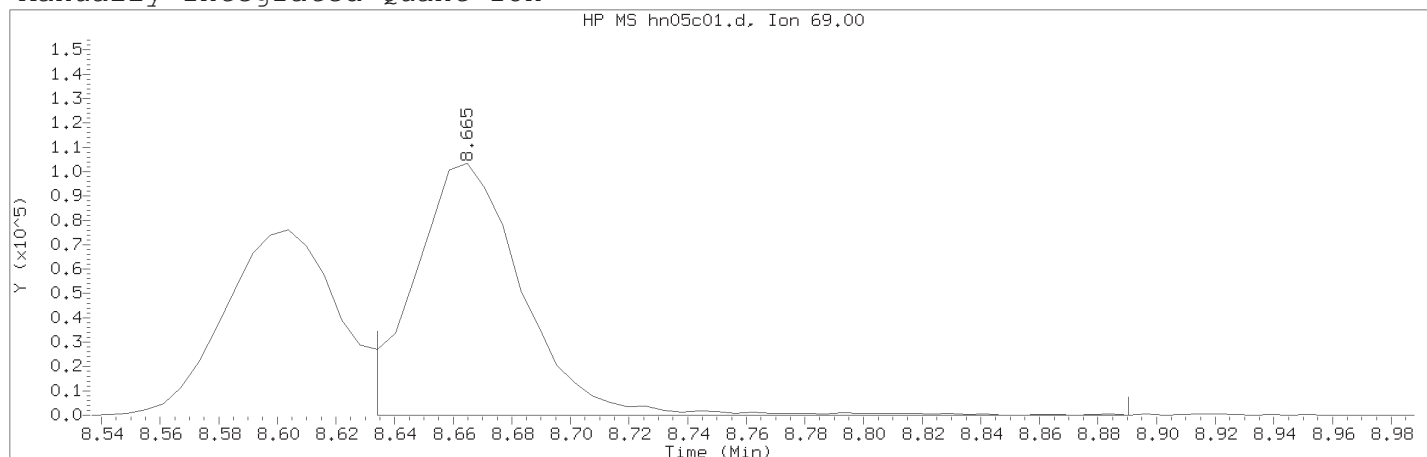
Compound Number : 14
 Compound Name : Acetone
 Scan Number : 334
 Retention Time (minutes) : 3.623
 Quant Ion : 43.00
 Area : 769852
 On-column Amount (ng) : 73.4136
 Integration start scan : 312
 Y at integration start : 33

Integration stop scan: 353
 Y at integration end: 47

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Instrument ID: HP19094.i

Injection date and time: 05-NOV-2016 08:32

Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 05-NOV-2016 09:41

Date, time and analyst ID of latest file update: 05-Nov-2016 09:41 msk07970

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 71	
Compound Name	: Methyl Methacrylate	
Scan Number	: 1161	
Retention Time (minutes)	: 8.665	
Quant Ion	: 69.00	
Area (flag)	: 261890A	
On-Column Amount (ng)	: 8.1406	
Integration start scan	: 1155	Integration stop scan: 1197
Y at integration start	: 0	Y at integration end: 0

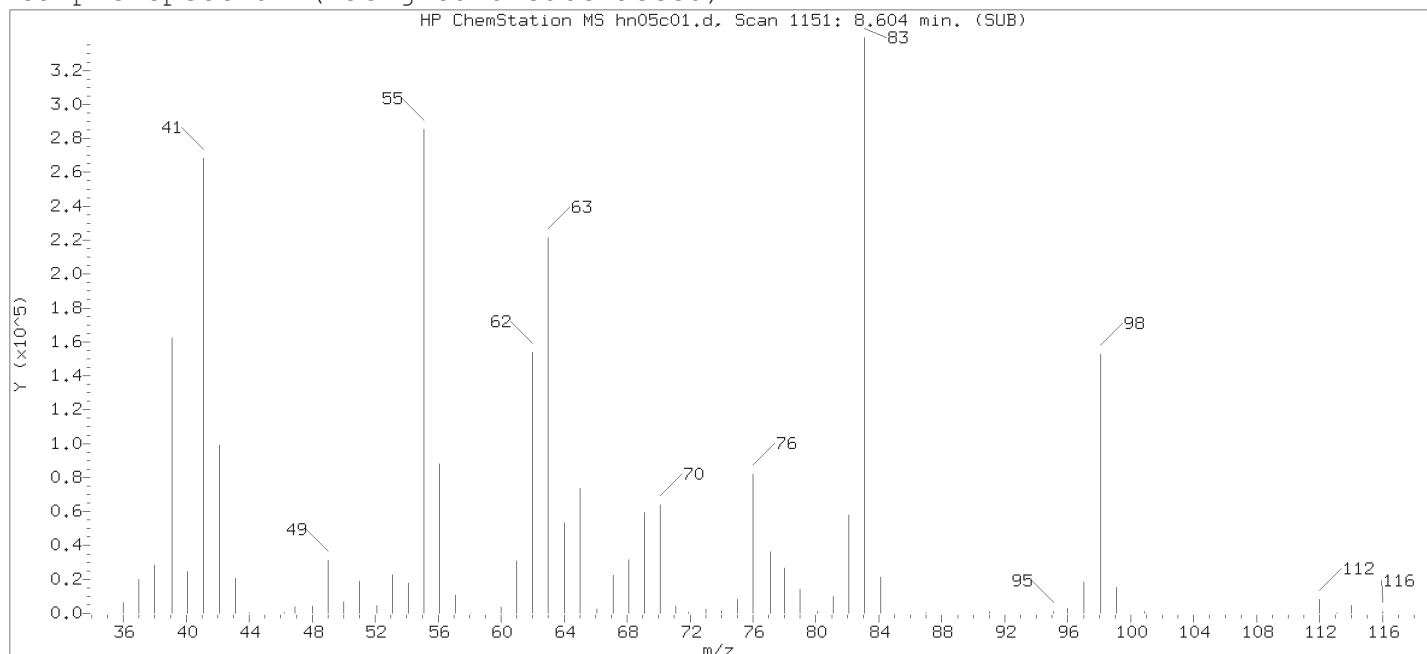
Reason for manual integration: improper integration

Analyst responsible for change:

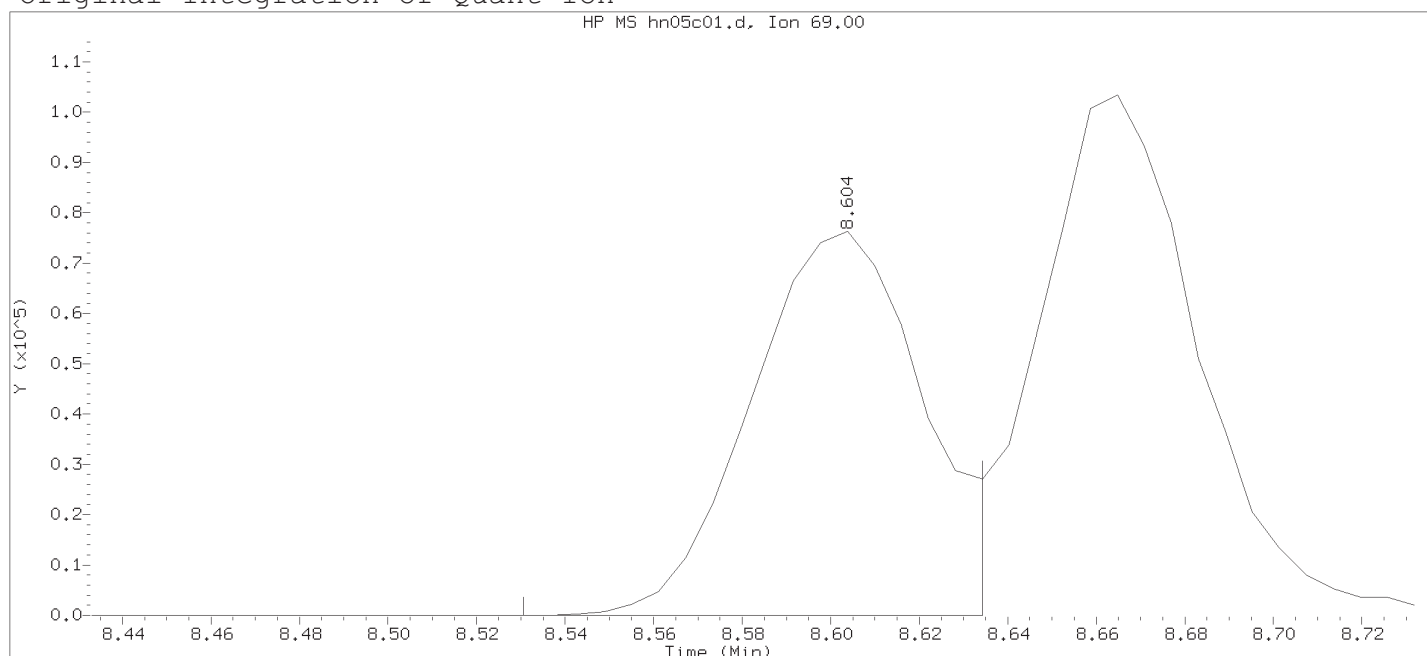
Digitally signed by Matthew S. Krause
on 11/05/2016 at 11:02.
Target 3.5 esignature user ID: msk07970

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 17:01.
PARALLAX ID: sej02002

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Instrument ID: HP19094.i

Injection date and time: 05-NOV-2016 08:32

Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m

Sublist used: 8260W25

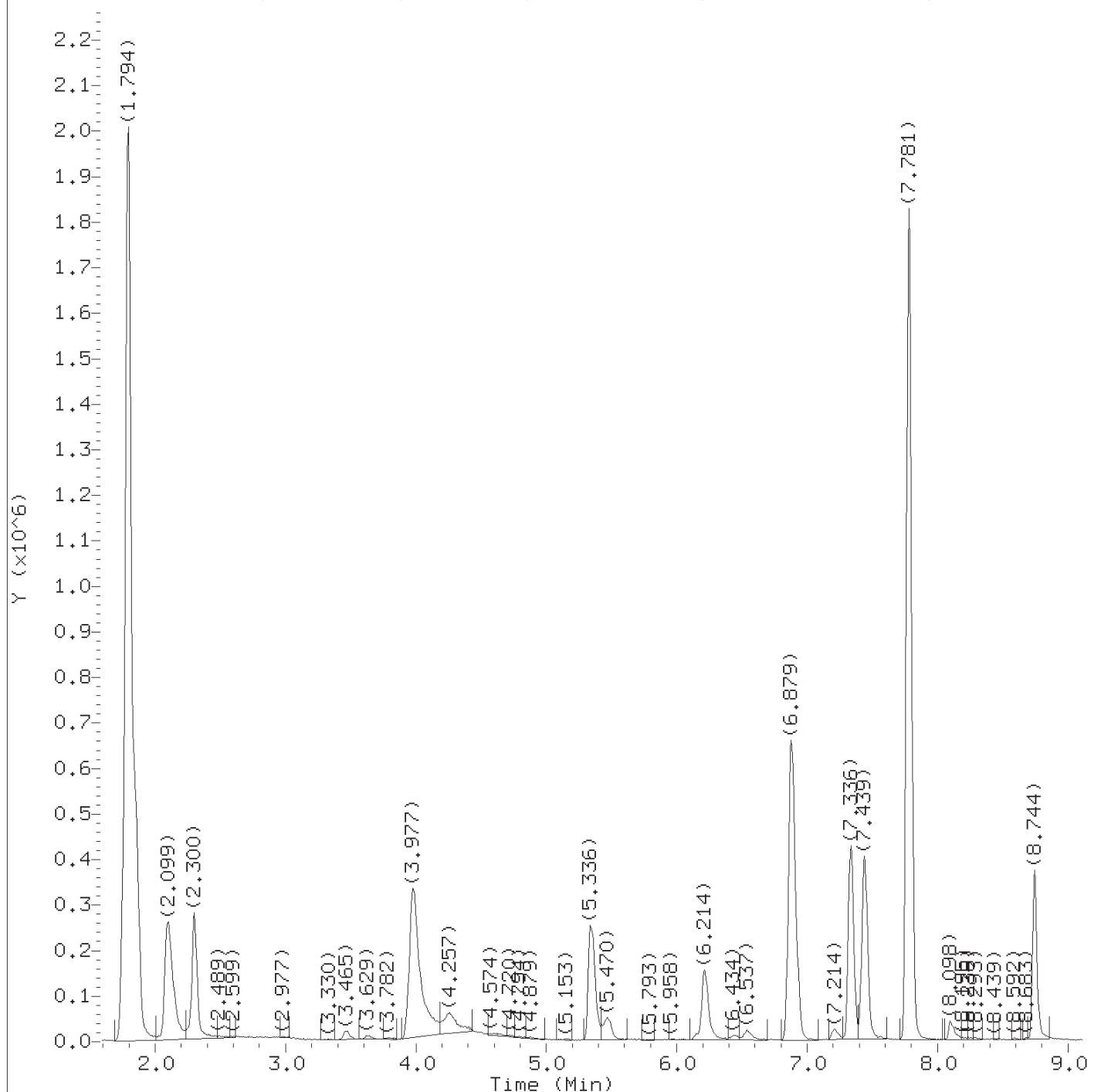
Calibration date and time: 05-NOV-2016 08:51

Date, time and analyst ID of latest file update: 05-Nov-2016 08:51 Automation

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 71	
Compound Name	: Methyl Methacrylate	
Scan Number	: 1151	
Retention Time (minutes)	: 8.604	
Quant Ion	: 69.00	
Area	: 202847	
On-column Amount (ng)	: 6.3053	
Integration start scan	: 1138	Integration stop scan: 1155
Y at integration start	: 0	Y at integration end: 0



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05c02.d
Injection date and time: 05-NOV-2016 08:52

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m
Calibration date and time: 05-NOV-2016 09:11

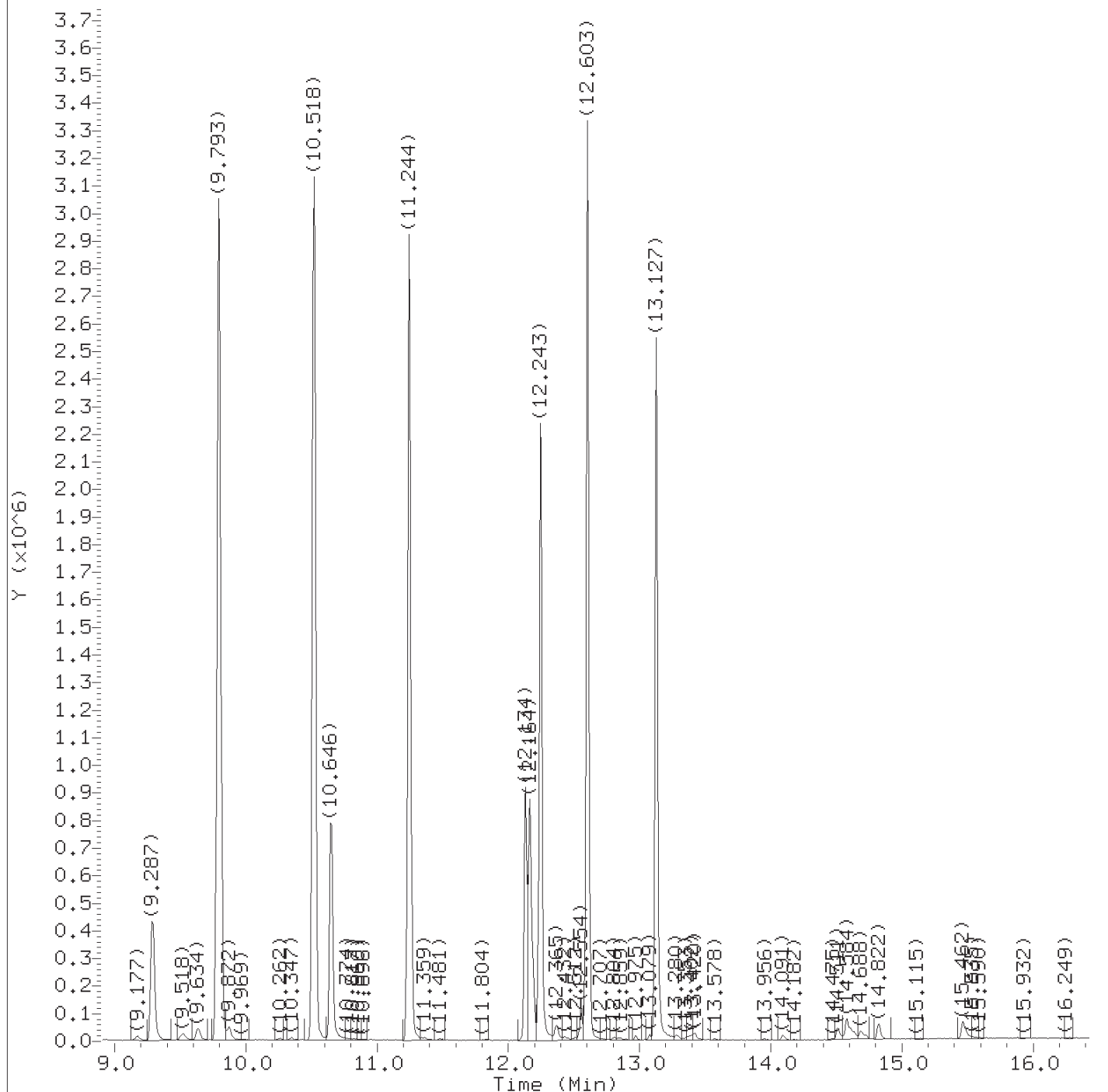
Sublist used: SMICAL
Date, time and analyst ID of latest file update: 05-Nov-2016 09:14 msk07970

Sample Name: VSTD010

Lab Sample ID: VSTD010

Digitally signed by Matthew S. Krause
on 11/05/2016 at 11:02.

Target 3.5 esignature user ID: msk07970
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Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05c02.d
Injection date and time: 05-NOV-2016 08:52

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m
Calibration date and time: 05-NOV-2016 09:11

Sublist used: SMICAL
Date, time and analyst ID of latest file update: 05-Nov-2016 09:14 msk07970

Sample Name: VSTD010

Lab Sample ID: VSTD010

Digitally signed by Matthew S. Krause
on 11/05/2016 at 11:02.

Target 3.5 esignature User ID: msk07970
RAE76 Page 535 of 883

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05c02.d

Instrument ID: HP19094.i

Injection date and time: 05-NOV-2016 08:52

Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 05-NOV-2016 09:11

Date, time and analyst ID of latest file update: 05-Nov-2016 09:14 msk07970

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.099	45	773914M	10.068
25) Acetonitrile	(1)	3.977	41	1428836M	343.993
26)*t-Butyl Alcohol-d10	(1)	4.257	65	107346	50.000
36) Vinyl Acetate	(2)	5.336	43	803852	11.349
63)*Fluorobenzene	(2)	7.781	96	2362062	10.000
78) 2-Chloroethyl vinyl ether	(2)	9.287	63	233606	9.553
97)*Chlorobenzene-d5	(3)	11.244	117	1578502	10.000
109) cis-1,4-Dichloro-2-butene	(1)	12.134	88	199856	20.727
112) Cyclohexanone	(1)	12.164	55	432795	357.325
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	665817	10.000

M = Compound was manually integrated.

* = Compound is an internal standard.

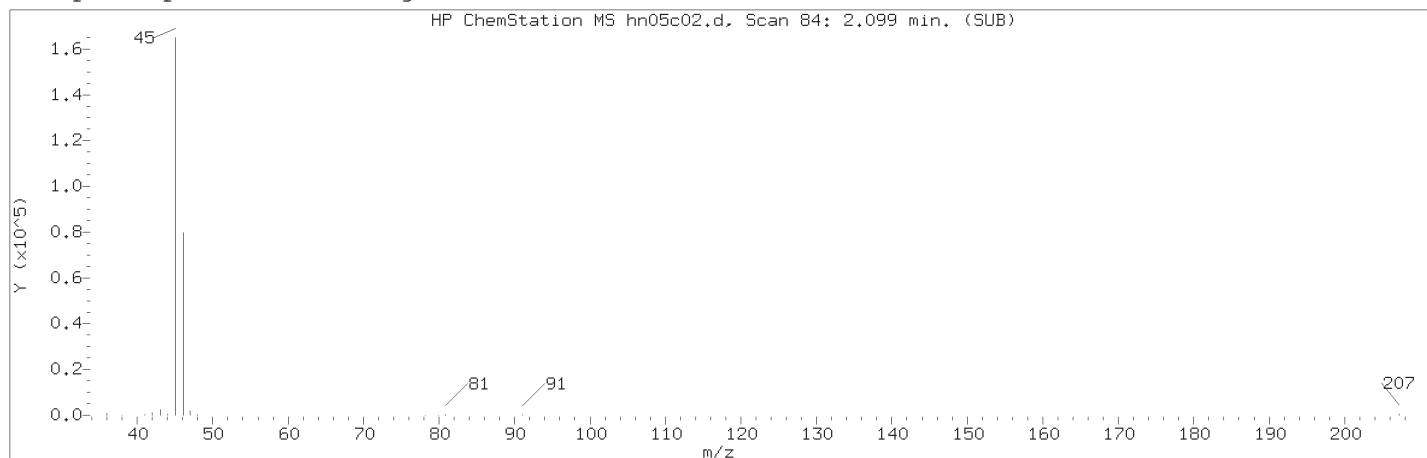
page 1 of 1

Digitally signed by Matthew S. Krause
on 11/05/2016 at 11:02.

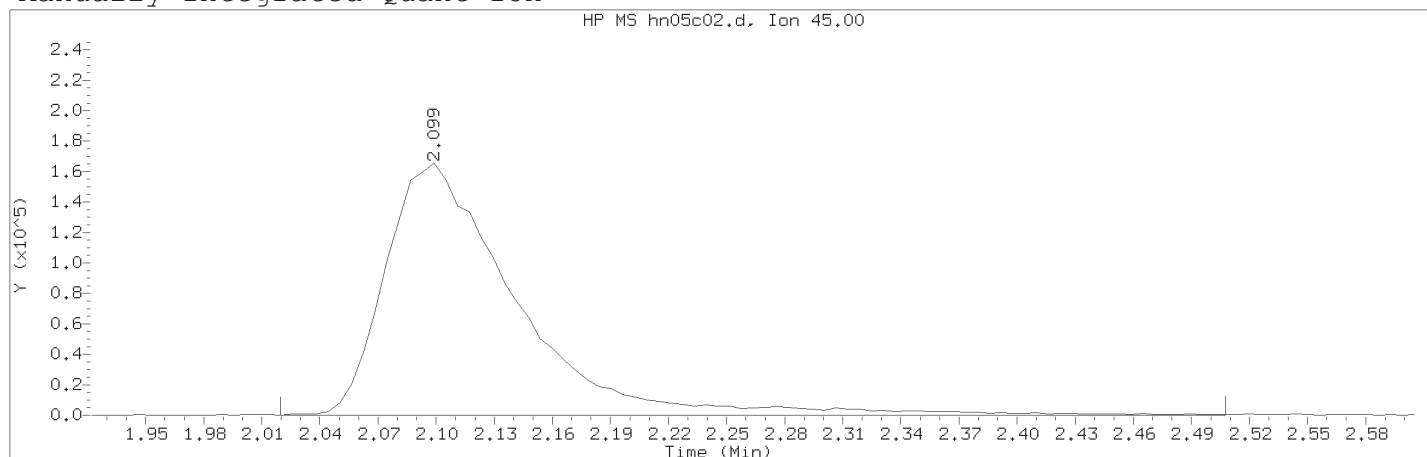
Target 3.5 esignature user ID: msk07970

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Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov05a.b/hn05c02.d

Instrument ID: HP19094.i

Injection date and time: 05-NOV-2016 08:52

Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 05-NOV-2016 09:11

Date, time and analyst ID of latest file update: 05-Nov-2016 09:14 msk07970

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	:	4	
Compound Name	:	Dimethyl ether	
Scan Number	:	84	
Retention Time (minutes)	:	2.099	
Quant Ion	:	45.00	
Area (flag)	:	773914M	
On-Column Amount (ng)	:	10.0681	
Integration start scan	:	70	Integration stop scan: 150
Y at integration start	:	0	Y at integration end: 0

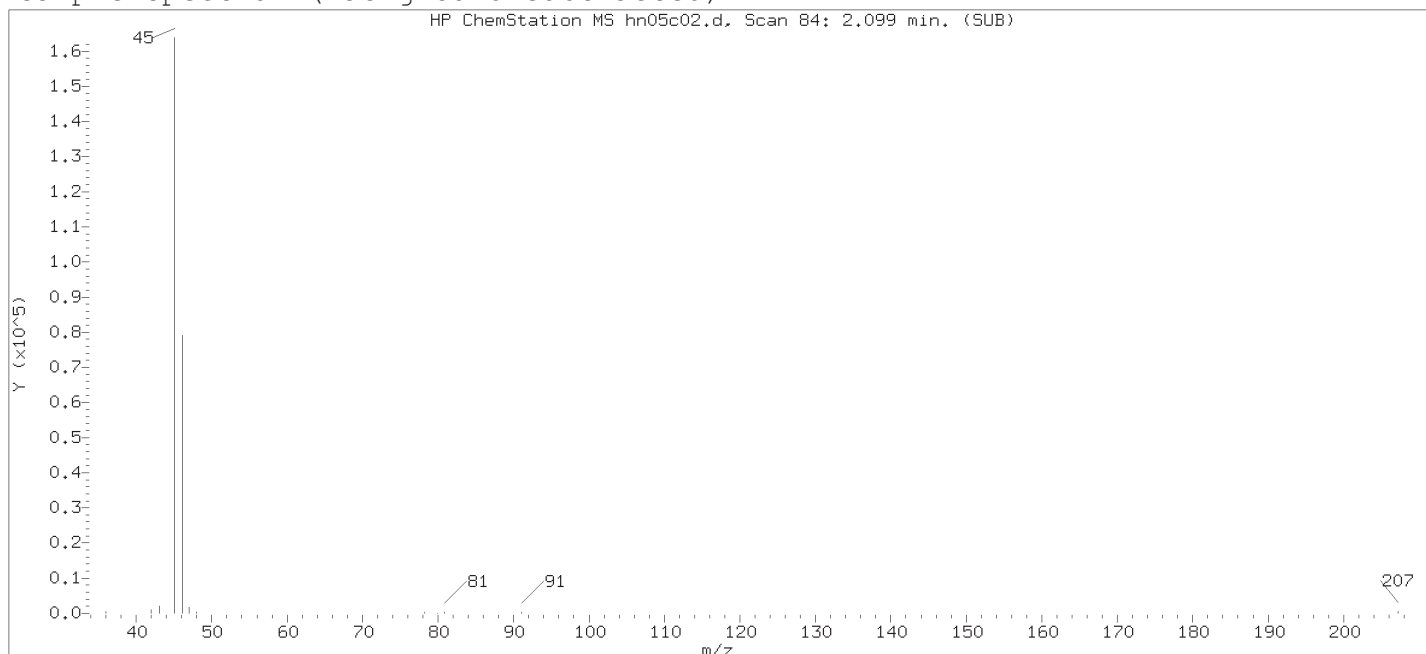
Reason for manual integration: improper integration

Analyst responsible for change:

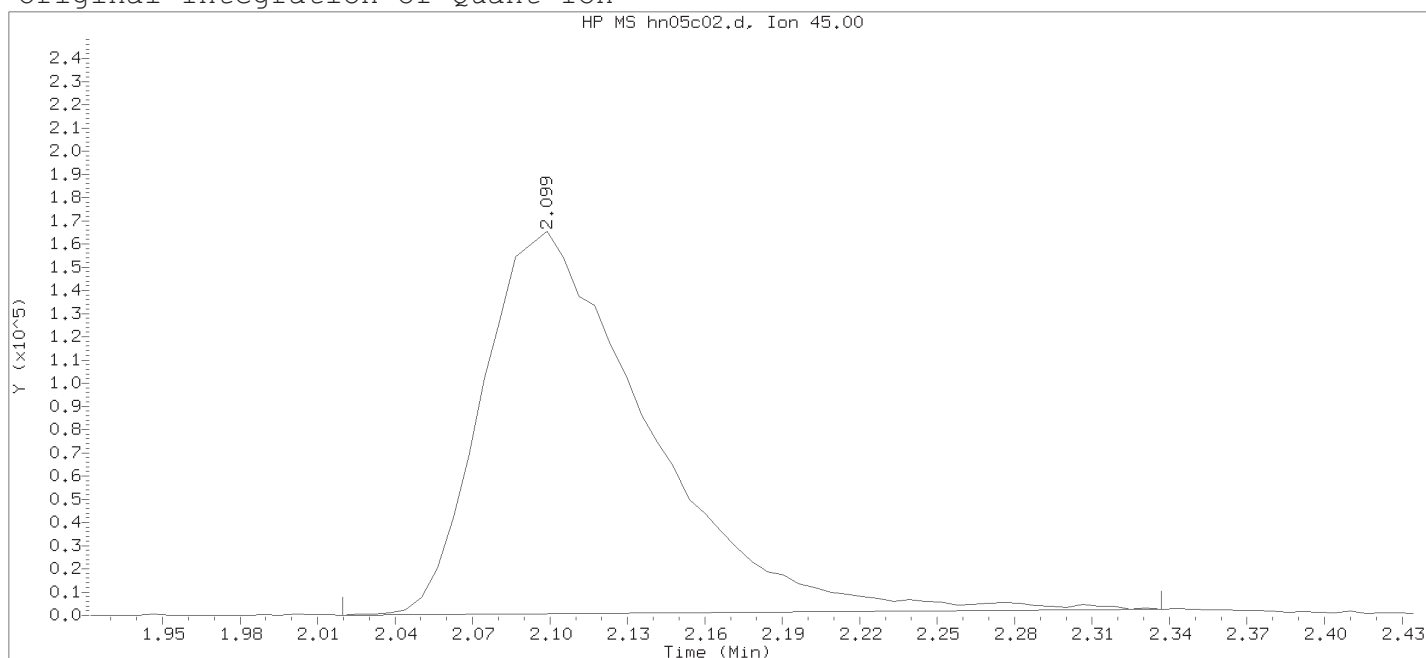
Digitally signed by Matthew S. Krause
on 11/05/2016 at 11:02.
Target 3.5 esignature user ID: msk07970

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 19:52.
PARALLAX ID: sej02002

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov05a.b/hn05c02.d

Instrument ID: HP19094.i

Injection date and time: 05-NOV-2016 08:52

Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 05-NOV-2016 09:11

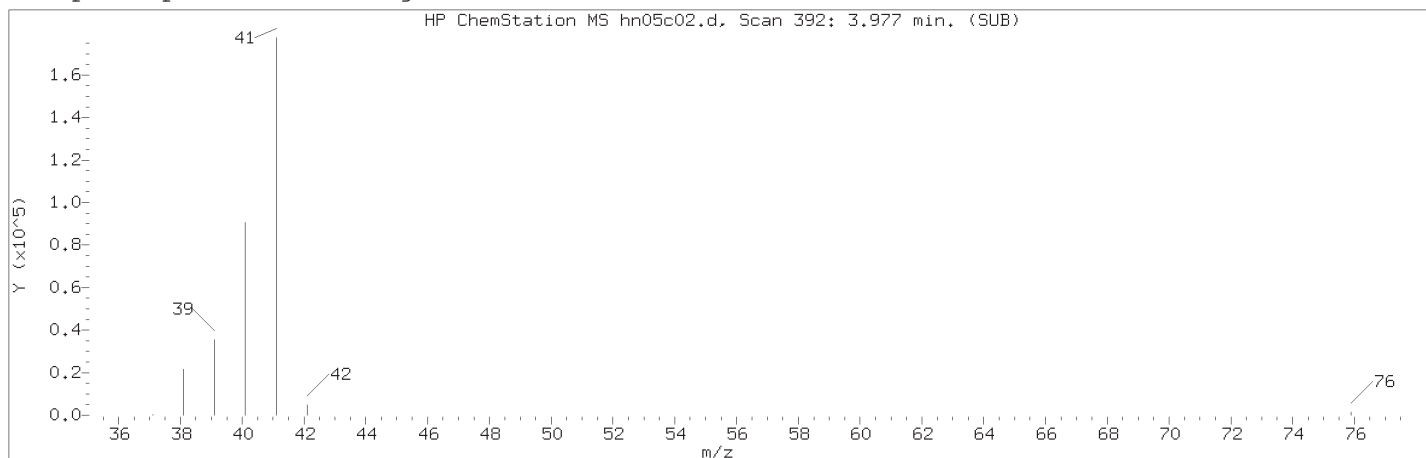
Date, time and analyst ID of latest file update: 05-Nov-2016 09:11 Automation

Sample Name: VSTD010

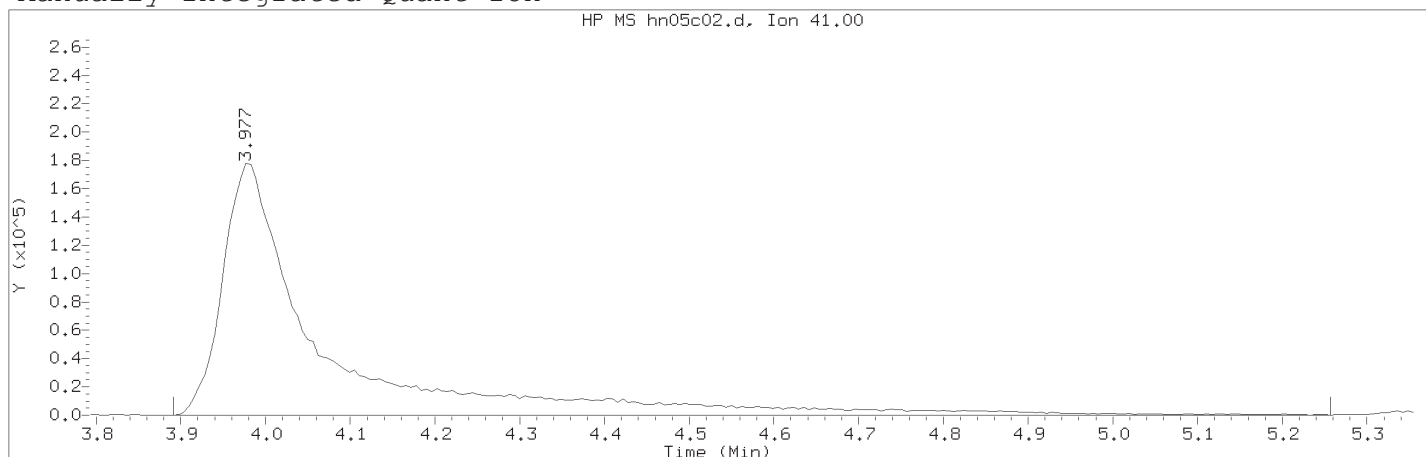
Lab Sample ID: VSTD010

Compound Number	: 4	
Compound Name	: Dimethyl ether	
Scan Number	: 84	
Retention Time (minutes)	: 2.099	
Quant Ion	: 45.00	
Area	: 736904	
On-column Amount (ng)	: 9.5867	
Integration start scan	: 70	Integration stop scan: 122
Y at integration start	: 0	Y at integration end: 2549

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov05a.b/hn05c02.d

Instrument ID: HP19094.i

Injection date and time: 05-NOV-2016 08:52

Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 05-NOV-2016 09:11

Date, time and analyst ID of latest file update: 05-Nov-2016 09:14 msk07970

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 25	
Compound Name	: Acetonitrile	
Scan Number	: 392	
Retention Time (minutes)	: 3.977	
Quant Ion	: 41.00	
Area (flag)	: 1428836M	
On-Column Amount (ng)	: 343.9934	
Integration start scan	: 377	Integration stop scan: 601
Y at integration start	: 0	Y at integration end: 0

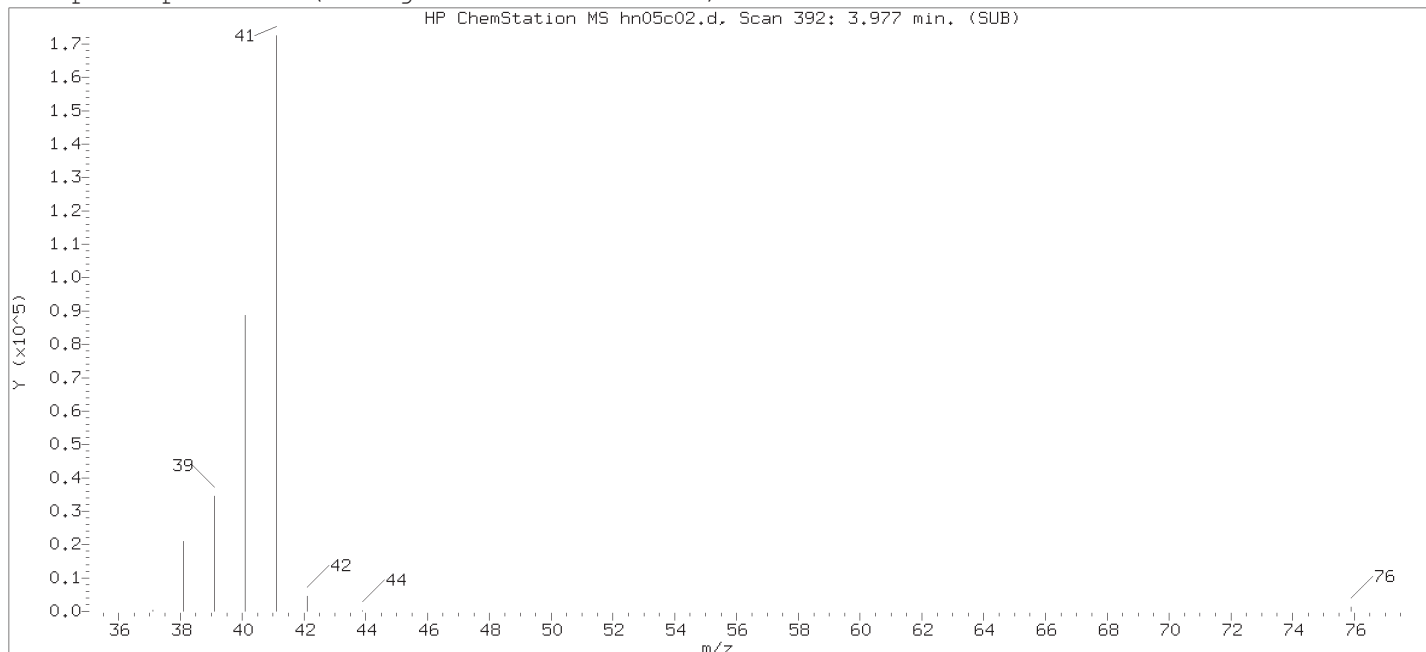
Reason for manual integration: improper integration

Analyst responsible for change:

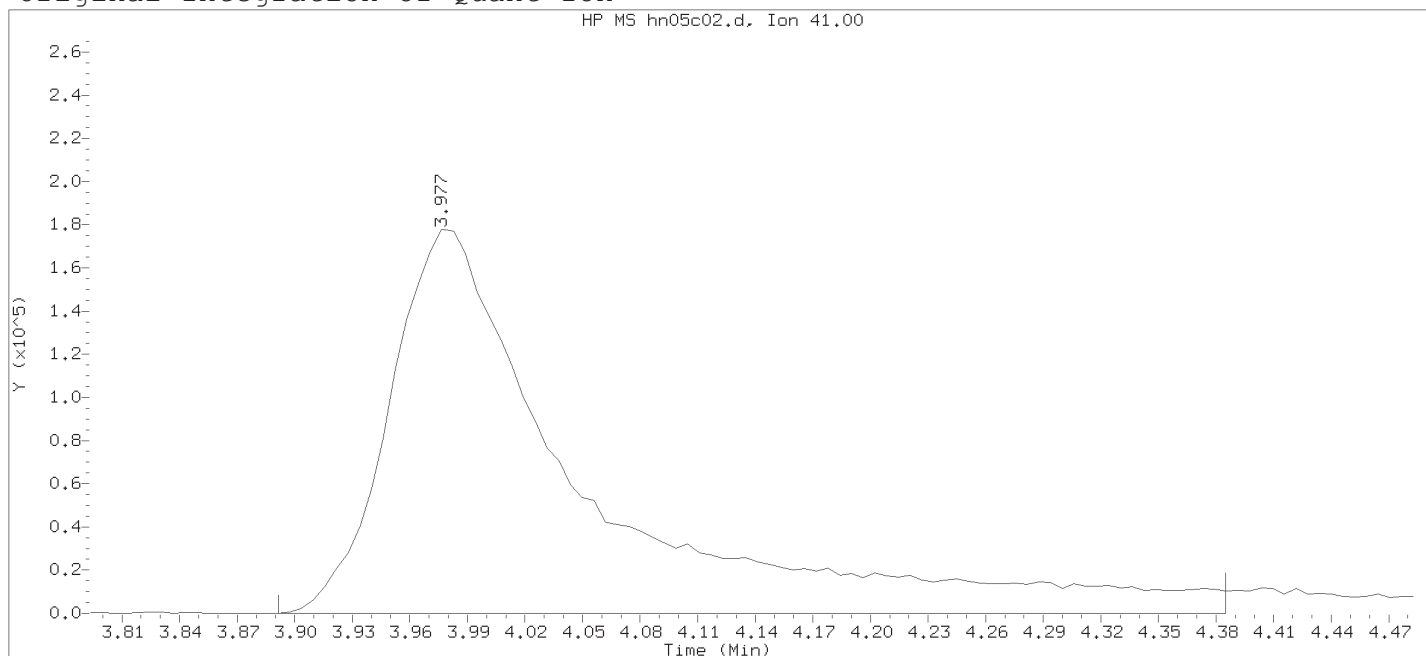
Digitally signed by Matthew S. Krause
on 11/05/2016 at 11:02.
Target 3.5 esignature user ID: msk07970

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 19:52.
PARALLAX ID: sej02002

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov05a.b/hn05c02.d

Instrument ID: HP19094.i

Injection date and time: 05-NOV-2016 08:52

Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 05-NOV-2016 09:11

Date, time and analyst ID of latest file update: 05-Nov-2016 09:11 Automation

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 25	
Compound Name	: Acetonitrile	
Scan Number	: 392	
Retention Time (minutes)	: 3.977	
Quant Ion	: 41.00	
Area	: 1246217	
On-column Amount (ng)	: 300.0262	
Integration start scan	: 377	Integration stop scan: 458
Y at integration start	: 0	Y at integration end: 0

Page 1

Client ID: bfb 50ng

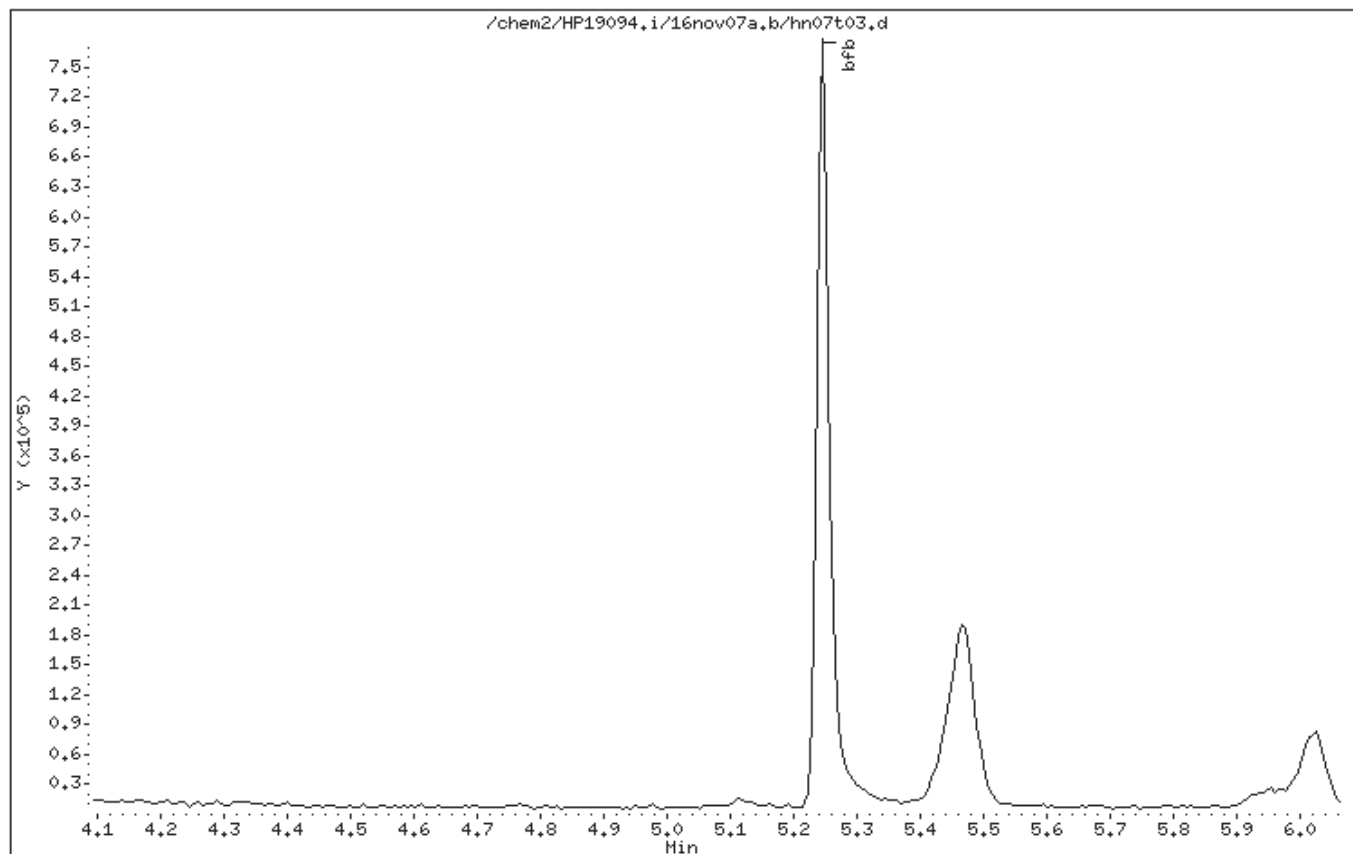
Instrument: HP19094.i

Sample Info: bfb 50ng;bfb AUG22-16;1;3; ; ; ;

Operator: KEL01973

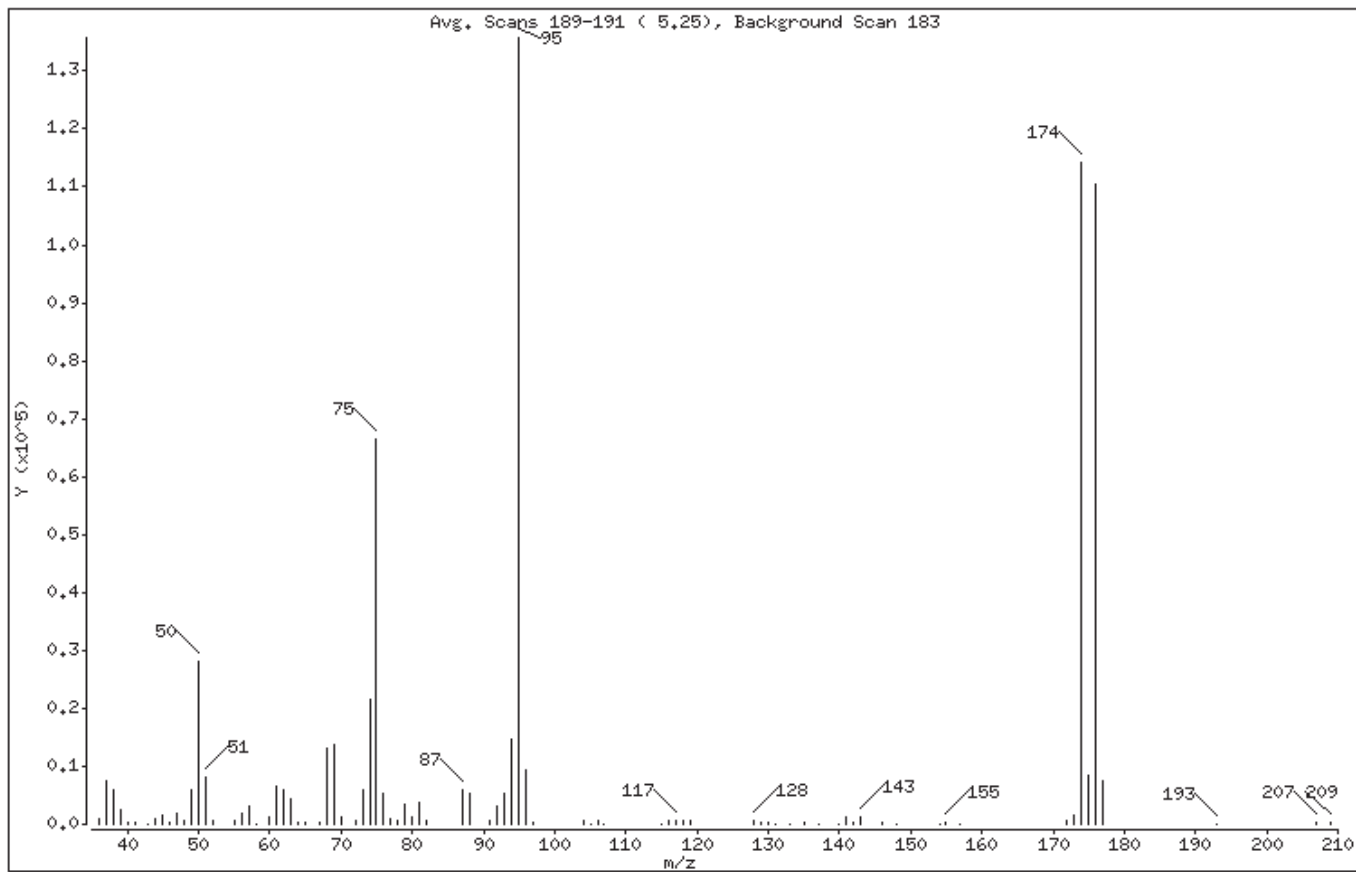
Column phase: Rxi-624Sil MS

Column diameter: 0.25



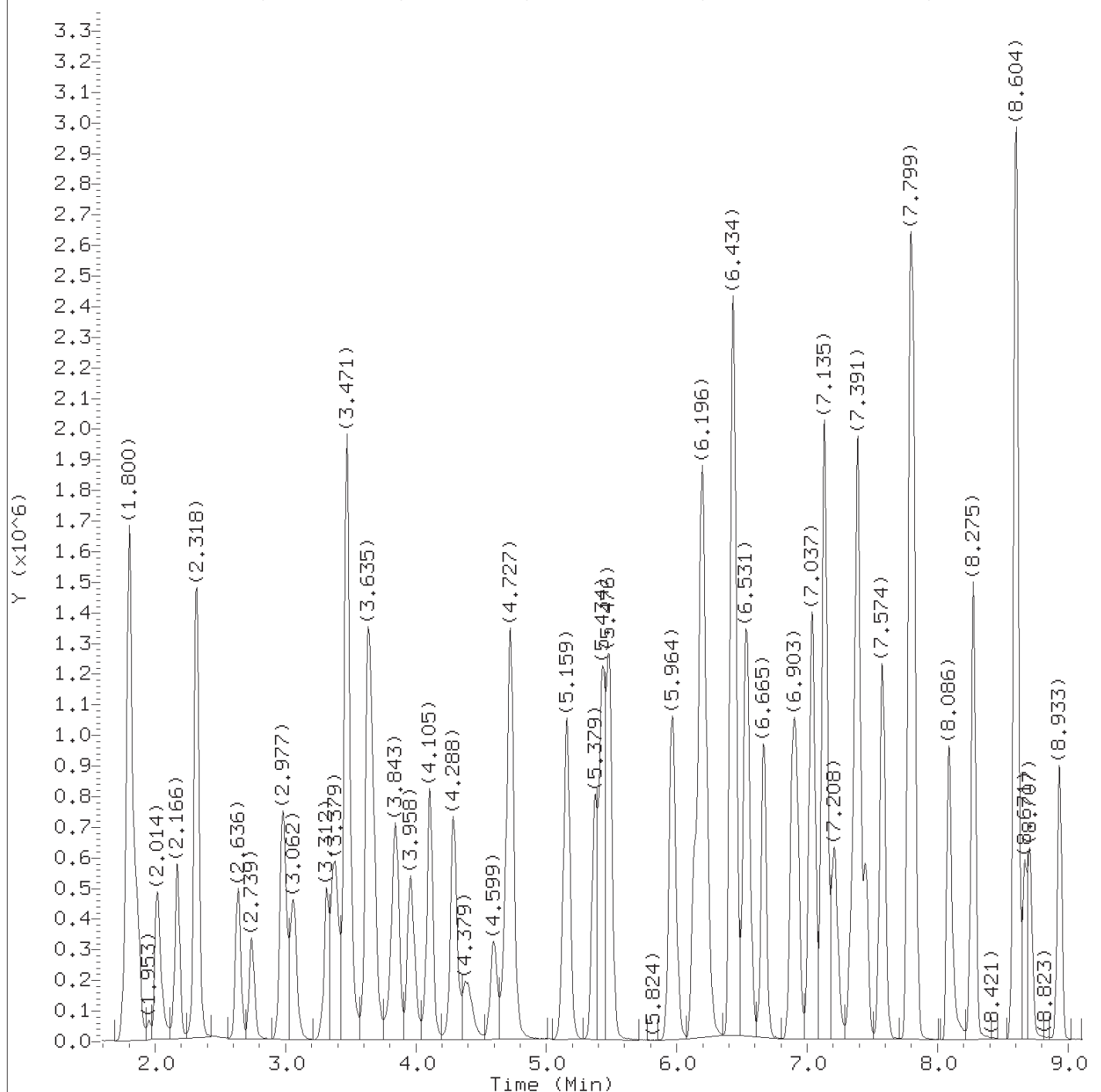
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1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.61
75	30.00 - 60.00% of mass 95	49.05
96	5.00 - 9.00% of mass 95	6.95
173	Less than 2.00% of mass 174	1.18 (1.41)
174	50.00 - 100.00% of mass 95	84.03
175	5.00 - 9.00% of mass 174	6.27 (7.46)
176	95.00 - 101.00% of mass 174	81.35 (96.81)
177	5.00 - 9.00% of mass 176	5.55 (6.82)

Digitally signed by Kerri E. Koch Legerlotz on 11/07/2016 at 08:59.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07c01.d
Injection date and time: 07-NOV-2016 09:51

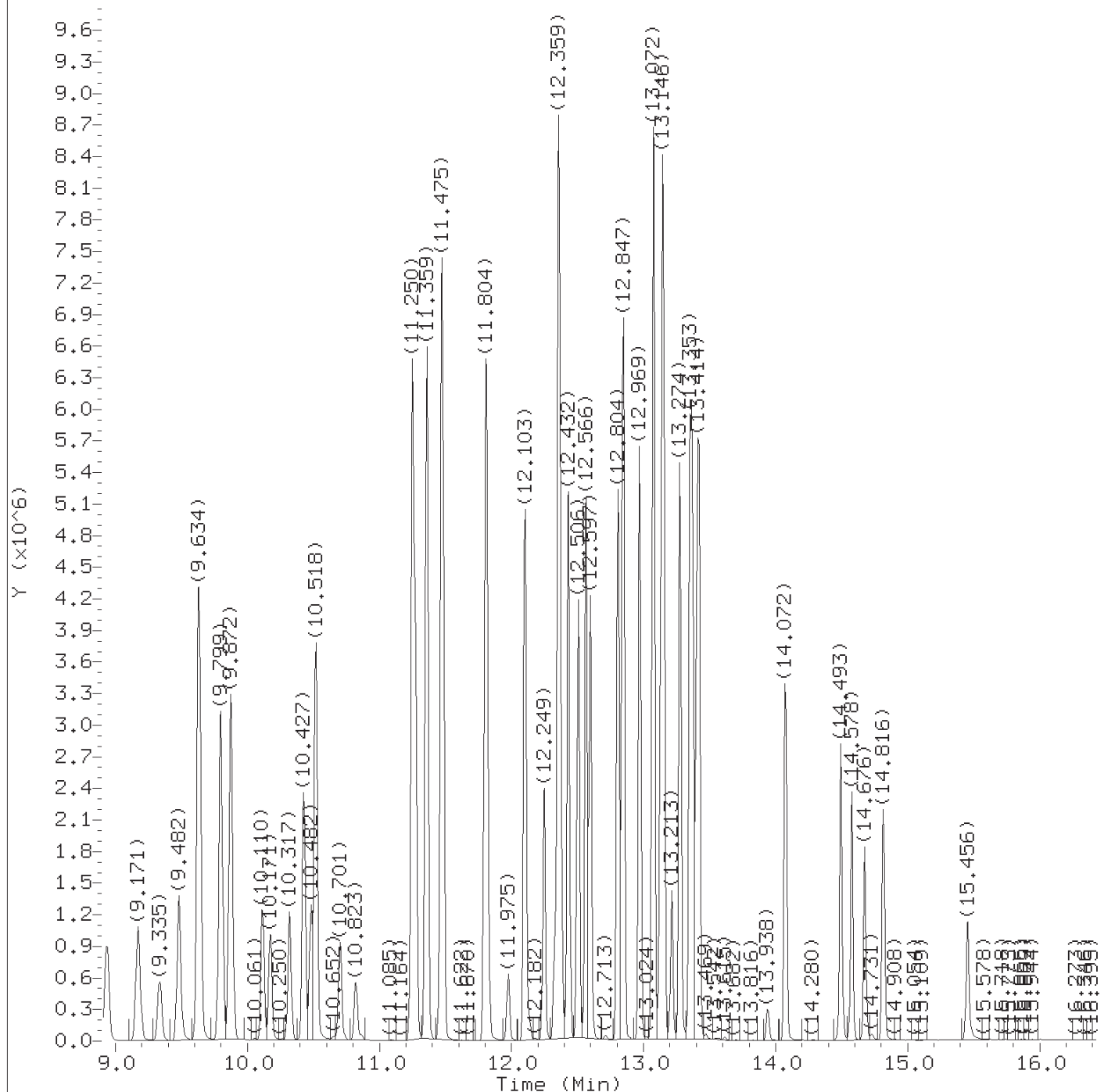
Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 07-NOV-2016 10:42
Date, time and analyst ID of latest file update: 07-Nov-2016 10:42 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 10:42.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07c01.d
 Injection date and time: 07-NOV-2016 09:51

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 07-NOV-2016 10:42
 Date, time and analyst ID of latest file update: 07-Nov-2016 10:42 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Digitally signed by Kerri E. Koch Legerlotz
 on 11/07/2016 at 10:42.

Target 3.5 esignature user ID: kel01973
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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07c01.d
 Injection date and time: 07-NOV-2016 09:51

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 07-NOV-2016 10:42
 Date, time and analyst ID of latest file update: 07-Nov-2016 10:42 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.014	85	982488	9.704
2) Chloromethane	(2)	2.166	50	904715	8.349
5) Vinyl Chloride	(2)	2.312	62	829360	8.585
6) 1,3-Butadiene	(2)	2.318	39	759099M	5.127
7) Bromomethane	(2)	2.636	94	521348	8.412
8) Chloroethane	(2)	2.739	64	471277	8.629
9) Dichlorofluoromethane	(2)	2.977	67	1083066	8.308
10) Trichlorofluoromethane	(2)	3.062	101	1031275	8.796
11) Ethyl ether	(2)	3.312	59	387590	8.959
12) Freon 123a	(2)	3.379	67	746693	9.175
13) Acrolein	(1)	3.471	56	2940551	397.978
15) 1,1-Dichloroethene	(2)	3.629	96	502171	9.192
14) Acetone	(1)	3.635	43	834462	84.359
16) Freon 113	(2)	3.666	101	545335	9.133
17) Methyl Iodide	(2)	3.830	142	960808	9.202
18) Carbon Disulfide	(2)	3.958	76	1505102	9.086
21) Methyl Acetate	(1)	4.074	43	206350	6.647
22) Allyl Chloride	(2)	4.111	41	873712	7.351
26) *t-Butyl Alcohol-d10	(1)	4.263	65	102741	50.000
23) Methylene Chloride	(2)	4.288	84	573490	9.784
28) t-Butyl Alcohol	(1)	4.397	59	568591	212.787
29) Acrylonitrile	(1)	4.592	53	540907	46.473
30) Methyl Tertiary Butyl Ether	(2)	4.702	73	1220602	9.577
31) trans-1,2-Dichloroethene	(2)	4.727	96	578597	9.344
32) n-Hexane	(2)	5.159	57	932542	9.879
33) 1,1-Dichloroethane	(2)	5.367	63	1154678	9.470
34) di-Isopropyl Ether	(2)	5.434	45	2060235	9.423
35) 2-Chloro-1,3-Butadiene	(2)	5.482	53	1032062	9.142
37) Ethyl t-butyl ether	(2)	5.964	59	1660141	9.360
40) 1,2-Dichloroethene (Total)	(2)		96	1233134	18.985
38) 2-Butanone	(1)	6.135	43	1492695	85.279
39) cis-1,2-Dichloroethene	(2)	6.190	96	654537	9.642
42) Propionitrile	(1)	6.202	54	792327	205.233
41) 2,2-Dichloropropane	(2)	6.214	77	892401	9.018
45) Methacrylonitrile	(1)	6.434	67	1393775	84.559
47) Bromochloromethane	(2)	6.525	128	241804	8.883
48) Tetrahydrofuran	(1)	6.549	71	372315	82.522
49) Chloroform	(2)	6.665	83	1083809	9.202

M = Compound was manually integrated.

* = Compound is an internal standard.

page 1 of 4

Digitally signed by Kerri E. Koch Legerlotz
 on 11/07/2016 at 10:42.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07c01.d
 Injection date and time: 07-NOV-2016 09:51

Instrument ID: HP19094.i
 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 8260W25
 Calibration date and time: 07-NOV-2016 10:42
 Date, time and analyst ID of latest file update: 07-Nov-2016 10:42 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
50) \$Dibromofluoromethane	(2)	6.885	113	543070	9.940
50) \$Dibromofluoromethane	(2)	6.885	111	548417	9.817
51) 1,1,1-Trichloroethane	(2)	6.915	97	918592	8.663
52) Cyclohexane	(2)	7.043	56	1133408	9.109
52) Cyclohexane	(2)	7.037	84	891669	8.683
52) Cyclohexane	(2)	7.037	69	332437	9.472
55) 1,1-Dichloropropene	(2)	7.129	75	904411	9.435
54) Carbon Tetrachloride	(2)	7.141	117	827503	9.035
56) Isobutyl Alcohol	(1)	7.208	41	548271	518.736
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	91937	10.475
57) \$1,2-Dichloroethane-d4	(2)	7.342	65	469940	9.726
57) \$1,2-Dichloroethane-d4	(2)	7.342	104	57726	10.279
58) Benzene	(2)	7.391	78	2520358	9.862
59) 1,2-Dichloroethane	(2)	7.452	62	669234M	9.406
60) t-Amyl methyl ether	(2)	7.574	73	1399115	9.724
63) *Fluorobenzene	(2)	7.787	96	2382061	10.000
62) n-Heptane	(2)	7.817	43	1126088	9.909
65) n-Butanol	(1)	8.086	56	885836	1147.488
67) Trichloroethene	(2)	8.275	95	662698	9.465
70) 1,2-Dichloropropane	(2)	8.598	63	681807	10.481
69) Methylcyclohexane	(2)	8.604	83	979840	8.014
71) Methyl Methacrylate	(1)	8.665	69	267473A	8.814
72) 1,4-Dioxane	(1)	8.683	88	101517	540.358
73) Dibromomethane	(2)	8.707	93	281696	10.342
74) Bromodichloromethane	(2)	8.939	83	772494	10.368
76) 2-Nitropropane	(1)	9.171	41	880697	78.450
80) cis-1,3-Dichloropropene	(2)	9.482	75	918795	10.864
81) 4-Methyl-2-Pentanone	(1)	9.628	43	3702342	79.132
82) \$Toluene-d8	(3)	9.799	98	2404419	9.838
82) \$Toluene-d8	(3)	9.799	100	1571887	10.002
83) Toluene	(3)	9.872	92	1599799	9.525
84) trans-1,3-Dichloropropene	(3)	10.116	75	735800	10.796
85) 1,3-Dichloropropene (total)	(3)		75	1654595	21.660
86) Ethyl Methacrylate	(3)	10.177	69	546501	10.399
88) 1,1,2-Trichloroethane	(3)	10.317	97	400001	10.346
89) Tetrachloroethene	(3)	10.427	166	728804	9.066
90) 1,3-Dichloropropane	(3)	10.482	76	728868	10.372
91) 2-Hexanone	(1)	10.518	43	2569145M	79.334

M = Compound was manually integrated.

A = User selected an alternate hit.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
 on 11/07/2016 at 10:42.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07c01.d
Injection date and time: 07-NOV-2016 09:51

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 07-NOV-2016 10:42
Date, time and analyst ID of latest file update: 07-Nov-2016 10:42 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
93) Dibromochloromethane	(3)	10.701	129	495741	10.340
95) 1,2-Dibromoethane	(3)	10.823	107	381462	10.433
97) *Chlorobenzene-d5	(3)	11.244	117	1618017	10.000
98) Chlorobenzene	(3)	11.274	112	1762204	9.847
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	587883	9.559
100) Ethylbenzene	(3)	11.359	91	3128655	9.467
101) m+p-Xylene	(3)	11.475	106	2400419	19.331
105) Xylene (Total)	(3)		106	3548722	28.814
104) o-Xylene	(3)	11.798	106	1148303	9.481
106) Styrene	(3)	11.817	104	1884499	10.169
107) Bromoform	(3)	11.975	173	271053	10.326
108) Isopropylbenzene	(3)	12.103	105	3006195	9.206
111) \$4-Bromofluorobenzene	(3)	12.243	95	728537	10.139
111) \$4-Bromofluorobenzene	(3)	12.249	174	617740	9.607
113) 1,1,2,2-Tetrachloroethane	(4)	12.329	83	476700M	10.392
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	1215923	87.702
114) Bromobenzene	(4)	12.365	156	691757	9.352
116) 1,2,3-Trichloropropane	(4)	12.377	110	122605	10.012
117) n-Propylbenzene	(4)	12.432	91	3734605	9.523
119) 2-Chlorotoluene	(4)	12.506	126	704707	9.506
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	2562888	9.501
122) 4-Chlorotoluene	(4)	12.597	126	728889	9.616
125) tert-Butylbenzene	(4)	12.804	134	529930M	9.004
126) Pentachloroethane	(4)	12.841	167	407905	8.957
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	2570277	9.438
128) sec-Butylbenzene	(4)	12.969	105	3340745	9.437
131) 1,3-Dichlorobenzene	(4)	13.072	146	1377163	9.573
132) p-Isopropyltoluene	(4)	13.079	119	2821297	9.552
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	741635	10.000
134) 1,4-Dichlorobenzene	(4)	13.146	146	1370177	9.157
135) 1,2,3-Trimethylbenzene	(4)	13.152	120	1032150	8.757
136) Benzyl Chloride	(4)	13.213	126	183732	11.774
138) n-Butylbenzene	(4)	13.371	92	1441008	10.163
139) 1,2-Dichlorobenzene	(4)	13.402	146	1196098	9.346
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	58477	8.583
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	799383	8.770
146) Hexachlorobutadiene	(4)	14.578	225	393954	9.084
147) Naphthalene	(4)	14.676	128	1275735	9.219

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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on 11/07/2016 at 10:42.

Target 3.5 esignature user ID: kel01973

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07c01.d Instrument ID: HP19094.i
Injection date and time: 07-NOV-2016 09:51 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 07-NOV-2016 10:42
Date, time and analyst ID of latest file update: 07-Nov-2016 10:42 kel01973

Sample Name: VSTD010

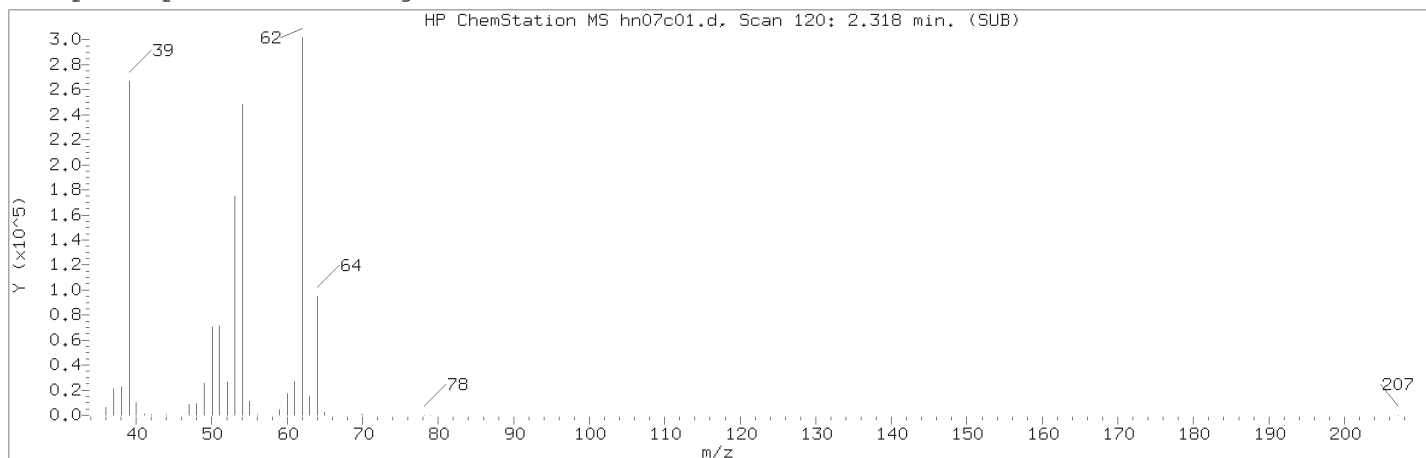
Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
148) 1,2,3-Trichlorobenzene	(4)	14.816	180	646890	8.430

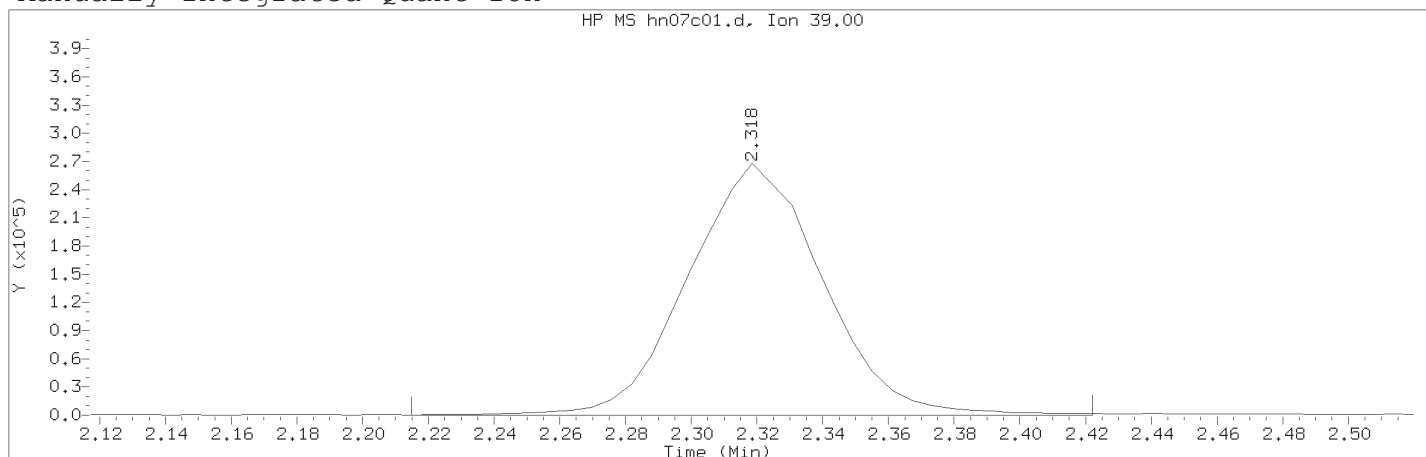
page 4 of 4

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on 11/07/2016 at 10:42.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07c01.d

Instrument ID: HP19094.i

Injection date and time: 07-NOV-2016 09:51

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 07-NOV-2016 10:42

Date, time and analyst ID of latest file update: 07-Nov-2016 10:42 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 6	
Compound Name	: 1,3-Butadiene	
Scan Number	: 120	
Retention Time (minutes)	: 2.318	
Quant Ion	: 39.00	
Area (flag)	: 759099M	
On-Column Amount (ng)	: 5.1268	
Integration start scan	: 102	Integration stop scan: 136
Y at integration start	: 288	Y at integration end: 288

Reason for manual integration: improper integration

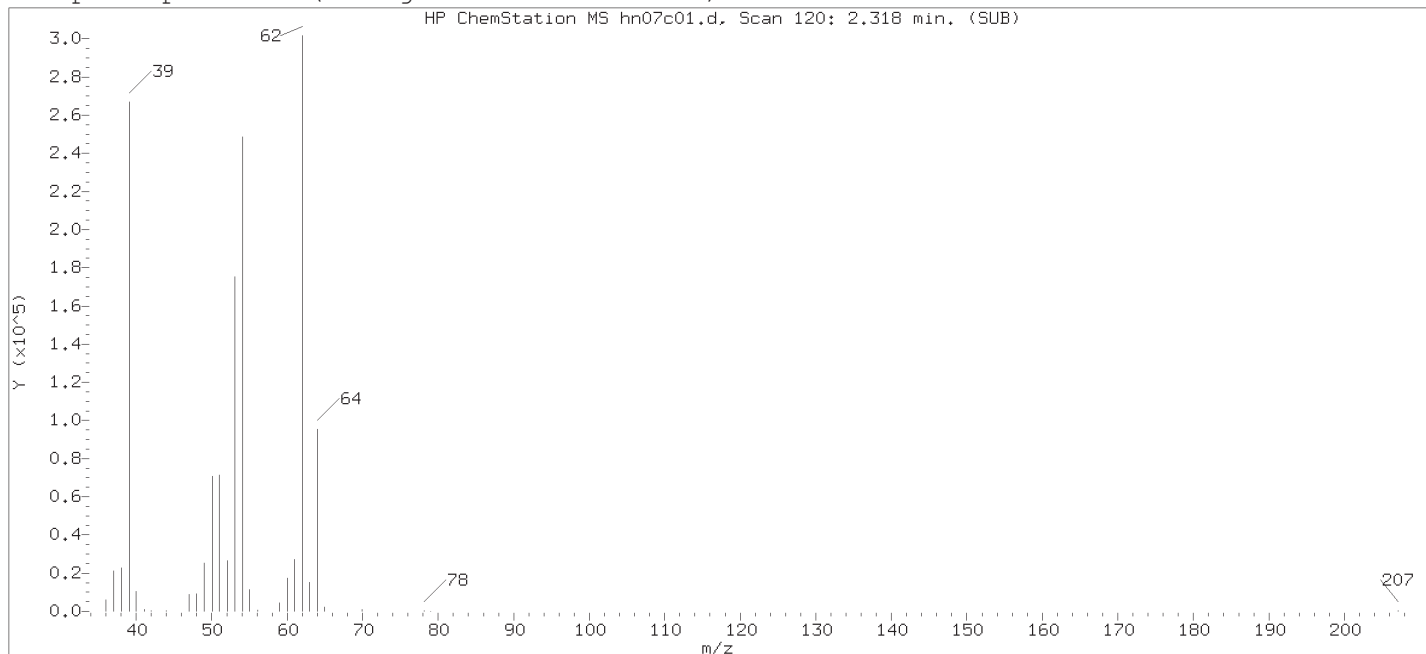
Analyst responsible for change:

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 10:42.
Target 3.5 esignature user ID: kel01973

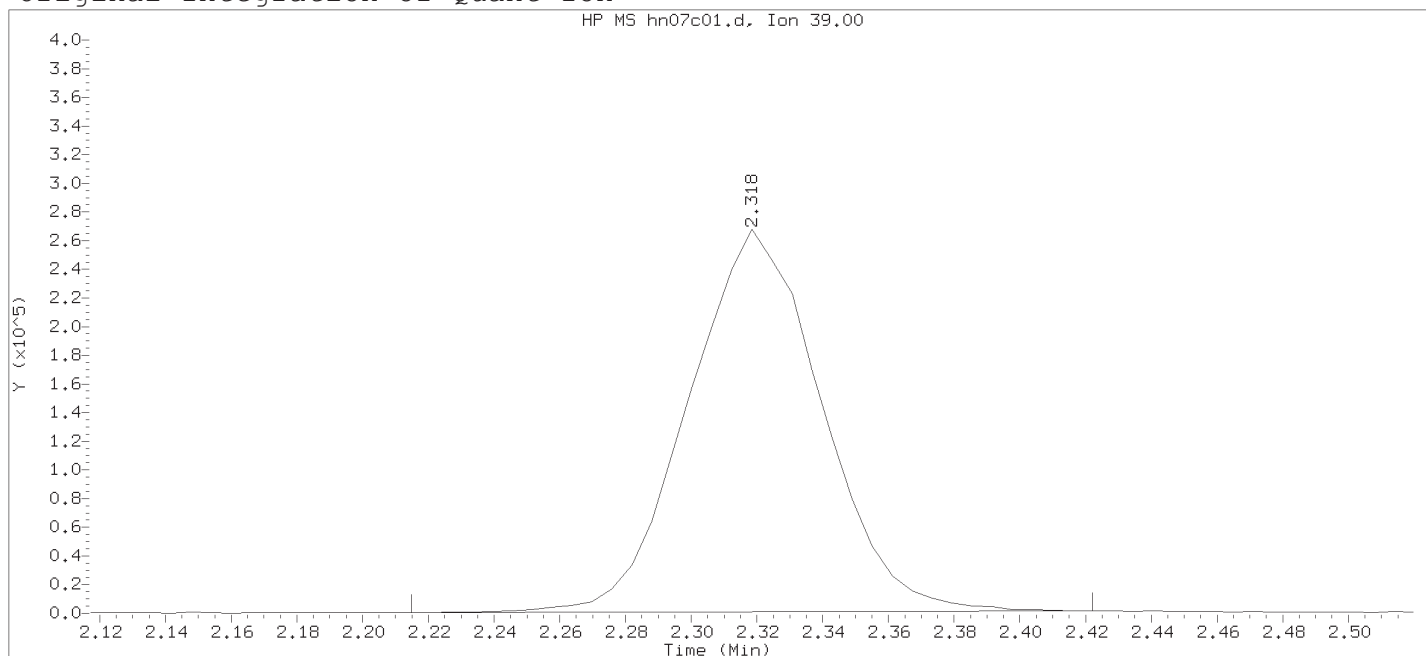
Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 17:56.

PARALLAX ID: sej02002

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07c01.d

Instrument ID: HP19094.i

Injection date and time: 07-NOV-2016 09:51

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 07-NOV-2016 10:10

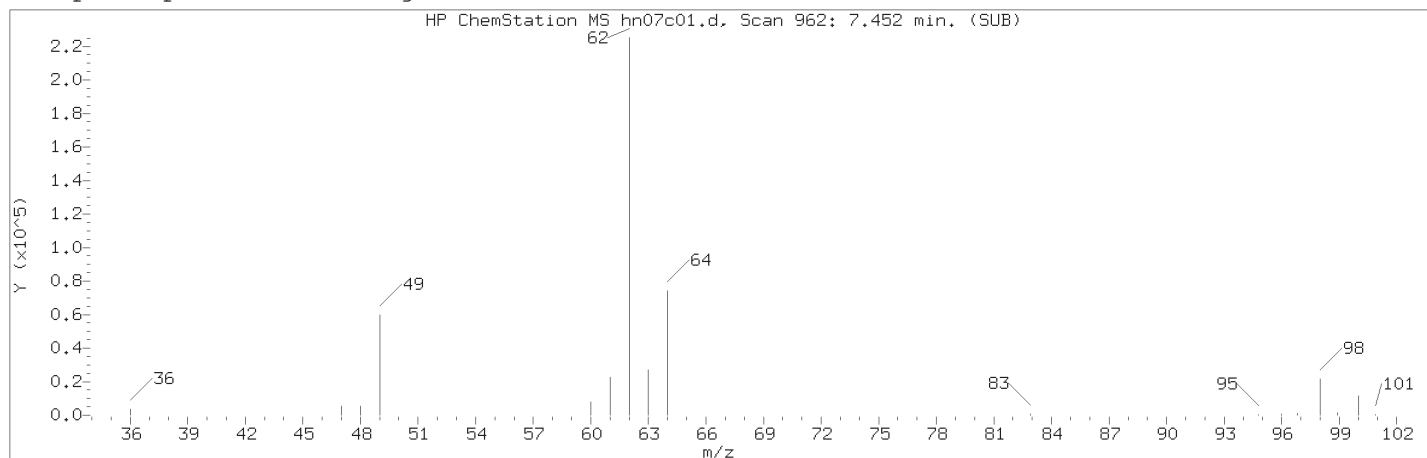
Date, time and analyst ID of latest file update: 07-Nov-2016 10:10 Automation

Sample Name: VSTD010

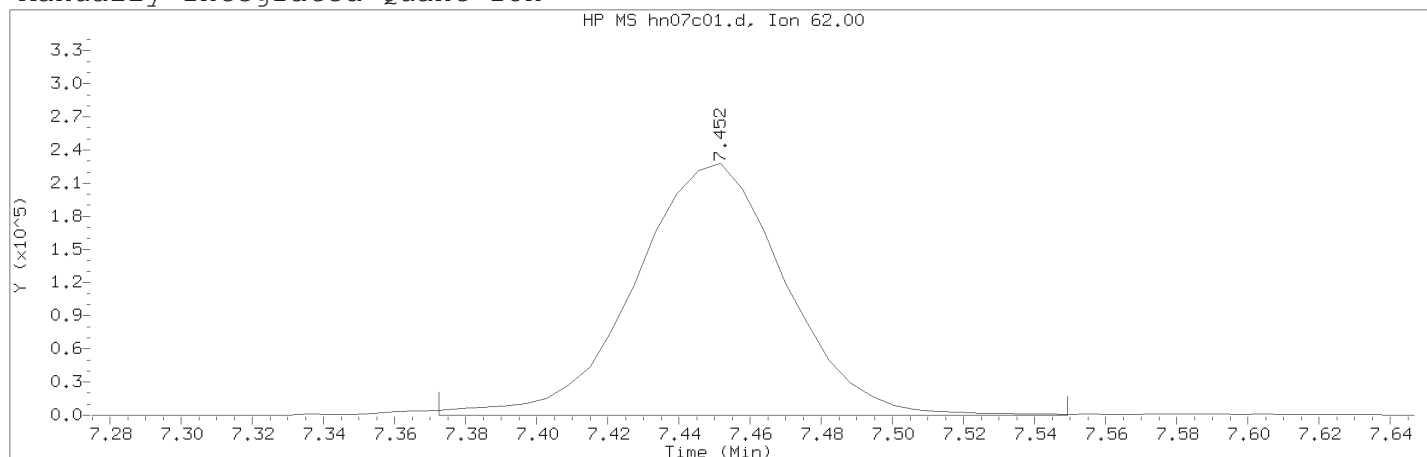
Lab Sample ID: VSTD010

Compound Number	: 6	
Compound Name	: 1,3-Butadiene	
Scan Number	: 120	
Retention Time (minutes)	: 2.318	
Quant Ion	: 39.00	
Area	: 749712	
On-column Amount (ng)	: 5.0635	
Integration start scan	: 102	Integration stop scan: 136
Y at integration start	: 288	Y at integration end: 1755

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07c01.d Instrument ID: HP19094.i
Injection date and time: 07-NOV-2016 09:51 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 07-NOV-2016 10:42
Date, time and analyst ID of latest file update: 07-Nov-2016 10:42 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

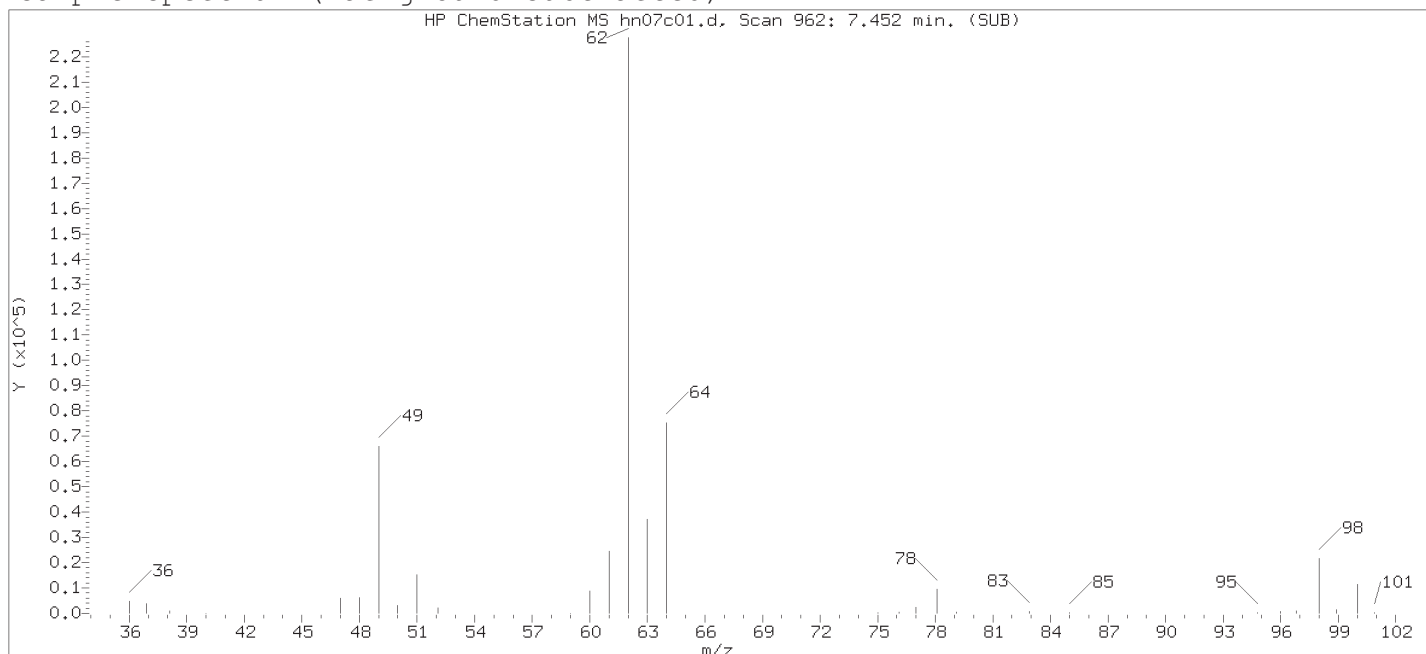
Compound Number	: 59	
Compound Name	: 1,2-Dichloroethane	
Scan Number	: 962	
Retention Time (minutes)	: 7.452	
Quant Ion	: 62.00	
Area (flag)	: 669234M	
On-Column Amount (ng)	: 9.4064	
Integration start scan	: 948	Integration stop scan: 977
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

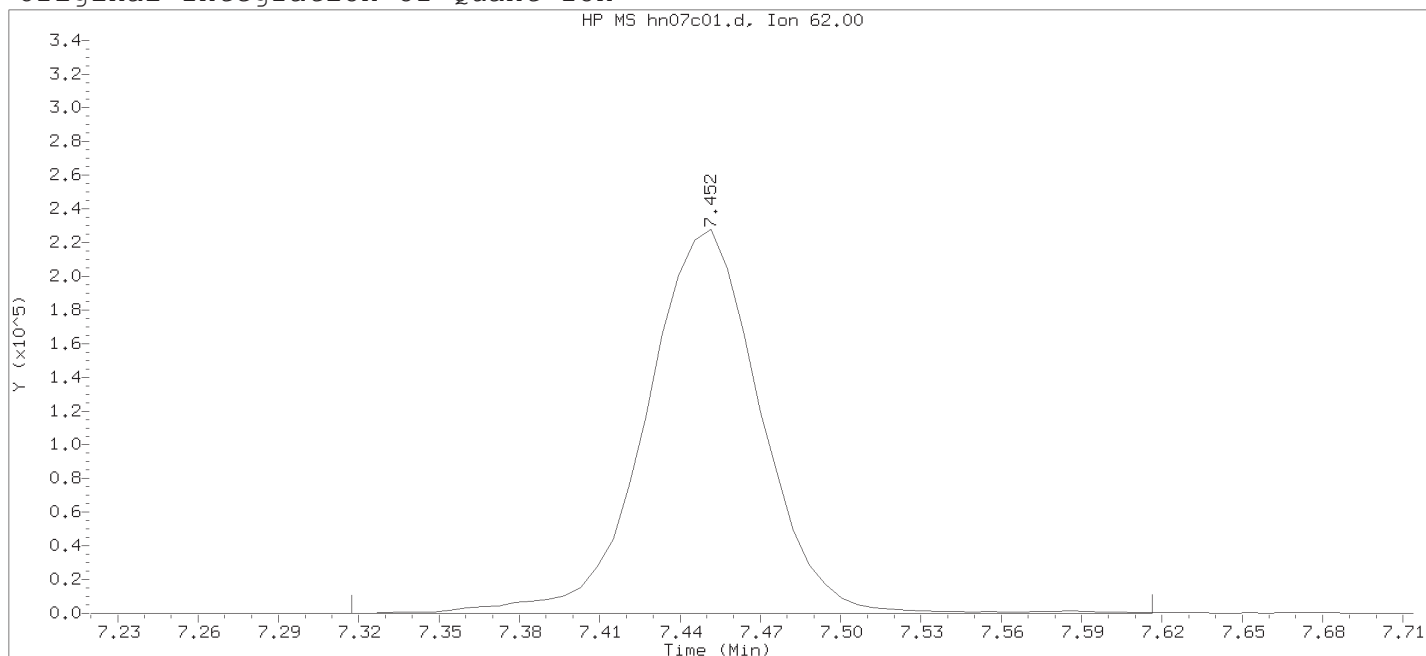
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 10:42.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 17:56.
PARALLAX ID: sej02002

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07c01.d

Instrument ID: HP19094.i

Injection date and time: 07-NOV-2016 09:51

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 07-NOV-2016 10:10

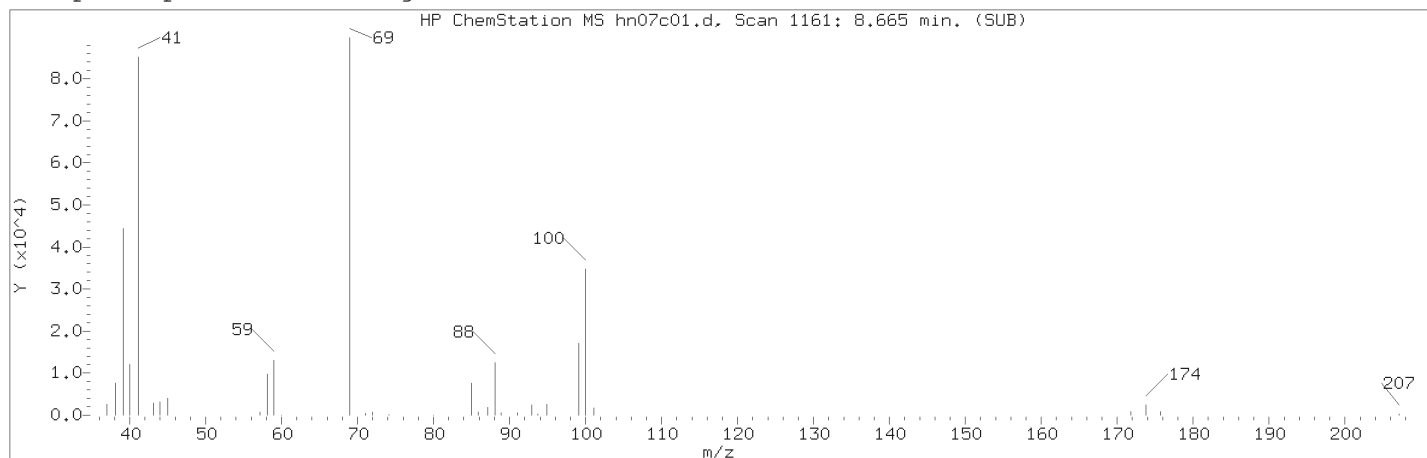
Date, time and analyst ID of latest file update: 07-Nov-2016 10:10 Automation

Sample Name: VSTD010

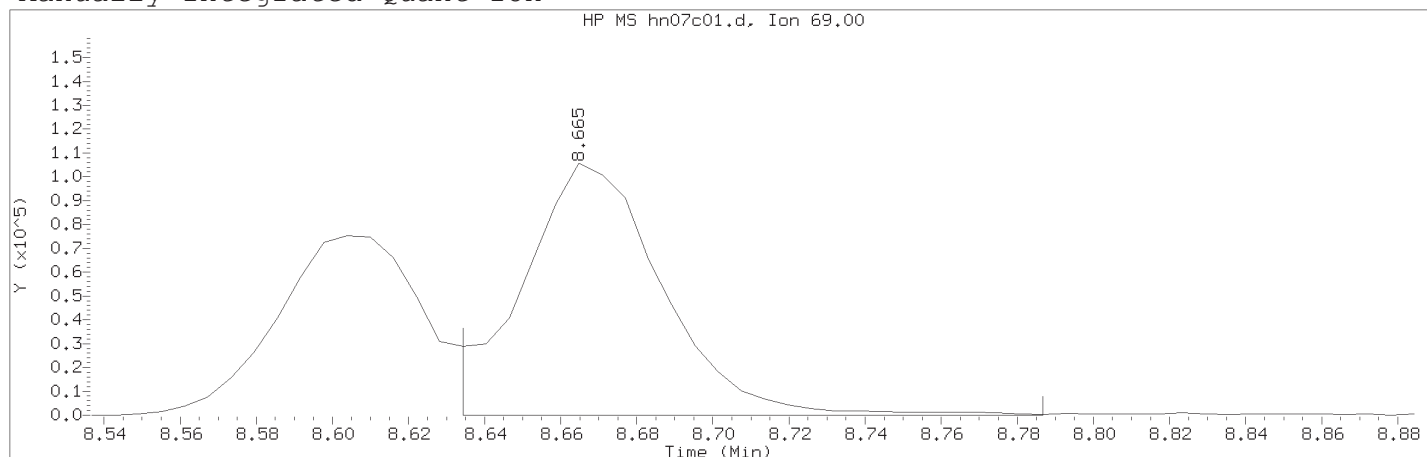
Lab Sample ID: VSTD010

Compound Number	: 59	
Compound Name	: 1,2-Dichloroethane	
Scan Number	: 962	
Retention Time (minutes)	: 7.452	
Quant Ion	: 62.00	
Area	: 676729	
On-column Amount (ng)	: 9.5117	
Integration start scan	: 939	Integration stop scan: 988
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07c01.d

Instrument ID: HP19094.i

Injection date and time: 07-NOV-2016 09:51

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 07-NOV-2016 10:42

Date, time and analyst ID of latest file update: 07-Nov-2016 10:42 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 71	
Compound Name	: Methyl Methacrylate	
Scan Number	: 1161	
Retention Time (minutes)	: 8.665	
Quant Ion	: 69.00	
Area (flag)	: 267473A	
On-Column Amount (ng)	: 8.8139	
Integration start scan	: 1155	Integration stop scan: 1180
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

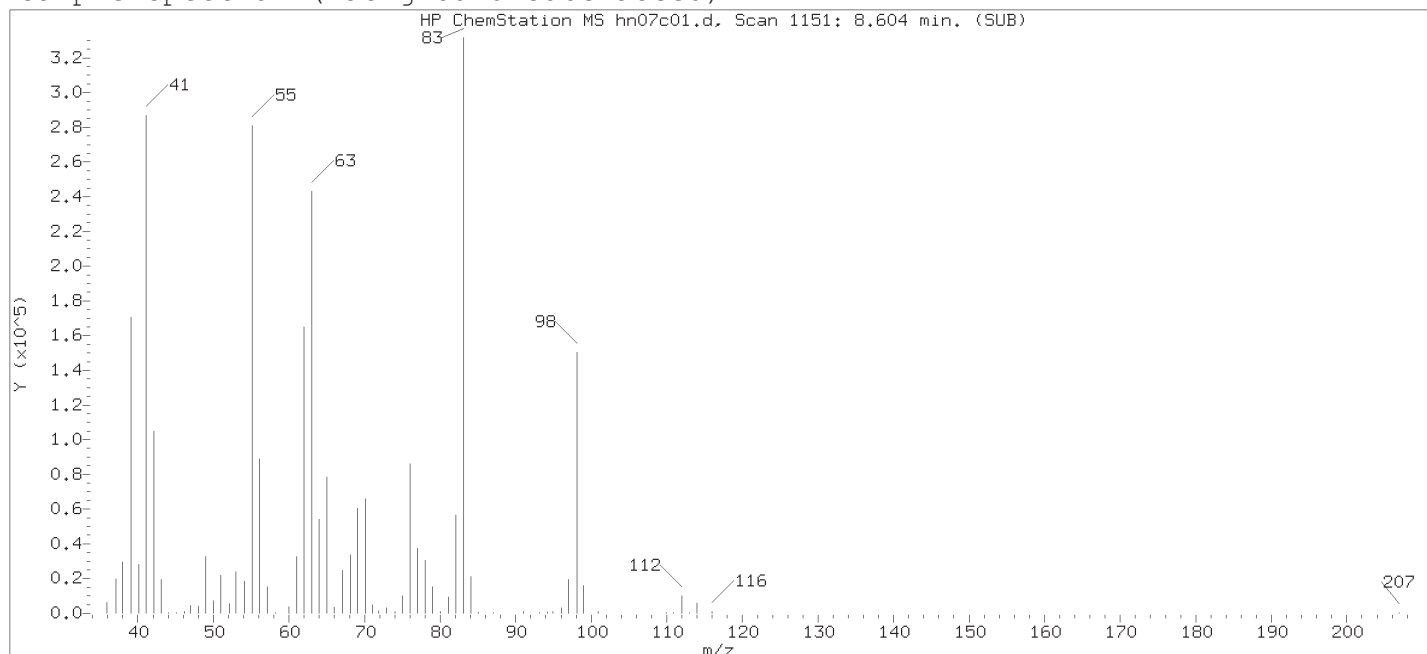
Analyst responsible for change:

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 10:42.
Target 3.5 esignature user ID: kel01973

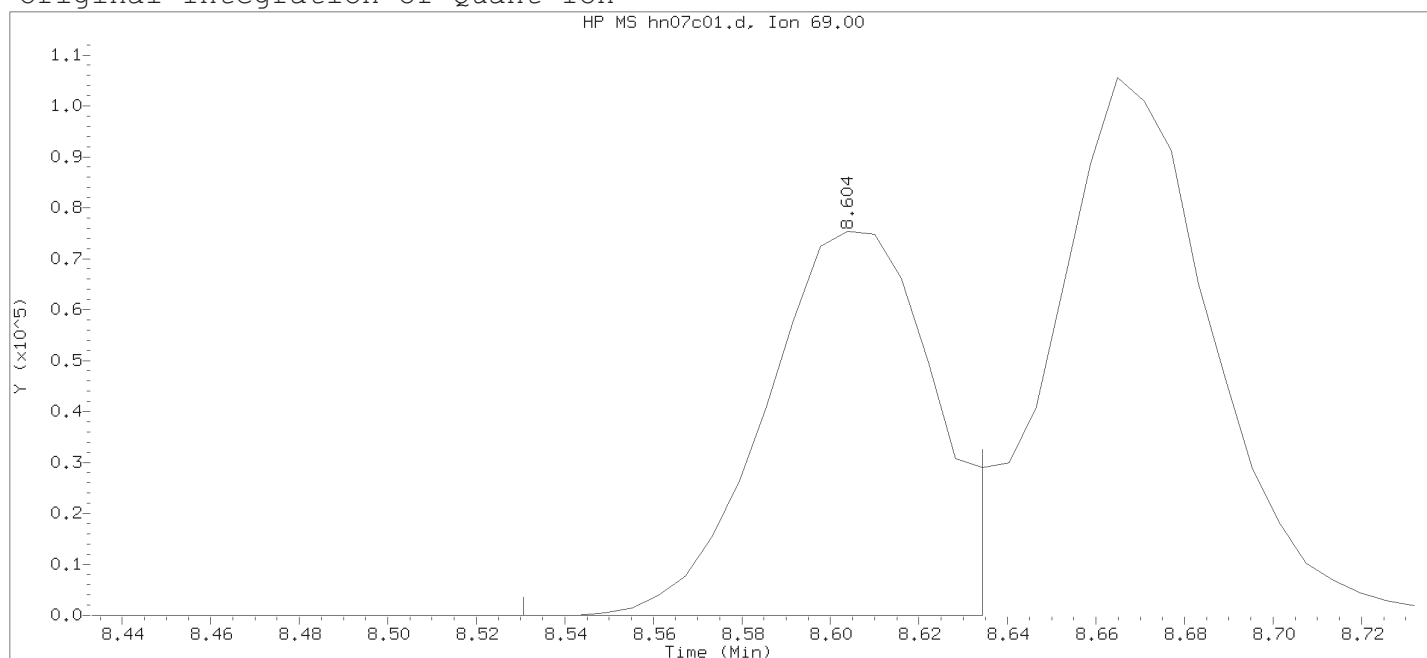
Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 17:56.

PARALLAX ID: sej02002

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07c01.d

Instrument ID: HP19094.i

Injection date and time: 07-NOV-2016 09:51

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 07-NOV-2016 10:10

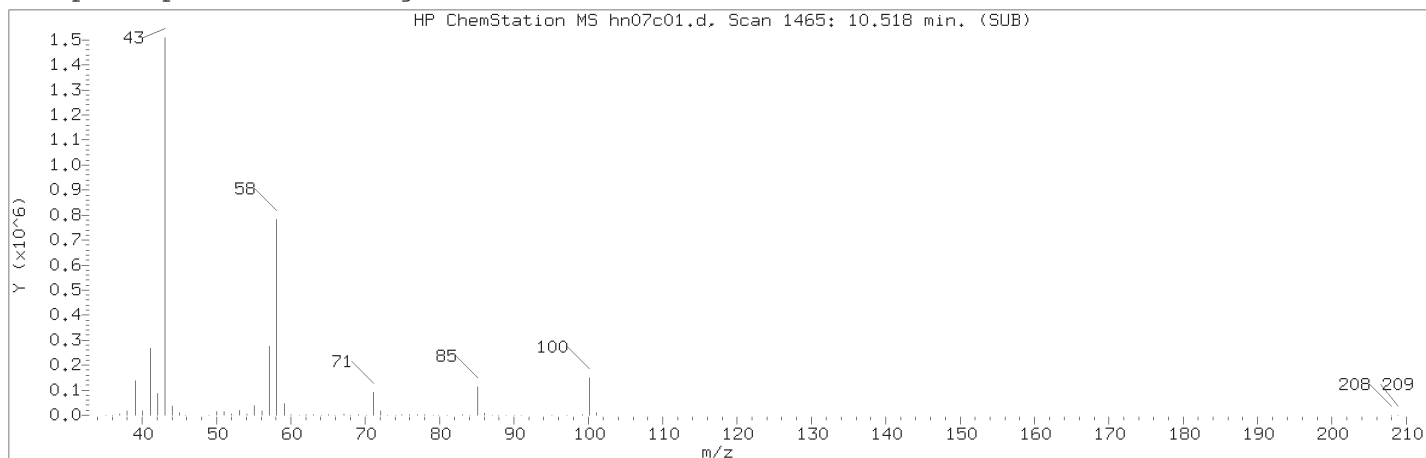
Date, time and analyst ID of latest file update: 07-Nov-2016 10:10 Automation

Sample Name: VSTD010

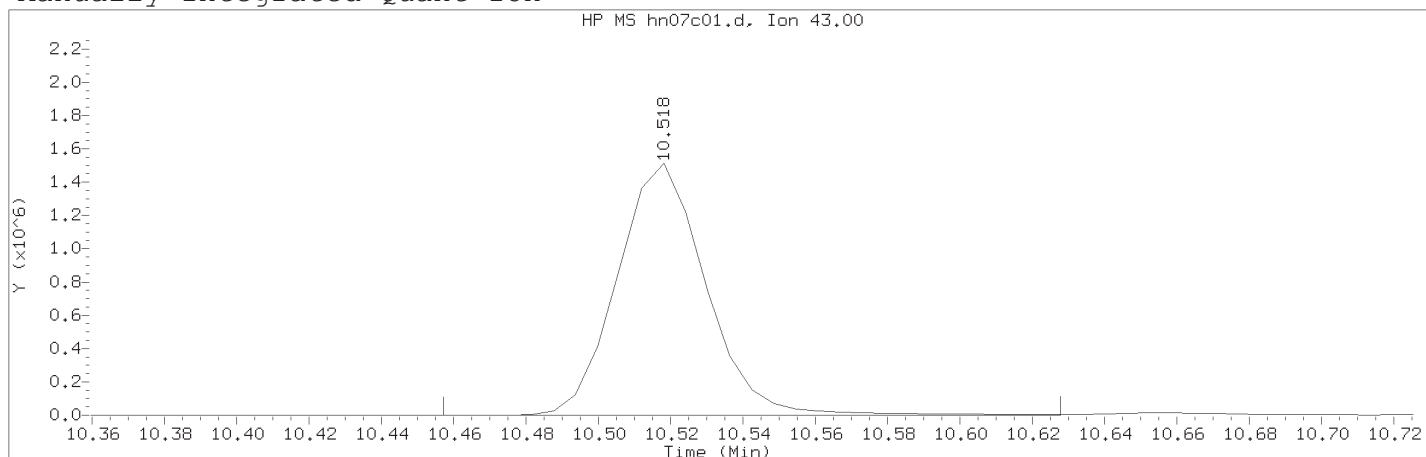
Lab Sample ID: VSTD010

Compound Number	: 71	
Compound Name	: Methyl Methacrylate	
Scan Number	: 1151	
Retention Time (minutes)	: 8.604	
Quant Ion	: 69.00	
Area	: 196806	
On-column Amount (ng)	: 6.4853	
Integration start scan	: 1138	Integration stop scan: 1155
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07c01.d

Instrument ID: HP19094.i

Injection date and time: 07-NOV-2016 09:51

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 07-NOV-2016 10:42

Date, time and analyst ID of latest file update: 07-Nov-2016 10:42 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 91	
Compound Name	: 2-Hexanone	
Scan Number	: 1465	
Retention Time (minutes)	: 10.518	
Quant Ion	: 43.00	
Area (flag)	: 2569145M	
On-Column Amount (ng)	: 79.3339	
Integration start scan	: 1454	Integration stop scan: 1482
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

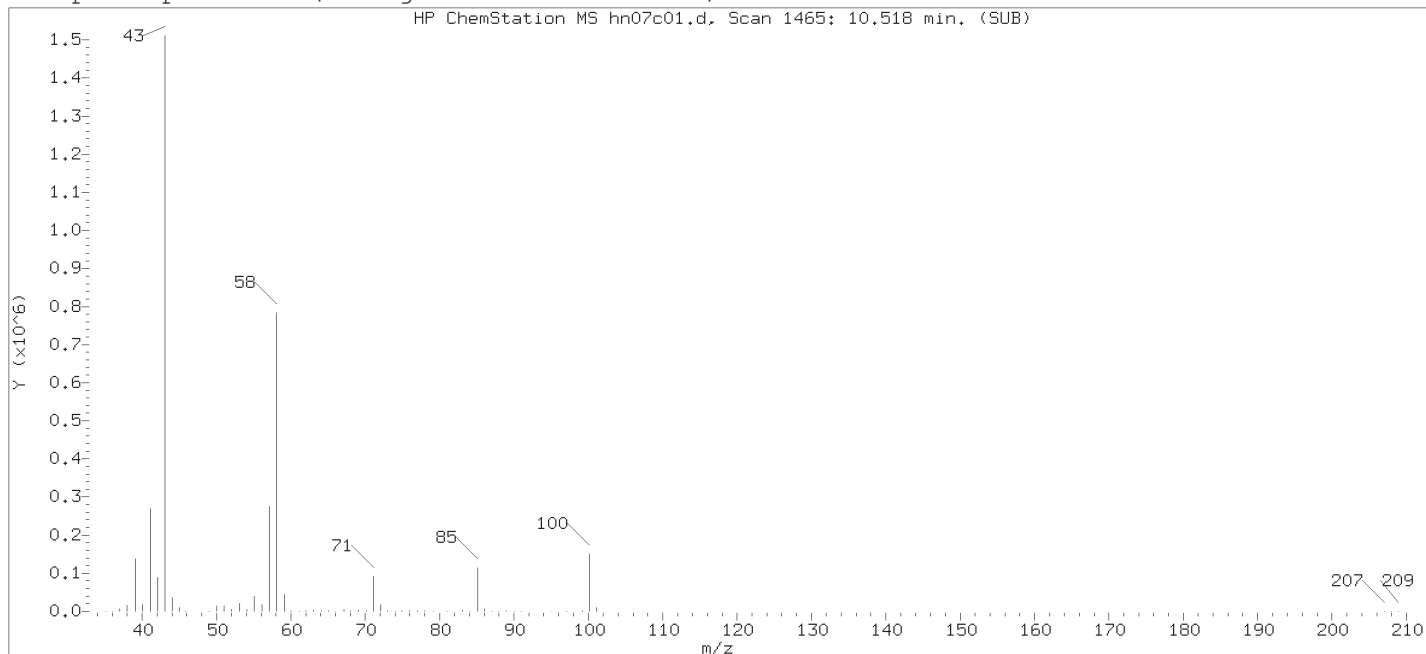
Analyst responsible for change:

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 10:42.
Target 3.5 esignature user ID: kel01973

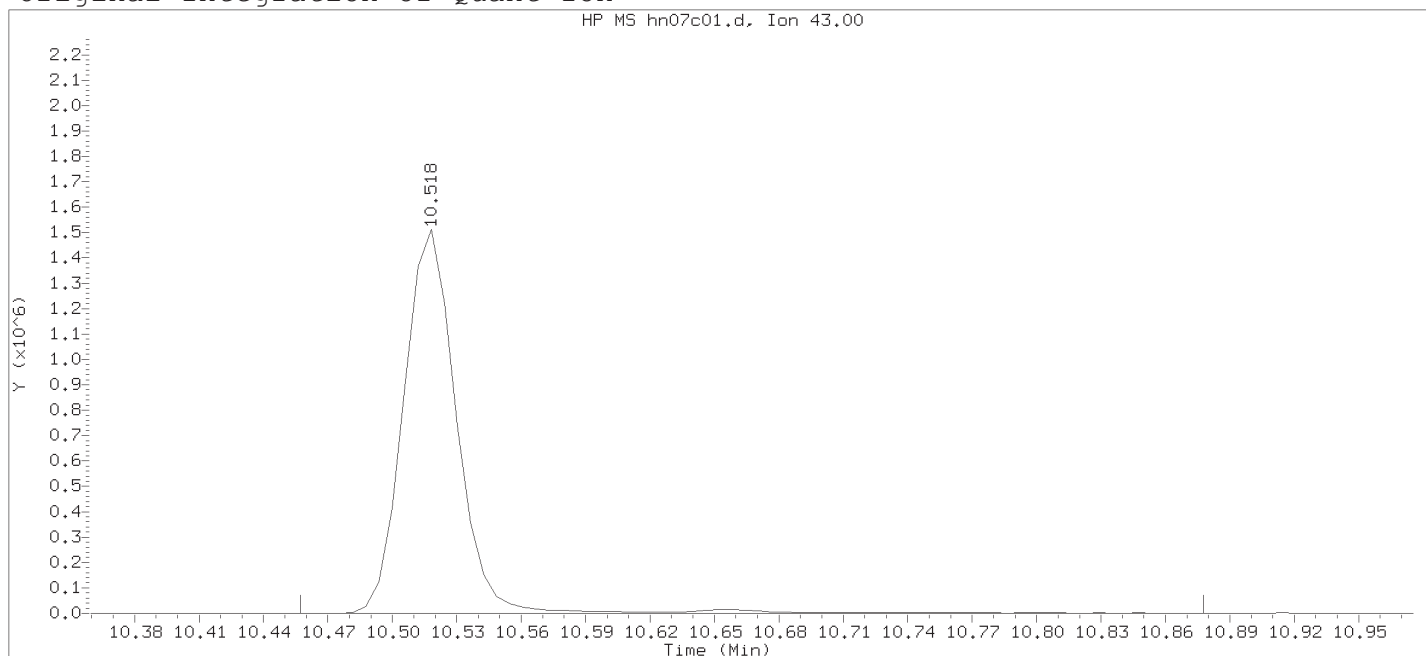
Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 17:56.

PARALLAX ID: sej02002

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07c01.d

Instrument ID: HP19094.i

Injection date and time: 07-NOV-2016 09:51

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 07-NOV-2016 10:10

Date, time and analyst ID of latest file update: 07-Nov-2016 10:10 Automation

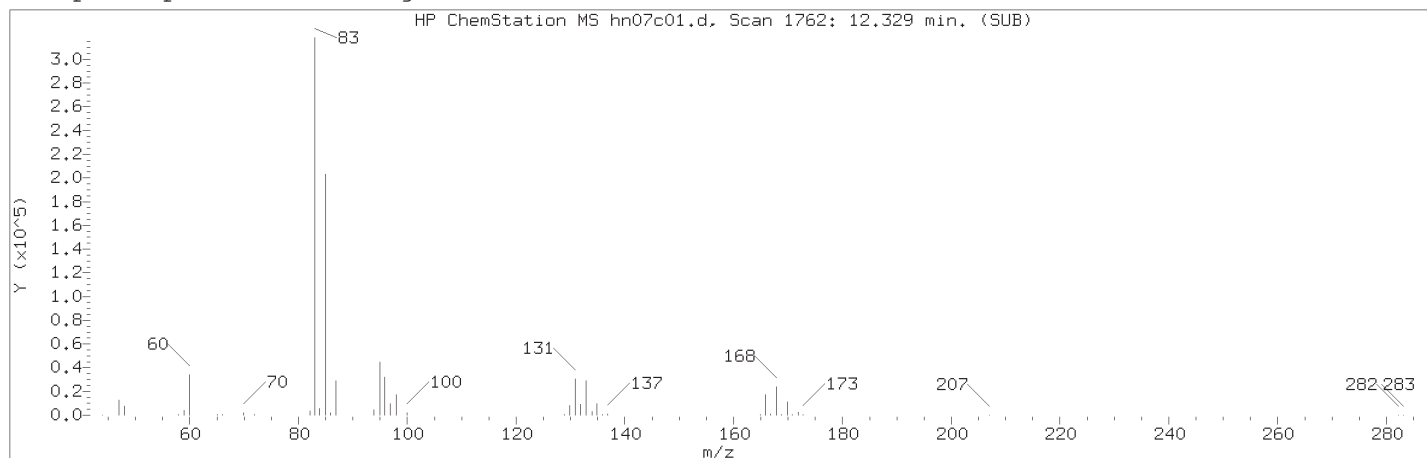
Sample Name: VSTD010

Lab Sample ID: VSTD010

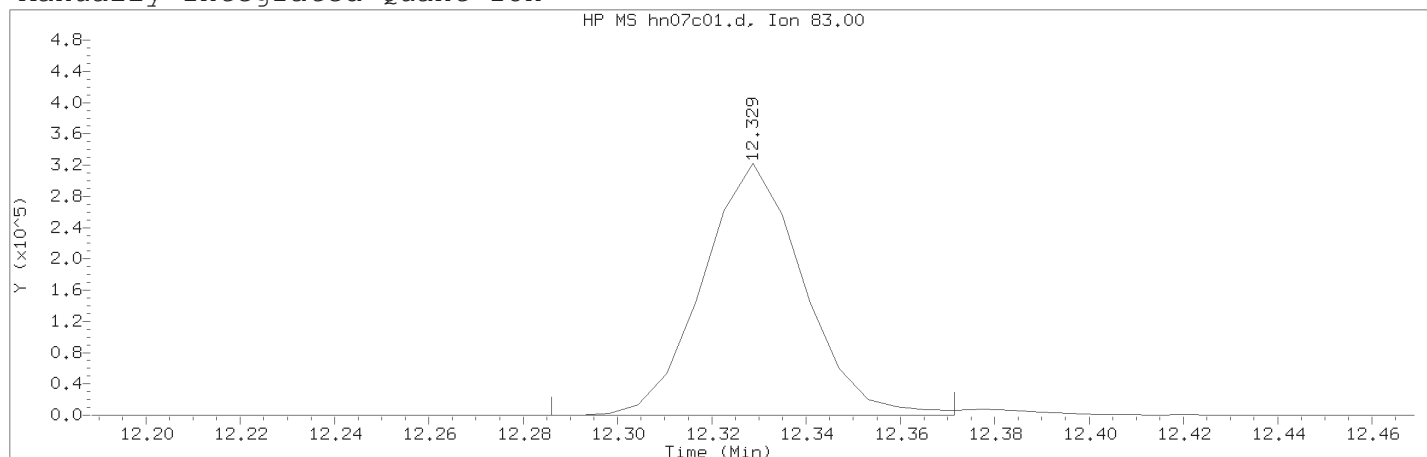
Compound Number : 91
 Compound Name : 2-Hexanone
 Scan Number : 1465
 Retention Time (minutes) : 10.518
 Quant Ion : 43.00
 Area : 2617193
 On-column Amount (ng) : 80.8174
 Integration start scan : 1454
 Y at integration start : 0

Integration stop scan: 1523
 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07c01.d Instrument ID: HP19094.i
Injection date and time: 07-NOV-2016 09:51 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 07-NOV-2016 10:42
Date, time and analyst ID of latest file update: 07-Nov-2016 10:42 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

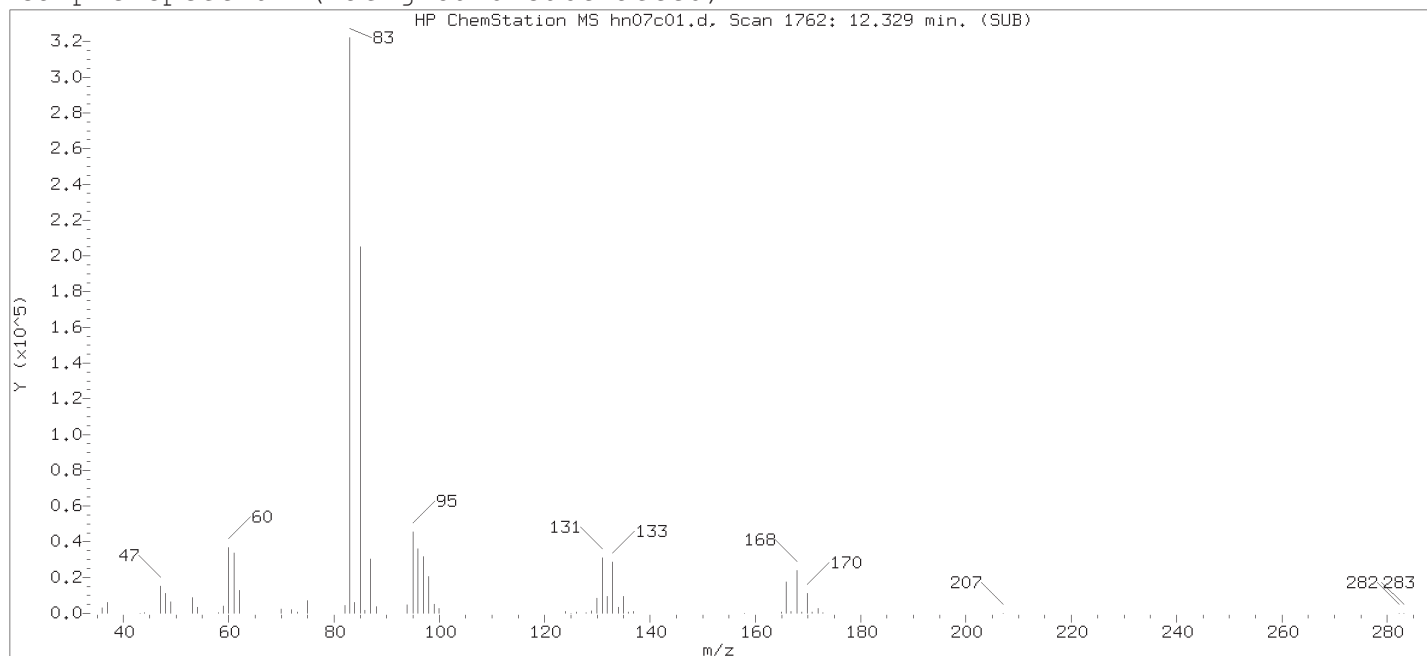
Compound Number : 113
Compound Name : 1,1,2,2-Tetrachloroethane
Scan Number : 1762
Retention Time (minutes): 12.329
Quant Ion : 83.00
Area (flag) : 476700M
On-Column Amount (ng) : 10.3923
Integration start scan : 1754 Integration stop scan: 1768
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

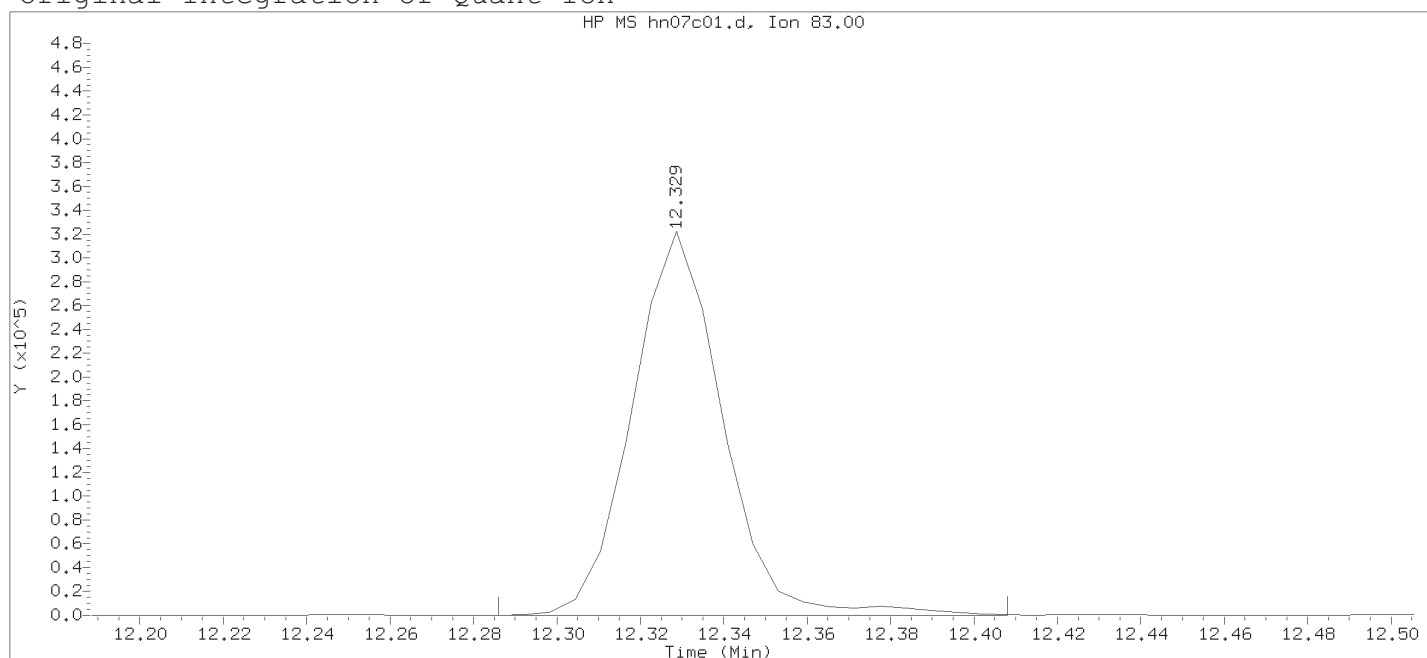
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 10:42.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 17:56.
PARALLAX ID: sej02002

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07c01.d

Instrument ID: HP19094.i

Injection date and time: 07-NOV-2016 09:51

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 07-NOV-2016 10:10

Date, time and analyst ID of latest file update: 07-Nov-2016 10:10 Automation

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number : 113

Compound Name : 1,1,2,2-Tetrachloroethane

Scan Number : 1762

Retention Time (minutes) : 12.329

Quant Ion : 83.00

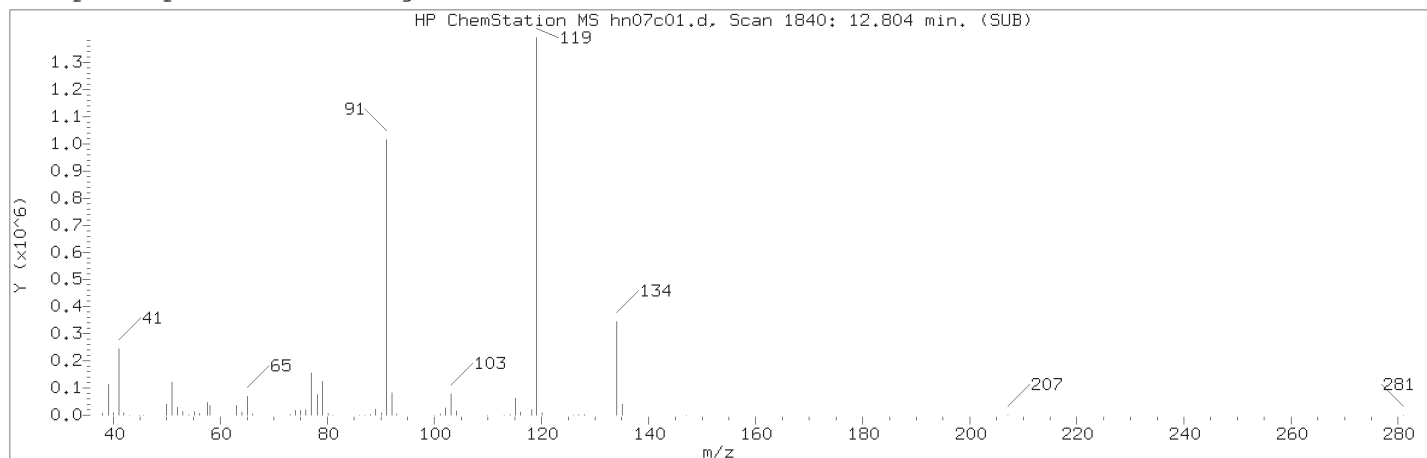
Area : 484684

On-column Amount (ng) : 10.5663

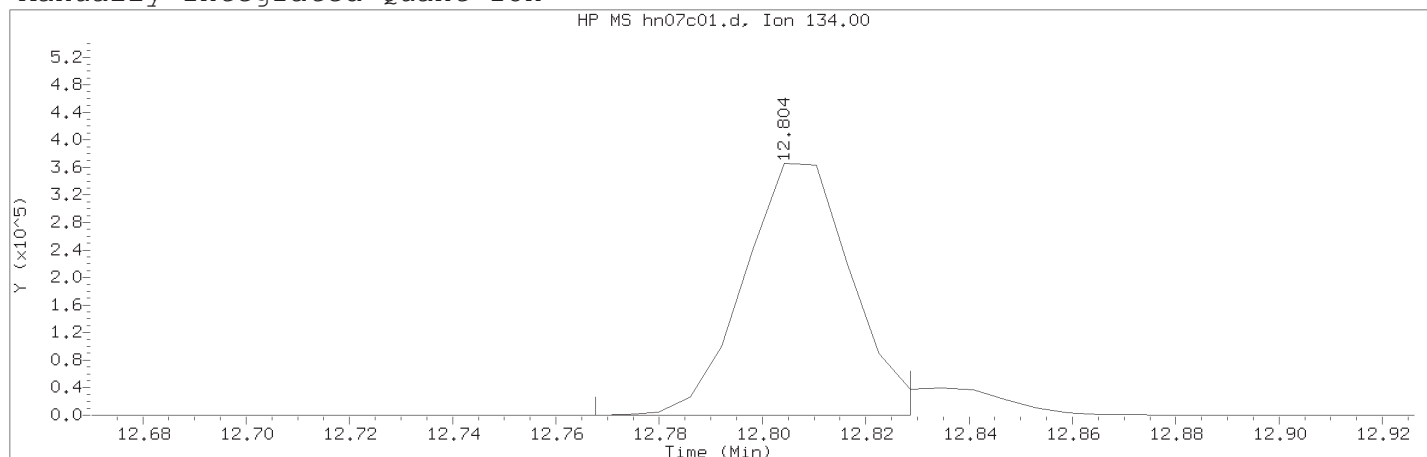
Integration start scan : 1754 Integration stop scan: 1774

Y at integration start : 0 Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07c01.d

Instrument ID: HP19094.i

Injection date and time: 07-NOV-2016 09:51

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 07-NOV-2016 10:42

Date, time and analyst ID of latest file update: 07-Nov-2016 10:42 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 125	
Compound Name	: tert-Butylbenzene	
Scan Number	: 1840	
Retention Time (minutes)	: 12.804	
Quant Ion	: 134.00	
Area (flag)	: 529930M	
On-Column Amount (ng)	: 9.0045	
Integration start scan	: 1833	Integration stop scan: 1843
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

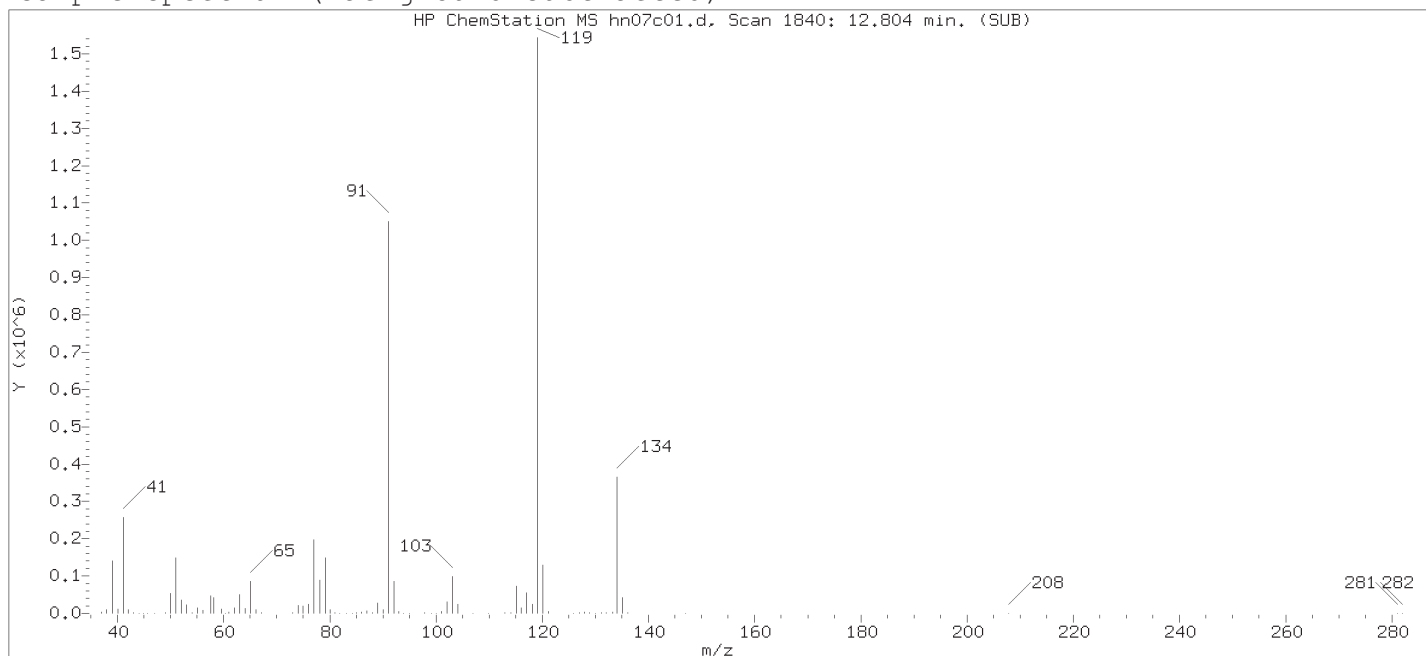
Analyst responsible for change:

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 10:42.
Target 3.5 esignature user ID: kel01973

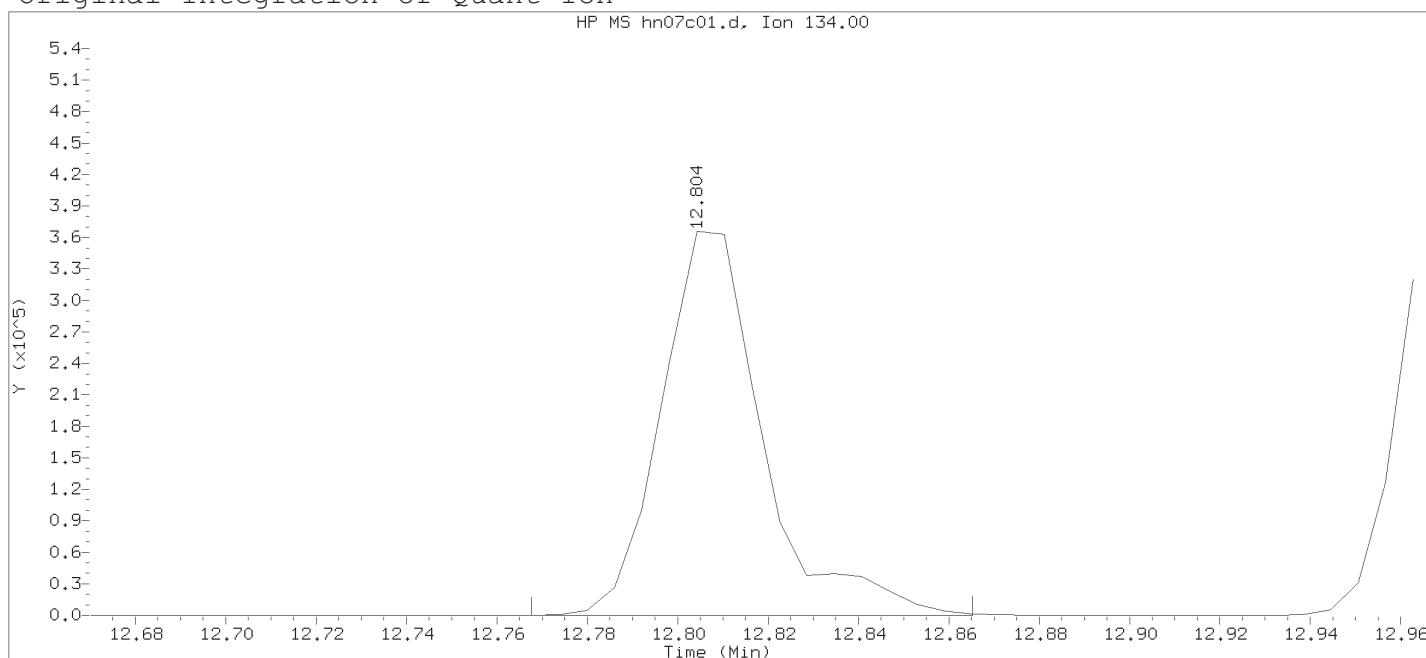
Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 17:56.

PARALLAX ID: sej02002

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07c01.d

Instrument ID: HP19094.i

Injection date and time: 07-NOV-2016 09:51

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m

Sublist used: 8260W25

Calibration date and time: 07-NOV-2016 10:10

Date, time and analyst ID of latest file update: 07-Nov-2016 10:10 Automation

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number : 125

Compound Name : tert-Butylbenzene

Scan Number : 1840

Retention Time (minutes): 12.804

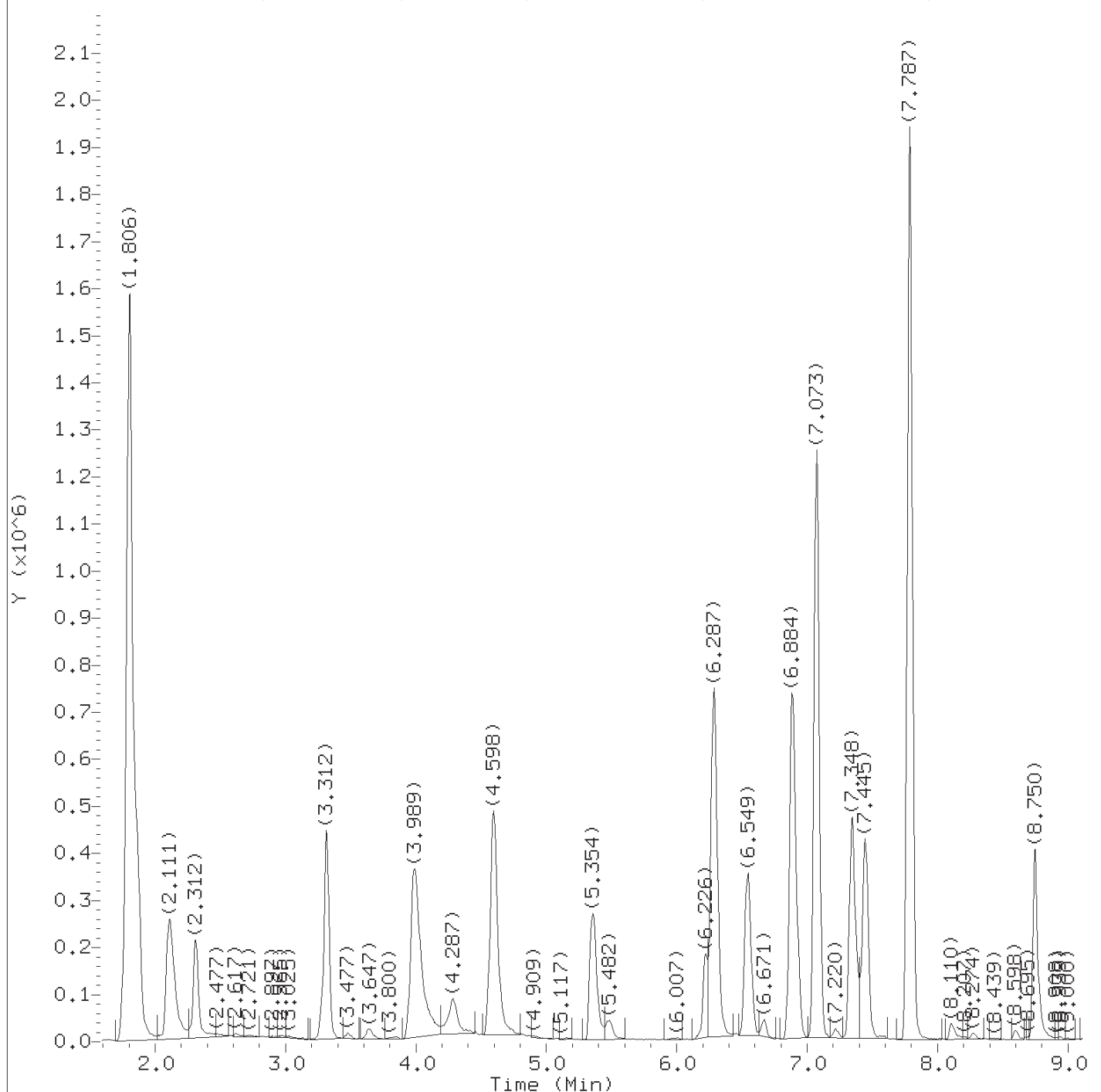
Quant Ion : 134.00

Area : 571630

On-column Amount (ng) : 9.7130

Integration start scan : 1833 Integration stop scan: 1849

Y at integration start : 0 Y at integration end: 0



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07c02.d
Injection date and time: 07-NOV-2016 10:11

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m
Calibration date and time: 07-NOV-2016 10:44

Sublist used: SMICAL

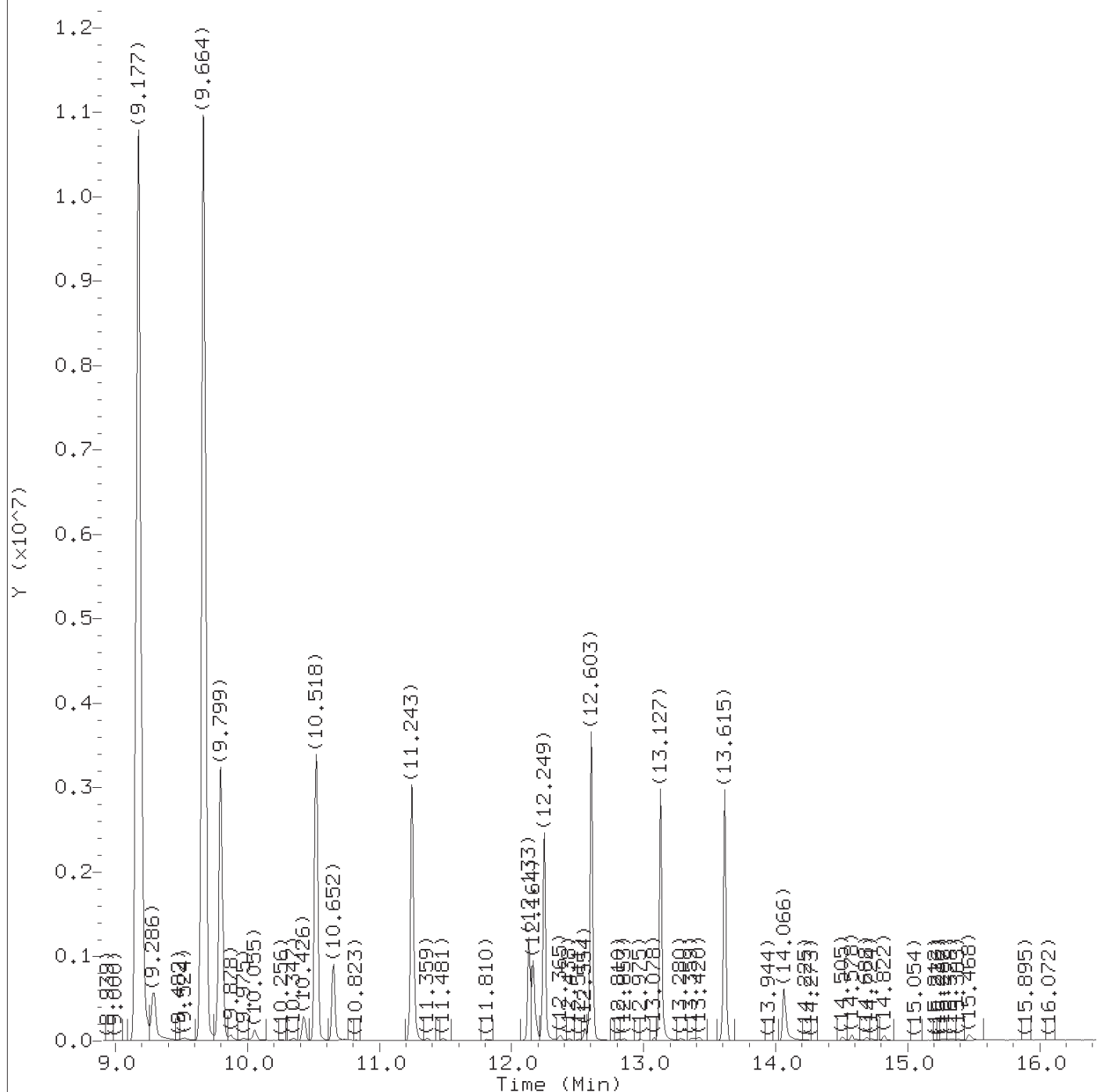
Date, time and analyst ID of latest file update: 07-Nov-2016 10:44 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 10:44.

Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07c02.d
Injection date and time: 07-NOV-2016 10:11

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m
Calibration date and time: 07-NOV-2016 10:44

Sublist used: SMICAL

Date, time and analyst ID of latest file update: 07-Nov-2016 10:44 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 10:44.

Target 3.5 esignature user ID: kel01973
RAE76 Page 563 of 883

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07c02.d

Instrument ID: HP19094.i

Injection date and time: 07-NOV-2016 10:11

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 07-NOV-2016 10:44

Date, time and analyst ID of latest file update: 07-Nov-2016 10:44 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
4) Dimethyl ether	(2)	2.105	45	746640M	9.208
25) Acetonitrile	(1)	3.995	41	1378539M	342.677
26)*t-Butyl Alcohol-d10	(1)	4.275	65	103965	50.000
36) Vinyl Acetate	(2)	5.354	43	841207	11.258
43) Methyl Acrylate	(2)	6.287	55	1565611	58.405
53) 1-Chlorobutane	(2)	7.073	56	1414414	10.710
63)*Fluorobenzene	(2)	7.787	96	2491699	10.000
77) Chloroacetonitrile	(2)	9.207	75	780588	497.351
78) 2-Chloroethyl vinyl ether	(2)	9.293	63	273042	10.585
97)*Chlorobenzene-d5	(3)	11.249	117	1712783	10.000
109) cis-1,4-Dichloro-2-butene	(1)	12.133	88	261118	27.319
112) Cyclohexanone	(1)	12.164	55	418856	357.062
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	743077	10.000
142) Hexachloroethane	(4)	13.615	117	527658	9.977

M = Compound was manually integrated.

* = Compound is an internal standard.

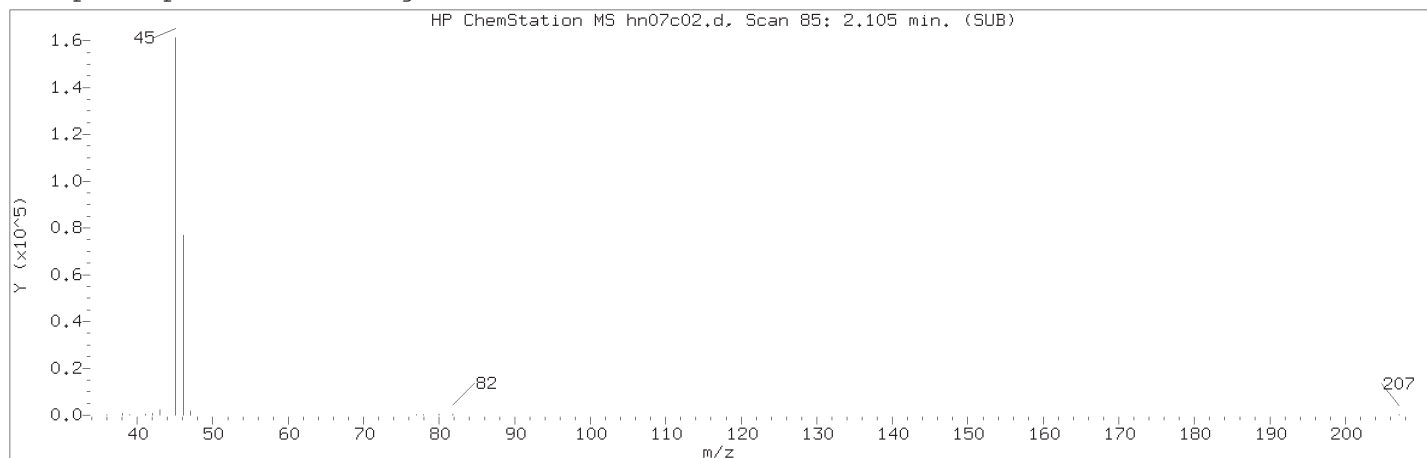
page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 10:44.

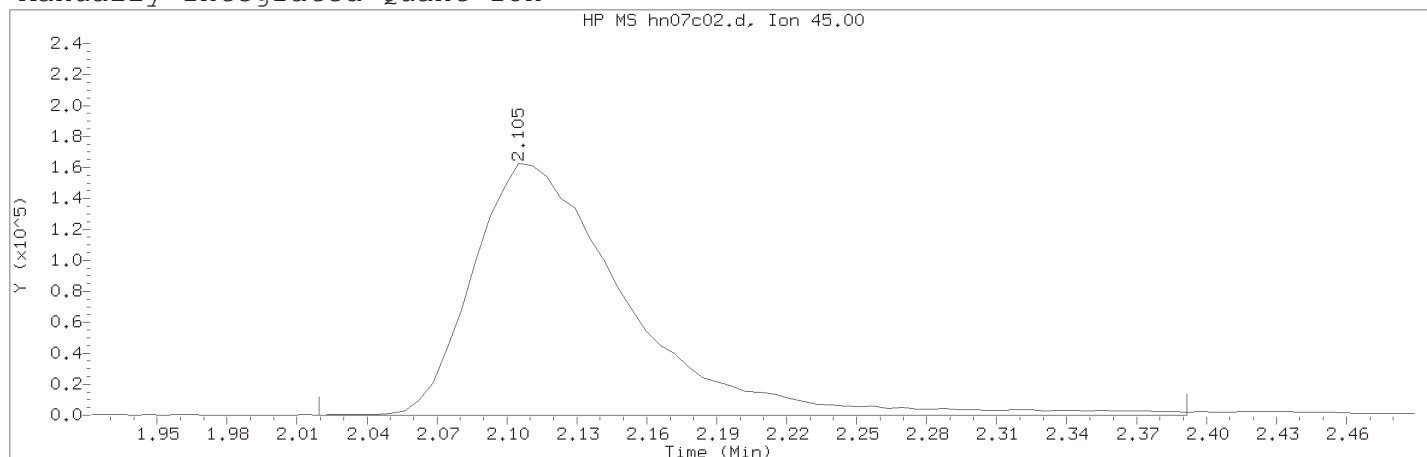
Target 3.5 esignature user ID: kel01973

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Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07c02.d

Instrument ID: HP19094.i

Injection date and time: 07-NOV-2016 10:11

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 07-NOV-2016 10:44

Date, time and analyst ID of latest file update: 07-Nov-2016 10:44 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 4	
Compound Name	: Dimethyl ether	
Scan Number	: 85	
Retention Time (minutes)	: 2.105	
Quant Ion	: 45.00	
Area (flag)	: 746640M	
On-Column Amount (ng)	: 9.2080	
Integration start scan	: 70	Integration stop scan: 131
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

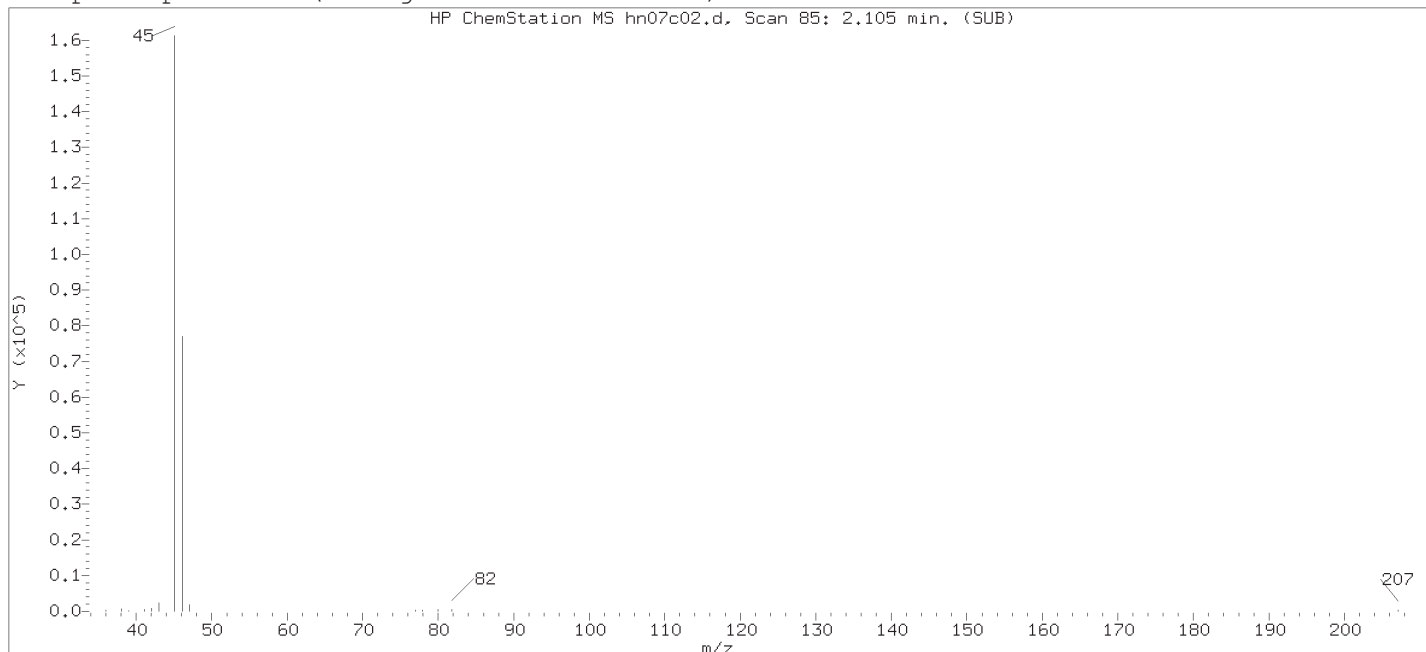
Analyst responsible for change:

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 10:44.
Target 3.5 esignature user ID: kel01973

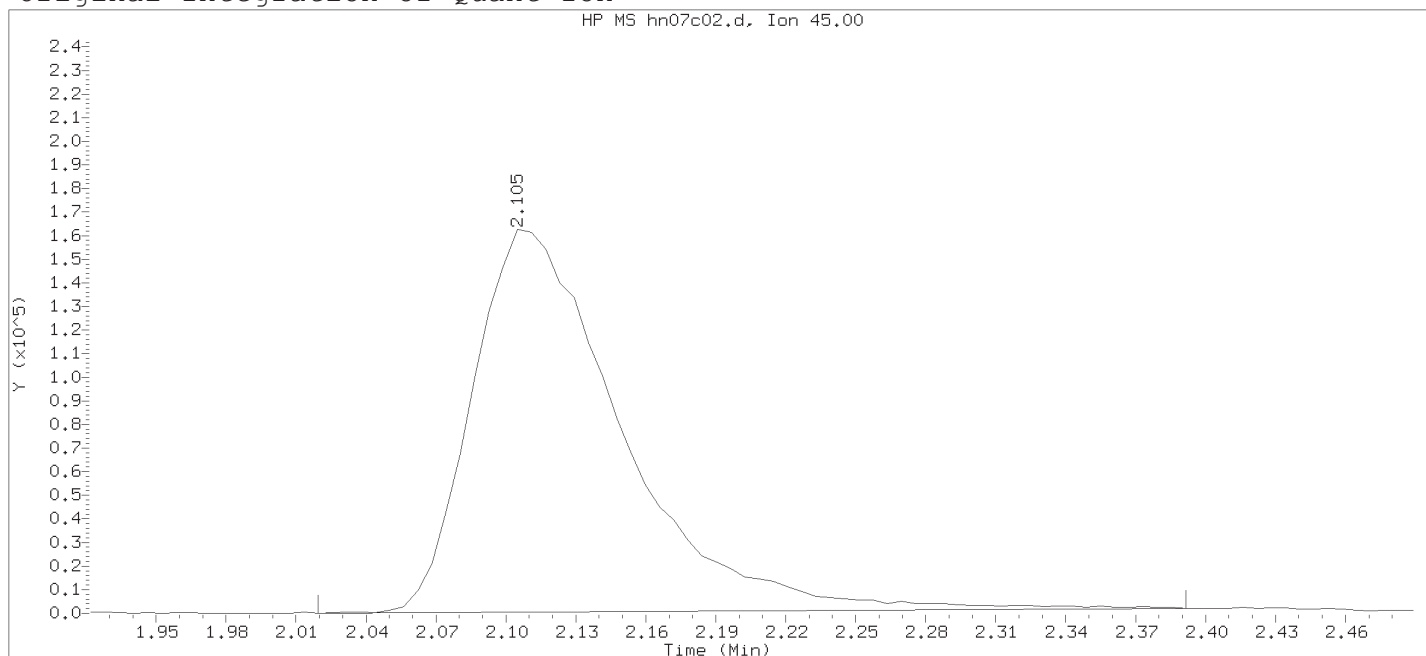
Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 18:01.

PARALLAX ID: sej02002

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07c02.d

Instrument ID: HP19094.i

Injection date and time: 07-NOV-2016 10:11

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 07-NOV-2016 10:30

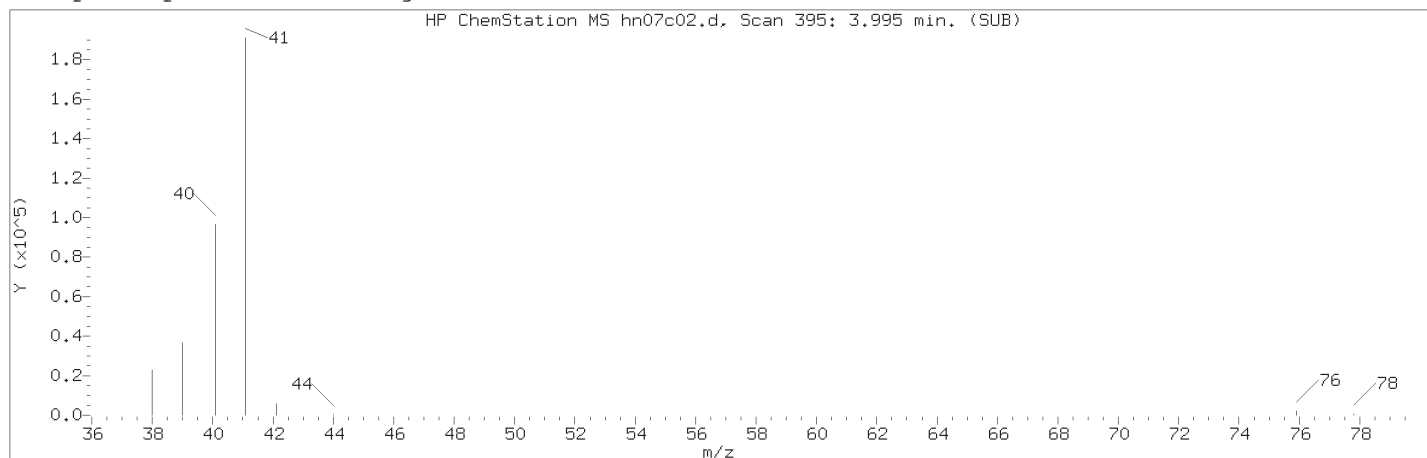
Date, time and analyst ID of latest file update: 07-Nov-2016 10:30 Automation

Sample Name: VSTD010

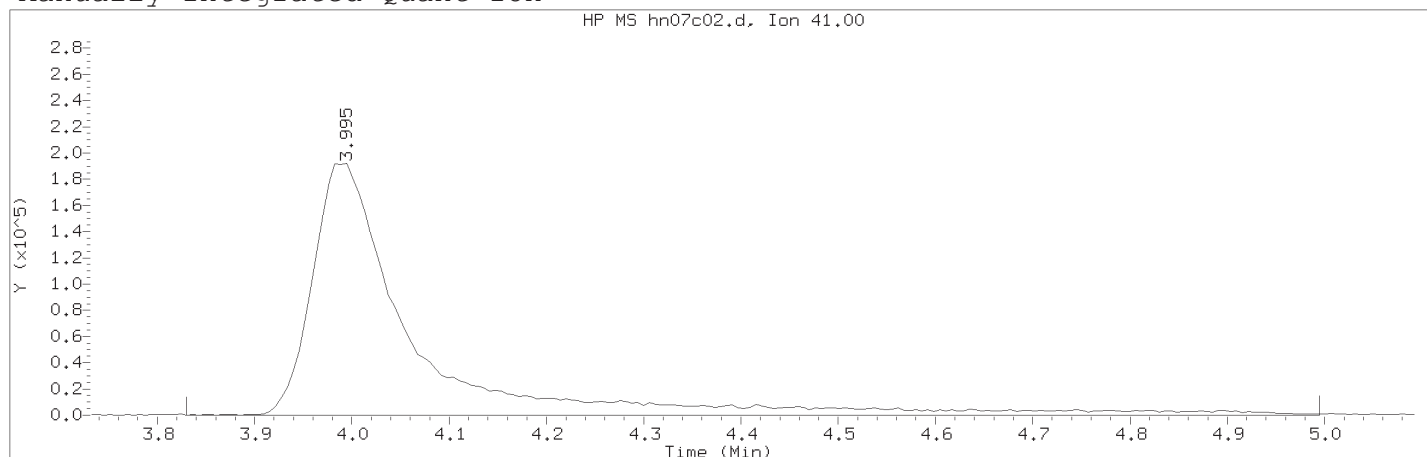
Lab Sample ID: VSTD010

Compound Number	: 4	
Compound Name	: Dimethyl ether	
Scan Number	: 85	
Retention Time (minutes)	: 2.105	
Quant Ion	: 45.00	
Area	: 723793	
On-column Amount (ng)	: 8.9262	
Integration start scan	: 70	Integration stop scan: 131
Y at integration start	: 0	Y at integration end: 2016

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07c02.d

Instrument ID: HP19094.i

Injection date and time: 07-NOV-2016 10:11

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 07-NOV-2016 10:44

Date, time and analyst ID of latest file update: 07-Nov-2016 10:44 kel01973

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 25	
Compound Name	: Acetonitrile	
Scan Number	: 395	
Retention Time (minutes)	: 3.995	
Quant Ion	: 41.00	
Area (flag)	: 1378539M	
On-Column Amount (ng)	: 342.6771	
Integration start scan	: 367	Integration stop scan: 558
Y at integration start	: 0	Y at integration end: 0

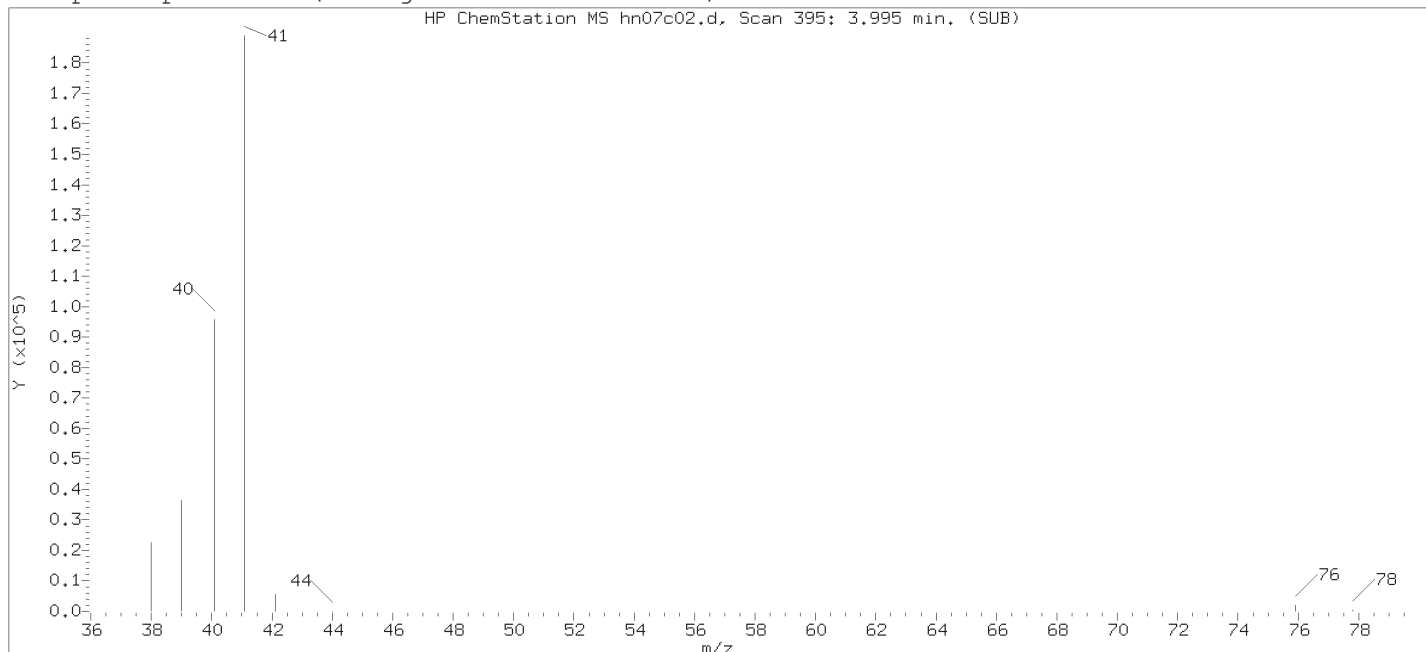
Reason for manual integration: improper integration

Analyst responsible for change:

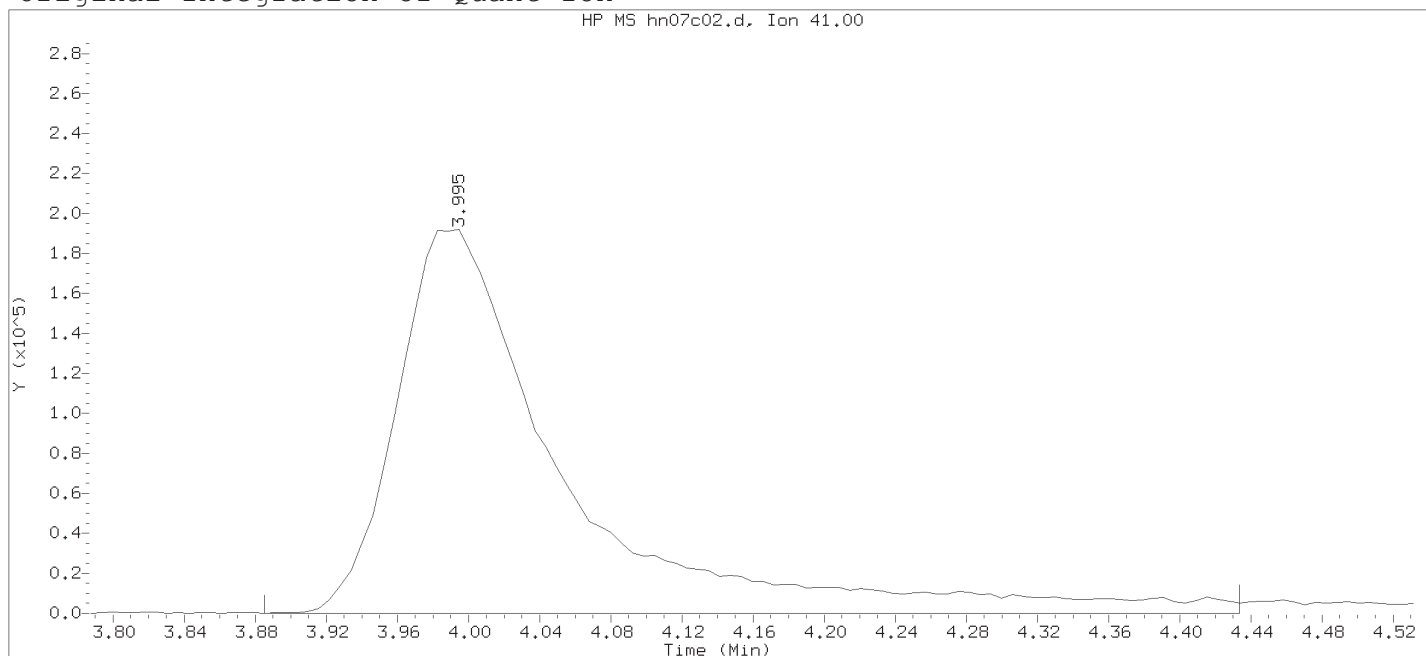
Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 10:44.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 18:01.
PARALLAX ID: sej02002

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07c02.d

Instrument ID: HP19094.i

Injection date and time: 07-NOV-2016 10:11

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m

Sublist used: SMICAL

Calibration date and time: 07-NOV-2016 10:30

Date, time and analyst ID of latest file update: 07-Nov-2016 10:30 Automation

Sample Name: VSTD010

Lab Sample ID: VSTD010

Compound Number	: 25	
Compound Name	: Acetonitrile	
Scan Number	: 395	
Retention Time (minutes)	: 3.995	
Quant Ion	: 41.00	
Area	: 1258429	
On-column Amount (ng)	: 312.8191	
Integration start scan	: 376	Integration stop scan: 466
Y at integration start	: 0	Y at integration end: 0

Raw QC Data

Volatiles by GC/MS

VBLKH73

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

VBLKH73

Data file: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Injection date and time: 05-NOV-2016 10:34

Data file Sample Info. Line: VBLKH73;VBLKH73;1;3;;;DRAPERLOQ;;;

Instrument ID: HP19094.i Batch: H163101AA

Date, time and analyst ID of latest file update: 05-Nov-2016 10:56 msk07970

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469

Calibration date and time (Last Method Edit): 05-NOV-2016 09:41

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.263 (0.000)	439	65	106832 (-2)	50.00	
63) Fluorobenzene	7.787 (-0.006)	1017	96	2359786 (-2)	10.00	
97) Chlorobenzene-d5	11.250 (-0.006)	1585	117	1556460 (-6)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127 (0.000)	1893	152	651831 (-13)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.879 (0.001)	113	536210	9.907	99%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.342 (0.001)	102	92673	10.658	107%		74 - 113
82) Toluene-d8	(3)	9.799 (0.000)	98	2309405	9.823	98%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249 (0.000)	95	668491	9.671	97%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
1) Dichlorodifluoromethane	(2)			Not Detected					0.1	1
4) Dimethyl ether	(2)			Not Detected					0.1	13
2) Chloromethane	(2)			Not Detected					0.2	1
8) Chloroethane	(2)			Not Detected					0.1	1
10) Trichlorofluoromethane	(2)			Not Detected					0.1	1
11) Ethyl ether	(2)			Not Detected					0.1	13
15) 1,1-Dichloroethene	(2)			Not Detected					0.1	1
16) Freon 113	(2)			Not Detected					0.2	1
23) Methylene Chloride	(2)			Not Detected					0.2	1
33) 1,1-Dichloroethane	(2)			Not Detected					0.1	1
38) 2-Butanone	(1)			Not Detected					1	10
48) Tetrahydrofuran	(1)			Not Detected					2	25
51) 1,1,1-Trichloroethane	(2)			Not Detected					0.1	1
54) Carbon Tetrachloride	(2)			Not Detected					0.1	1
58) Benzene	(2)			Not Detected					0.1	1
67) Trichloroethene	(2)			Not Detected					0.1	1
83) Toluene	(3)			Not Detected					0.1	1
89) Tetrachloroethene	(3)			Not Detected					0.1	1
100) Ethylbenzene	(3)			Not Detected					0.1	1
101) m+p-Xylene	(3)			Not Detected					0.1	0.5
104) o-Xylene	(3)			Not Detected					0.1	0.5
105) Xylene (Total)	(3)			Not Detected					0.1	3

VBULKH73

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

VBULKH73

Data file: /chem2/HP19094.i/16nov05a.b/hn05b01.d Injection date and time: 05-NOV-2016 10:34
Data file Sample Info. Line: VBLKH73;VBLKH73;1;3;;;DRAPERLOQ;;; Instrument ID: HP19094.i Batch: H163101AA
Date, time and analyst ID of latest file update: 05-Nov-2016 10:56 msk07970

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time (Last Method Edit): 05-NOV-2016 09:41
Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

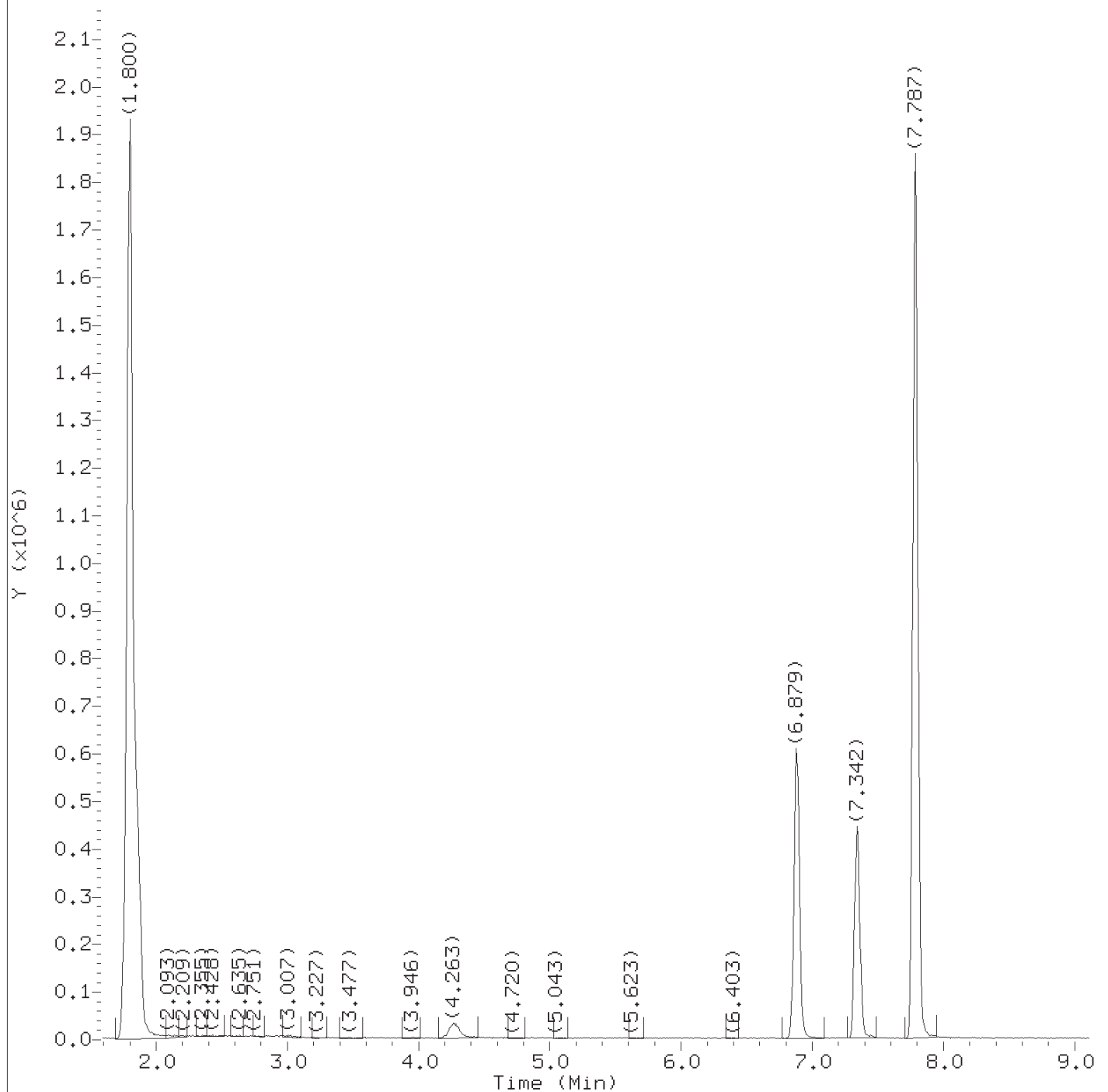
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

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Total number of targets = 22

Digitally signed by Matthew S. Krause on 11/05/2016 at 11:02. Target 3.5 esignature user ID: msk07970

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 19:53. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05b01.d
Injection date and time: 05-NOV-2016 10:34

Instrument ID: HP19094.i
Analyst ID: msk07970

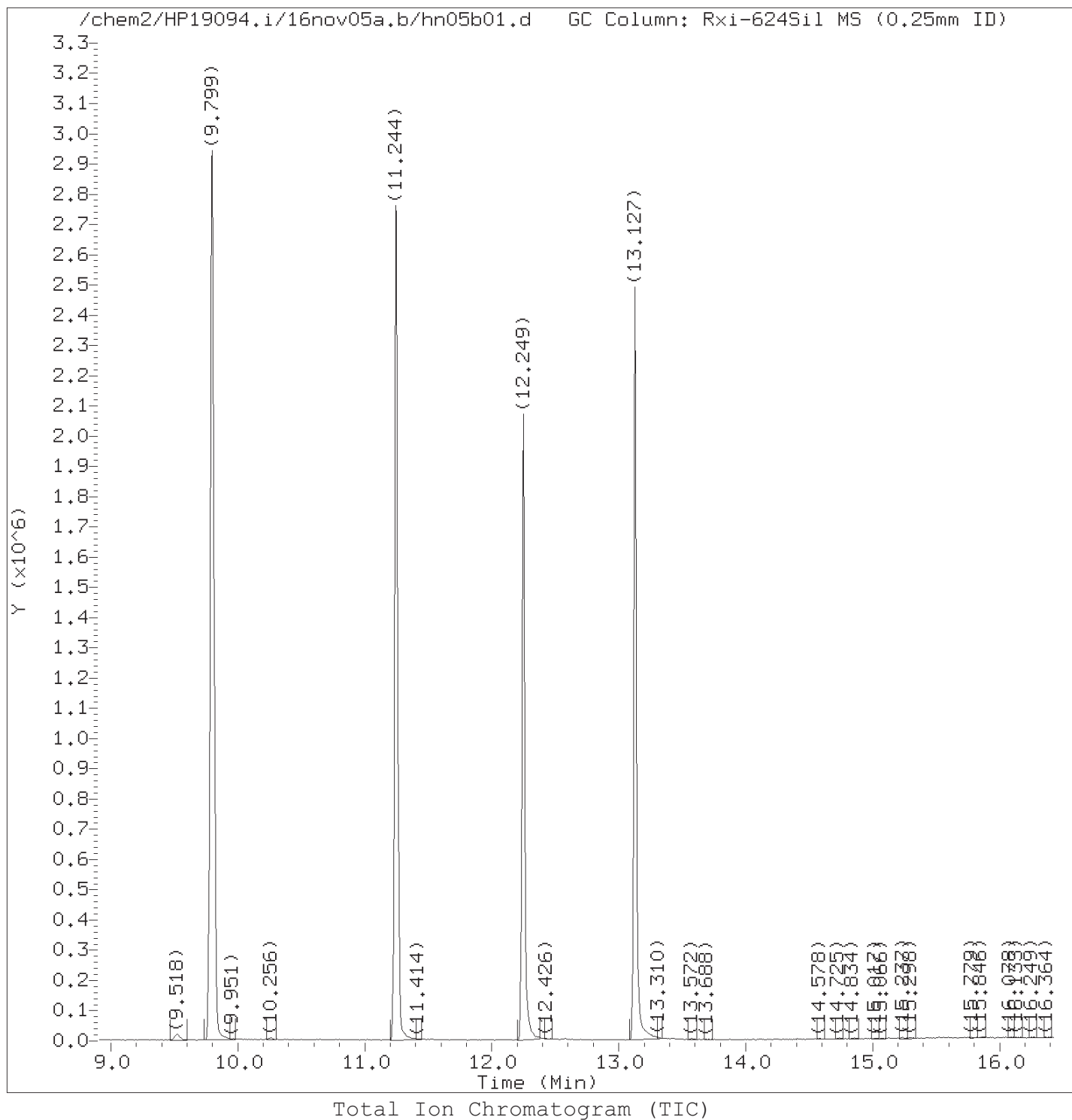
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 10:56 msk07970

Sample Name: VBLKH73

Lab Sample ID: VBLKH73

Digitally signed by Matthew S. Krause
on 11/05/2016 at 11:02.

Target 3.5 esignature user ID: msk07970
RAE76 Page 572 of 883



Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05b01.d Instrument ID: HP19094.i
Injection date and time: 05-NOV-2016 10:34 Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 10:56 msk07970

Sample Name: VBLKH73 Lab Sample ID: VBLKH73

Digitally signed by Matthew S. Krause
on 11/05/2016 at 11:02.

Target 3.5 esignature User ID: msk07970
RAE76 Page 573 of 883

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05b01.d Instrument ID: HP19094.i
Injection date and time: 05-NOV-2016 10:34 Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 10:56 msk07970

Sample Name: VBLKH73

Lab Sample ID: VBLKH73

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26) *t-Butyl Alcohol-d10	(1)	4.263	65	106832	50.000
50) \$Dibromofluoromethane	(2)	6.879	113	536210	9.907
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	92673	10.658
63) *Fluorobenzene	(2)	7.787	96	2359786	10.000
82) \$Toluene-d8	(3)	9.799	98	2309405	9.823
97) *Chlorobenzene-d5	(3)	11.250	117	1556460	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	668491	9.671
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	651831	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

page 1 of 1

VBLKH78

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

VBLKH78

Data file: /chem2/HP19094.i/16nov07a.b/hn07b01a.d

Injection date and time: 07-NOV-2016 11:53

Data file Sample Info. Line: VBLKH78;VBLKH78;1;3;;;DRAPERLOQ;;;

Instrument ID: HP19094.i Batch: H163122AA

Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Blank Data file reference: /chem2/HP19094.i/16nov07a.b/hn07b01a.d

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469

Calibration date and time (Last Method Edit): 07-NOV-2016 12:19

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov07a.b/hn07c01.d

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.263 (0.000)	439	65	112630 (10)	50.00	
63) Fluorobenzene	7.787 (0.000)	1017	96	2408843 (1)	10.00	
97) Chlorobenzene-d5	11.250 (-0.006)	1585	117	1599881 (-1)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127 (0.000)	1893	152	674619 (-9)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.878 (0.001)	113	553929	10.026	100%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.348 (-0.001)	102	92355	10.406	104%		74 - 113
82) Toluene-d8	(3)	9.799 (0.000)	98	2406128	9.956	100%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249 (0.000)	95	689760	9.708	97%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit LOQ (in sample)
1) Dichlorodifluoromethane	(2)			Not Detected					0.1 1
4) Dimethyl ether	(2)			Not Detected					0.1 13
2) Chloromethane	(2)			Not Detected					0.2 1
8) Chloroethane	(2)			Not Detected					0.1 1
10) Trichlorofluoromethane	(2)			Not Detected					0.1 1
11) Ethyl ether	(2)			Not Detected					0.1 13
15) 1,1-Dichloroethene	(2)			Not Detected					0.1 1
16) Freon 113	(2)			Not Detected					0.2 1
23) Methylene Chloride	(2)			Not Detected					0.2 1
33) 1,1-Dichloroethane	(2)			Not Detected					0.1 1
38) 2-Butanone	(1)			Not Detected					1 10
48) Tetrahydrofuran	(1)			Not Detected					2 25
51) 1,1,1-Trichloroethane	(2)			Not Detected					0.1 1
54) Carbon Tetrachloride	(2)			Not Detected					0.1 1
58) Benzene	(2)			Not Detected					0.1 1
67) Trichloroethene	(2)			Not Detected					0.1 1
83) Toluene	(3)			Not Detected					0.1 1
89) Tetrachloroethene	(3)			Not Detected					0.1 1
100) Ethylbenzene	(3)			Not Detected					0.1 1
101) m+p-Xylene	(3)			Not Detected					0.1 0.5
104) o-Xylene	(3)			Not Detected					0.1 0.5
105) Xylene (Total)	(3)			Not Detected					0.1 3

VBULKH78

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

VBULKH78

Data file: /chem2/HP19094.i/16nov07a.b/hn07b01a.d Injection date and time: **07-NOV-2016 11:53**
Data file Sample Info. Line: VBLKH78;VBLKH78;1;3;;;DRAPERLOQ;;; Instrument ID: **HP19094.i** Batch: **H163122AA**
Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Blank Data file reference: /chem2/HP19094.i/16nov07a.b/hn07b01a.d

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: **22469**
Calibration date and time (Last Method Edit): 07-NOV-2016 12:19
Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov07a.b/hn07c01.d

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

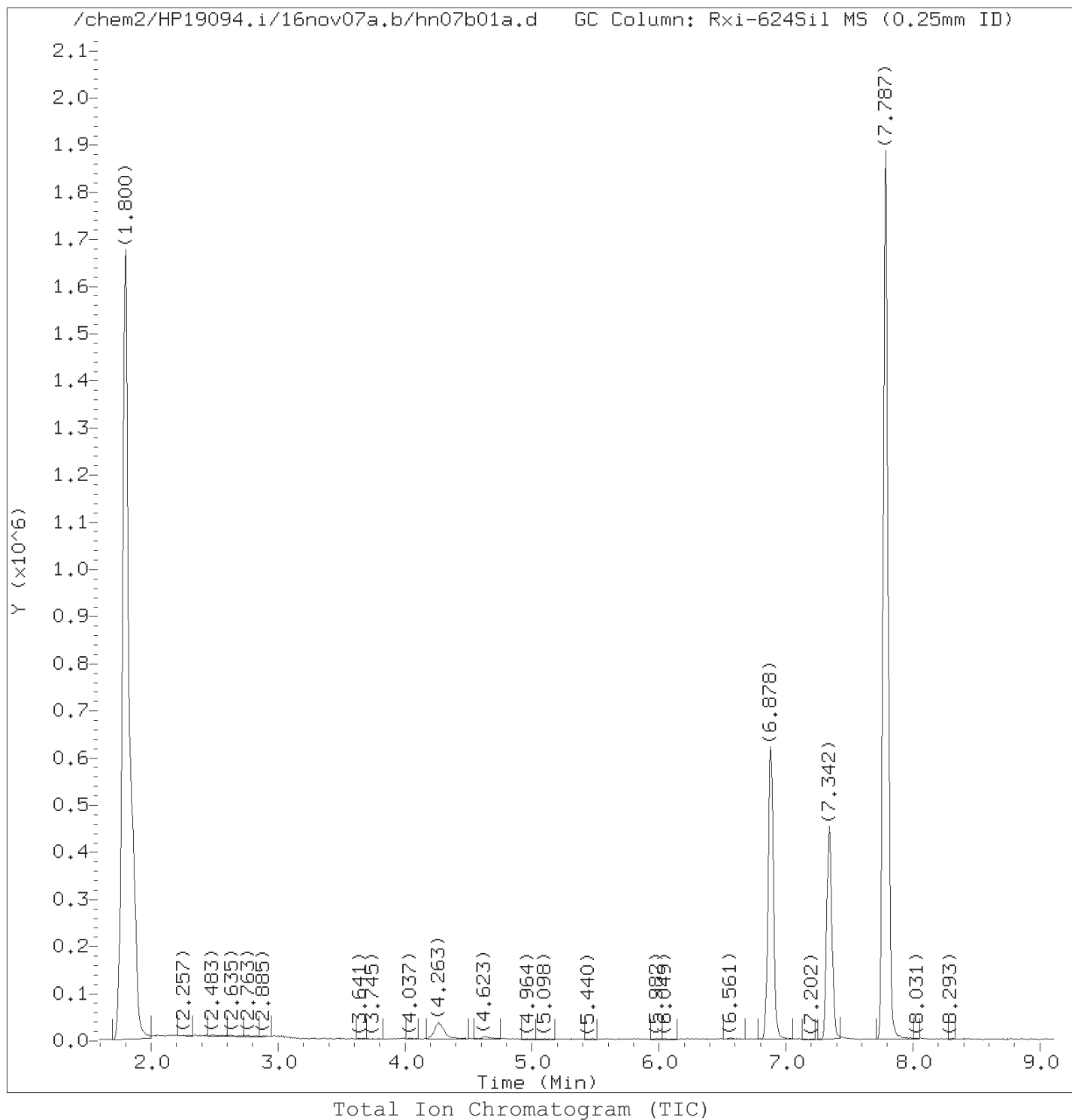
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

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Total number of targets = 22

Digitally signed by Kerri E. Koch Legerlotz on 11/07/2016 at 12:21. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 18:04. PARALLAX ID: sej02002



Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07b01a.d Instrument ID: HP19094.i
Injection date and time: 07-NOV-2016 11:53 Analyst ID: kel01973

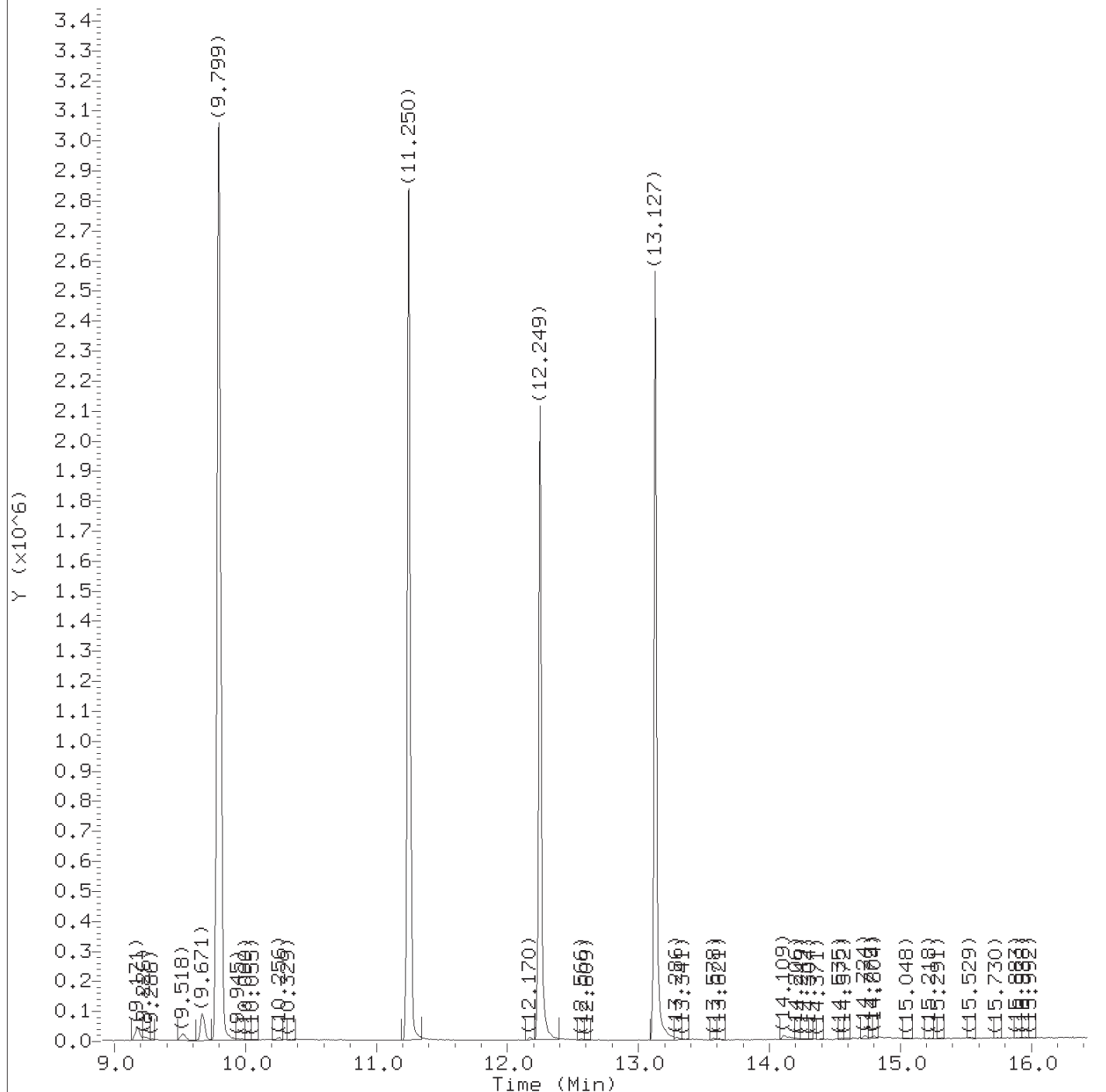
Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Sample Name: VBLKH78

Lab Sample ID: VBLKH78

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 12:21.

Target 3.5 esignature User ID: kel01973
RAE76 Page 577 of 883



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07b01a.d Instrument ID: HP19094.i
Injection date and time: 07-NOV-2016 11:53 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Sample Name: VBLKH78

Lab Sample ID: VBLKH78

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 12:21.

Target 3.5 esignature user ID: kel01973
RAE76 Page 578 of 883

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07b01a.d Instrument ID: HP19094.i
Injection date and time: 07-NOV-2016 11:53 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Sample Name: VBLKH78

Lab Sample ID: VBLKH78

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26) *t-Butyl Alcohol-d10	(1)	4.263	65	112630	50.000
50) \$Dibromofluoromethane	(2)	6.878	113	553929	10.026
57) \$1,2-Dichloroethane-d4	(2)	7.348	102	92355	10.406
63) *Fluorobenzene	(2)	7.787	96	2408843	10.000
82) \$Toluene-d8	(3)	9.799	98	2406128	9.956
97) *Chlorobenzene-d5	(3)	11.250	117	1599881	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	689760	9.708
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	674619	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 12:21.
Target 3.5 esignature user ID: kel01973

R7604MSMS1 Lancaster Laboratories 8666268MS

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP19094.i/16nov05a.b/hn05s08.d Injection date and time: 05-NOV-2016 12:50
 Data file Sample Info. Line: R7604MSMS1;8666268MS;1;3;MS;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA
 Date, time and analyst ID of latest file update: 05-Nov-2016 13:09 Automation

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469SM
 Calibration date and time (Last Method Edit): 05-NOV-2016 09:41
 Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038B Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.269(-0.006)	440	65	95625 (-12)	50.00	
63) Fluorobenzene	7.787(-0.006)	1017	96	2287932 (-5)	10.00	
97) Chlorobenzene-d5	11.250(-0.006)	1585	117	1478206 (-10)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(0.000)	1893	152	599835 (-20)	10.00	

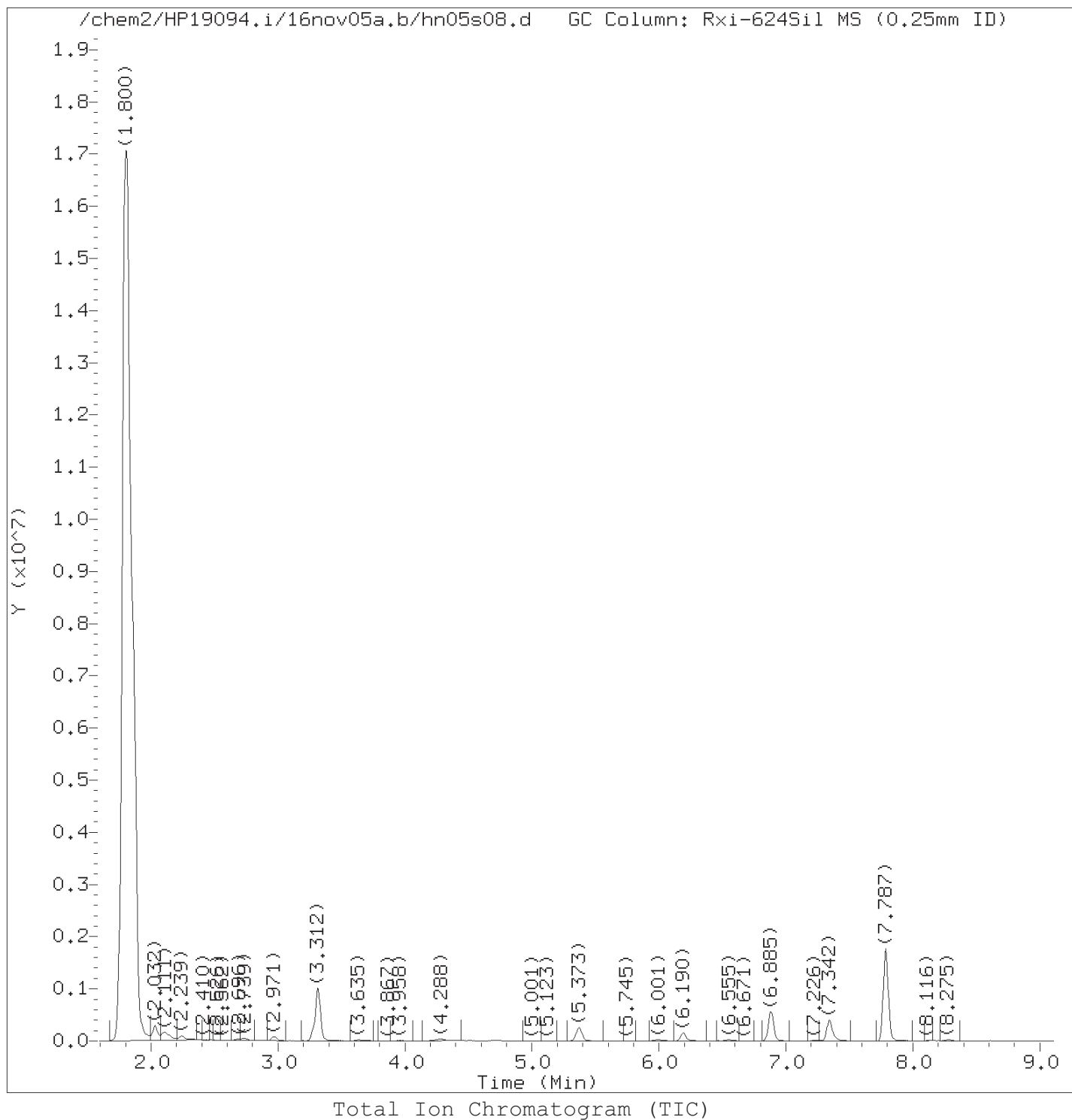
Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.885(0.000)	113	509944	9.718	97%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.348(0.000)	102	83706	9.930	99%		74 - 113
82) Toluene-d8	(3)	9.799(0.000)	98	2239109	10.028	100%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249(0.000)	95	621208	9.463	95%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Reporting Limit (in sample)	LOQ
4) Dimethyl ether	(2)	2.111(-0.001)	45	390597	5.246	5.25		J 0.1	13

Total number of targets = 1

Digitally signed by Kerri E. Koch Legerlotz on 11/07/2016 at 09:17. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 20:01. PARALLAX ID: sej02002



Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s08.d
Injection date and time: 05-NOV-2016 12:50

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469SM
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 13:09 Automation

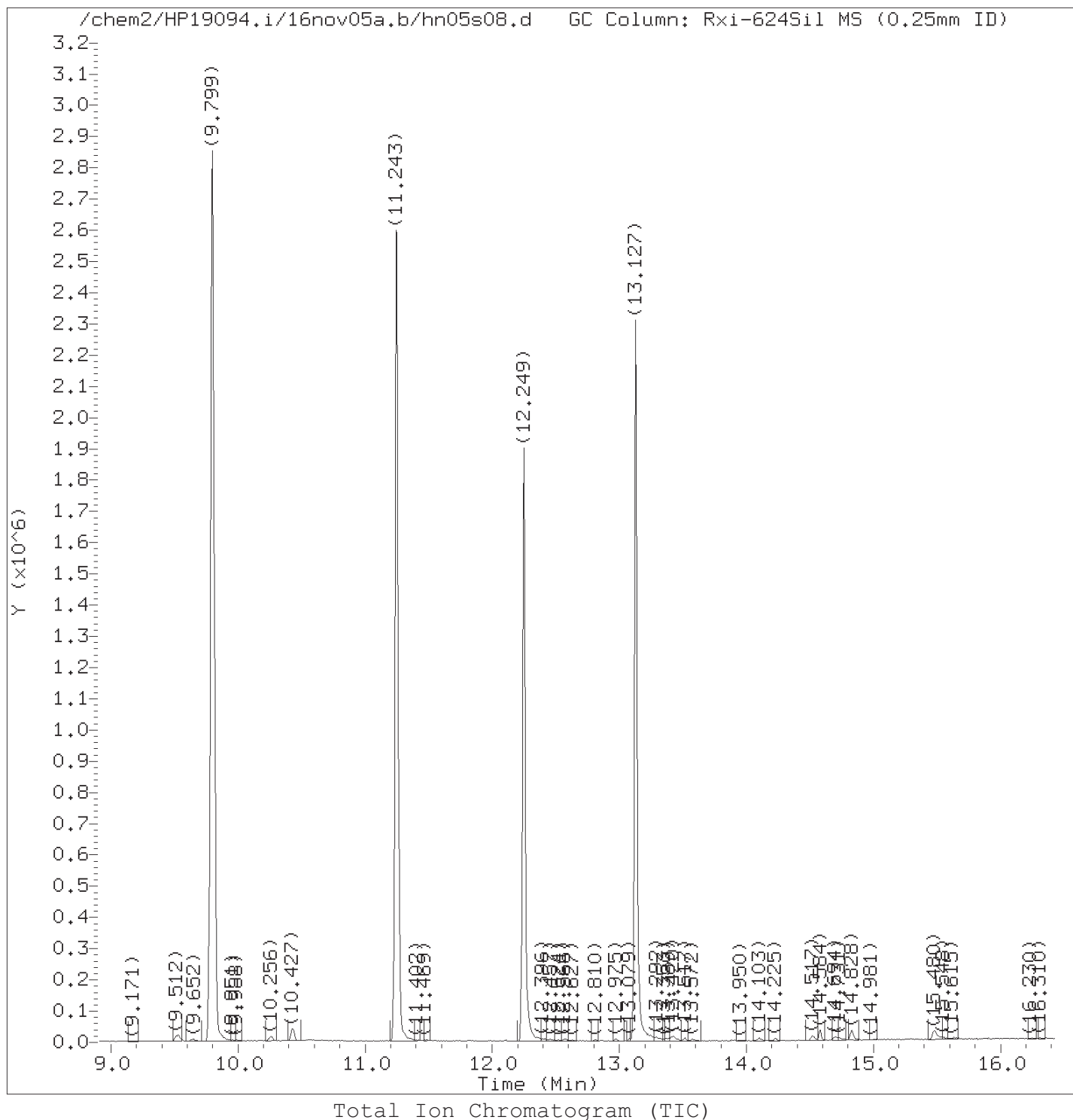
Sample Name: R7604MSMS1

Lab Sample ID: 8666268MS

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:17.

Target 3.5 esignature User ID: kelo1973
RAE76 Page 581 of 883

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Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s08.d Instrument ID: HP19094.i
Injection date and time: 05-NOV-2016 12:50 Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469SM
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 13:09 Automation

Sample Name: R7604MSMS1 Lab Sample ID: 8666268MS

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:17.
Target 3.5 esignature User ID: kelo101973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s08.d Instrument ID: HP19094.i
Injection date and time: 05-NOV-2016 12:50 Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469SM
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 13:09 Automation

Sample Name: R7604MSMS1

Lab Sample ID: 8666268MS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
4) Dimethyl ether	(2)	2.111	45	390597	5.246
26) *t-Butyl Alcohol-d10	(1)	4.269	65	95625	50.000
50) \$Dibromofluoromethane	(2)	6.885	113	509944	9.718
57) \$1,2-Dichloroethane-d4	(2)	7.348	102	83706	9.930
63) *Fluorobenzene	(2)	7.787	96	2287932	10.000
82) \$Toluene-d8	(3)	9.799	98	2239109	10.028
97) *Chlorobenzene-d5	(3)	11.250	117	1478206	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	621208	9.463
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	599835	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:17.

Target 3.5 esignature user ID: kel01973

RAE76 Page 583 of 883

R7604MSDMS Lancaster Laboratories 8666269MSD

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP19094.i/16nov05a.b/hn05s09.d Injection date and time: 05-NOV-2016 13:10
 Data file Sample Info. Line: R7604MSDMS;8666269MSD;1;3;MSD;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101
 Date, time and analyst ID of latest file update: 05-Nov-2016 13:29 Automation

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469SM
 Calibration date and time (Last Method Edit): 05-NOV-2016 09:41
 Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038B Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.263 (0.000)	439	65	109053 (0)	50.00	
63) Fluorobenzene	7.787 (-0.006)	1017	96	2352426 (-2)	10.00	
97) Chlorobenzene-d5	11.243 (0.000)	1584	117	1553501 (-6)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127 (0.000)	1893	152	643260 (-14)	10.00	

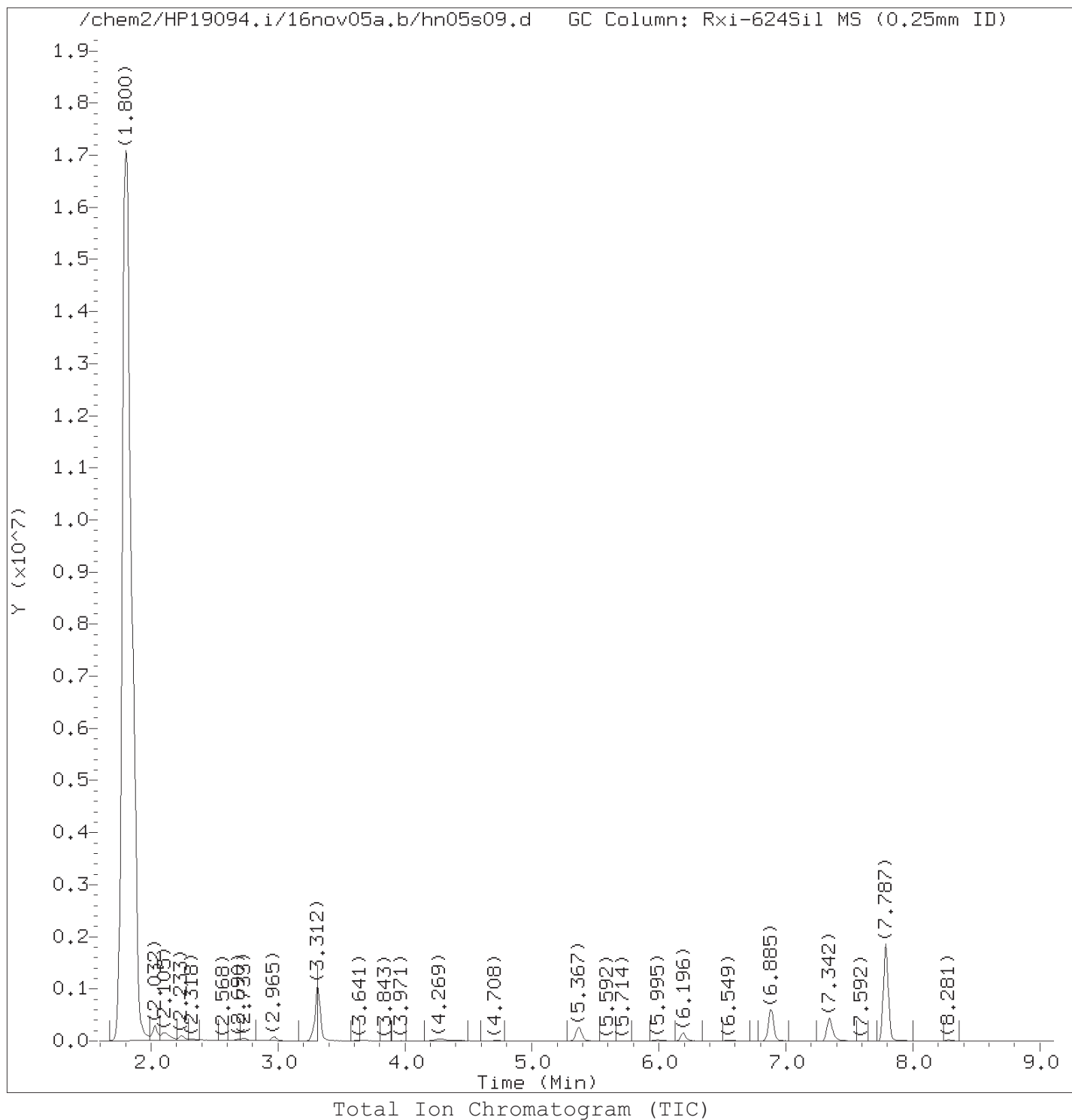
Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.885 (0.000)	113	537131	9.955	100%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.348 (0.000)	102	88627	10.225	102%		74 - 113
82) Toluene-d8	(3)	9.799 (-0.001)	98	2313285	9.858	99%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249 (-0.001)	95	662945	9.609	96%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Reporting Limit (in sample)	LOQ
4) Dimethyl ether	(2)	2.111 (-0.001)	45	363598	4.750	4.75		J 0.1	13

Total number of targets = 1

Digitally signed by Kerri E. Koch Legerlotz on 11/07/2016 at 09:17. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 20:01. PARALLAX ID: sej02002



Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s09.d
Injection date and time: 05-NOV-2016 13:10

Instrument ID: HP19094.i
Analyst ID: msk07970

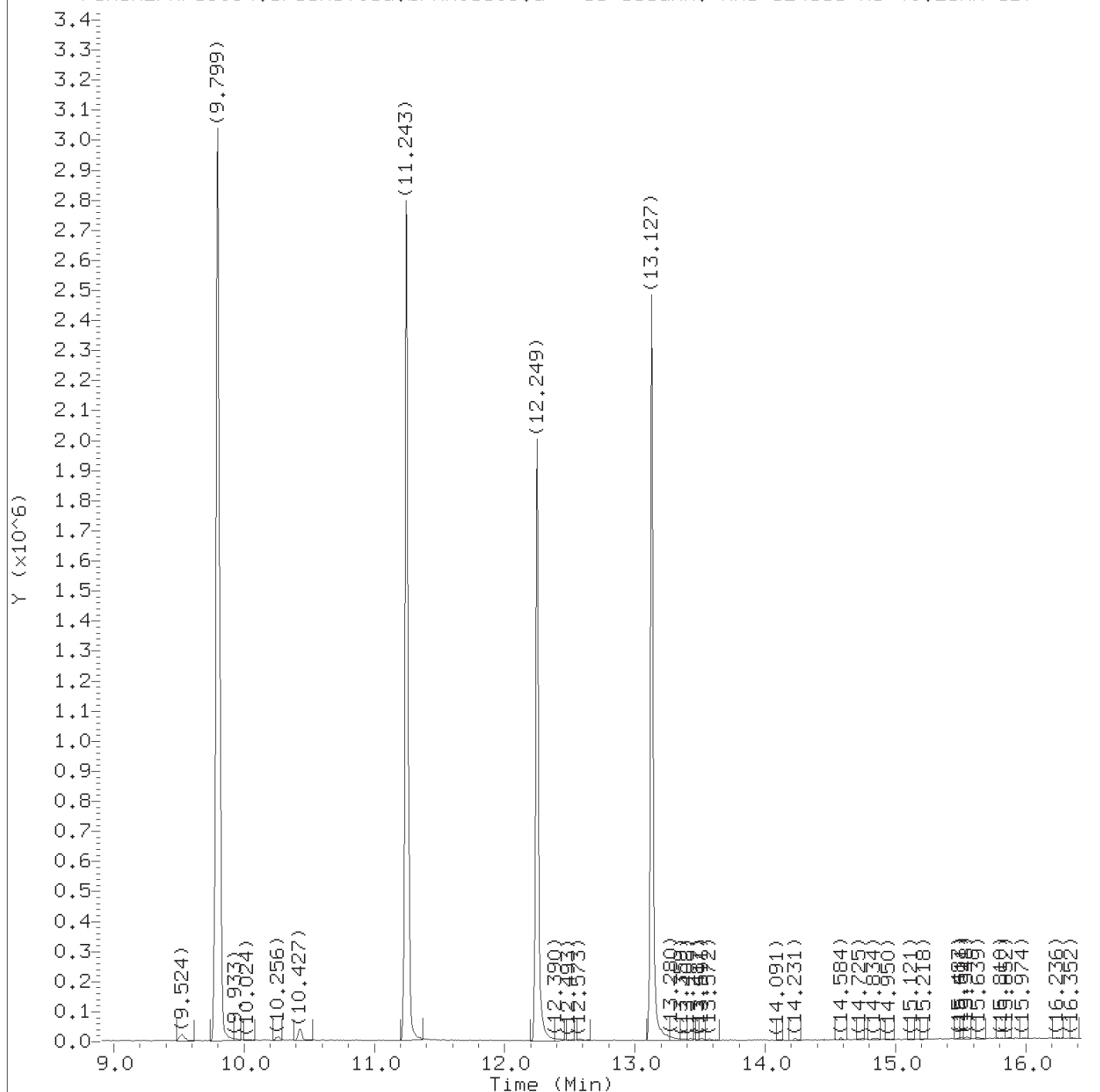
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469SM
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 13:29 Automation

Sample Name: R7604MSDMS

Lab Sample ID: 8666269MSD

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:17.

Target 3.5 esignature User ID: kcl01073
RAE76 Page 585 of 883



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s09.d
Injection date and time: 05-NOV-2016 13:10

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469SM
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 13:29 Automation

Sample Name: R7604MSDMS

Lab Sample ID: 8666269MSD

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:17.

Target 3.5 esignature User ID: kcl01973
RAE76 Page 586 of 883

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s09.d
Injection date and time: 05-NOV-2016 13:10

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469SM
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 13:29 Automation

Sample Name: R7604MSDMS

Lab Sample ID: 8666269MSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.111	45	363598	4.750
26) *t-Butyl Alcohol-d10	(1)	4.263	65	109053	50.000
50) \$Dibromofluoromethane	(2)	6.885	113	537131	9.955
57) \$1,2-Dichloroethane-d4	(2)	7.348	102	88627	10.225
63) *Fluorobenzene	(2)	7.787	96	2352426	10.000
82) \$Toluene-d8	(3)	9.799	98	2313285	9.858
97) *Chlorobenzene-d5	(3)	11.243	117	1553501	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	662945	9.609
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	643260	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 09:17.
Target 3.5 esignature user ID: kel01973

R7604MS

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666268MS

Data file: /chem2/HP19094.i/16nov05a.b/hn05s06.d

Injection date and time: 05-NOV-2016 12:09

Data file Sample Info. Line: R7604MS;8666268MS;1;3;MS;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA

Date, time and analyst ID of latest file update: 05-Nov-2016 12:28 Automation

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469-SM

Calibration date and time (Last Method Edit): 05-NOV-2016 09:41

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.257 (0.006)	438	65	102754 (-6)	50.00	
63) Fluorobenzene	7.787 (-0.006)	1017	96	2340569 (-3)	10.00	
97) Chlorobenzene-d5	11.250 (-0.006)	1585	117	1561983 (-5)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127 (0.000)	1893	152	692687 (-8)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.878 (0.001)	113	538241	10.026	100%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.342 (0.001)	102	88980	10.318	103%		74 - 113
82) Toluene-d8	(3)	9.799 (0.000)	98	2341415	9.924	99%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243 (0.001)	95	691882	9.974	100%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
1) Dichlorodifluoromethane	(2)	2.020 (-0.001)	85	414846	4.170	4.17			0.1	1
2) Chloromethane	(2)	2.172 (-0.001)	50	441254	4.144	4.14			0.2	1
8) Chloroethane	(2)	2.733 (0.000)	64	296113	5.518	5.52			0.1	1
10) Trichlorofluoromethane	(2)	3.056 (-0.000)	101	521443	4.527	4.53			0.1	1
11) Ethyl ether	(2)	3.312 (-0.000)	59	1177900	27.710	27.71		E	0.1	13
15) 1,1-Dichloroethene	(2)	3.629 (-0.001)	96	289474	5.393	5.39			0.1	1
16) Freon 113	(2)	3.666 (-0.000)	101	296621	5.056	5.06			0.2	1
23) Methylene Chloride	(2)	4.287 (-0.000)	84	306206	5.317	5.32			0.2	1
33) 1,1-Dichloroethane	(2)	5.366 (-0.000)	63	1039334	8.675	8.68			0.1	1
38) 2-Butanone	(1)	6.141 (-0.004)	43	536000	30.618	30.62			1	10
48) Tetrahydrofuran	(1)	6.537 (-0.003)	71	95713	21.212	21.21		J	2	25
51) 1,1,1-Trichloroethane	(2)	6.915 (-0.000)	97	504260	4.840	4.84			0.1	1
54) Carbon Tetrachloride	(2)	7.140 (-0.000)	117	453828	5.043	5.04			0.1	1
58) Benzene	(2)	7.384 (0.000)	78	1389507	5.534	5.53			0.1	1
67) Trichloroethene	(2)	8.274 (0.000)	95	370283	5.382	5.38			0.1	1
83) Toluene	(3)	9.872 (0.000)	92	847624	5.228	5.23			0.1	1
89) Tetrachloroethene	(3)	10.426 (0.000)	166	412001	5.309	5.31			0.1	1
100) Ethylbenzene	(3)	11.359 (0.000)	91	1659351	5.201	5.20			0.1	1
101) m+p-Xylene	(3)	11.475 (0.000)	106	1267546	10.574	10.57			0.1	0.5
104) o-Xylene	(3)	11.798 (0.000)	106	587635	5.026	5.03			0.1	0.5
105) Xylene (Total)	(3)		106	1855181	15.599	15.60			0.1	3

E = Compound concentration above calibration range.

R7604MS

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666268MS

Data file: /chem2/HP19094.i/16nov05a.b/hn05s06.d

Injection date and time: 05-NOV-2016 12:09

Data file Sample Info. Line: R7604MS;8666268MS;1;3;MS;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA
Date, time and analyst ID of latest file update: 05-Nov-2016 12:28 Automation

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469-SM

Calibration date and time (Last Method Edit): 05-NOV-2016 09:41

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

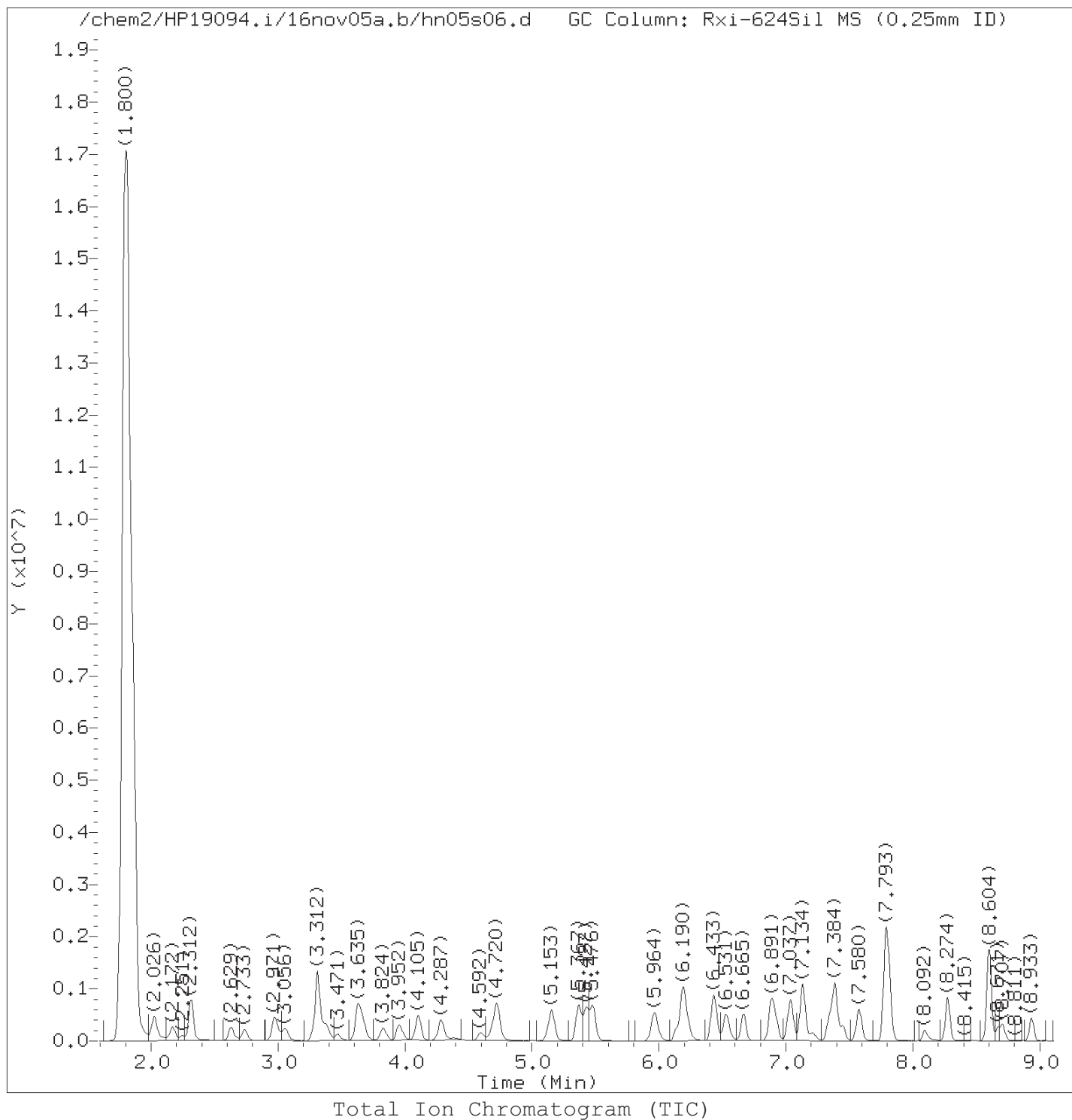
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

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Total number of targets = 21

Digitally signed by Matthew S. Krause on 11/05/2016 at 12:52. Target 3.5 esignature user ID: msk07970

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 20:01. PARALLAX ID: sej02002



Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s06.d
Injection date and time: 05-NOV-2016 12:09

Instrument ID: HP19094.i
Analyst ID: msk07970

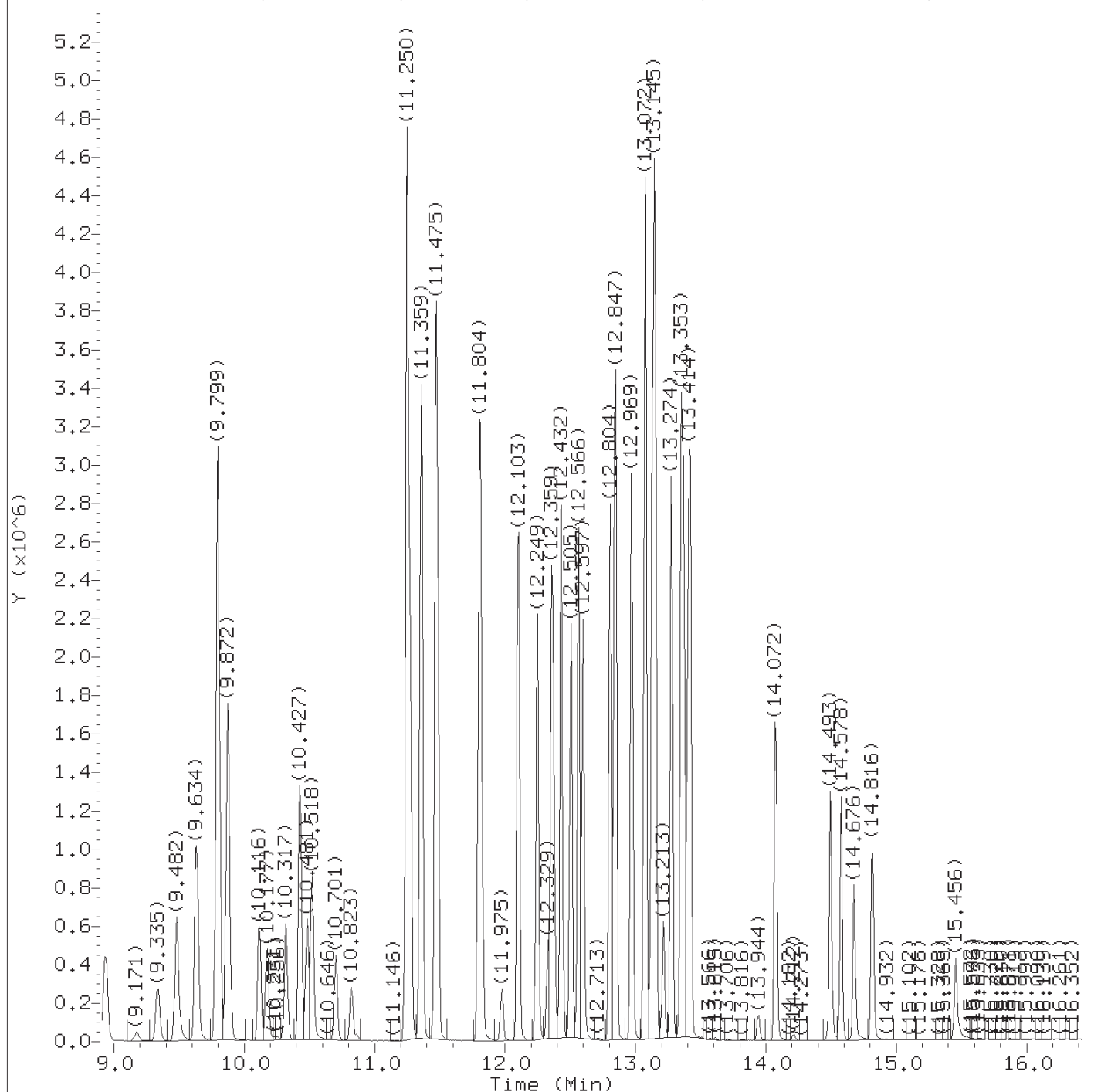
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 12:28 Automation

Sample Name: R7604MS

Lab Sample ID: 8666268MS

Digitally signed by Matthew S. Krause
on 11/05/2016 at 12:52.

Target 3.5 esignature User ID: msk07970
RAE76 Page 590 of 883



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s06.d
Injection date and time: 05-NOV-2016 12:09

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 12:28 Automation

Sample Name: R7604MS

Lab Sample ID: 8666268MS

Digitally signed by Matthew S. Krause
on 11/05/2016 at 12:52.

Target 3.5 esignature User ID: msk07970
RAE76 Page 591 of 883

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s06.d
 Injection date and time: 05-NOV-2016 12:09

Instrument ID: HP19094.i
 Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469-SM
 Calibration date and time: 05-NOV-2016 09:41
 Date, time and analyst ID of latest file update: 05-Nov-2016 12:28 Automation

Sample Name: R7604MS

Lab Sample ID: 8666268MS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.020	85	414846	4.170
2) Chloromethane	(2)	2.172	50	441254	4.144
8) Chloroethane	(2)	2.733	64	296113	5.518
10) Trichlorofluoromethane	(2)	3.056	101	521443	4.527
11) Ethyl ether	(2)	3.312	59	1177900	27.710
15) 1,1-Dichloroethene	(2)	3.629	96	289474	5.393
16) Freon 113	(2)	3.666	101	296621	5.056
26)*t-Butyl Alcohol-d10	(1)	4.257	65	102754	50.000
23) Methylene Chloride	(2)	4.287	84	306206	5.317
33) 1,1-Dichloroethane	(2)	5.367	63	1039334	8.675
38) 2-Butanone	(1)	6.141	43	536000	30.618
48) Tetrahydrofuran	(1)	6.537	71	95713	21.212
50)\$Dibromofluoromethane	(2)	6.878	113	538241	10.026
51) 1,1,1-Trichloroethane	(2)	6.915	97	504260	4.840
54) Carbon Tetrachloride	(2)	7.141	117	453828	5.043
57)\$1,2-Dichloroethane-d4	(2)	7.342	102	88980	10.318
58) Benzene	(2)	7.384	78	1389507	5.534
63)*Fluorobenzene	(2)	7.787	96	2340569	10.000
67) Trichloroethene	(2)	8.274	95	370283	5.382
82)\$Toluene-d8	(3)	9.799	98	2341415	9.924
83) Toluene	(3)	9.872	92	847624	5.228
89) Tetrachloroethene	(3)	10.427	166	412001	5.309
97)*Chlorobenzene-d5	(3)	11.250	117	1561983	10.000
100) Ethylbenzene	(3)	11.359	91	1659351	5.201
101) m+p-Xylene	(3)	11.475	106	1267546	10.574
105) Xylene (Total)	(3)		106	1855181	15.599
104) o-Xylene	(3)	11.798	106	587635	5.026
111)\$4-Bromofluorobenzene	(3)	12.243	95	691882	9.974
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	692687	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

page 1 of 1

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 on 11/05/2016 at 12:52.

Target 3.5 esignature user ID: msk07970

RAE76 Page 592 of 883

R7604MSD

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666269MSD

Data file: /chem2/HP19094.i/16nov05a.b/hn05s07.d

Injection date and time: 05-NOV-2016 12:30

Data file Sample Info. Line: R7604MSD;8666269MSD;1;3;MSD;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA

Date, time and analyst ID of latest file update: 05-Nov-2016 12:49 Automation

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469-SM

Calibration date and time (Last Method Edit): 05-NOV-2016 09:41

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.269(-0.006)	440	65	106626 (-2)	50.00	
63) Fluorobenzene	7.787(-0.006)	1017	96	2379670 (-1)	10.00	
97) Chlorobenzene-d5	11.249(-0.006)	1585	117	1610629 (-2)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(0.000)	1893	152	719596 (-4)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.885(0.000)	113	549703	10.072	101%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.342(0.001)	102	92494	10.549	105%		74 - 113
82) Toluene-d8	(3)	9.799(0.000)	98	2347226	9.648	96%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243(0.001)	95	710406	9.932	99%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
1) Dichlorodifluoromethane	(2)	2.014(-0.000)	85	409460	4.048	4.05			0.1	1
2) Chloromethane	(2)	2.172(-0.001)	50	445062	4.111	4.11			0.2	1
8) Chloroethane	(2)	2.739(-0.000)	64	299625	5.492	5.49			0.1	1
10) Trichlorofluoromethane	(2)	3.056(-0.000)	101	526615	4.496	4.50			0.1	1
11) Ethyl ether	(2)	3.312(-0.000)	59	1186461	27.453	27.45		E	0.1	13
15) 1,1-Dichloroethene	(2)	3.629(-0.001)	96	285608	5.233	5.23			0.1	1
16) Freon 113	(2)	3.660(0.000)	101	292600	4.905	4.91			0.2	1
23) Methylene Chloride	(2)	4.281(0.000)	84	299568	5.116	5.12			0.2	1
33) 1,1-Dichloroethane	(2)	5.366(-0.000)	63	1044169	8.572	8.57			0.1	1
38) 2-Butanone	(1)	6.141(-0.000)	43	541936	29.833	29.83			1	10
48) Tetrahydrofuran	(1)	6.543(-0.000)	71	96820	20.678	20.68		J	2	25
51) 1,1,1-Trichloroethane	(2)	6.915(-0.000)	97	488985	4.616	4.62			0.1	1
54) Carbon Tetrachloride	(2)	7.134(0.000)	117	449999	4.918	4.92			0.1	1
58) Benzene	(2)	7.384(0.000)	78	1361064	5.331	5.33			0.1	1
67) Trichloroethene	(2)	8.274(0.000)	95	369016	5.276	5.28			0.1	1
83) Toluene	(3)	9.872(0.000)	92	850551	5.087	5.09			0.1	1
89) Tetrachloroethene	(3)	10.426(0.000)	166	407965	5.098	5.10			0.1	1
100) Ethylbenzene	(3)	11.359(0.000)	91	1633278	4.965	4.96			0.1	1
101) m+p-Xylene	(3)	11.475(0.000)	106	1259002	10.185	10.19			0.1	0.5
104) o-Xylene	(3)	11.798(0.000)	106	580633	4.816	4.82			0.1	0.5
105) Xylene (Total)	(3)		106	1839635	15.001	15.00			0.1	3

E = Compound concentration above calibration range.

R7604MSD

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8666269MSD

Data file: /chem2/HP19094.i/16nov05a.b/hn05s07.d Injection date and time: 05-NOV-2016 12:30
Data file Sample Info. Line: R7604MSD;8666269MSD;1;3;MSD;RAE76;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA
Date, time and analyst ID of latest file update: 05-Nov-2016 12:49 Automation

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time (Last Method Edit): 05-NOV-2016 09:41
Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: 038A Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

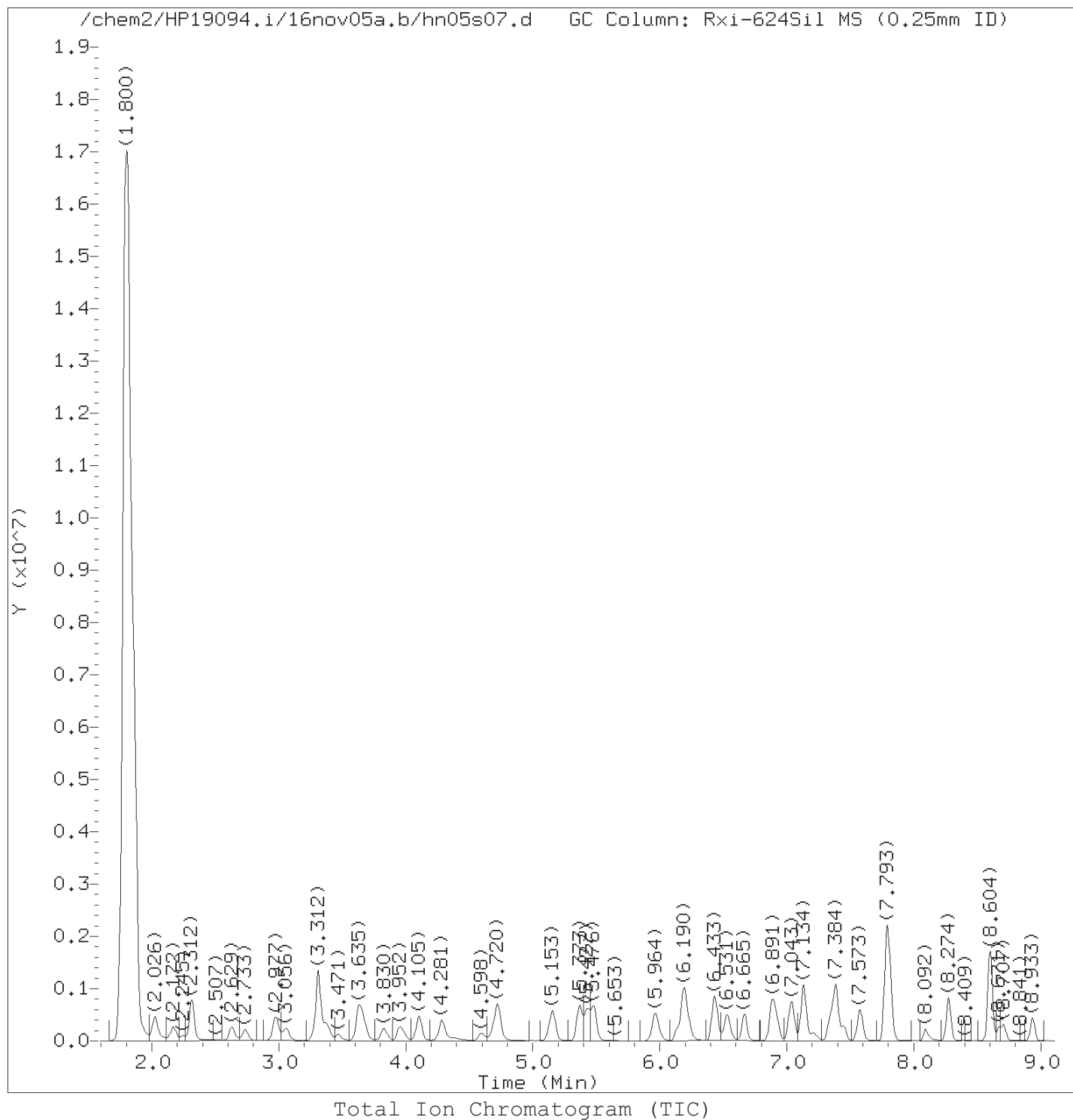
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

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Total number of targets = 21

Digitally signed by Matthew S. Krause on 11/05/2016 at 12:52. Target 3.5 esignature user ID: msk07970

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 20:01. PARALLAX ID: sej02002



Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s07.d
Injection date and time: 05-NOV-2016 12:30

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 12:49 Automation

Sample Name: R7604MSD

Lab Sample ID: 8666269MSD

Digitally signed by Matthew S. Krause
on 11/05/2016 at 12:52.

Target 3.5 esignature User ID: msk07970
RAE76 Page 595 of 883

Target Revision 3.5

Instrument ID: HP19094.i
Analyst ID: msk07970

Sample Name: R7604MSD

Lab Sample ID: 8666269MSD

Target 3.5 esignature user ID: msk07970 PAGE 76 Page 596 of 8

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Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s07.d
Injection date and time: 05-NOV-2016 12:30

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 12:49 Automation

Sample Name: R7604MSD

Lab Sample ID: 8666269MSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.014	85	409460	4.048
2) Chloromethane	(2)	2.172	50	445062	4.111
8) Chloroethane	(2)	2.739	64	299625	5.492
10) Trichlorofluoromethane	(2)	3.056	101	526615	4.496
11) Ethyl ether	(2)	3.312	59	1186461	27.453
15) 1,1-Dichloroethene	(2)	3.629	96	285608	5.233
16) Freon 113	(2)	3.660	101	292600	4.905
26) *t-Butyl Alcohol-d10	(1)	4.269	65	106626	50.000
23) Methylene Chloride	(2)	4.281	84	299568	5.116
33) 1,1-Dichloroethane	(2)	5.367	63	1044169	8.572
38) 2-Butanone	(1)	6.141	43	541936	29.833
48) Tetrahydrofuran	(1)	6.543	71	96820	20.678
50) \$Dibromofluoromethane	(2)	6.885	113	549703	10.072
51) 1,1,1-Trichloroethane	(2)	6.915	97	488985	4.616
54) Carbon Tetrachloride	(2)	7.134	117	449999	4.918
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	92494	10.549
58) Benzene	(2)	7.384	78	1361064	5.331
63) *Fluorobenzene	(2)	7.787	96	2379670	10.000
67) Trichloroethene	(2)	8.274	95	369016	5.276
82) \$Toluene-d8	(3)	9.799	98	2347226	9.648
83) Toluene	(3)	9.872	92	850551	5.087
89) Tetrachloroethene	(3)	10.426	166	407965	5.098
97) *Chlorobenzene-d5	(3)	11.249	117	1610629	10.000
100) Ethylbenzene	(3)	11.359	91	1633278	4.965
101) m+p-Xylene	(3)	11.475	106	1259002	10.185
105) Xylene (Total)	(3)		106	1839635	15.001
104) o-Xylene	(3)	11.798	106	580633	4.816
111) \$4-Bromofluorobenzene	(3)	12.243	95	710406	9.932
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	719596	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

page 1 of 1

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on 11/05/2016 at 12:52.

Target 3.5 esignature user ID: msk07970

RAE76 Page 597 of 883

LCSH74

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

LCSH74

Data file: /chem2/HP19094.i/16nov05a.b/hn05s02.d Injection date and time: 05-NOV-2016 10:13
Data file Sample Info. Line: LCSH74;LCSH74;1;3;LCS;;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA
Date, time and analyst ID of latest file update: 05-Nov-2016 10:56 msk07970

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469SM
Calibration date and time (Last Method Edit): 05-NOV-2016 09:41
Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.263 (0.000)	439	65	95389 (-12)	50.00	
63) Fluorobenzene	7.787 (-0.006)	1017	96	2245900 (-7)	10.00	
97) Chlorobenzene-d5	11.250 (-0.006)	1585	117	1428890 (-13)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127 (0.000)	1893	152	602424 (-20)	10.00	

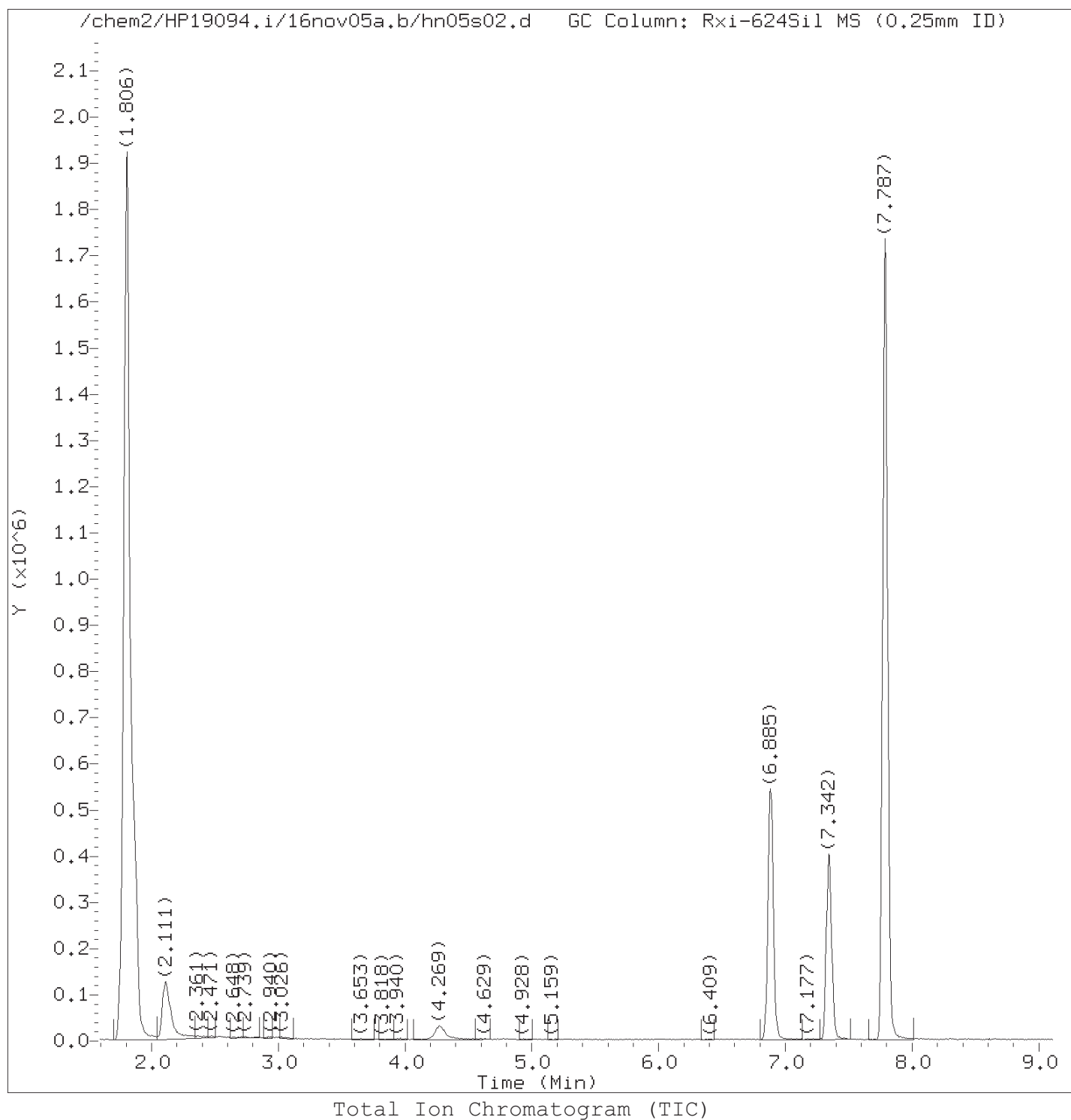
Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.878 (0.001)	113	487268	9.459	95%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.342 (0.001)	102	85569	10.340	103%		74 - 113
82) Toluene-d8	(3)	9.799 (0.000)	98	2201459	10.200	102%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249 (0.000)	95	617845	9.737	97%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Reporting Limit (in sample)	LOQ
4) Dimethyl ether	(2)	2.111 (-0.001)	45	348518	4.769	4.77		0.1	13

Total number of targets = 1

Digitally signed by Matthew S. Krause on 11/05/2016 at 11:02. Target 3.5 esignature user ID: msk07970

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 19:54. PARALLAX ID: sej02002



Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s02.d
Injection date and time: 05-NOV-2016 10:13

Instrument ID: HP19094.i
Analyst ID: msk07970

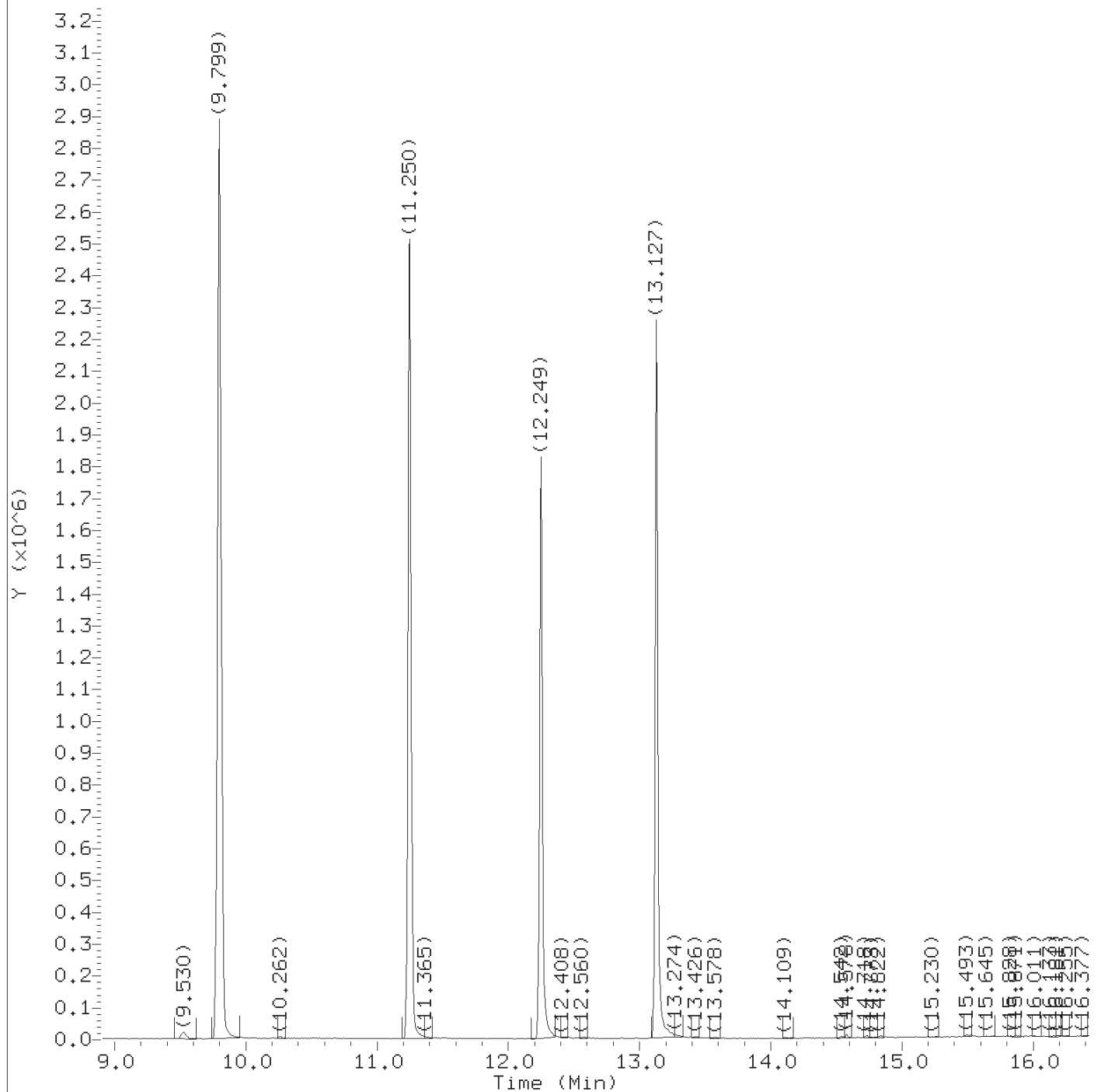
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469SM
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 10:56 msk07970

Sample Name: LCSH74

Lab Sample ID: LCSH74

Digitally signed by Matthew S. Krause
on 11/05/2016 at 11:02.

Target 3.5 esignature User ID: msk07970
RAE76 Page 599 of 883



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s02.d
Injection date and time: 05-NOV-2016 10:13

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469SM
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 10:56 msk07970

Sample Name: LCSH74

Lab Sample ID: LCSH74

Digitally signed by Matthew S. Krause
on 11/05/2016 at 11:02.

Target 3.5 esignature User ID: msk07970
RAE76 Page 600 of 883

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s02.d

Instrument ID: HP19094.i

Injection date and time: 05-NOV-2016 10:13

Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m

Sublist used: 22469SM

Calibration date and time: 05-NOV-2016 09:41

Date, time and analyst ID of latest file update: 05-Nov-2016 10:56 msk07970

Sample Name: LCSH74

Lab Sample ID: LCSH74

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.111	45	348518	4.769
26) *t-Butyl Alcohol-d10	(1)	4.263	65	95389	50.000
50) \$Dibromofluoromethane	(2)	6.878	113	487268	9.459
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	85569	10.340
63) *Fluorobenzene	(2)	7.787	96	2245900	10.000
82) \$Toluene-d8	(3)	9.799	98	2201459	10.200
97) *Chlorobenzene-d5	(3)	11.250	117	1428890	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	617845	9.737
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	602424	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

page 1 of 1

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on 11/05/2016 at 11:02.

Target 3.5 esignature user ID: msk07970

RAE76 Page 601 of 883

LCSH73

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

LCSH73

Data file: /chem2/HP19094.i/16nov05a.b/hn05s01.d

Injection date and time: 05-NOV-2016 09:12

Data file Sample Info. Line: LCSH73;LCSH73;1;3;LCS;;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA

Date, time and analyst ID of latest file update: 05-Nov-2016 10:56 msk07970

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469-SM

Calibration date and time (Last Method Edit): 05-NOV-2016 09:41

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.239 (0.024)	435	65	93437 (-14)	50.00	
63) Fluorobenzene	7.781 (0.000)	1016	96	2383710 (-1)	10.00	
97) Chlorobenzene-d5	11.244 (0.000)	1584	117	1586902 (-4)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127 (0.000)	1893	152	712029 (-5)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.872 (0.001)	113	529100	9.678	97%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.336 (0.001)	102	92714	10.556	106%		74 - 113
82) Toluene-d8	(3)	9.793 (0.000)	98	2382590	9.940	99%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243 (0.000)	95	707158	10.035	100%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
1) Dichlorodifluoromethane	(2)	2.008 (-0.000)	85	379109	3.742	3.74			0.1	1
2) Chloromethane	(2)	2.148 (0.001)	50	407680	3.759	3.76			0.2	1
8) Chloroethane	(2)	2.727 (0.000)	64	223319	4.086	4.09			0.1	1
10) Trichlorofluoromethane	(2)	3.038 (0.001)	101	467713	3.987	3.99			0.1	1
11) Ethyl ether	(2)	3.300 (0.000)	59	201398	4.652	4.65		J	0.1	13
15) 1,1-Dichloroethene	(2)	3.617 (-0.000)	96	248675	4.549	4.55			0.1	1
16) Freon 113	(2)	3.654 (0.000)	101	256741	4.297	4.30			0.2	1
23) Methylene Chloride	(2)	4.275 (0.000)	84	279436	4.764	4.76			0.2	1
33) 1,1-Dichloroethane	(2)	5.360 (-0.000)	63	555060	4.549	4.55			0.1	1
38) 2-Butanone	(1)	6.129 (-0.008)	43	538112	33.804	33.80			1	10
48) Tetrahydrofuran	(1)	6.537 (-0.010)	71	86669	21.123	21.12		J	2	25
51) 1,1,1-Trichloroethane	(2)	6.903 (0.000)	97	452529	4.265	4.26			0.1	1
54) Carbon Tetrachloride	(2)	7.135 (-0.000)	117	407170	4.442	4.44			0.1	1
58) Benzene	(2)	7.378 (0.000)	78	1238495	4.843	4.84			0.1	1
67) Trichloroethene	(2)	8.268 (0.000)	95	336004	4.796	4.80			0.1	1
83) Toluene	(3)	9.872 (-0.000)	92	787236	4.779	4.78			0.1	1
89) Tetrachloroethene	(3)	10.427 (0.000)	166	362244	4.595	4.59			0.1	1
100) Ethylbenzene	(3)	11.359 (0.000)	91	1522883	4.698	4.70			0.1	1
101) m+p-Xylene	(3)	11.469 (0.000)	106	1167583	9.587	9.59			0.1	0.5
104) o-Xylene	(3)	11.798 (0.000)	106	545549	4.593	4.59			0.1	0.5
105) Xylene (Total)	(3)		106	1713132	14.179	14.18			0.1	3

LCSH73

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

LCSH73

Data file: /chem2/HP19094.i/16nov05a.b/hn05s01.d Injection date and time: 05-NOV-2016 09:12
Data file Sample Info. Line: LCSH73;LCSH73;1;3;LCS;;DRAPERLOQ;;hn05b01; Instrument ID: HP19094.i Batch: H163101AA
Date, time and analyst ID of latest file update: 05-Nov-2016 10:56 msk07970

Blank Data file reference: /chem2/HP19094.i/16nov05a.b/hn05b01.d

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time (Last Method Edit): 05-NOV-2016 09:41
Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov05a.b/hn05c01.d

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

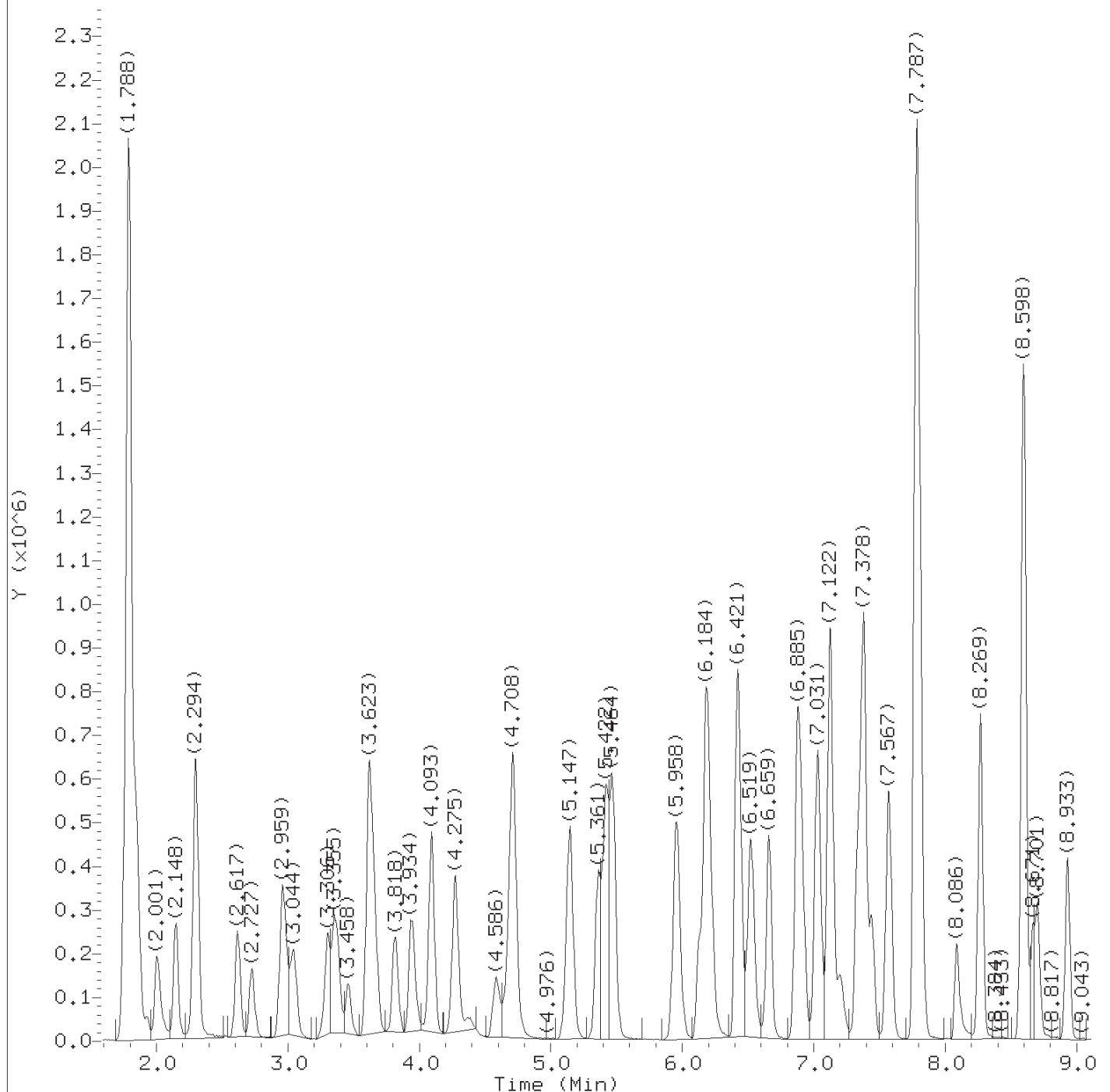
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

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WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 21

Digitally signed by Matthew S. Krause on 11/05/2016 at 11:02. Target 3.5 esignature user ID: msk07970

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 19:54. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s01.d
Injection date and time: 05-NOV-2016 09:12

Instrument ID: HP19094.i
Analyst ID: msk07970

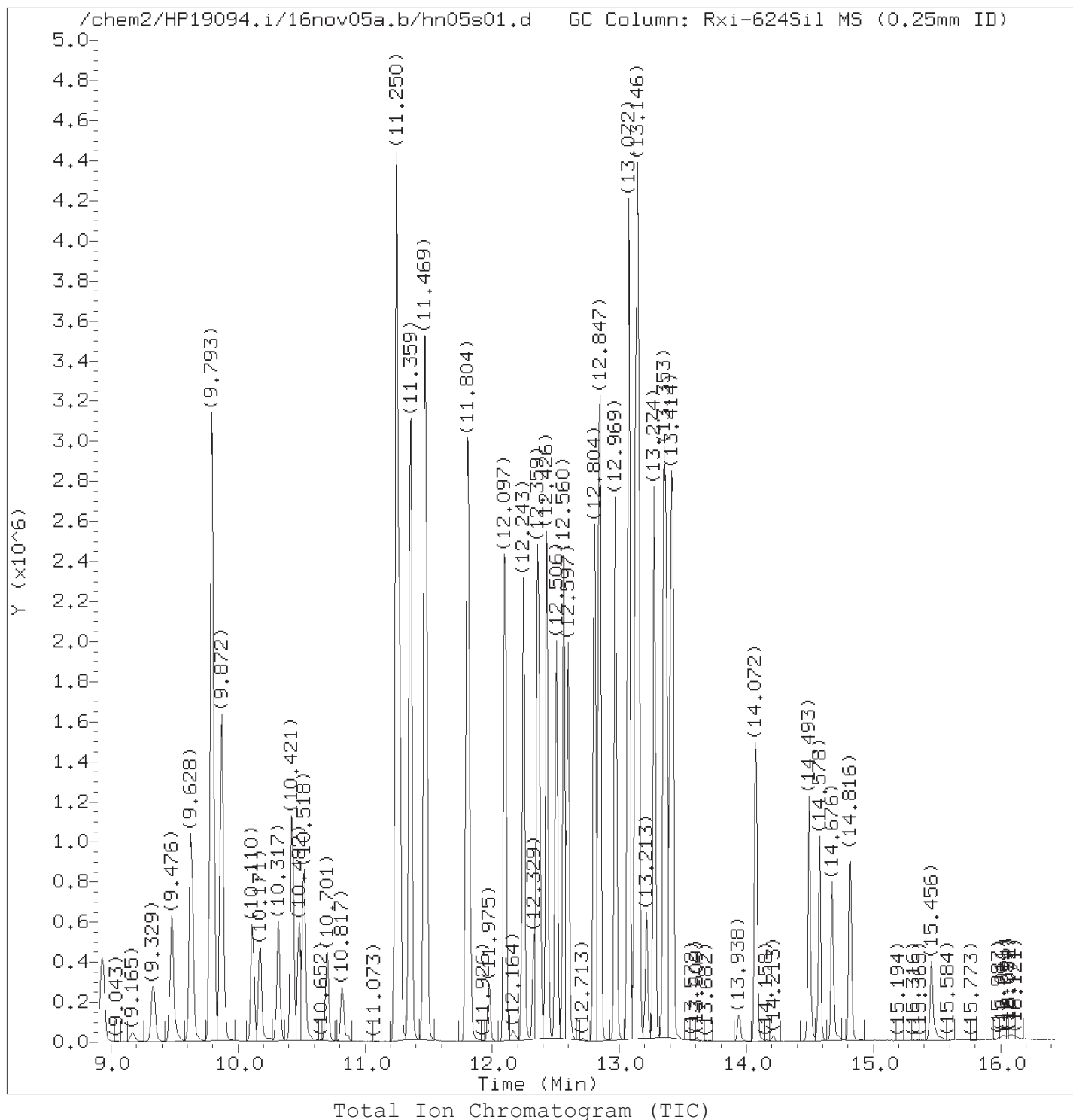
Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 10:56 msk07970

Sample Name: LCSH73

Lab Sample ID: LCSH73

Digitally signed by Matthew S. Krause
on 11/05/2016 at 11:02.

Target 3.5 esignature user ID: msk07970
RAE76 Page 604 of 883



Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s01.d
Injection date and time: 05-NOV-2016 09:12

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 10:56 msk07970

Sample Name: LCSH73

Lab Sample ID: LCSH73

Digitally signed by Matthew S. Krause
on 11/05/2016 at 11:02.

Target 3.5 esignature user ID: msk07970
RAE76 Page 605 of 883

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov05a.b/hn05s01.d
Injection date and time: 05-NOV-2016 09:12

Instrument ID: HP19094.i
Analyst ID: msk07970

Method used: /chem2/HP19094.i/16nov05a.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time: 05-NOV-2016 09:41
Date, time and analyst ID of latest file update: 05-Nov-2016 10:56 msk07970

Sample Name: LCSH73

Lab Sample ID: LCSH73

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.008	85	379109	3.742
2) Chloromethane	(2)	2.148	50	407680	3.759
8) Chloroethane	(2)	2.727	64	223319	4.086
10) Trichlorofluoromethane	(2)	3.038	101	467713	3.987
11) Ethyl ether	(2)	3.300	59	201398	4.652
15) 1,1-Dichloroethene	(2)	3.617	96	248675	4.549
16) Freon 113	(2)	3.654	101	256741	4.297
26) *t-Butyl Alcohol-d10	(1)	4.239	65	93437	50.000
23) Methylene Chloride	(2)	4.275	84	279436	4.764
33) 1,1-Dichloroethane	(2)	5.361	63	555060	4.549
38) 2-Butanone	(1)	6.129	43	538112	33.804
48) Tetrahydrofuran	(1)	6.537	71	86669	21.123
50) \$Dibromofluoromethane	(2)	6.872	113	529100	9.678
51) 1,1,1-Trichloroethane	(2)	6.903	97	452529	4.265
54) Carbon Tetrachloride	(2)	7.135	117	407170	4.442
57) \$1,2-Dichloroethane-d4	(2)	7.336	102	92714	10.556
58) Benzene	(2)	7.378	78	1238495	4.843
63) *Fluorobenzene	(2)	7.781	96	2383710	10.000
67) Trichloroethene	(2)	8.269	95	336004	4.796
82) \$Toluene-d8	(3)	9.793	98	2382590	9.940
83) Toluene	(3)	9.872	92	787236	4.779
89) Tetrachloroethene	(3)	10.427	166	362244	4.595
97) *Chlorobenzene-d5	(3)	11.244	117	1586902	10.000
100) Ethylbenzene	(3)	11.359	91	1522883	4.698
101) m+p-Xylene	(3)	11.469	106	1167583	9.587
105) Xylene (Total)	(3)		106	1713132	14.179
104) o-Xylene	(3)	11.798	106	545549	4.593
111) \$4-Bromofluorobenzene	(3)	12.243	95	707158	10.035
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	712029	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

page 1 of 1

Digitally signed by Matthew S. Krause
on 11/05/2016 at 11:02.

Target 3.5 esignature user ID: msk07970

RAE76 Page 606 of 883

LCSH79

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

LCSH79

Data file: /chem2/HP19094.i/16nov07a.b/hn07103a.d Injection date and time: 07-NOV-2016 11:12
 Data file Sample Info. Line: LCSH79;LCSH79;1;3;LCS;;DRAPERLOQ;;hn07b01a; Instrument ID: HP19094.i Batch: H163122AA
 Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Blank Data file reference: /chem2/HP19094.i/16nov07a.b/hn07b01a.d

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469SM
 Calibration date and time (Last Method Edit): 07-NOV-2016 12:19
 Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov07a.b/hn07c01.d

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.251 (0.012)	437	65	94703 (-8)	50.00	
63) Fluorobenzene	7.787 (0.000)	1017	96	2369381 (-1)	10.00	
97) Chlorobenzene-d5	11.250 (-0.006)	1585	117	1563316 (-3)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127 (0.000)	1893	152	649763 (-12)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.878 (0.001)	113	525381	9.668	97%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.342 (0.000)	102	89085	10.204	102%		74 - 113
82) Toluene-d8	(3)	9.799 (0.000)	98	2371344	10.042	100%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249 (0.000)	95	686018	9.881	99%		78 - 110

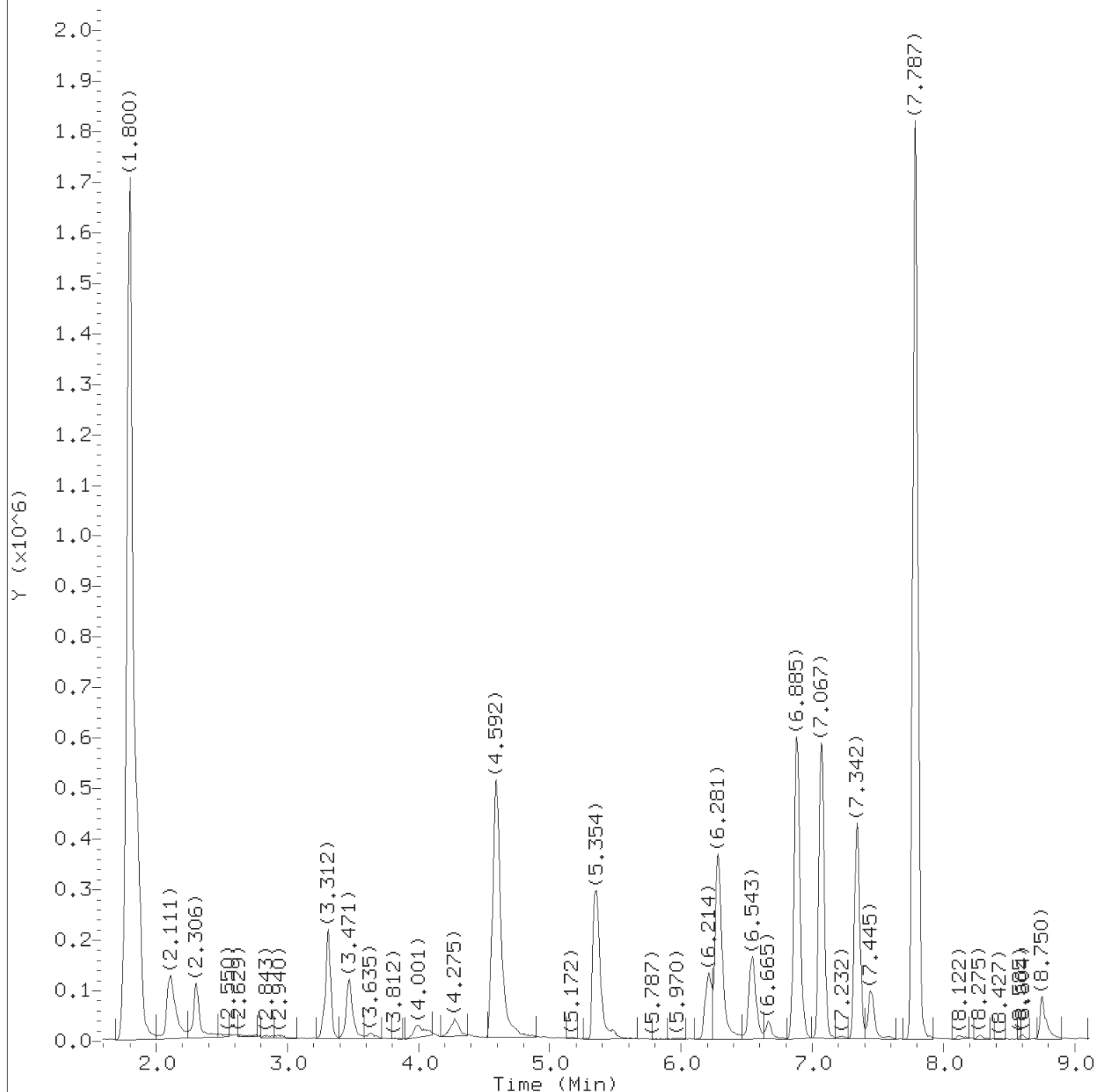
Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Reporting Limit (in sample)	LOQ
4) Dimethyl ether	(2)	2.111 (-0.000)	45	346654M	4.496	4.50		J 0.1	13

M = Compound was manually integrated.

Total number of targets = 1

Digitally signed by Kerri E. Koch Legerlotz on 11/07/2016 at 12:22. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 18:04. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07103a.d
Injection date and time: 07-NOV-2016 11:12

Instrument ID: HP19094.i
Analyst ID: kel01973

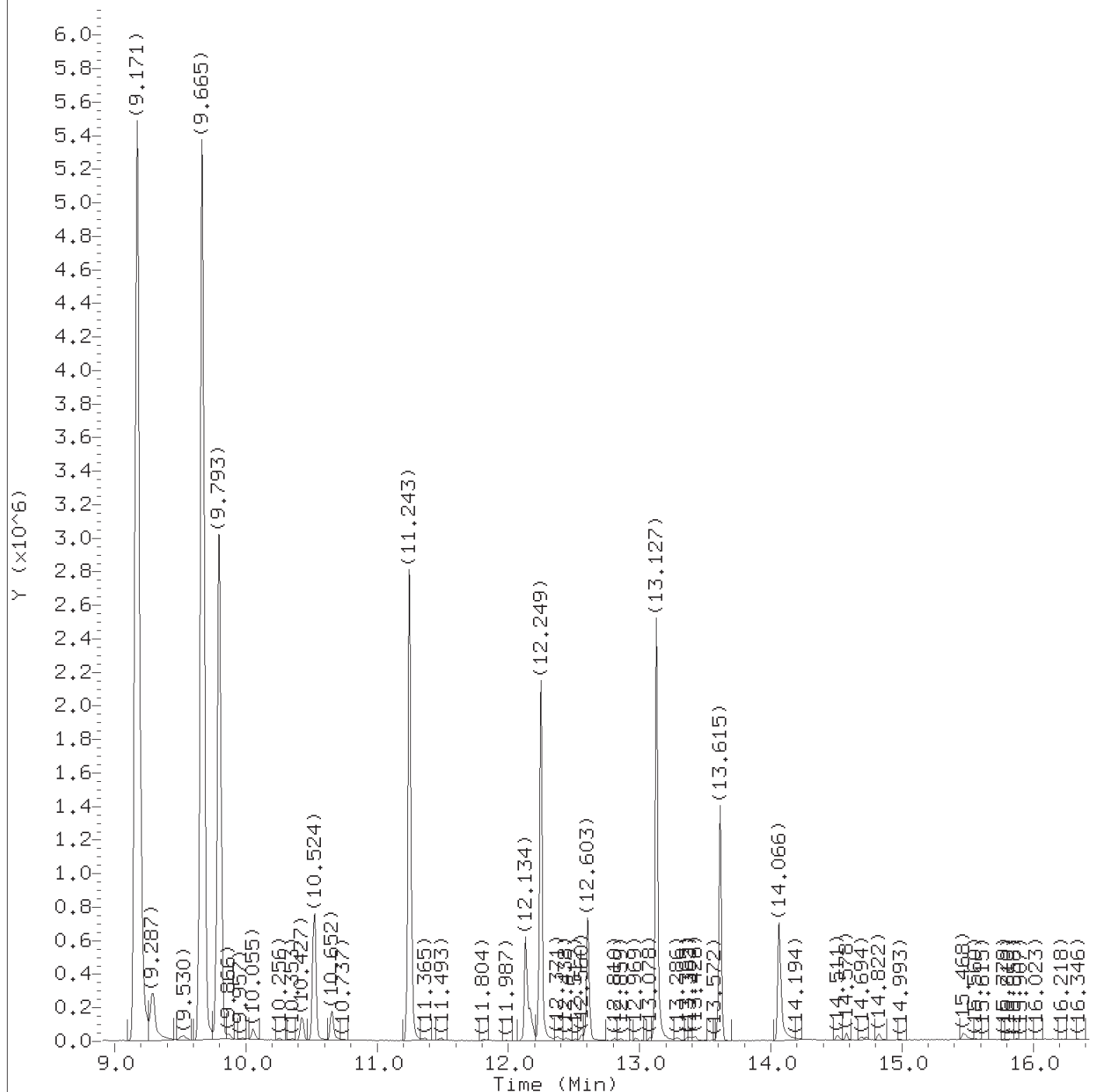
Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469SM
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Sample Name: LCSH79

Lab Sample ID: LCSH79

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 12:22.

Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07103a.d Instrument ID: HP19094.i
Injection date and time: 07-NOV-2016 11:12 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469SM
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Sample Name: LCSH79

Lab Sample ID: LCSH79

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 12:22.

Target 3.5 esignature user ID: kel01973
RAE76 Page 609 of 883

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07103a.d Instrument ID: HP19094.i
Injection date and time: 07-NOV-2016 11:12 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469SM
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Sample Name: LCSH79

Lab Sample ID: LCSH79

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.111	45	346654M	4.496
26) *t-Butyl Alcohol-d10	(1)	4.251	65	94703	50.000
50) \$Dibromofluoromethane	(2)	6.878	113	525381	9.668
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	89085	10.204
63) *Fluorobenzene	(2)	7.787	96	2369381	10.000
82) \$Toluene-d8	(3)	9.799	98	2371344	10.042
97) *Chlorobenzene-d5	(3)	11.250	117	1563316	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	686018	9.881
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	649763	10.000

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

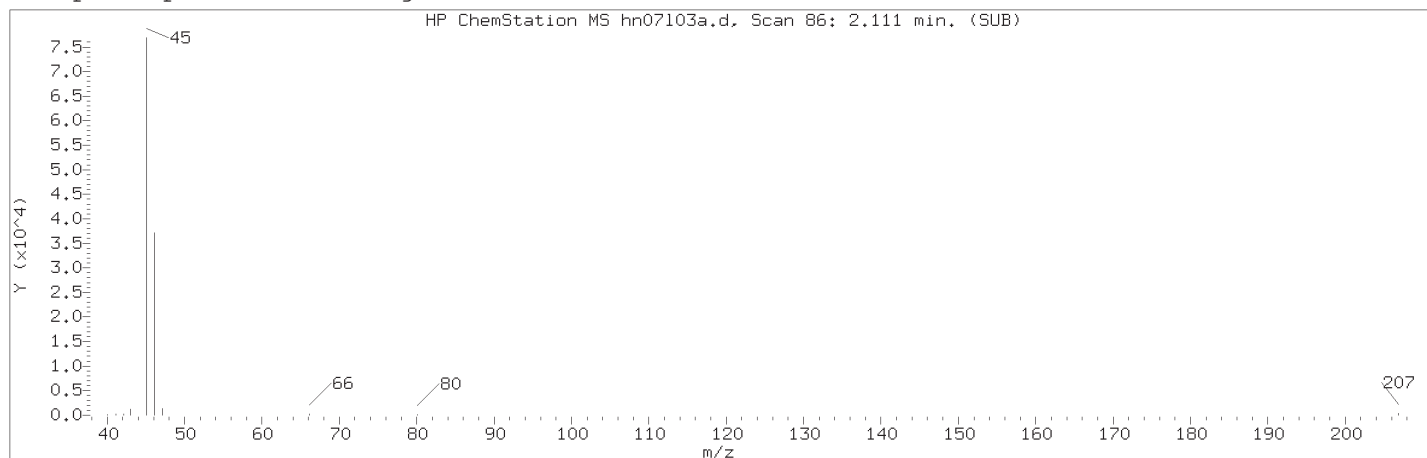
page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 12:22.

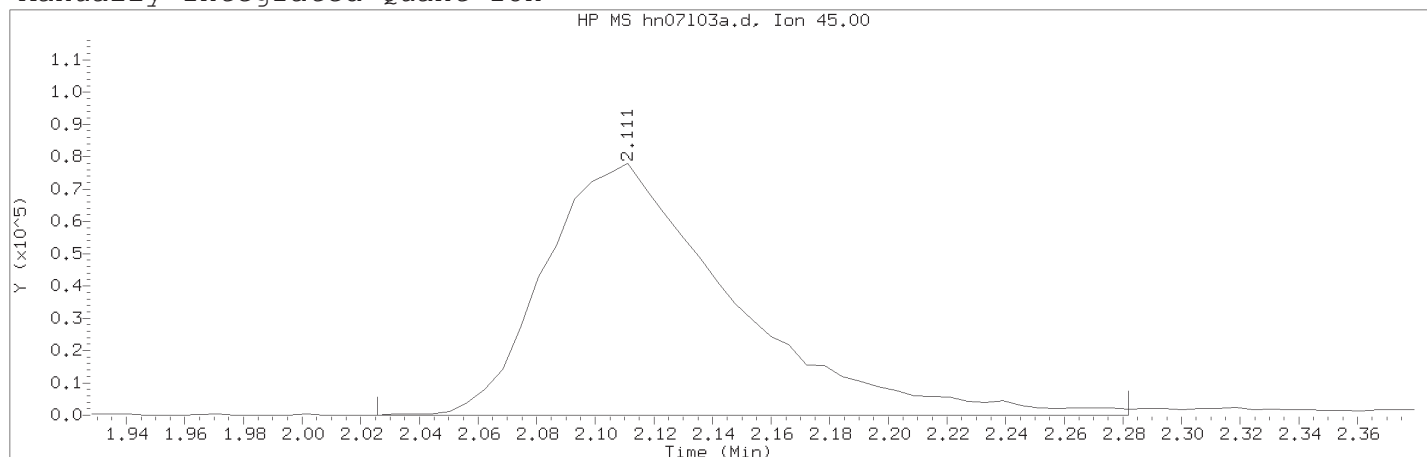
Target 3.5 esignature user ID: kel01973

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Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07103a.d Instrument ID: HP19094.i
Injection date and time: 07-NOV-2016 11:12 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469SM
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Sample Name: LCSH79

Lab Sample ID: LCSH79

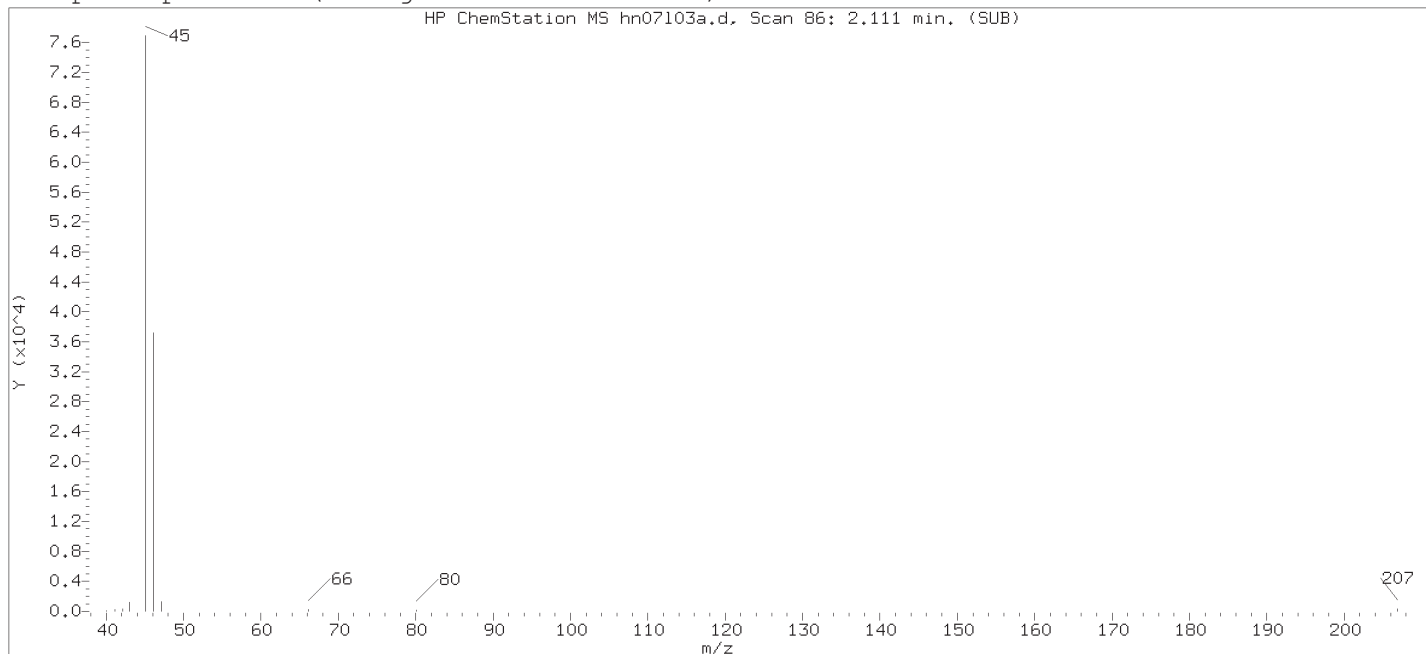
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 86
Retention Time (minutes): 2.111
Quant Ion : 45.00
Area (flag) : 346654M
On-Column Amount (ng) : 4.4958
Integration start scan : 71 Integration stop scan: 113
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

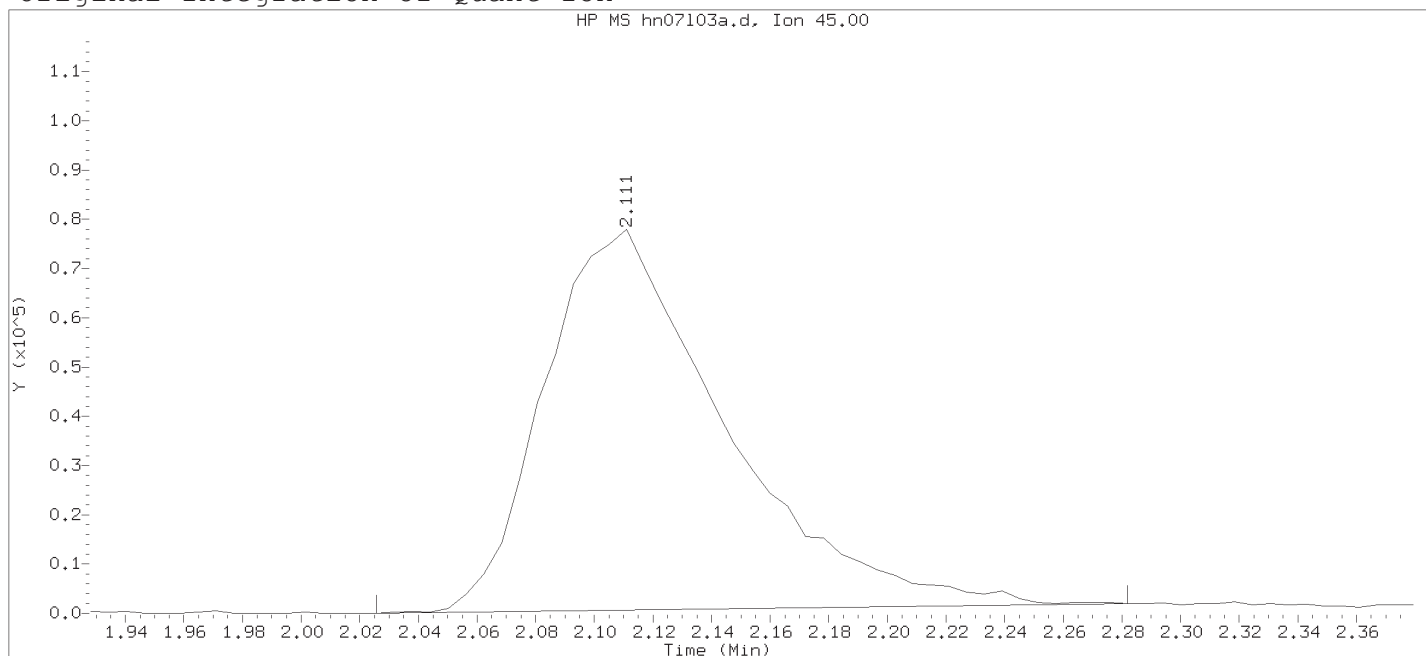
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 12:22.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 18:04.
PARALLAX ID: sej02002

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07103a.d

Instrument ID: HP19094.i

Injection date and time: 07-NOV-2016 11:12

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m

Sublist used: 22469SM

Calibration date and time: 07-NOV-2016 10:48

Date, time and analyst ID of latest file update: 07-Nov-2016 11:50 kel01973

Sample Name: LCSH79

Lab Sample ID: LCSH79

Compound Number	: 4	
Compound Name	: Dimethyl ether	
Scan Number	: 86	
Retention Time (minutes)	: 2.111	
Quant Ion	: 45.00	
Area	: 331552	
On-column Amount (ng)	: 4.3000	
Integration start scan	: 71	Integration stop scan: 113
Y at integration start	: 0	Y at integration end: 1920

LCDH79

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

LCDH79

Data file: /chem2/HP19094.i/16nov07a.b/hn07l04a.d

Injection date and time: 07-NOV-2016 11:33

Data file Sample Info. Line: LCDH79;LCDH79;1;3;LCSD;;DRAPERLOQ;;hn07b01a; Instrument ID: HP19094.i Batch: H163122AA

Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Blank Data file reference: /chem2/HP19094.i/16nov07a.b/hn07b01a.d

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469SM

Calibration date and time (Last Method Edit): 07-NOV-2016 12:19

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov07a.b/hn07c01.d

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.263 (0.000)	439	65	113496 (10)	50.00	
63) Fluorobenzene	7.781 (0.006)	1016	96	2391829 (0)	10.00	
97) Chlorobenzene-d5	11.243 (0.000)	1584	117	1605101 (-1)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127 (0.000)	1893	152	678063 (-9)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.878 (0.000)	113	540640	9.855	99%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.342 (-0.001)	102	91927	10.431	104%		74 - 113
82) Toluene-d8	(3)	9.792 (0.001)	98	2392884	9.869	99%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249 (-0.001)	95	715973	10.044	100%		78 - 110

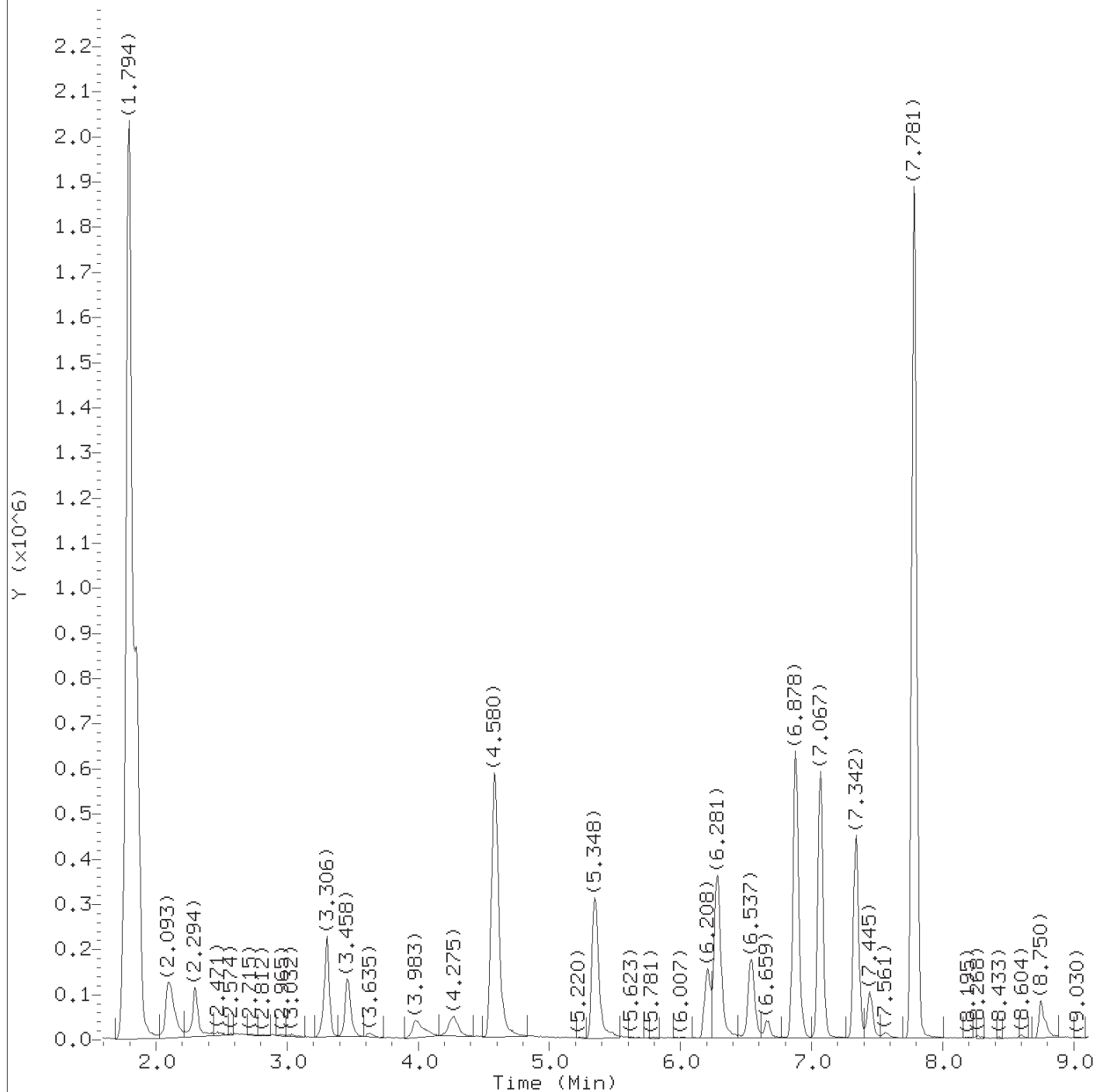
Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Reporting Limit (in sample)	LOQ
4) Dimethyl ether	(2)	2.099 (0.000)	45	357050M	4.587	4.59		J 0.1	13

M = Compound was manually integrated.

Total number of targets = 1

Digitally signed by Kerri E. Koch Legerlotz on 11/07/2016 at 12:22. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 18:04. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07104a.d
Injection date and time: 07-NOV-2016 11:33

Instrument ID: HP19094.i
Analyst ID: kel01973

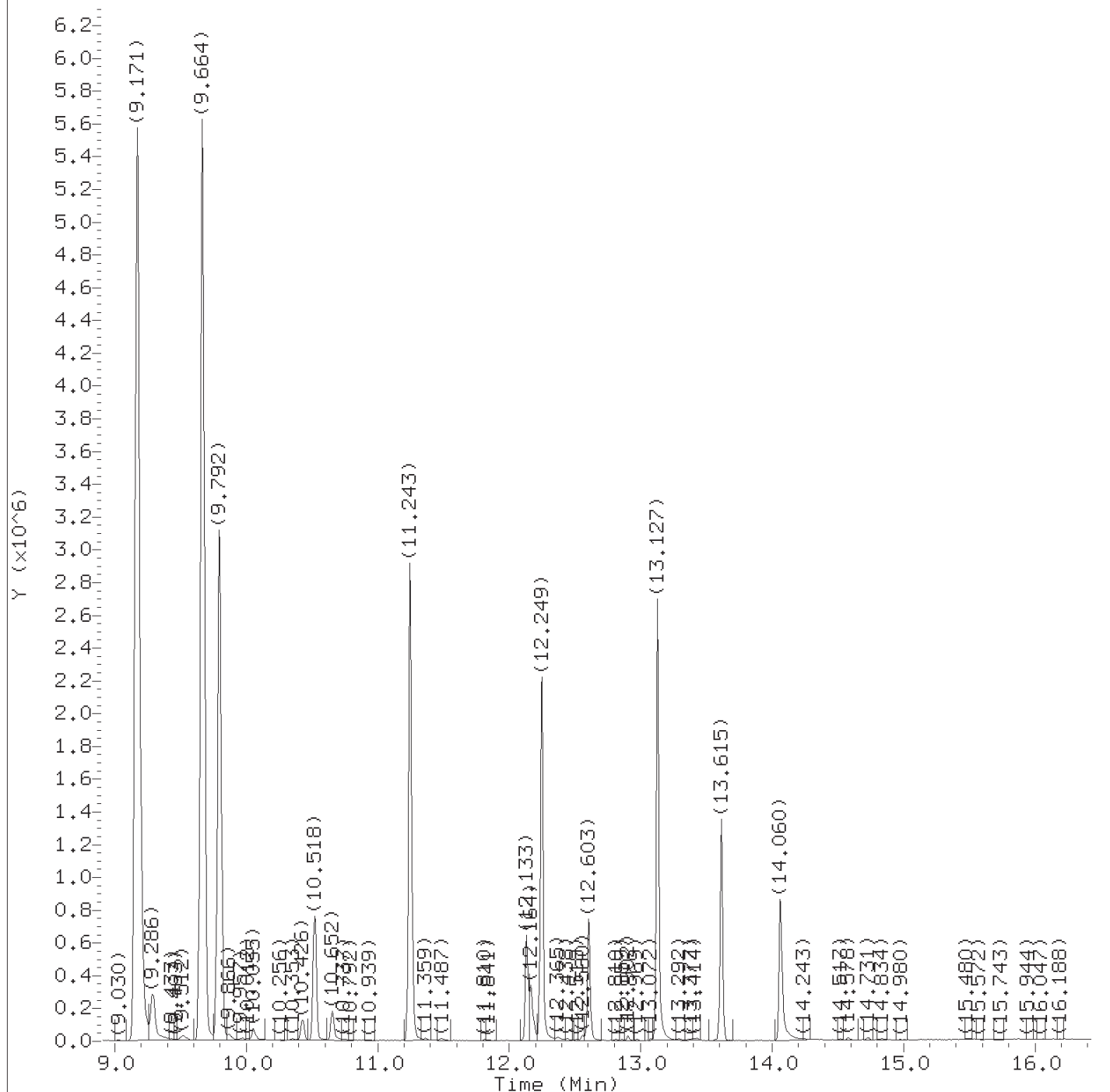
Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469SM
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Sample Name: LCDH79

Lab Sample ID: LCDH79

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 12:22.

Target 3.5 esignature user ID: kel01973
RAE76 Page 614 of 883



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07104a.d Instrument ID: HP19094.i
Injection date and time: 07-NOV-2016 11:33 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469SM
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Sample Name: LCDH79 Lab Sample ID: LCDH79

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 12:22.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07104a.d Instrument ID: HP19094.i
Injection date and time: 07-NOV-2016 11:33 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469SM
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Sample Name: LCDH79

Lab Sample ID: LCDH79

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.099	45	357050M	4.587
26) *t-Butyl Alcohol-d10	(1)	4.263	65	113496	50.000
50) \$Dibromofluoromethane	(2)	6.878	113	540640	9.855
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	91927	10.431
63) *Fluorobenzene	(2)	7.781	96	2391829	10.000
82) \$Toluene-d8	(3)	9.792	98	2392884	9.869
97) *Chlorobenzene-d5	(3)	11.243	117	1605101	10.000
111) \$4-Bromofluorobenzene	(3)	12.249	95	715973	10.044
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	678063	10.000

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

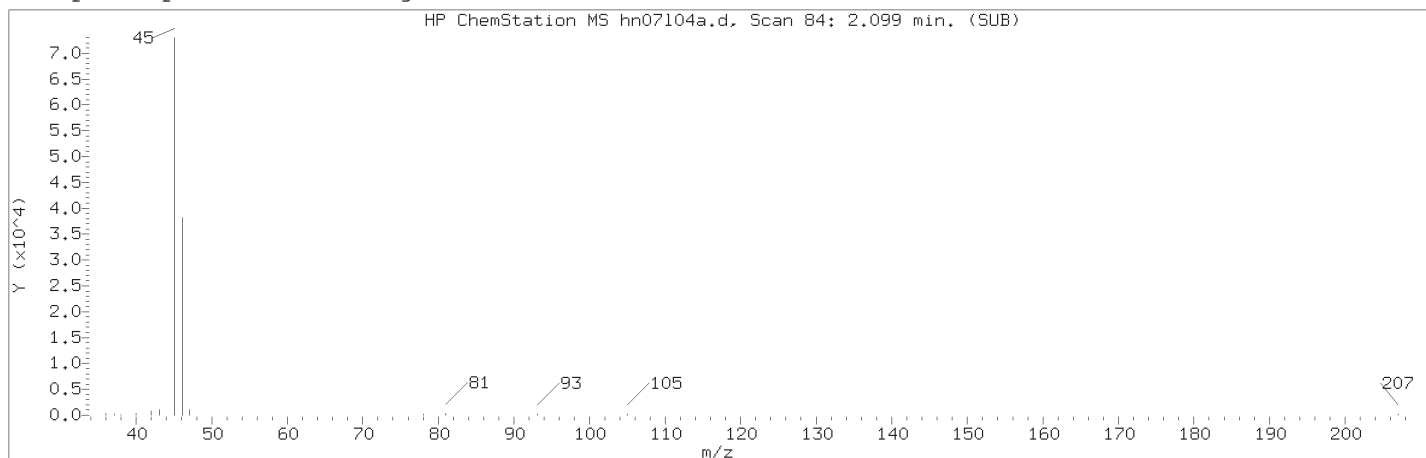
page 1 of 1

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 12:22.

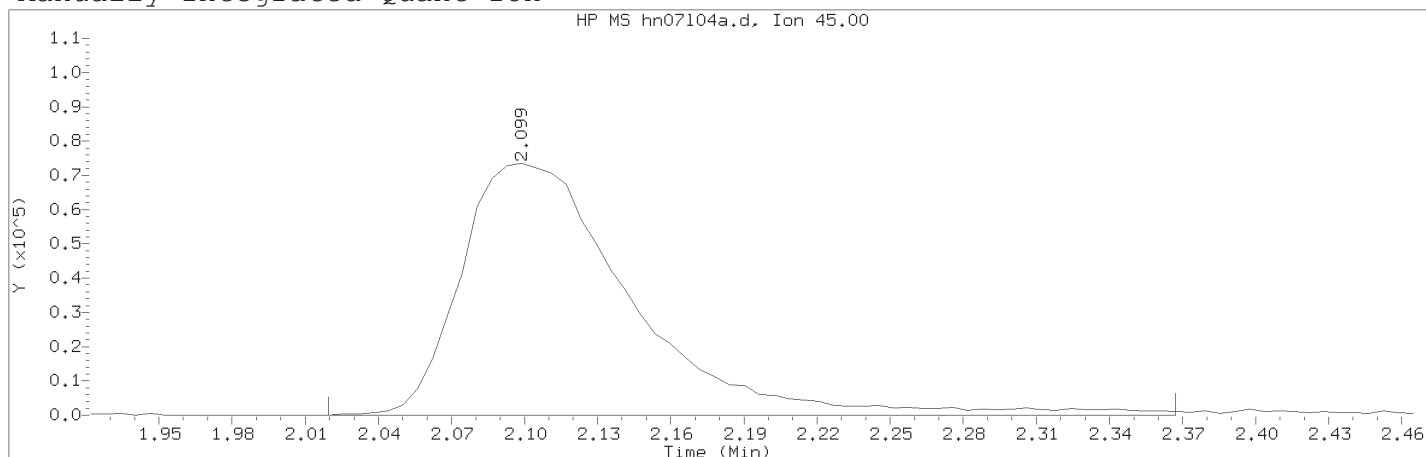
Target 3.5 esignature user ID: kel01973

RAE76 Page 616 of 883

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07104a.d Instrument ID: HP19094.i
Injection date and time: 07-NOV-2016 11:33 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469SM
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Sample Name: LCDH79

Lab Sample ID: LCDH79

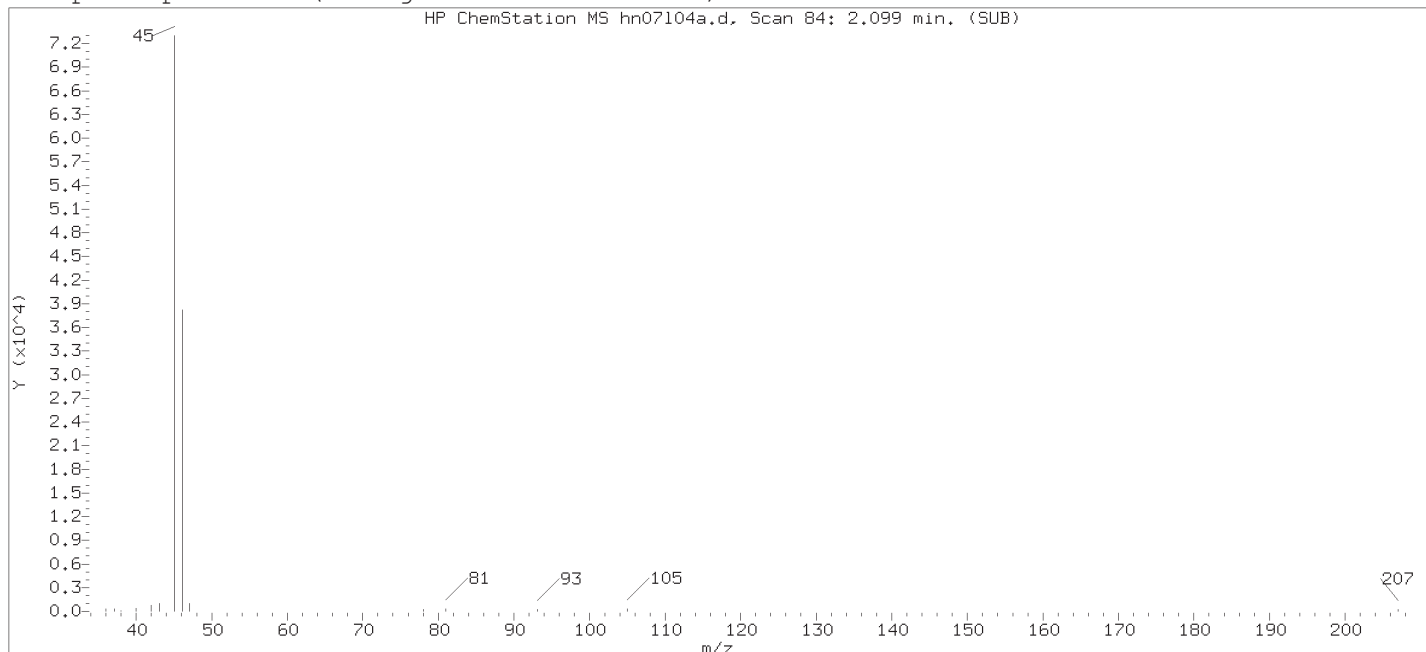
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 84
Retention Time (minutes): 2.099
Quant Ion : 45.00
Area (flag) : 357050M
On-Column Amount (ng) : 4.5872
Integration start scan : 70 Integration stop scan: 127
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

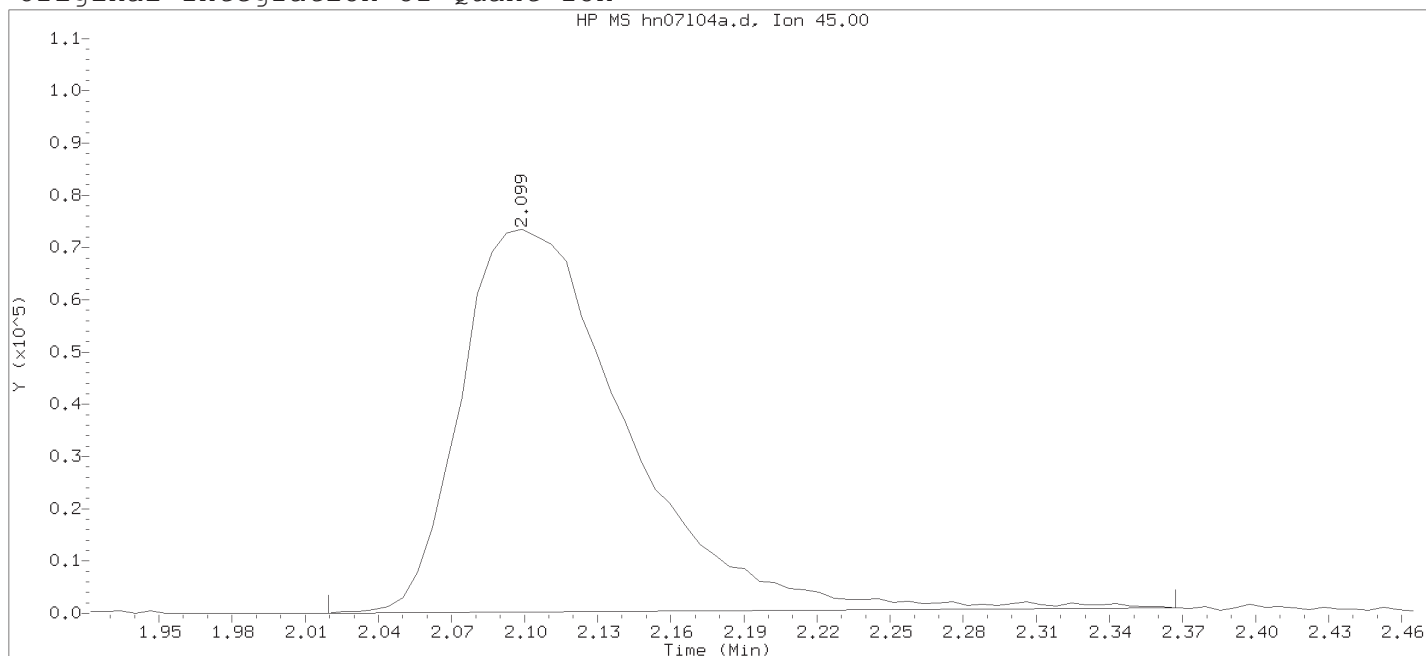
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 12:22.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 18:04.
PARALLAX ID: sej02002

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07104a.d

Instrument ID: HP19094.i

Injection date and time: 07-NOV-2016 11:33

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m

Sublist used: 22469SM

Calibration date and time: 07-NOV-2016 10:48

Date, time and analyst ID of latest file update: 07-Nov-2016 11:55 kel01973

Sample Name: LCDH79

Lab Sample ID: LCDH79

Compound Number	: 4	
Compound Name	: Dimethyl ether	
Scan Number	: 84	
Retention Time (minutes)	: 2.099	
Quant Ion	: 45.00	
Area	: 345529	
On-column Amount (ng)	: 4.4392	
Integration start scan	: 70	Integration stop scan: 127
Y at integration start	: 0	Y at integration end: 1086

LCSH78

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

LCSH78

Data file: /chem2/HP19094.i/16nov07a.b/hn07101a.d

Injection date and time: 07-NOV-2016 10:32

Data file Sample Info. Line: LCSH78;LCSH78;1;3;LCS;;DRAPERLOQ;;hn07b01a; Instrument ID: HP19094.i Batch: H163122AA

Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Blank Data file reference: /chem2/HP19094.i/16nov07a.b/hn07b01a.d

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469-SM

Calibration date and time (Last Method Edit): 07-NOV-2016 12:19

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov07a.b/hn07c01.d

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.251(0.012)	437	65	101940 (-1)	50.00	
63) Fluorobenzene	7.781(0.006)	1016	96	2421198 (2)	10.00	
97) Chlorobenzene-d5	11.243(0.000)	1584	117	1639972 (1)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(0.000)	1893	152	723934 (-2)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.878(0.000)	113	544313	9.802	98%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.342(-0.001)	102	90819	10.180	102%		74 - 113
82) Toluene-d8	(3)	9.792(0.001)	98	2431696	9.816	98%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243(0.000)	95	733606	10.073	101%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
1) Dichlorodifluoromethane	(2)	2.007(0.000)	85	387996	3.770	3.77			0.1	1
2) Chloromethane	(2)	2.154(0.001)	50	407294	3.698	3.70			0.2	1
8) Chloroethane	(2)	2.727(0.001)	64	226417	4.079	4.08			0.1	1
10) Trichlorofluoromethane	(2)	3.050(0.001)	101	499831	4.194	4.19			0.1	1
11) Ethyl ether	(2)	3.300(0.001)	59	206011	4.685	4.69		J	0.1	13
15) 1,1-Dichloroethene	(2)	3.617(0.001)	96	256164	4.613	4.61			0.1	1
16) Freon 113	(2)	3.653(0.001)	101	274680	4.526	4.53			0.2	1
23) Methylene Chloride	(2)	4.275(0.001)	84	282746	4.746	4.75			0.2	1
33) 1,1-Dichloroethane	(2)	5.360(0.000)	63	595254	4.803	4.80			0.1	1
38) 2-Butanone	(1)	6.134(-0.004)	43	572763	32.980	32.98			1	10
48) Tetrahydrofuran	(1)	6.537(-0.001)	71	93473	20.881	20.88		J	2	25
51) 1,1,1-Trichloroethane	(2)	6.909(0.000)	97	475225	4.409	4.41			0.1	1
54) Carbon Tetrachloride	(2)	7.134(0.000)	117	433121	4.652	4.65			0.1	1
58) Benzene	(2)	7.384(0.000)	78	1304958	5.024	5.02			0.1	1
67) Trichloroethene	(2)	8.268(-0.000)	95	356798	5.014	5.01			0.1	1
83) Toluene	(3)	9.872(0.000)	92	846180	4.971	4.97			0.1	1
89) Tetrachloroethene	(3)	10.426(0.000)	166	388085	4.763	4.76			0.1	1
100) Ethylbenzene	(3)	11.359(-0.000)	91	1640993	4.899	4.90			0.1	1
101) m+p-Xylene	(3)	11.475(-0.000)	106	1265096	10.051	10.05			0.1	0.5
104) o-Xylene	(3)	11.798(-0.000)	106	592726	4.828	4.83			0.1	0.5
105) Xylene (Total)	(3)		106	1857822	14.880	14.88			0.1	3

LCSH78

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

LCSH78

Data file: /chem2/HP19094.i/16nov07a.b/hn07101a.d Injection date and time: 07-NOV-2016 10:32
Data file Sample Info. Line: LCSH78;LCSH78;1;3;LCS;;DRAPERLOQ;;hn07b01a; Instrument ID: HP19094.i Batch: H163122AA
Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Blank Data file reference: /chem2/HP19094.i/16nov07a.b/hn07b01a.d

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time (Last Method Edit): 07-NOV-2016 12:19
Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov07a.b/hn07c01.d

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

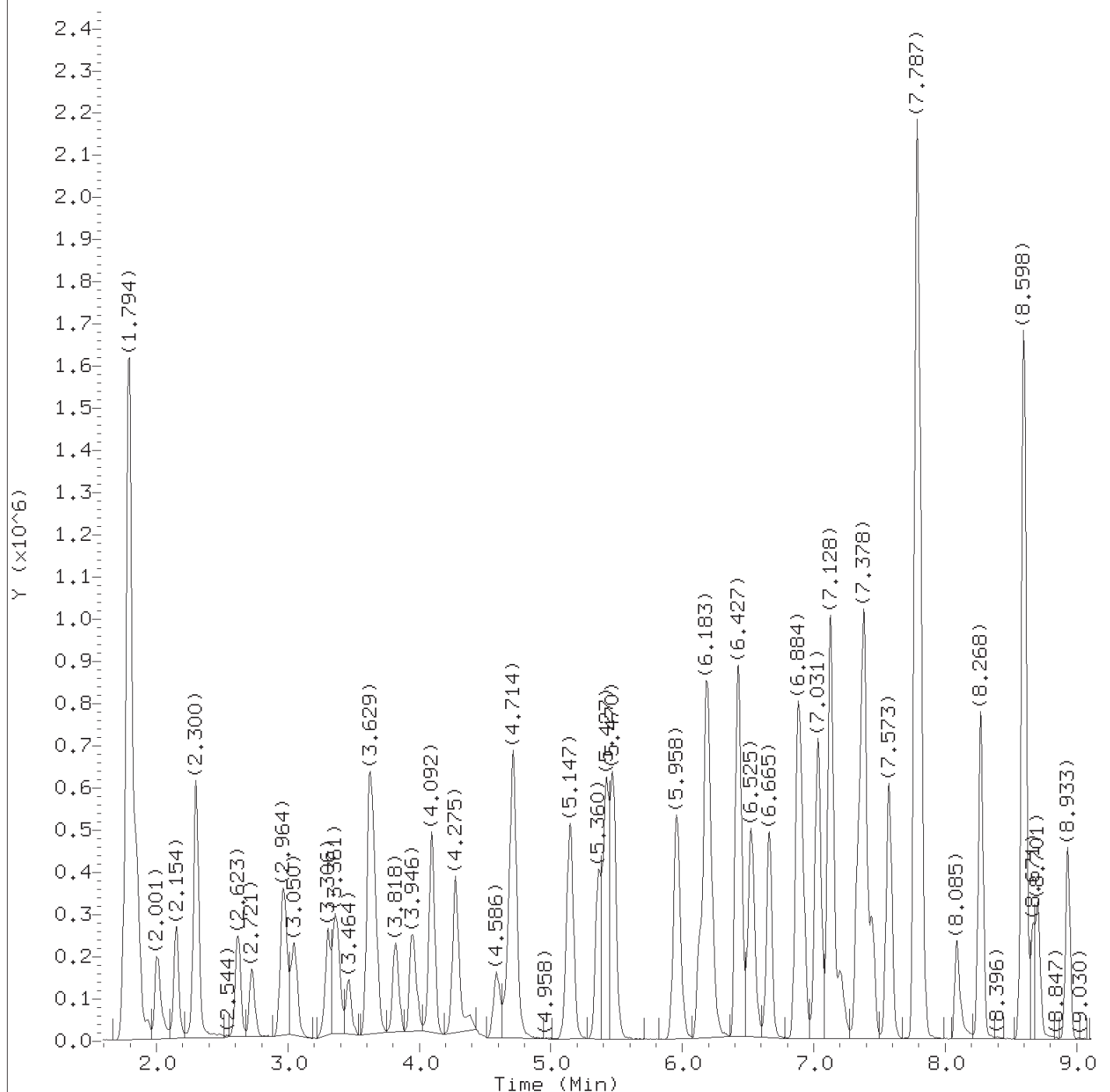
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

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Total number of targets = 21

Digitally signed by Kerri E. Koch Legerlotz on 11/07/2016 at 12:22. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 18:04. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07101a.d
Injection date and time: 07-NOV-2016 10:32

Instrument ID: HP19094.i
Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m
Calibration date and time: 07-NOV-2016 12:19

Sublist used: 22469-SM

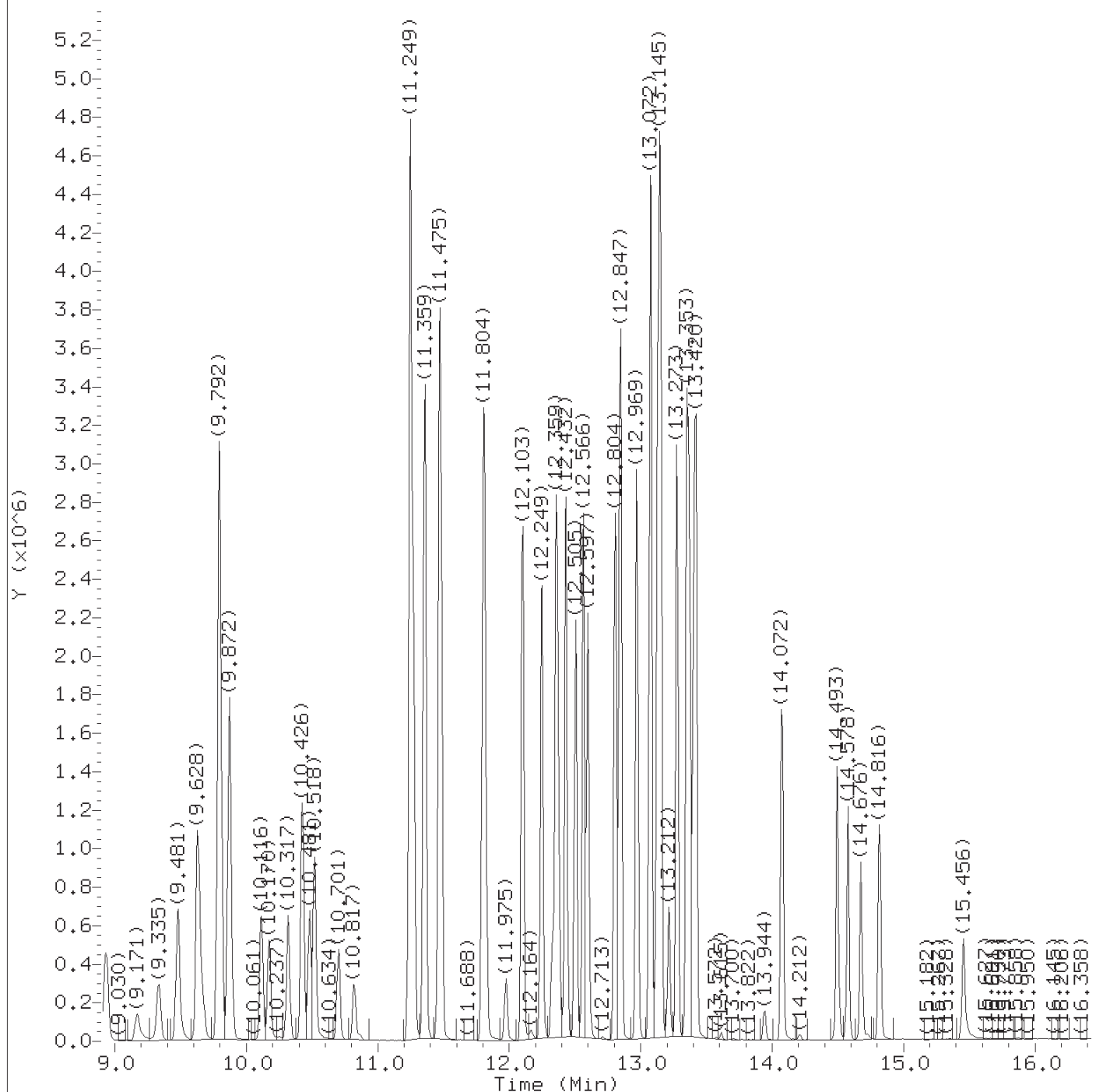
Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Sample Name: LCSH78

Lab Sample ID: LCSH78

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 12:22.

Target 3.5 esignature user ID: kel01973
RAE76 Page 621 of 883



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07101a.d Instrument ID: HP19094.i
Injection date and time: 07-NOV-2016 10:32 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Sample Name: LCSH78

Lab Sample ID: LCSH78

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 12:22.

Target 3.5 esignature User ID: kel01973
RAE76 Page 622 of 883

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07101a.d Instrument ID: HP19094.i
Injection date and time: 07-NOV-2016 10:32 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Sample Name: LCSH78

Lab Sample ID: LCSH78

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.007	85	387996	3.770
2) Chloromethane	(2)	2.154	50	407294	3.698
8) Chloroethane	(2)	2.727	64	226417	4.079
10) Trichlorofluoromethane	(2)	3.050	101	499831	4.194
11) Ethyl ether	(2)	3.300	59	206011	4.685
15) 1,1-Dichloroethene	(2)	3.617	96	256164	4.613
16) Freon 113	(2)	3.653	101	274680	4.526
26) *t-Butyl Alcohol-d10	(1)	4.251	65	101940	50.000
23) Methylene Chloride	(2)	4.275	84	282746	4.746
33) 1,1-Dichloroethane	(2)	5.360	63	595254	4.803
38) 2-Butanone	(1)	6.135	43	572763	32.980
48) Tetrahydrofuran	(1)	6.537	71	93473	20.881
50) \$Dibromofluoromethane	(2)	6.878	113	544313	9.802
51) 1,1,1-Trichloroethane	(2)	6.909	97	475225	4.409
54) Carbon Tetrachloride	(2)	7.134	117	433121	4.652
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	90819	10.180
58) Benzene	(2)	7.384	78	1304958	5.024
63) *Fluorobenzene	(2)	7.781	96	2421198	10.000
67) Trichloroethene	(2)	8.268	95	356798	5.014
82) \$Toluene-d8	(3)	9.792	98	2431696	9.816
83) Toluene	(3)	9.872	92	846180	4.971
89) Tetrachloroethene	(3)	10.426	166	388085	4.763
97) *Chlorobenzene-d5	(3)	11.243	117	1639972	10.000
100) Ethylbenzene	(3)	11.359	91	1640993	4.899
101) m+p-Xylene	(3)	11.475	106	1265096	10.051
105) Xylene (Total)	(3)		106	1857822	14.880
104) o-Xylene	(3)	11.798	106	592726	4.828
111) \$4-Bromofluorobenzene	(3)	12.243	95	733606	10.073
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	723934	10.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

page 1 of 1

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on 11/07/2016 at 12:22.

Target 3.5 esignature user ID: kel01973

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LCDH78

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

LCDH78

Data file: /chem2/HP19094.i/16nov07a.b/hn07102a.d

Injection date and time: 07-NOV-2016 10:52

Data file Sample Info. Line: LCDH78;1;3;LCSD;;DRAPERLOQ;;hn07b01a; Instrument ID: HP19094.i Batch: H163122AA

Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Blank Data file reference: /chem2/HP19094.i/16nov07a.b/hn07b01a.d

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469-SM

Calibration date and time (Last Method Edit): 07-NOV-2016 12:19

Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov07a.b/hn07c01.d

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.269(-0.006)	440	65	120141M (17)	50.00	
63) Fluorobenzene	7.787(0.000)	1017	96	2501327 (5)	10.00	
97) Chlorobenzene-d5	11.250(-0.006)	1585	117	1679939 (4)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(0.000)	1893	152	746863 (1)	10.00	

M = Internal Standard was manually integrated

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.885(0.000)	113	564860	9.846	98%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.342(0.000)	102	96116M	10.429	104%		74 - 113
82) Toluene-d8	(3)	9.799(0.000)	98	2490665	9.815	98%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.249(0.000)	95	758249	10.164	102%		78 - 110

M = Surrogate Standard was manually integrated.

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit LOQ (in sample)
1) Dichlorodifluoromethane	(2)	2.014(0.000)	85	358657	3.374	3.37			0.1 1
2) Chloromethane	(2)	2.160(0.000)	50	396125	3.481	3.48			0.2 1
8) Chloroethane	(2)	2.733(0.000)	64	217090	3.785	3.79			0.1 1
10) Trichlorofluoromethane	(2)	3.062(0.000)	101	485729	3.946	3.95			0.1 1
11) Ethyl ether	(2)	3.312(0.000)	59	204624	4.504	4.50		J	0.1 13
15) 1,1-Dichloroethene	(2)	3.629(0.000)	96	242693	4.230	4.23			0.1 1
16) Freon 113	(2)	3.660(0.000)	101	259684	4.142	4.14			0.2 1
23) Methylene Chloride	(2)	4.288(0.000)	84	278347	4.522	4.52			0.2 1
33) 1,1-Dichloroethane	(2)	5.367(0.000)	63	572146	4.469	4.47			0.1 1
38) 2-Butanone	(1)	6.135(0.002)	43	560279	27.373	27.37			1 10
48) Tetrahydrofuran	(1)	6.543(0.003)	71	95653	18.131	18.13		J	2 25
51) 1,1,1-Trichloroethane	(2)	6.915(0.000)	97	456859	4.103	4.10			0.1 1
54) Carbon Tetrachloride	(2)	7.141(0.000)	117	417177	4.338	4.34			0.1 1
58) Benzene	(2)	7.384(0.000)	78	1266191	4.718	4.72			0.1 1
67) Trichloroethene	(2)	8.274(-0.000)	95	343207	4.668	4.67			0.1 1
83) Toluene	(3)	9.872(0.000)	92	817514	4.688	4.69			0.1 1
89) Tetrachloroethene	(3)	10.427(0.000)	166	378934	4.540	4.54			0.1 1
100) Ethylbenzene	(3)	11.359(0.000)	91	1609261	4.690	4.69			0.1 1
101) m+p-Xylene	(3)	11.475(0.000)	106	1218265	9.449	9.45			0.1 0.5
104) o-Xylene	(3)	11.804(0.000)	106	576684	4.586	4.59			0.1 0.5
105) Xylene (Total)	(3)		106	1794949	14.035	14.03			0.1 3

LCDH78

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

LCDH78

Data file: /chem2/HP19094.i/16nov07a.b/hn07102a.d Injection date and time: 07-NOV-2016 10:52
Data file Sample Info. Line: LCDH78;LCDH78;1;3;LCSD;;DRAPERLOQ;;hn07b01a; Instrument ID: HP19094.i Batch: H163122AA
Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Blank Data file reference: /chem2/HP19094.i/16nov07a.b/hn07b01a.d

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time (Last Method Edit): 07-NOV-2016 12:19
Mid Level Daily Calibration Standard Reference: /chem2/HP19094.i/16nov07a.b/hn07c01.d

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: 1.00

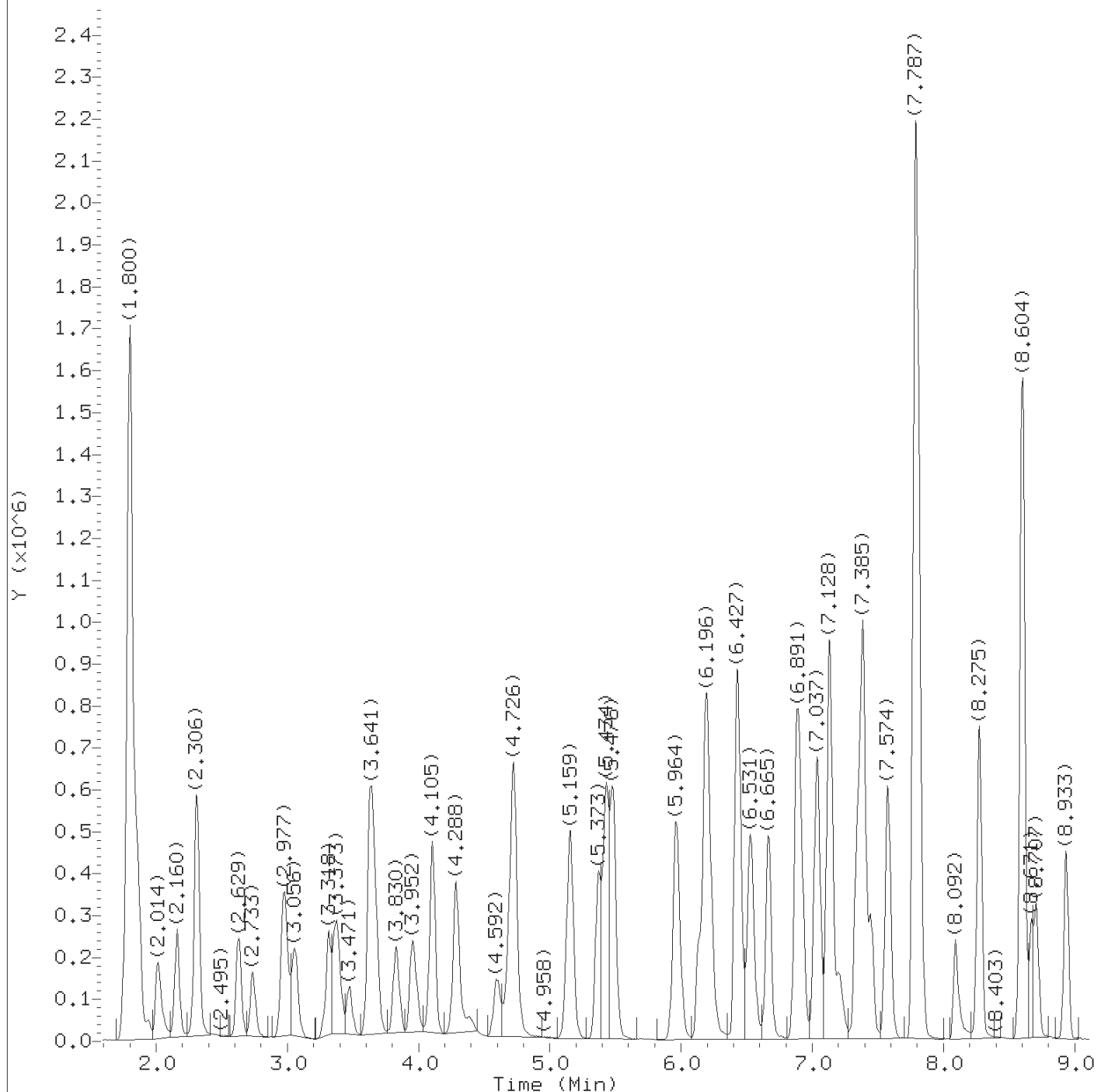
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

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Total number of targets = 21

Digitally signed by Kerri E. Koch Legerlotz on 11/07/2016 at 12:22. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 18:04. PARALLAX ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07102a.d
Injection date and time: 07-NOV-2016 10:52

Instrument ID: HP19094.i
Analyst ID: kel01973

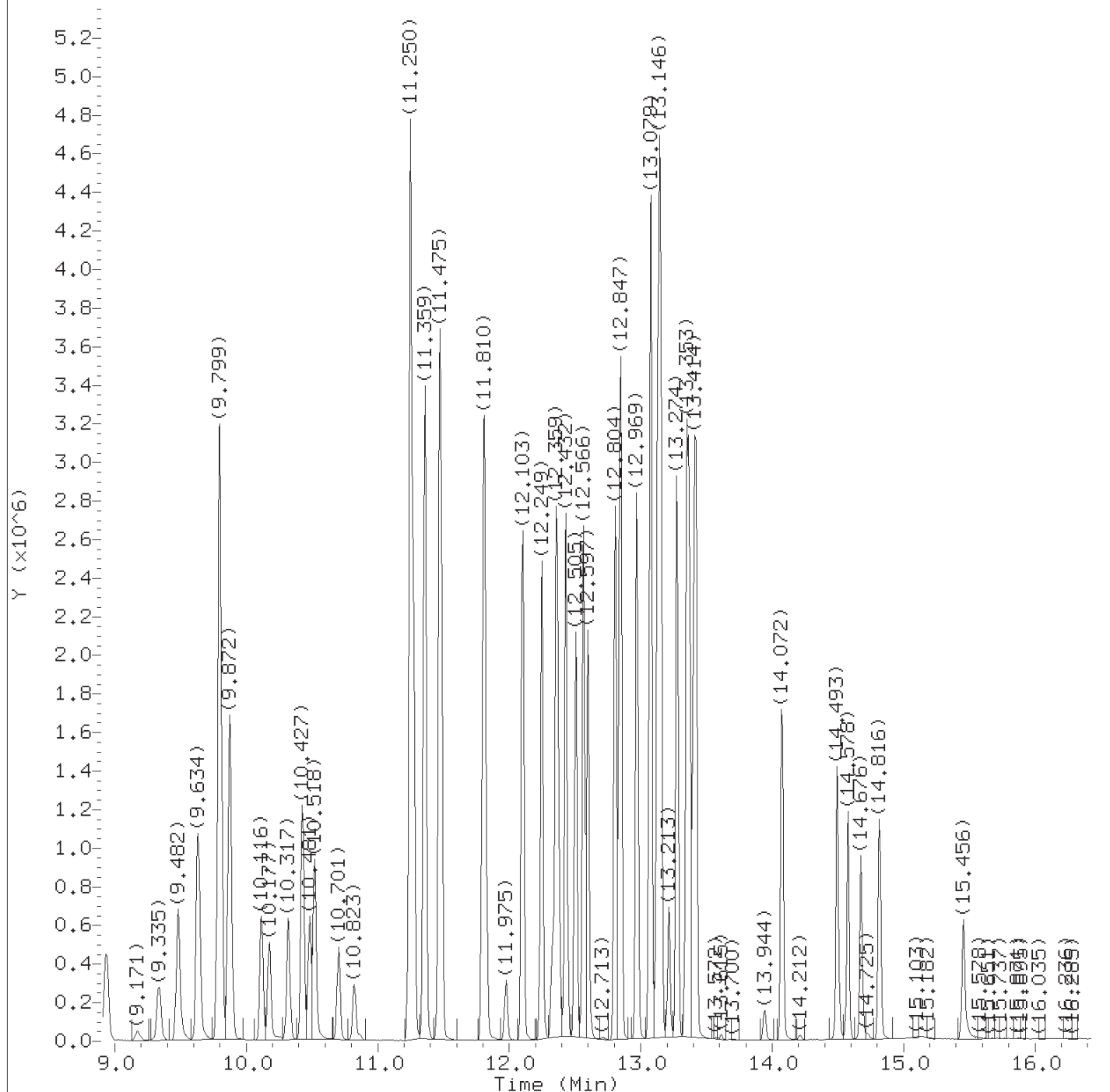
Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Sample Name: LCDH78

Lab Sample ID: LCDH78

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 12:22.

Target 3.5 esignature user ID: kel01973
RAE76 Page 626 of 883



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07102a.d Instrument ID: HP19094.i
Injection date and time: 07-NOV-2016 10:52 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Sample Name: LCDH78

Lab Sample ID: LCDH78

Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 12:22.

Target 3.5 esignature user ID: kel01973
RAE76 Page 627 of 883

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/16nov07a.b/hn07102a.d Instrument ID: HP19094.i
Injection date and time: 07-NOV-2016 10:52 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Sample Name: LCDH78

Lab Sample ID: LCDH78

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
=====	=====	=====	=====	=====	=====
1) Dichlorodifluoromethane	(2)	2.014	85	358657	3.374
2) Chloromethane	(2)	2.160	50	396125	3.481
8) Chloroethane	(2)	2.733	64	217090	3.785
10) Trichlorofluoromethane	(2)	3.062	101	485729	3.946
11) Ethyl ether	(2)	3.312	59	204624	4.504
15) 1,1-Dichloroethene	(2)	3.629	96	242693	4.230
16) Freon 113	(2)	3.660	101	259684	4.142
26) *t-Butyl Alcohol-d10	(1)	4.269	65	120141M	50.000
23) Methylene Chloride	(2)	4.288	84	278347	4.522
33) 1,1-Dichloroethane	(2)	5.367	63	572146	4.469
38) 2-Butanone	(1)	6.135	43	560279	27.373
48) Tetrahydrofuran	(1)	6.543	71	95653	18.131
50) \$Dibromofluoromethane	(2)	6.885	113	564860	9.846
51) 1,1,1-Trichloroethane	(2)	6.915	97	456859	4.103
54) Carbon Tetrachloride	(2)	7.141	117	417177	4.338
57) \$1,2-Dichloroethane-d4	(2)	7.342	102	96116M	10.429
58) Benzene	(2)	7.385	78	1266191	4.718
63) *Fluorobenzene	(2)	7.787	96	2501327	10.000
67) Trichloroethene	(2)	8.275	95	343207	4.668
82) \$Toluene-d8	(3)	9.799	98	2490665	9.815
83) Toluene	(3)	9.872	92	817514	4.688
89) Tetrachloroethene	(3)	10.427	166	378934	4.540
97) *Chlorobenzene-d5	(3)	11.250	117	1679939	10.000
100) Ethylbenzene	(3)	11.359	91	1609261	4.690
101) m+p-Xylene	(3)	11.475	106	1218265	9.449
105) Xylene (Total)	(3)		106	1794949	14.035
104) o-Xylene	(3)	11.804	106	576684	4.586
111) \$4-Bromofluorobenzene	(3)	12.249	95	758249	10.164
133) *1,4-Dichlorobenzene-d4	(4)	13.127	152	746863	10.000

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

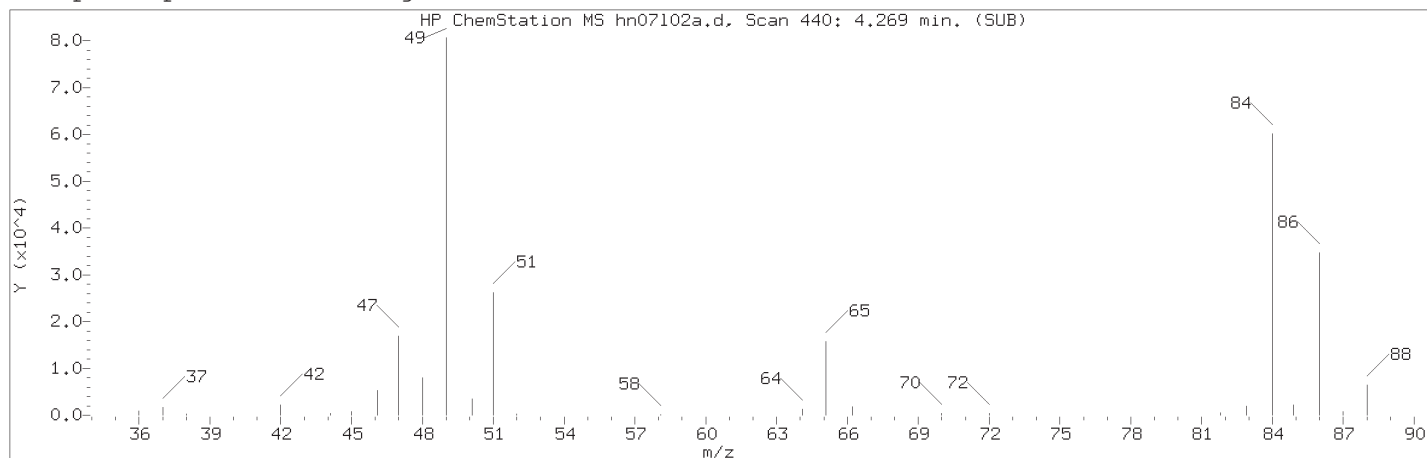
page 1 of 1

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on 11/07/2016 at 12:22.

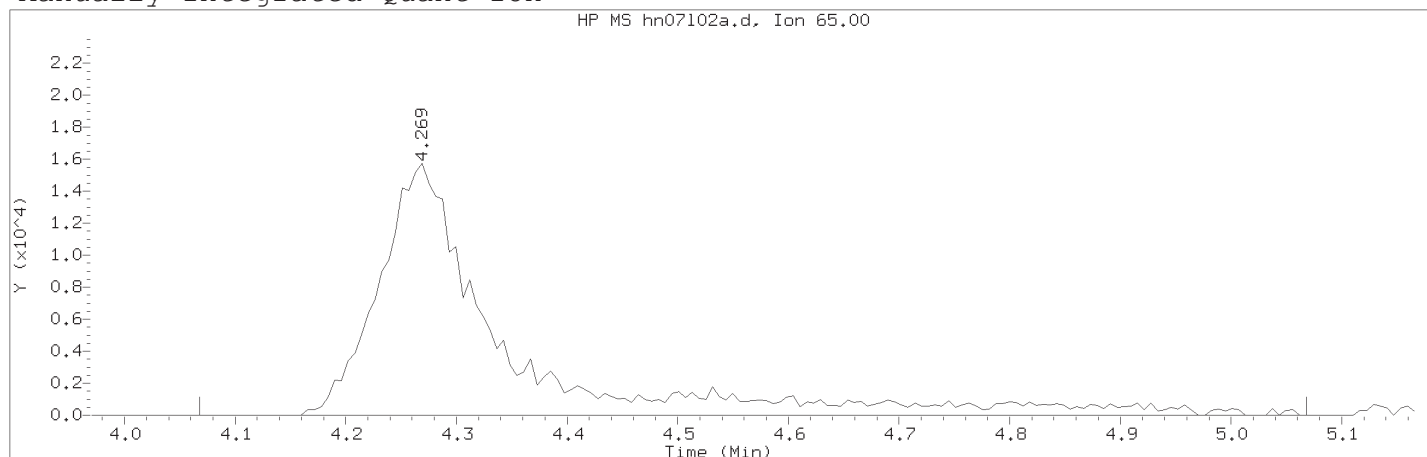
Target 3.5 esignature user ID: kel01973

RAE76 Page 628 of 883

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07102a.d Instrument ID: HP19094.i
Injection date and time: 07-NOV-2016 10:52 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Sample Name: LCDH78

Lab Sample ID: LCDH78

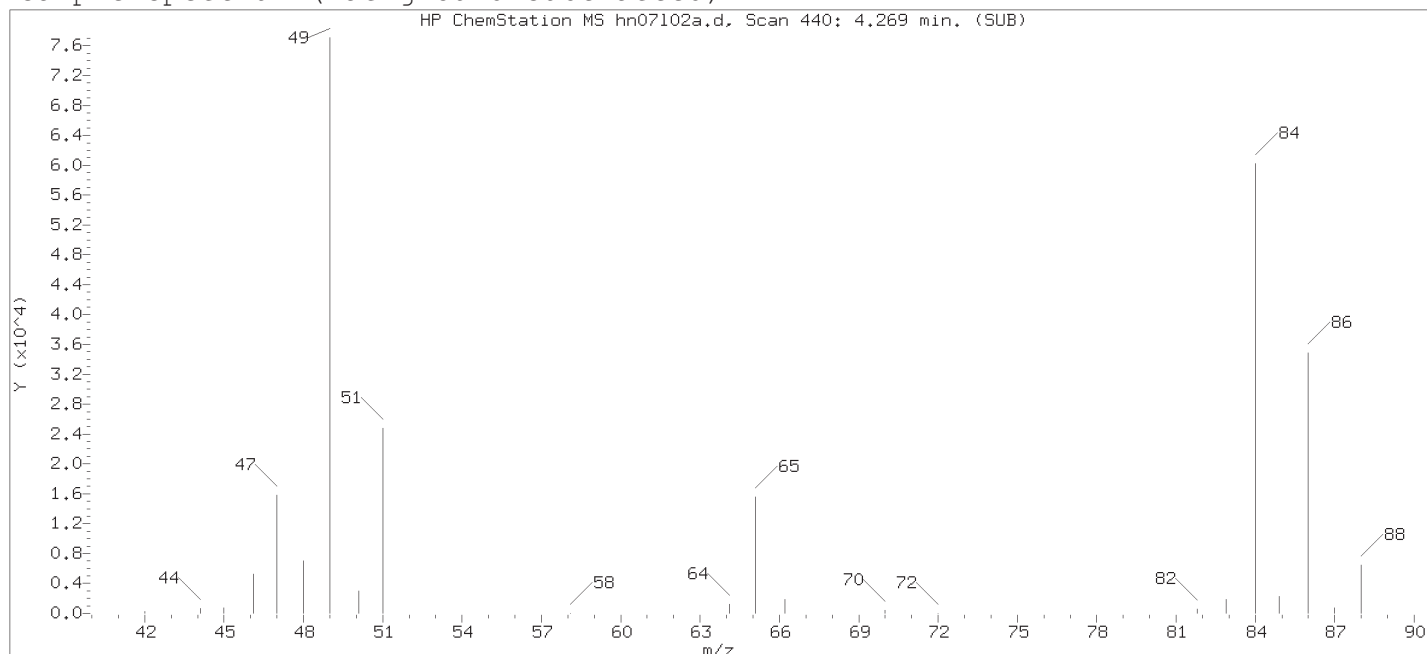
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 440
Retention Time (minutes): 4.269
Quant Ion : 65.00
Area (flag) : 120141M
On-Column Amount (ng) : 50.0000
Integration start scan : 406 Integration stop scan: 570
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

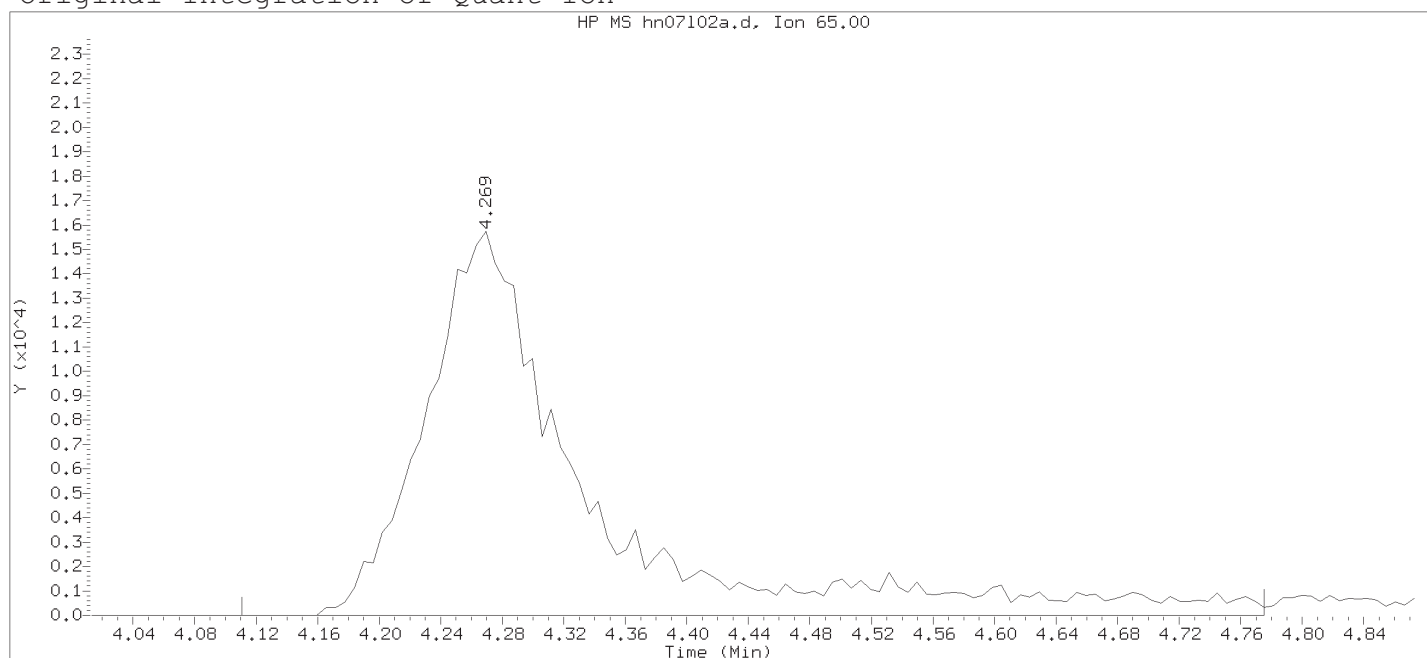
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 12:22.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 18:04.
PARALLAX ID: sej02002

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07102a.d

Instrument ID: HP19094.i

Injection date and time: 07-NOV-2016 10:52

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m

Sublist used: 22469-SM

Calibration date and time: 07-NOV-2016 10:48

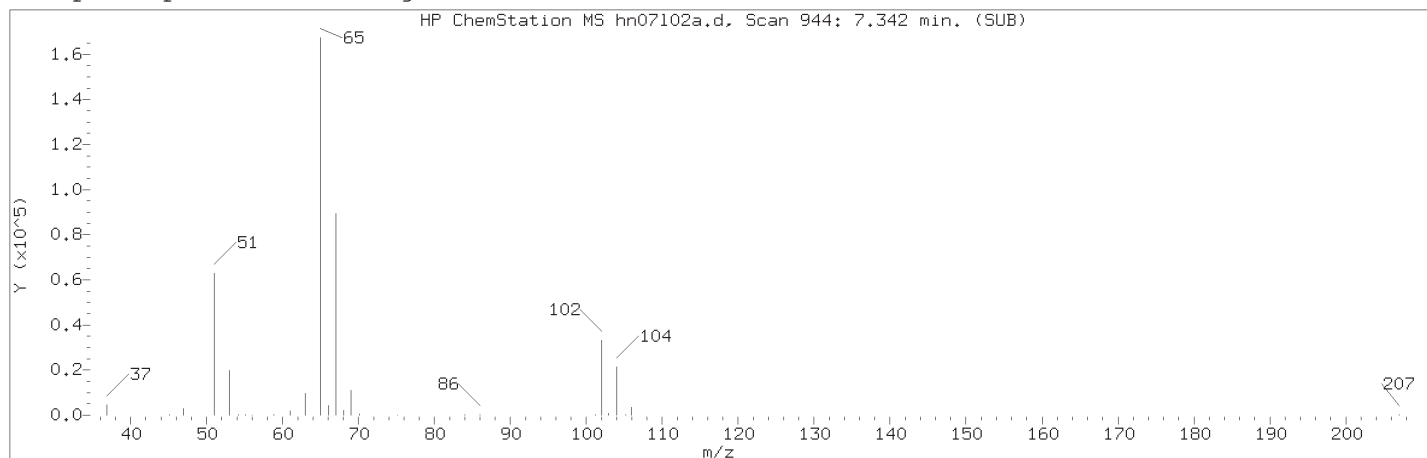
Date, time and analyst ID of latest file update: 07-Nov-2016 11:50 kel01973

Sample Name: LCDH78

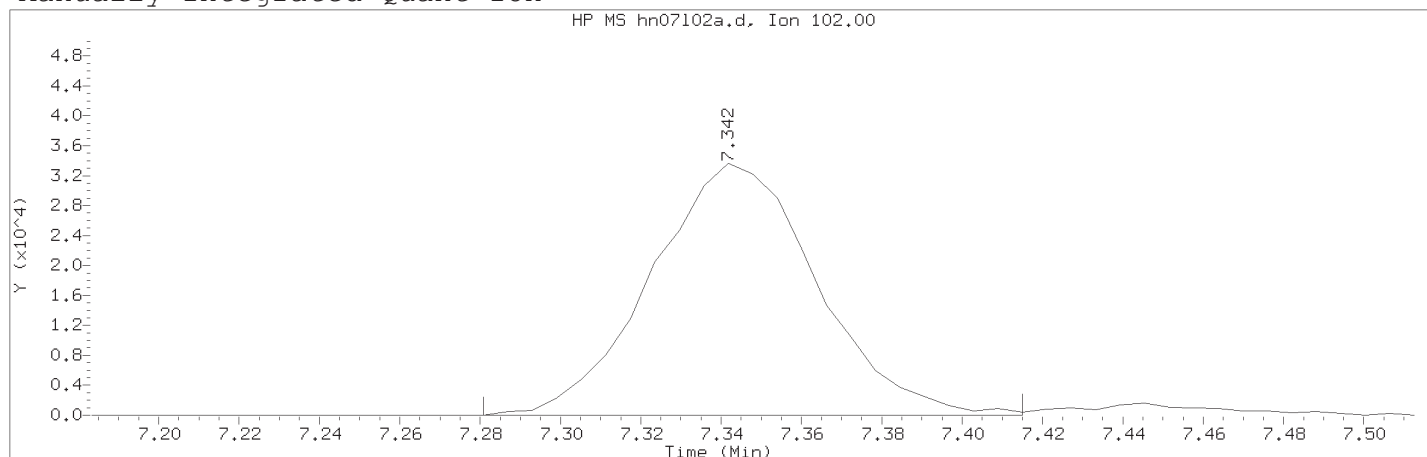
Lab Sample ID: LCDH78

Compound Number	: 26	
Compound Name	: t-Butyl Alcohol-d10	
Scan Number	: 440	
Retention Time (minutes)	: 4.269	
Quant Ion	: 65.00	
Area	: 112627	
On-column Amount (ng)	: 50.0000	
Integration start scan	: 413	Integration stop scan: 522
Y at integration start	: 0	Y at integration end: 0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07102a.d Instrument ID: HP19094.i
Injection date and time: 07-NOV-2016 10:52 Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time: 07-NOV-2016 12:19
Date, time and analyst ID of latest file update: 07-Nov-2016 12:21 kel01973

Sample Name: LCDH78

Lab Sample ID: LCDH78

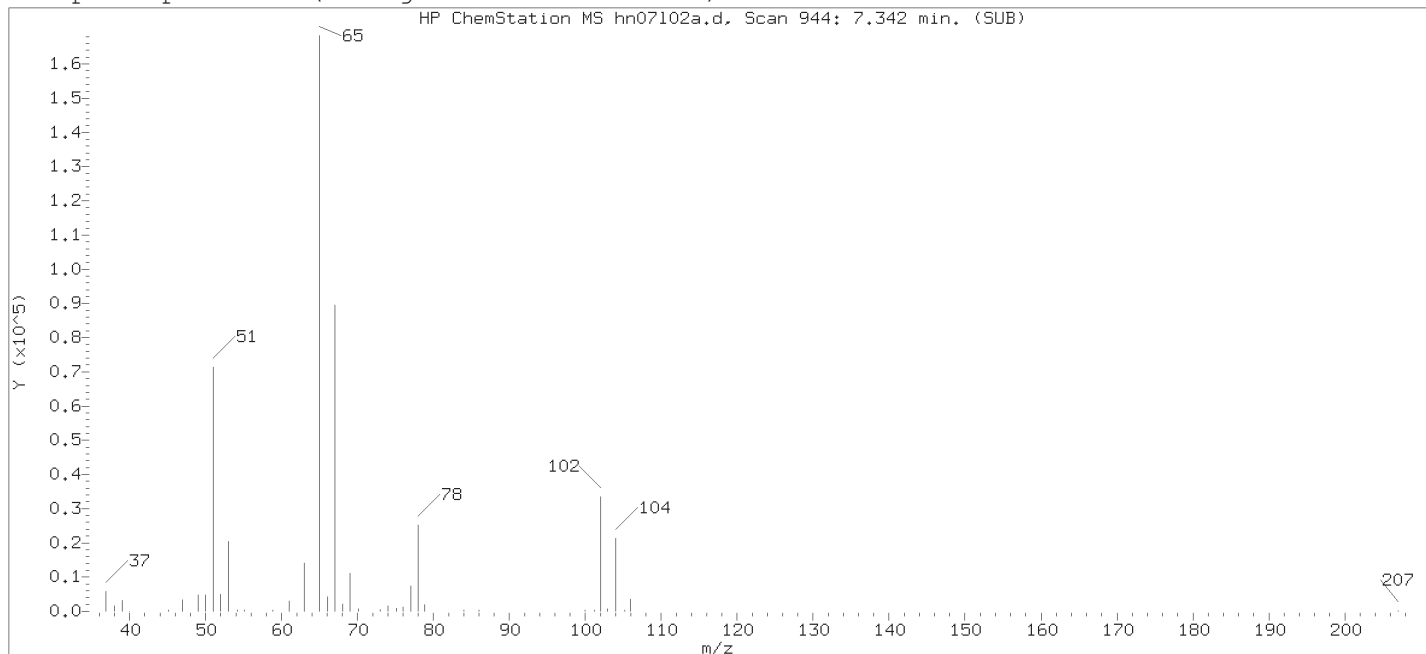
Compound Number	: 57	
Compound Name	: 1,2-Dichloroethane-d4	
Scan Number	: 944	
Retention Time (minutes)	: 7.342	
Quant Ion	: 102.00	
Area (flag)	: 96116M	
On-Column Amount (ng)	: 10.4289	
Integration start scan	: 933	Integration stop scan: 955
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

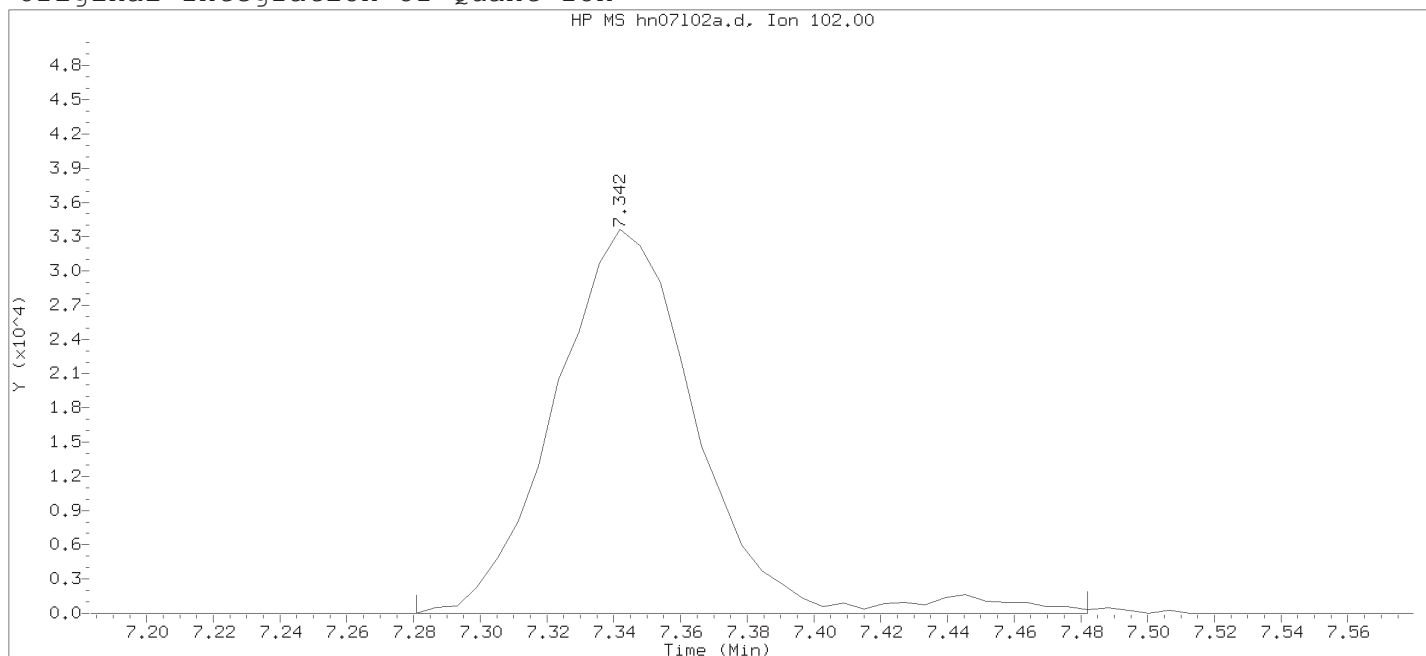
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz
on 11/07/2016 at 12:22.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Sara E. Johnson on 11/08/2016 at 18:04.
PARALLAX ID: sej02002

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/16nov07a.b/hn07102a.d

Instrument ID: HP19094.i

Injection date and time: 07-NOV-2016 10:52

Analyst ID: kel01973

Method used: /chem2/HP19094.i/16nov07a.b/m8260c25.m

Sublist used: 22469-SM

Calibration date and time: 07-NOV-2016 10:48

Date, time and analyst ID of latest file update: 07-Nov-2016 11:50 kel01973

Sample Name: LCDH78

Lab Sample ID: LCDH78

Compound Number	: 57	
Compound Name	: 1,2-Dichloroethane-d4	
Scan Number	: 944	
Retention Time (minutes)	: 7.342	
Quant Ion	: 102.00	
Area	: 99696	
On-column Amount (ng)	: 10.8174	
Integration start scan	: 933	Integration stop scan: 966
Y at integration start	: 0	Y at integration end: 0

Semivolatiles by GC/MS Data

Case Narrative/Conformance Summary

Semivolatiles by GC/MS

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE76

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

Sample #	Client ID	Matrix		DF	Comments
		Liquid	Solid		
8666264	16C1	X		1	
8666265	16MW8	X		1	
8666266	16MW9	X		1	
8666267	16WC1A	X		1	Unspiked
8666268	16WC1A MS	X		1	Matrix Spike
8666269	16WC1A MSD	X		1	Matrix Spike Duplicate
8666270	16WDUP	X		1	Field Duplicate Sample
8666271	16WC1B	X		1	
8666272	16-2	X		1	
8666273	16-3	X		1	
8666274	16-5	X		1	
8666275	16WC2B	X		1	
8666276	16SPRING	X		1	

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

Surrogate

Surrogate recoveries that are noncompliant are confirmed unless attributed to a dilution or otherwise noted.

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE76

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

Batch#: 16302WAF026 (Sample number(s): 8666264-8666276, UNSPK: 8666267)
The recovery(ies) for the following surrogate(s) is below the acceptance window:
Nitrobenzene-d5 (8666265, 8666271, SBLKWF302)

(Sample number(s): 8666264-8666276: Analysis: 14241)
The surrogate QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
+MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Quality Control and Calibration Summary Forms

Semivolatiles by GC/MS

Quality Control Reference List GC/MS Semivolatiles

CLIENT: Draper Aden Associates, Inc.
SDG: RAE76

Fraction: Semivolatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
3 SVOCs 8270D	16302WAF026	SBLKWF302	10/31/2016 08:18:00
		302WFLCS	10/31/2016 08:46:00
		8666264	10/31/2016 12:00:00
		8666265	10/31/2016 12:28:00
		8666266	10/31/2016 12:56:00
		8666267 UNSPK	10/31/2016 13:24:00
		8666268 MS	10/31/2016 15:16:00
		8666269 MSD	10/31/2016 15:44:00
		8666270	10/31/2016 16:12:00
		8666271	10/31/2016 16:40:00
		8666272	10/31/2016 17:08:00
		8666273	10/31/2016 17:36:00
		8666274	10/31/2016 18:04:00
		8666275	10/31/2016 18:32:00
		8666276	10/31/2016 18:59:00

Fraction: Semivolatiles by GC/MS

16302WAF026 / SBLKWF302					
Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
2,6-Dinitrotoluene	10/31/16	N.D.	ug/l	1	5
2,4-Dinitrotoluene	10/31/16	N.D.	ug/l	1	5
Diethylphthalate	10/31/16	N.D.	ug/l	2	5

Fraction: Semivolatiles by GC/MS

16302WAF026 Sample	2-Fluorobiphenyl		Nitrobenzene-d5		Terphenyl-d14	
	Spike Added	100 ug/l	Spike Added	100 ug/l	Spike Added	100 ug/l
	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
SBLKWF302	73	70 - 130	63 *	70 - 130	92	70 - 130
302WFLCS	88	70 - 130	76	70 - 130	92	70 - 130
8666264	90	70 - 130	75	70 - 130	97	70 - 130
8666265	79	70 - 130	67 *	70 - 130	83	70 - 130
8666266	88	70 - 130	74	70 - 130	100	70 - 130
8666267 UNSPK	91	70 - 130	75	70 - 130	96	70 - 130
8666268 MS	92	70 - 130	76	70 - 130	93	70 - 130
8666269 MSD	89	70 - 130	78	70 - 130	91	70 - 130
8666270	86	70 - 130	73	70 - 130	80	70 - 130
8666271	80	70 - 130	67 *	70 - 130	89	70 - 130
8666272	90	70 - 130	75	70 - 130	99	70 - 130
8666273	86	70 - 130	72	70 - 130	98	70 - 130
8666274	89	70 - 130	74	70 - 130	103	70 - 130
8666275	87	70 - 130	72	70 - 130	98	70 - 130
8666276	89	70 - 130	73	70 - 130	102	70 - 130

Surrogate recoveries that are noncompliant are confirmed unless attributed to a dilution or otherwise noted.

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

UNSPK: 8666267 MS: 8666268 MSD: 8666269 Analyte	Batch: 16302WAF026 (Sample number(s): 8666264-8666276)								
	Spike Added ug/l MS/MSD	Unspiked Conc ug/l	MS Conc ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	%Rec Limits	%RPD	%RPD Limits
2,6-Dinitrotoluene	50.2 / 50.4	N.D.	53.9	53.63	107	106	70-130	1	30
2,4-Dinitrotoluene	50.2 / 50.4	N.D.	53.23	53.04	106	105	70-130	0	30
Diethylphthalate	50.2 / 50.4	N.D.	47.64	46.62	95	92	70-130	2	30

Comments:

(2) The unspiked sample result is greater than four times the spike added.

* = Out of Specification

Results are being reported on an as received basis.

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

LCS: 302WFLCS	Batch: 16302WAF026 (Sample number(s): 8666264-8666276)							
Analyte	Spike Added ug/l	LCS Conc ug/l	LCSD Conc ug/l	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
2,6-Dinitrotoluene	50	53	NA	106	NA	70-130	NA	NA
2,4-Dinitrotoluene	50	53.36	NA	107	NA	70-130	NA	NA
Diethylphthalate	50	41.5	NA	83	NA	70-130	NA	NA

5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: dj1710.d DFTPP Injection Date: 10/20/16

Instrument ID: HP19760 DFTPP Injection Time: 14:44

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	42.7
68	Less than 2.0% of mass 69	0.73 (1.57)1
69	Mass 69 relative abundance	46.6
70	Less than 2.0% of mass 69	0.13 (0.27)1
127	40.0 - 60.0% of mass 198	43.4
197	Less than 1.0% of mass 198	0.82
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.62
275	10.0 - 30.0% of mass 198	25.1
365	Greater than 1.00% of mass 198	3.07
441	Present, and less than mass 443	11.3
442	Greater than 40.0 % of mass 198	70.6
443	17.0 - 23.0% of mass 442	13.6 (19.2)2

1-Value is % mass 69

2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	RVSTD2716 - SST7.5	dj1711.d	10/20/16	14:59
02	RVSTD2716 - SST12.5	dj1712.d	10/20/16	16:03
03	RVSTD2716 - SST30	dj1713.d	10/20/16	16:31
04	RVSTD2716 - SST20	dj1714.d	10/20/16	16:59
05	RVSTD2716 - SST12.5	dj1715.d	10/20/16	17:27
06	RVSTD2716 - SST3.75	dj1716.d	10/20/16	17:55
07	RVSTD2716 - SST1.25	dj1717.d	10/20/16	18:23
08	RVSTD2716 - SST12.5	dj1718.d	10/20/16	18:51
09	MDLSTD2716 - SST0.125	dj1719.d	10/20/16	19:19
10	PAHMDLSTD2716 - SST0.025	dj1720.d	10/20/16	19:47
11	RVICV2036 - SST12.5	dj1721.d	10/20/16	20:16
12	RVBASICV2516 - SST12.5	dj1722.d	10/20/16	20:44

6B
SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP19760 Calibration Date(s): 10/20/16 10/20/16
 Calibration Times: 14:59 18:51
 Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:RRF0.125 = dj1712.d RRF0.25 = dj1718.d RRF1.25 = dj1717.d RRF3.75 = dj1716.d RRF7.5 = dj1711.d RRF12.5 = dj1715.d RRF20 = dj1714.d RRF30 = dj1713.d											
COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	RRF	% RSD	CAL. METHOD
1,4-Dioxane			0.738	0.781	0.799	0.801	0.840	0.802	0.794	4	AVG
N-Nitrosodimethylamine			1.089	1.248	1.258	1.268	1.327	1.263	1.242	6	AVG
Pyridine			1.955	2.126	2.054	2.035	2.163	2.074	2.068	4	AVG
2-Picoline			2.067	2.199	2.181	2.205	2.318	2.196	2.194	4	AVG
N-Nitrosomethylethylamine			0.807	0.914	0.920	0.908	0.960	0.904	0.902	6	AVG
Methyl methanesulfonate			0.980	1.141	1.135	1.126	1.185	1.127	1.116	6	AVG
N-Nitrosodiethylamine		0.799	0.730	0.850	0.861	0.869	0.912	0.864	0.841	7	AVG
Ethyl methanesulfonate		0.888	0.798	0.876	0.860	0.865	0.915	0.870	0.868	4	AVG
Benzaldehyde			1.622	1.795	1.571	1.526	1.484	1.177	1.529	13	AVG
Phenol		2.546	2.338	2.599	2.607	2.598	2.714	2.589	2.570	4	AVG
Aniline		3.122	2.783	3.110	3.092	3.109	3.245	3.087	3.078	5	AVG
a-methylstyrene			1.610	1.708	1.585	1.665	1.719	1.658	1.658	3	AVG
bis(2-Chloroethyl)ether		2.113	1.745	1.951	1.906	1.918	2.019	1.904	1.937	6	AVG
2-Chlorophenol		1.454	1.319	1.482	1.500	1.487	1.560	1.480	1.469	5	AVG
1,3-Dichlorobenzene		1.623	1.486	1.678	1.625	1.651	1.724	1.634	1.632	5	AVG
1,4-Dichlorobenzene		1.675	1.519	1.692	1.655	1.670	1.749	1.647	1.658	4	AVG
Benzyl alcohol			1.051	1.177	1.108	1.120	1.173	1.141	1.128	4	AVG
1,2-Dichlorobenzene		1.499	1.449	1.593	1.562	1.583	1.644	1.578	1.558	4	AVG
Indene			2.792	2.938	2.752	2.863	2.971	2.880	2.866	3	AVG
2-Methylphenol		1.542	1.444	1.614	1.611	1.625	1.718	1.627	1.597	5	AVG
2,2'-oxybis(1-Chloropropane)		2.367	2.004	2.208	2.214	2.178	2.299	2.212	2.212	5	AVG
bis(2-Chloroisopropyl)ether		2.367	2.004	2.208	2.214	2.178	2.299	2.212	2.212	5	AVG
N-Nitrosopyrrolidine		0.796	0.815	0.944	0.954	0.943	1.016	0.978	0.921	9	AVG
Acetophenone		2.438	2.418	2.754	2.499	2.531	2.689	2.553	2.555	5	AVG
4-Methylphenol		1.866	1.661	1.857	1.700	1.872	1.950	1.865	1.824	6	AVG
Total Cresols		1.704	1.553	1.736	1.655	1.749	1.834	1.746	1.711	5	AVG
N-Nitroso-di-n-propylamine		1.589	1.318	1.507	1.498	1.499	1.549	1.493	1.493	6	AVG
N-Nitrosomorpholine			0.974	1.079	1.092	1.077	1.114	1.066	1.067	5	AVG
o-Toluidine		2.920	2.628	2.968	2.924	2.935	3.062	2.924	2.909	5	AVG
Hexachloroethane			0.686	0.740	0.751	0.752	0.791	0.750	0.745	5	AVG
Nitrobenzene		0.550	0.503	0.546	0.560	0.562	0.589	0.568	0.554	5	AVG
N-Nitrosopiperidine		0.204	0.195	0.223	0.228	0.225	0.238	0.230	0.220	7	AVG
Isophorone		0.975	0.899	0.989	1.015	1.000	1.055	1.014	0.992	5	AVG
2-Nitrophenol		0.132	0.133	0.161	0.172	0.171	0.184	0.179	0.162	13	AVG
2,4-Dimethylphenol		0.470	0.436	0.484	0.493	0.489	0.513	0.503	0.484	5	AVG
O,O,O-Triethylphosphorothioate			0.202	0.229	0.232	0.232	0.244	0.235	0.229	6	AVG
bis(2-Chloroethoxy)methane		0.630	0.568	0.619	0.640	0.617	0.669	0.621	0.623	5	AVG
Benzoic acid			0.181	0.240	0.271	0.306	0.337	0.333	0.278	22	1STDEG
1,2,3,4-Tetrahydronaphthalene			0.676	0.739	0.697	0.717	0.735	0.718	0.714	3	AVG
2,4-Dichlorophenol		0.298	0.296	0.334	0.343	0.342	0.355	0.344	0.330	7	AVG
1,2,4-Trichlorobenzene		0.384	0.339	0.385	0.386	0.381	0.402	0.387	0.381	5	AVG
Naphthalene	1.226	1.116	1.026	1.138	1.139	1.140	1.190	1.136	1.139	5	AVG
4-Chloroaniline		0.476	0.442	0.486	0.497	0.487	0.511	0.495	0.485	5	AVG
2,6-Dichlorophenol		0.290	0.302	0.328	0.335	0.329	0.345	0.335	0.324	6	AVG
Hexachloropropene			0.240	0.275	0.286	0.289	0.306	0.294	0.282	8	AVG
Hexachlorobutadiene		0.237	0.221	0.248	0.248	0.250	0.263	0.254	0.246	5	AVG
Quinoline			0.671	0.697	0.708	0.686	0.724	0.696	0.697	3	AVG
Caprolactam			0.097	0.116	0.108	0.108	0.118	0.115	0.110	7	AVG
N-Nitrosodi-n-butylamine			0.345	0.380	0.389	0.389	0.497	0.479	0.413	15	AVG
4-Chloro-3-methylphenol		0.384	0.381	0.400	0.415	0.401	0.432	0.419	0.404	5	AVG
Safrole			0.285	0.304	0.313	0.306	0.322	0.315	0.308	4	AVG
2-Methylnaphthalene	0.777	0.708	0.701	0.777	0.783	0.777	0.812	0.783	0.765	5	AVG

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

6C
SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP19760 Calibration Date(s): 10/20/16 10/20/16
 Calibration Times: 14:59 18:51
 Min $\overline{RRF}$ for SPCC(%) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:RRF0.125 = dj1712.d RRF0.25 = dj1718.d RRF1.25 = dj1717.d RRF3.75 = dj1716.d RRF7.5 = dj1711.d RRF12.5 = dj1715.d RRF20 = dj1714.d RRF30 = dj1713.d											
COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
1-Methylnaphthalene	0.657	0.691	0.638	0.714	0.716	0.698	0.737	0.709	0.695	5	AVG
Hexachlorocyclopentadiene			0.349	0.380	0.418	0.422	0.444	0.421	0.406	9	AVG
1,2,4,5-Tetrachlorobenzene		0.698	0.668	0.712	0.721	0.734	0.767	0.732	0.719	4	AVG
cis-Isosafrole			0.487	0.536	0.554	0.545	0.574	0.562	0.543	6	AVG
2,4,6-Trichlorophenol		0.387	0.388	0.409	0.412	0.424	0.444	0.428	0.413	5	AVG
2,4,5-Trichlorophenol		0.417	0.423	0.438	0.448	0.460	0.474	0.455	0.445	5	AVG
trans-Isosafrole			0.576	0.596	0.626	0.613	0.649	0.633	0.615	4	AVG
Isosafrole			0.561	0.586	0.613	0.601	0.636	0.621	0.603	4	AVG
1,1'-Biphenyl	1.413	1.438	1.575	1.515	1.521	1.580	1.504	1.506	1.506	4	AVG
2-Chloronaphthalene	1.211	1.144	1.158	1.165	1.214	1.314	1.208	1.202	1.202	5	AVG
1-Chloronaphthalene	1.137	1.063	1.110	1.202	1.143	1.126	1.134	1.131	1.131	4	AVG
Diphenyl ether	0.870	0.809	0.846	0.878	0.879	0.912	0.884	0.868	0.868	4	AVG
2-Nitroaniline	0.277	0.282	0.313	0.341	0.348	0.369	0.359	0.327	0.327	11	AVG
1,4-Naphthoquinone			0.437	0.467	0.501	0.498	0.523	0.504	0.488	6	AVG
1,4-Dinitrobenzene			0.119	0.134	0.146	0.159	0.172	0.170	0.150	14	AVG
Dimethylphthalate			1.358	1.337	1.346	1.347	1.442	1.371	1.367	3	AVG
1,3-Dinitrobenzene			0.144	0.165	0.173	0.189	0.204	0.200	0.179	13	AVG
2,6-Dinitrotoluene		0.213	0.243	0.265	0.271	0.284	0.306	0.302	0.269	12	AVG
Acenaphthylene	1.788	1.701	1.677	1.715	1.779	1.760	1.845	1.785	1.756	3	AVG
3-Nitroaniline	0.236	0.250	0.278	0.288	0.305	0.334	0.327	0.288	0.288	13	AVG
Acenaphthene	1.344	1.247	1.206	1.280	1.295	1.301	1.363	1.306	1.293	4	AVG
2,4-Dinitrophenol				0.090	0.108	0.114	0.137	0.137	0.117	17	AVG
4-Nitrophenol				0.191	0.210	0.248	0.267	0.264	0.236	14	AVG
Pentachlorobenzene		0.607	0.568	0.581	0.595	0.592	0.628	0.612	0.597	3	AVG
2,4-Dinitrotoluene			0.294	0.330	0.360	0.380	0.418	0.412	0.366	13	AVG
2,4,6-Dinitrotoluenes		0.227	0.269	0.297	0.316	0.332	0.362	0.357	0.309	16	AVG
Dibenzofuran		1.736	1.657	1.707	1.737	1.737	1.804	1.726	1.729	3	AVG
1-Naphthylamine				1.195	1.225	1.261	1.371	1.328	1.276	6	AVG
2,3,4,6-Tetrachlorophenol		0.282	0.315	0.337	0.353	0.370	0.400	0.392	0.350	12	AVG
2-Naphthylamine				1.196	1.205	1.253	1.339	1.280	1.254	5	AVG
Diethylphthalate			1.311	1.289	1.353	1.375	1.440	1.427	1.366	4	AVG
Thionazin			0.286	0.289	0.298	0.303	0.318	0.310	0.301	4	AVG
Fluorene	1.366	1.369	1.341	1.360	1.379	1.405	1.458	1.397	1.384	3	AVG
4-Chlorophenyl-phenylether		0.697	0.690	0.706	0.713	0.717	0.745	0.724	0.713	3	AVG
5-Nitro-o-toluidine		0.259	0.314	0.321	0.346	0.362	0.384	0.380	0.338	13	AVG
4-Nitroaniline		0.251	0.280	0.304	0.325	0.329	0.345	0.338	0.310	11	AVG
4,6-Dinitro-2-methylphenol				0.064	0.085	0.090	0.096	0.099	0.087	16	AVG
N-Nitrosodiphenylamine (1)		0.564	0.572	0.559	0.586	0.579	0.567	0.568	0.571	2	AVG
NDPA as diphenylamine		0.564	0.572	0.559	0.586	0.579	0.567	0.568	0.571	2	AVG
1,2-Diphenylhydrazine		0.925	0.883	0.884	0.926	0.903	0.884	0.878	0.898	2	AVG
Tetraethyldithiopyrophosphate			0.141	0.146	0.157	0.155	0.153	0.153	0.151	4	AVG
1,3,5-Trinitrobenzene				0.046	0.056	0.063	0.068	0.072	0.061	16	AVG
Diallate (peak 1)			0.374	0.381	0.399	0.394	0.396	0.399	0.391	3	AVG
Phorate		0.478	0.501	0.530	0.576	0.569	0.568	0.562	0.541	7	AVG
Phenacetin		0.303	0.374	0.401	0.433	0.436	0.433	0.441	0.403	13	AVG
4-Bromophenyl-phenylether		0.207	0.216	0.219	0.216	0.218	0.219	0.219	0.216	2	AVG
Diallate (peak 2)			0.316	0.318	0.324	0.320	0.324	0.339	0.323	3	AVG
Diallate trans/cis			0.364	0.370	0.386	0.381	0.384	0.389	0.379	3	AVG
Hexachlorobenzene	0.263	0.242	0.227	0.226	0.236	0.232	0.229	0.230	0.236	5	AVG
Dimethoate			0.294	0.324	0.351	0.359	0.353	0.360	0.340	8	AVG
Atrazine			0.206	0.219	0.204	0.207	0.199	0.180	0.202	6	AVG
Pentachlorophenol			0.112	0.124	0.132	0.140	0.144	0.147	0.133	10	AVG

(1) Cannot be separated from Diphenylamine
 4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

6C
SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

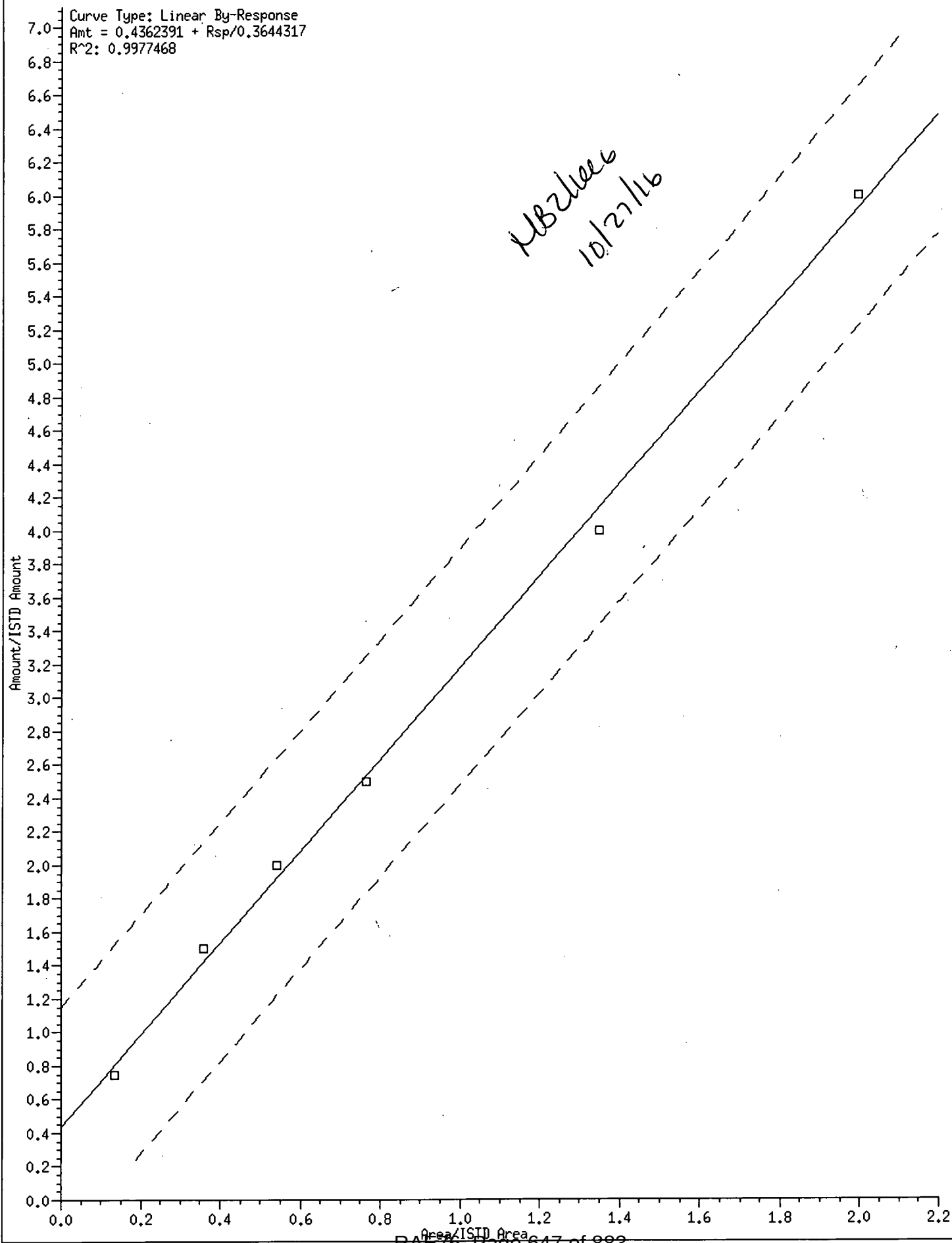
Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP19760 Calibration Date(s): 10/20/16 10/20/16
 Calibration Times: 14:59 18:51
 Min $\overline{RRF}$ for SPCC(%) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:RRF0.125 = dj1712.d RRF0.25 = dj1718.d RRF1.25 = dj1717.d RRF3.75 = dj1716.d											
RRF7.5 = dj1711.d RRF12.5 = dj1715.d RRF20 = dj1714.d RRF30 = dj1713.d											
COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	RRF	% RSD	CAL. METHOD
4-Aminobiphenyl		0.726	0.734	0.725	0.763	0.757	0.729	0.698	0.733	3	AVG
Pentachloronitrobenzene			0.083	0.088	0.098	0.099	0.099	0.102	0.095	8	AVG
Pronamide		0.307	0.329	0.333	0.359	0.356	0.352	0.357	0.342	6	AVG
Dinoseb			0.079	0.100	0.130	0.145	0.158	0.167	0.130	26	1STDEG
Phenanthrene	1.096	1.087	1.064	1.045	1.074	1.080	1.056	1.053	1.069	2	AVG
Anthracene	1.101	1.062	1.059	1.059	1.087	1.097	1.071	1.069	1.076	2	AVG
Carbazole		0.932	0.963	0.966	1.011	1.006	0.985	1.000	0.980	3	AVG
Methyl parathion			0.178	0.216	0.240	0.258	0.261	0.270	0.237	15	AVG
Di-n-butylphthalate			1.164	1.188	1.248	1.253	1.213	1.214	1.213	3	AVG
Parathion			0.128	0.147	0.164	0.176	0.174	0.180	0.162	13	AVG
4-Nitroquinoline-1-oxide				0.064	0.085	0.103	0.111	0.122	0.097	23	1STDEG
Octachlorostyrene			0.089	0.094	0.092	0.094	0.094	0.096	0.093	3	AVG
Isodrin		0.149	0.140	0.132	0.135	0.133	0.133	0.136	0.137	4	AVG
Fluoranthene	1.313	1.212	1.244	1.253	1.310	1.320	1.289	1.309	1.281	3	AVG
Benzidine				0.678	0.682	0.701	0.657	0.627	0.669	4	AVG
Pyrene	1.158	1.102	1.081	1.055	1.084	1.080	1.061	1.052	1.084	3	AVG
p-Dimethylaminoazobenzene		0.165	0.180	0.191	0.200	0.206	0.208	0.208	0.194	9	AVG
Chlorobenzilate			0.268	0.285	0.302	0.309	0.305	0.307	0.296	5	AVG
3,3'-Dimethylbenzidine			0.675	0.706	0.733	0.726	0.724	0.717	0.714	3	AVG
Butylbenzylphthalate			0.332	0.381	0.421	0.428	0.434	0.434	0.405	10	AVG
2-Acetylaminofluorene			0.281	0.368	0.414	0.433	0.450	0.454	0.400	17	AVG
3,3'-Dichlorobenzidine			0.396	0.404	0.418	0.427	0.424	0.425	0.416	3	AVG
4,4'-Methylenebis(2-chloroanil				0.217	0.222	0.233	0.229	0.225	0.225	3	AVG
Benzo(a)anthracene	1.101	1.061	1.078	1.104	1.090	1.153	1.122	1.106	1.102	3	AVG
Chrysene	0.988	0.985	1.007	1.020	0.992	1.046	1.020	0.992	1.006	2	AVG
bis(2-Ethylhexyl)phthalate			0.540	0.577	0.647	0.647	0.652	0.652	0.619	8	AVG
6-Methylchrysene			0.711	0.722	0.736	0.760	0.756	0.766	0.742	3	AVG
Di-n-octylphthalate			1.059	1.138	1.282	1.256	1.257	1.252	1.207	7	AVG
Benzo(b)fluoranthene	1.172	1.091	1.144	1.154	1.192	1.218	1.197	1.233	1.175	4	AVG
7,12-Dimethylbenz[a]anthracene		0.388	0.422	0.463	0.482	0.521	0.533	0.522	0.476	12	AVG
Benzo(k)fluoranthene	1.113	1.085	1.142	1.108	1.149	1.162	1.167	1.111	1.130	3	AVG
Benzo(a)pyrene	1.124	1.036	1.064	1.070	1.136	1.129	1.139	1.132	1.104	4	AVG
3-Methylcholanthrene		0.513	0.537	0.537	0.564	0.580	0.587	0.581	0.557	5	AVG
Dibenz(a,h)acridine			0.921	0.908	0.972	0.935	0.921	0.899	0.926	3	AVG
Dibenz(a,j)acridine			0.882	0.878	0.946	0.896	0.884	0.827	0.886	4	AVG
Indeno(1,2,3-cd)pyrene	1.234	1.200	1.270	1.254	1.304	1.266	1.230	1.135	1.237	4	AVG
Dibenz(a,h)anthracene	1.039	0.993	1.022	1.062	1.093	1.070	1.055	0.984	1.040	4	AVG
Benzo(g,h,i)perylene	1.060	1.009	1.060	1.027	1.084	1.031	0.973	0.865	1.014	7	AVG
Total PAHs	0.955	0.912	0.929	0.909	0.943	0.933	0.921	0.892	0.924	2	AVG
2-Fluorophenol		1.558	1.472	1.612	1.628	1.628	1.707	1.613	1.603	5	AVG
Phenol-d6		2.184	1.990	2.216	2.214	2.211	2.314	2.199	2.190	4	AVG
Nitrobenzene-d5		0.515	0.480	0.549	0.563	0.559	0.580	0.560	0.544	6	AVG
2-Fluorobiphenyl		1.466	1.379	1.418	1.451	1.436	1.495	1.413	1.437	3	AVG
2,4,6-Tribromophenol		0.158	0.171	0.183	0.195	0.204	0.224	0.221	0.194	13	AVG
Terphenyl-d14		0.741	0.740	0.726	0.742	0.737	0.711	0.704	0.729	2	AVG
Average %RSD										6	

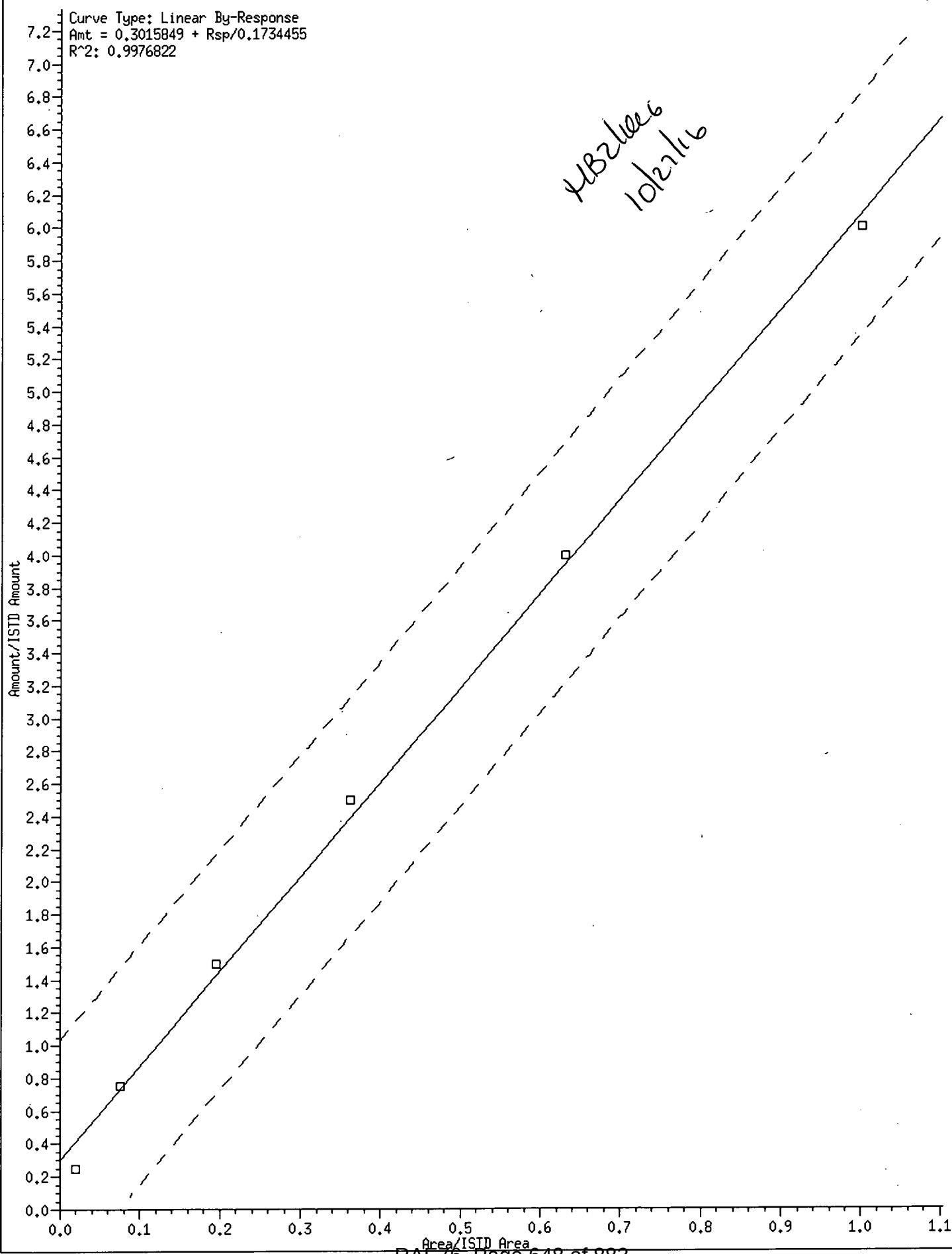
4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.
 Benzidine Levels in the 5,15,30,50,80,120 standards are 15,45,90,150,240,360 ng/ul, respectively.
 Benzoic acid and 2,4-Dinitrophenol are at 15 ng/ul, 30 ng/ul,40 ng/ul in the 5,15,30 standards.

56 Benzoic acid

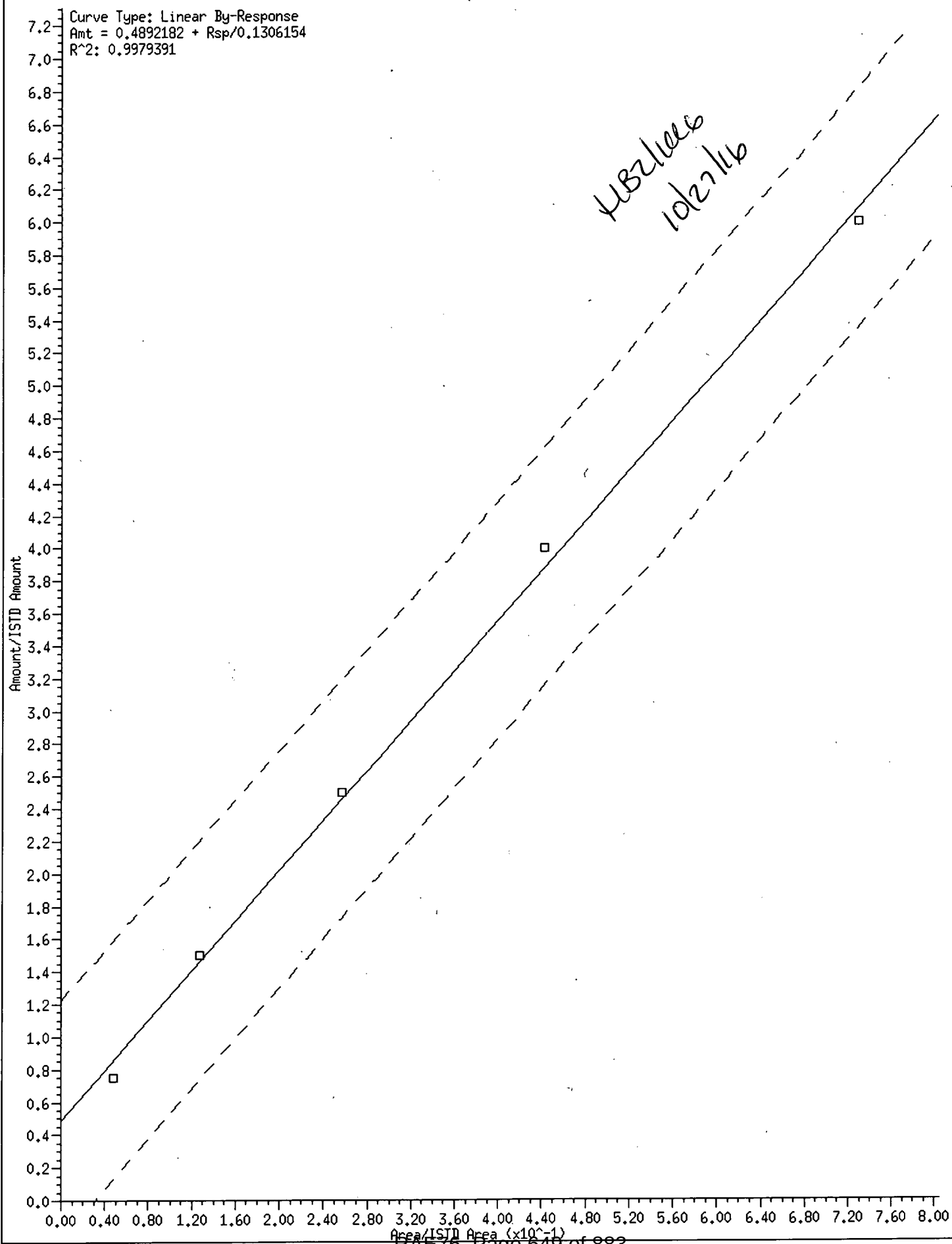
Curve Type: Linear By-Response
 Amt = 0.4362391 + Rsp/0.3644317
 R²: 0.9977468



Curve Type: Linear By-Response
Amt = 0.3015849 + Rsp/0.1734455
R²: 0.9976822



168 4-Nitroquinoline-1-oxide



Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

```

/chem/HP19760.i/16oct20b.b/dj1711.d SSTD7.5
/chem/HP19760.i/16oct20b.b/dj1712.d SSTD0.125
/chem/HP19760.i/16oct20b.b/dj1713.d SSTD030
/chem/HP19760.i/16oct20b.b/dj1714.d SSTD020
/chem/HP19760.i/16oct20b.b/dj1715.d SSTD12.5
/chem/HP19760.i/16oct20b.b/dj1716.d SSTD3.75
/chem/HP19760.i/16oct20b.b/dj1717.d SSTD1.25
/chem/HP19760.i/16oct20b.b/dj1718.d SSTD0.25

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Area Summary

File ID:
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Internal Standard Name	dj1711.d	dj1712.d	dj1713.d	dj1714.d	dj1715.d	dj1716.d	dj1717.d	dj1718.d	Avg. Area	%RSD	In Spec
1,4-Dichlorobenzene-d4	157192	159346	133466	136998	145547	127060	145619	135803	142629	8	Yes
Naphthalene-d8	584656	581632	499016	514331	543524	479995	546585	515011	533094	7	Yes
Acenaphthene-d10	358186	350793	301205	310849	327495	301907	328059	306727	323153	7	Yes
Phenanthrene-d10	701815	672739	632135	668642	659812	598542	633183	586626	644187	6	Yes
Pyrene-d10	891653	833618	819689	849495	853584	755660	787813	717847	813670	7	Yes
Perylene-d12	837920	783777	772753	800999	805923	721549	728348	685147	767052	7	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:
=====

Internal Standard Name	dj1711.d	dj1712.d	dj1713.d	dj1714.d	dj1715.d	dj1716.d	dj1717.d	dj1718.d	Avg. RT
1,4-Dichlorobenzene-d4	6.920	6.920	6.920	6.920	6.920	6.920	6.914	6.914	6.918
Naphthalene-d8	8.855	8.849	8.855	8.855	8.855	8.849	8.849	8.849	8.852
Acenaphthene-d10	11.635	11.635	11.641	11.635	11.635	11.635	11.635	11.629	11.635
Phenanthrene-d10	13.518	13.518	13.524	13.524	13.518	13.518	13.518	13.518	13.519
Pyrene-d10	15.505	15.505	15.511	15.511	15.511	15.505	15.505	15.505	15.508
Perylene-d12	19.999	19.999	20.011	20.011	20.005	20.005	20.005	20.005	20.005

Comments:

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification
=====

LAB NAME: LANCASTER LABS

LAB CODE: LANCAS

INSTRUMENT: HP19760

Method: SW-846 8270D MINI

File ID: djl721.d

ICV SAMPLE ID: RVICV2036

BATCH: 16OCT20A026

Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,4-Dioxane	12.50	12.37	-1	30	YES
N-Nitrosodimethylamine	12.50	11.94	-4	30	YES
Pyridine	12.50	12.47	0	30	YES
2-Picoline	12.50	12.20	-2	30	YES
N-Nitrosomethylethylamine	12.50	11.95	-4	30	YES
Methyl methanesulfonate	12.50	11.93	-5	30	YES
N-Nitrosodiethylamine	12.50	12.18	-3	30	YES
Ethyl methanesulfonate	12.50	12.19	-2	30	YES
Phenol	12.50	12.30	-2	30	YES
Aniline	12.50	11.75	-6	30	YES
bis(2-Chloroethyl)ether	12.50	12.25	-2	30	YES
2-Chlorophenol	12.50	12.63	1	30	YES
1,3-Dichlorobenzene	12.50	12.86	3	30	YES
1,4-Dichlorobenzene	12.50	12.80	2	30	YES
Benzyl alcohol	12.50	12.88	3	30	YES
1,2-Dichlorobenzene	12.50	13.22	6	30	YES
Indene	12.50	12.80	2	30	YES
2-Methylphenol	12.50	12.94	3	30	YES
2,2'-oxybis(1-Chloropropane	12.50	13.18	5	30	YES
bis(2-Chloroisopropyl)ether	12.50	13.18	5	30	YES
N-Nitrosopyrrolidine	12.50	12.35	-1	30	YES
Acetophenone	12.50	12.55	0	30	YES
4-Methylphenol	12.50	12.57	1	30	YES
N-Nitroso-di-n-propylamine	12.50	12.46	0	30	YES
N-Nitrosomorpholine	12.50	12.46	0	30	YES
o-Toluidine	12.50	12.37	-1	30	YES
Total Cresols	25.00	25.50	2	30	YES
Hexachloroethane	12.50	13.10	5	30	YES
Nitrobenzene	12.50	11.99	-4	30	YES
N-Nitrosopiperidine	12.50	11.96	-4	30	YES
Isophorone	12.50	11.85	-5	30	YES
2-Nitrophenol	12.50	12.37	-1	30	YES
2,4-Dimethylphenol	12.50	11.36	-9	30	YES
bis(2-Chloroethoxy)methane	12.50	12.19	-3	30	YES
Benzoic acid	25.00	19.29	-23	30	YES
O,O,O-Triethylphosphorothio	12.50	12.44	0	30	YES
2,4-Dichlorophenol	12.50	12.70	2	30	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS

LAB CODE: LANCAS

INSTRUMENT: HP19760

Method: SW-846 8270D MINI

File ID: dj1721.d

ICV SAMPLE ID: RVICV2036

BATCH: 16OCT20A026

Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,2,4-Trichlorobenzene	12.50	12.45	0	30	YES
Naphthalene	12.50	12.57	1	30	YES
4-Chloroaniline	12.50	12.61	1	30	YES
2,6-Dichlorophenol	12.50	12.54	0	30	YES
Hexachloropropene	12.50	12.81	2	30	YES
Hexachlorobutadiene	12.50	12.79	2	30	YES
Quinoline	12.50	12.19	-2	30	YES
N-Nitrosodi-n-butylamine	12.50	10.88	-13	30	YES
4-Chloro-3-methylphenol	12.50	12.28	-2	30	YES
Safrole	12.50	12.07	-3	30	YES
2-Methylnaphthalene	12.50	12.23	-2	30	YES
1-Methylnaphthalene	12.50	12.64	1	30	YES
Hexachlorocyclopentadiene	25.00	23.28	-7	30	YES
1,2,4,5-Tetrachlorobenzene	12.50	13.05	4	30	YES
cis-Isosafrole	1.50	1.54	3	30	YES
2,4,6-Trichlorophenol	12.50	12.83	3	30	YES
2,4,5-Trichlorophenol	12.50	12.70	2	30	YES
trans-Isosafrole	11.00	10.95	0	30	YES
1,1'-Biphenyl	12.50	13.24	6	30	YES
2-Chloronaphthalene	12.50	13.23	6	30	YES
Isosafrole	12.50	12.50	0	30	YES
1-Chloronaphthalene	12.50	12.72	2	30	YES
Diphenyl ether	12.50	12.81	2	30	YES
2-Nitroaniline	12.50	13.11	5	30	YES
1,4-Naphthoquinone	15.63	15.40	-1	30	YES
1,4-Dinitrobenzene	12.50	12.62	1	30	YES
Dimethylphthalate	12.50	12.40	-1	30	YES
1,3-Dinitrobenzene	12.50	12.77	2	30	YES
2,6-Dinitrotoluene	12.50	13.24	6	30	YES
Acenaphthylene	12.50	11.51	-8	30	YES
3-Nitroaniline	12.50	13.51	8	30	YES
Acenaphthene	12.50	13.10	5	30	YES
2,4-Dinitrophenol	25.00	25.32	1	30	YES
4-Nitrophenol	12.50	13.04	4	30	YES
Pentachlorobenzene	12.50	12.42	-1	30	YES
2,4-Dinitrotoluene	12.50	13.37	7	30	YES
Dibenzofuran	12.50	12.54	0	30	YES

NC = Could not calculate

Comments:

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification
=====

LAB NAME: LANCASTER LABS

LAB CODE: LANCAS

INSTRUMENT: HP19760

Method: SW-846 8270D MINI

File ID: dj1721.d

ICV SAMPLE ID: RVICV2036

BATCH: 16OCT20A026

Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
2,4,6-Dinitrotoluenes	25.00	26.61	6	30	YES
1-Naphthylamine	25.00	23.95	-4	30	YES
2,3,4,6-Tetrachlorophenol	12.50	14.46	16	30	YES
2-Naphthylamine	25.00	24.03	-4	30	YES
Diethylphthalate	12.50	12.78	2	30	YES
Thionazin	12.50	12.83	3	30	YES
Fluorene	12.50	13.14	5	30	YES
4-Chlorophenyl-phenylether	12.50	13.11	5	30	YES
5-Nitro-o-toluidine	12.50	13.40	7	30	YES
4-Nitroaniline	12.50	12.99	4	30	YES
4,6-Dinitro-2-methylphenol	12.50	12.71	2	30	YES
N-Nitrosodiphenylamine	12.50	13.07	5	30	YES
NDPA as diphenylamine	12.50	13.07	5	30	YES
1,2-Diphenylhydrazine	12.50	13.08	5	30	YES
Tetraethyldithiopyrophospha	12.50	12.97	4	30	YES
1,3,5-Trinitrobenzene	12.50	12.70	2	30	YES
Diallate (peak 1)	9.38	9.09	-3	30	YES
Phorate	12.50	13.28	6	30	YES
Phenacetin	12.50	13.29	6	30	YES
4-Bromophenyl-phenylether	12.50	13.13	5	30	YES
Diallate (peak 2)	3.13	3.57	14	30	YES
Hexachlorobenzene	12.50	12.61	1	30	YES
Diallate trans/cis	12.50	12.67	1	30	YES
Dimethoate	12.50	13.59	9	30	YES
Pentachlorophenol	12.50	14.35	15	30	YES
4-Aminobiphenyl	12.50	12.92	3	30	YES
Pentachloronitrobenzene	12.50	13.51	8	30	YES
Pronamide	12.50	13.45	8	30	YES
Dinoseb	12.50	11.60	-7	30	YES
Phenanthrene	12.50	12.85	3	30	YES
Anthracene	12.50	13.07	5	30	YES
Carbazole	12.50	12.97	4	30	YES
Methyl parathion	12.50	14.01	12	30	YES
Di-n-butylphthalate	12.50	13.11	5	30	YES
Parathion	12.50	14.72	18	30	YES
4-Nitroquinoline-1-oxide	150.00	151.91	1	30	YES
Isodrin	12.50	12.77	2	30	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification
=====

LAB NAME: LANCASTER LABS

LAB CODE: LANCAS

INSTRUMENT: HP19760

Method: SW-846 8270D MINI

File ID: dj1721.d

ICV SAMPLE ID: RVICV2036

BATCH: 16OCT20A026

Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Fluoranthene	12.50	12.99	4	30	YES
Benzidine	62.50	57.67	-8	30	YES
Pyrene	12.50	12.75	2	30	YES
p-Dimethylaminoazobenzene	12.50	14.47	16	30	YES
Chlorobenzilate	12.50	13.59	9	30	YES
3,3'-Dimethylbenzidine	25.00	23.46	-6	30	YES
Butylbenzylphthalate	12.50	13.90	11	30	YES
2-Acetylaminofluorene	12.50	13.33	7	30	YES
3,3'-Dichlorobenzidine	12.50	12.39	-1	30	YES
Benzo(a)anthracene	12.50	13.31	7	30	YES
Chrysene	12.50	13.69	10	30	YES
4,4'-Methylenebis(2-chloroa	12.50	13.30	6	30	YES
bis(2-Ethylhexyl)phthalate	12.50	13.82	11	30	YES
6-Methylchrysene	12.50	12.58	1	30	YES
Di-n-octylphthalate	12.50	13.53	8	30	YES
Benzo(b)fluoranthene	12.50	13.36	7	30	YES
7,12-Dimethylbenz[a]anthrac	12.50	13.91	11	30	YES
Benzo(k)fluoranthene	12.50	13.25	6	30	YES
Benzo(a)pyrene	12.50	12.71	2	30	YES
3-Methylcholanthrene	12.50	12.59	1	30	YES
Dibenz(a,h)acridine	12.50	12.21	-2	30	YES
Dibenz(a,j)acridine	12.50	12.37	-1	30	YES
Indeno(1,2,3-cd)pyrene	12.50	12.73	2	30	YES
Dibenz(a,h)anthracene	12.50	13.09	5	30	YES
Benzo(g,h,i)perylene	12.50	12.89	3	30	YES
Total PAHs	225.00	231.91	3	30	YES

=====

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification
=====

LAB NAME: LANCASTER LABS

LAB CODE: LANCAS

INSTRUMENT: HP19760

Method: SW-846 8270D MINI

File ID: dj1722.d

ICV SAMPLE ID: RVBASICV2516

BATCH: 16OCT20A026

Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Benzaldehyde	12.50	13.34	7	30	YES
Caprolactam	12.50	11.93	-5	30	YES
Atrazine	12.50	13.82	11	30	YES

=====

NC = Could not calculate

Comments: _____

5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: dj1030.d DFTPP Injection Date: 10/31/16

Instrument ID: HP19760 DFTPP Injection Time: 07:25

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	35.2
68	Less than 2.0% of mass 69	0.63 (1.66)1
69	Mass 69 relative abundance	37.6
70	Less than 2.0% of mass 69	0.23 (0.62)1
127	40.0 - 60.0% of mass 198	42.1
197	Less than 1.0% of mass 198	0.81
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.82
275	10.0 - 30.0% of mass 198	26.1
365	Greater than 1.00% of mass 198	2.73
441	Present, and less than mass 443	10.6
442	Greater than 40.0 % of mass 198	68.1
443	17.0 - 23.0% of mass 442	13.0 (19.0)2

1-Value is % mass 69

2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	RVSTD3006 - SST7.5	dj1031.d	10/31/16	07:38
02	SBLKWF302	dj1032.d	10/31/16	08:18
03	302WFLCS	dj1033.d	10/31/16	08:46
04	300WKLCS	dj1035.d	10/31/16	09:41
05	8662830MS	dj1037.d	10/31/16	10:37
06	8662831MSD	dj1038.d	10/31/16	11:04
07	8666264	dj1040.d	10/31/16	12:00
08	8666265	dj1041.d	10/31/16	12:28
09	8666266	dj1042.d	10/31/16	12:56
10	8666267	dj1043.d	10/31/16	13:24
11	SBLKWK300	dj1034a.d	10/31/16	13:52
12	8662829	dj1036a.d	10/31/16	14:19
13	8662833	dj1039a.d	10/31/16	14:47
14	8666268MS	dj1044.d	10/31/16	15:16
15	8666269MSD	dj1045.d	10/31/16	15:44
16	8666270	dj1046.d	10/31/16	16:12
17	8666271	dj1047.d	10/31/16	16:40
18	8666272	dj1048.d	10/31/16	17:08

5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: dj1030.d DFTPP Injection Date: 10/31/16

Instrument ID: HP19760 DFTPP Injection Time: 07:25

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	35.2
68	Less than 2.0% of mass 69	0.63 (1.66)1
69	Mass 69 relative abundance	37.6
70	Less than 2.0% of mass 69	0.23 (0.62)1
127	40.0 - 60.0% of mass 198	42.1
197	Less than 1.0% of mass 198	0.81
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.82
275	10.0 - 30.0% of mass 198	26.1
365	Greater than 1.00% of mass 198	2.73
441	Present, and less than mass 443	10.6
442	Greater than 40.0 % of mass 198	68.1
443	17.0 - 23.0% of mass 442	13.0 (19.0)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
19	8666273	dj1049.d	10/31/16	17:36
20	8666274	dj1050.d	10/31/16	18:04
21	8666275	dj1051.d	10/31/16	18:32
22	8666276	dj1052.d	10/31/16	18:59

7B
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP19760 Calibration Date: 10/31/16 Time: 07:38
 Lab File ID: djl031.d Init. Calib. Date(s): 10/20/16 10/20/16
 Init. Calib. Times(s): 14:59 18:51

Min RRF for SPCC(#) = 0.050

Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,4-Dioxane	0.794	0.707	6.680	7.5	-11
N-Nitrosodimethylamine	1.242	1.041	6.290	7.5	-16
Pyridine	2.068	1.702	6.170	7.5	-18
2-Picoline	2.194	2.006	6.860	7.5	-9
N-Nitrosomethylethylamine	0.902	0.786	6.540	7.5	-13
Methyl methanesulfonate	1.116	1.024	6.890	7.5	-8
N-Nitrosodiethylamine	0.841	0.782	6.980	7.5	-7
Ethyl methanesulfonate	0.868	0.840	7.260	7.5	-3
Benzaldehyde	1.529	1.506	7.390	7.5	-2
Phenol	2.570	2.354	6.870	7.5	-8
Aniline	3.078	2.781	6.770	7.5	-10
a-methylstyrene	1.658	1.701	7.700	7.5	3
bis(2-Chloroethyl) ether	1.937	1.757	6.810	7.5	-9
2-Chlorophenol	1.469	1.477	7.540	7.5	1
1,3-Dichlorobenzene	1.632	1.692	7.780	7.5	4
1,4-Dichlorobenzene	1.658	1.709	7.730	7.5	3
Benzyl alcohol	1.128	1.037	6.890	7.5	-8
1,2-Dichlorobenzene	1.558	1.633	7.860	7.5	5
Indene	2.866	2.885	7.550	7.5	1
2-Methylphenol	1.597	1.501	7.050	7.5	-6
2,2'-oxybis(1-Chloropropane)	2.212	1.880	6.370	7.5	-15
bis(2-Chloroisopropyl) ether	2.212	1.880	6.370	7.5	-15
N-Nitrosopyrrolidine	0.921	0.841	6.840	7.5	-9
Acetophenone	2.555	2.485	7.300	7.5	-3
4-Methylphenol	1.824	1.752	7.200	7.5	-4
Total Cresols	1.711	1.627	14.250	15.0	-5
N-Nitroso-di-n-propylamine	1.493	1.238	6.220	7.5	-17
N-Nitrosomorpholine	1.067	0.919	6.460	7.5	-14
o-Toluidine	2.909	2.780	7.170	7.5	-4
Hexachloroethane	0.745	0.748	7.530	7.5	0
Nitrobenzene	0.554	0.505	6.840	7.5	-9
N-Nitrosopiperidine	0.220	0.210	7.160	7.5	-5
Isophorone	0.992	0.859	6.490	7.5	-13
2-Nitrophenol	0.162	0.184	8.530	7.5	14
2,4-Dimethylphenol	0.484	0.456	7.070	7.5	-6
O,O,O-Triethylphosphorothioate	0.229	0.227	7.450	7.5	-1

FORM VII SV-1

7C

Lab Name: Lancaster Laboratories

Contract:

Lab Code: LANCAS Case No.: SAS No.: SDG No.:

Lab Code: LANCAS

Case No.:

SAS No. : _____

SDG No. : _____

Instrument ID: HP19760 Calibration Date: 10/31/16 Time: 07:38

Instrument ID: HP19760

Calibration Date: 10/31/16

Time: 07:38

Lab File ID: d11031.d Init. Calib. Date(s): 10/20/16 10/20/16

Lab File ID: dj1031.d

Init. Calib. Date(s): 10/20/16

10/20/16

Init. Calib. Times(s): 14:59 18:51

Init. Calib. Times (s): 14:59

18:51

Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
bis(2-Chloroethoxy)methane	0.623	0.561	6.740	7.5	-10
Benzoic acid	0.278	0.275	9.720	10.0	-3
1,2,3,4-Tetrahydronaphthalene	0.714	0.700	7.360	7.5	-2
2,4-Dichlorophenol	0.330	0.344	7.800	7.5	4
1,2,4-Trichlorobenzene	0.381	0.395	7.790	7.5	4
Naphthalene	1.139	1.152	7.590	7.5	1
4-Chloroaniline	0.485	0.484	7.480	7.5	0
2,6-Dichlorophenol	0.323	0.335	7.770	7.5	4
Hexachloropropene	0.282	0.289	7.680	7.5	2
Hexachlorobutadiene	0.246	0.260	7.930	7.5	6
Quinoline	0.697	0.687	7.390	7.5	-1
Caprolactam	0.110	0.098	6.630	7.5	-12
N-Nitrosodi-n-butylamine	0.413	0.333	6.050	7.5	-19
4-Chloro-3-methylphenol	0.404	0.372	6.910	7.5	-8
Safrrole	0.308	0.304	7.410	7.5	-1
2-Methylnaphthalene	0.765	0.778	7.630	7.5	2
1-Methylnaphthalene	0.695	0.710	7.660	7.5	2
Hexachlorocyclopentadiene	0.406	0.448	8.290	7.5	11
1,2,4,5-Tetrachlorobenzene	0.719	0.782	8.150	7.5	9
cis-Isosafrole	0.543	0.546	1.280	1.3	1
2,4,6-Trichlorophenol	0.413	0.441	8.000	7.5	7
2,4,5-Trichlorophenol	0.445	0.471	7.940	7.5	6
trans-Isosafrole	0.615	0.629	6.370	6.2	2
Isosafrole	0.603	0.615	7.650	7.5	2
1,1'-Biphenyl	1.506	1.652	8.220	7.5	10
2-Chloronaphthalene	1.202	1.319	8.230	7.5	10
1-Chloronaphthalene	1.131	1.193	7.910	7.5	6
Diphenyl ether	0.868	0.916	7.910	7.5	5
2-Nitroaniline	0.327	0.365	8.370	7.5	12
1,4-Naphthoquinone	0.488	0.488	7.500	7.5	0
1,4-Dinitrobenzene	0.150	0.182	9.120	7.5	22
Dimethylphthalate	1.367	1.375	7.540	7.5	1
1,3-Dinitrobenzene	0.179	0.211	8.810	7.5	18
2,6-Dinitrotoluene	0.269	0.301	8.390	7.5	12
Acenaphthylene	1.756	1.814	7.750	7.5	3
3-Nitroaniline	0.288	0.305	7.940	7.5	6

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Instrument ID: HP19760 Calibration Date: 10/31/16 Time: 07:38
 Lab File ID: dj1031.d Init. Calib. Date(s): 10/20/16 10/20/16
 Init. Calib. Times(s): 14:59 18:51

Min RRF for SPCC(#) = 0.050

Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Acenaphthene	1.293	1.359	7.880	7.5	5
2,4-Dinitrophenol	0.117	0.141	12.050	10.0	21
4-Nitrophenol	0.236	0.230	7.310	7.5	-3
Pentachlorobenzene	0.597	0.649	8.150	7.5	9
2,4-Dinitrotoluene	0.366	0.401	8.210	7.5	10
2,4,2,6-Dinitrotoluenes	0.309	0.351	16.600	15.0	11
Dibenzofuran	1.729	1.819	7.890	7.5	5
1-Naphthylamine	1.276	1.246	7.320	7.5	-2
2,3,4,6-Tetrachlorophenol	0.350	0.391	8.390	7.5	12
2-Naphthylamine	1.254	1.197	7.160	7.5	-5
Diethylphthalate	1.366	1.325	7.270	7.5	-3
Thionazin	0.301	0.268	6.690	7.5	-11
Fluorene	1.384	1.439	7.800	7.5	4
4-Chlorophenyl-phenylether	0.713	0.759	7.980	7.5	6
5-Nitro-o-toluidine	0.338	0.371	8.230	7.5	10
4-Nitroaniline	0.310	0.315	7.610	7.5	1
4,6-Dinitro-2-methylphenol	0.087	0.112	9.650	7.5	29
N-Nitrosodiphenylamine (1)	0.571	0.628	8.240	7.5	10
NDPA as diphenylamine	0.571	0.628	8.240	7.5	10
1,2-Diphenylhydrazine	0.898	0.851	7.110	7.5	-5
Tetraethyldithiopyrophosphate	0.151	0.145	7.210	7.5	-4
1,3,5-Trinitrobenzene	0.061	0.072	8.820	7.5	18
Diallate (peak 1)	0.391	0.360	5.730	6.2	-8
Phorate	0.541	0.493	6.850	7.5	-9
Phenacetin	0.403	0.390	7.260	7.5	-3
4-Bromophenyl-phenylether	0.216	0.241	8.380	7.5	12
Diallate (peak 2)	0.323	0.294	1.160	1.3	-9
Diallate trans/cis	0.379	0.349	6.890	7.5	-8
Hexachlorobenzene	0.236	0.275	8.750	7.5	17
Dimethoate	0.340	0.304	6.710	7.5	-11
Atrazine	0.202	0.222	8.240	7.5	10
Pentachlorophenol	0.133	0.165	9.260	7.5	24
4-Aminobiphenyl	0.733	0.786	8.040	7.5	7
Pentachloronitrobenzene	0.095	0.110	8.720	7.5	16
Pronamide	0.342	0.350	7.680	7.5	2
Dinoseb	0.130	0.172	8.960	7.5	19

(1) Cannot be Separated from Diphenylamine

FORM VII SV-1

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: HP19760 Calibration Date: 10/31/16 Time: 07:38

Lab File ID: dj1031.d Init. Calib. Date(s): 10/20/16 10/20/16

Init. Calib. Times(s): 14:59 18:51

Min RRF for SPCC(#) = 0.050

Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenanthrene	1.069	1.142	8.010	7.5	7
Anthracene	1.076	1.140	7.950	7.5	6
Carbazole	0.980	1.029	7.870	7.5	5
Methyl parathion	0.237	0.240	7.600	7.5	1
Di-n-butylphthalate	1.213	1.174	7.260	7.5	-3
Parathion	0.162	0.159	7.370	7.5	-2
4-Nitroquinoline-1-oxide	0.097	0.083	7.230	7.5	-4
Octachlorostyrene	0.093	0.105	8.470	7.5	13
Isodrin	0.137	0.135	7.400	7.5	-1
Fluoranthene	1.281	1.318	7.710	7.5	3
Benzidine	0.669	0.684	23.010	22.5	2
Pyrene	1.084	1.152	7.970	7.5	6
p-Dimethylaminoazobenzene	0.194	0.181	6.990	7.5	-7
Chlorobenzilate	0.296	0.298	7.540	7.5	1
3,3'-Dimethylbenzidine	0.714	0.663	6.970	7.5	-7
Butylbenzylphthalate	0.405	0.428	7.920	7.5	6
2-Acetylaminofluorene	0.400	0.342	6.410	7.5	-15
3,3'-Dichlorobenzidine	0.416	0.408	7.360	7.5	-2
4,4'-Methylenebis(2-chloroanil	0.225	0.217	7.230	7.5	-4
Benzo(a)anthracene	1.102	1.120	7.620	7.5	2
Chrysene	1.006	1.052	7.840	7.5	5
bis(2-Ethylhexyl)phthalate	0.619	0.604	7.310	7.5	-3
6-Methylchrysene	0.742	0.731	7.400	7.5	-1
Di-n-octylphthalate	1.207	1.091	6.780	7.5	-10
Benzo(b)fluoranthene	1.175	1.247	7.960	7.5	6
7,12-Dimethylbenz[a]anthracene	0.476	0.529	8.340	7.5	11
Benzo(k)fluoranthene	1.130	1.223	8.120	7.5	8
Benzo(a)pyrene	1.104	1.152	7.830	7.5	4
3-Methylcholanthrene	0.557	0.538	7.240	7.5	-3
Dibenz(a,h)acridine	0.926	0.935	7.580	7.5	1
Dibenz(a,j)acridine	0.886	0.968	8.200	7.5	9
Indeno(1,2,3-cd)pyrene	1.237	1.361	8.250	7.5	10
Dibenz(a,h)anthracene	1.040	1.143	8.250	7.5	10
Benzo(g,h,i)perylene	1.014	1.133	8.380	7.5	12
Total PAHs	0.924	1.026	142.200	135.0	5
2-Fluorophenol	1.603	1.561	14.610	15.0	-3

FORM VII SV-1

7C cont

Lab Name: Lancaster Laboratories Contract:

Lab Code: LANCAS Case No.: SAS No.: SDG No.:

Instrument ID: HP19760 Calibration Date: 10/31/16 Time: 07:38

Lab File ID: dj1031.d Init. Calib. Date(s): 10/20/16 10/20/16

Init. Calib. Times(s): 14:59 18:51

Max %Drift for CCC(*) = 20%

Average %Drift: 7

Continuing Calibration Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

```
/chem/HP19760.i/16oct20b.b/dj1711.d **
/chem/HP19760.i/16oct20b.b/dj1712.d
/chem/HP19760.i/16oct20b.b/dj1713.d
/chem/HP19760.i/16oct20b.b/dj1714.d
/chem/HP19760.i/16oct20b.b/dj1715.d
/chem/HP19760.i/16oct20b.b/dj1716.d
/chem/HP19760.i/16oct20b.b/dj1717.d
/chem/HP19760.i/16oct20b.b/dj1718.d
```

** indicates the Mid Level Calibration Standard.

Mid Level Calibration Standard is used for comparison.

Current Continuing Calibration Standard:

```
/chem/HP19760.i/16oct31.b/dj1031.d
```

Area Summary

File ID:

=====

Internal Standard Name	dj1031.d	ICAL Area	Low Limit	High Limit	In Spec
1,4-Dichlorobenzene-d4	131795	157192	78596	314384	Yes
Naphthalene-d8	490412	584656	292328	1169312	Yes
Acenaphthene-d10	284821	358186	179093	716372	Yes
Phenanthrene-d10	531291	701815	350908	1403630	Yes
Pyrene-d10	655341	891653	445826	1783306	Yes
Perylene-d12	597345	837920	418960	1675840	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

RT Summary

File ID:

=====

Internal Standard Name	dj1031.d	ICAL RT	In Spec
1,4-Dichlorobenzene-d4	6.803	6.920	Yes
Naphthalene-d8	8.738	8.855	Yes
Acenaphthene-d10	11.524	11.635	Yes
Phenanthrene-d10	13.413	13.518	Yes
Pyrene-d10	15.377	15.505	Yes
Perylene-d12	19.847	19.999	Yes

A "No" indicates the retention time is greater than 30 seconds from the RT of the referenced standard.

Comments: _____

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract: _____
 Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____
 Lab File ID (Standard): dj1031.d Date Analyzed: 10/31/16
 Instrument ID: HP19760 Time Analyzed: 07:38

	IS1 (DCB)		IS2 (NPT)		IS3 (ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	131795	6.803	490412	8.738	284821	11.524
UPPER LIMIT	263590	7.303	980824	9.238	569642	12.024
LOWER LIMIT	65898	6.303	245206	8.238	142411	11.024
=====	=====	=====	=====	=====	=====	=====
LLI SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 SBLKWF302	141278	6.803	516830	8.738	295071	11.524
02 302WFLCS	133815	6.809	501128	8.738	285927	11.524
03 300WKLCS	143227	6.809	532500	8.738	308096	11.524
04 8662830MS	135195	6.809	494793	8.738	288751	11.524
05 8662831MSD	141790	6.809	519900	8.738	302157	11.524
06 8666264	140081	6.803	525586	8.738	296791	11.524
07 8666265	142831	6.803	530721	8.738	302257	11.524
08 8666266	142704	6.809	519968	8.738	294458	11.524
09 8666267	140922	6.803	526668	8.738	291616	11.524
10 SBLKWK300	128497	6.803	455662	8.738	256712	11.524
11 8662829	133537	6.803	491701	8.738	277829	11.524
12 8662833	129976	6.803	484903	8.738	271913	11.524
13 8666268MS	124256	6.809	460232	8.738	260152	11.530
14 8666269MSD	153308	6.809	564694	8.738	328241	11.524
15 8666270	146577	6.803	544502	8.738	306093	11.524
16 8666271	140647	6.803	529327	8.738	294556	11.524
17 8666272	139654	6.809	501150	8.738	281231	11.524
=====	=====	=====	=====	=====	=====	=====

IS1 (DCB) = 1,4-Dichlorobenzene-d4
 IS2 (NPT) = Naphthalene-d8
 IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
 AREA LOWER LIMIT = -50% of internal standard area
 RT UPPER LIMIT = +0.50 minutes of internal standard RT
 RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
 * Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): dj1031.d Date Analyzed: 10/31/16

Instrument ID: HP19760 Time Analyzed: 07:38

		IS4 (PHN)		IS5 (PYR)		IS6 (PRY)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD		531291	13.413	655341	15.377	597345	19.847
UPPER LIMIT		1062582	13.913	1310682	15.877	1194690	20.347
LOWER LIMIT		265646	12.913	327671	14.877	298673	19.347
=====	=====	=====	=====	=====	=====	=====	=====
LLI SAMPLE							
NO.							
=====	=====	=====	=====	=====	=====	=====	=====
01	SBLKWF302	547825	13.413	641741	15.377	559122	19.848
02	302WFLCS	537171	13.413	687818	15.377	663250	19.853
03	300WKLCS	587164	13.413	752119	15.377	731281	19.848
04	8662830MS	545693	13.413	687656	15.377	688795	19.853
05	8662831MSD	582113	13.413	715308	15.377	699550	19.848
06	8666264	568677	13.407	676131	15.377	581501	19.848
07	8666265	569821	13.407	674223	15.377	583077	19.848
08	8666266	556783	13.407	671335	15.377	562776	19.848
09	8666267	566080	13.407	674618	15.377	590500	19.848
10	SBLKWK300	489752	13.407	569846	15.377	477846	19.848
11	8662829	525545	13.407	636218	15.377	547475	19.848
12	8662833	517931	13.407	619182	15.377	526696	19.848
13	8666268MS	490511	13.413	628954	15.377	607376	19.848
14	8666269MSD	616690	13.413	777111	15.377	748386	19.848
15	8666270	582508	13.413	698363	15.377	597585	19.848
16	8666271	559529	13.407	664783	15.377	566334	19.848
17	8666272	540474	13.407	630433	15.371	518748	19.848

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): dj1031.d Date Analyzed: 10/31/16

Instrument ID: HP19760 Time Analyzed: 07:38

		IS1 (DCB)		IS2 (NPT)		IS3 (ANT)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
=====		=====	=====	=====	=====	=====	=====
12 HOUR STD		131795	6.803	490412	8.738	284821	11.524
UPPER LIMIT		263590	7.303	980824	9.238	569642	12.024
LOWER LIMIT		65898	6.303	245206	8.238	142411	11.024
=====		=====	=====	=====	=====	=====	=====
LLI SAMPLE							
NO.							
=====		=====	=====	=====	=====	=====	=====
18	8666273	135131	6.803	510906	8.738	288179	11.524
19	8666274	134472	6.803	492162	8.738	278459	11.524
20	8666275	137267	6.803	495611	8.738	279170	11.524
21	8666276	137055	6.803	494540	8.738	278514	11.524

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): dj1031.d Date Analyzed: 10/31/16

Instrument ID: HP19760 Time Analyzed: 07:38

		IS4(PHN)		IS5(PYR)		IS6(PRY)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====	=====
12 HOUR STD		531291	13.413	655341	15.377	597345	19.847
UPPER LIMIT		1062582	13.913	1310682	15.877	1194690	20.347
LOWER LIMIT		265646	12.913	327671	14.877	298673	19.347
=====	=====	=====	=====	=====	=====	=====	=====
LLI SAMPLE							
NO.							
=====	=====	=====	=====	=====	=====	=====	=====
18	8666273	540704	13.407	628966	15.371	503461	19.848
19	8666274	521898	13.407	613911	15.371	476114	19.848
20	8666275	526476	13.407	617289	15.371	488311	19.848
21	8666276	530523	13.407	615017	15.371	496713	19.848

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

Sample Data

Semivolatiles by GC/MS

Fraction: Semivolatiles by GC/MS

14241: 3 SVOCs 8270D Analyte Name	Default MDL	Default LOQ	Units
2,6-Dinitrotoluene	1.0	5.0	ug/l
2,4-Dinitrotoluene	1.0	5.0	ug/l
Diethylphthalate	2.0	5.0	ug/l

R7601

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

8666264

Data file: /chem/HP19760.i/16oct31.b/dj1040.d

Injection date and time: 31-OCT-2016 12:00

Data file Sample Info. Line: R7601;8666264;1;0;SAMPLE;;DRAPERMINI;

Instrument ID: HP19760.i Batch: 16302WAF

Date, time and analyst ID of latest file update: 31-Oct-2016 12:27 Automation

Blank Data file reference: /chem/HP19760.i/16oct31.b/dj1032.d

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time (Last Method Edit): 31-OCT-2016 11:03

Mid Level Daily Calibration Standard Reference: /chem/HP19760.i/16oct31.b/dj1031.d

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1

Unit Correction Factor (Uf): 1

Final Extract Volume (Vt): 1000 ul

Sample Volume (Vo): 249 ml

Volume Injected (Vi): 0.5 ul

Analysis Comments:

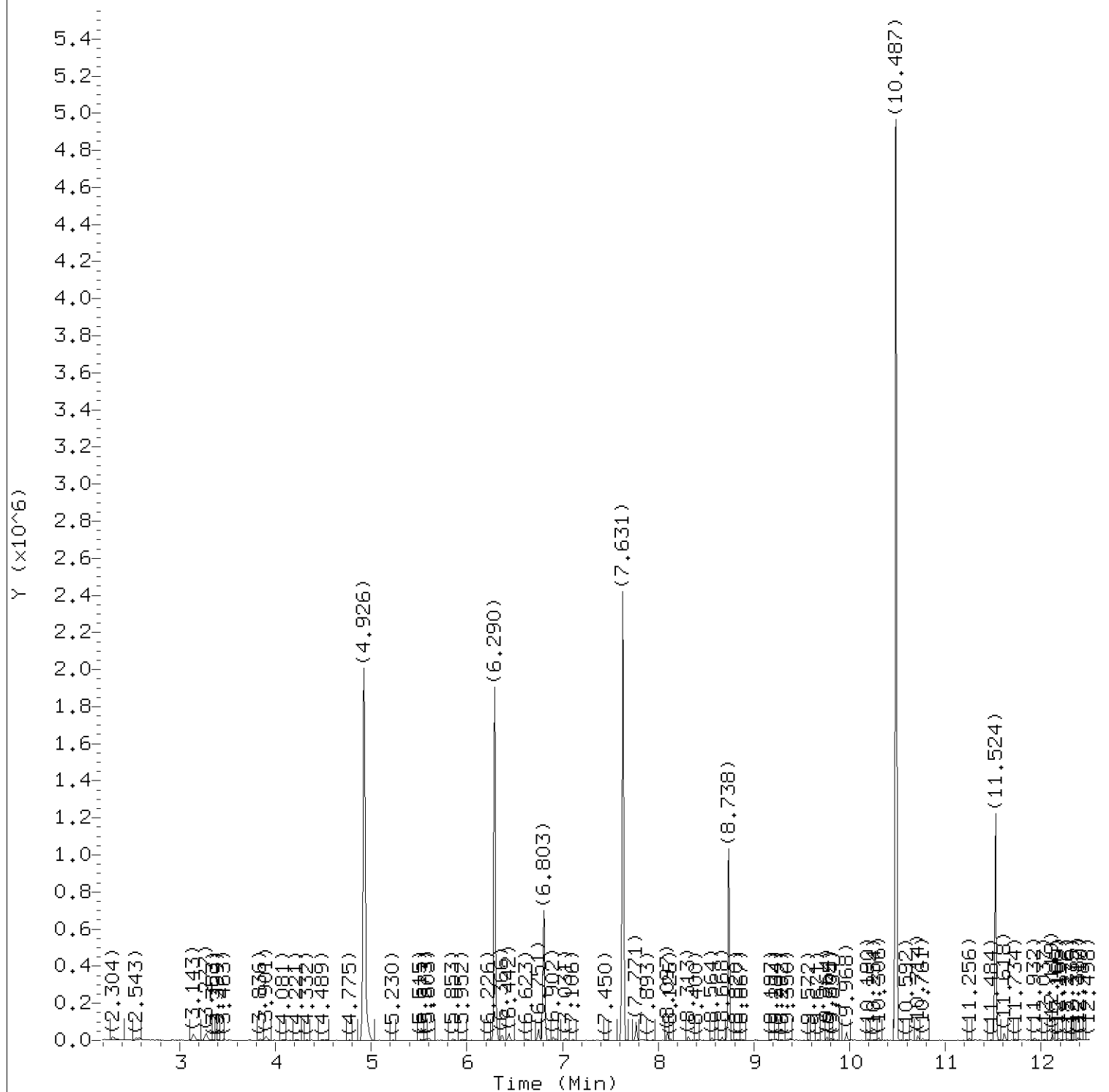
Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
=====	=====	=====	=====	=====	=====	=====
25) 1,4-Dichlorobenzene-d4	6.803 (0.000)	792	152	140081 (6)	5.00	
65) Naphthalene-d8	8.738 (0.000)	1124	136	525586 (7)	5.00	
113) Acenaphthene-d10	11.524 (0.000)	1602	164	296791 (4)	5.00	
153) Phenanthrene-d10	13.407 (0.005)	1925	188	568677 (7)	5.00	
175) Pyrene-d10	15.377 (0.000)	2263	212	676131 (3)	5.00	
213) Perylene-d12	19.848 (0.000)	3030	264	581501 (-3)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
=====	=====	=====	=====	=====	=====	=====	=====	=====
44) Nitrobenzene-d5	(2)	7.631 (0.000)	82	1075498	18.815	75%		70 - 130
93) 2-Fluorobiphenyl	(3)	10.487 (0.000)	172	1921772	22.532	90%		70 - 130
179) Terphenyl-d14	(5)	15.692 (0.000)	244	2381414	24.167	97%		70 - 130

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
108) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
124) Diethylphthalate	(3)			Not Detected					0.5

Total number of targets = 3

Digitally signed by Holly B. Ziegler on 10/31/2016 at 14:00. Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1040.d
Injection date and time: 31-OCT-2016 12:00

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time: 31-OCT-2016 11:03

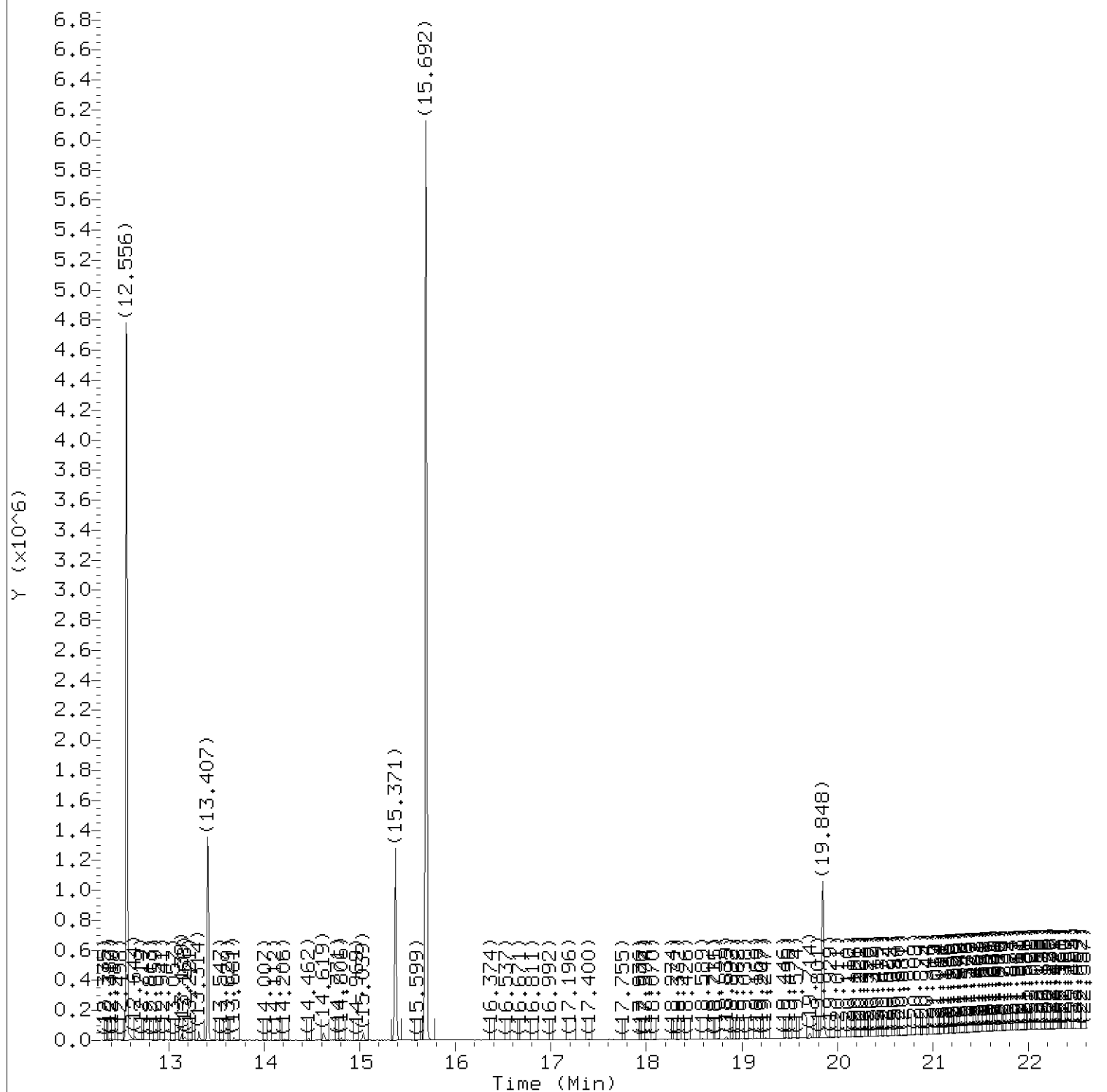
Date, time and analyst ID of latest file update: 31-Oct-2016 12:27 Automation

Sample Name: R7601

Lab Sample ID: 8666264

Digitally signed by Holly B. Ziegler
on 10/31/2016 at 14:00.

Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1040.d
Injection date and time: 31-OCT-2016 12:00

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m
Calibration date and time: 31-OCT-2016 11:03

Sublist used: 22230M

Date, time and analyst ID of latest file update: 31-Oct-2016 12:27 Automation

Sample Name: R7601

Lab Sample ID: 8666264

Digitally signed by Holly B. Ziegler
on 10/31/2016 at 14:00.

Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1040.d
Injection date and time: 31-OCT-2016 12:00

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time: 31-OCT-2016 11:03

Date, time and analyst ID of latest file update: 31-Oct-2016 12:27 Automation

Sample Name: R7601

Lab Sample ID: 8666264

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
25) *1,4-Dichlorobenzene-d4	(1)	6.803	152	140081	5.000
44) \$Nitrobenzene-d5	(2)	7.631	82	1075498	18.815
65) *Naphthalene-d8	(2)	8.738	136	525586	5.000
93) \$2-Fluorobiphenyl	(3)	10.487	172	1921772	22.532
113) *Acenaphthene-d10	(3)	11.524	164	296791	5.000
153) *Phenanthrene-d10	(4)	13.407	188	568677	5.000
175) *Pyrene-d10	(5)	15.377	212	676131	5.000
179) \$Terphenyl-d14	(5)	15.692	244	2381414	24.167
213) *Perylene-d12	(6)	19.848	264	581501	5.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 10/31/2016 at 14:00.

Target 3.5 esignature user ID: hbz01996

R7602

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

8666265

Data file: /chem/HP19760.i/16oct31.b/dj1041.d Injection date and time: **31-OCT-2016 12:28**
Data file Sample Info. Line: R7602;8666265;1;0;SAMPLE;;DRAPERMINI; Instrument ID: **HP19760.i** Batch: **16302WAF**
Date, time and analyst ID of latest file update: 31-Oct-2016 12:55 Automation

Blank Data file reference: /chem/HP19760.i/16oct31.b/dj1032.d

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m Sublist used: **22230M**
Calibration date and time (Last Method Edit): 31-OCT-2016 11:03
Mid Level Daily Calibration Standard Reference: /chem/HP19760.i/16oct31.b/dj1031.d

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
=====	=====	=====	=====	=====	=====	=====
25) 1,4-Dichlorobenzene-d4	6.803(0.000)	792	152	142831 (8)	5.00	
65) Naphthalene-d8	8.738(0.000)	1124	136	530721 (8)	5.00	
113) Acenaphthene-d10	11.524(0.000)	1602	164	302257 (6)	5.00	
153) Phenanthrene-d10	13.407(0.006)	1925	188	569821 (7)	5.00	
175) Pyrene-d10	15.377(0.000)	2263	212	674223 (3)	5.00	
213) Perylene-d12	19.848(0.000)	3030	264	583077 (-2)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
=====	=====	=====	=====	=====	=====	=====	=====	=====
44) Nitrobenzene-d5	(2)	7.631(0.000)	82	968896	16.786	67%	*	70 - 130
93) 2-Fluorobiphenyl	(3)	10.487(0.000)	172	1713655	19.729	79%		70 - 130
179) Terphenyl-d14	(5)	15.692(0.000)	244	2034837	20.708	83%		70 - 130

* = Surrogate Standard % recovery outside QC limits.

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
108) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
124) Diethylphthalate	(3)			Not Detected					0.5

Total number of targets = 3

Digitally signed by Holly B. Ziegler on 10/31/2016 at 14:00. Target 3.5 esignature user ID: hbz01996

Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1041.d
Injection date and time: 31-OCT-2016 12:28

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time: 31-OCT-2016 11:03

```
Date, time and analyst ID of latest file update: 31-Oct-2016 12:55 Automation
```

Sample Name: R7602

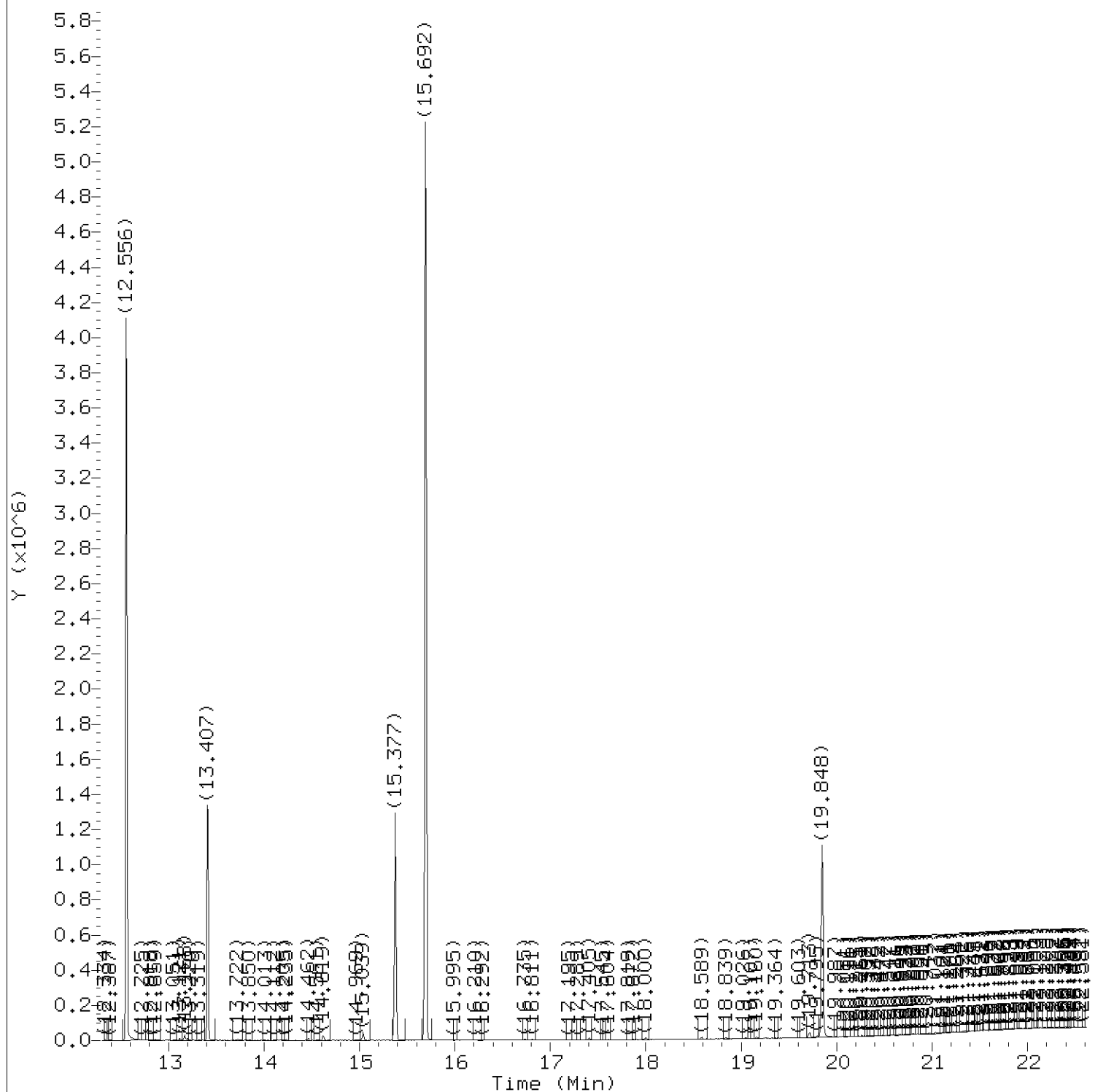
Lab Sample ID: 8666265

Digitally signed by Holly B. Ziegler
on 10/31/2016 at 14:00.

Target 3.5 esignature user ID: hbz01996

Target 3.5 esignature user ID: hbz01996

page 1 of 2



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1041.d
Injection date and time: 31-OCT-2016 12:28

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m
Calibration date and time: 31-OCT-2016 11:03

Sublist used: 22230M

Date, time and analyst ID of latest file update: 31-Oct-2016 12:55 Automation

Sample Name: R7602

Lab Sample ID: 8666265

Digitally signed by Holly B. Ziegler
on 10/31/2016 at 14:00.

Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1041.d

Instrument ID: HP19760.i

Injection date and time: 31-OCT-2016 12:28

Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time: 31-OCT-2016 11:03

Date, time and analyst ID of latest file update: 31-Oct-2016 12:55 Automation

Sample Name: R7602

Lab Sample ID: 8666265

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
25) *1,4-Dichlorobenzene-d4	(1)	6.803	152	142831	5.000
44) \$Nitrobenzene-d5	(2)	7.631	82	968896	16.786
65) *Naphthalene-d8	(2)	8.738	136	530721	5.000
93) \$2-Fluorobiphenyl	(3)	10.487	172	1713655	19.729
113) *Acenaphthene-d10	(3)	11.524	164	302257	5.000
153) *Phenanthrene-d10	(4)	13.407	188	569821	5.000
175) *Pyrene-d10	(5)	15.377	212	674223	5.000
179) \$Terphenyl-d14	(5)	15.692	244	2034837	20.708
213) *Perylene-d12	(6)	19.848	264	583077	5.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler

on 10/31/2016 at 14:00.

Target 3.5 esignature user ID: hbz01996

R7603

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

8666266

Data file: /chem/HP19760.i/16oct31.b/dj1042.d Injection date and time: **31-OCT-2016 12:56**
Data file Sample Info. Line: R7603;8666266;1;0;SAMPLE;;DRAPERMINI; Instrument ID: **HP19760.i** Batch: **16302WAF**
Date, time and analyst ID of latest file update: 31-Oct-2016 13:23 Automation

Blank Data file reference: /chem/HP19760.i/16oct31.b/dj1032.d

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m Sublist used: **22230M**
Calibration date and time (Last Method Edit): 31-OCT-2016 11:03
Mid Level Daily Calibration Standard Reference: /chem/HP19760.i/16oct31.b/dj1031.d

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

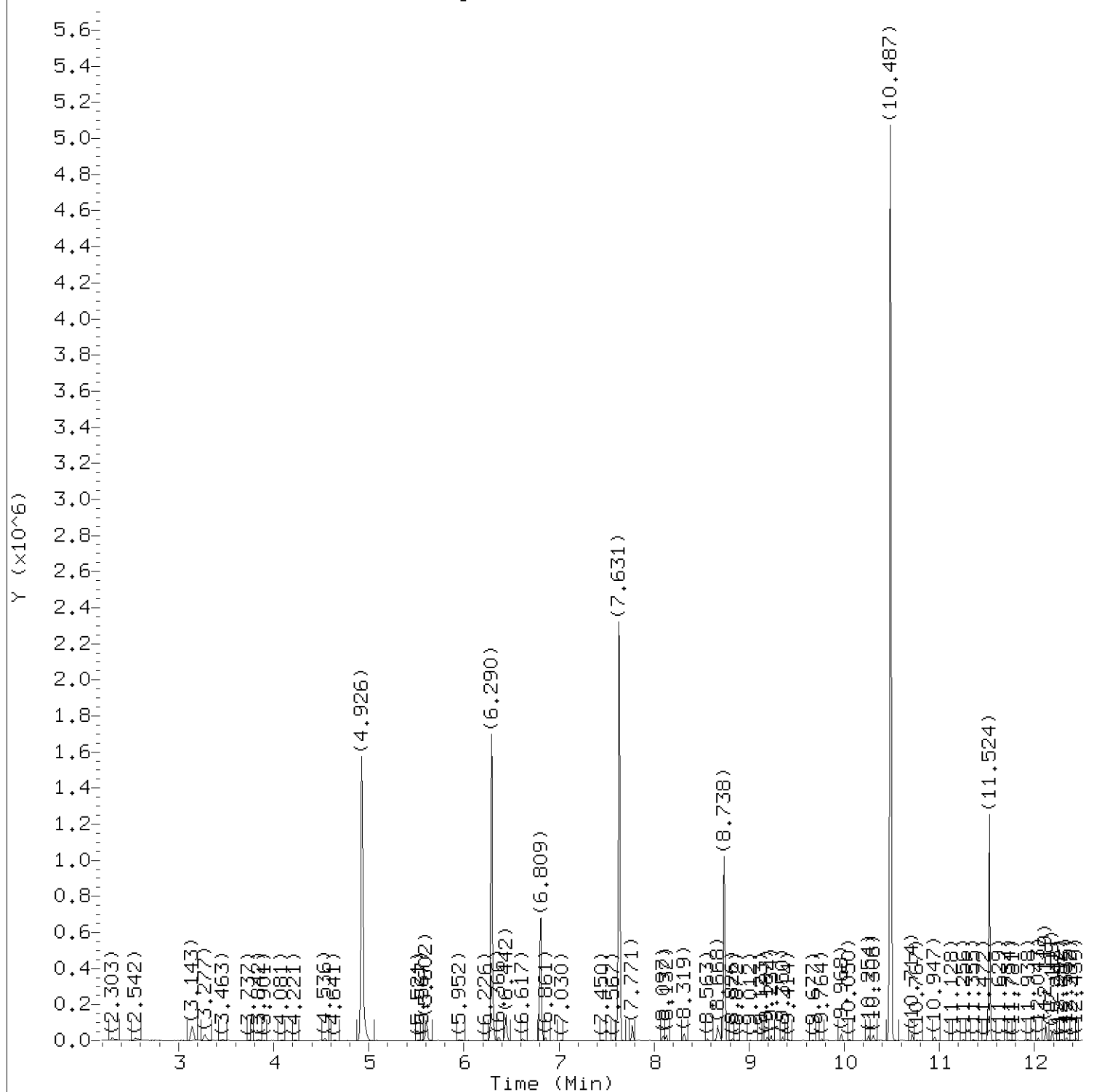
Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
=====	=====	=====	=====	=====	=====	=====
25) 1,4-Dichlorobenzene-d4	6.809(-0.006)	793	152	142704 (8)	5.00	
65) Naphthalene-d8	8.738(0.000)	1124	136	519968 (6)	5.00	
113) Acenaphthene-d10	11.524(0.000)	1602	164	294458 (3)	5.00	
153) Phenanthrene-d10	13.407(0.006)	1925	188	556783 (5)	5.00	
175) Pyrene-d10	15.377(0.000)	2263	212	671335 (2)	5.00	
213) Perylene-d12	19.848(0.000)	3030	264	562776 (-6)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
=====	=====	=====	=====	=====	=====	=====	=====	=====
44) Nitrobenzene-d5	(2)	7.631(0.000)	82	1050351	18.574	74%		70 - 130
93) 2-Fluorobiphenyl	(3)	10.487(0.000)	172	1856633	21.941	88%		70 - 130
179) Terphenyl-d14	(5)	15.698(0.000)	244	2443110	24.970	100%		70 - 130

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
108) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
124) Diethylphthalate	(3)			Not Detected					0.5

Total number of targets = 3

Digitally signed by Holly B. Ziegler on 10/31/2016 at 14:00. Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1042.d
Injection date and time: 31-OCT-2016 12:56

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m
Calibration date and time: 31-OCT-2016 11:03

Sublist used: 22230M

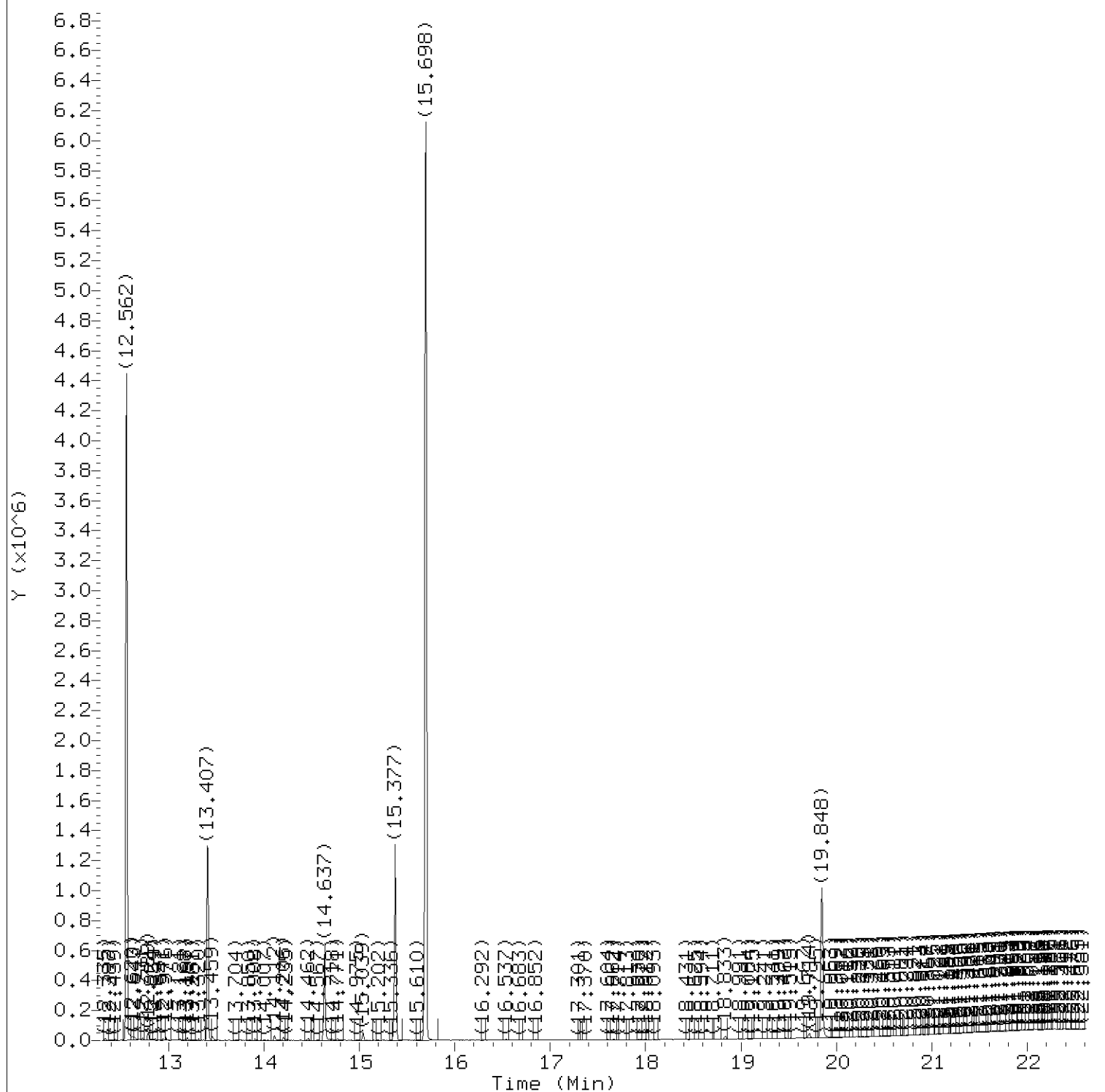
Date, time and analyst ID of latest file update: 31-Oct-2016 13:23 Automation

Sample Name: R7603

Lab Sample ID: 8666266

Digitally signed by Holly B. Ziegler
on 10/31/2016 at 14:00.

Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1042.d
Injection date and time: 31-OCT-2016 12:56

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time: 31-OCT-2016 11:03

Date, time and analyst ID of latest file update: 31-Oct-2016 13:23 Automation

Sample Name: R7603

Lab Sample ID: 8666266

Digitally signed by Holly B. Ziegler
on 10/31/2016 at 14:00.

Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1042.d

Instrument ID: HP19760.i

Injection date and time: 31-OCT-2016 12:56

Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time: 31-OCT-2016 11:03

Date, time and analyst ID of latest file update: 31-Oct-2016 13:23 Automation

Sample Name: R7603

Lab Sample ID: 8666266

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
25) *1,4-Dichlorobenzene-d4	(1)	6.809	152	142704	5.000
44) \$Nitrobenzene-d5	(2)	7.631	82	1050351	18.574
65) *Naphthalene-d8	(2)	8.738	136	519968	5.000
93) \$2-Fluorobiphenyl	(3)	10.487	172	1856633	21.941
113) *Acenaphthene-d10	(3)	11.524	164	294458	5.000
153) *Phenanthrene-d10	(4)	13.407	188	556783	5.000
175) *Pyrene-d10	(5)	15.377	212	671335	5.000
179) \$Terphenyl-d14	(5)	15.698	244	2443110	24.970
213) *Perylene-d12	(6)	19.848	264	562776	5.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler

on 10/31/2016 at 14:00.

Target 3.5 esignature user ID: hbz01996

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R7604

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

8666267

Data file: /chem/HP19760.i/16oct31.b/dj1043.d Injection date and time: **31-OCT-2016 13:24**
Data file Sample Info. Line: R7604;8666267;1;0;SAMPLE;;DRAPERMINI; Instrument ID: **HP19760.i** Batch: **16302WAF**
Date, time and analyst ID of latest file update: 31-Oct-2016 13:51 Automation

Blank Data file reference: /chem/HP19760.i/16oct31.b/dj1032.d

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m Sublist used: **22230M**
Calibration date and time (Last Method Edit): 31-OCT-2016 11:03
Mid Level Daily Calibration Standard Reference: /chem/HP19760.i/16oct31.b/dj1031.d

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

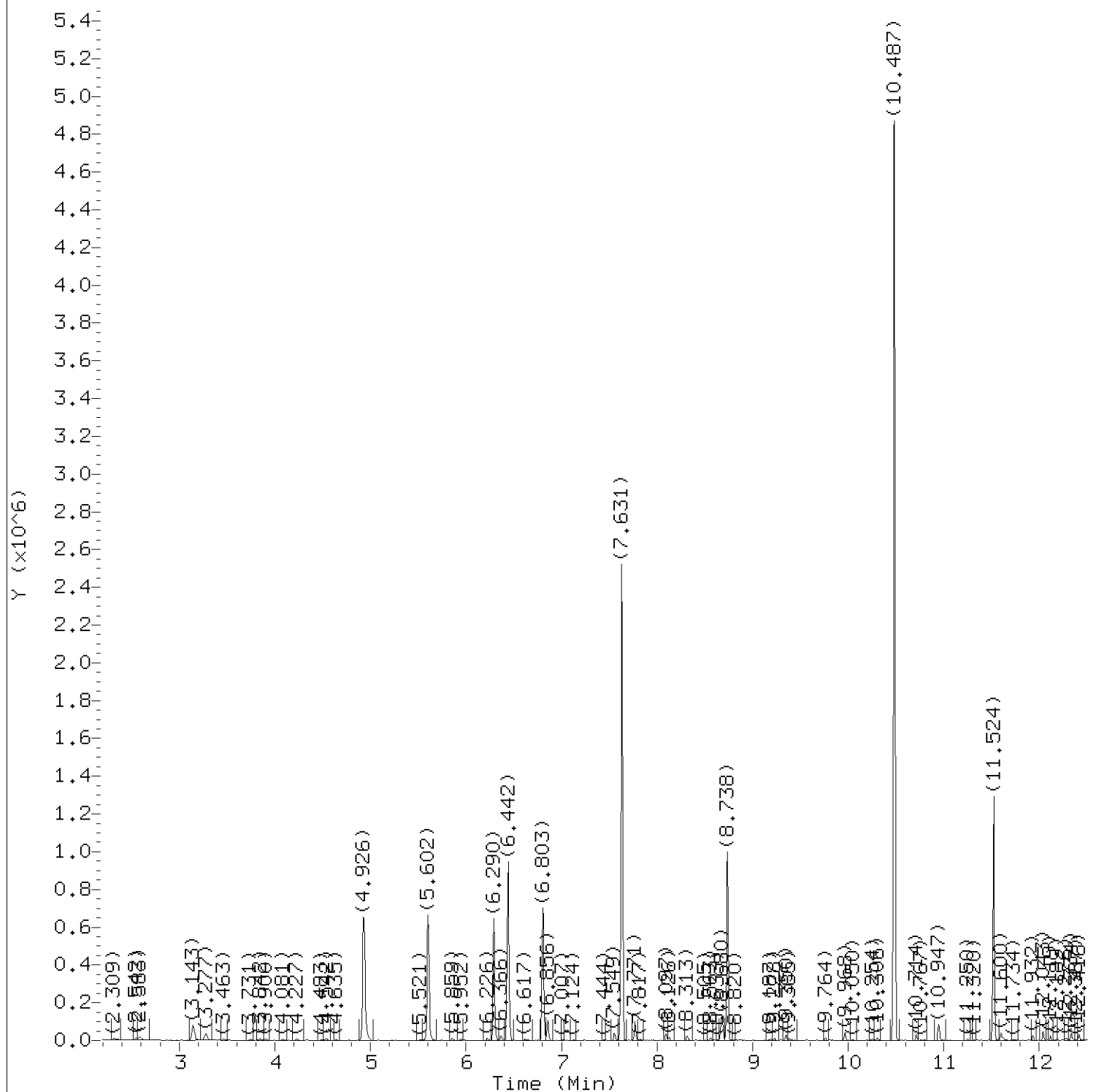
Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
=====	=====	=====	=====	=====	=====	=====
25) 1,4-Dichlorobenzene-d4	6.803 (0.000)	792	152	140922 (7)	5.00	
65) Naphthalene-d8	8.738 (0.000)	1124	136	526668 (7)	5.00	
113) Acenaphthene-d10	11.524 (0.000)	1602	164	291616 (2)	5.00	
153) Phenanthrene-d10	13.407 (0.006)	1925	188	566080 (7)	5.00	
175) Pyrene-d10	15.377 (0.000)	2263	212	674618 (3)	5.00	
213) Perylene-d12	19.848 (0.000)	3030	264	590500 (-1)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
=====	=====	=====	=====	=====	=====	=====	=====	=====
44) Nitrobenzene-d5	(2)	7.631 (0.000)	82	1076334	18.791	75%		70 - 130
93) 2-Fluorobiphenyl	(3)	10.487 (0.000)	172	1906766	22.753	91%		70 - 130
179) Terphenyl-d14	(5)	15.692 (0.000)	244	2349583	23.898	96%		70 - 130

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
108) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
124) Diethylphthalate	(3)			Not Detected					0.5

Total number of targets = 3

Digitally signed by Holly B. Ziegler on 10/31/2016 at 14:00. Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1043.d
Injection date and time: 31-OCT-2016 13:24

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m
Calibration date and time: 31-OCT-2016 11:03

Sublist used: 22230M

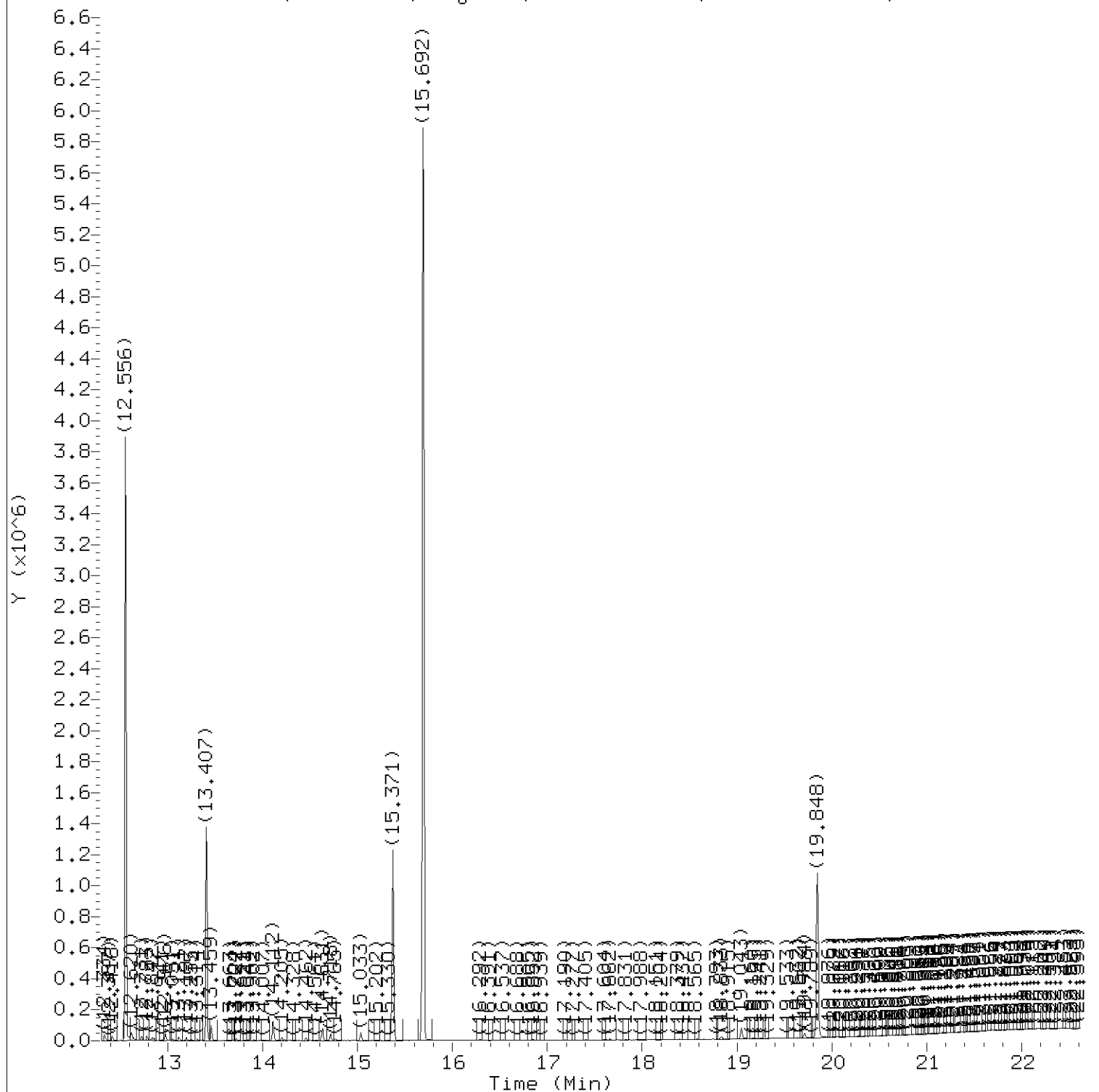
Date, time and analyst ID of latest file update: 31-Oct-2016 13:51 Automation

Sample Name: R7604

Lab Sample ID: 8666267

Digitally signed by Holly B. Ziegler
on 10/31/2016 at 14:00.

Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1043.d
Injection date and time: 31-OCT-2016 13:24

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m
Calibration date and time: 31-OCT-2016 11:03

Sublist used: 22230M

Date, time and analyst ID of latest file update: 31-Oct-2016 13:51 Automation

Sample Name: R7604

Lab Sample ID: 8666267

Digitally signed by Holly B. Ziegler
on 10/31/2016 at 14:00.

Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1043.d

Instrument ID: HP19760.i

Injection date and time: 31-OCT-2016 13:24

Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time: 31-OCT-2016 11:03

Date, time and analyst ID of latest file update: 31-Oct-2016 13:51 Automation

Sample Name: R7604

Lab Sample ID: 8666267

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
25) *1,4-Dichlorobenzene-d4	(1)	6.803	152	140922	5.000
44) \$Nitrobenzene-d5	(2)	7.631	82	1076334	18.791
65) *Naphthalene-d8	(2)	8.738	136	526668	5.000
93) \$2-Fluorobiphenyl	(3)	10.487	172	1906766	22.753
113) *Acenaphthene-d10	(3)	11.524	164	291616	5.000
153) *Phenanthrene-d10	(4)	13.407	188	566080	5.000
175) *Pyrene-d10	(5)	15.377	212	674618	5.000
179) \$Terphenyl-d14	(5)	15.692	244	2349583	23.898
213) *Perylene-d12	(6)	19.848	264	590500	5.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler

on 10/31/2016 at 14:00.

Target 3.5 esignature user ID: hbz01996

R7605

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

8666270

Data file: /chem/HP19760.i/16oct31.b/dj1046.d Injection date and time: **31-OCT-2016 16:12**
Data file Sample Info. Line: R7605;8666270;1;0;SAMPLE;;DRAPERMINI; Instrument ID: **HP19760.i** Batch: **16302WAF**
Date, time and analyst ID of latest file update: 31-Oct-2016 16:39 Automation

Blank Data file reference: /chem/HP19760.i/16oct31.b/dj1032.d

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m Sublist used: **22230M**
Calibration date and time (Last Method Edit): 31-OCT-2016 11:03
Mid Level Daily Calibration Standard Reference: /chem/HP19760.i/16oct31.b/dj1031.d

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

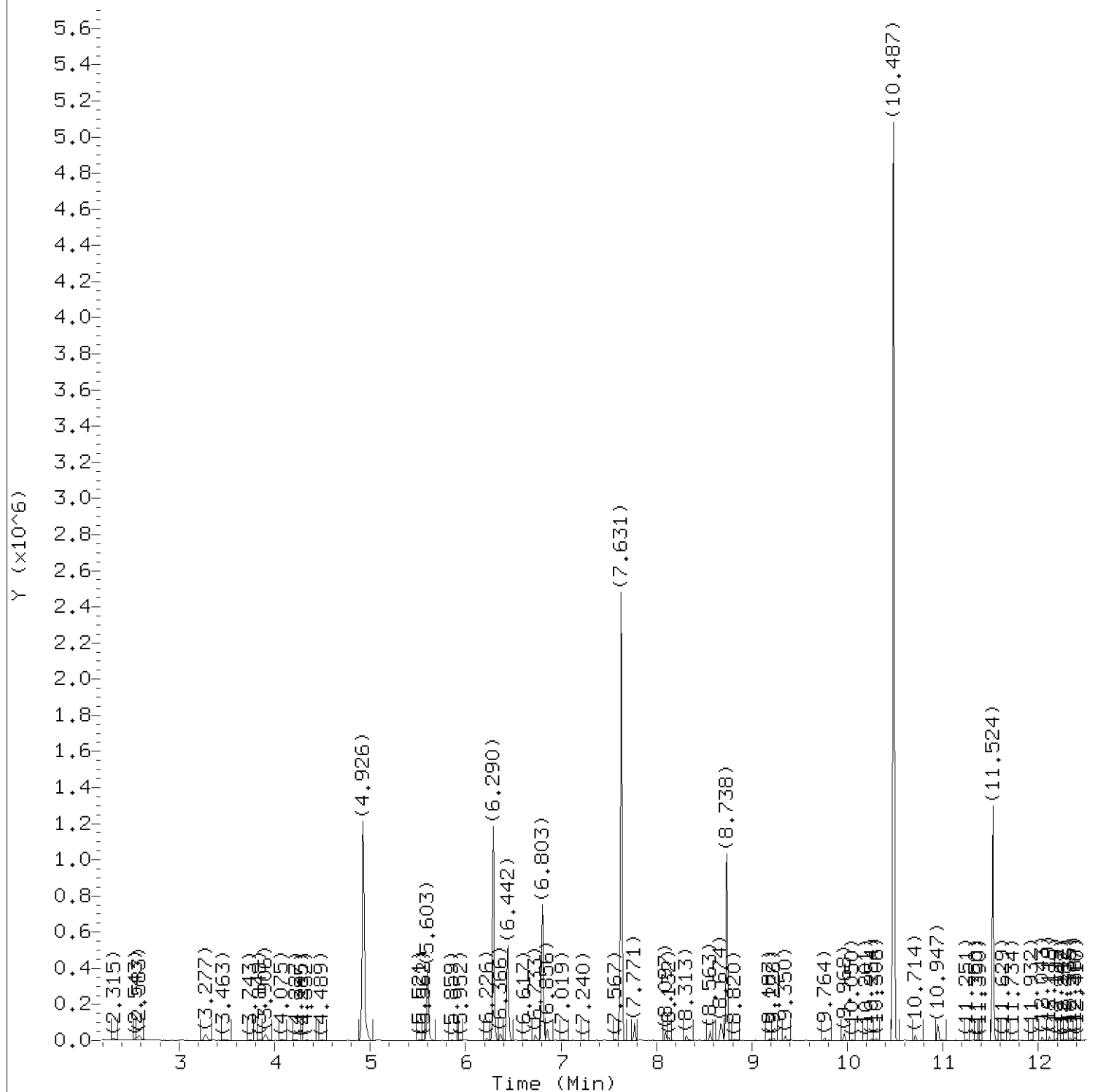
Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
=====	=====	=====	=====	=====	=====	=====
25) 1,4-Dichlorobenzene-d4	6.803 (0.000)	792	152	146577 (11)	5.00	
65) Naphthalene-d8	8.738 (0.000)	1124	136	544502 (11)	5.00	
113) Acenaphthene-d10	11.524 (0.000)	1602	164	306093 (7)	5.00	
153) Phenanthrene-d10	13.413 (0.000)	1926	188	582508 (10)	5.00	
175) Pyrene-d10	15.377 (0.000)	2263	212	698363 (7)	5.00	
213) Perylene-d12	19.848 (0.000)	3030	264	597585 (0)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
=====	=====	=====	=====	=====	=====	=====	=====	=====
44) Nitrobenzene-d5	(2)	7.631 (0.000)	82	1080566	18.247	73%		70 - 130
93) 2-Fluorobiphenyl	(3)	10.487 (0.000)	172	1895176	21.545	86%		70 - 130
179) Terphenyl-d14	(5)	15.692 (0.000)	244	2023146	19.878	80%		70 - 130

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
108) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
124) Diethylphthalate	(3)			Not Detected					0.5

Total number of targets = 3

Digitally signed by Anthony P. Bauer on 10/31/2016 at 23:26. Target 3.5 esignature user ID: apb10206



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1046.d
Injection date and time: 31-OCT-2016 16:12

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m
Calibration date and time: 31-OCT-2016 11:03

Sublist used: 22230M

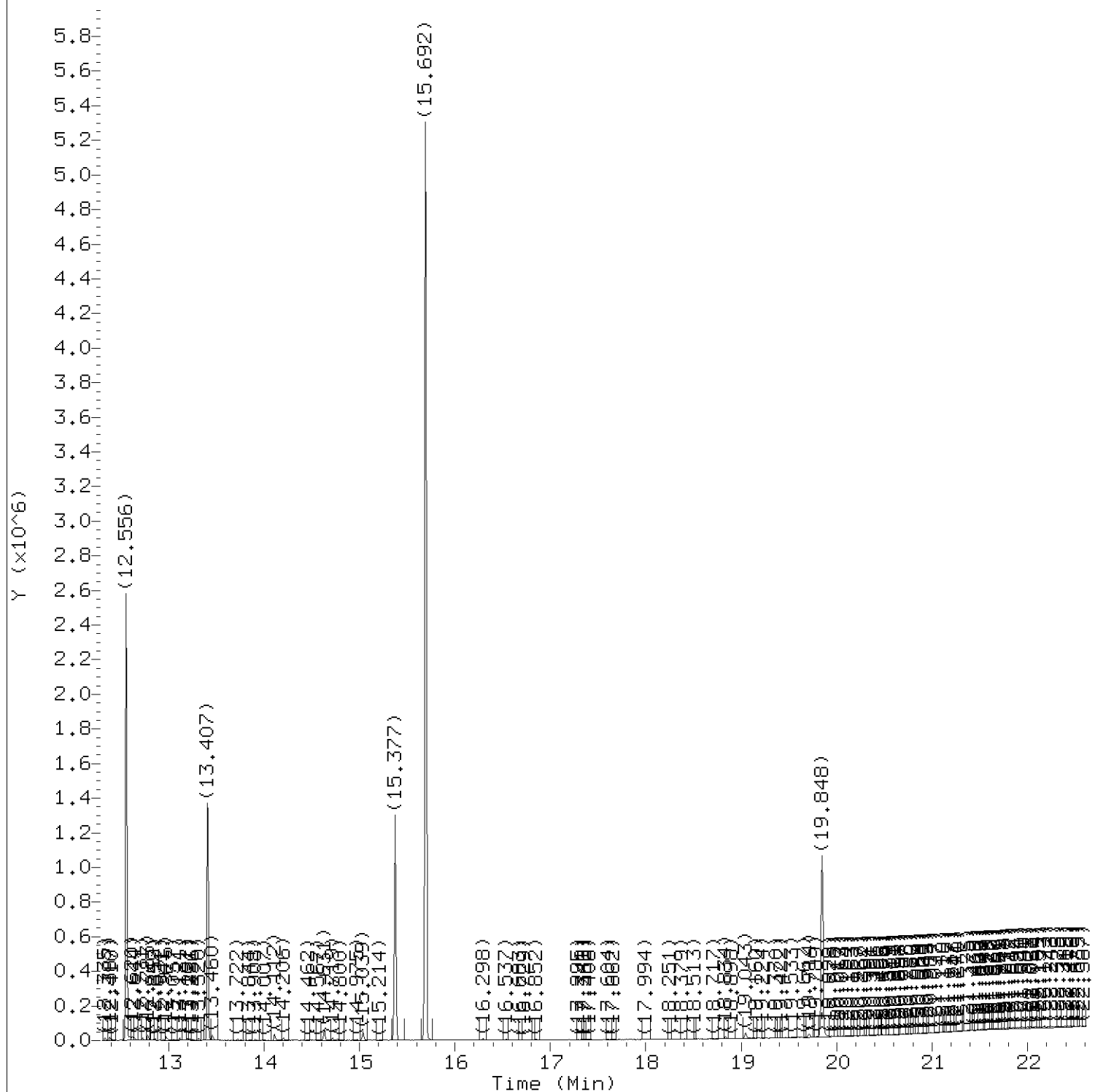
Date, time and analyst ID of latest file update: 31-Oct-2016 16:39 Automation

Sample Name: R7605

Lab Sample ID: 8666270

Digitally signed by Anthony P. Bauer
on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1046.d
Injection date and time: 31-OCT-2016 16:12

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m
Calibration date and time: 31-OCT-2016 11:03

Sublist used: 22230M

Date, time and analyst ID of latest file update: 31-Oct-2016 16:39 Automation

Sample Name: R7605

Lab Sample ID: 8666270

Digitally signed by Anthony P. Bauer
on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1046.d

Instrument ID: HP19760.i

Injection date and time: 31-OCT-2016 16:12

Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time: 31-OCT-2016 11:03

Date, time and analyst ID of latest file update: 31-Oct-2016 16:39 Automation

Sample Name: R7605

Lab Sample ID: 8666270

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
25) *1,4-Dichlorobenzene-d4	(1)	6.803	152	146577	5.000
44) \$Nitrobenzene-d5	(2)	7.631	82	1080566	18.247
65) *Naphthalene-d8	(2)	8.738	136	544502	5.000
93) \$2-Fluorobiphenyl	(3)	10.487	172	1895176	21.545
113) *Acenaphthene-d10	(3)	11.524	164	306093	5.000
153) *Phenanthrene-d10	(4)	13.413	188	582508	5.000
175) *Pyrene-d10	(5)	15.377	212	698363	5.000
179) \$Terphenyl-d14	(5)	15.692	244	2023146	19.878
213) *Perylene-d12	(6)	19.848	264	597585	5.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Digitally signed by Anthony P. Bauer

on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206

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page 1 of 1

R7606

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

8666271

Data file: /chem/HP19760.i/16oct31.b/dj1047.d Injection date and time: **31-OCT-2016 16:40**
Data file Sample Info. Line: R7606;8666271;1;0;SAMPLE;;DRAPERMINI; Instrument ID: **HP19760.i** Batch: **16302WAF**
Date, time and analyst ID of latest file update: 31-Oct-2016 17:07 Automation

Blank Data file reference: /chem/HP19760.i/16oct31.b/dj1032.d

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m Sublist used: **22230M**
Calibration date and time (Last Method Edit): 31-OCT-2016 11:03
Mid Level Daily Calibration Standard Reference: /chem/HP19760.i/16oct31.b/dj1031.d

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
=====	=====	=====	=====	=====	=====	=====
25) 1,4-Dichlorobenzene-d4	6.803(0.000)	792	152	140647 (7)	5.00	
65) Naphthalene-d8	8.738(0.000)	1124	136	529327 (8)	5.00	
113) Acenaphthene-d10	11.524(0.000)	1602	164	294556 (3)	5.00	
153) Phenanthrene-d10	13.407(0.006)	1925	188	559529 (5)	5.00	
175) Pyrene-d10	15.377(0.000)	2263	212	664783 (1)	5.00	
213) Perylene-d12	19.848(0.000)	3030	264	566334 (-5)	5.00	

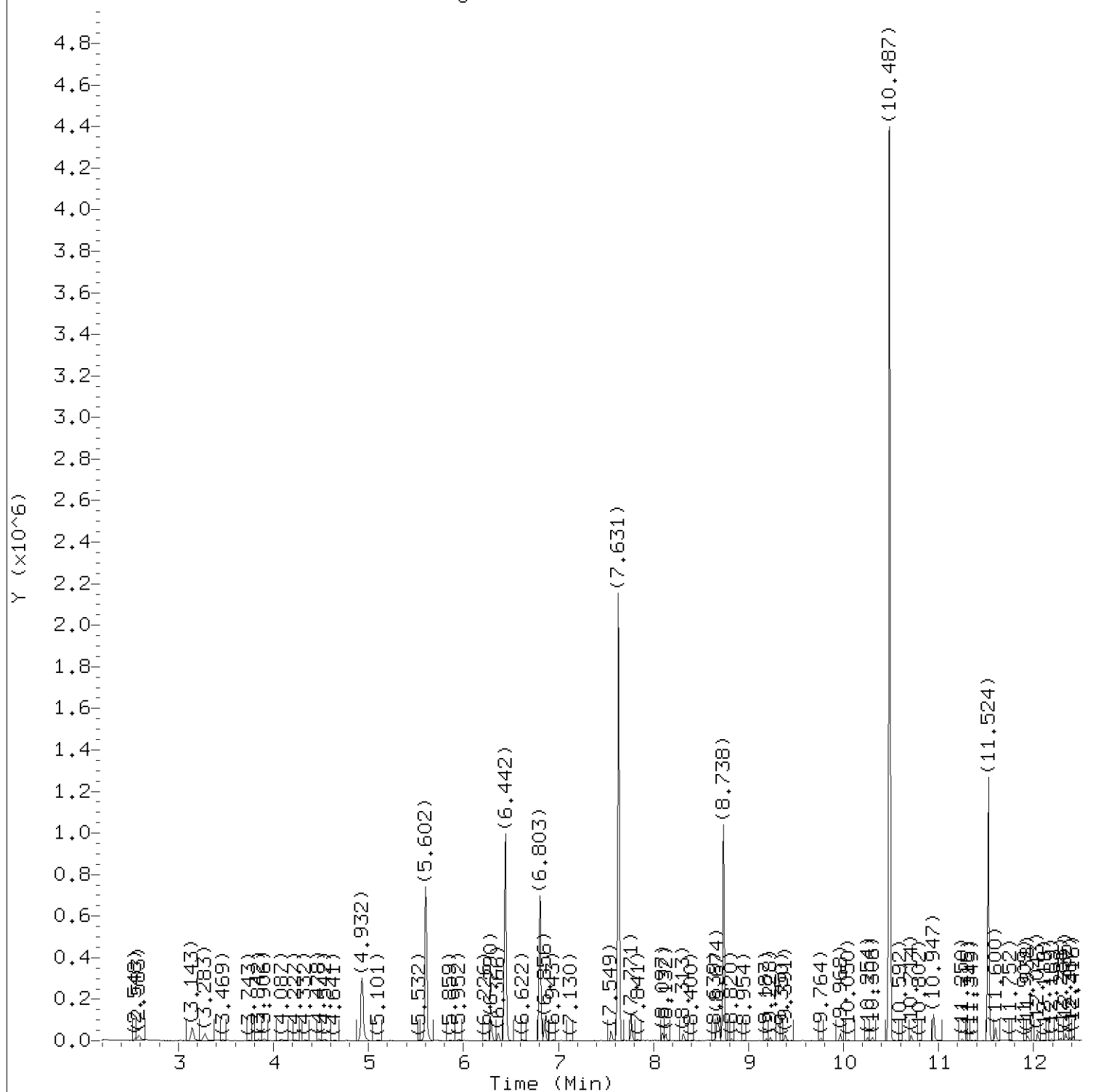
Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
=====	=====	=====	=====	=====	=====	=====	=====	=====
44) Nitrobenzene-d5	(2)	7.631(0.000)	82	960911	16.692	67%	*	70 - 130
93) 2-Fluorobiphenyl	(3)	10.487(0.000)	172	1698430	20.064	80%		70 - 130
179) Terphenyl-d14	(5)	15.692(0.000)	244	2156270	22.256	89%		70 - 130

* = Surrogate Standard % recovery outside QC limits.

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
108) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
124) Diethylphthalate	(3)			Not Detected					0.5

Total number of targets = 3

Digitally signed by Anthony P. Bauer on 10/31/2016 at 23:26. Target 3.5 esignature user ID: apb10206



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1047.d
Injection date and time: 31-OCT-2016 16:40

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m
Calibration date and time: 31-OCT-2016 11:03

Sublist used: 22230M

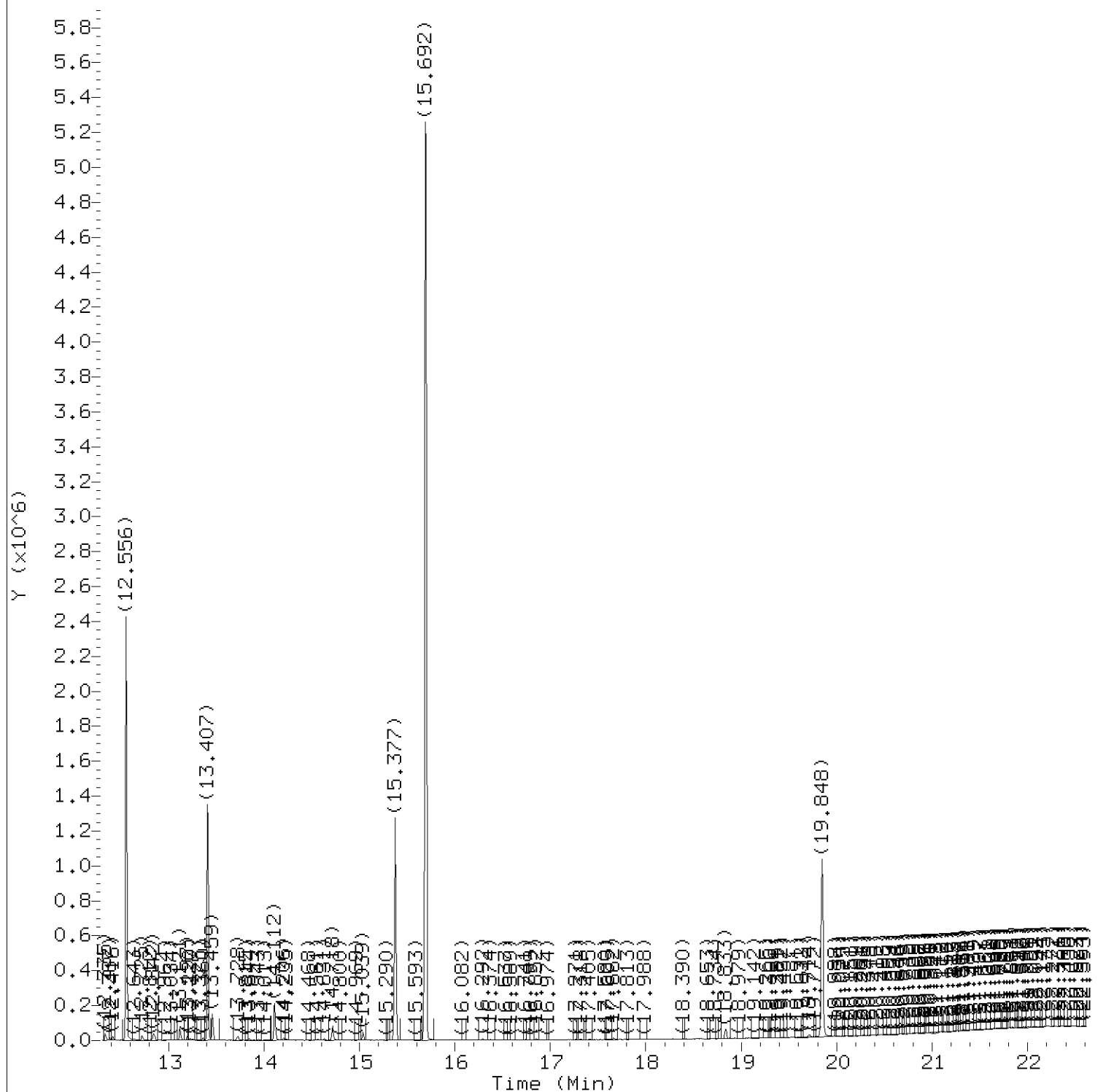
Date, time and analyst ID of latest file update: 31-Oct-2016 17:07 Automation

Sample Name: R7606

Lab Sample ID: 8666271

Digitally signed by Anthony P. Bauer
on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1047.d
Injection date and time: 31-OCT-2016 16:40

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m
Calibration date and time: 31-OCT-2016 11:03

Sublist used: 22230M

Date, time and analyst ID of latest file update: 31-Oct-2016 17:07 Automation

Sample Name: R7606

Lab Sample ID: 8666271

Digitally signed by Anthony P. Bauer
on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1047.d

Instrument ID: HP19760.i

Injection date and time: 31-OCT-2016 16:40

Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time: 31-OCT-2016 11:03

Date, time and analyst ID of latest file update: 31-Oct-2016 17:07 Automation

Sample Name: R7606

Lab Sample ID: 8666271

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
25) *1,4-Dichlorobenzene-d4	(1)	6.803	152	140647	5.000
44) \$Nitrobenzene-d5	(2)	7.631	82	960911	16.692
65) *Naphthalene-d8	(2)	8.738	136	529327	5.000
93) \$2-Fluorobiphenyl	(3)	10.487	172	1698430	20.064
113) *Acenaphthene-d10	(3)	11.524	164	294556	5.000
153) *Phenanthrene-d10	(4)	13.407	188	559529	5.000
175) *Pyrene-d10	(5)	15.377	212	664783	5.000
179) \$Terphenyl-d14	(5)	15.692	244	2156270	22.256
213) *Perylene-d12	(6)	19.848	264	566334	5.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Digitally signed by Anthony P. Bauer

on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206

R7607

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

8666272

Data file: /chem/HP19760.i/16oct31.b/dj1048.d Injection date and time: **31-OCT-2016 17:08**
Data file Sample Info. Line: R7607;8666272;1;0;SAMPLE;;DRAPERMINI; Instrument ID: **HP19760.i** Batch: **16302WAF**
Date, time and analyst ID of latest file update: 31-Oct-2016 17:35 Automation

Blank Data file reference: /chem/HP19760.i/16oct31.b/dj1032.d

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m Sublist used: **22230M**
Calibration date and time (Last Method Edit): 31-OCT-2016 11:03
Mid Level Daily Calibration Standard Reference: /chem/HP19760.i/16oct31.b/dj1031.d

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

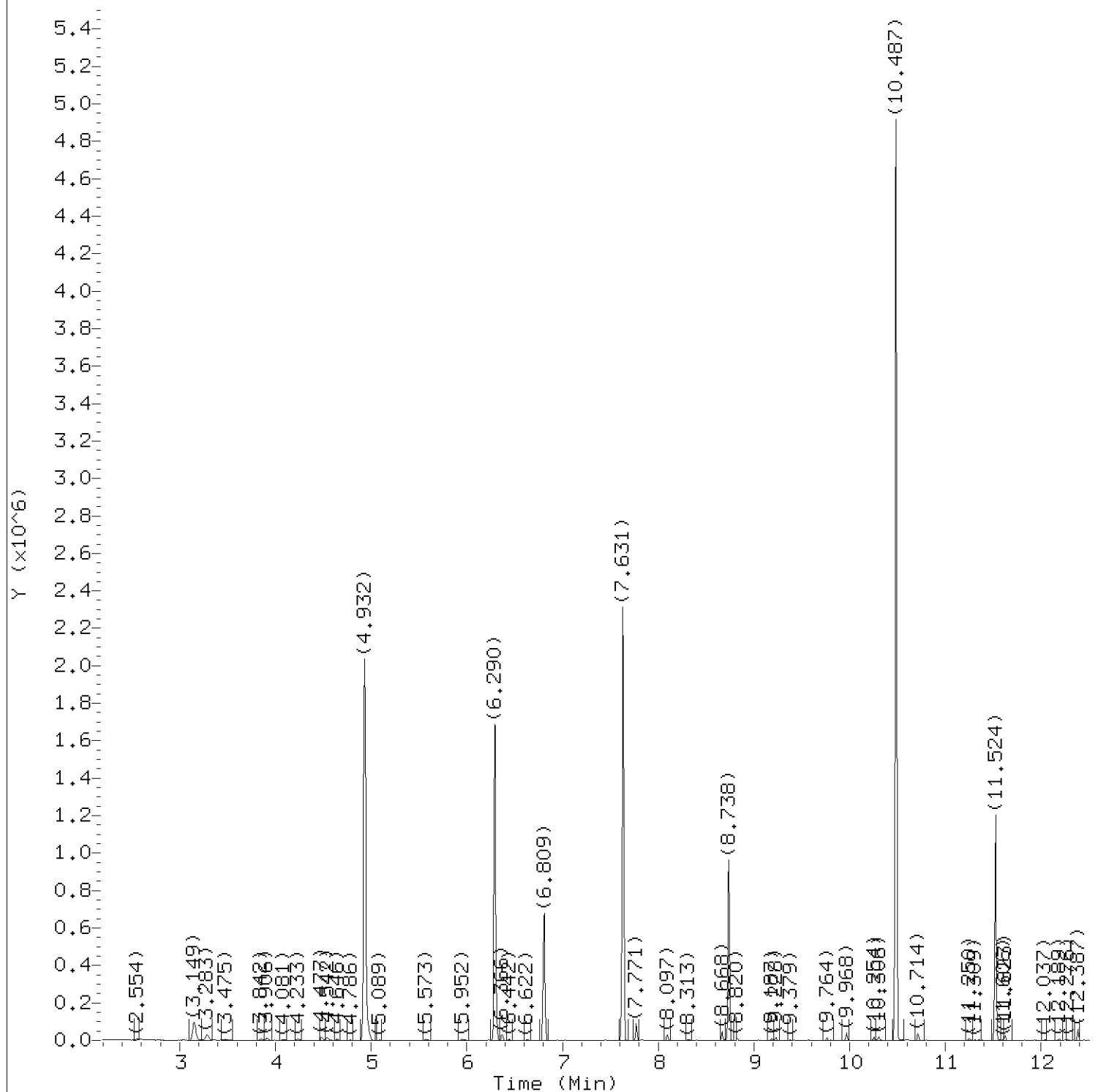
Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
=====	=====	=====	=====	=====	=====	=====
25) 1,4-Dichlorobenzene-d4	6.809(-0.006)	793	152	139654 (6)	5.00	
65) Naphthalene-d8	8.738(0.000)	1124	136	501150 (2)	5.00	
113) Acenaphthene-d10	11.524(0.000)	1602	164	281231 (-1)	5.00	
153) Phenanthrene-d10	13.407(0.006)	1925	188	540474 (2)	5.00	
175) Pyrene-d10	15.371(0.006)	2262	212	630433 (-4)	5.00	
213) Perylene-d12	19.848(0.000)	3030	264	518748 (-13)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
=====	=====	=====	=====	=====	=====	=====	=====	=====
44) Nitrobenzene-d5	(2)	7.631(0.000)	82	1023498	18.779	75%		70 - 130
93) 2-Fluorobiphenyl	(3)	10.487(0.000)	172	1811788	22.418	90%		70 - 130
179) Terphenyl-d14	(5)	15.692(0.000)	244	2266706	24.670	99%		70 - 130

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
108) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
124) Diethylphthalate	(3)			Not Detected					0.5

Total number of targets = 3

Digitally signed by Anthony P. Bauer on 10/31/2016 at 23:26. Target 3.5 esignature user ID: apb10206



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1048.d
Injection date and time: 31-OCT-2016 17:08

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m
Calibration date and time: 31-OCT-2016 11:03

Sublist used: 22230M

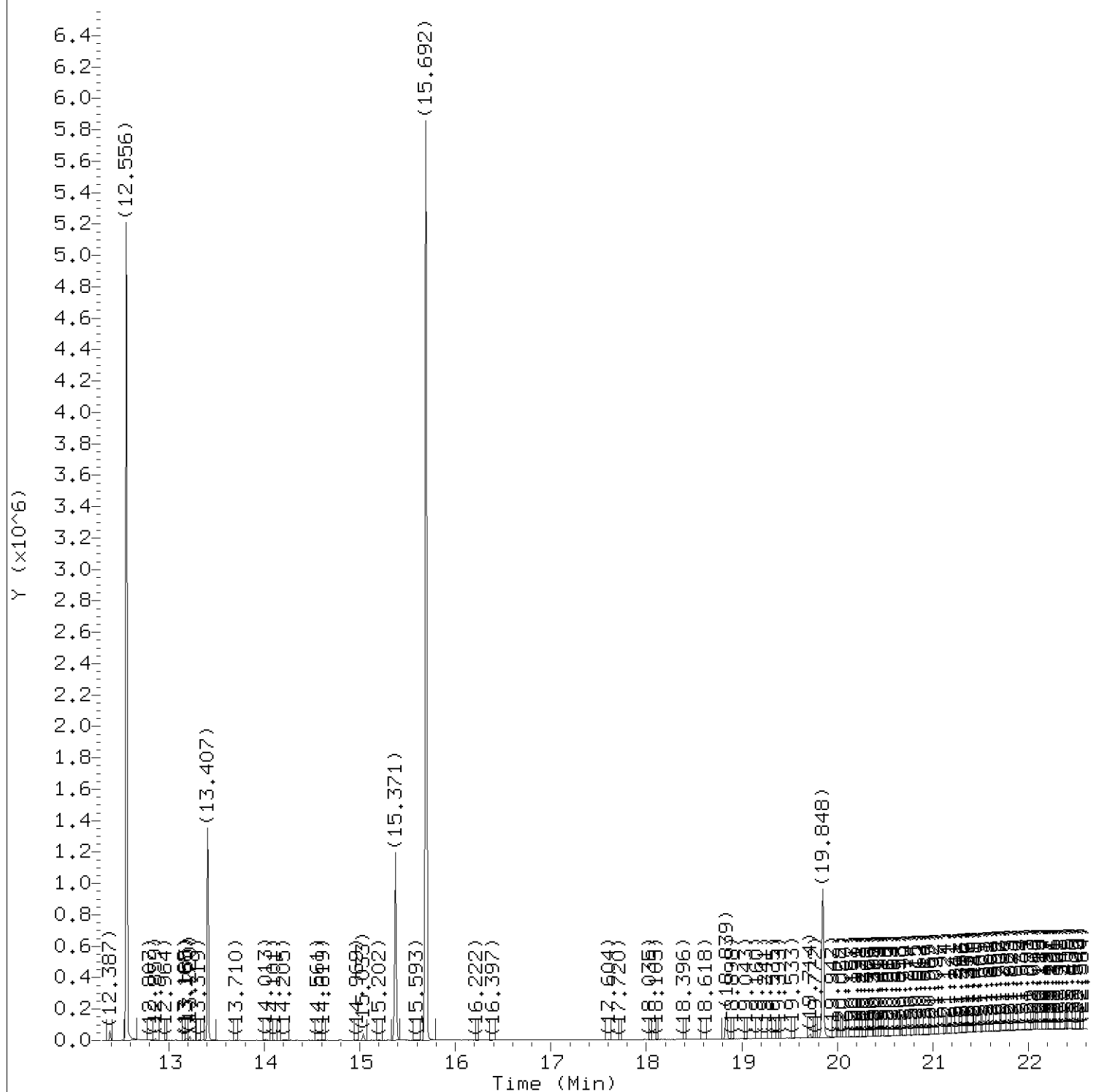
Date, time and analyst ID of latest file update: 31-Oct-2016 17:35 Automation

Sample Name: R7607

Lab Sample ID: 8666272

Digitally signed by Anthony P. Bauer
on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1048.d
Injection date and time: 31-OCT-2016 17:08

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m
Calibration date and time: 31-OCT-2016 11:03

Sublist used: 22230M

Date, time and analyst ID of latest file update: 31-Oct-2016 17:35 Automation

Sample Name: R7607

Lab Sample ID: 8666272

Digitally signed by Anthony P. Bauer
on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1048.d
Injection date and time: 31-OCT-2016 17:08

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time: 31-OCT-2016 11:03

Date, time and analyst ID of latest file update: 31-Oct-2016 17:35 Automation

Sample Name: R7607

Lab Sample ID: 8666272

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
25) *1,4-Dichlorobenzene-d4	(1)	6.809	152	139654	5.000
44) \$Nitrobenzene-d5	(2)	7.631	82	1023498	18.779
65) *Naphthalene-d8	(2)	8.738	136	501150	5.000
93) \$2-Fluorobiphenyl	(3)	10.487	172	1811788	22.418
113) *Acenaphthene-d10	(3)	11.524	164	281231	5.000
153) *Phenanthrene-d10	(4)	13.407	188	540474	5.000
175) *Pyrene-d10	(5)	15.371	212	630433	5.000
179) \$Terphenyl-d14	(5)	15.692	244	2266706	24.670
213) *Perylene-d12	(6)	19.848	264	518748	5.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Digitally signed by Anthony P. Bauer
on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206

R7608

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

8666273

Data file: /chem/HP19760.i/16oct31.b/dj1049.d

Injection date and time: 31-OCT-2016 17:36

Data file Sample Info. Line: R7608;8666273;1;0;SAMPLE;;DRAPERMINI;

Instrument ID: HP19760.i Batch: 16302WAF

Date, time and analyst ID of latest file update: 31-Oct-2016 18:03 Automation

Blank Data file reference: /chem/HP19760.i/16oct31.b/dj1032.d

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time (Last Method Edit): 31-OCT-2016 11:03

Mid Level Daily Calibration Standard Reference: /chem/HP19760.i/16oct31.b/dj1031.d

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1

Unit Correction Factor (Uf): 1

Final Extract Volume (Vt): 1000 ul

Sample Volume (Vo): 246 ml

Volume Injected (Vi): 0.5 ul

Analysis Comments:

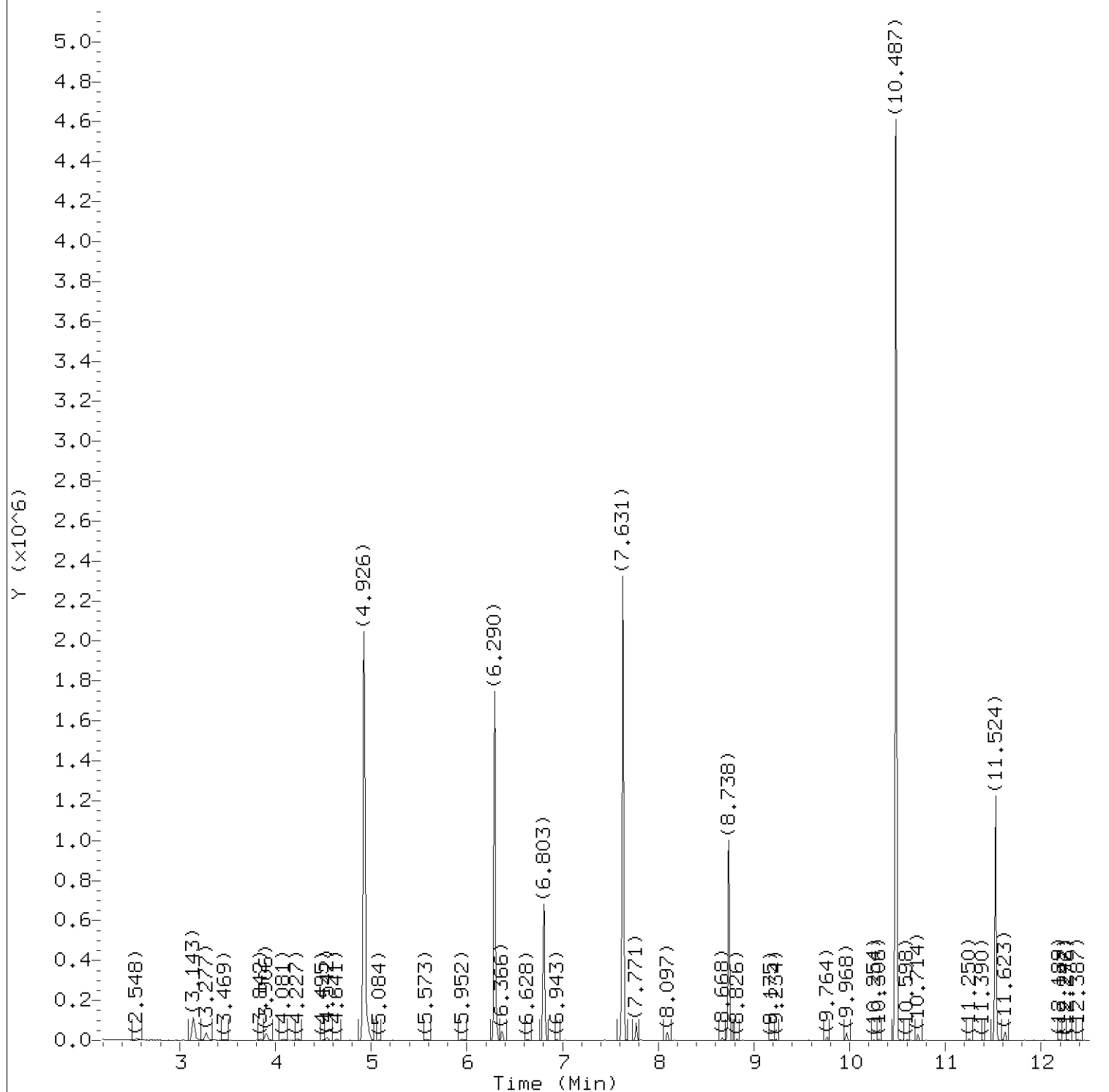
Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
=====	=====	=====	=====	=====	=====	=====
25) 1,4-Dichlorobenzene-d4	6.803 (0.000)	792	152	135131 (3)	5.00	
65) Naphthalene-d8	8.738 (0.000)	1124	136	510906 (4)	5.00	
113) Acenaphthene-d10	11.524 (0.000)	1602	164	288179 (1)	5.00	
153) Phenanthrene-d10	13.407 (0.006)	1925	188	540704 (2)	5.00	
175) Pyrene-d10	15.371 (0.006)	2262	212	628966 (-4)	5.00	
213) Perylene-d12	19.848 (0.000)	3030	264	503461 (-16)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
=====	=====	=====	=====	=====	=====	=====	=====	=====
44) Nitrobenzene-d5	(2)	7.631 (0.000)	82	1006296	18.110	72%		70 - 130
93) 2-Fluorobiphenyl	(3)	10.487 (0.000)	172	1777441	21.463	86%		70 - 130
179) Terphenyl-d14	(5)	15.692 (0.000)	244	2251419	24.561	98%		70 - 130

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
108) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
124) Diethylphthalate	(3)			Not Detected					0.5

Total number of targets = 3

Digitally signed by Anthony P. Bauer on 10/31/2016 at 23:26. Target 3.5 esignature user ID: apb10206



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1049.d
Injection date and time: 31-OCT-2016 17:36

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m
Calibration date and time: 31-OCT-2016 11:03

Sublist used: 22230M

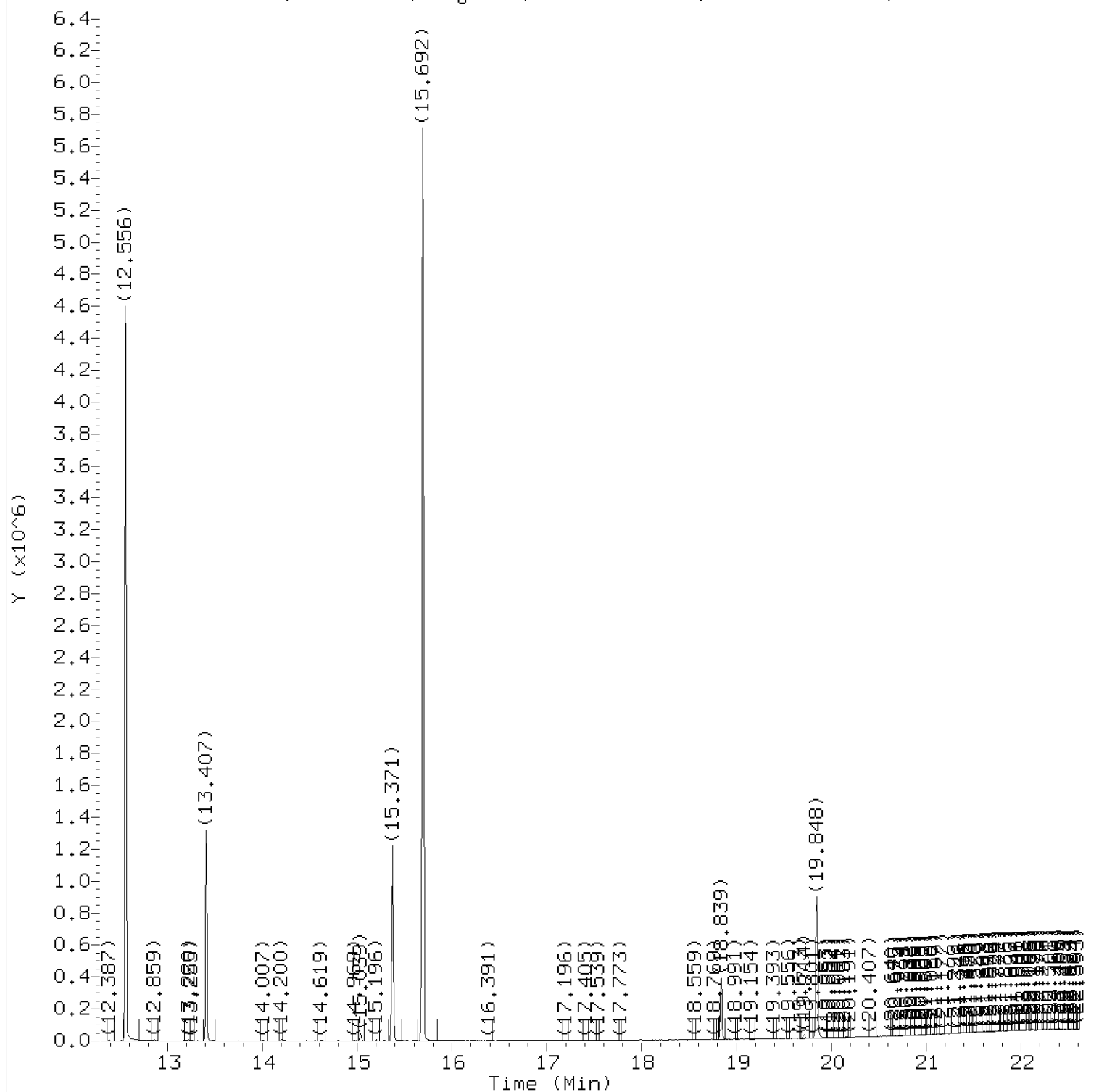
Date, time and analyst ID of latest file update: 31-Oct-2016 18:03 Automation

Sample Name: R7608

Lab Sample ID: 8666273

Digitally signed by Anthony P. Bauer
on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1049.d
Injection date and time: 31-OCT-2016 17:36

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m
Calibration date and time: 31-OCT-2016 11:03

Sublist used: 22230M

Date, time and analyst ID of latest file update: 31-Oct-2016 18:03 Automation

Sample Name: R7608

Lab Sample ID: 8666273

Digitally signed by Anthony P. Bauer
on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1049.d

Instrument ID: HP19760.i

Injection date and time: 31-OCT-2016 17:36

Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time: 31-OCT-2016 11:03

Date, time and analyst ID of latest file update: 31-Oct-2016 18:03 Automation

Sample Name: R7608

Lab Sample ID: 8666273

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
25) *1,4-Dichlorobenzene-d4	(1)	6.803	152	135131	5.000
44) \$Nitrobenzene-d5	(2)	7.631	82	1006296	18.110
65) *Naphthalene-d8	(2)	8.738	136	510906	5.000
93) \$2-Fluorobiphenyl	(3)	10.487	172	1777441	21.463
113) *Acenaphthene-d10	(3)	11.524	164	288179	5.000
153) *Phenanthrene-d10	(4)	13.407	188	540704	5.000
175) *Pyrene-d10	(5)	15.371	212	628966	5.000
179) \$Terphenyl-d14	(5)	15.692	244	2251419	24.561
213) *Perylene-d12	(6)	19.848	264	503461	5.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Digitally signed by Anthony P. Bauer

on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206

R7609

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

8666274

Data file: /chem/HP19760.i/16oct31.b/dj1050.d

Injection date and time: 31-OCT-2016 18:04

Data file Sample Info. Line: R7609;8666274;1;0;SAMPLE;;DRAPERMINI;

Instrument ID: HP19760.i Batch: 16302WAF

Date, time and analyst ID of latest file update: 31-Oct-2016 18:31 Automation

Blank Data file reference: /chem/HP19760.i/16oct31.b/dj1032.d

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time (Last Method Edit): 31-OCT-2016 11:03

Mid Level Daily Calibration Standard Reference: /chem/HP19760.i/16oct31.b/dj1031.d

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1

Unit Correction Factor (Uf): 1

Final Extract Volume (Vt): 1000 ul

Sample Volume (Vo): 249 ml

Volume Injected (Vi): 0.5 ul

Analysis Comments:

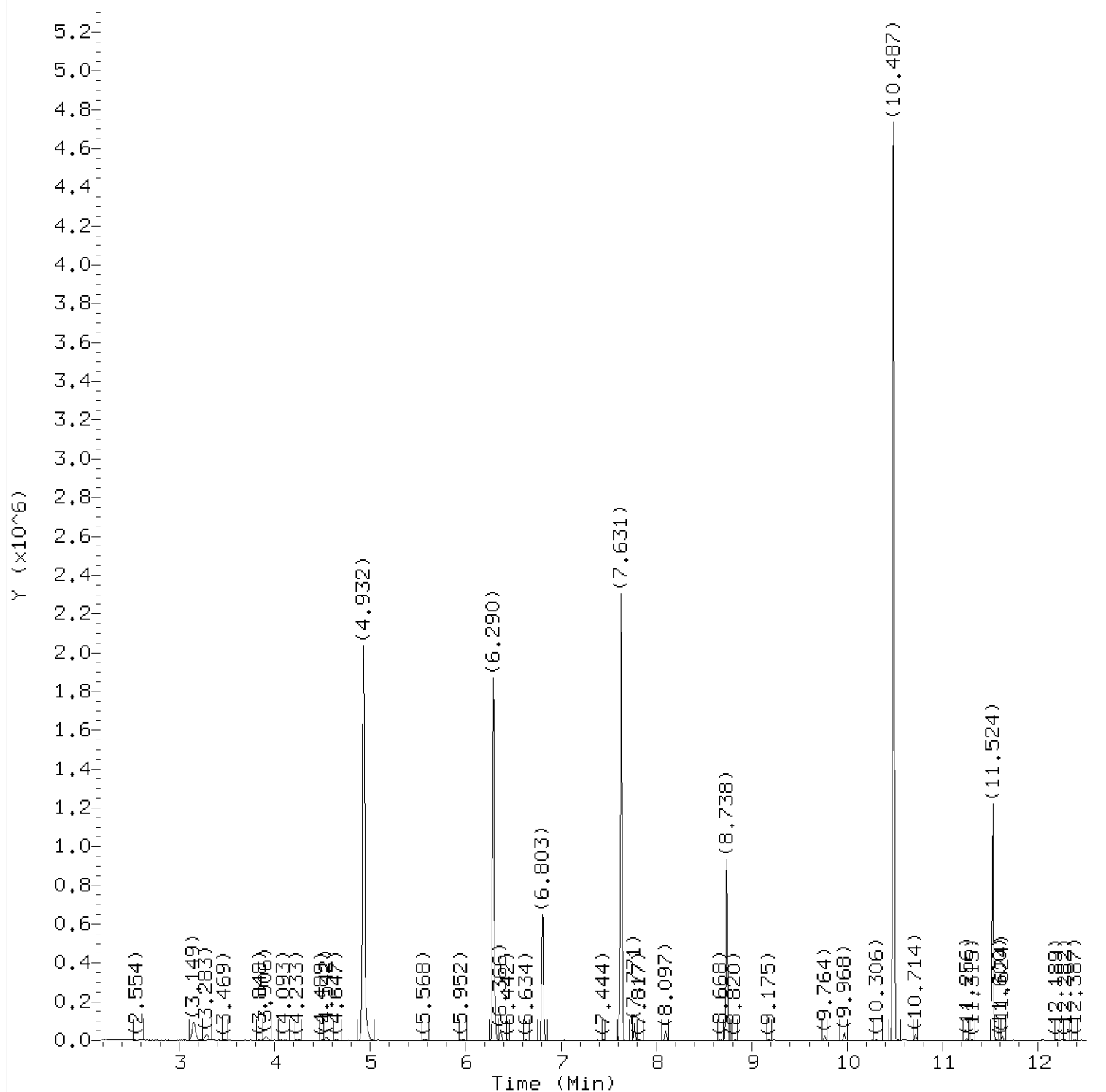
Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.803 (0.000)	792	152	134472 (2)	5.00	
65) Naphthalene-d8	8.738 (0.000)	1124	136	492162 (0)	5.00	
113) Acenaphthene-d10	11.524 (0.000)	1602	164	278459 (-2)	5.00	
153) Phenanthrene-d10	13.407 (0.006)	1925	188	521898 (-2)	5.00	
175) Pyrene-d10	15.371 (0.006)	2262	212	613911 (-6)	5.00	
213) Perylene-d12	19.848 (0.000)	3030	264	476114 (-20)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.631 (0.000)	82	992466	18.542	74%		70 - 130
93) 2-Fluorobiphenyl	(3)	10.487 (0.000)	172	1778543	22.225	89%		70 - 130
179) Terphenyl-d14	(5)	15.692 (0.000)	244	2297855	25.683	103%		70 - 130

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
108) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
124) Diethylphthalate	(3)			Not Detected					0.5

Total number of targets = 3

Digitally signed by Anthony P. Bauer on 10/31/2016 at 23:26. Target 3.5 esignature user ID: apb10206



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1050.d
Injection date and time: 31-OCT-2016 18:04

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m
Calibration date and time: 31-OCT-2016 11:03

Sublist used: 22230M

Date, time and analyst ID of latest file update: 31-Oct-2016 18:31 Automation

Sample Name: R7609

Lab Sample ID: 8666274

Digitally signed by Anthony P. Bauer
on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206

Target Revision 3.5

Instrument ID: HP19760.i
Analyst ID: hbz01996

Sublist used: 22230M

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Date, time and analyst ID of latest file update: 31-Oct-2016 18:31 Automation
```

Lab Sample ID: 8666274

Target 3.5 esignature user ID: app10206

page 2 of 2

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1050.d

Instrument ID: HP19760.i

Injection date and time: 31-OCT-2016 18:04

Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time: 31-OCT-2016 11:03

Date, time and analyst ID of latest file update: 31-Oct-2016 18:31 Automation

Sample Name: R7609

Lab Sample ID: 8666274

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
25) *1,4-Dichlorobenzene-d4	(1)	6.803	152	134472	5.000
44) \$Nitrobenzene-d5	(2)	7.631	82	992466	18.542
65) *Naphthalene-d8	(2)	8.738	136	492162	5.000
93) \$2-Fluorobiphenyl	(3)	10.487	172	1778543	22.225
113) *Acenaphthene-d10	(3)	11.524	164	278459	5.000
153) *Phenanthrene-d10	(4)	13.407	188	521898	5.000
175) *Pyrene-d10	(5)	15.371	212	613911	5.000
179) \$Terphenyl-d14	(5)	15.692	244	2297855	25.683
213) *Perylene-d12	(6)	19.848	264	476114	5.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Digitally signed by Anthony P. Bauer

on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206

R7610

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

8666275

Data file: /chem/HP19760.i/16oct31.b/dj1051.d

Injection date and time: 31-OCT-2016 18:32

Data file Sample Info. Line: R7610;8666275;1;0;SAMPLE;;DRAPERMINI;

Instrument ID: HP19760.i Batch: 16302WAF

Date, time and analyst ID of latest file update: 31-Oct-2016 23:25 apb10206

Blank Data file reference: /chem/HP19760.i/16oct31.b/dj1032.d

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time (Last Method Edit): 31-OCT-2016 11:03

Mid Level Daily Calibration Standard Reference: /chem/HP19760.i/16oct31.b/dj1031.d

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1

Unit Correction Factor (Uf): 1

Final Extract Volume (Vt): 1000 ul

Sample Volume (Vo): 250 ml

Volume Injected (Vi): 0.5 ul

Analysis Comments:

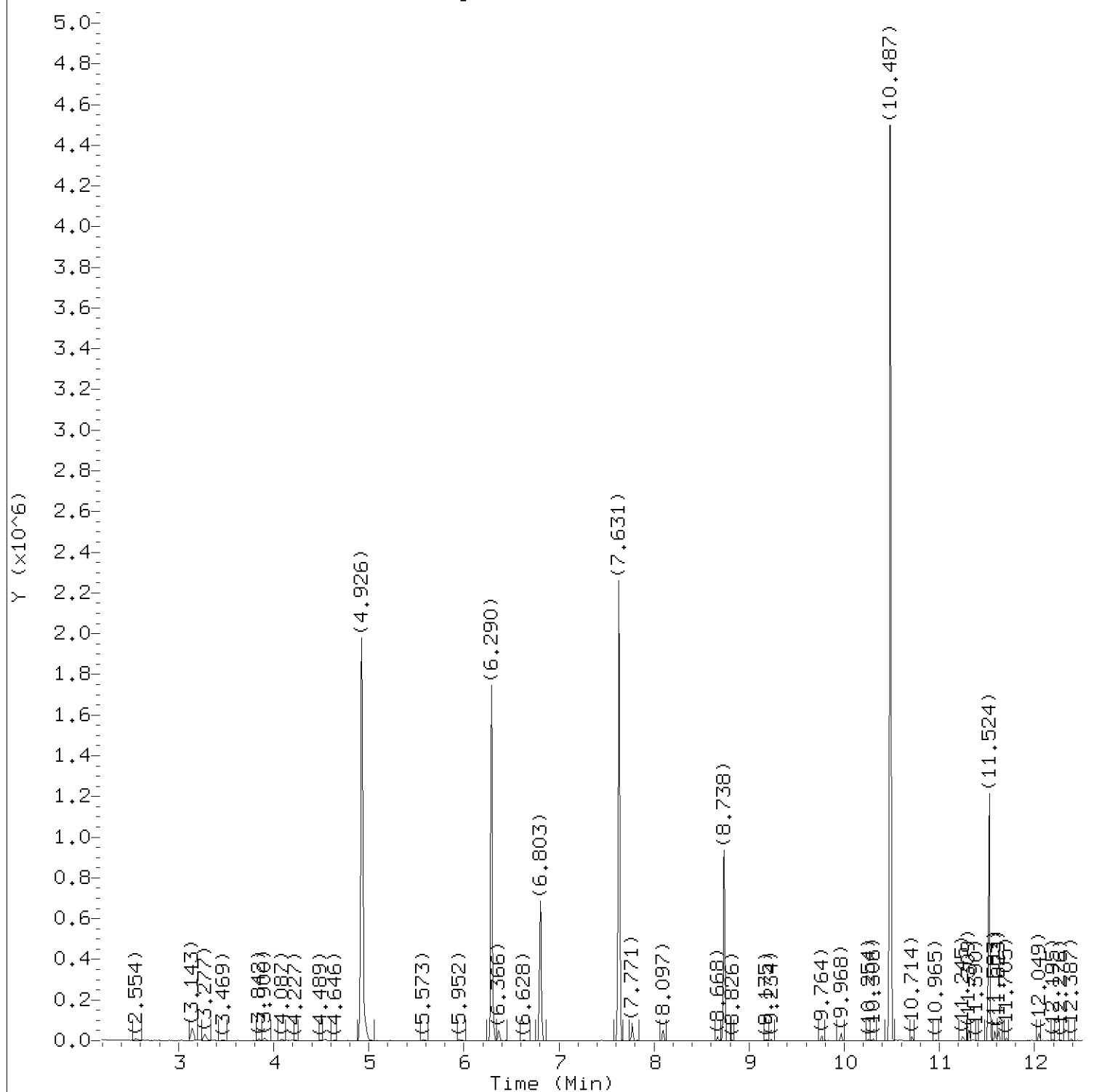
Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
=====	=====	=====	=====	=====	=====	=====
25) 1,4-Dichlorobenzene-d4	6.803 (0.000)	792	152	137267 (4)	5.00	
65) Naphthalene-d8	8.738 (0.000)	1124	136	495611 (1)	5.00	
113) Acenaphthene-d10	11.524 (0.000)	1602	164	279170 (-2)	5.00	
153) Phenanthrene-d10	13.407 (0.006)	1925	188	526476 (-1)	5.00	
175) Pyrene-d10	15.371 (0.006)	2262	212	617289 (-6)	5.00	
213) Perylene-d12	19.848 (0.000)	3030	264	488311 (-18)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
=====	=====	=====	=====	=====	=====	=====	=====	=====
44) Nitrobenzene-d5	(2)	7.631 (0.000)	82	973468	18.060	72%		70 - 130
93) 2-Fluorobiphenyl	(3)	10.487 (0.000)	172	1743104	21.727	87%		70 - 130
179) Terphenyl-d14	(5)	15.692 (0.000)	244	2201860	24.475	98%		70 - 130

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
108) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
124) Diethylphthalate	(3)			Not Detected					0.5

Total number of targets = 3

Digitally signed by Anthony P. Bauer on 10/31/2016 at 23:26. Target 3.5 esignature user ID: apb10206



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1051.d
Injection date and time: 31-OCT-2016 18:32

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m
Calibration date and time: 31-OCT-2016 11:03

Sublist used: 22230M

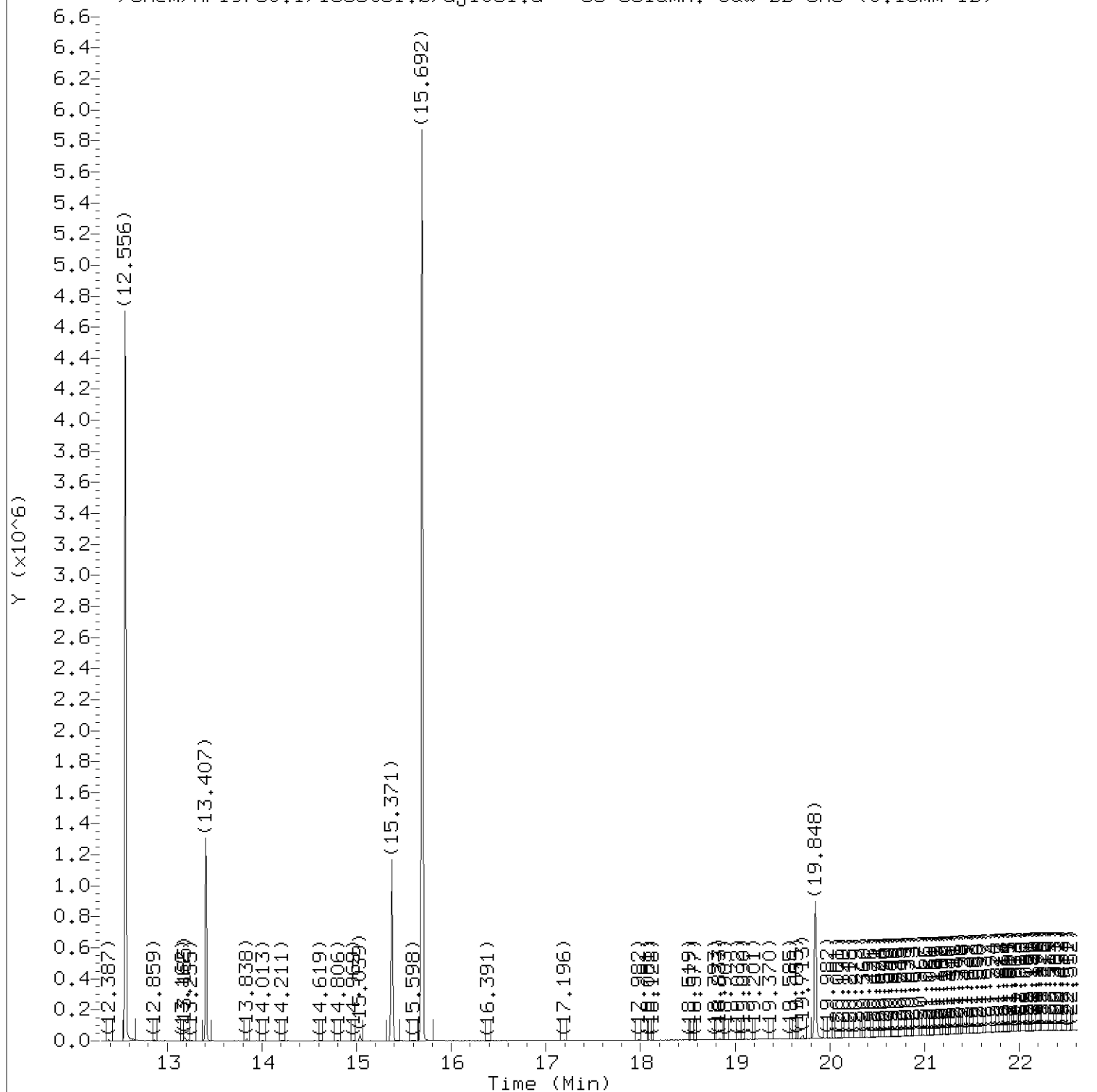
Date, time and analyst ID of latest file update: 31-Oct-2016 23:25 apb10206

Sample Name: R7610

Lab Sample ID: 8666275

Digitally signed by Anthony P. Bauer
on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1051.d
Injection date and time: 31-OCT-2016 18:32

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m
Calibration date and time: 31-OCT-2016 11:03

Sublist used: 22230M

Date, time and analyst ID of latest file update: 31-Oct-2016 23:25 apb10206

Sample Name: R7610

Lab Sample ID: 8666275

Digitally signed by Anthony P. Bauer
on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1051.d
Injection date and time: 31-OCT-2016 18:32

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time: 31-OCT-2016 11:03

Date, time and analyst ID of latest file update: 31-Oct-2016 23:25 apb10206

Sample Name: R7610

Lab Sample ID: 8666275

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
25) *1,4-Dichlorobenzene-d4	(1)	6.803	152	137267	5.000
44) \$Nitrobenzene-d5	(2)	7.631	82	973468	18.060
65) *Naphthalene-d8	(2)	8.738	136	495611	5.000
93) \$2-Fluorobiphenyl	(3)	10.487	172	1743104	21.727
113) *Acenaphthene-d10	(3)	11.524	164	279170	5.000
153) *Phenanthrene-d10	(4)	13.407	188	526476	5.000
175) *Pyrene-d10	(5)	15.371	212	617289	5.000
179) \$Terphenyl-d14	(5)	15.692	244	2201860	24.475
213) *Perylene-d12	(6)	19.848	264	488311	5.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Digitally signed by Anthony P. Bauer
on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206

R7611

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

8666276

Data file: /chem/HP19760.i/16oct31.b/dj1052.d Injection date and time: **31-OCT-2016 18:59**
Data file Sample Info. Line: R7611;8666276;1;0;SAMPLE;;DRAPERMINI; Instrument ID: **HP19760.i** Batch: **16302WAF**
Date, time and analyst ID of latest file update: 31-Oct-2016 19:27 Automation

Blank Data file reference: /chem/HP19760.i/16oct31.b/dj1032.d

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m Sublist used: **22230M**
Calibration date and time (Last Method Edit): 31-OCT-2016 11:03
Mid Level Daily Calibration Standard Reference: /chem/HP19760.i/16oct31.b/dj1031.d

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

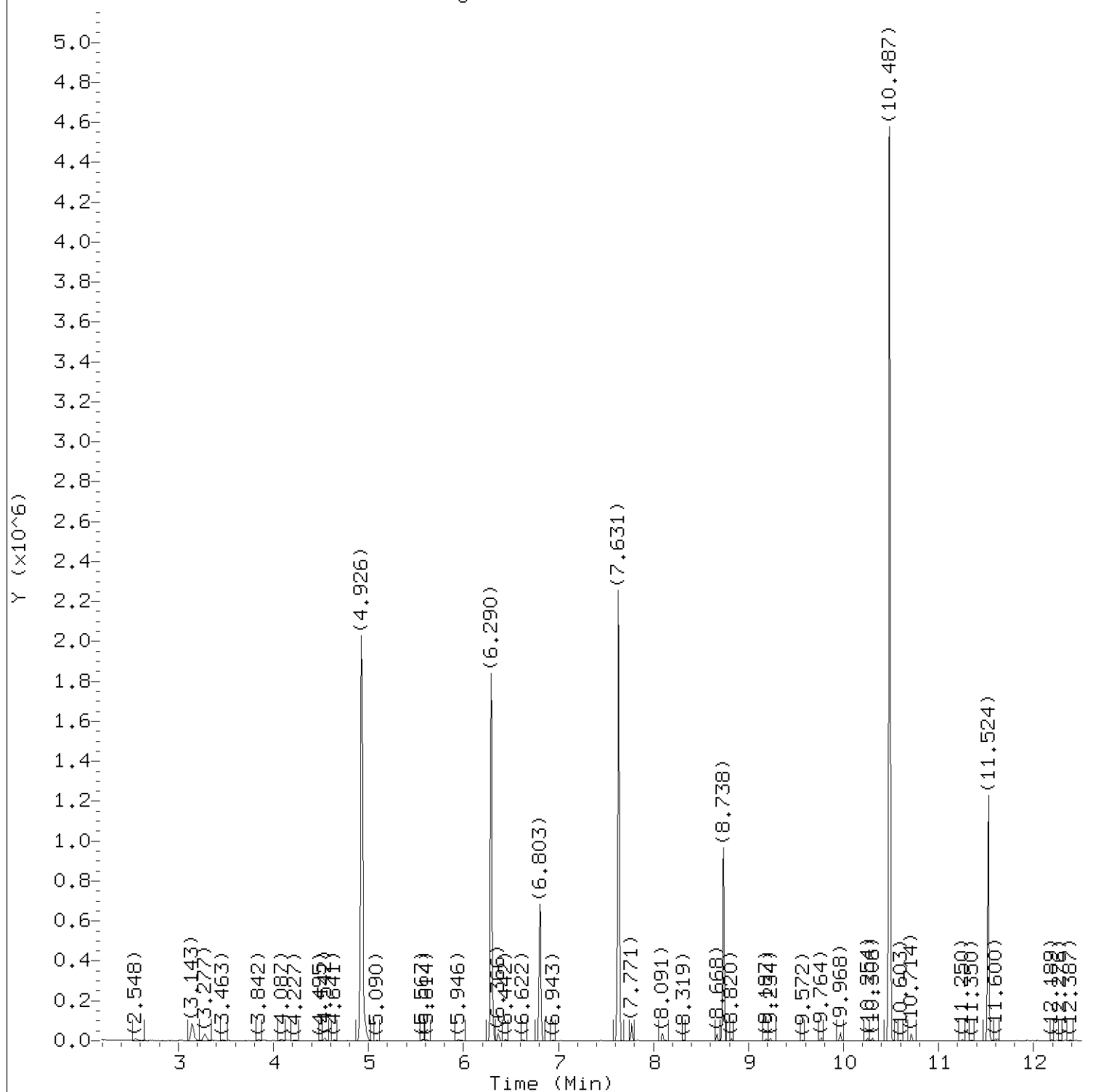
Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
=====	=====	=====	=====	=====	=====	=====
25) 1,4-Dichlorobenzene-d4	6.803 (0.000)	792	152	137055 (4)	5.00	
65) Naphthalene-d8	8.738 (0.000)	1124	136	494540 (1)	5.00	
113) Acenaphthene-d10	11.524 (0.000)	1602	164	278514 (-2)	5.00	
153) Phenanthrene-d10	13.407 (0.006)	1925	188	530523 (0)	5.00	
175) Pyrene-d10	15.371 (0.006)	2262	212	615017 (-6)	5.00	
213) Perylene-d12	19.848 (0.000)	3030	264	496713 (-17)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
=====	=====	=====	=====	=====	=====	=====	=====	=====
44) Nitrobenzene-d5	(2)	7.631 (0.000)	82	981584	18.250	73%		70 - 130
93) 2-Fluorobiphenyl	(3)	10.487 (0.000)	172	1774020	22.165	89%		70 - 130
179) Terphenyl-d14	(5)	15.692 (0.000)	244	2279628	25.433	102%		70 - 130

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
108) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
124) Diethylphthalate	(3)			Not Detected					0.5

Total number of targets = 3

Digitally signed by Anthony P. Bauer on 10/31/2016 at 23:26. Target 3.5 esignature user ID: apb10206



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1052.d
Injection date and time: 31-OCT-2016 18:59

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m
Calibration date and time: 31-OCT-2016 11:03

Sublist used: 22230M

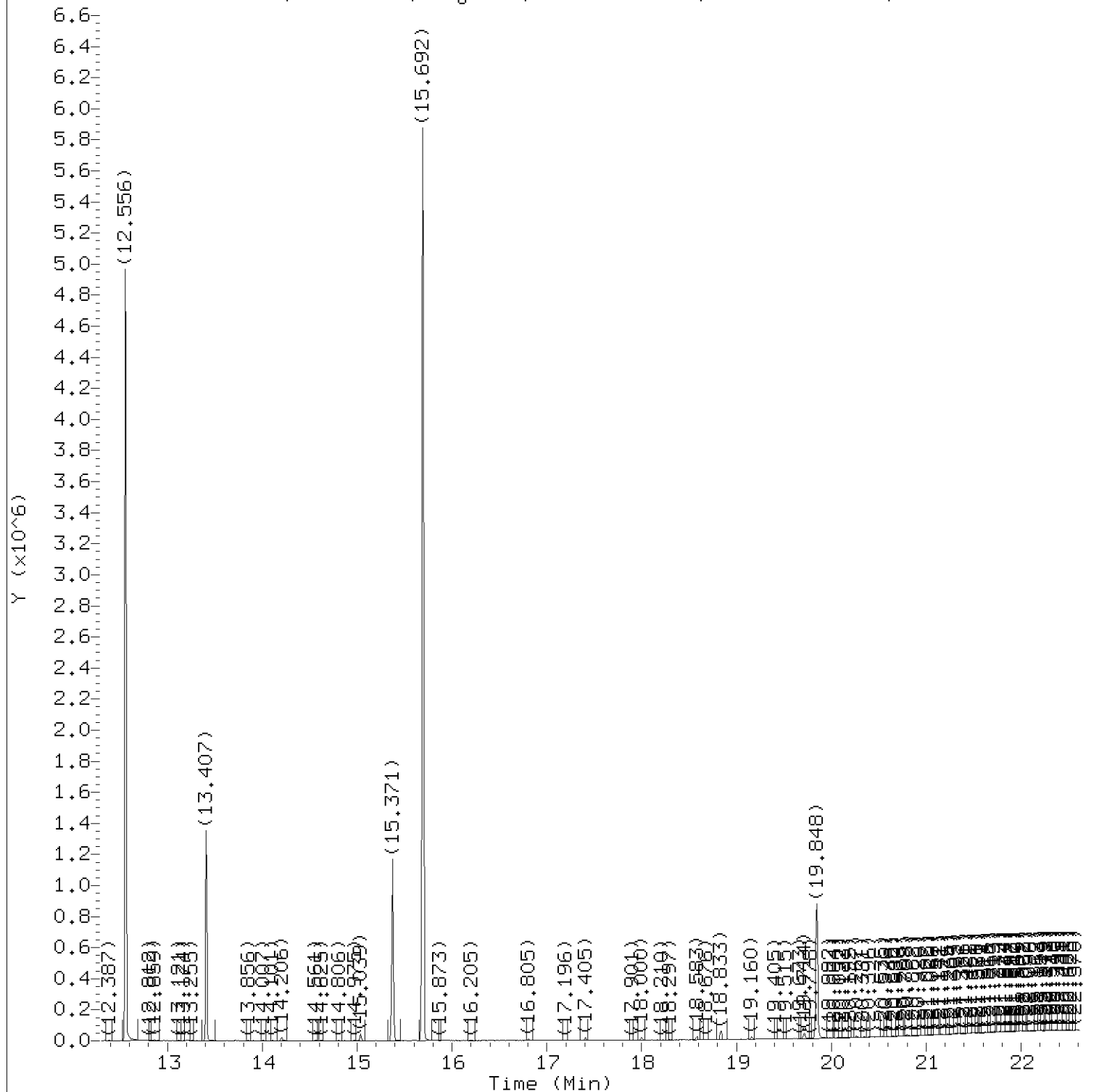
Date, time and analyst ID of latest file update: 31-Oct-2016 19:27 Automation

Sample Name: R7611

Lab Sample ID: 8666276

Digitally signed by Anthony P. Bauer
on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1052.d
Injection date and time: 31-OCT-2016 18:59

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time: 31-OCT-2016 11:03

Date, time and analyst ID of latest file update: 31-Oct-2016 19:27 Automation

Sample Name: R7611

Lab Sample ID: 8666276

Digitally signed by Anthony P. Bauer
on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1052.d

Instrument ID: HP19760.i

Injection date and time: 31-OCT-2016 18:59

Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time: 31-OCT-2016 11:03

Date, time and analyst ID of latest file update: 31-Oct-2016 19:27 Automation

Sample Name: R7611

Lab Sample ID: 8666276

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
25) *1,4-Dichlorobenzene-d4	(1)	6.803	152	137055	5.000
44) \$Nitrobenzene-d5	(2)	7.631	82	981584	18.250
65) *Naphthalene-d8	(2)	8.738	136	494540	5.000
93) \$2-Fluorobiphenyl	(3)	10.487	172	1774020	22.165
113) *Acenaphthene-d10	(3)	11.524	164	278514	5.000
153) *Phenanthrene-d10	(4)	13.407	188	530523	5.000
175) *Pyrene-d10	(5)	15.371	212	615017	5.000
179) \$Terphenyl-d14	(5)	15.692	244	2279628	25.433
213) *Perylene-d12	(6)	19.848	264	496713	5.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Digitally signed by Anthony P. Bauer

on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206

Standards Data

Semivolatiles by GC/MS

~&15.40C ~(s12H

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP19760 **HP #04**

Data Directory Path is - C:\msdchem\1\data\16oct20b\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
em10340	DJ1710.D	RVDFTPP2706	10/20/2016	14:44		
em10340	DJ1711.D	RVSTD2716	10/20/2016	14:59		
em10340	DJ1712.D	RVSTD2716	10/20/2016	16:03		
em10340	DJ1713.D	RVSTD2716	10/20/2016	16:31		
em10340	DJ1714.D	RVSTD2716	10/20/2016	16:59		
em10340	DJ1715.D	RVSTD2716	10/20/2016	17:27		
em10340	DJ1716.D	RVSTD2716	10/20/2016	17:55		
em10340	DJ1717.D	RVSTD2716	10/20/2016	18:23		
em10340	DJ1718.D	RVSTD2716	10/20/2016	18:51		
em10340	DJ1719.D	MDLSTD2716	10/20/2016	19:19		
em10340	DJ1720.D	PAHMDLSTD2716	10/20/2016	19:47		
em10340	DJ1721.D	RVICV2036	10/20/2016	20:16		
em10340	DJ1722.D	RVBASICV2516	10/20/2016	20:44		

Files were copied from 16oct20a, renamed, and processed under rv8270d.m

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP19760 **HP #04**

Data Directory Path is - D:\data\16oct31\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
hbz01996	DJ1030.D	RVDFTPP2706	10/31/2016	07:25		
hbz01996	DJ1031.D	RVSTD3006	10/31/2016	07:38		
hbz01996	DJ1032.D	SBLKWF302	10/31/2016	08:18	16302WAF	
hbz01996	DJ1033.D	302WFLCS	10/31/2016	08:46	16302WAF	
hbz01996	DJ1034.D	SBLKWK300	10/31/2016	09:14	16300WAK	
hbz01996	DJ1035.D	300WKLCS	10/31/2016	09:41	16300WAK	
hbz01996	DJ1036.D	8662829	10/31/2016	10:09	16300WAK	
hbz01996	DJ1037.D	8662830	10/31/2016	10:37	16300WAK	
hbz01996	DJ1038.D	8662831	10/31/2016	11:04	16300WAK	
hbz01996	DJ1039.D	8662833	10/31/2016	11:32	16300WAK	
hbz01996	DJ1040.D	8666264	10/31/2016	12:00	16302WAF	
hbz01996	DJ1041.D	8666265	10/31/2016	12:28	16302WAF	
hbz01996	DJ1042.D	8666266	10/31/2016	12:56	16302WAF	
hbz01996	DJ1043.D	8666267	10/31/2016	13:24	16302WAF	
hbz01996	DJ1034a.D	SBLKWK300	10/31/2016	13:52	16300WAK	
hbz01996	DJ1036a.D	8662829	10/31/2016	14:19	16300WAK	
hbz01996	DJ1039a.D	8662833	10/31/2016	14:47	16300WAK	
hbz01996	DJ1044.D	8666268	10/31/2016	15:16	16302WAF	
hbz01996	DJ1045.D	8666269	10/31/2016	15:44	16302WAF	
hbz01996	DJ1046.D	8666270	10/31/2016	16:12	16302WAF	
hbz01996	DJ1047.D	8666271	10/31/2016	16:40	16302WAF	
hbz01996	DJ1048.D	8666272	10/31/2016	17:08	16302WAF	
hbz01996	DJ1049.D	8666273	10/31/2016	17:36	16302WAF	
hbz01996	DJ1050.D	8666274	10/31/2016	18:04	16302WAF	
hbz01996	DJ1051.D	8666275	10/31/2016	18:32	16302WAF	
hbz01996	DJ1052.D	8666276	10/31/2016	18:59	16302WAF	

Data File: /chem/HP19760.i/16oct20b.b/dj1710.d

Page 1

Date : 20-OCT-2016 14:44

Client ID: DFTPP12.5

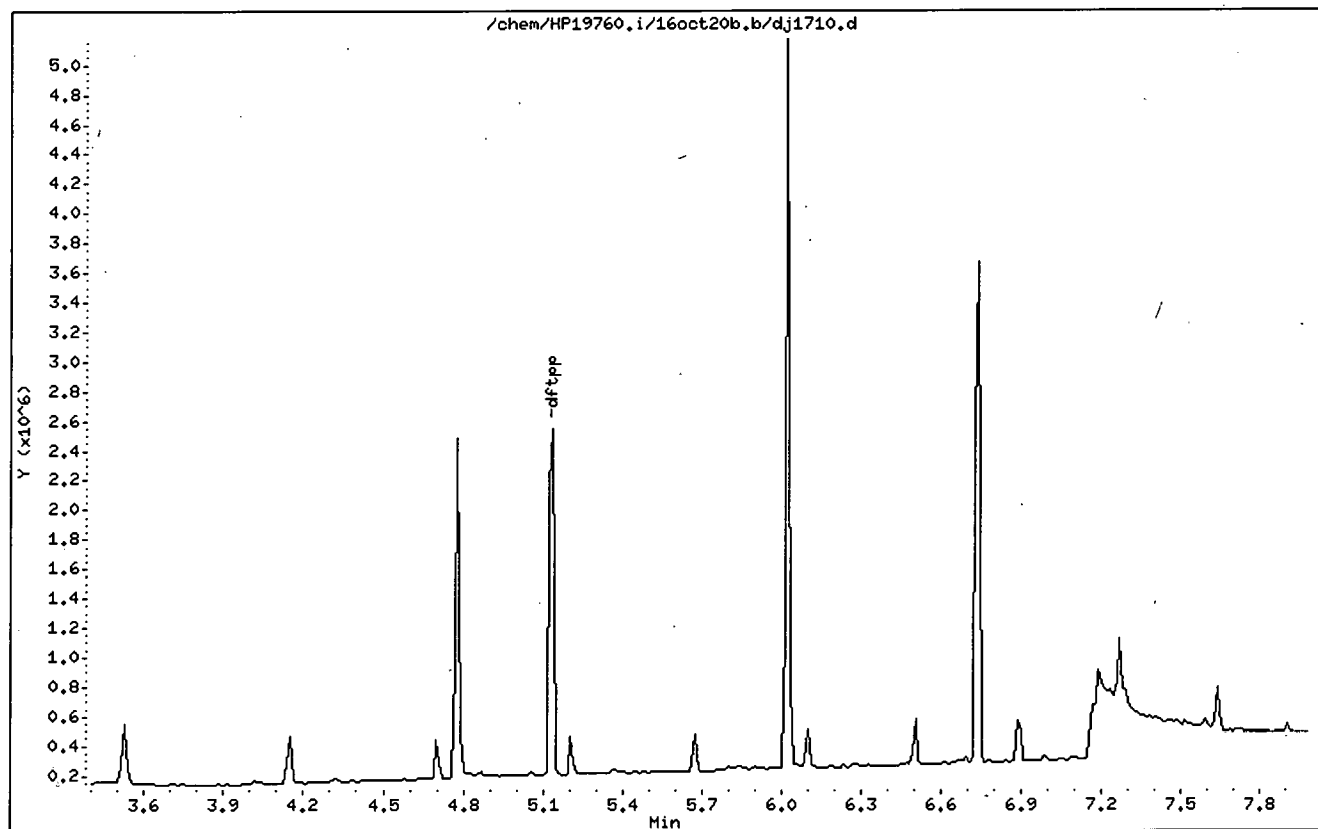
Instrument: HP19760.i

Sample Info: DFTPP12.5;RVDFTPP2706;1;3;DFTPP;

Operator: em10340

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:13.
Target 3.5 esignature user ID: hbz01996

Date : 20-OCT-2016 14:44

Client ID: DFTPP12.5

Instrument: HP19760.i

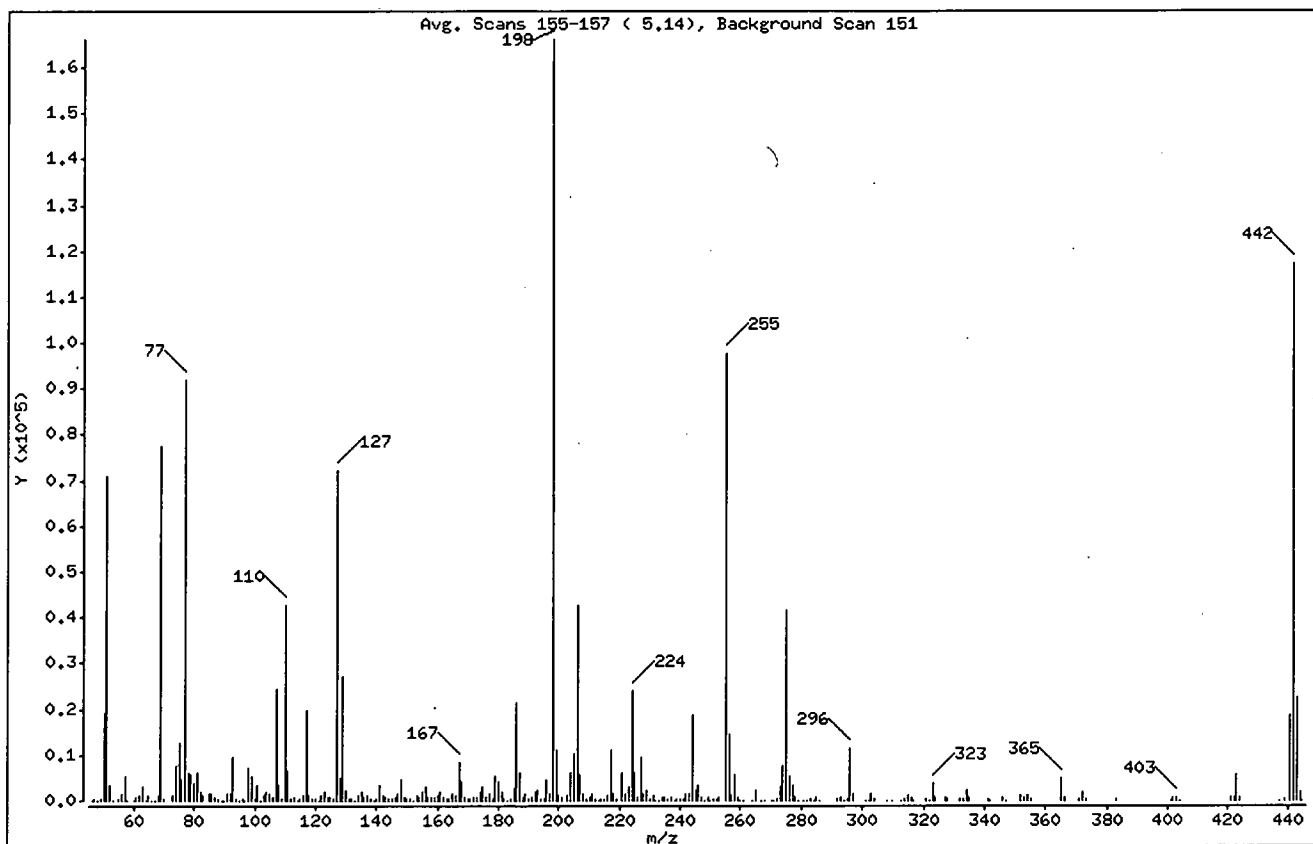
Sample Info: DFTPP12.5;RVDFTPP2706;1;3;DFTPP;

Operator: em10340

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	42.71
68	Less than 2.00% of mass 69	0.73 (1.57)
69	Mass 69 relative abundance	46.57
70	Less than 2.00% of mass 69	0.13 (0.27)
127	10.00 - 80.00% of mass 198	43.44
197	Less than 2.00% of mass 198	0.82
199	5.00 - 9.00% of mass 198	6.62
275	10.00 - 60.00% of mass 198	25.08
365	Greater than 1.00% of mass 198	3.07
441	0.01 - 24.00% of mass 442	11.28 (15.98)
442	50.00 - 99.99% of mass 198	70.60
443	15.00 - 24.00% of mass 442	13.57 (19.23)

Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:13.
Target 3.5 esignature user ID: hzb01996

Date : 20-OCT-2016 14:44

Client ID: DFTPP12,5

Instrument: HP19760.i

Sample Info: DFTPP12,5;RVDFTPP2706;1;3;DFTPP;

Operator: em10340.

Column phase: DB-SMS

Column diameter: 0.18

Data File: dj1710.d
Spectrum: Avg. Scans 155-157 (5.14), Background Scan 151
Location of Maximum: 198.00
Number of points: 284

m/z	Y	m/z	Y	m/z	Y	m/z	Y
46.00	91	123.00	2050	195.00	438	274.00	7607
47.00	195	124.00	785	196.00	4668	275.00	41664
48.00	101	125.00	728	197.00	1363	276.00	5308
49.00	311	126.00	523	198.00	166080	277.00	3541
50.00	18992	127.00	72160	199.00	11002	278.00	597
51.00	70960	128.00	4987	200.00	956	279.00	117
52.00	3437	129.00	27088	201.00	910	281.00	78
53.00	15	130.00	2239	203.00	1216	282.00	127
55.00	294	131.00	405	204.00	5975	283.00	366
56.00	1652	132.00	453	205.00	10120	284.00	72
57.00	5213	133.00	87	206.00	42600	285.00	808
58.00	171	134.00	984	207.00	5821	286.00	85
60.00	12	135.00	1938	208.00	1379	292.00	194
61.00	931	136.00	952	209.00	393	293.00	703
62.00	1075	137.00	1116	210.00	726	294.00	170
63.00	2873	138.00	206	211.00	1342	295.00	434
64.00	188	139.00	72	212.00	267	296.00	11479
65.00	1180	140.00	394	213.00	165	297.00	1635
66.00	81	141.00	3334	214.00	204	301.00	152
67.00	104	142.00	1241	215.00	554	302.00	156
68.00	1212	143.00	800	216.00	985	303.00	1344
69.00	77368	144.00	301	217.00	11228	304.00	346
70.00	210	145.00	337	218.00	1502	308.00	105
73.00	1012	146.00	798	219.00	213	310.00	84
74.00	7702	147.00	1544	221.00	6166	313.00	84
75.00	12533	148.00	4499	222.00	1686	314.00	556
76.00	4434	149.00	640	223.00	2864	315.00	1238
77.00	91944	150.00	346	224.00	24144	316.00	738
78.00	6280	151.00	438	225.00	6151	317.00	106
79.00	5608	152.00	148	226.00	661	321.00	379
80.00	4005	153.00	1122	227.00	9623	322.00	182
81.00	5926	154.00	781	228.00	1533	323.00	3771
82.00	1757	155.00	2087	229.00	2103	324.00	725
83.00	998	156.00	2987	230.00	362	327.00	860
85.00	1393	157.00	679	231.00	964	328.00	318

Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:13.
Target 3.5 esignature user ID: hbz01996

Date : 20-OCT-2016 14:44

Client ID: DFTPP12.5

Instrument: HP19760.i

Sample Info: DFTPP12.5;RVDFTPP2706;1;3;DFTPP;

Operator: em10340

Column phase: DB-5MS

Column diameter: 0.18

Data File: dj1710.d

Spectrum: Avg. Scans 155-157 (5.14), Background Scan 151

Location of Maximum: 198.00

Number of points: 284

m/z	Y	m/z	Y	m/z	Y	m/z	Y
86.00	1652	158.00	660	232.00	138	332.00	248
87.00	652	159.00	677	233.00	149	333.00	305
88.00	286	160.00	1281	234.00	654	334.00	2302
89.00	69	161.00	2016	235.00	704	335.00	635
90.00	90	162.00	640	236.00	538	341.00	514
91.00	1535	163.00	344	237.00	780	342.00	130
92.00	1377	164.00	265	238.00	90	346.00	761
93.00	9448	165.00	1445	239.00	425	347.00	86
94.00	518	166.00	1110	240.00	349	352.00	1001
95.00	171	167.00	8345	241.00	516	353.00	754
96.00	386	168.00	4188	242.00	1400	354.00	1007
97.00	147	169.00	730	243.00	1631	355.00	337
98.00	7115	170.00	351	244.00	18880	365.00	5094
99.00	5297	171.00	212	245.00	2440	366.00	649
100.00	536	172.00	764	246.00	3401	371.00	196
101.00	3361	173.00	943	247.00	718	372.00	1780
102.00	175	174.00	1728	248.00	111	373.00	429
103.00	1004	175.00	2909	249.00	712	383.00	459
104.00	1996	176.00	909	250.00	116	401.00	91
105.00	1572	177.00	1432	251.00	258	402.00	637
106.00	624	178.00	572	252.00	302	403.00	757
107.00	24408	179.00	5337	253.00	611	404.00	140
108.00	3276	180.00	4024	255.00	97800	421.00	710
109.00	248	181.00	1960	256.00	14399	422.00	663
110.00	42584	182.00	384	257.00	1059	423.00	5764
111.00	6563	183.00	4	258.00	5564	424.00	923
112.00	503	184.00	482	259.00	830	437.00	110
113.00	636	185.00	2626	260.00	100	439.00	272
114.00	54	186.00	21440	261.00	143	441.00	18744
115.00	224	187.00	5944	264.00	7	442.00	117288
116.00	1146	188.00	635	265.00	2186	443.00	22544
117.00	19800	189.00	1404	267.00	172	444.00	2007
118.00	1189	190.00	315	268.00	25	445.00	99
119.00	285	191.00	581	270.00	113		
120.00	338	192.00	2032	271.00	176		

Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:13.
Target 3.5 esignature user ID: hbz01996

Data File: /chem/HP19760.i/16oct20b,b/dj1710.d

Page 5

Date : 20-OCT-2016 14:44

Client ID: DFTPP12.5

Instrument: HP19760.i

Sample Info: DFTPP12.5;RVDFTPP2706;1;3;DFTPP;

Operator: em10340

Column phase: DB-5MS

Column diameter: 0.18

Data File: dj1710.d

Spectrum: Avg. Scans 155-157 (5,14), Background Scan 151

Location of Maximum: 198.00

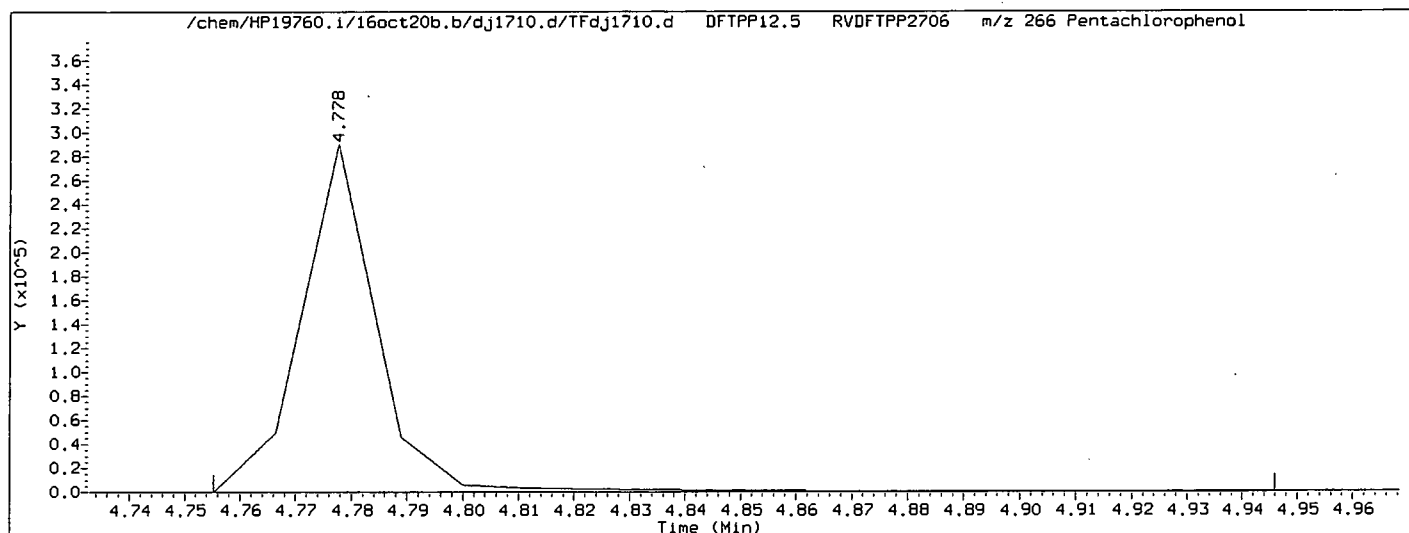
Number of points: 284

m/z	Y	m/z	Y	m/z	Y	m/z	Y
121.00	159	193.00	2138	272.00	216		
122.00	1161	194.00	542	273.00	3017		

Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:13.
Target 3.5 esignature user ID: hbz01996

Assessment of GC Column Performance and Injection Port Inertness for

Instrument ID: HP19760.i Injection Date: 20-OCT-2016 14:44 Operator: em10340



Pentachlorophenol EICP peak height = 290816 EICP peak height at 10% = 29082 Pentachlorophenol EICP area = 274912

Pentachlorophenol EICP peak apex (min.) = 4.778

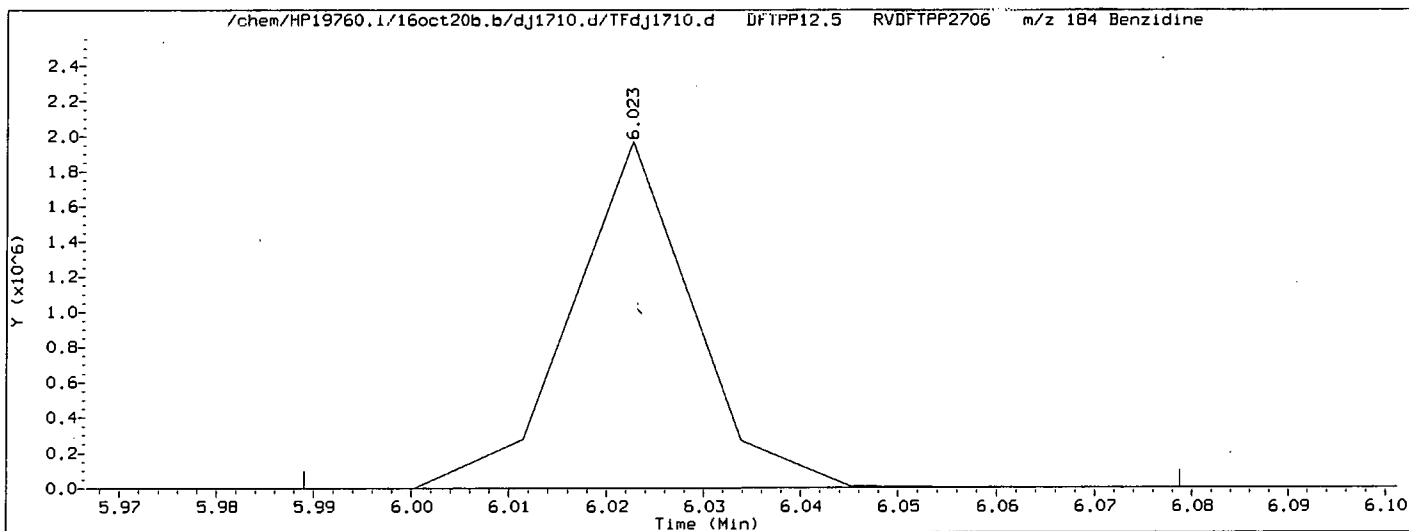
RT at 10% of front half of EICP (min.) = 4.762

RT at 10% of back half of EICP (min.) = 4.794

'Front' peak width (min.) = 0.015833333

'Tailing' peak width (min.) = 0.015850000

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.015850000}{0.015833333} = 1.001$$



Benzidine EICP peak height = 1972748 EICP peak height at 10% = 197275 Benzidine EICP area = 1708553

Benzidine EICP peak apex (min.) = 6.023

RT at 10% of front half of EICP (min.) = 6.008

RT at 10% of back half of EICP (min.) = 6.037

'Front' peak width (min.) = 0.014466667

'Tailing' peak width (min.) = 0.014350000

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.014350000}{0.014466667} = 0.992$$

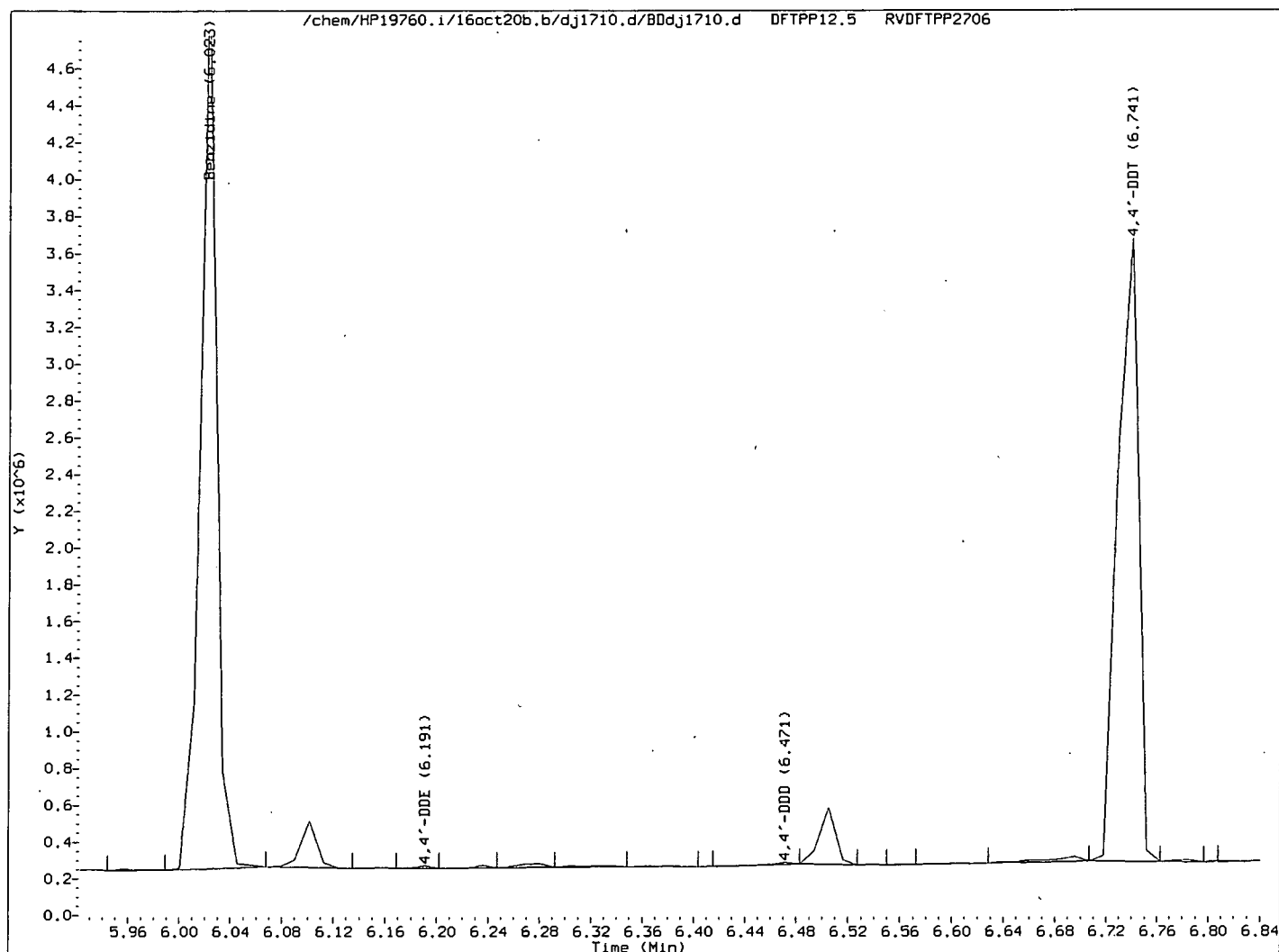
page 1 of 2

printed on 10/27/2016 at 07:47

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Target 3.5 esignature user ID: hbz01996

Assessment of GC Column Performance and Injection Port Inertness for

Instrument ID: HP19760.i Injection Date: 20-OCT-2016 14:44 Operator: em10340

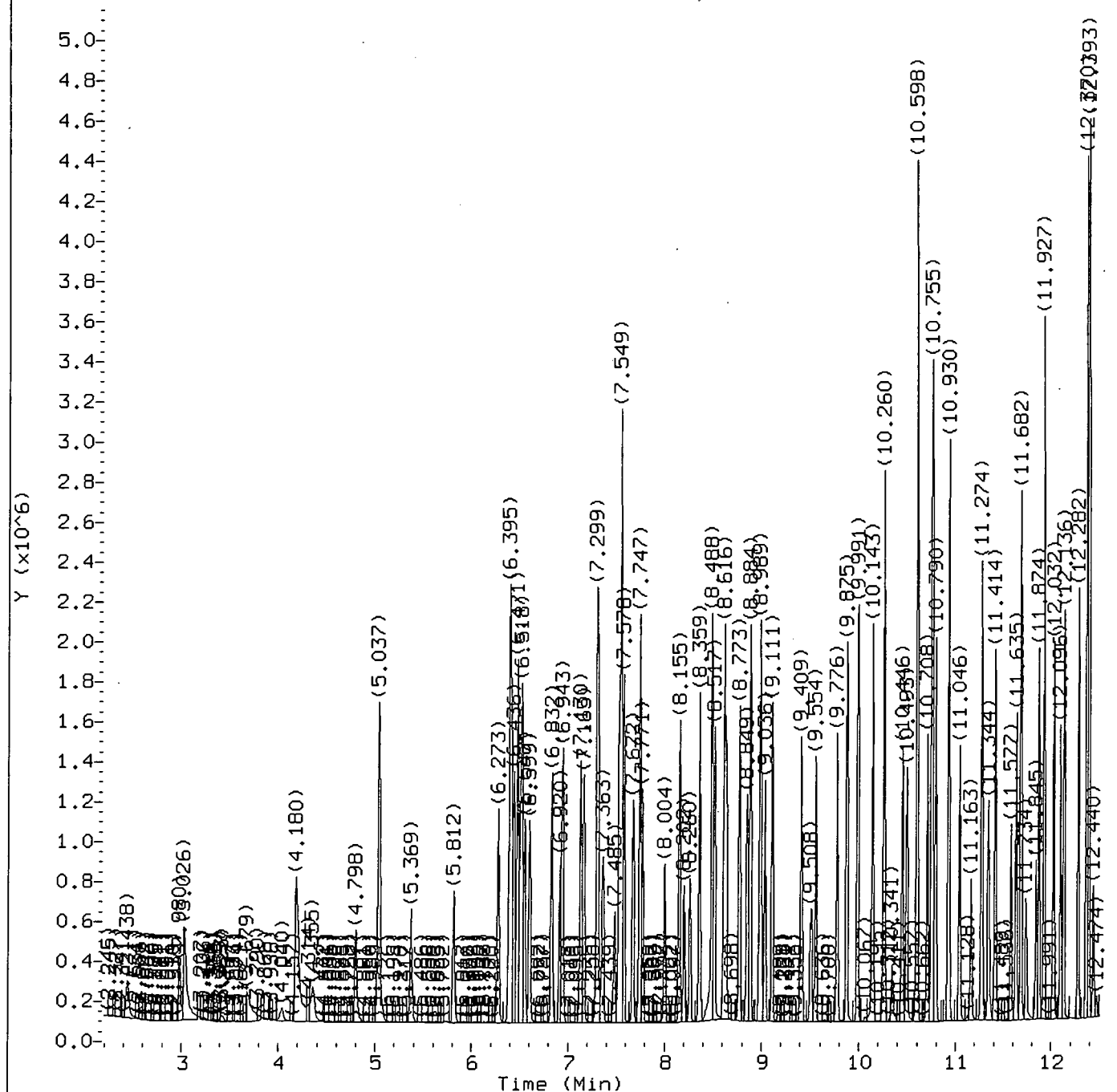


$$\% \text{ 4,4'-DDT breakdown} = \frac{4,4'\text{-DDE TIC area} + 4,4'\text{-DDD TIC area}}{4,4'\text{-DDE TIC area} + 4,4'\text{-DDD TIC area} + 4,4'\text{-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{12685 + 13917}{12685 + 13917 + 3859195} \times 100 = 0.7$$

page 2 of 2
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Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1711.d
Injection date and time: 20-OCT-2016 14:59

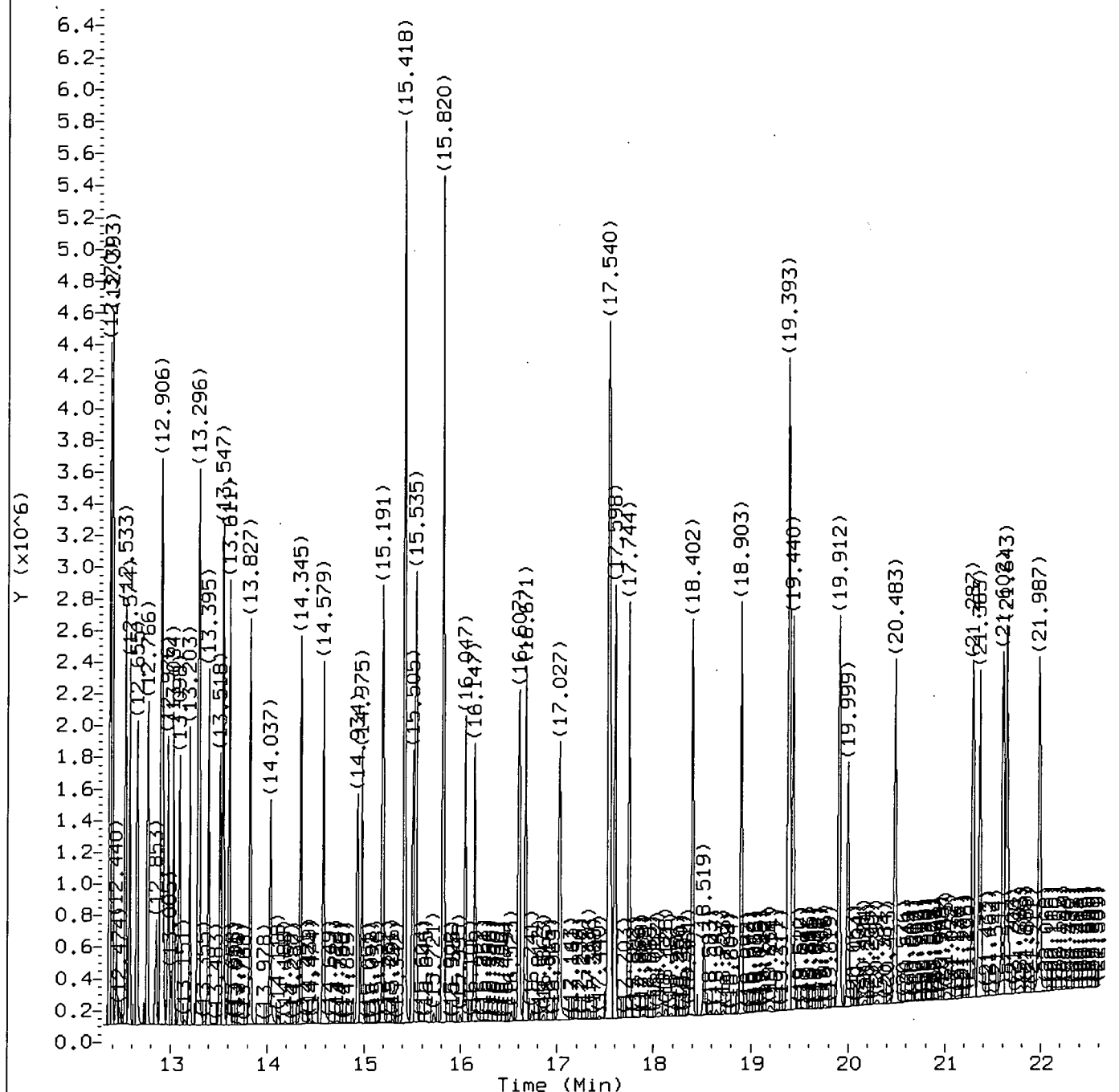
Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:23
Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SST7.5

Lab Sample ID: RVSTD2716

Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:13.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1711.d
Injection date and time: 20-OCT-2016 14:59

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:23
Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SST7.5

Lab Sample ID: RVSTD2716

Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:13.

Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1711.d
 Injection date and time: 20-OCT-2016 14:59

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:23
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
1) 1,4-Dioxane	(1)	2.438	88	188455	7.554
4) N-Nitrosodimethylamine	(1)	2.974	74	296648	7.596
5) Pyridine	(1)	3.026	79	484419	7.451
7) 2-Picoline	(1)	4.180	93	514221	7.454
8) N-Nitrosomethylethylamine	(1)	4.361	88	217024	7.650
9) Methyl methanesulfonate	(1)	4.798	80	267615	7.629
11) \$2-Fluorophenol	(1)	5.037	112	767907	15.241
13) N-Nitrosodiethylamine	(1)	5.369	102	203070	7.682
42) Total Cresols	(1)			780617	14.551
15) Ethyl methanesulfonate	(1)	5.812	109	202707	7.433
16) Benzaldehyde	(1)	6.273	77	370391	7.704
17) \$Phenol-d6	(1)	6.395	99	1044226	15.169
18) Phenol	(1)	6.413	94	614621	7.607
19) Aniline	(1)	6.436	93	729078	7.534
20) a-methylstyrene	(1)	6.518	118	373724	7.172
22) bis(2-Chloroethyl)ether	(1)	6.547	93	449527	7.383
23) 2-Chlorophenol	(1)	6.599	128	353794	7.661
24) 1,3-Dichlorobenzene	(1)	6.832	146	383162	7.470
25) *1,4-Dichlorobenzene-d4	(1)	6.920	152	157192	5.000
26) 1,4-Dichlorobenzene	(1)	6.943	146	390291	7.487
27) Benzyl alcohol	(1)	7.130	108	261303	7.367
28) 1,2-Dichlorobenzene	(1)	7.165	146	368336	7.519
30) Indene	(1)	7.299	115	648807	7.201
31) 2-Methylphenol	(1)	7.310	108	379843	7.563
34) bis(2-Chloroisopropyl)ether	(1)	7.363	45	522005	7.507
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.363	45	522005	7.507
97) Isosafrole	(3)			329539	7.628
35) N-Nitrosopyrrolidine	(1)	7.485	100	224998	7.769
36) Acetophenone	(1)	7.526	105	589337	7.338
39) N-Nitrosomorpholine	(1)	7.549	56	257460	7.676
37) 4-Methylphenol	(1)	7.549	108	400774	6.987
38) N-Nitroso-di-n-propylamine	(1)	7.549	70	353113	7.522
40) o-Toluidine	(1)	7.578	106	689556	7.541
43) Hexachloroethane	(1)	7.672	117	177039	7.558
44) \$Nitrobenzene-d5	(2)	7.742	82	987452	15.530
45) Nitrobenzene	(2)	7.771	77	491458	7.586
48) N-Nitrosopiperidine	(2)	8.004	114	200228	7.768
120) 2,4,6-Dinitrotoluenes	(3)			339352	14.944
50) Isophorone	(2)	8.155	82	889900	7.668
51) 2-Nitrophenol	(2)	8.266	139	151270	7.997

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/27/2016 at 10:13.
 Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1711.d
 Injection date and time: 20-OCT-2016 14:59

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:23
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
53) 2,4-Dimethylphenol	(2)	8.359	107	432207	7.640
57) O,O,O-Triethylphosphorothioate	(2)	8.488	198	203850	7.613
56) Benzoic acid	(2)	8.505	105	316371M	9.734
55) bis(2-Chloroethoxy)methane	(2)	8.517	93	560865	7.694
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.616	104	610974	7.323
60) 2,4-Dichlorophenol	(2)	8.639	162	301029	7.792
62) 1,2,4-Trichlorobenzene	(2)	8.773	180	338144	7.599
146) Diallate trans/cis	(4)			406419	7.634
65) *Naphthalene-d8	(2)	8.855	136	584656	5.000
66) Naphthalene	(2)	8.884	128	999285	7.503
67) 4-Chloroaniline	(2)	8.983	127	436271	7.693
68) 2,6-Dichlorophenol	(2)	8.995	162	294193	7.778
69) Hexachloropropene	(2)	9.036	213	250425	7.603
71) Hexachlorobutadiene	(2)	9.111	225	217789	7.581
75) Quinoline	(2)	9.409	129	620914	7.618
76) Caprolactam	(2)	9.514	113	95098	7.367
77) N-Nitrosodi-n-butylamine	(2)	9.554	84	341091	7.058
80) 4-Chloro-3-methylphenol	(2)	9.776	107	363734	7.691
82) Safrole	(2)	9.881	162	274189	7.626
83) 2-Methylnaphthalene	(2)	9.991	142	686775	7.680
84) 1-Methylnaphthalene	(2)	10.143	142	627624	7.721
85) Hexachlorocyclopentadiene	(3)	10.260	237	224421	7.723
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.260	216	387359	7.522
88) cis-Isosafrole	(3)	10.347	162	50557	1.300
90) 2,4,6-Trichlorophenol	(3)	10.446	196	221173	7.476
92) 2,4,5-Trichlorophenol	(3)	10.493	196	240504	7.544
93) \$2-Fluorobiphenyl	(3)	10.598	172	1558868	15.144
94) trans-Isosafrole	(3)	10.708	162	278982	6.328
95) 1,1'-Biphenyl	(3)	10.749	154	813868	7.542
96) 2-Chloronaphthalene	(3)	10.761	162	626034	7.269
98) 1-Chloronaphthalene	(3)	10.790	162	646062	7.976
100) 2-Nitroaniline	(3)	10.930	138	183454	7.826
99) Diphenyl ether	(3)	10.930	170	471893	7.586
104) 1,4-Naphthoquinone	(3)	11.046	158	268940	7.689
105) 1,4-Dinitrobenzene	(3)	11.163	168	78217	7.289
106) Dimethylphthalate	(3)	11.274	163	723082	7.384
107) 1,3-Dinitrobenzene	(3)	11.280	168	93134	7.251
108) 2,6-Dinitrotoluene	(3)	11.344	165	145667	7.556
109) Acenaphthylene	(3)	11.414	152	955677	7.596
112) 3-Nitroaniline	(3)	11.583	138	154718	7.491

M = Compound was manually integrated.

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 on 10/27/2016 at 10:13.

Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1711.d
Injection date and time: 20-OCT-2016 14:59

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:23
Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
113) *Acenaphthene-d10	(3)	11.635	164	358186	5.000
114) Acenaphthene	(3)	11.682	153	696042	7.515
115) 2,4-Dinitrophenol	(3)	11.740	184	77263	9.204
116) 4-Nitrophenol	(3)	11.845	109	112618M	6.661
117) Pentachlorobenzene	(3)	11.874	250	319558	7.468
119) Dibenzofuran	(3)	11.927	168	933050	7.532
118) 2,4-Dinitrotoluene	(3)	11.927	165	193685	7.388
121) 1-Naphthylamine	(3)	12.032	143	658223	7.202
122) 2,3,4,6-Tetrachlorophenol	(3)	12.096	232	189532	7.563
123) 2-Naphthylamine	(3)	12.136	143	647491	7.205
124) Diethylphthalate	(3)	12.282	149	727010	7.429
126) Fluorene	(3)	12.370	166	740705	7.469
125) Thionazin	(3)	12.375	107	160072	7.429
128) 5-Nitro-o-toluidine	(3)	12.387	152	186025	7.681
129) 4-Nitroaniline	(3)	12.393	138	174435	7.848
127) 4-Chlorophenyl-phenylether	(3)	12.393	204	383100	7.498
130) 4,6-Dinitro-2-methylphenol	(4)	12.440	198	89134	7.318
132) NDPA as diphenylamine	(4)	12.533	169	617087	7.701
131) N-Nitrosodiphenylamine	(4)	12.533	169	617087	7.701
134) 1,2-Diphenylhydrazine	(4)	12.574	77	974707	7.736
135) \$2,4,6-Tribromophenol	(3)	12.655	330	209862	15.114
137) Tetraethyldithiopyrophosphate	(4)	12.760	97	165267	7.794
139) 1,3,5-Trinitrobenzene	(4)	12.853	213	59470	6.946
140) Diallate (peak 1)	(4)	12.900	86	348450	6.357
141) Phorate	(4)	12.906	75	606544	7.993
142) Phenacetin	(4)	12.923	108	456150	8.066
143) 4-Bromophenyl-phenylether	(4)	12.976	248	227485	7.498
144) Diallate (peak 2)	(4)	13.005	86	57969	1.277
145) Hexachlorobenzene	(4)	13.034	284	248581	7.509
147) Dimethoate	(4)	13.098	87	369996	7.745
148) Atrazine	(4)	13.203	200	214296	7.544
149) Pentachlorophenol	(4)	13.285	266	138662	7.412
150) 4-Aminobiphenyl	(4)	13.296	169	803280	7.806
151) Pentachloronitrobenzene	(4)	13.302	237	102709	7.716
152) Pronamide	(4)	13.395	173	378308	7.884
153) *Phenanthrene-d10	(4)	13.518	188	701815	5.000
154) Dinoseb	(4)	13.541	211	136938	7.512
155) Phenanthrene	(4)	13.547	178	1130999	7.536
157) Anthracene	(4)	13.611	178	1143905	7.577
163) Carbazole	(4)	13.827	167	1064673	7.737

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on 10/27/2016 at 10:13.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1711.d
 Injection date and time: 20-OCT-2016 14:59

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:23
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SST7.5

Lab Sample ID: RVSTD2716

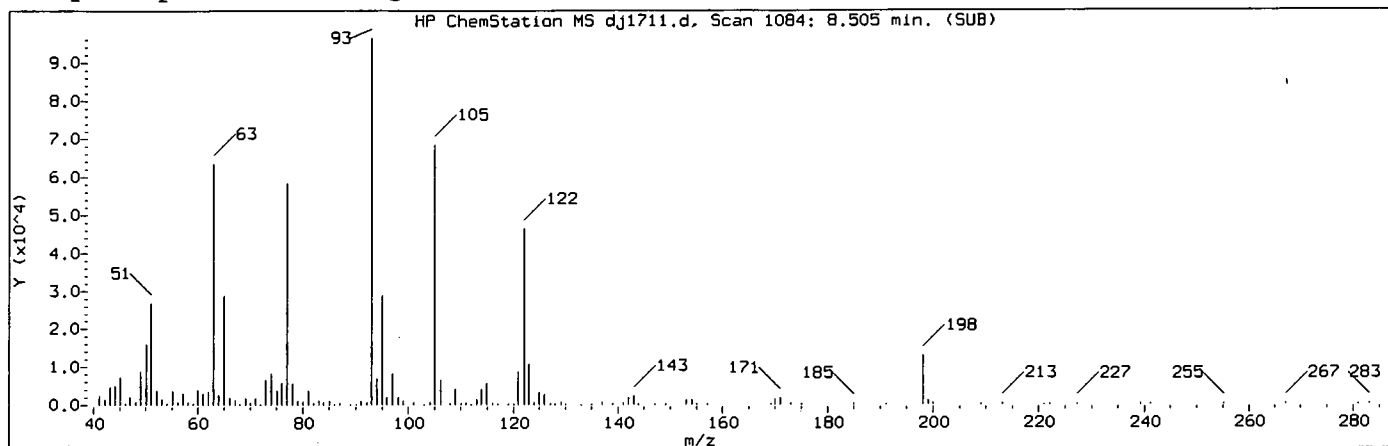
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
164) Methyl parathion	(4)	14.037	109	252963	7.600
165) Di-n-butylphthalate	(4)	14.345	149	1313319	7.712
167) Parathion	(4)	14.579	109	172196	7.589
168) 4-Nitroquinoline-1-oxide	(4)	14.584	190	89685	6.589
169) Octachlorostyrene	(4)	14.934	308	96915	7.398
171) Isodrin	(4)	14.981	193	142118	7.401
222) Total PAHs	(6)			21340342	137.352
173) Fluoranthene	(4)	15.191	202	1379444	7.671
174) Benzidine	(5)	15.418	184	2737393	22.946
175)*Pyrene-d10	(5)	15.505	212	891653	5.000
177) Pyrene	(5)	15.535	202	1449641	7.498
179)\$Terphenyl-d14	(5)	15.820	244	1984853	15.274
182) p-Dimethylaminoazobenzene	(5)	16.047	225	267355	7.723
185) Chlorobenzilate	(5)	16.147	139	403810	7.645
187) 3,3'-Dimethylbenzidine	(5)	16.607	212	980651	7.705
188) Butylbenzylphthalate	(5)	16.671	149	563088	7.793
191) 2-Acetylaminofluorene	(5)	17.027	181	553733	7.765
193) 3,3'-Dichlorobenzidine	(5)	17.528	252	558583	7.535
195) Benzo(a)anthracene	(5)	17.540	228	1458120	7.421
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.551	231	296633	7.392
196) Chrysene	(5)	17.598	228	1327325	7.397
199) bis(2-Ethylhexyl)phthalate	(5)	17.744	149	865325	7.835
203) 6-Methylchrysene	(5)	18.402	242	984250	7.442
205) Di-n-octylphthalate	(6)	18.903	149	1611577	7.965
206) Benzo(b)fluoranthene	(6)	19.387	252	1497986	7.607
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.393	256	605642	7.595
208) Benzo(k)fluoranthene	(6)	19.440	252	1444497	7.629
211) Benzo(a)pyrene	(6)	19.912	252	1427488	7.718
213)*Perylene-d12	(6)	19.999	264	837920	5.000
215) 3-Methylcholanthrene	(6)	20.483	268	708661	7.593
217) Dibenz(a,h)acridine	(6)	21.287	279	1221509	7.873
218) Dibenz(a,j)acridine	(6)	21.363	279	1189332	8.012
219) Indeno(1,2,3-cd)pyrene	(6)	21.602	276	1638657	7.907
220) Dibenz(a,h)anthracene	(6)	21.643	278	1373174	7.882
221) Benzo(g,h,i)perylene	(6)	21.987	276	1362998	8.024

* = Compound is an internal standard.

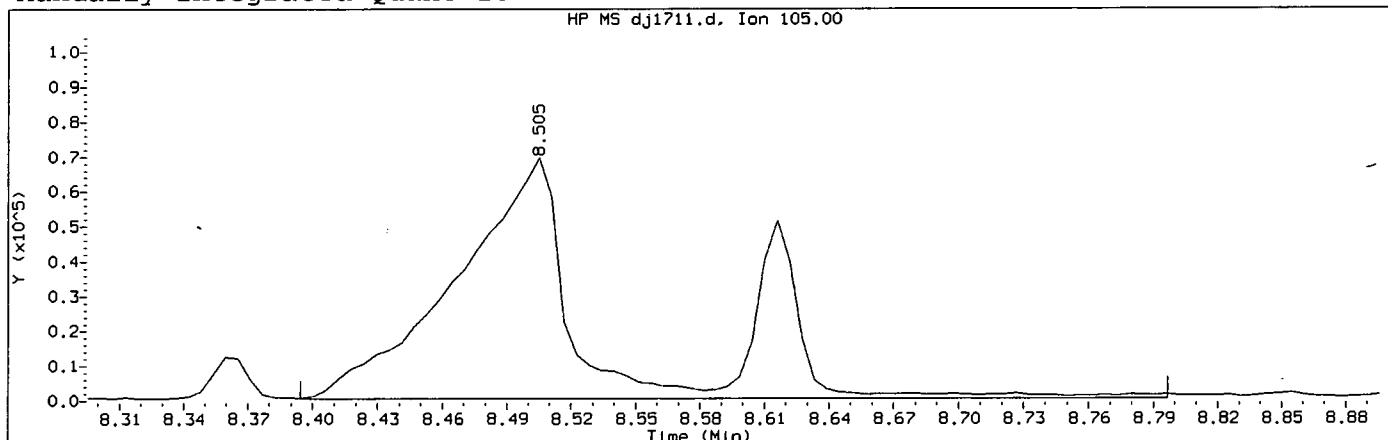
\$ = Compound is a surrogate standard.

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 on 10/27/2016 at 10:13.
 Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1711.d
Injection date and time: 20-OCT-2016 14:59

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:23
Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2716

Compound Number	: 56	
Compound Name	: Benzoic acid	
Scan Number	: 1084	
Retention Time (minutes)	: 8.505	
Quant Ion	: 105.00	
Area (flag)	: 316371M	
On-Column Amount (ng/ul)	: 9.7337	
Integration start scan	: 1064	Integration stop scan: 1133
Y at integration start	: 680	Y at integration end: 680

Reason for manual integration: improper integration

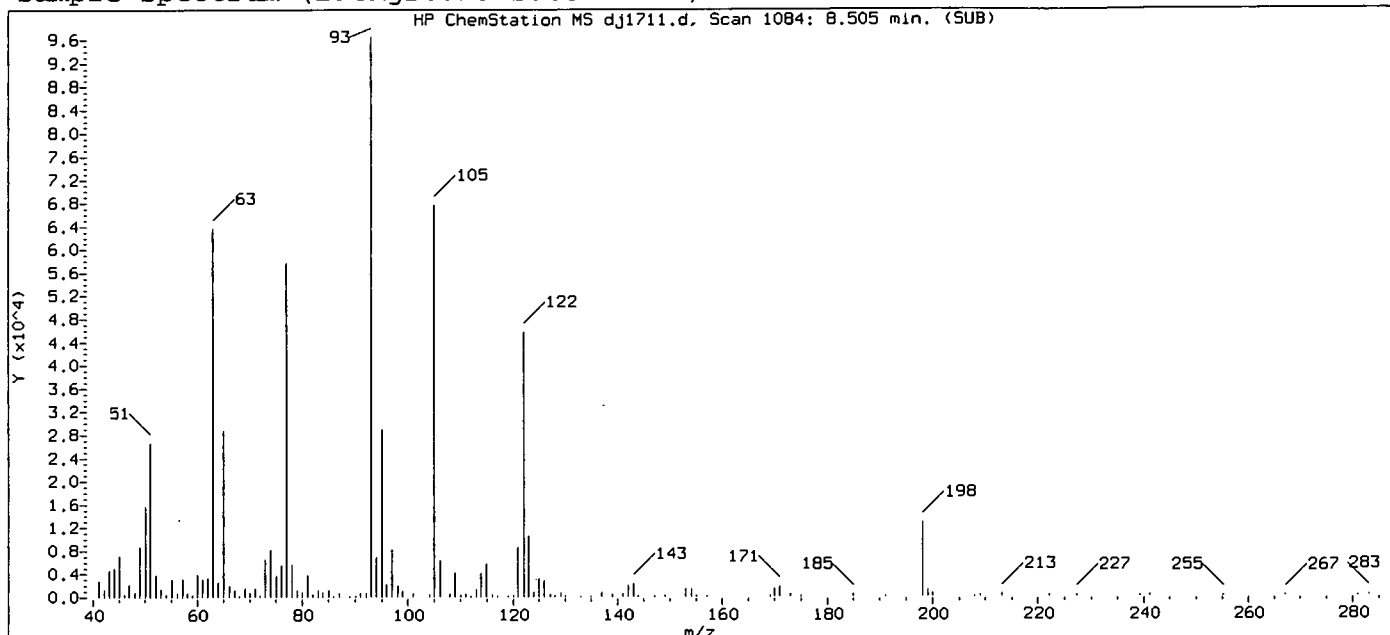
Digitally signed by Holly B. Ziegler
Analyst responsible for change: on 10/27/2016 at 10:13
Target 3.5 signature user ID: hbz01996

OCT 28 2016

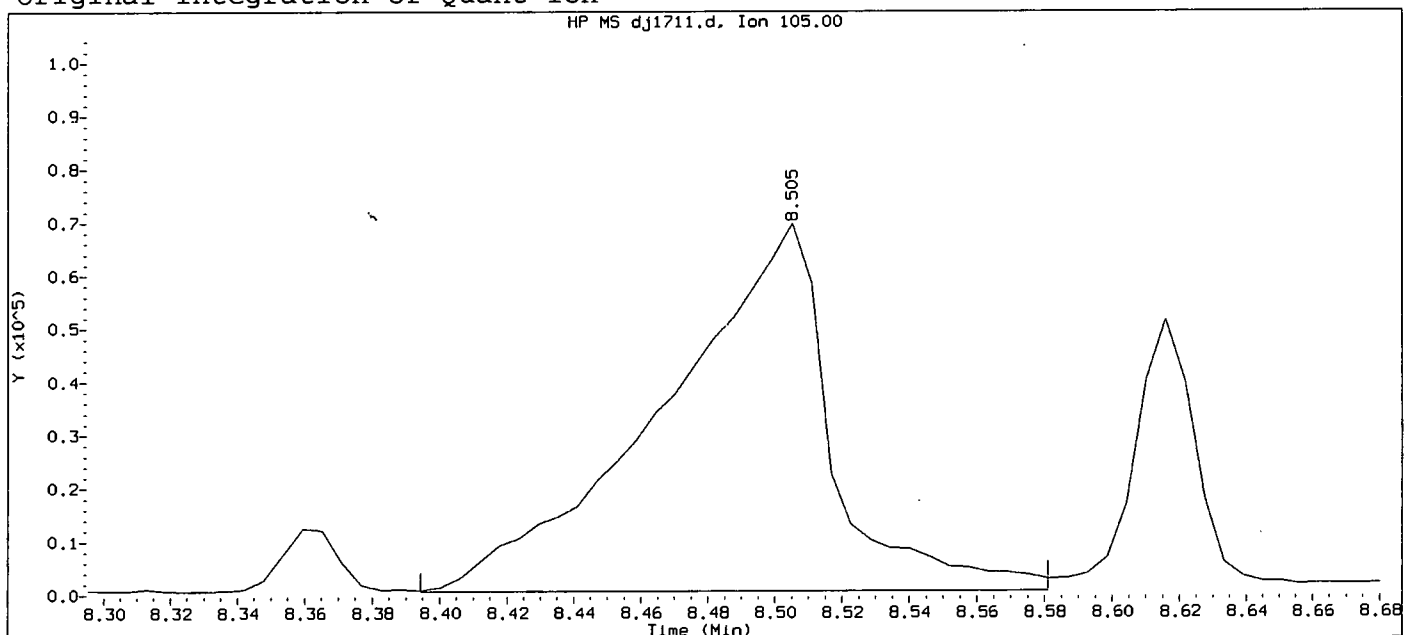
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1711.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 14:59

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all1

Calibration date and time: 27-OCT-2016 08:06

Date, time and analyst ID of latest file update: 27-Oct-2016 08:06 hbz01996

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2716

Compound Number : 56

Compound Name : Benzoic acid

Scan Number : 1084

Retention Time (minutes) : 8.505

Quant Ion : 105.00

Area : 241495

On-column Amount (ng/ul) : 8.4150

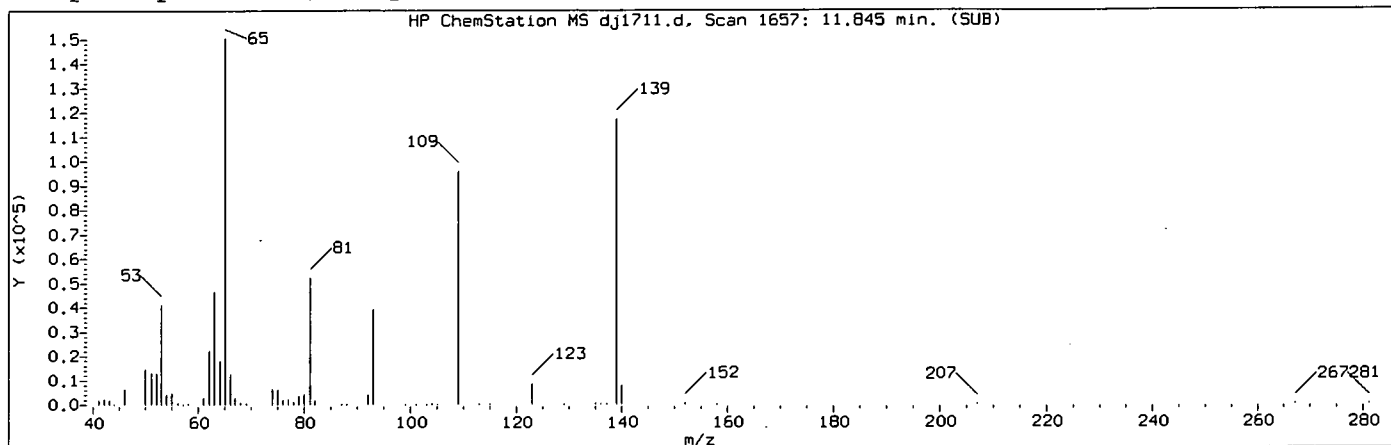
Integration start scan : 1064 Integration stop scan: 1096

Y at integration start : 626 Y at integration end: 626

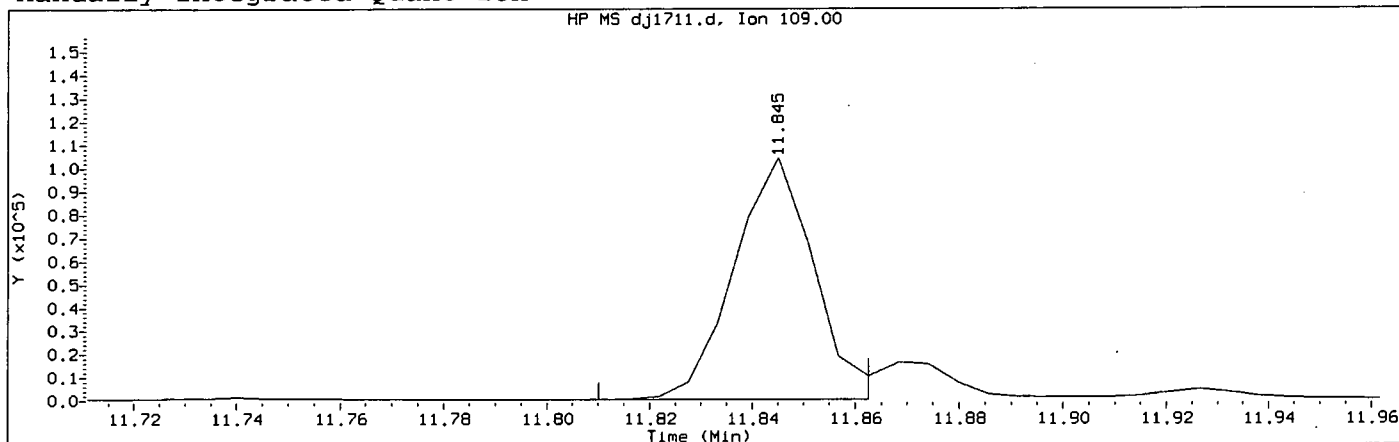
Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:13.

Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1711.d
Injection date and time: 20-OCT-2016 14:59

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:23
Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2716

Compound Number	: 116	
Compound Name	: 4-Nitrophenol	
Scan Number	: 1657	
Retention Time (minutes)	: 11.845	
Quant Ion	: 109.00	
Area (flag)	: 112618M	
On-Column Amount (ng/ul)	: 6.6614	
Integration start scan	: 1650	Integration stop scan: 1659
Y at integration start	: 462	Y at integration end: 462

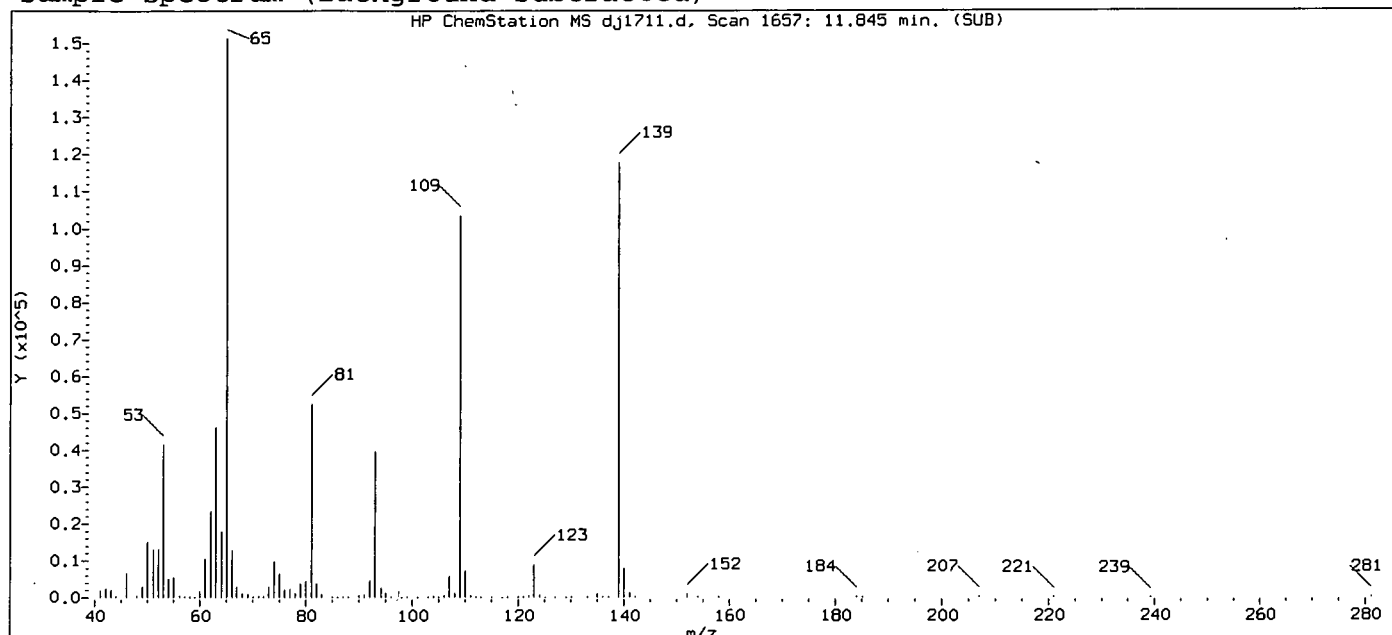
Reason for manual integration: improper integration

Analyst responsible for change: on 10/27/2016 at 10:12
Digitally signed by Holly B. Ziegler
Target 3.3 signature user ID: hbz01996

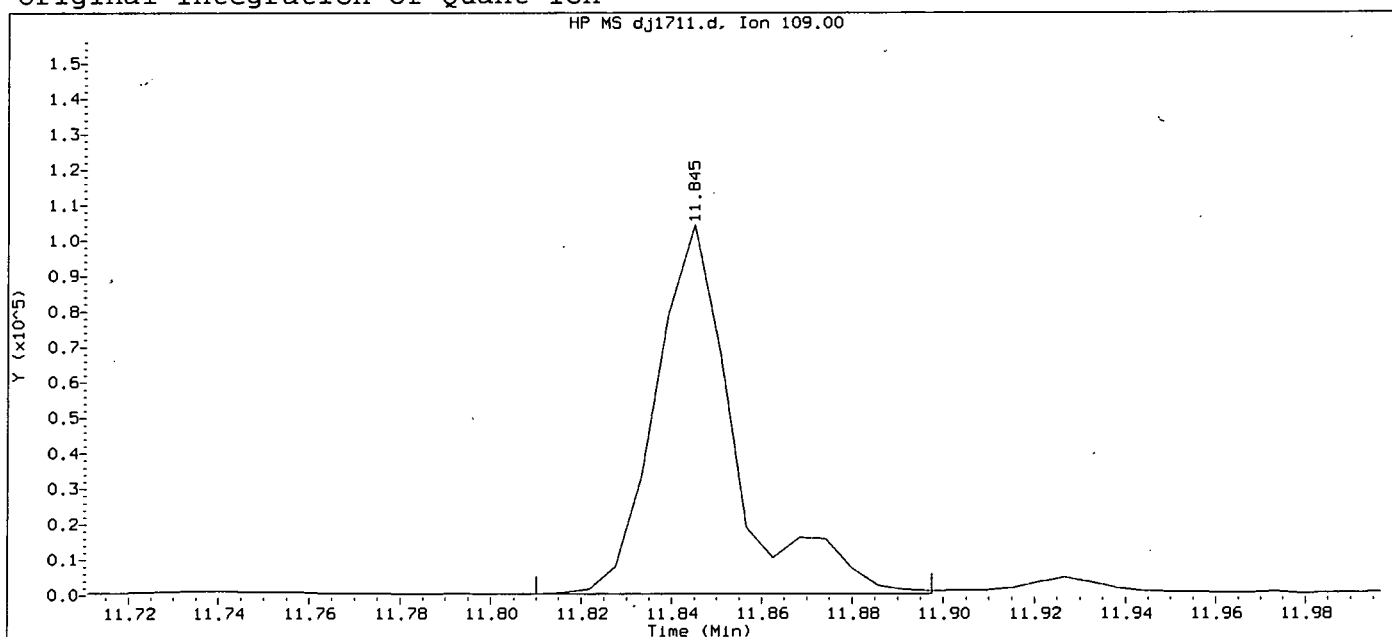
OCT 28 2016

GC/MS audit/management approval: Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1711.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 14:59

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all1

Calibration date and time: 27-OCT-2016 08:06

Date, time and analyst ID of latest file update: 27-Oct-2016 08:06 hbz01996

Sample Name: SSTD7.5

Lab Sample ID: RVSTD2716

Compound Number : 116

Compound Name : 4-Nitrophenol

Scan Number : 1657

Retention Time (minutes) : 11.845

Quant Ion : 109.00

Area : 127517

On-column Amount (ng/ul) : 7.0435

Integration start scan : 1650

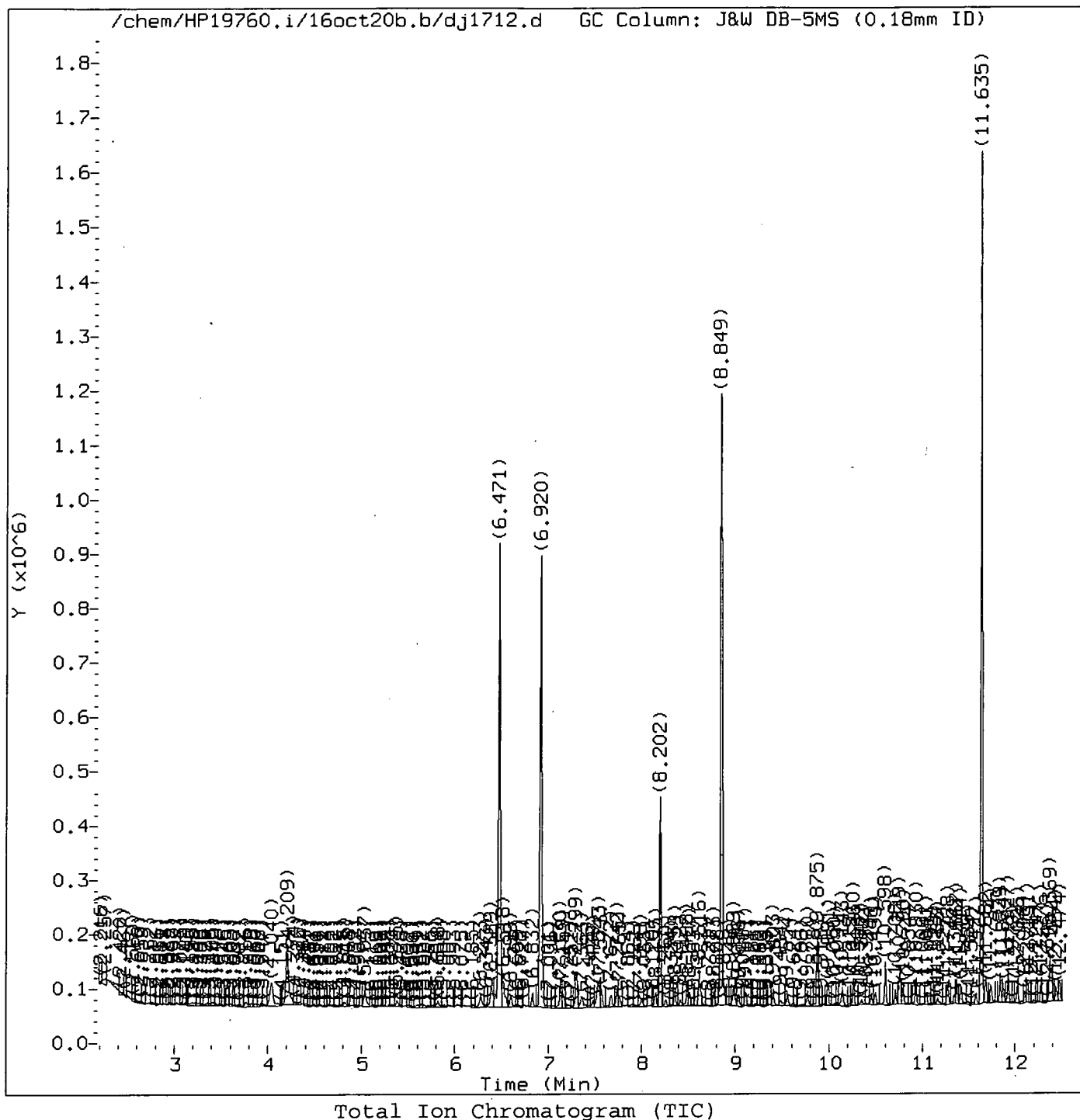
Integration stop scan: 1665

Y at integration start : 462

Y at integration end: 462

Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:13.

Target 3.5 esignature user ID: hbz01996



Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1712.d
Injection date and time: 20-OCT-2016 16:03

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:23
Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

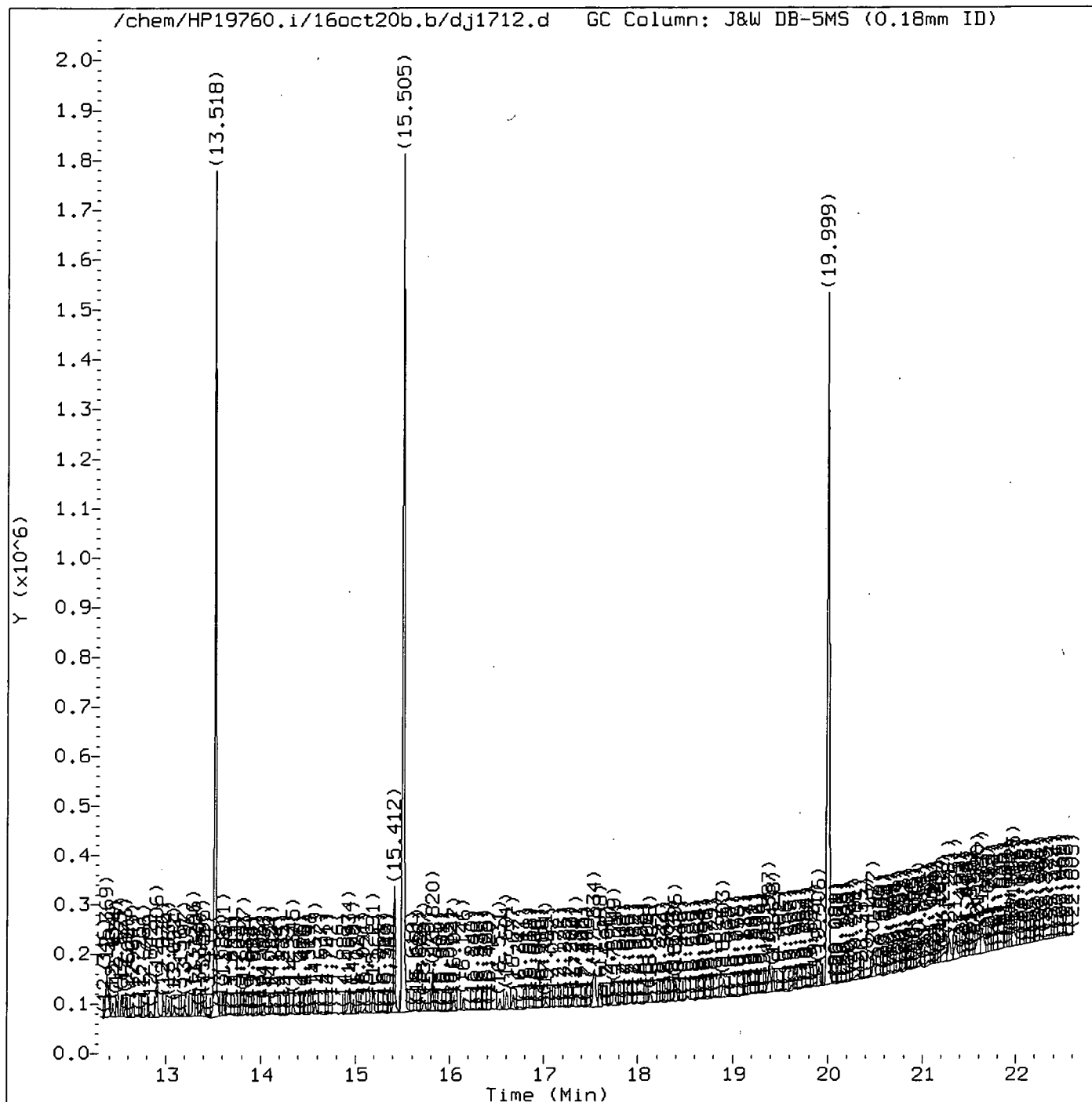
Sample Name: SSTD0.125

Lab Sample ID: RVSTD2716

Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:14.

Target 3.5 esignature user ID: hbz01996

page 1 of 2



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1712.d
Injection date and time: 20-OCT-2016 16:03

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:23
Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: RVSTD2716

Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:14.
Target 3.5 esignature user ID: hbz01996

page 2 of 2

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1712.d
 Injection date and time: 20-OCT-2016 16:03

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all1

Calibration date and time: 27-OCT-2016 08:23

Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
5) Pyridine	(1)	3.032	79	1275	0.019
4) N-Nitrosodimethylamine	(1)	3.073	74	5171	0.131
7) 2-Picoline	(1)	4.192	93	1212	0.017
9) Methyl methanesulfonate	(1)	4.816	80	4093	0.115
11) \$2-Fluorophenol	(1)	5.037	112	15297	0.299
13) N-Nitrosodiethylamine	(1)	5.375	102	3313	0.124
42) Total Cresols	(1)			15019	0.276
15) Ethyl methanesulfonate	(1)	5.818	109	3763	0.136
16) Benzaldehyde	(1)	6.273	77	7636	0.157
17) \$Phenol-d6	(1)	6.389	99	18925	0.271
18) Phenol	(1)	6.407	94	11779	0.144
19) Aniline	(1)	6.436	93	13962	0.142
20) a-methylstyrene	(1)	6.518	118	10169	0.192
22) bis(2-Chloroethyl) ether	(1)	6.547	93	9000	0.146
23) 2-Chlorophenol	(1)	6.599	128	6658	0.142
24) 1,3-Dichlorobenzene	(1)	6.832	146	6492	0.125
25) *1,4-Dichlorobenzene-d4	(1)	6.920	152	159346	5.000
26) 1,4-Dichlorobenzene	(1)	6.943	146	6907	0.131
27) Benzyl alcohol	(1)	7.130	108	7434	0.207
28) 1,2-Dichlorobenzene	(1)	7.159	146	5923	0.119
30) Indene	(1)	7.299	115	18618	0.204
31) 2-Methylphenol	(1)	7.304	108	7073	0.139
34) bis(2-Chloroisopropyl) ether	(1)	7.363	45	9054	0.128
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.363	45	9054	0.128
97) Isosafrole	(3)			5257	0.124
35) N-Nitrosopyrrolidine	(1)	7.479	100	3835	0.131
36) Acetophenone	(1)	7.526	105	10823	0.133
37) 4-Methylphenol	(1)	7.543	108	7946	0.137
38) N-Nitroso-di-n-propylamine	(1)	7.543	70	7018	0.147
39) N-Nitrosomorpholine	(1)	7.549	56	5327	0.157
40) o-Toluidine	(1)	7.573	106	12133	0.131
43) Hexachloroethane	(1)	7.672	117	4037	0.170
44) \$Nitrobenzene-d5	(2)	7.736	82	17405	0.275
45) Nitrobenzene	(2)	7.765	77	9358	0.145
48) N-Nitrosopiperidine	(2)	8.004	114	3438	0.134
120) 2,4,2,6-Dinitrotoluenes	(3)			4960	0.224
50) Isophorone	(2)	8.155	82	15496	0.134
51) 2-Nitrophenol	(2)	8.266	139	2135	0.113
53) 2,4-Dimethylphenol	(2)	8.359	107	9402	0.167
56) Benzoic acid	(2)	8.418	105	5315	0.164

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
 on 10/27/2016 at 10:14.

Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1712.d
 Injection date and time: 20-OCT-2016 16:03

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:23
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SSTDO.125

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
57) 0,0,0-Triethylphosphorothioate	(2)	8.488	198	3068	0.115
55) bis(2-Chloroethoxy)methane	(2)	8.517	93	9292	0.128
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.616	104	17490	0.211
60) 2,4-Dichlorophenol	(2)	8.633	162	4725	0.123
62) 1,2,4-Trichlorobenzene	(2)	8.773	180	5625	0.127
146) Diallate trans/cis	(4)			6857	0.136
65) *Naphthalene-d8	(2)	8.849	136	581632	5.000
66) Naphthalene	(2)	8.884	128	17827	0.135
67) 4-Chloroaniline	(2)	8.983	127	7712	0.137
68) 2,6-Dichlorophenol	(2)	8.995	162	4535	0.121
69) Hexachloropropene	(2)	9.036	213	3830	0.117
71) Hexachlorobutadiene	(2)	9.111	225	3653	0.128
75) Quinoline	(2)	9.409	129	11919	0.147
76) Caprolactam	(2)	9.478	113	1809	0.141
77) N-Nitrosodi-n-butylamine	(2)	9.554	84	5945	0.124
80) 4-Chloro-3-methylphenol	(2)	9.770	107	7058	0.150
82) Safrole	(2)	9.881	162	4390	0.123
83) 2-Methylnaphthalene	(2)	9.991	142	11293	0.127
84) 1-Methylnaphthalene	(2)	10.143	142	9557	0.118
85) Hexachlorocyclopentadiene	(3)	10.260	237	3646	0.128
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.260	216	6349	0.126
88) cis-Isosafrole	(3)	10.341	162	827	0.022
90) 2,4,6-Trichlorophenol	(3)	10.446	196	3126	0.108
92) 2,4,5-Trichlorophenol	(3)	10.493	196	3838	0.123
93) \$2-Fluorobiphenyl	(3)	10.598	172	25849	0.256
94) trans-Isosafrole	(3)	10.708	162	4430	0.103
95) 1,1'-Biphenyl	(3)	10.749	154	12303	0.116
96) 2-Chloronaphthalene	(3)	10.761	162	10581	0.125
98) 1-Chloronaphthalene	(3)	10.790	162	10338	0.130
100) 2-Nitroaniline	(3)	10.924	138	2652	0.116
99) Diphenyl ether	(3)	10.930	170	7770	0.128
104) 1,4-Naphthoquinone	(3)	11.041	158	3882	0.113
105) 1,4-Dinitrobenzene	(3)	11.163	168	809	0.077
107) 1,3-Dinitrobenzene	(3)	11.163	168	809	0.064
106) Dimethylphthalate	(3)	11.268	163	12621	0.132
108) 2,6-Dinitrotoluene	(3)	11.338	165	2209	0.117
109) Acenaphthylene	(3)	11.414	152	15681	0.127
112) 3-Nitroaniline	(3)	11.577	138	2309	0.114
113) *Acenaphthene-d10	(3)	11.635	164	350793	5.000
114) Acenaphthene	(3)	11.682	153	11788	0.130

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1712.d
 Injection date and time: 20-OCT-2016 16:03

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:23
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
115) 2,4-Dinitrophenol	(3)	11.734	184	4279	0.520
116) 4-Nitrophenol	(3)	11.839	109	8468	0.511
117) Pentachlorobenzene	(3)	11.874	250	5295	0.126
118) 2,4-Dinitrotoluene	(3)	11.921	165	2751	0.107
119) Dibenzofuran	(3)	11.927	168	15914	0.131
121) 1-Naphthylamine	(3)	12.026	143	10378	0.116
122) 2,3,4,6-Tetrachlorophenol	(3)	12.101	232	2734	0.111
123) 2-Naphthylamine	(3)	12.131	143	11689	0.133
124) Diethylphthalate	(3)	12.276	149	12260	0.128
126) Fluorene	(3)	12.369	166	11979	0.123
125) Thionazin	(3)	12.369	107	3458	0.164
128) 5-Nitro-o-toluidine	(3)	12.381	152	2427	0.102
129) 4-Nitroaniline	(3)	12.381	138	2186	0.100
127) 4-Chlorophenyl-phenylether	(3)	12.393	204	6624	0.132
130) 4,6-Dinitro-2-methylphenol	(4)	12.434	198	3669	0.314
132) NDPA as diphenylamine	(4)	12.527	169	9602	0.125
131) N-Nitrosodiphenylamine	(4)	12.527	169	9602	0.125
134) 1,2-Diphenylhydrazine	(4)	12.573	77	16759	0.139
135) 2,4,6-Tribromophenol	(3)	12.655	330	3242	0.238
137) Tetraethyldithiopyrophosphate	(4)	12.760	97	3128	0.154
140) Diallate (peak 1)	(4)	12.900	86	5468	0.104
141) Phorate	(4)	12.906	75	9095	0.125
142) Phenacetin	(4)	12.912	108	6551	0.121
143) 4-Bromophenyl-phenylether	(4)	12.976	248	3866	0.133
144) Diallate (peak 2)	(4)	13.005	86	1389	0.032
145) Hexachlorobenzene	(4)	13.034	284	4416	0.139
147) Dimethoate	(4)	13.092	87	5083	0.111
148) Atrazine	(4)	13.197	200	3631	0.133
149) Pentachlorophenol	(4)	13.285	266	1575	0.088
150) 4-Aminobiphenyl	(4)	13.290	169	13510	0.137
151) Pentachloronitrobenzene	(4)	13.296	237	1385	0.109
152) Pronamide	(4)	13.395	173	5647	0.123
153) *Phenanthrene-d10	(4)	13.518	188	672739	5.000
155) Phenanthrene	(4)	13.547	178	18429	0.128
157) Anthracene	(4)	13.611	178	18519	0.128
163) Carbazole	(4)	13.827	167	16951	0.129
164) Methyl parathion	(4)	14.036	109	4633	0.145
165) Di-n-butylphthalate	(4)	14.345	149	20967	0.128
167) Parathion	(4)	14.579	109	2362	0.109
168) 4-Nitroquinoline-1-oxide	(4)	14.579	190	720	0.055

* = Compound is an internal standard.

\$ = Compound is a surrogate standard..

Digitally signed by Holly B. Ziegler
 on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1712.d
 Injection date and time: 20-OCT-2016 16:03

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:23
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SSTDO.125

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
169) Octachlorostyrene	(4)	14.934	308	2575	0.205
171) Isodrin	(4)	14.981	193	3344	0.182
222) Total PAHs	(6)			336911	2.281
173) Fluoranthene	(4)	15.191	202	22080	0.128
174) Benzidine	(5)	15.412	184	119080	1.068
175) *Pyrene-d10	(5)	15.505	212	833618	5.000
177) Pyrene	(5)	15.534	202	24127	0.133
179) \$Terphenyl-d14	(5)	15.820	244	30702	0.253
182) p-Dimethylaminoazobenzene	(5)	16.053	225	3985	0.123
185) Chlorobenzilate	(5)	16.146	139	6345	0.128
187) 3,3'-Dimethylbenzidine	(5)	16.607	212	14432	0.121
188) Butylbenzylphthalate	(5)	16.671	149	7493	0.111
191) 2-Acetylaminofluorene	(5)	17.021	181	5333	0.080
193) 3,3'-Dichlorobenzidine	(5)	17.528	252	8516	0.123
195) Benzo(a)anthracene	(5)	17.534	228	22938	0.125
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.551	231	4205	0.112
196) Chrysene	(5)	17.598	228	20593	0.123
199) bis(2-Ethylhexyl)phthalate	(5)	17.749	149	12032	0.117
203) 6-Methylchrysene	(5)	18.402	242	15856	0.128
205) Di-n-octylphthalate	(6)	18.903	149	21480	0.113
206) Benzo(b)fluoranthene	(6)	19.381	252	22958	0.125
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.387	256	8441	0.113
208) Benzo(k)fluoranthene	(6)	19.428	252	21816	0.123
211) Benzo(a)pyrene	(6)	19.906	252	22018M	0.127
213) *Perylene-d12	(6)	19.999	264	783777	5.000
215) 3-Methylcholanthrene	(6)	20.477	268	11684	0.134
217) Dibenz(a,h)acridine	(6)	21.287	279	18560	0.128
218) Dibenz(a,j)acridine	(6)	21.357	279	17350	0.125
219) Indeno(1,2,3-cd)pyrene	(6)	21.596	276	24188	0.125
220) Dibenz(a,h)anthracene	(6)	21.637	278	20349	0.125
221) Benzo(g,h,i)perylene	(6)	21.975	276	20771	0.131

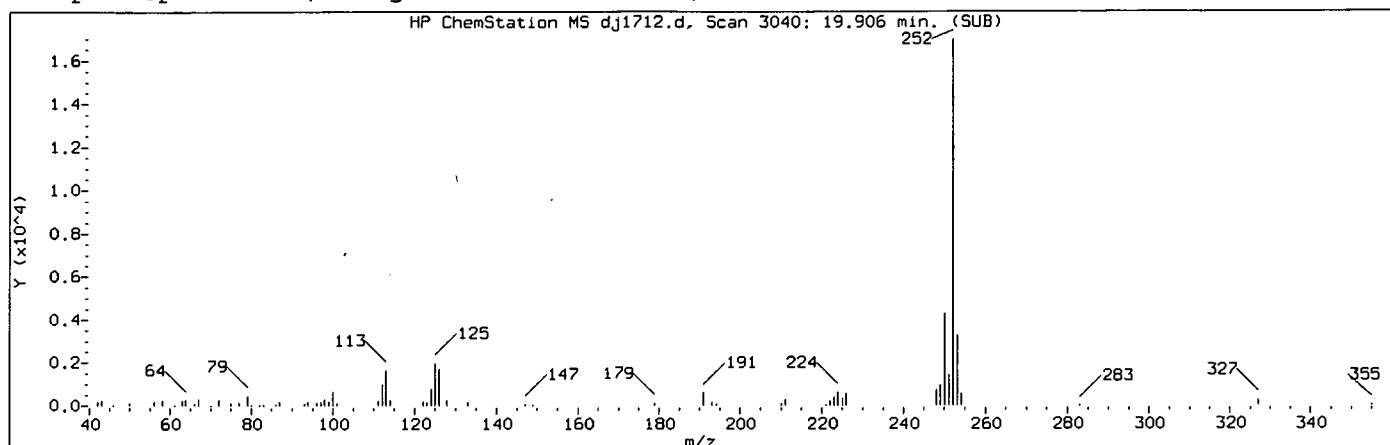
M = Compound was manually integrated.

* = Compound is an internal standard.

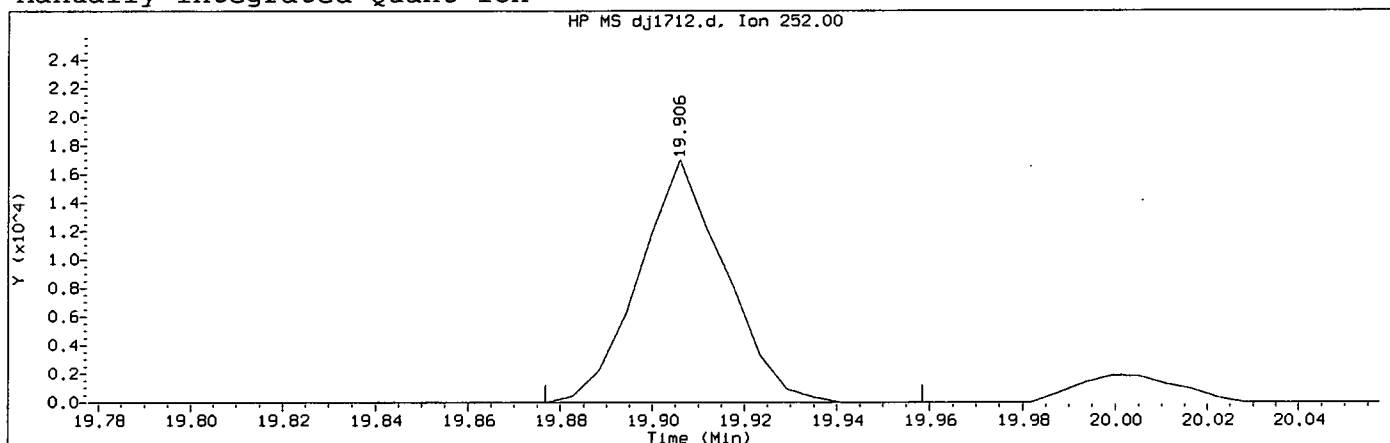
\$ = Compound is a surrogate standard.

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 on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1712.d
Injection date and time: 20-OCT-2016 16:03

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:23
Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: RVSTD2716

Compound Number	: 211	
Compound Name	: Benzo(a)pyrene	
Scan Number	: 3040	
Retention Time (minutes)	: 19.906	
Quant Ion	: 252.00	
Area (flag)	: 22018M	
On-Column Amount (ng/ul)	: 0.1273	
Integration start scan	: 3034	Integration stop scan: 3048
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

Digitally signed by Holly B. Ziegler
Analyst responsible for change: on 10/27/2016 at 10:14.
Target 3.5 signature user ID: hbz01996

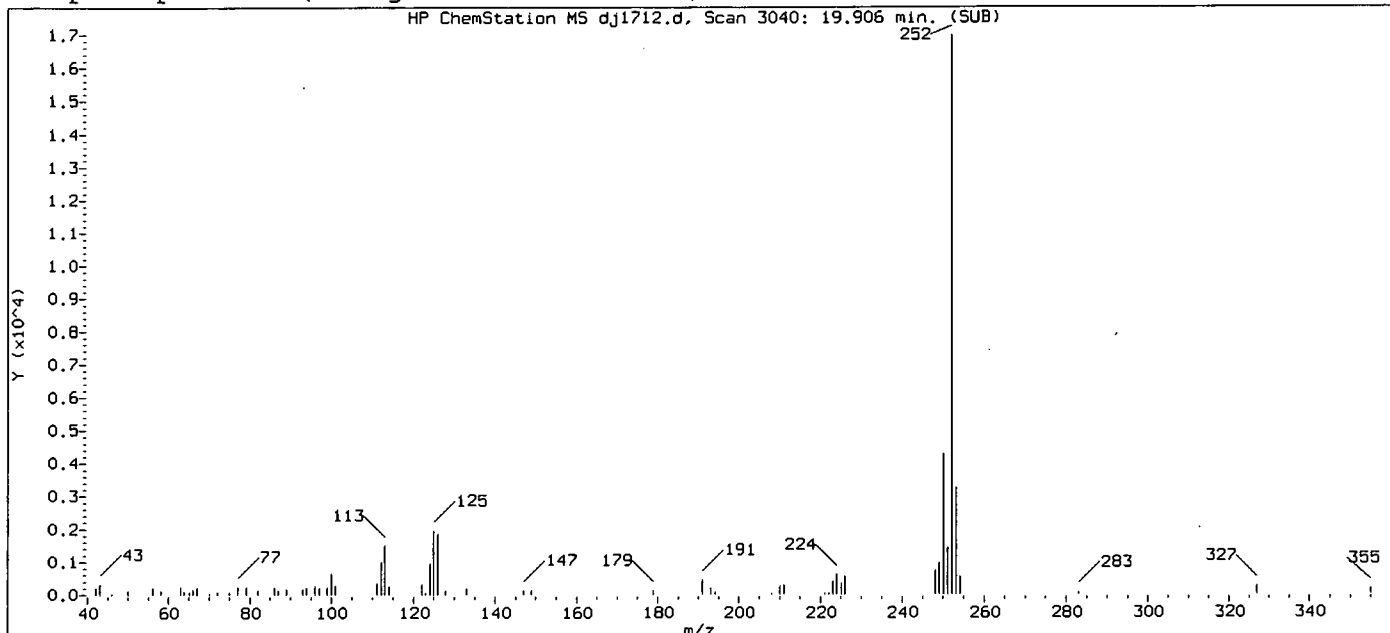
[Handwritten signature]

OCT 28 2016

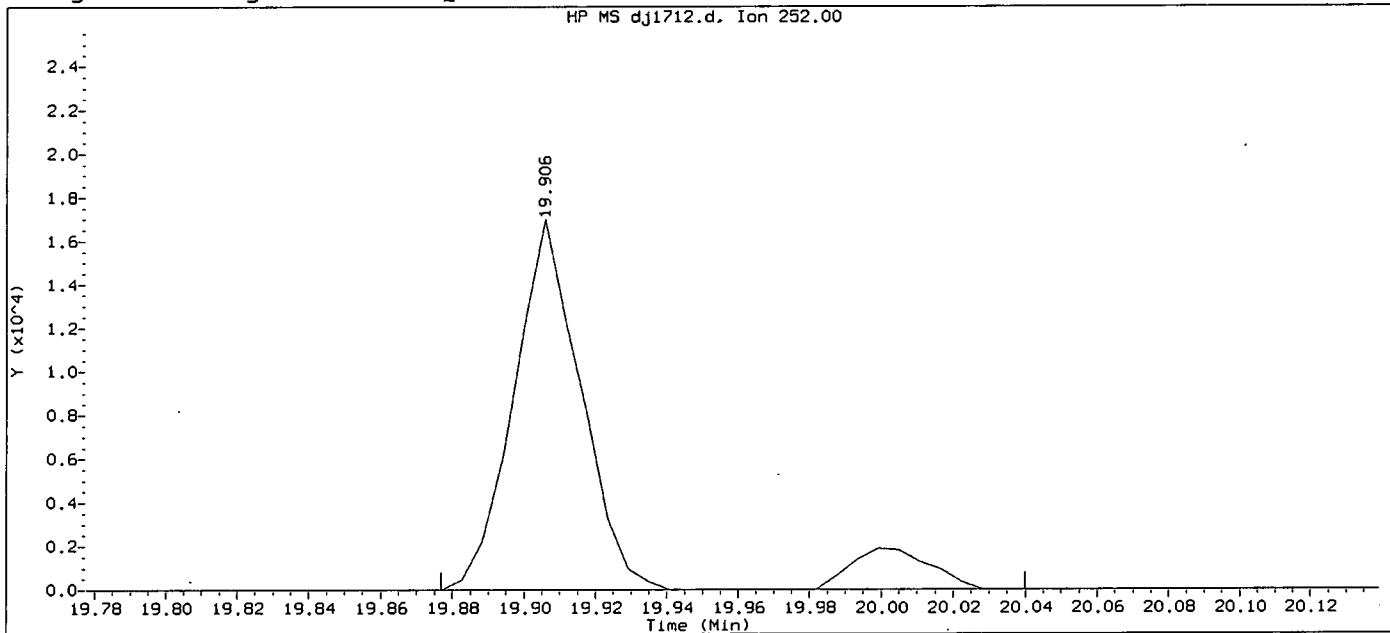
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1712.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 16:03

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all1

Calibration date and time: 27-OCT-2016 08:06

Date, time and analyst ID of latest file update: 27-Oct-2016 08:06 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: RVSTD2716

Compound Number : 211

Compound Name : Benzo(a)pyrene

Scan Number : 3040

Retention Time (minutes) : 19.906

Quant Ion : 252.00

Area : 24913

On-column Amount (ng/ul) : 0.1390

Integration start scan : 3034

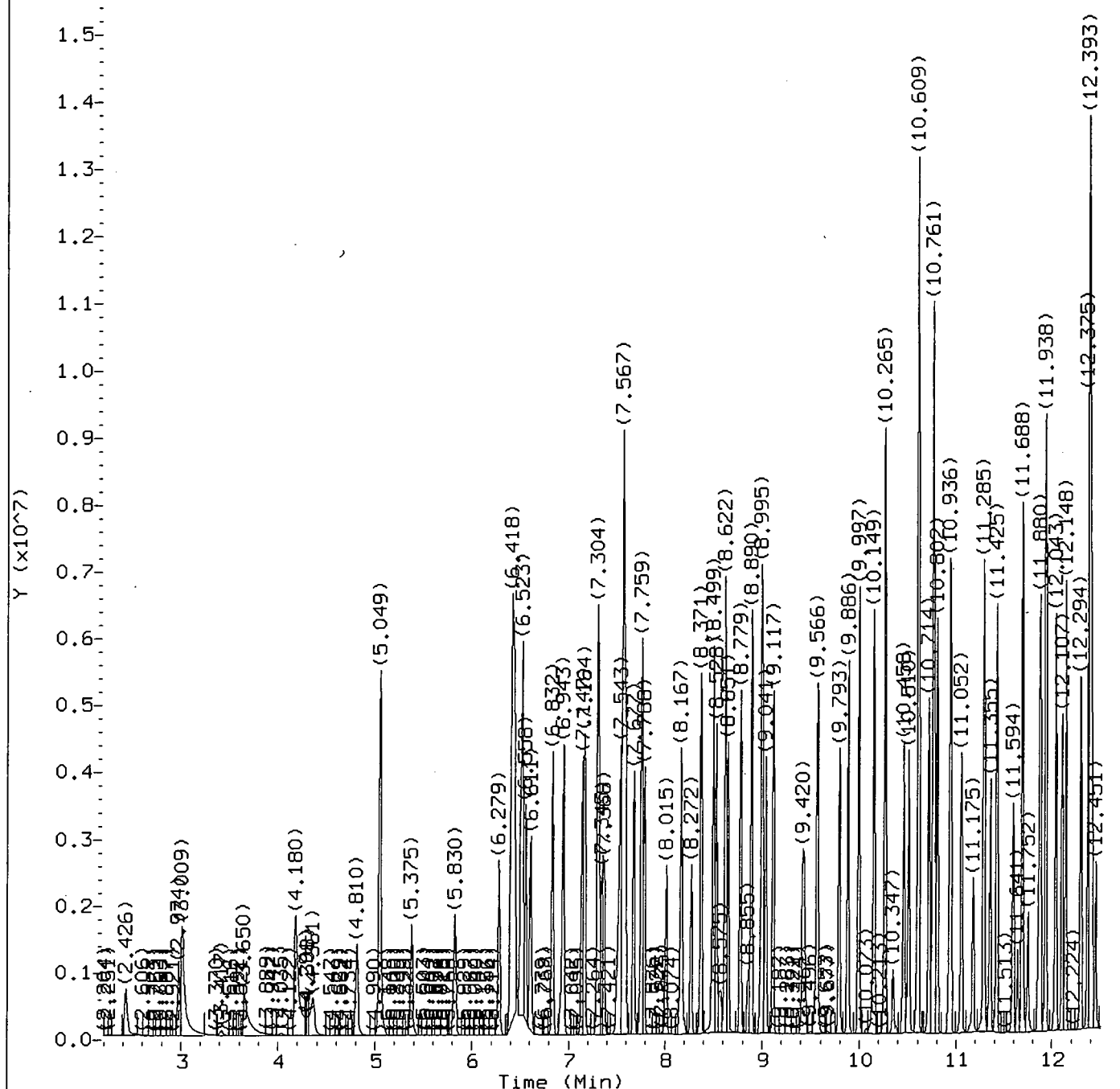
Integration stop scan: 3062

Y at integration start : 0

Y at integration end: 0

Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:14.

Target 3.5 esignature user ID: hbz01996



Target Revision 3.5

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:23
Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Lab Sample ID: RVSTD2716

Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:14.

Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1713.d
 Injection date and time: 20-OCT-2016 16:31

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all1

Calibration date and time: 27-OCT-2016 08:23

Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SSTD030

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
1) 1,4-Dioxane	(1)	2.426	88	642080	30.311
4) N-Nitrosodimethylamine	(1)	2.974	74	1011667	30.509
5) Pyridine	(1)	3.009	79	1661184	30.093
7) 2-Picoline	(1)	4.180	93	1758287	30.020
8) N-Nitrosomethylethylamine	(1)	4.361	88	723957	30.057
9) Methyl methanesulfonate	(1)	4.816	80	902708	30.309
11) \$2-Fluorophenol	(1)	5.049	112	2584006	60.402
13) N-Nitrosodiethylamine	(1)	5.375	102	692224	30.840
42) Total Cresols	(1)			2796741	61.230
15) Ethyl methanesulfonate	(1)	5.830	109	696798	30.092
16) Benzaldehyde	(1)	6.279	77	942743	23.095
17) \$Phenol-d6	(1)	6.413	99	3521316	60.247
18) Phenol	(1)	6.430	94	2073001	30.218
19) Aniline	(1)	6.442	93	2472318	30.088
20) a-methylstyrene	(1)	6.523	118	1328050	30.015
22) bis(2-Chloroethyl)ether	(1)	6.558	93	1524860	29.496
23) 2-Chlorophenol	(1)	6.611	128	1185548	30.234
24) 1,3-Dichlorobenzene	(1)	6.832	146	1308832	30.051
25) *1,4-Dichlorobenzene-d4	(1)	6.920	152	133466	5.000
26) 1,4-Dichlorobenzene	(1)	6.949	146	1319068	29.802
27) Benzyl alcohol	(1)	7.141	108	913496	30.333
28) 1,2-Dichlorobenzene	(1)	7.164	146	1263911	30.385
30) Indene	(1)	7.304	115	2306498	30.149
31) 2-Methylphenol	(1)	7.316	108	1303076	30.559
34) bis(2-Chloroisopropyl)ether	(1)	7.368	45	1771226	30.001
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.368	45	1771226	30.001
97) Isosafrole	(3)			1122190	30.892
35) N-Nitrosopyrrolidine	(1)	7.514	100	783303	31.857
36) Acetophenone	(1)	7.538	105	2044452	29.982
37) 4-Methylphenol	(1)	7.567	108	1493665	30.671
38) N-Nitroso-di-n-propylamine	(1)	7.572	70	1195328	29.989
39) N-Nitrosomorpholine	(1)	7.578	56	853467	29.971
40) o-Toluidine	(1)	7.590	106	2341505	30.158
43) Hexachloroethane	(1)	7.677	117	600976	30.216
44) \$Nitrobenzene-d5	(2)	7.759	82	3353404	61.790
45) Nitrobenzene	(2)	7.788	77	1701895	30.780
48) N-Nitrosopiperidine	(2)	8.015	114	687512	31.249
120) 2,4,6-Dinitrotoluenes	(3)			1291955	67.527
50) Isophorone	(2)	8.167	82	3034805	30.640
51) 2-Nitrophenol	(2)	8.272	139	535437	33.165

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1713.d
 Injection date and time: 20-OCT-2016 16:31

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all1

Calibration date and time: 27-OCT-2016 08:23

Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SSTD030

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
53) 2,4-Dimethylphenol	(2)	8.371	107	1505314	31.176
57) O,O,O-Triethylphosphorothioate	(2)	8.499	198	704136	30.810
55) bis(2-Chloroethoxy)methane	(2)	8.528	93	1859885	29.894
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.622	104	2149155	30.178
56) Benzoic acid	(2)	8.622	105	998248M	35.984
60) 2,4-Dichlorophenol	(2)	8.651	162	1031072	31.269
146) Diallate trans/cis	(4)			1474707	30.788
62) 1,2,4-Trichlorobenzene	(2)	8.779	180	1159324	30.524
65)*Naphthalene-d8	(2)	8.855	136	499016	5.000
66) Naphthalene	(2)	8.890	128	3401847	29.925
67) 4-Chloroaniline	(2)	8.995	127	1483471	30.647
68) 2,6-Dichlorophenol	(2)	9.006	162	1001699	31.030
69) Hexachloropropene	(2)	9.041	213	879902	31.298
71) Hexachlorobutadiene	(2)	9.117	225	759118	30.959
75) Quinoline	(2)	9.420	129	2082989	29.942
77) N-Nitrosodi-n-butylamine	(2)	9.566	84	1434993	34.789
76) Caprolactam	(2)	9.578	113	343726A	31.198
80) 4-Chloro-3-methylphenol	(2)	9.793	107	1256011	31.117
82) Safrole	(2)	9.886	162	943892	30.759
83) 2-Methylnaphthalene	(2)	9.997	142	2343230	30.699
84) 1-Methylnaphthalene	(2)	10.149	142	2123463	30.607
85) Hexachlorocyclopentadiene	(3)	10.259	237	760043	31.105
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.265	216	1323152	30.556
88) cis-Isosafrole	(3)	10.347	162	172805	5.283
90) 2,4,6-Trichlorophenol	(3)	10.458	196	773178	31.079
92) 2,4,5-Trichlorophenol	(3)	10.510	196	822371	30.674
93)\$2-Fluorobiphenyl	(3)	10.609	172	5108826	59.021
94) trans-Isosafrole	(3)	10.714	162	949385	25.608
95) 1,1'-Biphenyl	(3)	10.761	154	2717856	29.950
96) 2-Chloronaphthalene	(3)	10.767	162	2183325	30.146
98) 1-Chloronaphthalene	(3)	10.802	162	2049665	30.091
99) Diphenyl ether	(3)	10.936	170	1597897	30.546
100) 2-Nitroaniline	(3)	10.947	138	649546	32.952
104) 1,4-Naphthoquinone	(3)	11.058	158	910793	30.964
105) 1,4-Dinitrobenzene	(3)	11.175	168	306763	33.997
106) Dimethylphthalate	(3)	11.285	163	2477846	30.091
107) 1,3-Dinitrobenzene	(3)	11.291	168	361292	33.450
108) 2,6-Dinitrotoluene	(3)	11.355	165	546652	33.721
109) Acenaphthylene	(3)	11.425	152	3225927	30.492
112) 3-Nitroaniline	(3)	11.594	138	591237	34.043

M = Compound was manually integrated.

A = User selected an alternate hit.

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\$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
 on 10/27/2016 at 10:14.

Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1713.d
 Injection date and time: 20-OCT-2016 16:31

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:23
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SSTD030

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
113) *Acenaphthene-d10	(3)	11.641	164	301205	5.000
114) Acenaphthene	(3)	11.688	153	2360011	30.301
115) 2,4-Dinitrophenol	(3)	11.752	184	248141	35.150
116) 4-Nitrophenol	(3)	11.868	109	477408	33.581
117) Pentachlorobenzene	(3)	11.880	250	1105144	30.713
119) Dibenzofuran	(3)	11.932	168	3118386	29.937
118) 2,4-Dinitrotoluene	(3)	11.944	165	745303	33.806
121) 1-Naphthylamine	(3)	12.043	143	2399625	31.221
122) 2,3,4,6-Tetrachlorophenol	(3)	12.107	232	708771	33.635
123) 2-Naphthylamine	(3)	12.148	143	2312781	30.606
124) Diethylphthalate	(3)	12.300	149	2578285	31.331
126) Fluorene	(3)	12.375	166	2523988	30.266
125) Thionazin	(3)	12.387	107	560869	30.956
127) 4-Chlorophenyl-phenylether	(3)	12.399	204	1307752	30.439
128) 5-Nitro-o-toluidine	(3)	12.404	152	686385	33.704
129) 4-Nitroaniline	(3)	12.416	138	610622	32.671
130) 4,6-Dinitro-2-methylphenol	(4)	12.457	198	375942	34.265
132) NDPA as diphenylamine	(4)	12.539	169	2155033	29.860
131) N-Nitrosodiphenylamine	(4)	12.539	169	2155033	29.860
134) 1,2-Diphenylhydrazine	(4)	12.585	77	3330122	29.345
135) \$2,4,6-Tribromophenol	(3)	12.667	330	799818	68.499
137) Tetraethyldithiopyrophosphate	(4)	12.772	97	580945	30.417
139) 1,3,5-Trinitrobenzene	(4)	12.877	213	271233	35.170
140) Diallate (peak 1)	(4)	12.912	86	1256427	25.449
141) Phorate	(4)	12.917	75	2130615	31.170
142) Phenacetin	(4)	12.947	108	1672535	32.835
143) 4-Bromophenyl-phenylether	(4)	12.987	248	830737	30.401
144) Diallate (peak 2)	(4)	13.011	86	218280	5.340
145) Hexachlorobenzene	(4)	13.040	284	873576	29.298
147) Dimethoate	(4)	13.116	87	1364708	31.718
148) Atrazine	(4)	13.215	200	683589	26.717
149) Pentachlorophenol	(4)	13.290	266	558981	33.172
150) 4-Aminobiphenyl	(4)	13.308	169	2646986	28.559
151) Pentachloronitrobenzene	(4)	13.308	237	385901	32.185
152) Pronamide	(4)	13.413	173	1354320	31.334
153) *Phenanthrene-d10	(4)	13.524	188	632135	5.000
154) Dinoseb	(4)	13.547	211	634165	38.621
155) Phenanthrene	(4)	13.559	178	3992224	29.533
157) Anthracene	(4)	13.623	178	4054359	29.814
163) Carbazole	(4)	13.838	167	3793940	30.608

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 on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1713.d
 Injection date and time: 20-OCT-2016 16:31

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:23
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SSTD030

Lab Sample ID: RVSTD2716

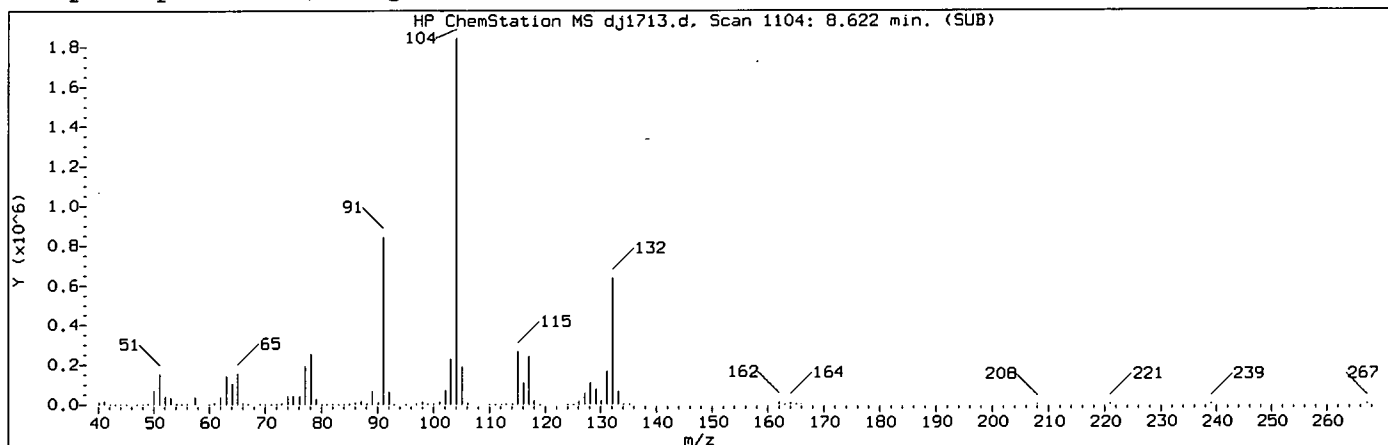
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
164) Methyl parathion	(4)	14.042	109	1025857	34.217
165) Di-n-butylphthalate	(4)	14.357	149	4605645	30.025
167) Parathion	(4)	14.590	109	684190	33.477
168) 4-Nitroquinoline-1-oxide	(4)	14.602	190	462090	37.691
169) Octachlorostyrene	(4)	14.940	308	365454	30.972
171) Isodrin	(4)	14.987	193	516606	29.868
222) Total PAHs	(6)			74432989	534.369
173) Fluoranthene	(4)	15.208	202	4965557	30.659
174) Benzidine	(5)	15.447	184	9247627	84.325
175)*Pyrene-d10	(5)	15.511	212	819689	5.000
177) Pyrene	(5)	15.546	202	5175159	29.118
179)\$Terphenyl-d14	(5)	15.838	244	6924340	57.963
182) p-Dimethylaminoazobenzene	(5)	16.059	225	1023567	32.164
185) Chlorobenzilate	(5)	16.152	139	1510384	31.107
187) 3,3'-Dimethylbenzidine	(5)	16.619	212	3524410	30.124
188) Butylbenzylphthalate	(5)	16.683	149	2136614	32.165
191) 2-Acetylaminofluorene	(5)	17.050	181	2232765	34.060
193) 3,3'-Dichlorobenzidine	(5)	17.545	252	2088972	30.653
195) Benzo(a)anthracene	(5)	17.557	228	5440639	30.121
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.569	231	1105388	29.964
196) Chrysene	(5)	17.621	228	4877367	29.566
199) bis(2-Ethylhexyl)phthalate	(5)	17.755	149	3208480	31.602
203) 6-Methylchrysene	(5)	18.420	242	3765032	30.968
205) Di-n-octylphthalate	(6)	18.915	149	5803302	31.099
206) Benzo(b)fluoranthene	(6)	19.416	252	5717088	31.482
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.422	256	2420653	32.914
208) Benzo(k)fluoranthene	(6)	19.469	252	5153478	29.514
211) Benzo(a)pyrene	(6)	19.935	252	5248294	30.768
213)*Perylene-d12	(6)	20.011	264	772753	5.000
215) 3-Methylcholanthrene	(6)	20.506	268	2691618	31.273
217) Dibenz(a,h)acridine	(6)	21.311	279	4165927	29.114
218) Dibenz(a,j)acridine	(6)	21.386	279	3835764	28.020
219) Indeno(1,2,3-cd)pyrene	(6)	21.631	276	5260179	27.523
220) Dibenz(a,h)anthracene	(6)	21.672	278	4561669	28.392
221) Benzo(g,h,i)perylene	(6)	22.016	276	4008510	25.588

* = Compound is an internal standard.

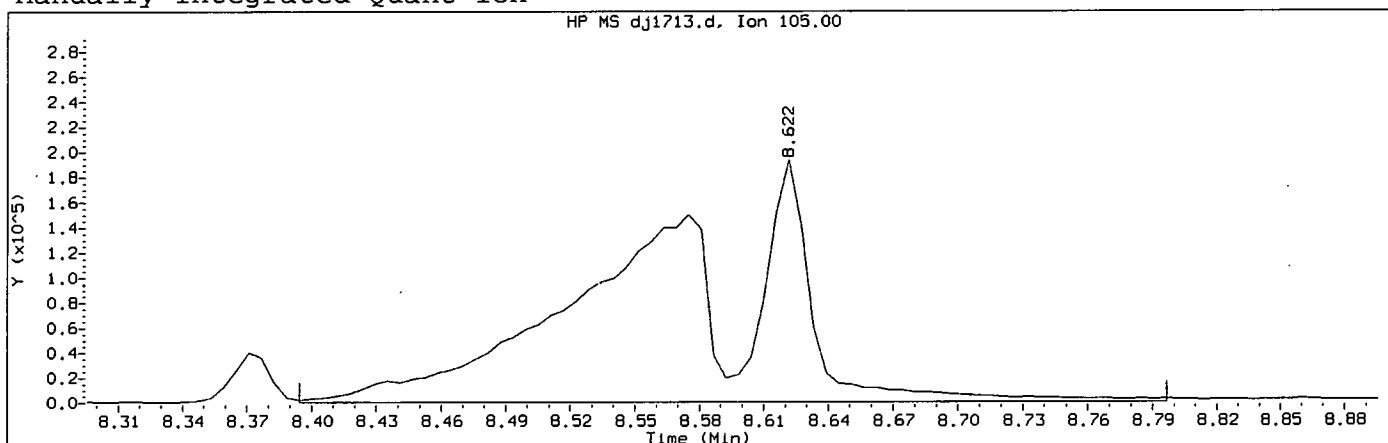
\$ = Compound is a surrogate standard.

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 on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1713.d
Injection date and time: 20-OCT-2016 16:31

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:23
Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SSTD030

Lab Sample ID: RVSTD2716

Compound Number	: 56	
Compound Name	: Benzoic acid	
Scan Number	: 1104	
Retention Time (minutes)	: 8.622	
Quant Ion	: 105.00	
Area (flag)	: 998248M	
On-Column Amount (ng/ul)	: 35.9837	
Integration start scan	: 1064	Integration stop scan: 1133
Y at integration start	: 538	Y at integration end: 538

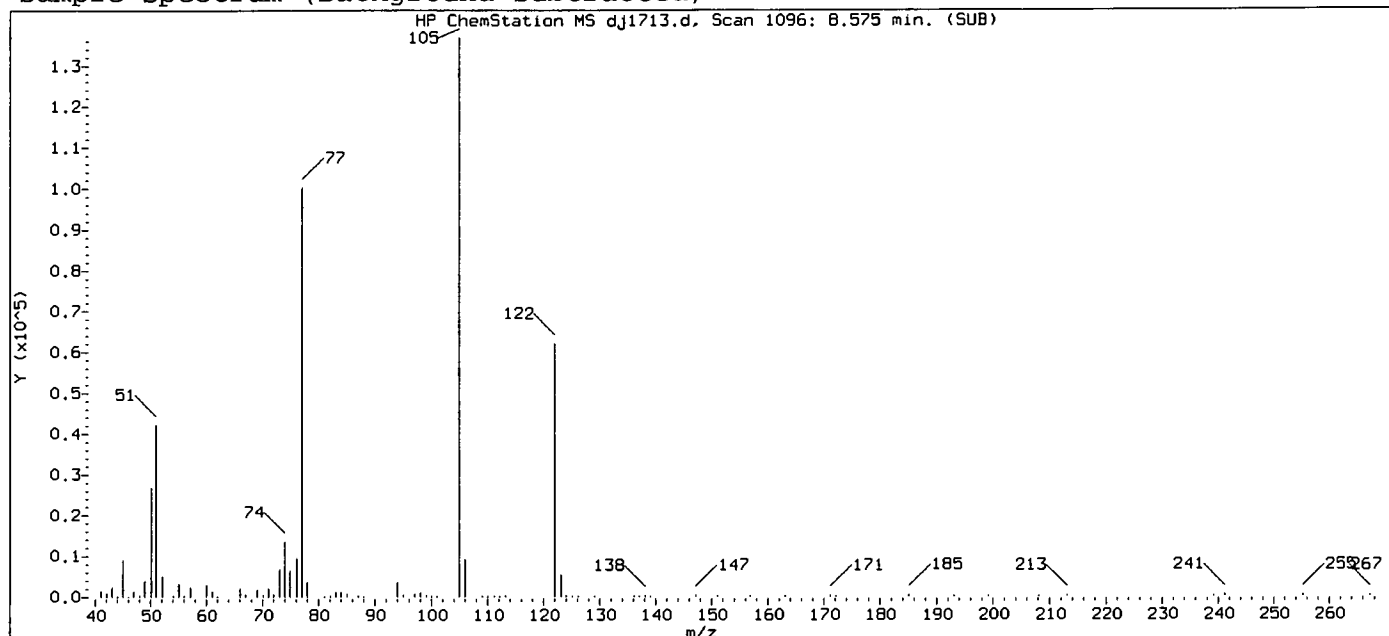
Reason for manual integration: improper integration

Digitally signed by Holly B. Ziegler
Analyst responsible for change: on 10/27/2016 at 10:14
Target 3.5 Signature user ID: hbz01996

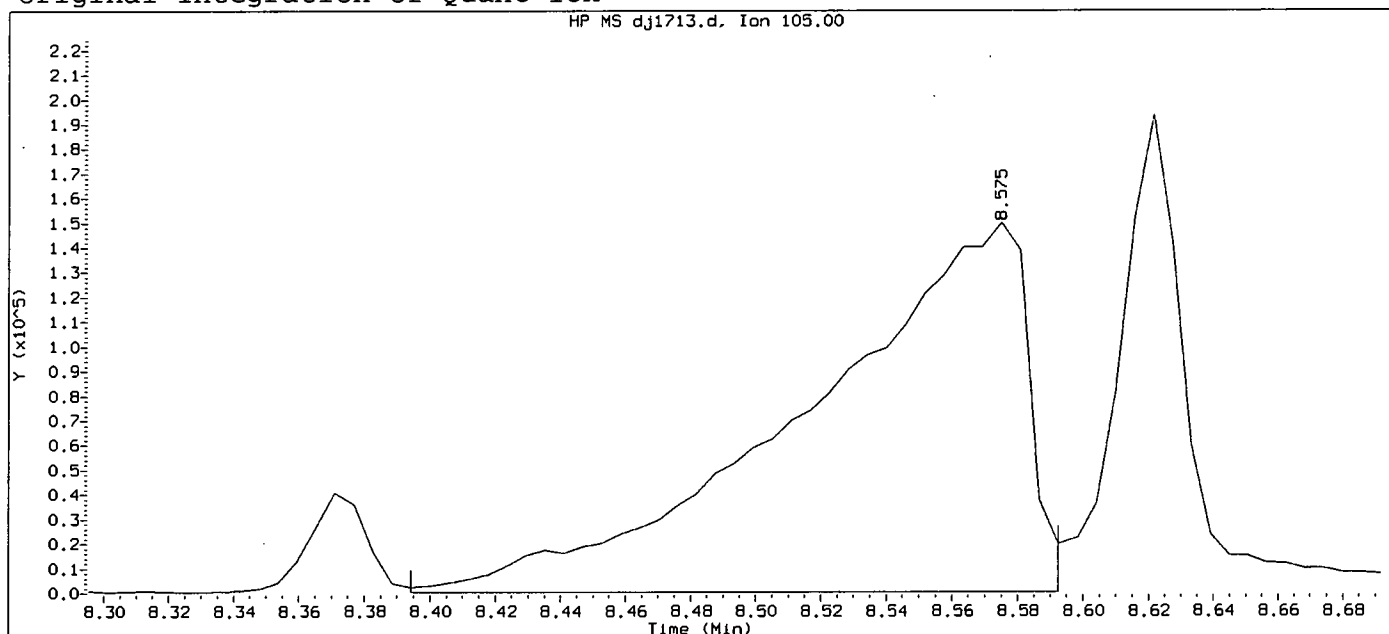
OCT 28 2016

GC/MS audit/management approval: _____
Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1713.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 16:31

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all1

Calibration date and time: 27-OCT-2016 08:06

Date, time and analyst ID of latest file update: 27-Oct-2016 08:06 hbz01996

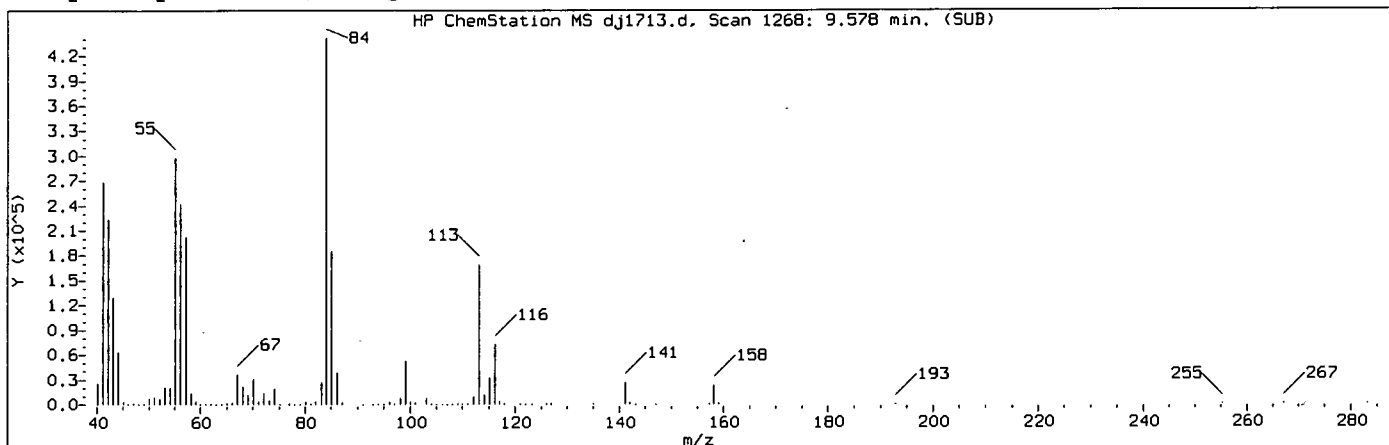
Sample Name: SSTD030

Lab Sample ID: RVSTD2716

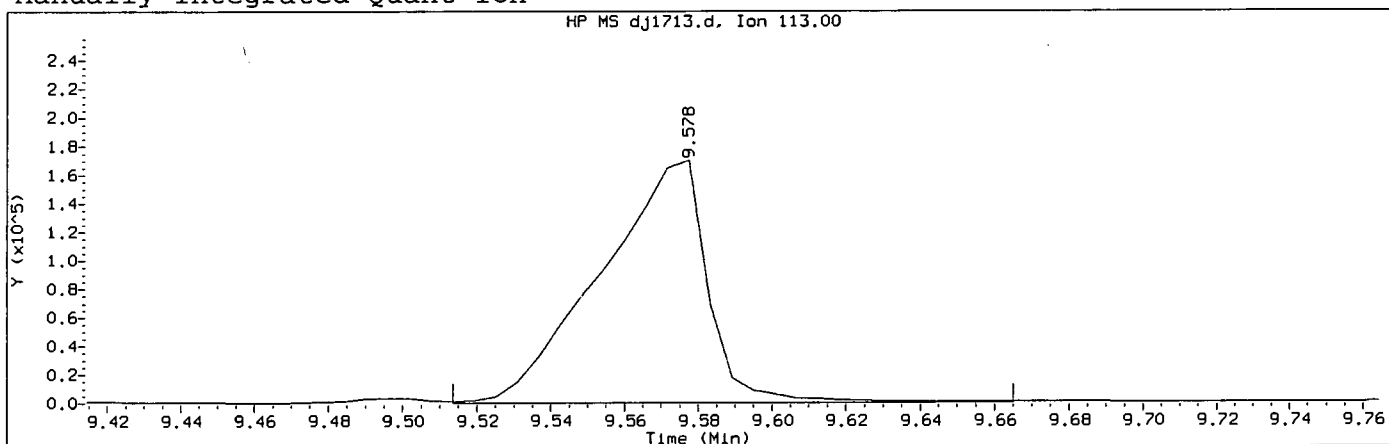
Compound Number	: 56	
Compound Name	: Benzoic acid	
Scan Number	: 1096	
Retention Time (minutes)	: 8.575	
Quant Ion	: 105.00	
Area	: 691366	
On-column Amount (ng/ul)	: 26.1679	
Integration start scan	: 1064	Integration stop scan: 1098
Y at integration start	: 416	Y at integration end: 416

Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:14.
Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1713.d
Injection date and time: 20-OCT-2016 16:31

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:23
Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SSTD030

Lab Sample ID: RVSTD2716

Compound Number	: 76	
Compound Name	: Caprolactam	
Scan Number	: 1268	
Retention Time (minutes)	: 9.578	
Quant Ion	: 113.00	
Area (flag)	: 343726A	
On-Column Amount (ng/ul)	: 31.1976	
Integration start scan	: 1256	Integration stop scan: 1282
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:14.
Target 3.5 signature user ID: hbz01996

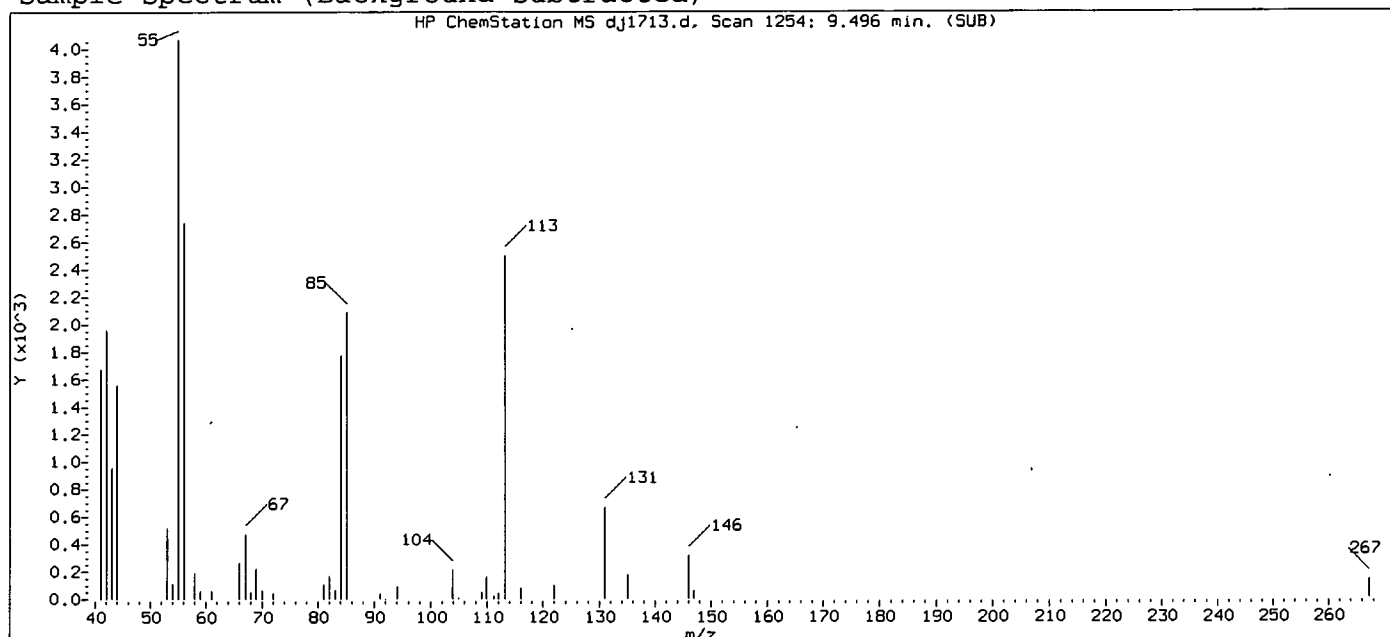
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OCT 28 2016

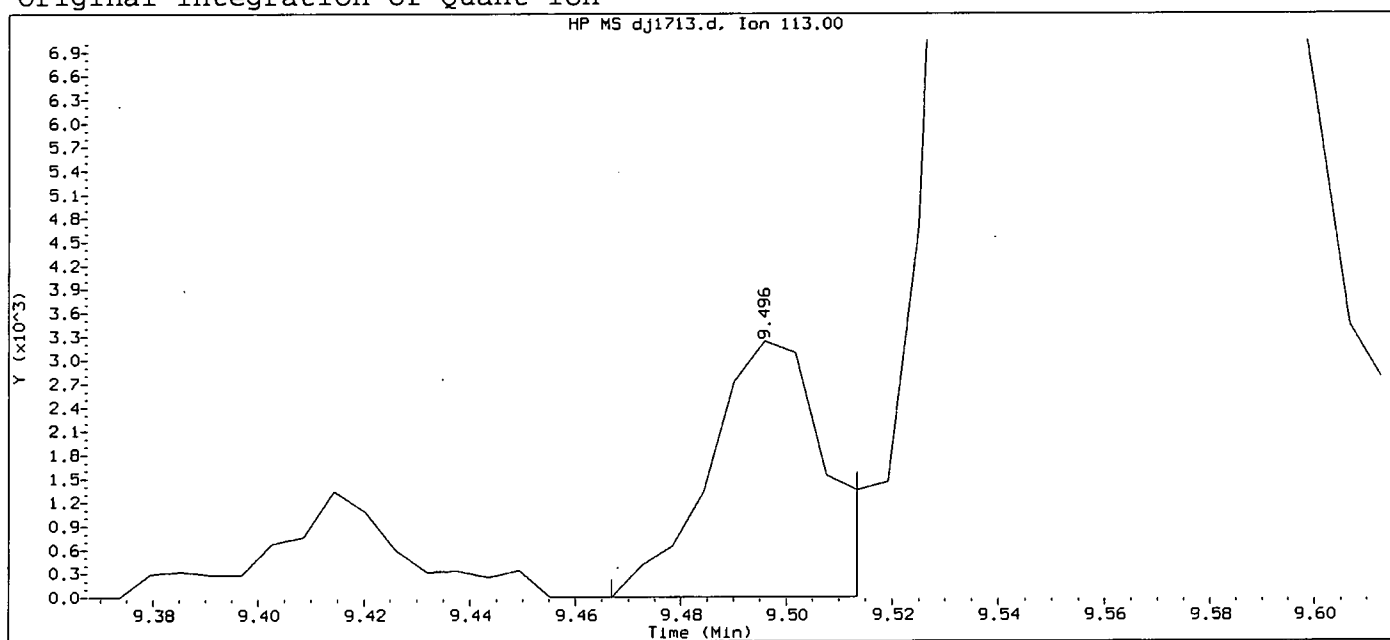
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1713.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 16:31

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all1

Calibration date and time: 27-OCT-2016 08:06

Date, time and analyst ID of latest file update: 27-Oct-2016 08:06 hbz01996

Sample Name: SSTD030

Lab Sample ID: RVSTD2716

Compound Number : 76

Compound Name : Caprolactam

Scan Number : 1254

Retention Time (minutes) : 9.496

Quant Ion : 113.00

Area : 4778

On-column Amount (ng/ul) : 0.5025

Integration start scan : 1248

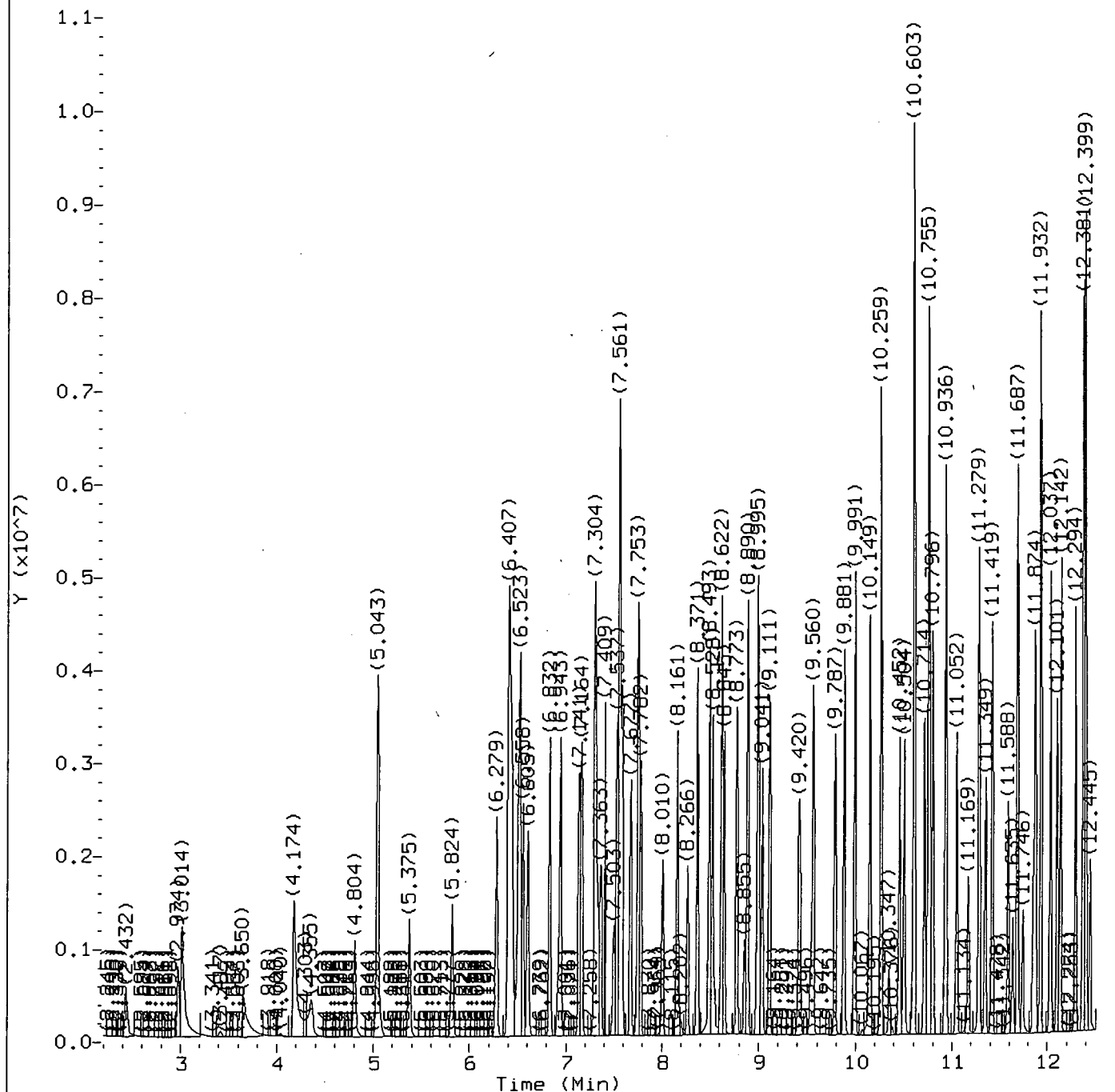
Integration stop scan: 1256

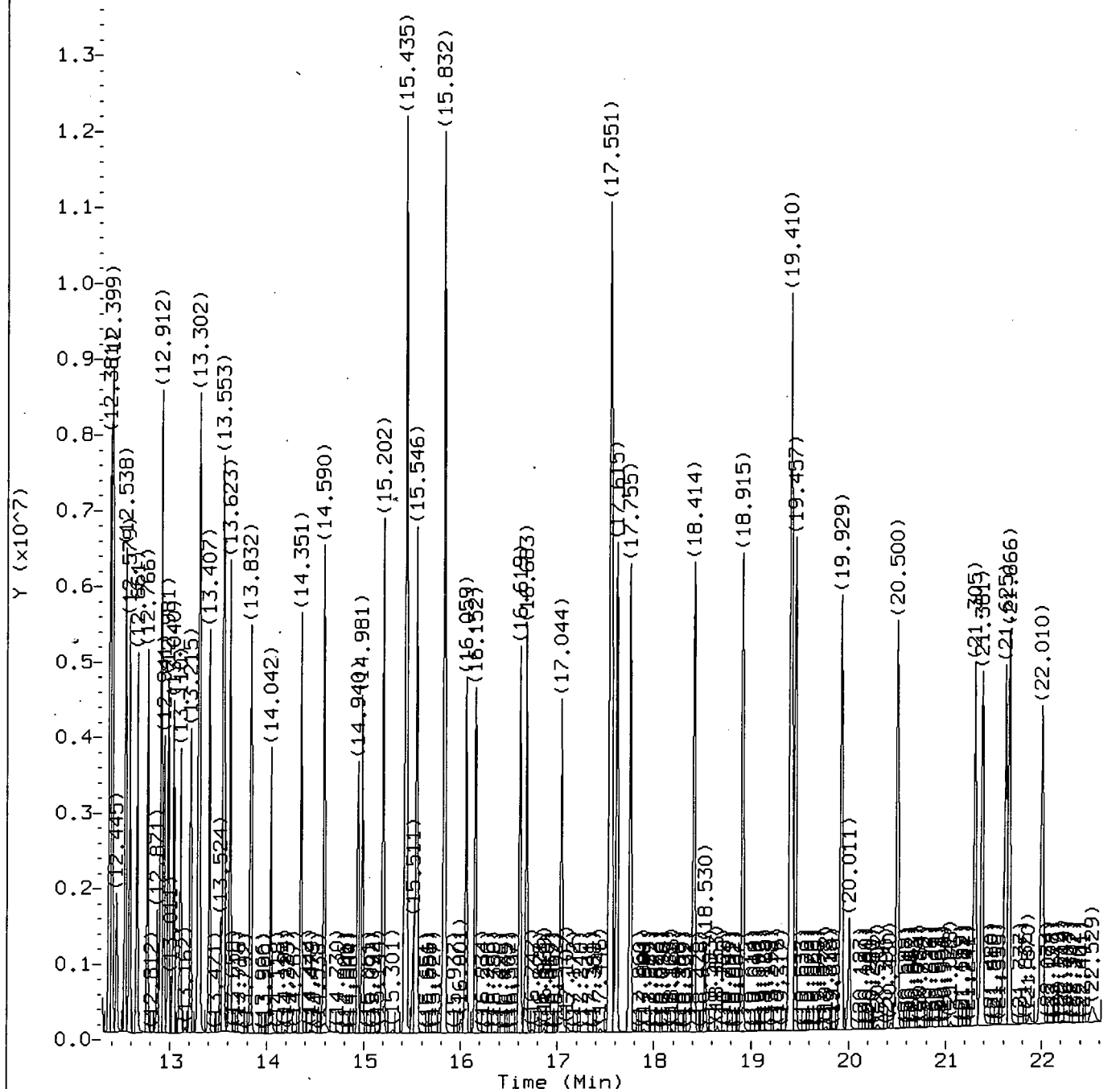
Y at integration start : 0

Y at integration end: 0

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Target 3.5 esignature user ID: hbz01996





Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1714.d

Injection date and time: 20-OCT-2016 16:59

Instrument ID: HP19760.i

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all11

Calibration date and time: 27-OCT-2016 08:23

Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SST020

Lab Sample ID: RVSTD2716

Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:14.

Target 3.5 esignature user ID: hbz01996

page 2 of 2

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1714.d
 Injection date and time: 20-OCT-2016 16:59

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:23
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SSTD020

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
1) 1,4-Dioxane	(1)	2.432	88	460391	21.174
4) N-Nitrosodimethylamine	(1)	2.974	74	727086	21.362
5) Pyridine	(1)	3.014	79	1185458	20.921
7) 2-Picoline	(1)	4.174	93	1270410	21.131
8) N-Nitrosomethylethylamine	(1)	4.355	88	526333	21.289
9) Methyl methanesulfonate	(1)	4.810	80	649425	21.242
11) \$2-Fluorophenol	(1)	5.043	112	1870955	42.607
13) N-Nitrosodiethylamine	(1)	5.375	102	499860	21.695
42) Total Cresols	(1)			2010246	42.890
15) Ethyl methanesulfonate	(1)	5.824	109	501544	21.101
16) Benzaldehyde	(1)	6.279	77	813188	19.407
17) \$Phenol-d6	(1)	6.407	99	2536078	42.272
18) Phenol	(1)	6.424	94	1487390	21.122
19) Aniline	(1)	6.442	93	1778378	21.085
20) a-methylstyrene	(1)	6.523	118	942184	20.745
22) bis(2-Chloroethyl)ether	(1)	6.558	93	1106494	20.852
23) 2-Chlorophenol	(1)	6.605	128	854971	21.242
24) 1,3-Dichlorobenzene	(1)	6.832	146	944864	21.135
25) *1,4-Dichlorobenzene-d4	(1)	6.920	152	136998	5.000
26) 1,4-Dichlorobenzene	(1)	6.943	146	958505	21.097
27) Benzyl alcohol	(1)	7.135	108	642944	20.799
28) 1,2-Dichlorobenzene	(1)	7.164	146	900886	21.100
30) Indene	(1)	7.299	115	1628169	20.734
31) 2-Methylphenol	(1)	7.316	108	941512	21.510
34) bis(2-Chloroisopropyl)ether	(1)	7.363	45	1260061	20.793
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.363	45	1260061	20.793
97) Isosafrole	(3)			791041	21.098
35) N-Nitrosopyrrolidine	(1)	7.503	100	557008	22.069
36) Acetophenone	(1)	7.532	105	1473718	21.055
37) 4-Methylphenol	(1)	7.555	108	1068734	21.380
38) N-Nitroso-di-n-propylamine	(1)	7.561	70	848990	20.751
39) N-Nitrosomorpholine	(1)	7.567	56	610212	20.876
40) o-Toluidine	(1)	7.584	106	1677708	21.051
43) Hexachloroethane	(1)	7.677	117	433574	21.237
44) \$Nitrobenzene-d5	(2)	7.753	82	2386105	42.657
45) Nitrobenzene	(2)	7.782	77	1210818	21.246
48) N-Nitrosopiperidine	(2)	8.010	114	489473	21.585
120) 2,4,6-Dinitrotoluenes	(3)			900712	45.606
50) Isophorone	(2)	8.161	82	2170552	21.262
51) 2-Nitrophenol	(2)	8.266	139	378715	22.759

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1714.d
 Injection date and time: 20-OCT-2016 16:59

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:23
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SSTD020

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
53) 2,4-Dimethylphenol	(2)	8.371	107	1054466	21.189
57) O,O,O-Triethylphosphorothioate	(2)	8.499	198	500982	21.268
55) bis(2-Chloroethoxy)methane	(2)	8.528	93	1376952	21.473
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.622	104	1513017	20.613
56) Benzoic acid	(2)	8.622	105	693768M	24.264
60) 2,4-Dichlorophenol	(2)	8.645	162	730407	21.492
146) Diallate trans/cis	(4)			1027232	20.257
62) 1,2,4-Trichlorobenzene	(2)	8.779	180	826835	21.121
65) *Naphthalene-d8	(2)	8.855	136	514331	5.000
66) Naphthalene	(2)	8.890	128	2448508	20.898
67) 4-Chloroaniline	(2)	8.989	127	1052175	21.089
68) 2,6-Dichlorophenol	(2)	9.000	162	709083	21.312
69) Hexachloropropene	(2)	9.041	213	629801	21.735
71) Hexachlorobutadiene	(2)	9.117	225	540109	21.371
75) Quinoline	(2)	9.420	129	1488775	20.763
76) Caprolactam	(2)	9.554	113	242079	21.318
77) N-Nitrosodi-n-butylamine	(2)	9.560	84	1023213	24.067
80) 4-Chloro-3-methylphenol	(2)	9.787	107	888002	21.345
82) Safrole	(2)	9.881	162	662355	20.941
83) 2-Methylnaphthalene	(2)	9.991	142	1671182	21.243
84) 1-Methylnaphthalene	(2)	10.149	142	1516842	21.212
85) Hexachlorocyclopentadiene	(3)	10.259	237	552545	21.911
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.259	216	954180	21.352
88) cis-Isosafrole	(3)	10.347	162	121261	3.592
90) 2,4,6-Trichlorophenol	(3)	10.452	196	552426	21.517
92) 2,4,5-Trichlorophenol	(3)	10.504	196	589640	21.311
93) \$2-Fluorobiphenyl	(3)	10.603	172	3717573	41.616
94) trans-Isosafrole	(3)	10.714	162	669780	17.506
95) 1,1'-Biphenyl	(3)	10.755	154	1963968	20.971
96) 2-Chloronaphthalene	(3)	10.767	162	1634320	21.866
98) 1-Chloronaphthalene	(3)	10.796	162	1399669	19.911
99) Diphenyl ether	(3)	10.936	170	1134448	21.014
100) 2-Nitroaniline	(3)	10.941	138	458230	22.525
104) 1,4-Naphthoquinone	(3)	11.052	158	650856	21.440
105) 1,4-Dinitrobenzene	(3)	11.175	168	213923	22.973
106) Dimethylphthalate	(3)	11.279	163	1793486	21.105
107) 1,3-Dinitrobenzene	(3)	11.285	168	254055	22.792
108) 2,6-Dinitrotoluene	(3)	11.349	165	380408	22.738
109) Acenaphthylene	(3)	11.419	152	2293860	21.009
112) 3-Nitroaniline	(3)	11.588	138	415663	23.191

M = Compound was manually integrated.

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 on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1714.d
 Injection date and time: 20-OCT-2016 16:59

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:23
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SSTD020

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
113) *Acenaphthene-d10	(3)	11.635	164	310849	5.000
114) Acenaphthene	(3)	11.687	153	1695139	21.089
115) 2,4-Dinitrophenol	(3)	11.746	184	169989	23.333
116) 4-Nitrophenol	(3)	11.857	109	331777	22.613
117) Pentachlorobenzene	(3)	11.880	250	780976	21.031
119) Dibenzofuran	(3)	11.932	168	2243552	20.870
118) 2,4-Dinitrotoluene	(3)	11.938	165	520304	22.868
121) 1-Naphthylamine	(3)	12.037	143	1704332	21.486
122) 2,3,4,6-Tetrachlorophenol	(3)	12.101	232	497840	22.892
123) 2-Naphthylamine	(3)	12.142	143	1664442	21.343
124) Diethylphthalate	(3)	12.294	149	1791071	21.090
126) Fluorene	(3)	12.369	166	1812525	21.061
125) Thionazin	(3)	12.381	107	395294	21.141
127) 4-Chlorophenyl-phenylether	(3)	12.393	204	926778	20.902
128) 5-Nitro-o-toluidine	(3)	12.399	152	477386	22.714
129) 4-Nitroaniline	(3)	12.404	138	429342	22.259
130) 4,6-Dinitro-2-methylphenol	(4)	12.451	198	257067	22.151
132) NDPA as diphenylamine	(4)	12.538	169	1517535	19.879
131) N-Nitrosodiphenylamine	(4)	12.538	169	1517535	19.879
134) 1,2-Diphenylhydrazine	(4)	12.579	77	2364433	19.698
135) \$2,4,6-Tribromophenol	(3)	12.661	330	556987	46.223
137) Tetraethylthiopyrophosphate	(4)	12.766	97	409964	20.293
139) 1,3,5-Trinitrobenzene	(4)	12.871	213	180618	22.142
140) Diallate (peak 1)	(4)	12.906	86	879834	16.848
141) Phorate	(4)	12.912	75	1520244	21.027
142) Phenacetin	(4)	12.941	108	1157909	21.491
143) 4-Bromophenyl-phenylether	(4)	12.981	248	586051	20.276
144) Diallate (peak 2)	(4)	13.005	86	147398	3.409
145) Hexachlorobenzene	(4)	13.040	284	613762	19.461
147) Dimethoate	(4)	13.110	87	944535	20.754
148) Atrazine	(4)	13.215	200	531309	19.632
149) Pentachlorophenol	(4)	13.290	266	385246	21.614
150) 4-Aminobiphenyl	(4)	13.302	169	1949509	19.885
151) Pentachloronitrobenzene	(4)	13.308	237	265470	20.932
152) Pronamide	(4)	13.407	173	940449	20.571
153) *Phenanthrene-d10	(4)	13.524	188	668642	5.000
154) Dinoseb	(4)	13.547	211	422582	24.331
155) Phenanthrene	(4)	13.553	178	2824103	19.751
157) Anthracene	(4)	13.623	178	2864338	19.913
163) Carbazole	(4)	13.838	167	2634105	20.091

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 Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1714.d
 Injection date and time: 20-OCT-2016 16:59

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:23
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SSTD020

Lab Sample ID: RVSTD2716

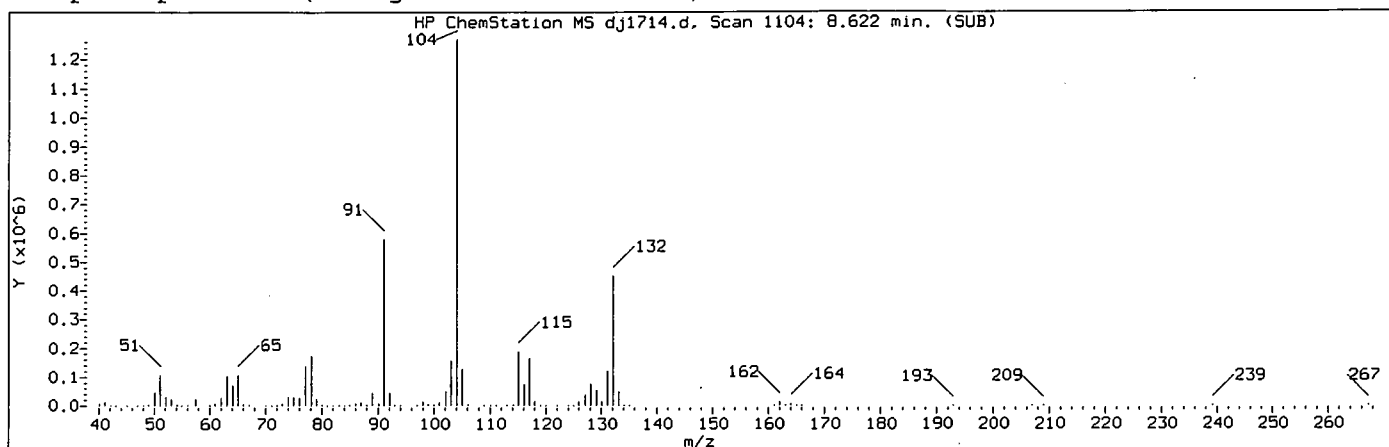
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
164) Methyl parathion	(4)	14.042	109	697321	21.989
165) Di-n-butylphthalate	(4)	14.351	149	3244381	19.996
167) Parathion	(4)	14.590	109	466266	21.569
168) 4-Nitroquinoline-1-oxide	(4)	14.596	190	296138	22.836
169) Octachlorostyrene	(4)	14.940	308	252254	20.211
171) Isodrin	(4)	14.981	193	354446	19.374
222) Total PAHs	(6)			53122263	367.584
173) Fluoranthene	(4)	15.202	202	3446409	20.117
174) Benzidine	(5)	15.435	184	6695905	58.914
175)*Pyrene-d10	(5)	15.511	212	849495	5.000
177) Pyrene	(5)	15.546	202	3606634	19.581
179)\$Terphenyl-d14	(5)	15.832	244	4835111	39.054
182) p-Dimethylaminoazobenzene	(5)	16.059	225	706986	21.437
185) Chlorobenzilate	(5)	16.152	139	1037291	20.614
187) 3,3'-Dimethylbenzidine	(5)	16.619	212	2461568	20.301
188) Butylbenzylphthalate	(5)	16.683	149	1476373	21.446
191) 2-Acetylaminofluorene	(5)	17.044	181	1529617	22.515
193) 3,3'-Dichlorobenzidine	(5)	17.539	252	1442056	20.418
195) Benzo(a)anthracene	(5)	17.551	228	3813913	20.374
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.563	231	778068	20.351
196) Chrysene	(5)	17.615	228	3466212	20.275
199) bis(2-Ethylhexyl)phthalate	(5)	17.755	149	2217018	21.070
203) 6-Methylchrysene	(5)	18.414	242	2568208	20.383
205) Di-n-octylphthalate	(6)	18.915	149	4027313	20.821
206) Benzo(b)fluoranthene	(6)	19.405	252	3836016	20.379
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.416	256	1708698	22.414
208) Benzo(k)fluoranthene	(6)	19.457	252	3738091	20.653
211) Benzo(a)pyrene	(6)	19.929	252	3649867	20.643
213)*Perylene-d12	(6)	20.011	264	800999	5.000
215) 3-Methylcholanthrene	(6)	20.500	268	1879877	21.071
217) Dibenz(a,h)acridine	(6)	21.305	279	2950148	19.891
218) Dibenz(a,j)acridine	(6)	21.381	279	2833763	19.971
219) Indeno(1,2,3-cd)pyrene	(6)	21.625	276	3942048	19.899
220) Dibenz(a,h)anthracene	(6)	21.666	278	3378651	20.287
221) Benzo(g,h,i)perylene	(6)	22.010	276	3117925	19.201

* = Compound is an internal standard.

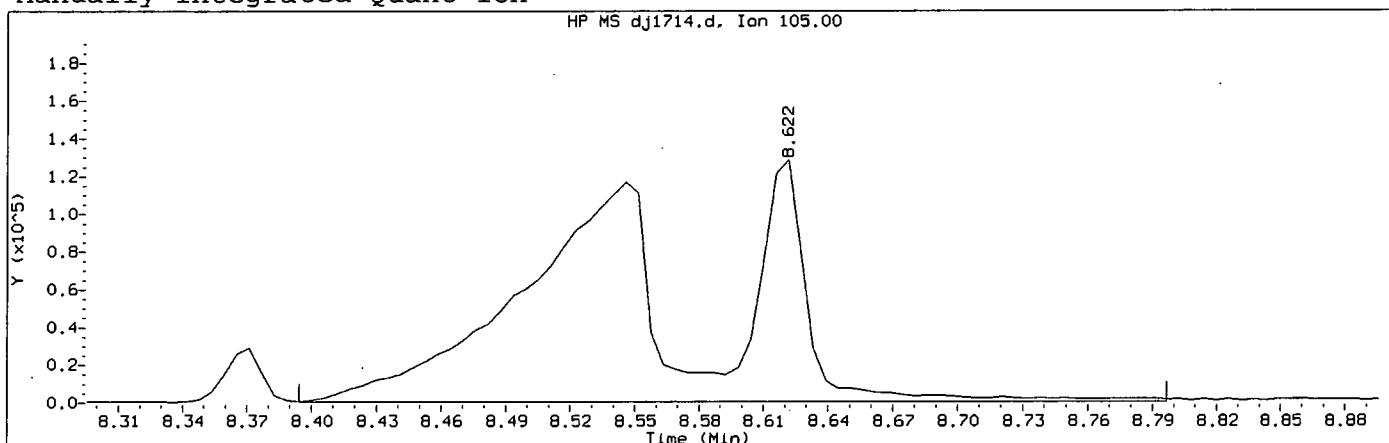
\$ = Compound is a surrogate standard.

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 on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1714.d
Injection date and time: 20-OCT-2016 16:59

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:23
Date, time and analyst ID of latest file update: 27-Oct-2016 08:23 hbz01996

Sample Name: SSTD020

Lab Sample ID: RVSTD2716

Compound Number	: 56	
Compound Name	: Benzoic acid	
Scan Number	: 1104	
Retention Time (minutes)	: 8.622	
Quant Ion	: 105.00	
Area (flag)	: 693768M	
On-Column Amount (ng/ul)	: 24.2635	
Integration start scan	: 1064	Integration stop scan: 1133
Y at integration start	: 618	Y at integration end: 618

Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:14.
Target 3.5 esignature user ID: hbz01996

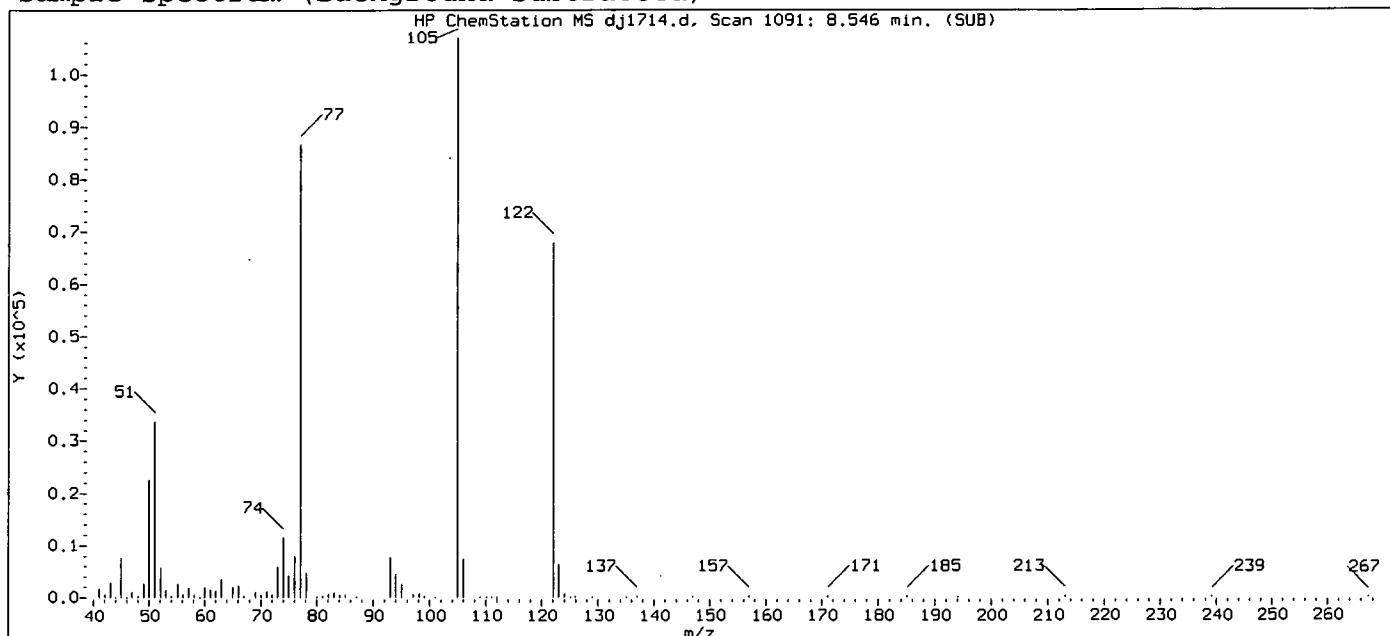
[Handwritten Signature]

OCT 28 2016

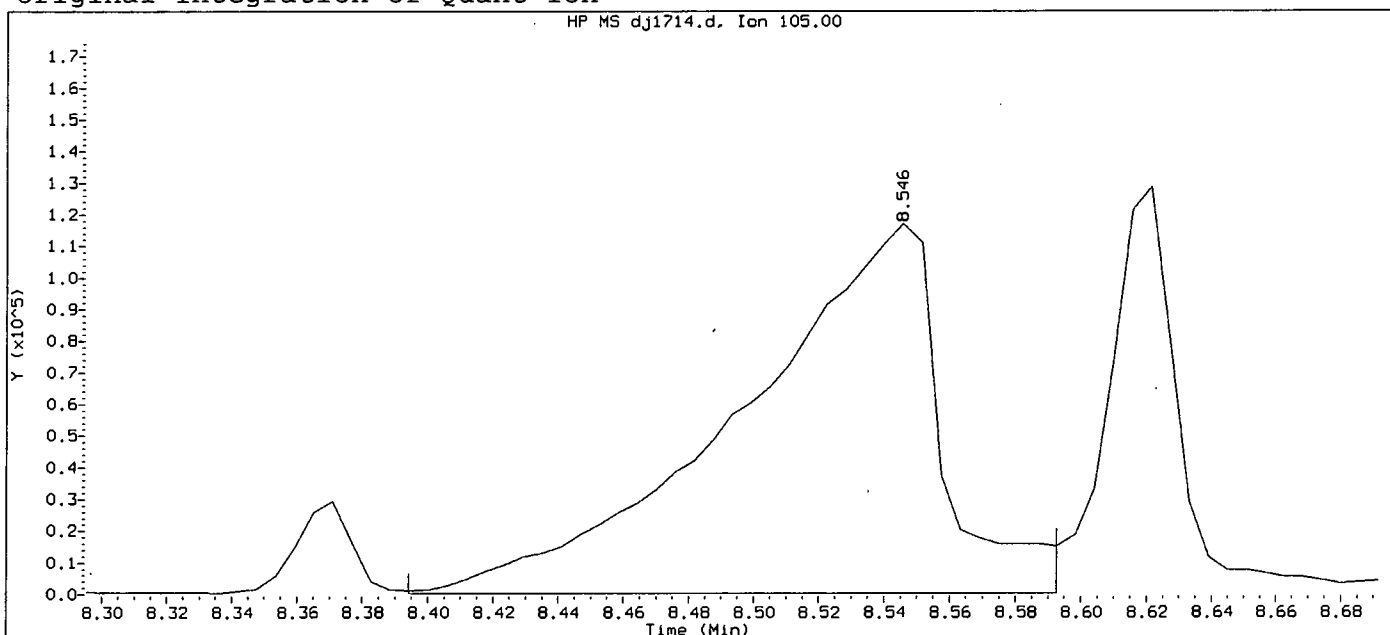
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1714.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 16:59

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all1

Calibration date and time: 27-OCT-2016 08:06

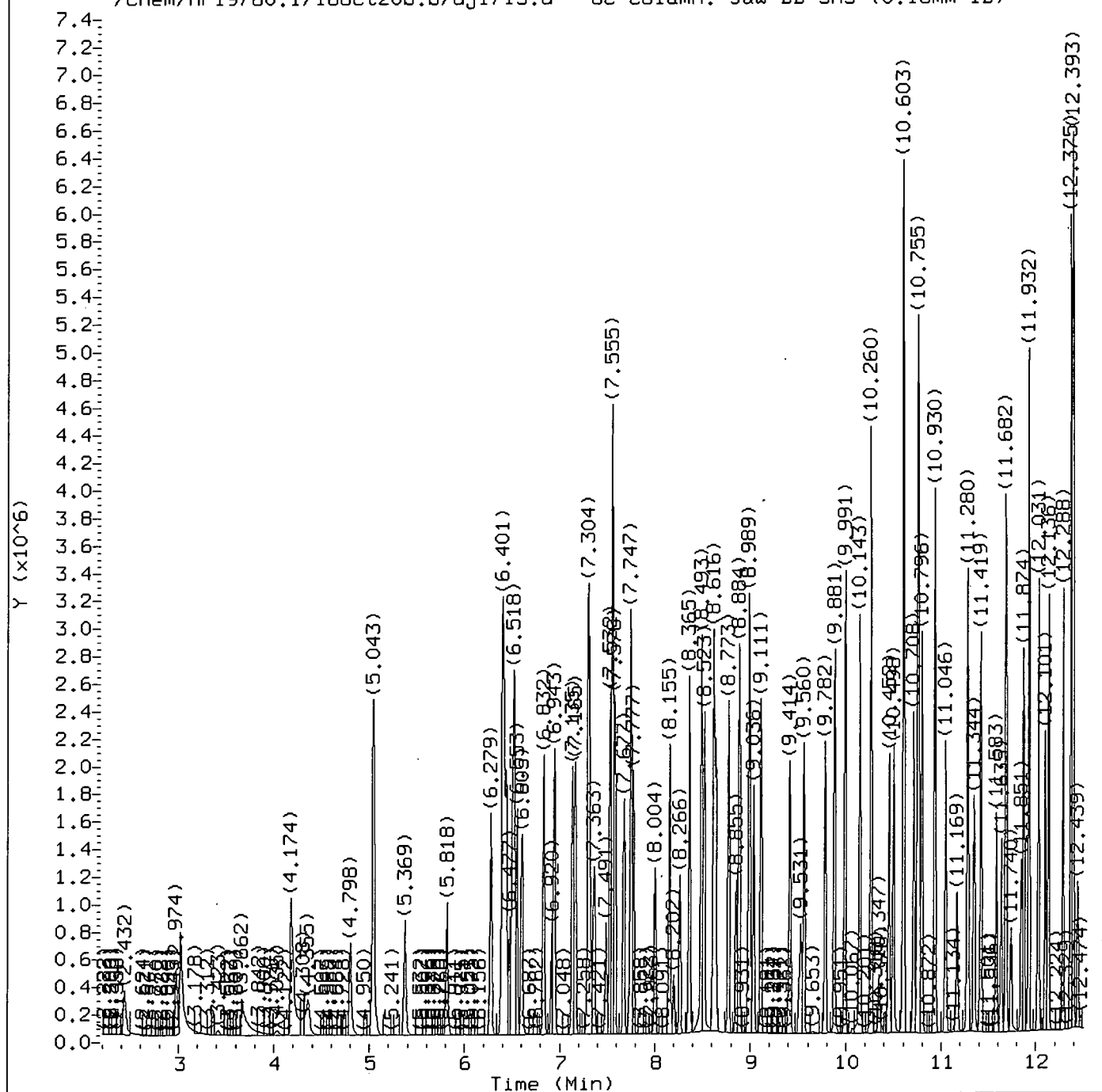
Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

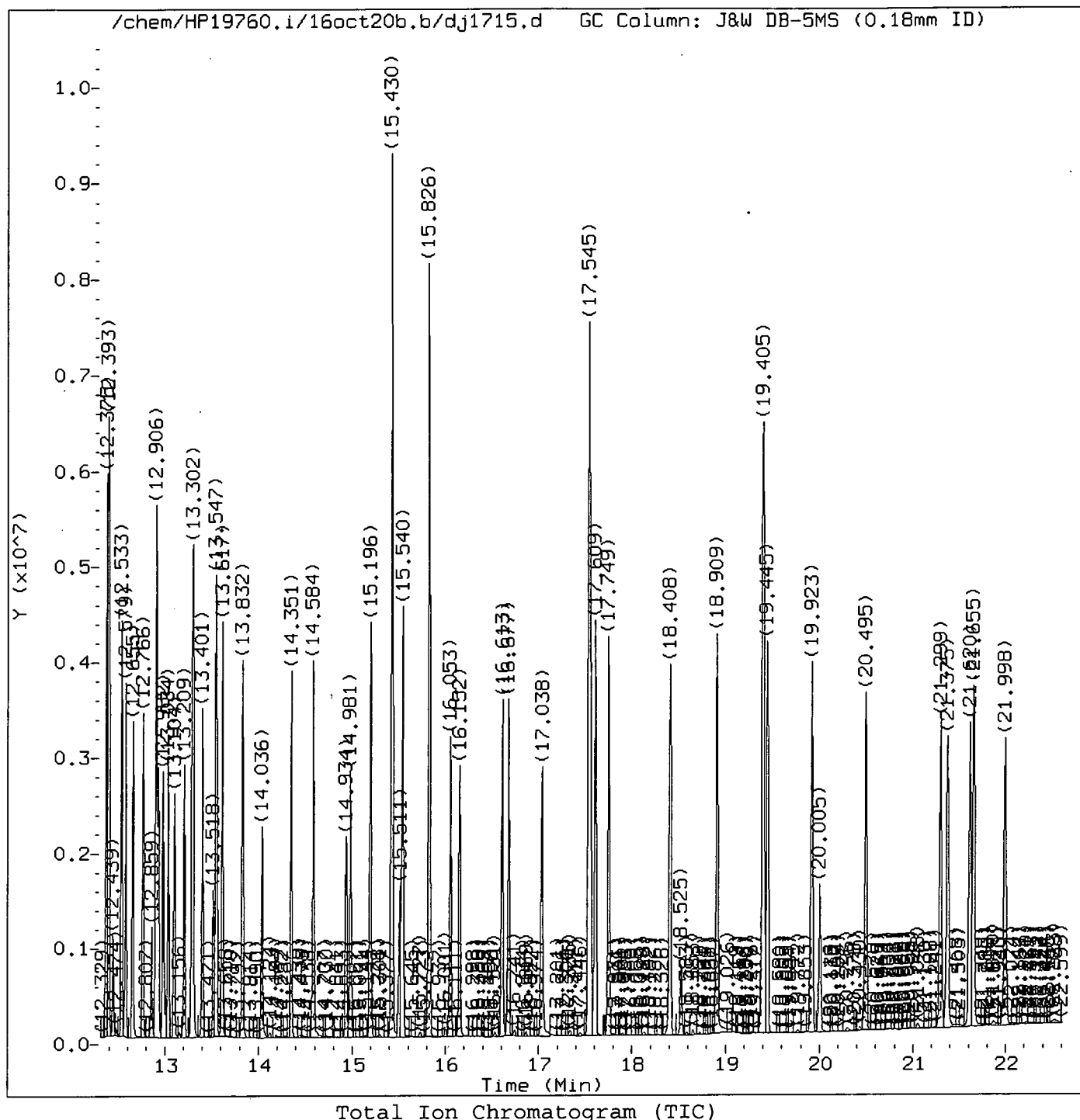
Sample Name: SSTD020

Lab Sample ID: RVSTD2716

Compound Number	: 56	
Compound Name	: Benzoic acid	
Scan Number	: 1091	
Retention Time (minutes)	: 8.546	
Quant Ion	: 105.00	
Area	: 493116	
On-column Amount (ng/ul)	: 19.9750	
Integration start scan	: 1064	Integration stop scan: 1098
Y at integration start	: 433	Y at integration end: 433

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Target 3.5 esignature user ID: hbz01996





Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1715.d
Injection date and time: 20-OCT-2016 17:27

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:24
Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD12.5

Lab Sample ID: RVSTD2716

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on 10/27/2016 at 10:14.
Target 3.5 esignature user ID: hbz01996

page 2 of 2

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1715.d
 Injection date and time: 20-OCT-2016 17:27

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:24
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD12.5

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
1) 1,4-Dioxane	(1)	2.432	88	291317	12.611
4) N-Nitrosodimethylamine	(1)	2.974	74	461343	12.758
5) Pyridine	(1)	3.020	79	740511	12.301
7) 2-Picoline	(1)	4.174	93	802236	12.560
8) N-Nitrosomethylethylamine	(1)	4.355	88	330429	12.580
9) Methyl methanesulfonate	(1)	4.804	80	409590	12.611
11) \$2-Fluorophenol	(1)	5.043	112	1184763	25.396
13) N-Nitrosodiethylamine	(1)	5.369	102	316037	12.911
42) Total Cresols	(1)			1272619	25.545
15) Ethyl methanesulfonate	(1)	5.818	109	314596	12.458
16) Benzaldehyde	(1)	6.279	77	555306	12.474
17) \$Phenol-d6	(1)	6.401	99	1608776	25.240
18) Phenol	(1)	6.418	94	945251	12.635
19) Aniline	(1)	6.436	93	1131222	12.624
20) a-methylstyrene	(1)	6.523	118	605921	12.558
22) bis(2-Chloroethyl)ether	(1)	6.553	93	697867	12.379
23) 2-Chlorophenol	(1)	6.605	128	541165	12.655
24) 1,3-Dichlorobenzene	(1)	6.832	146	600696	12.647
25) *1,4-Dichlorobenzene-d4	(1)	6.920	152	145547	5.000
26) 1,4-Dichlorobenzene	(1)	6.943	146	607660	12.589
27) Benzyl alcohol	(1)	7.135	108	407399	12.405
28) 1,2-Dichlorobenzene	(1)	7.165	146	576017	12.698
30) Indene	(1)	7.299	115	1041919	12.489
31) 2-Methylphenol	(1)	7.316	108	591434	12.719
34) bis(2-Chloroisopropyl)ether	(1)	7.363	45	792626	12.311
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.363	45	792626	12.311
97) Isosafrole	(3)			492294	12.464
35) N-Nitrosopyrrolidine	(1)	7.491	100	343239	12.801
36) Acetophenone	(1)	7.532	105	920871	12.384
37) 4-Methylphenol	(1)	7.549	108	681185	12.827
39) N-Nitrosomorpholine	(1)	7.555	56	391761	12.615
38) N-Nitroso-di-n-propylamine	(1)	7.555	70	545366	12.547
40) o-Toluidine	(1)	7.584	106	1067785	12.611
43) Hexachloroethane	(1)	7.672	117	273626	12.616
44) \$Nitrobenzene-d5	(2)	7.747	82	1519434	25.704
45) Nitrobenzene	(2)	7.777	77	763889	12.684
48) N-Nitrosopiperidine	(2)	8.004	114	305692	12.756
120) 2,4,6-Dinitrotoluenes	(3)			543876	26.180
50) Isophorone	(2)	8.161	82	1358928	12.596
51) 2-Nitrophenol	(2)	8.266	139	232560	13.225

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 on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1715.d
 Injection date and time: 20-OCT-2016 17:27

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:24
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD12.5

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
53) 2,4-Dimethylphenol	(2)	8.365	107	664431	12.634
57) O,O,O-Triethylphosphorothioate	(2)	8.493	198	315625	12.679
56) Benzoic acid	(2)	8.517	105	415528M	13.752
55) bis(2-Chloroethoxy)methane	(2)	8.523	93	838568	12.375
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.616	104	973687	12.553
60) 2,4-Dichlorophenol	(2)	8.639	162	464285	12.927
62) 1,2,4-Trichlorobenzene	(2)	8.773	180	517657	12.513
146) Diallate trans/cis	(4)			629175	12.571
65) *Naphthalene-d8	(2)	8.855	136	543524	5.000
66) Naphthalene	(2)	8.890	128	1549337	12.513
67) 4-Chloroaniline	(2)	8.983	127	661850	12.553
68) 2,6-Dichlorophenol	(2)	8.995	162	447440	12.726
69) Hexachloropropene	(2)	9.041	213	393364	12.846
71) Hexachlorobutadiene	(2)	9.111	225	339809	12.724
75) Quinoline	(2)	9.414	129	932775	12.310
76) Caprolactam	(2)	9.525	113	147110	12.259
77) N-Nitrosodi-n-butylamine	(2)	9.560	84	528373	11.760
80) 4-Chloro-3-methylphenol	(2)	9.782	107	544609	12.388
82) Safrole	(2)	9.881	162	416116	12.450
83) 2-Methylnaphthalene	(2)	9.991	142	1055814	12.700
84) 1-Methylnaphthalene	(2)	10.143	142	949031	12.559
85) Hexachlorocyclopentadiene	(3)	10.260	237	345787	13.015
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.260	216	600586	12.756
88) cis-Isosafrole	(3)	10.347	162	75832	2.132
90) 2,4,6-Trichlorophenol	(3)	10.452	196	347043	12.830
92) 2,4,5-Trichlorophenol	(3)	10.498	196	376466	12.915
93) \$2-Fluorobiphenyl	(3)	10.603	172	2350604	24.976
94) trans-Isosafrole	(3)	10.708	162	416462	10.332
95) 1,1'-Biphenyl	(3)	10.749	154	1245620	12.625
96) 2-Chloronaphthalene	(3)	10.761	162	994295	12.627
98) 1-Chloronaphthalene	(3)	10.796	162	935930	12.637
99) Diphenyl ether	(3)	10.930	170	719334	12.647
100) 2-Nitroaniline	(3)	10.936	138	285227	13.308
104) 1,4-Naphthoquinone	(3)	11.046	158	407546	12.743
105) 1,4-Dinitrobenzene	(3)	11.169	168	130114	13.262
106) Dimethylphthalate	(3)	11.274	163	1103078	12.321
107) 1,3-Dinitrobenzene	(3)	11.280	168	154599	13.165
108) 2,6-Dinitrotoluene	(3)	11.344	165	232460	13.189
109) Acenaphthylene	(3)	11.419	152	1440798	12.525
112) 3-Nitroaniline	(3)	11.583	138	249525	13.214

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
 on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1715.d
 Injection date and time: 20-OCT-2016 17:27

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:24
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD12.5

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
113) *Acenaphthene-d10	(3)	11.635	164	327495	5.000
114) Acenaphthene	(3)	11.682	153	1064980	12.576
115) 2,4-Dinitrophenol	(3)	11.740	184	93202	12.143
116) 4-Nitrophenol	(3)	11.851	109	203436	13.161
117) Pentachlorobenzene	(3)	11.874	250	484535	12.385
118) 2,4-Dinitrotoluene	(3)	11.932	165	311416	12.991
119) Dibenzofuran	(3)	11.932	168	1421869	12.554
121) 1-Naphthylamine	(3)	12.031	143	1032037	12.350
122) 2,3,4,6-Tetrachlorophenol	(3)	12.101	232	302608	13.207
123) 2-Naphthylamine	(3)	12.136	143	1025581	12.482
124) Diethylphthalate	(3)	12.288	149	1126126	12.586
126) Fluorene	(3)	12.370	166	1150491	12.689
125) Thionazin	(3)	12.375	107	247777	12.578
128) 5-Nitro-o-toluidine	(3)	12.393	152	296563	13.393
127) 4-Chlorophenyl-phenylether	(3)	12.393	204	587283	12.572
129) 4-Nitroaniline	(3)	12.399	138	269408	13.257
130) 4,6-Dinitro-2-methylphenol	(4)	12.445	198	148137	12.936
132) NDPA as diphenylamine	(4)	12.533	169	955207	12.680
131) N-Nitrosodiphenylamine	(4)	12.533	169	955207	12.680
134) 1,2-Diphenylhydrazine	(4)	12.579	77	1489669	12.576
135) \$2,4,6-Tribromophenol	(3)	12.655	330	334331	26.335
137) Tetraethyldithiopyrophosphate	(4)	12.766	97	256296	12.856
139) 1,3,5-Trinitrobenzene	(4)	12.859	213	104709	13.008
140) Diallate (peak 1)	(4)	12.906	86	539423	10.468
141) Phorate	(4)	12.912	75	939032	13.162
142) Phenacetin	(4)	12.929	108	718767	13.519
143) 4-Bromophenyl-phenylether	(4)	12.982	248	359088	12.590
144) Diallate (peak 2)	(4)	13.005	86	89752	2.103
145) Hexachlorobenzene	(4)	13.034	284	383305	12.316
147) Dimethoate	(4)	13.104	87	592450	13.192
148) Atrazine	(4)	13.209	200	340939	12.766
149) Pentachlorophenol	(4)	13.285	266	231443	13.159
150) 4-Aminobiphenyl	(4)	13.296	169	1248658	12.907
151) Pentachloronitrobenzene	(4)	13.302	237	163794	13.088
152) Pronamide	(4)	13.401	173	587979	13.033
153) *Phenanthrene-d10	(4)	13.518	188	659812	5.000
154) Dinoseb	(4)	13.541	211	239220	13.958
155) Phenanthrene	(4)	13.553	178	1781667	12.627
157) Anthracene	(4)	13.617	178	1809491	12.748
163) Carbazole	(4)	13.832	167	1658635	12.820

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1715.d
 Injection date and time: 20-OCT-2016 17:27

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:24
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD12.5

Lab Sample ID: RVSTD2716

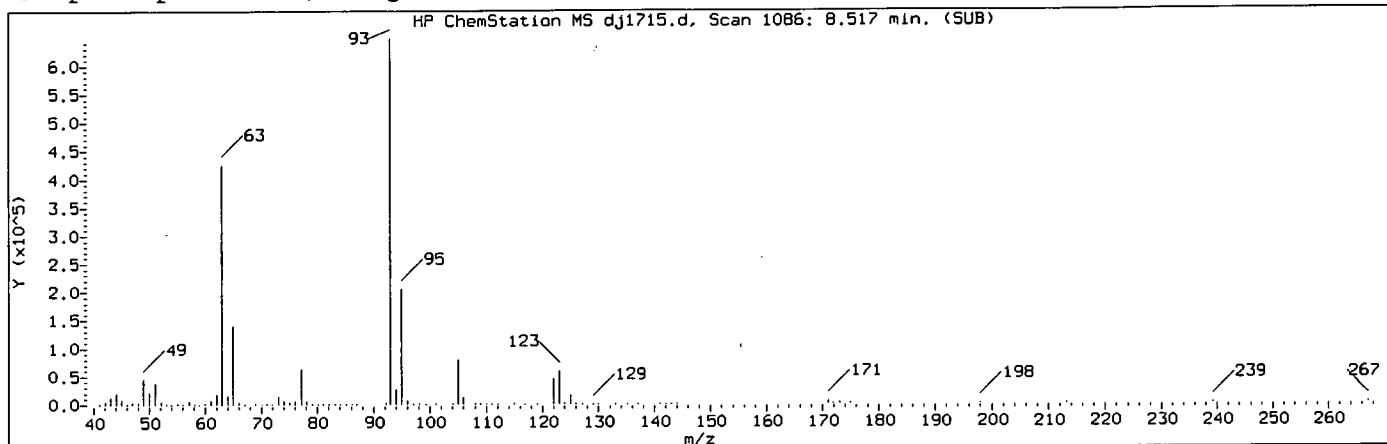
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
164) Methyl parathion	(4)	14.036	109	425700	13.603
165) Di-n-butylphthalate	(4)	14.351	149	2067138	12.911
167) Parathion	(4)	14.584	109	290995	13.641
168) 4-Nitroquinoline-1-oxide	(4)	14.590	190	169725	13.263
169) Octachlorostyrene	(4)	14.940	308	155347	12.613
171) Isodrin	(4)	14.981	193	219745	12.172
222) Total PAHs	(6)			33828292	229.312
173) Fluoranthene	(4)	15.196	202	2176727	12.876
174) Benzidine	(5)	15.430	184	4489237	39.310
175)*Pyrene-d10	(5)	15.511	212	853584	5.000
177) Pyrene	(5)	15.540	202	2304467	12.451
179)\$Terphenyl-d14	(5)	15.826	244	3144964	25.281
182) p-Dimethylaminoazobenzene	(5)	16.053	225	440488	13.292
185) Chlorobenzilate	(5)	16.152	139	660382	13.061
187) 3,3'-Dimethylbenzidine	(5)	16.613	212	1550012	12.722
188) Butylbenzylphthalate	(5)	16.677	149	912427	13.191
191) 2-Acetylaminofluorene	(5)	17.038	181	922996	13.521
193) 3,3'-Dichlorobenzidine	(5)	17.540	252	912165	12.853
195) Benzo(a)anthracene	(5)	17.545	228	2460151	13.079
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.557	231	497137	12.941
196) Chrysene	(5)	17.609	228	2232984	12.999
199) bis(2-Ethylhexyl)phthalate	(5)	17.749	149	1380981	13.062
203) 6-Methylchrysene	(5)	18.414	242	1621781	12.810
205) Di-n-octylphthalate	(6)	18.909	149	2531501	13.008
206) Benzo(b)fluoranthene	(6)	19.399	252	2453264	12.953
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.405	256	1049836	13.687
208) Benzo(k)fluoranthene	(6)	19.451	252	2340539	12.853
211) Benzo(a)pyrene	(6)	19.923	252	2275478	12.791
213)*Perylene-d12	(6)	20.005	264	805923	5.000
215) 3-Methylcholanthrene	(6)	20.495	268	1169594	13.030
217) Dibenz(a,h)acridine	(6)	21.299	279	1884577	12.629
218) Dibenz(a,j)acridine	(6)	21.375	279	1806167	12.651
219) Indeno(1,2,3-cd)pyrene	(6)	21.620	276	2549780	12.792
220) Dibenz(a,h)anthracene	(6)	21.655	278	2156368	12.869
221) Benzo(g,h,i)perylene	(6)	21.998	276	2076925	12.712

* = Compound is an internal standard.

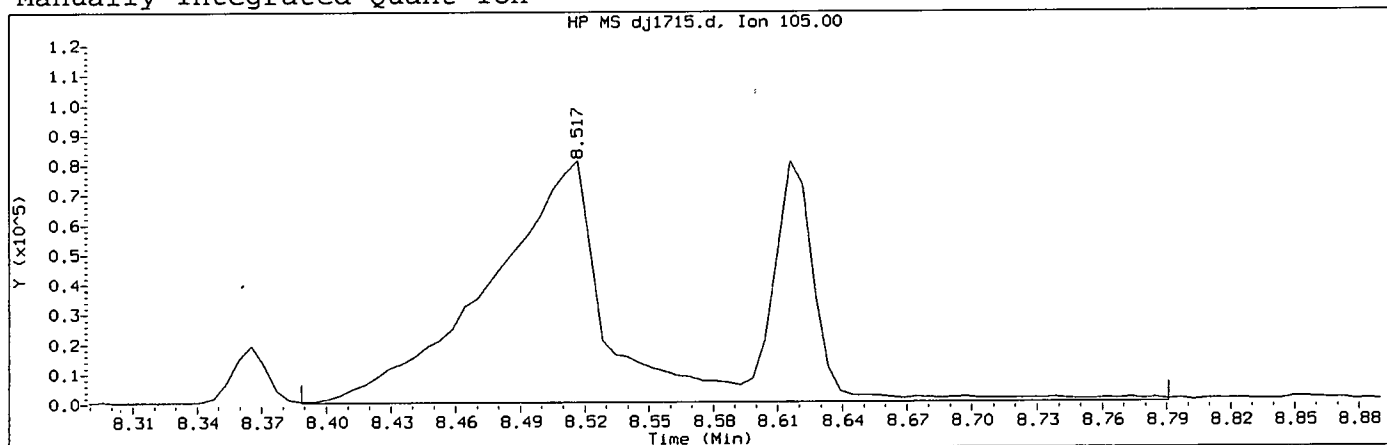
\$ = Compound is a surrogate standard.

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 on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1715.d
Injection date and time: 20-OCT-2016 17:27

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:24
Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD12.5

Lab Sample ID: RVSTD2716

Compound Number	: 56	
Compound Name	: Benzoic acid	
Scan Number	: 1086	
Retention Time (minutes)	: 8.517	
Quant Ion	: 105.00	
Area (flag)	: 415528M	
On-Column Amount (ng/ul)	: 13.7519	
Integration start scan	: 1063	Integration stop scan: 1132
Y at integration start	: 375	Y at integration end: 375

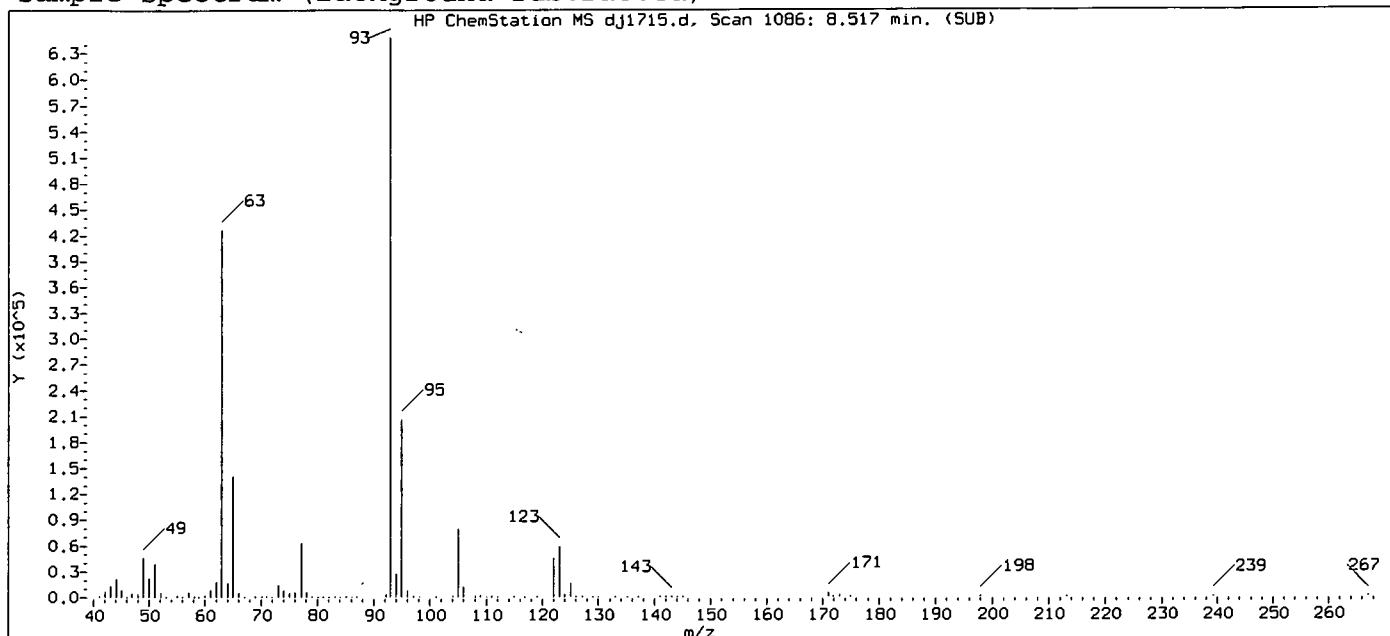
Reason for manual integration: improper integration

Digitally signed by Holly B. Ziegler
Analyst responsible for change: on 10/27/2016 at 10:14.
Target 3.5 signature user ID: hbz01996

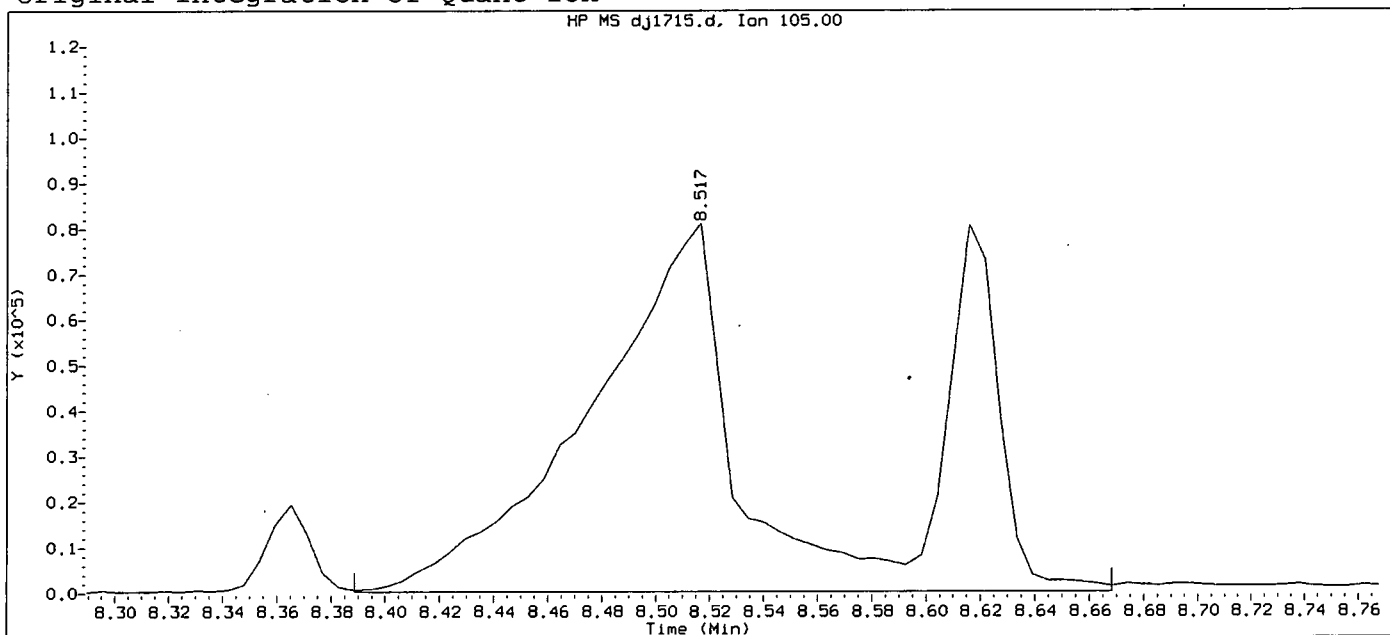
OCT 28 2016

GC/MS audit/management approval: Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1715.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 17:27

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all1

Calibration date and time: 27-OCT-2016 08:07

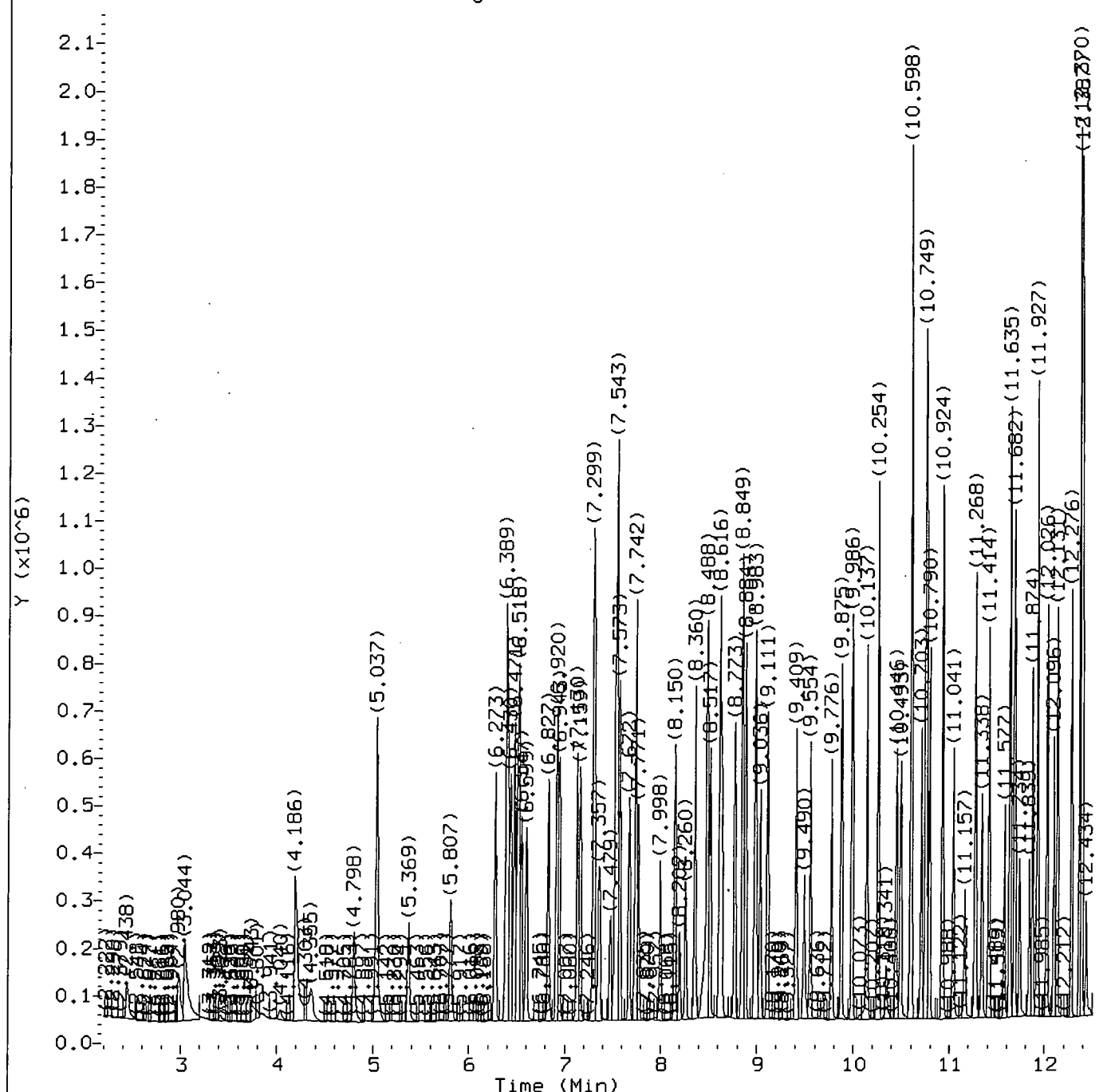
Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

Sample Name: SSTD12.5

Lab Sample ID: RVSTD2716

Compound Number	: 56	
Compound Name	: Benzoic acid	
Scan Number	: 1086	
Retention Time (minutes)	: 8.517	
Quant Ion	: 105.00	
Area	: 405877	
On-column Amount (ng/ul)	: 15.6144	
Integration start scan	: 1063	Integration stop scan: 1111
Y at integration start	: 332	Y at integration end: 332

Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:14.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1716.d

Injection date and time: 20-OCT-2016 17:55

Instrument ID: HP19760.i

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all11

Calibration date and time: 27-OCT-2016 08:24

Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SST3.75

Lab Sample ID: RVSTD2716

Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:14.

Target 3.5 esignature user ID: hbz01996

page 1 of 2

Y (x10⁶)

Time (Min)

Total Ion Chromatogram (TIC)

GC Column: J&W DB-5MS (0.18mm ID)

Peak labels (Time in minutes):

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- (13.198)
- (13.200)
- (13.202)
- (13.204)
- (13.206)
- (13.208

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1716.d

Injection date and time: 20-OCT-2016 17:55

Instrument ID: HP19760.i

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all1

Calibration date and time: 27-OCT-2016 08:24

Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD3.75

Lab Sample ID: RVSTD2716

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on 10/27/2016 at 10:14.

Target 3.5 esignature user ID: hbz01996

page 2 of 2

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1716.d
 Injection date and time: 20-OCT-2016 17:55

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:24
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD3.75

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
1) 1,4-Dioxane	(1)	2.438	88	74468	3.693
4) N-Nitrosodimethylamine	(1)	2.980	74	118912	3.767
5) Pyridine	(1)	3.044	79	202632	3.856
7) 2-Picoline	(1)	4.186	93	209547	3.758
8) N-Nitrosomethylethylamine	(1)	4.361	88	87101	3.799
9) Methyl methanesulfonate	(1)	4.798	80	108759	3.836
11) \$2-Fluorophenol	(1)	5.037	112	307189	7.543
13) N-Nitrosodiethylamine	(1)	5.369	102	81047	3.793
42) Total Cresols	(1)			330807	7.607
15) Ethyl methanesulfonate	(1)	5.812	109	83506	3.788
16) Benzaldehyde	(1)	6.273	77	171049	4.401
17) \$Phenol-d6	(1)	6.389	99	422412	7.592
18) Phenol	(1)	6.407	94	247663	3.792
19) Aniline	(1)	6.430	93	296408	3.789
20) a-methylstyrene	(1)	6.518	118	162717	3.863
22) bis(2-Chloroethyl)ether	(1)	6.547	93	185922	3.778
23) 2-Chlorophenol	(1)	6.599	128	141195	3.782
24) 1,3-Dichlorobenzene	(1)	6.832	146	159877	3.856
25) *1,4-Dichlorobenzene-d4	(1)	6.920	152	127060	5.000
26) 1,4-Dichlorobenzene	(1)	6.943	146	161243	3.827
27) Benzyl alcohol	(1)	7.130	108	112119	3.911
28) 1,2-Dichlorobenzene	(1)	7.159	146	151759	3.832
30) Indene	(1)	7.299	115	279955	3.844
31) 2-Methylphenol	(1)	7.305	108	153832	3.789
34) bis(2-Chloroisopropyl)ether	(1)	7.357	45	210394	3.743
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.357	45	210394	3.743
97) Isosafrole	(3)			132607	3.643
35) N-Nitrosopyrrolidine	(1)	7.479	100	89974	3.844
36) Acetophenone	(1)	7.520	105	262477	4.043
39) N-Nitrosomorpholine	(1)	7.543	56	102779	3.791
37) 4-Methylphenol	(1)	7.543	108	176975	3.817
38) N-Nitroso-di-n-propylamine	(1)	7.543	70	143633	3.785
40) o-Toluidine	(1)	7.573	106	282807	3.826
43) Hexachloroethane	(1)	7.672	117	70535	3.725
44) \$Nitrobenzene-d5	(2)	7.742	82	395413	7.575
45) Nitrobenzene	(2)	7.771	77	196595	3.696
48) N-Nitrosopiperidine	(2)	7.998	114	80307	3.795
120) 2,4,6-Dinitrotoluenes	(3)			134551	7.065
50) Isophorone	(2)	8.150	82	356197	3.739
51) 2-Nitrophenol	(2)	8.260	139	57823	3.724

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1716.d
 Injection date and time: 20-OCT-2016 17:55

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:24
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD3.75

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
53) 2,4-Dimethylphenol	(2)	8.360	107	174066	3.748
56) Benzoic acid	(2)	8.482	105	172628M	6.469
57) O,O,O-Triethylphosphorothioate	(2)	8.488	198	82405	3.749
55) bis(2-Chloroethoxy)methane	(2)	8.517	93	222967	3.726
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.616	104	266044	3.884
60) 2,4-Dichlorophenol	(2)	8.633	162	120392	3.796
62) 1,2,4-Trichlorobenzene	(2)	8.773	180	138677	3.796
146) Diallate trans/cis	(4)			166036	3.659
65) *Naphthalene-d8	(2)	8.849	136	479995	5.000
66) Naphthalene	(2)	8.884	128	409620	3.746
67) 4-Chloroaniline	(2)	8.983	127	174937	3.757
68) 2,6-Dichlorophenol	(2)	8.989	162	118229	3.808
69) Hexachloropropene	(2)	9.036	213	98867	3.656
71) Hexachlorobutadiene	(2)	9.111	225	89110	3.778
75) Quinoline	(2)	9.409	129	250963	3.750
76) Caprolactam	(2)	9.490	113	41745	3.939
77) N-Nitrosodi-n-butylamine	(2)	9.554	84	136785	3.447
80) 4-Chloro-3-methylphenol	(2)	9.776	107	143949	3.708
82) Safrole	(2)	9.875	162	109363	3.705
83) 2-Methylnaphthalene	(2)	9.986	142	279745	3.810
84) 1-Methylnaphthalene	(2)	10.143	142	257193	3.854
85) Hexachlorocyclopentadiene	(3)	10.254	237	86059	3.514
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.254	216	161110	3.712
88) cis-Isosafrole	(3)	10.347	162	20640	0.630
90) 2,4,6-Trichlorophenol	(3)	10.446	196	92523	3.710
92) 2,4,5-Trichlorophenol	(3)	10.493	196	99208	3.692
93) \$2-Fluorobiphenyl	(3)	10.598	172	642076	7.401
94) trans-Isosafrole	(3)	10.703	162	111967	3.013
95) 1,1'-Biphenyl	(3)	10.749	154	356557	3.920
96) 2-Chloronaphthalene	(3)	10.755	162	262254	3.613
98) 1-Chloronaphthalene	(3)	10.790	162	251427	3.683
100) 2-Nitroaniline	(3)	10.924	138	70923	3.590
99) Diphenyl ether	(3)	10.930	170	191657	3.655
104) 1,4-Naphthoquinone	(3)	11.041	158	105834	3.590
105) 1,4-Dinitrobenzene	(3)	11.163	168	30234	3.343
106) Dimethylphthalate	(3)	11.268	163	302708	3.668
107) 1,3-Dinitrobenzene	(3)	11.274	168	37392	3.454
108) 2,6-Dinitrotoluene	(3)	11.338	165	59902	3.687
109) Acenaphthylene	(3)	11.414	152	388396	3.663
112) 3-Nitroaniline	(3)	11.577	138	62890	3.613

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1716.d
Injection date and time: 20-OCT-2016 17:55

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:24
Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD3.75

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
113) *Acenaphthene-d10	(3)	11.635	164	301907	5.000
114) Acenaphthene	(3)	11.682	153	289893	3.713
115) 2,4-Dinitrophenol	(3)	11.734	184	40860	5.775
116) 4-Nitrophenol	(3)	11.839	109	43225	3.033
117) Pentachlorobenzene	(3)	11.874	250	131472	3.645
118) 2,4-Dinitrotoluene	(3)	11.921	165	74649	3.378
119) Dibenzofuran	(3)	11.927	168	386477	3.702
121) 1-Naphthylamine	(3)	12.026	143	270647	3.513
122) 2,3,4,6-Tetrachlorophenol	(3)	12.096	232	76237	3.609
123) 2-Naphthylamine	(3)	12.131	143	270802	3.575
124) Diethylphthalate	(3)	12.276	149	291912	3.539
126) Fluorene	(3)	12.364	166	308041	3.685
125) Thionazin	(3)	12.370	107	65527	3.608
128) 5-Nitro-o-toluidine	(3)	12.381	152	72678	3.560
129) 4-Nitroaniline	(3)	12.387	138	68760	3.670
127) 4-Chlorophenyl-phenylether	(3)	12.393	204	159754	3.710
130) 4,6-Dinitro-2-methylphenol	(4)	12.434	198	28817	2.774
132) NDPA as diphenylamine	(4)	12.527	169	251023	3.673
131) N-Nitrosodiphenylamine	(4)	12.527	169	251023	3.673
134) 1,2-Diphenylhydrazine	(4)	12.574	77	396976	3.694
135) \$2,4,6-Tribromophenol	(3)	12.649	330	82859	7.080
137) Tetraethyldithiopyrophosphate	(4)	12.760	97	65751	3.636
139) 1,3,5-Trinitrobenzene	(4)	12.848	213	20643	2.827
140) Diallate (peak 1)	(4)	12.900	86	141806	3.033
141) Phorate	(4)	12.906	75	237781	3.674
142) Phenacetin	(4)	12.917	108	179949	3.731
143) 4-Bromophenyl-phenylether	(4)	12.976	248	98086	3.791
144) Diallate (peak 2)	(4)	13.005	86	24230	0.626
145) Hexachlorobenzene	(4)	13.034	284	101615	3.599
147) Dimethoate	(4)	13.092	87	145646	3.575
148) Atrazine	(4)	13.203	200	98280	4.057
149) Pentachlorophenol	(4)	13.279	266	55590	3.484
150) 4-Aminobiphenyl	(4)	13.291	169	325427	3.708
151) Pentachloronitrobenzene	(4)	13.296	237	39471	3.477
152) Pronamide	(4)	13.395	173	149264	3.647
153) *Phenanthrene-d10	(4)	13.518	188	598542	5.000
154) Dinoseb	(4)	13.541	211	45071	2.899
155) Phenanthrene	(4)	13.547	178	468960	3.664
157) Anthracene	(4)	13.611	178	475245	3.691
163) Carbazole	(4)	13.827	167	433522	3.694

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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on 10/27/2016 at 10:14.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1716.d
 Injection date and time: 20-OCT-2016 17:55

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:24
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTDD3.75

Lab Sample ID: RVSTD2716

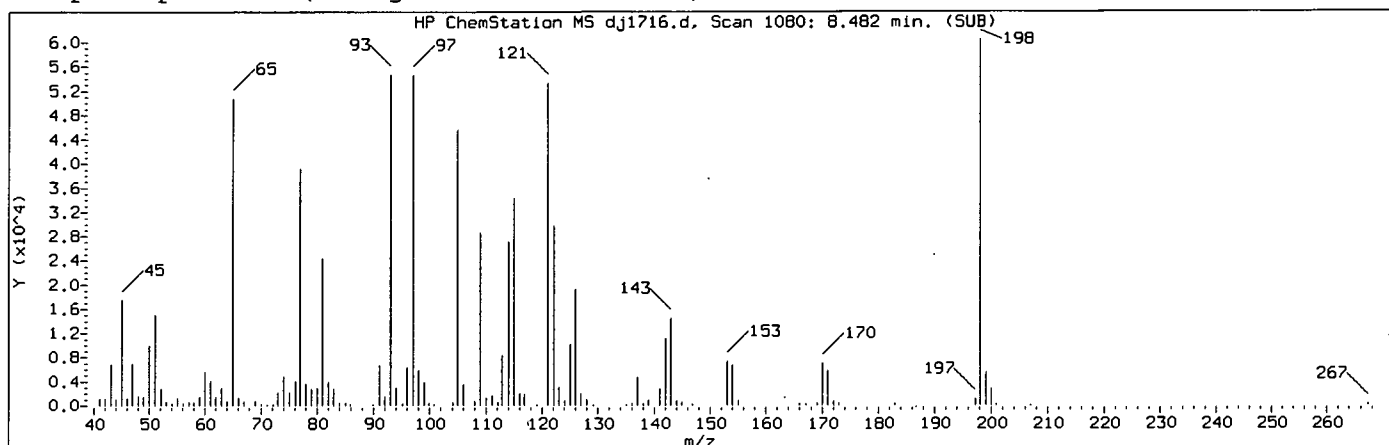
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
164) Methyl parathion	(4)	14.037	109	96834	3.411
165) Di-n-butylphthalate	(4)	14.345	149	533280	3.672
167) Parathion	(4)	14.584	109	65894	3.405
168) 4-Nitroquinoline-1-oxide	(4)	14.584	190	28828	2.483
169) Octachlorostyrene	(4)	14.934	308	42050	3.764
171) Isodrin	(4)	14.981	193	59307	3.621
222) Total PAHs	(6)			8852574	67.125
173) Fluoranthene	(4)	15.191	202	562380	3.667
174) Benzidine	(5)	15.418	184	1152233	11.397
175)*Pyrene-d10	(5)	15.505	212	755660	5.000
177) Pyrene	(5)	15.535	202	598185	3.651
179)\$Terphenyl-d14	(5)	15.820	244	822575	7.469
182) p-Dimethylaminoazobenzene	(5)	16.053	225	108377	3.694
185) Chlorobenzilate	(5)	16.147	139	161462	3.607
187) 3,3'-Dimethylbenzidine	(5)	16.607	212	400314	3.711
188) Butylbenzylphthalate	(5)	16.677	149	216055	3.528
191) 2-Acetylaminofluorene	(5)	17.021	181	208425	3.449
193) 3,3'-Dichlorobenzidine	(5)	17.534	252	229125	3.647
195) Benzo(a)anthracene	(5)	17.540	228	625430	3.756
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.551	231	122790	3.611
196) Chrysene	(5)	17.598	228	577827	3.800
199) bis(2-Ethylhexyl)phthalate	(5)	17.749	149	327062	3.494
203) 6-Methylchrysene	(5)	18.402	242	408911	3.648
205) Di-n-octylphthalate	(6)	18.904	149	615807	3.534
206) Benzo(b)fluoranthene	(6)	19.387	252	624398	3.682
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.393	256	250405	3.646
208) Benzo(k)fluoranthene	(6)	19.434	252	599713	3.678
211) Benzo(a)pyrene	(6)	19.912	252	578808	3.634
213)*Perylene-d12	(6)	20.005	264	721549	5.000
215) 3-Methylcholanthrene	(6)	20.483	268	290579	3.616
217) Dibenz(a,h)acridine	(6)	21.293	279	491323	3.677
218) Dibenz(a,j)acridine	(6)	21.363	279	475199	3.718
219) Indeno(1,2,3-cd)pyrene	(6)	21.602	276	678601	3.803
220) Dibenz(a,h)anthracene	(6)	21.643	278	574468	3.829
221) Benzo(g,h,i)perylene	(6)	21.987	276	555671	3.799

* = Compound is an internal standard.

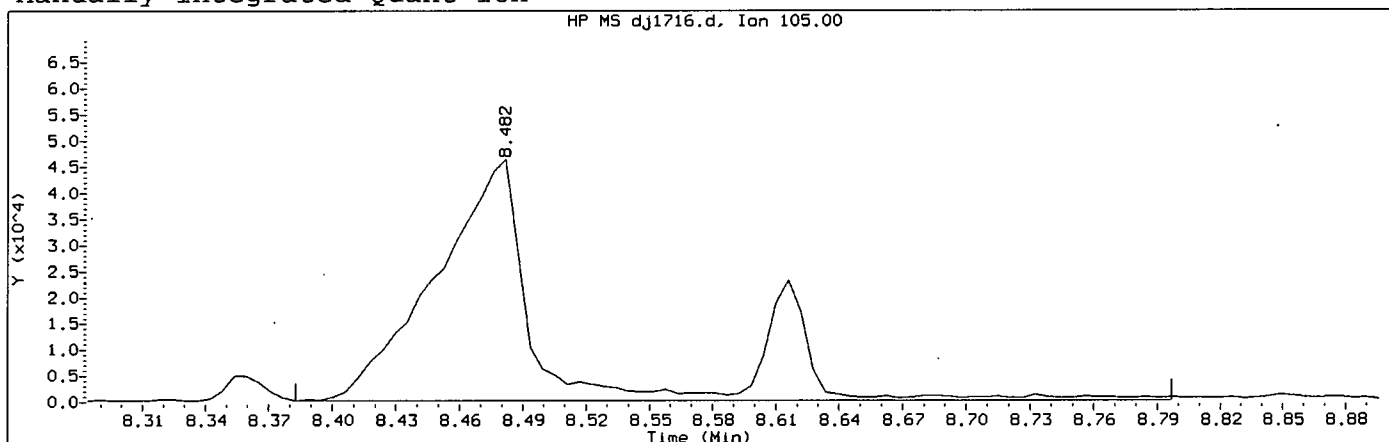
\$ = Compound is a surrogate standard.

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 on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1716.d
Injection date and time: 20-OCT-2016 17:55

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:24
Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD3.75

Lab Sample ID: RVSTD2716

Compound Number	: 56	
Compound Name	: Benzoic acid	
Scan Number	: 1080	
Retention Time (minutes)	: 8.482	
Quant Ion	: 105.00	
Area (flag)	: 172628M	
On-Column Amount (ng/ul)	: 6.4693	
Integration start scan	: 1062	Integration stop scan: 1133
Y at integration start	: 321	Y at integration end: 321

Reason for manual integration: improper integration

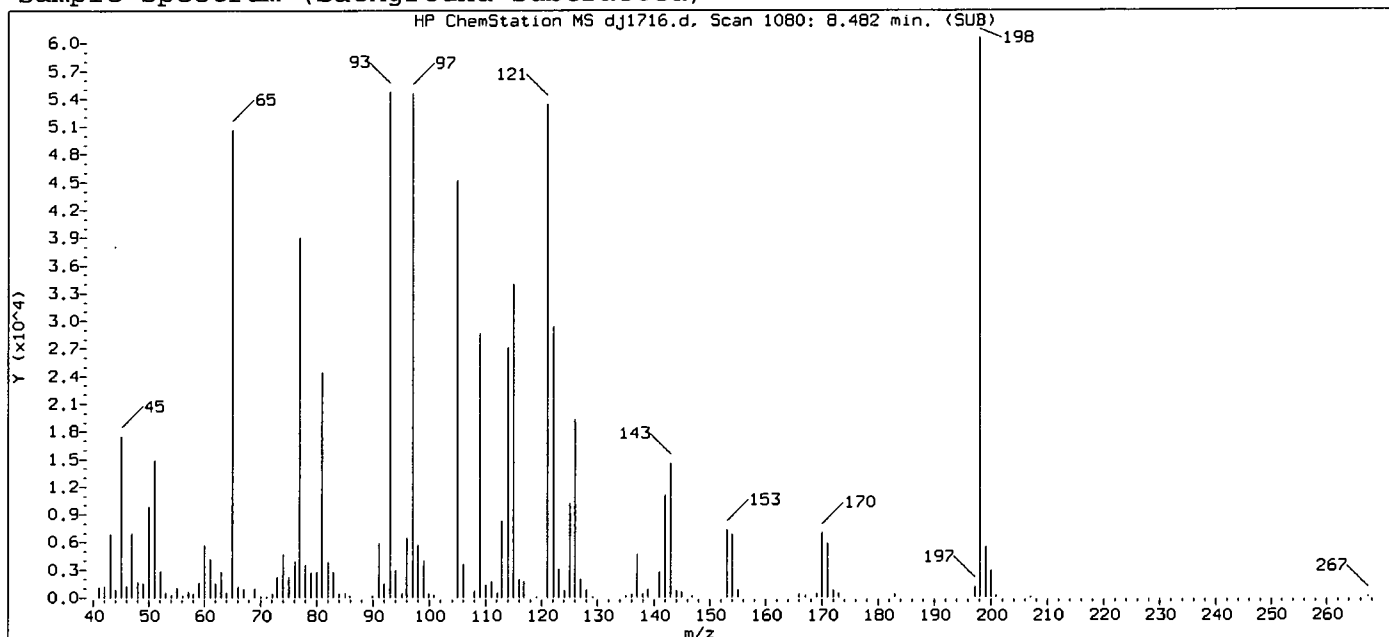
Digitally signed by Holly B. Ziegler
Analyst responsible for change: on 10/27/2016 at 10:14
Target 3.5 signature user ID: hbz01996

OCT 28 2016

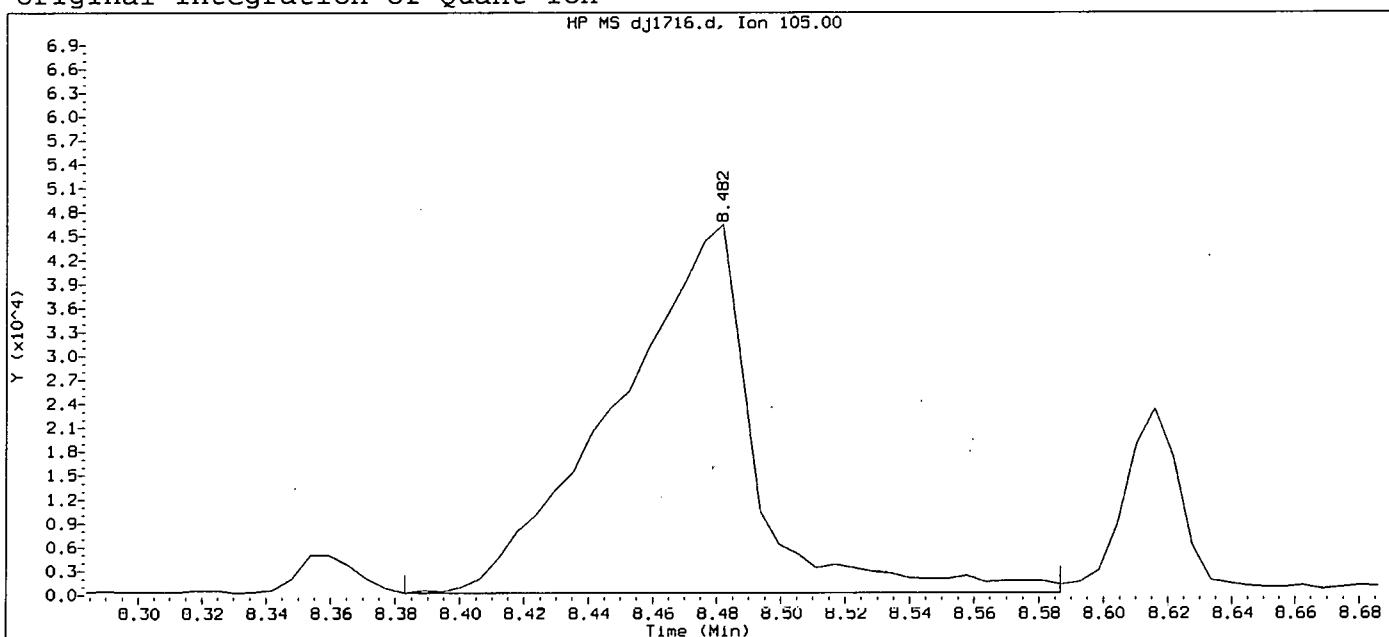
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1716.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 17:55

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all1

Calibration date and time: 27-OCT-2016 08:07

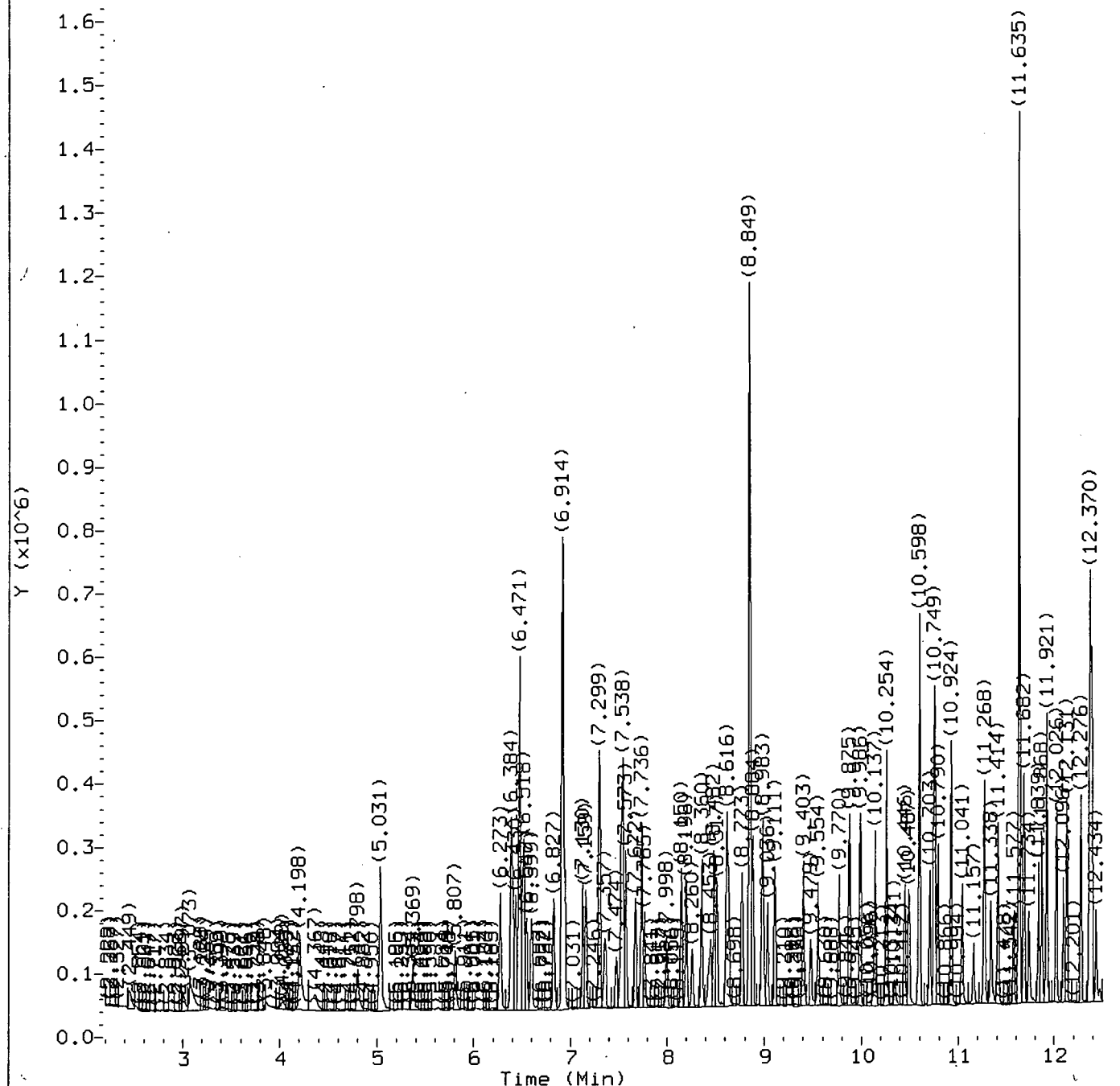
Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

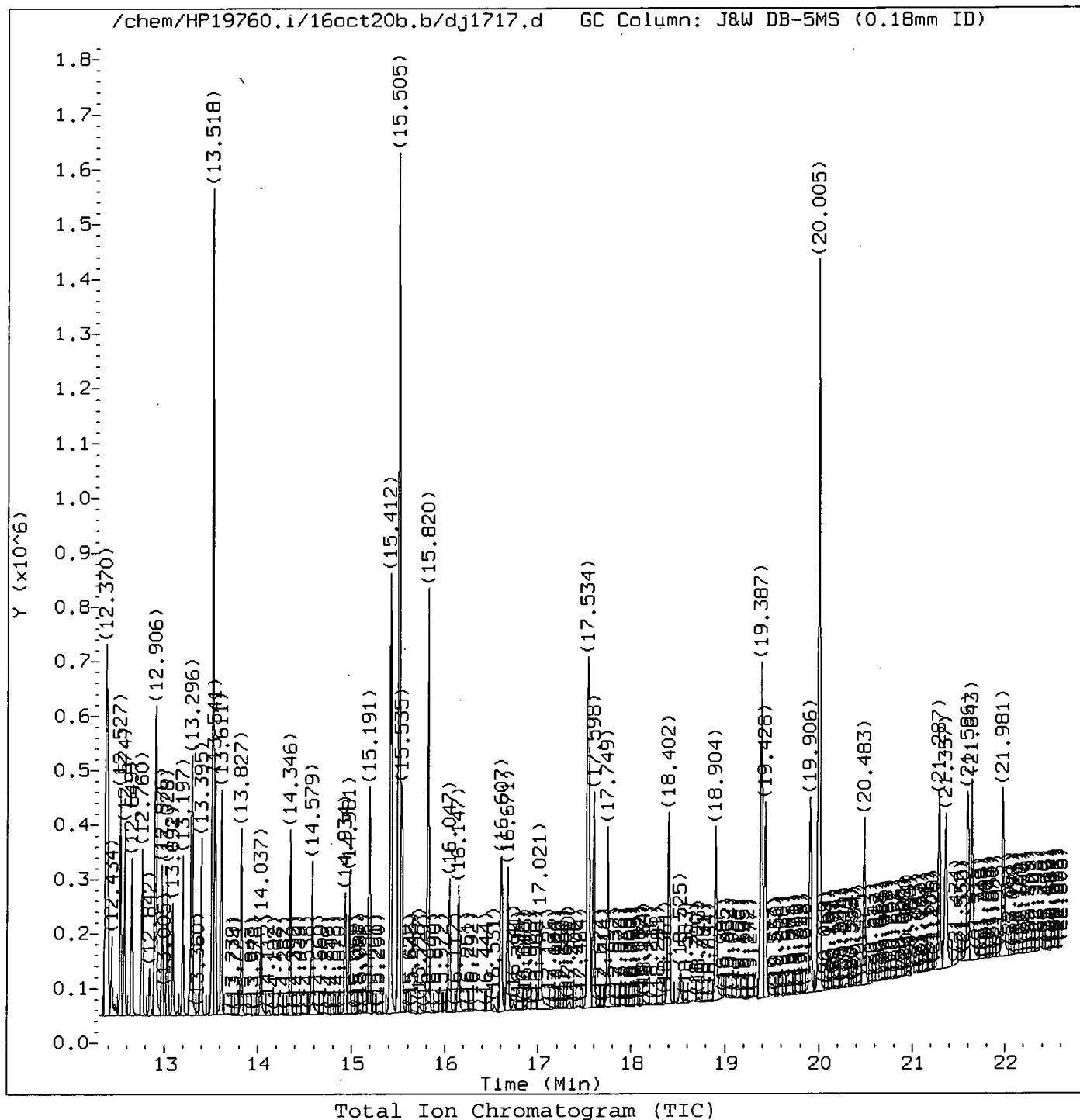
Sample Name: SSTD3.75

Lab Sample ID: RVSTD2716

Compound Number	: 56	
Compound Name	: Benzoic acid	
Scan Number	: 1080	
Retention Time (minutes)	: 8.482	
Quant Ion	: 105.00	
Area	: 137781	
On-column Amount (ng/ul)	: 6.6530	
Integration start scan	: 1062	Integration stop scan: 1097
Y at integration start	: 318	Y at integration end: 318

Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:14.
Target 3.5 esignature user ID: hbz01996





Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1717.d
Injection date and time: 20-OCT-2016 18:23

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:24
Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD1.25

Lab Sample ID: RVSTD2716

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on 10/27/2016 at 10:14.
Target 3.5 esignature user ID: hbz01996

page 2 of 2

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1717.d
 Injection date and time: 20-OCT-2016 18:23

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:24
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD1.25

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
1) 1,4-Dioxane	(1)	2.449	88	26874M	1.163
4) N-Nitrosodimethylamine	(1)	2.997	74	39662	1.096
5) Pyridine	(1)	3.073	79	71155M	1.181
7) 2-Picoline	(1)	4.198	93	75235M	1.177
8) N-Nitrosomethylethylamine	(1)	4.367	88	29373	1.118
9) Methyl methanesulfonate	(1)	4.798	80	35692	1.098
11) \$2-Fluorophenol	(1)	5.031	112	107153	2.296
13) N-Nitrosodiethylamine	(1)	5.369	102	26585	1.086
42) Total Cresols	(1)			113037	2.268
15) Ethyl methanesulfonate	(1)	5.812	109	29059	1.150
16) Benzaldehyde	(1)	6.273	77	59066	1.326
17) \$Phenol-d6	(1)	6.384	99	144856	2.272
18) Phenol	(1)	6.407	94	85125	1.137
19) Aniline	(1)	6.430	93	101304	1.130
20) a-methylstyrene	(1)	6.518	118	58614	1.214
22) bis(2-Chloroethyl)ether	(1)	6.547	93	63528	1.126
23) 2-Chlorophenol	(1)	6.599	128	48009	1.122
24) 1,3-Dichlorobenzene	(1)	6.827	146	54100	1.138
25) *1,4-Dichlorobenzene-d4	(1)	6.914	152	145619	5.000
26) 1,4-Dichlorobenzene	(1)	6.943	146	55284	1.145
27) Benzyl alcohol	(1)	7.130	108	38257	1.164
28) 1,2-Dichlorobenzene	(1)	7.159	146	52763	1.163
30) Indene	(1)	7.299	115	101633	1.218
31) 2-Methylphenol	(1)	7.305	108	52578	1.130
34) bis(2-Chloroisopropyl)ether	(1)	7.357	45	72952	1.133
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.357	45	72952	1.133
97) Isosafrole	(3)			46025	1.162
35) N-Nitrosopyrrolidine	(1)	7.474	100	29679	1.106
36) Acetophenone	(1)	7.520	105	88015	1.183
37) 4-Methylphenol	(1)	7.538	108	60459	1.138
39) N-Nitrosomorpholine	(1)	7.543	56	35474	1.142
38) N-Nitroso-di-n-propylamine	(1)	7.543	70	47968	1.103
40) o-Toluidine	(1)	7.573	106	95686	1.130
43) Hexachloroethane	(1)	7.672	117	24972	1.151
44) \$Nitrobenzene-d5	(2)	7.736	82	131179	2.207
45) Nitrobenzene	(2)	7.765	77	68696	1.134
48) N-Nitrosopiperidine	(2)	7.998	114	26630	1.105
120) 2,4,6-Dinitrotoluenes	(3)			44090	2.135
50) Isophorone	(2)	8.150	82	122876	1.133
51) 2-Nitrophenol	(2)	8.260	139	18140	1.026

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 on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1717.d
 Injection date and time: 20-OCT-2016 18:23

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:24
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD1.25

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
53) 2,4-Dimethylphenol	(2)	8.360	107	59567	1.126
56) Benzoic acid	(2)	8.453	105	74211M	2.442
57) O,O,O-Triethylphosphorothioate	(2)	8.488	198	27555	1.101
55) bis(2-Chloroethoxy)methane	(2)	8.517	93	77568	1.138
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.616	104	92355	1.184
60) 2,4-Dichlorophenol	(2)	8.633	162	40456	1.120
62) 1,2,4-Trichlorobenzene	(2)	8.768	180	46284	1.113
146) Diallate trans/cis	(4)			57667	1.202
65) *Naphthalene-d8	(2)	8.849	136	546585	5.000
66) Naphthalene	(2)	8.884	128	140206	1.126
67) 4-Chloroaniline	(2)	8.977	127	60407	1.139
68) 2,6-Dichlorophenol	(2)	8.989	162	41302	1.168
69) Hexachloropropene	(2)	9.036	213	32856	1.067
71) Hexachlorobutadiene	(2)	9.111	225	30200	1.124
75) Quinoline	(2)	9.403	129	91736	1.204
76) Caprolactam	(2)	9.479	113	13287	1.101
77) N-Nitrosodi-n-butylamine	(2)	9.554	84	47204	1.045
80) 4-Chloro-3-methylphenol	(2)	9.770	107	52023	1.177
82) Safrole	(2)	9.875	162	38941	1.159
83) 2-Methylnaphthalene	(2)	9.986	142	95814	1.146
84) 1-Methylnaphthalene	(2)	10.137	142	87158	1.147
85) Hexachlorocyclopentadiene	(3)	10.254	237	28597	1.075
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.254	216	54770	1.161
88) cis-Isosafrole	(3)	10.347	162	6791	0.191
90) 2,4,6-Trichlorophenol	(3)	10.446	196	31789	1.173
92) 2,4,5-Trichlorophenol	(3)	10.487	196	34703	1.188
93) \$2-Fluorobiphenyl	(3)	10.598	172	226253	2.400
94) trans-Isosafrole	(3)	10.703	162	39234	0.972
95) 1,1'-Biphenyl	(3)	10.749	154	117914	1.193
96) 2-Chloronaphthalene	(3)	10.755	162	93857	1.190
98) 1-Chloronaphthalene	(3)	10.790	162	87153	1.175
100) 2-Nitroaniline	(3)	10.924	138	23160	1.079
99) Diphenyl ether	(3)	10.924	170	66315	1.164
104) 1,4-Naphthoquinone	(3)	11.041	158	35804	1.118
105) 1,4-Dinitrobenzene	(3)	11.157	168	9751	0.992
106) Dimethylphthalate	(3)	11.268	163	111379	1.242
107) 1,3-Dinitrobenzene	(3)	11.274	168	11828	1.005
108) 2,6-Dinitrotoluene	(3)	11.338	165	19940	1.129
109) Acenaphthylene	(3)	11.414	152	137534	1.194
112) 3-Nitroaniline	(3)	11.577	138	20517	1.085

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 on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1717.d
Injection date and time: 20-OCT-2016 18:23

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:24
Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD1.25

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
113) *Acenaphthene-d10	(3)	11.635	164	328059	5.000
114) Acenaphthene	(3)	11.682	153	98930	1.166
115) 2,4-Dinitrophenol	(3)	11.734	184	17493	2.275
116) 4-Nitrophenol	(3)	11.839	109	29042	1.876
117) Pentachlorobenzene	(3)	11.868	250	46546	1.188
118) 2,4-Dinitrotoluene	(3)	11.921	165	24150	1.006
119) Dibenzofuran	(3)	11.927	168	135938	1.198
121) 1-Naphthylamine	(3)	12.026	143	94498	1.129
122) 2,3,4,6-Tetrachlorophenol	(3)	12.096	232	25803	1.124
123) 2-Naphthylamine	(3)	12.131	143	97251	1.182
124) Diethylphthalate	(3)	12.276	149	107542	1.200
126) Fluorene	(3)	12.364	166	109961	1.211
125) Thionazin	(3)	12.370	107	23484	1.190
128) 5-Nitro-o-toluidine	(3)	12.381	152	25757	1.161
129) 4-Nitroaniline	(3)	12.381	138	22979	1.129
127) 4-Chlorophenyl-phenylether	(3)	12.387	204	56603	1.210
130) 4,6-Dinitro-2-methylphenol	(4)	12.434	198	17565	1.598
132) NDPA as diphenylamine	(4)	12.527	169	90542	1.252
131) N-Nitrosodiphenylamine	(4)	12.527	169	90542	1.252
134) 1,2-Diphenylhydrazine	(4)	12.574	77	139738	1.229
135) \$2,4,6-Tribromophenol	(3)	12.649	330	28058	2.206
137) Tetraethyldithiopyrophosphate	(4)	12.760	97	22343	1.168
139) 1,3,5-Trinitrobenzene	(4)	12.842	213	6070	0.786
140) Diallate (peak 1)	(4)	12.900	86	49166	0.994
141) Phorate	(4)	12.906	75	79342	1.159
142) Phenacetin	(4)	12.912	108	59175	1.160
143) 4-Bromophenyl-phenylether	(4)	12.976	248	34166	1.248
144) Diallate (peak 2)	(4)	13.005	86	8501	0.208
145) Hexachlorobenzene	(4)	13.034	284	35988	1.205
147) Dimethoate	(4)	13.092	87	46525	1.080
148) Atrazine	(4)	13.197	200	32640	1.274
149) Pentachlorophenol	(4)	13.279	266	17798	1.054
150) 4-Aminobiphenyl	(4)	13.291	169	116245	1.252
151) Pentachloronitrobenzene	(4)	13.296	237	13176	1.097
152) Pronamide	(4)	13.395	173	52034	1.202
153) *Phenanthrene-d10	(4)	13.518	188	633183	5.000
154) Dinoseb	(4)	13.541	211	12436	0.756
155) Phenanthrene	(4)	13.547	178	168391	1.244
157) Anthracene	(4)	13.611	178	167665	1.231
163) Carbazole	(4)	13.827	167	152491	1.228

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on 10/27/2016 at 10:14.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1717.d
 Injection date and time: 20-OCT-2016 18:23

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:24
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD1.25

Lab Sample ID: RVSTD2716

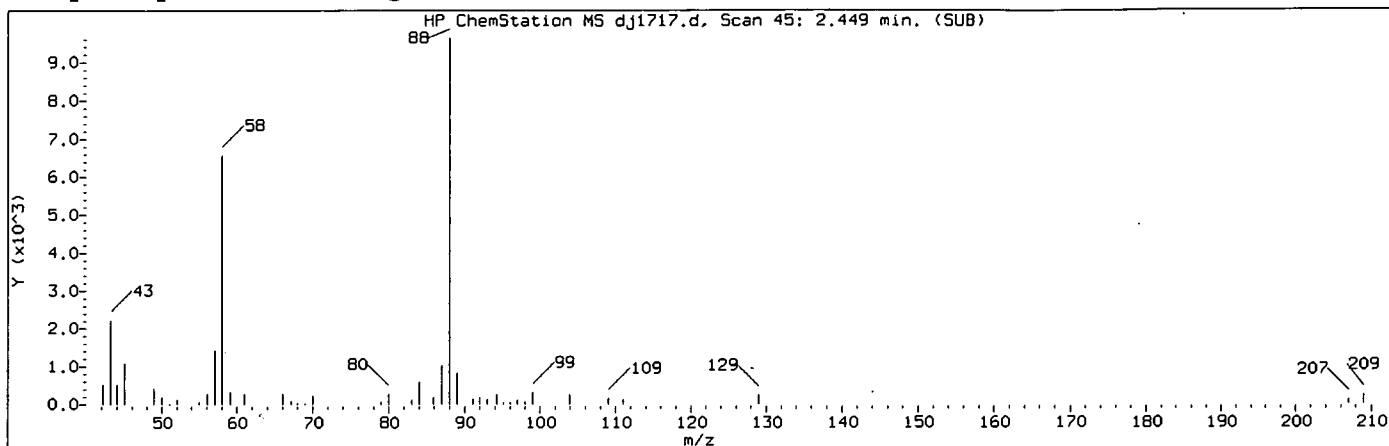
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
164) Methyl parathion	(4)	14.037	109	28109	0.936
165) Di-n-butylphthalate	(4)	14.346	149	184238	1.199
167) Parathion	(4)	14.579	109	20329	0.993
168) 4-Nitroquinoline-1-oxide	(4)	14.579	190	7963	0.648
169) Octachlorostyrene	(4)	14.934	308	14151	1.197
171) Isodrin	(4)	14.981	193	22094	1.275
222) Total PAHs	(6)			3046386	21.903
173) Fluoranthene	(4)	15.191	202	196847	1.213
174) Benzidine	(5)	15.412	184	379575	3.601
175) *Pyrene-d10	(5)	15.505	212	787813	5.000
177) Pyrene	(5)	15.535	202	212854	1.246
179) \$Terphenyl-d14	(5)	15.820	244	291506	2.539
182) p-Dimethylaminoazobenzene	(5)	16.053	225	35521	1.161
185) Chlorobenzilate	(5)	16.147	139	52865	1.133
187) 3,3'-Dimethylbenzidine	(5)	16.607	212	132958	1.182
188) Butylbenzylphthalate	(5)	16.671	149	65471	1.026
191) 2-Acetylaminofluorene	(5)	17.021	181	55301	0.878
193) 3,3'-Dichlorobenzidine	(5)	17.528	252	77938	1.190
195) Benzo(a)anthracene	(5)	17.540	228	212302	1.223
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.551	231	40431	1.140
196) Chrysene	(5)	17.598	228	198334	1.251
199) bis(2-Ethylhexyl)phthalate	(5)	17.749	149	106316	1.090
203) 6-Methylchrysene	(5)	18.402	242	140022	1.198
205) Di-n-octylphthalate	(6)	18.904	149	192882	1.097
206) Benzo(b)fluoranthene	(6)	19.381	252	208239	1.217
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.387	256	76882	1.109
208) Benzo(k)fluoranthene	(6)	19.428	252	208000	1.264
211) Benzo(a)pyrene	(6)	19.906	252	193663	1.205
213) *Perylene-d12	(6)	20.005	264	728348	5.000
215) 3-Methylcholanthrene	(6)	20.483	268	97791	1.205
217) Dibenz(a,h)acridine	(6)	21.287	279	167628	1.243
218) Dibenz(a,j)acridine	(6)	21.357	279	160592	1.245
219) Indeno(1,2,3-cd)pyrene	(6)	21.596	276	231269	1.284
220) Dibenz(a,h)anthracene	(6)	21.643	278	186125	1.229
221) Benzo(g,h,i)perylene	(6)	21.981	276	193094	1.308

* = Compound is an internal standard.

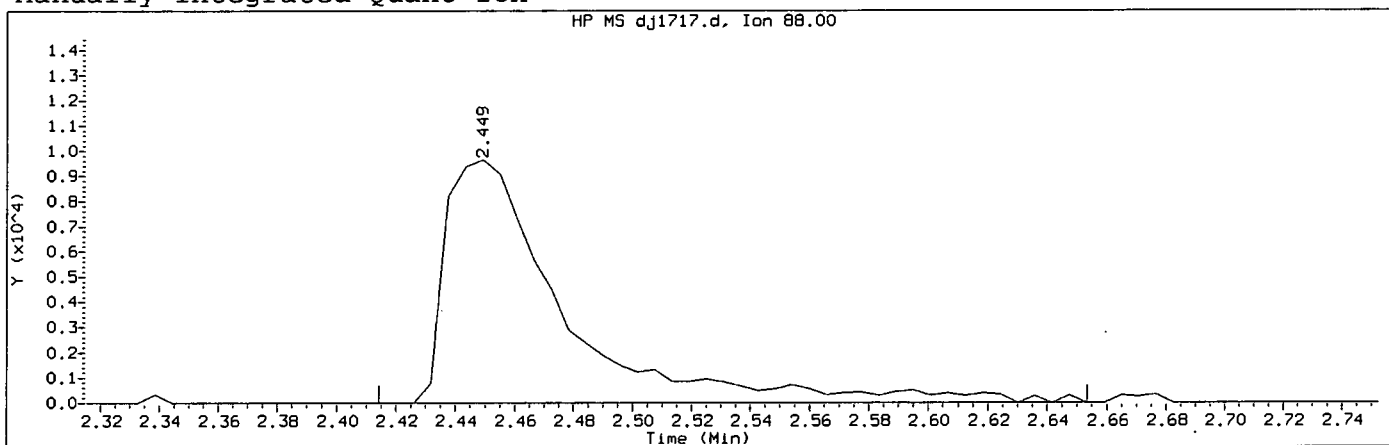
\$ = Compound is a surrogate standard.

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 on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1717.d
Injection date and time: 20-OCT-2016 18:23

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:24
Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD1.25

Lab Sample ID: RVSTD2716

Compound Number	:	1	
Compound Name	:	1,4-Dioxane	
Scan Number	:	45	
Retention Time (minutes)	:	2.449	
Quant Ion	:	88.00	
Area (flag)	:	26874M	
On-Column Amount (ng/ul)	:	1.1628	
Integration start scan	:	38	Integration stop scan: 79
Y at integration start	:	0	Y at integration end: 0

Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:14.
Target 3.5 signature user ID: hbz01996

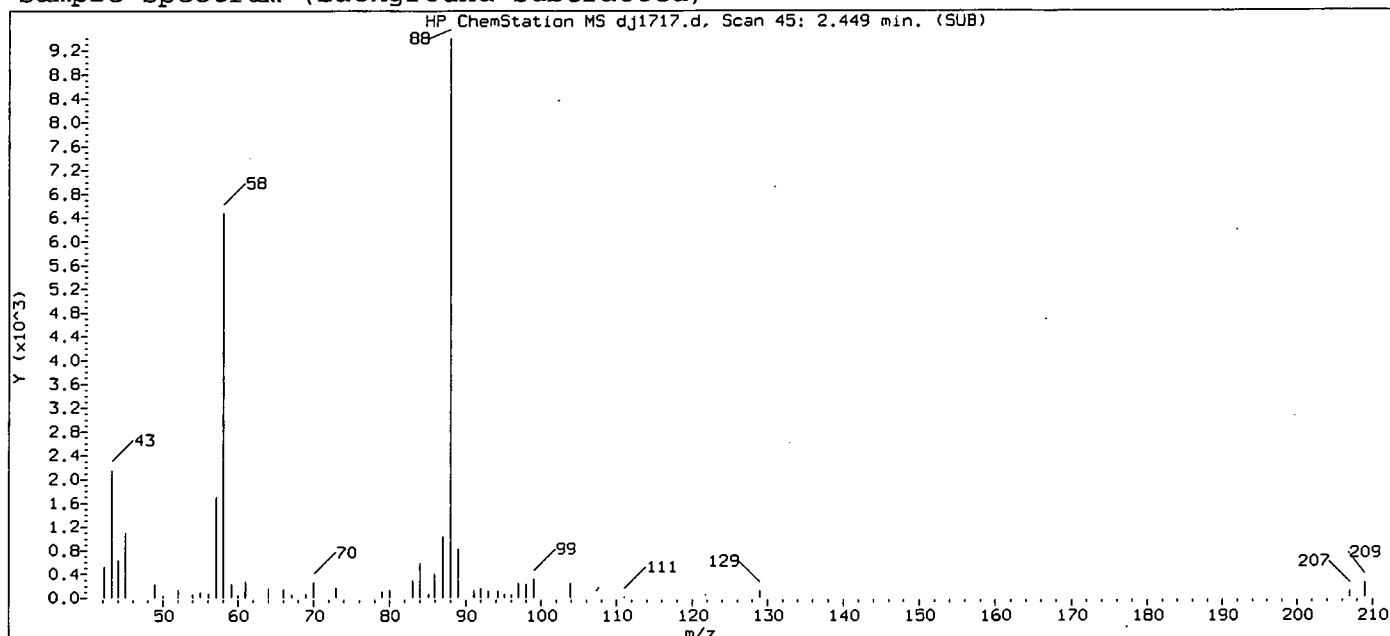
[Handwritten Signature]

OCT 28 2016

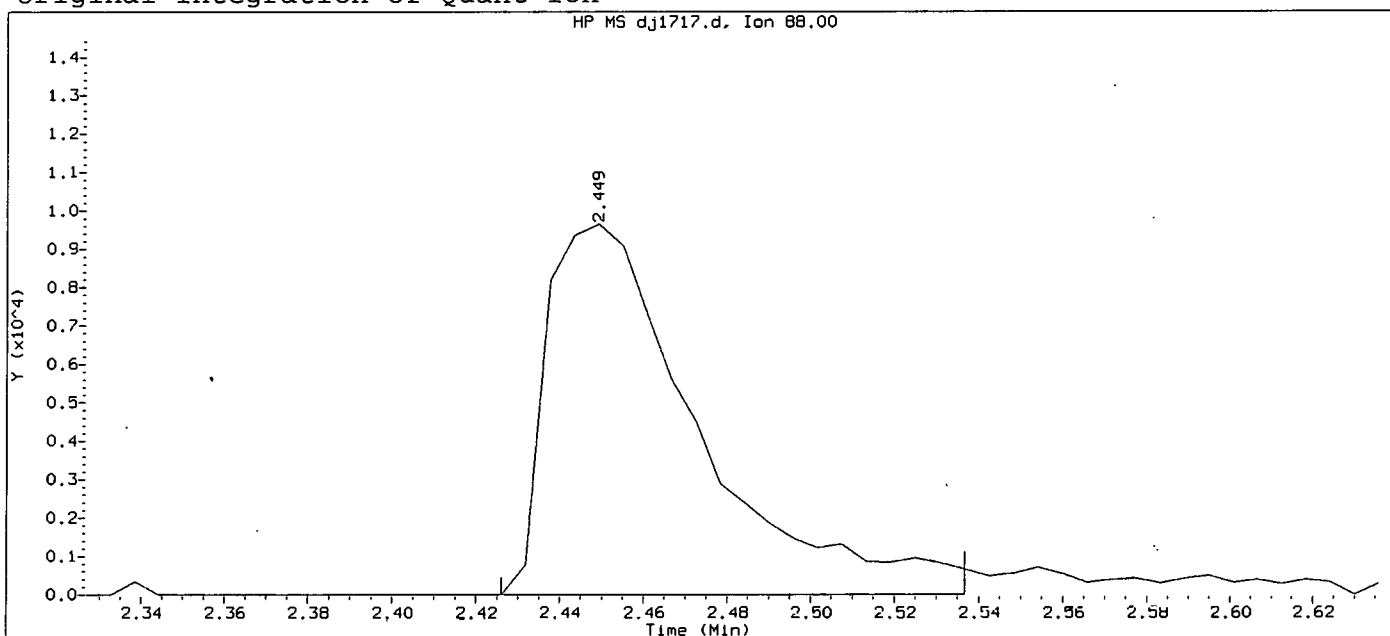
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1717.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 18:23

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all1

Calibration date and time: 27-OCT-2016 08:07

Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

Sample Name: SSTD1.25

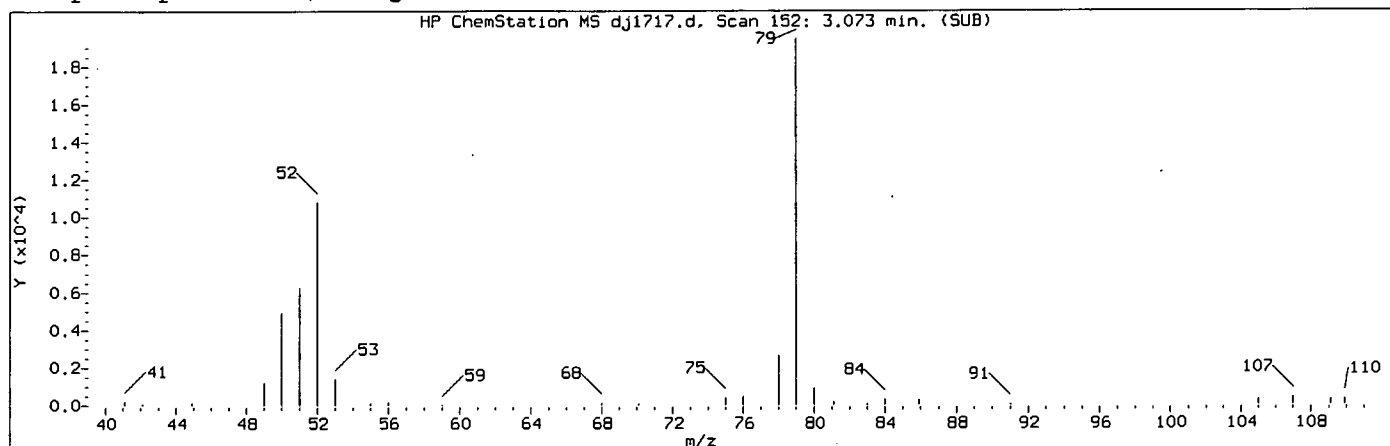
Lab Sample ID: RVSTD2716

Compound Number : 1
 Compound Name : 1,4-Dioxane
 Scan Number : 45
 Retention Time (minutes) : 2.449
 Quant Ion : 88.00
 Area : 24320
 On-column Amount (ng/ul) : 1.0680
 Integration start scan : 40
 Y at integration start : 0

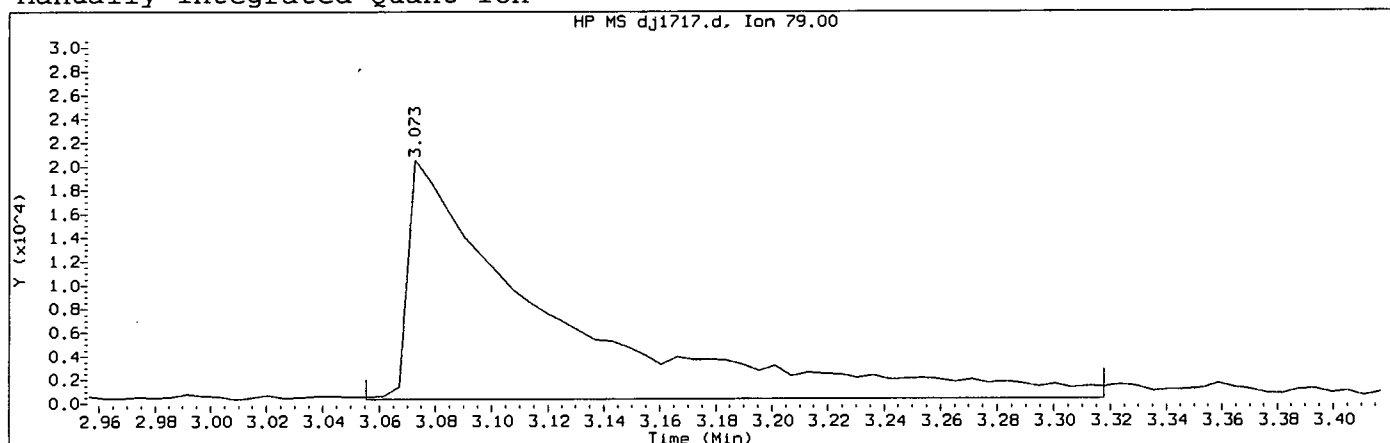
Integration stop scan: 59
 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1717.d
Injection date and time: 20-OCT-2016 18:23

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:24
Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD1.25

Lab Sample ID: RVSTD2716

Compound Number	:	5	
Compound Name	:	Pyridine	
Scan Number	:	152	
Retention Time (minutes)	:	3.073	
Quant Ion	:	79.00	
Area (flag)	:	71155M	
On-Column Amount (ng/ul)	:	1.1814	
Integration start scan	:	148	Integration stop scan: 193
Y at integration start	:	350	Y at integration end: 388

Reason for manual integration: improper integration

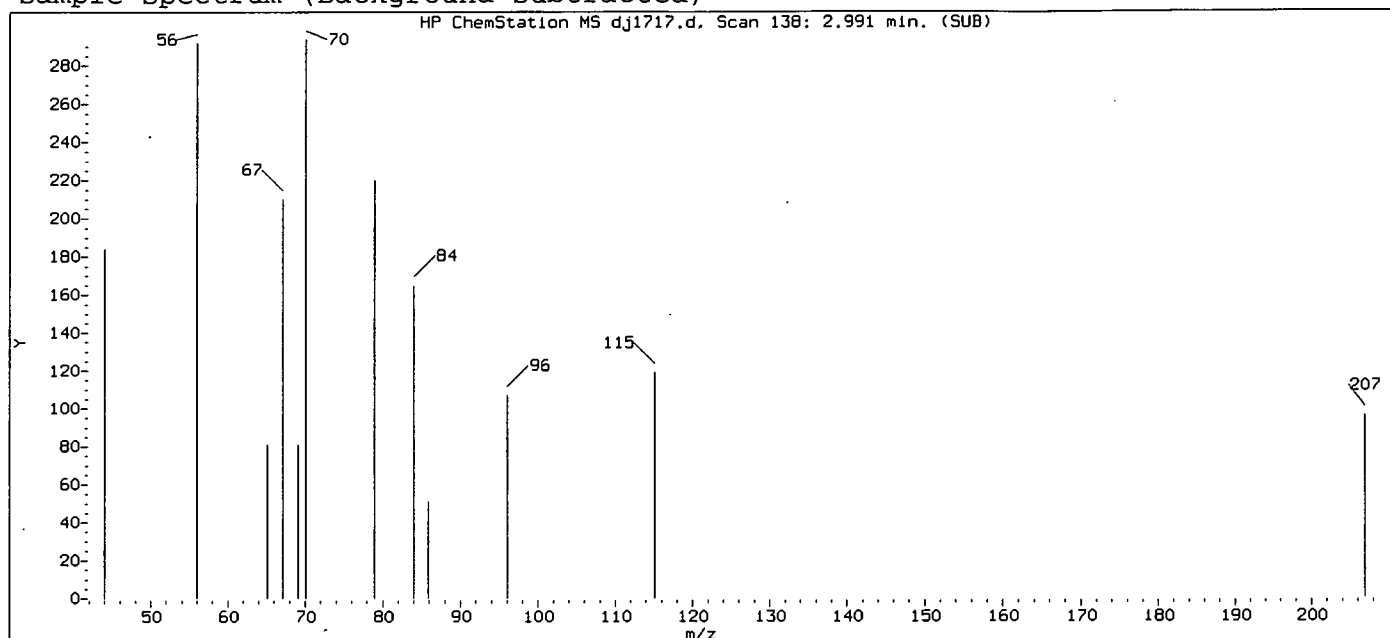
Digitally signed by Holly B. Ziegler
Analyst responsible for change: on 10/27/2016 at 10:14.
Target 3.5 signature user ID: hbz01996

OCT 28 2016

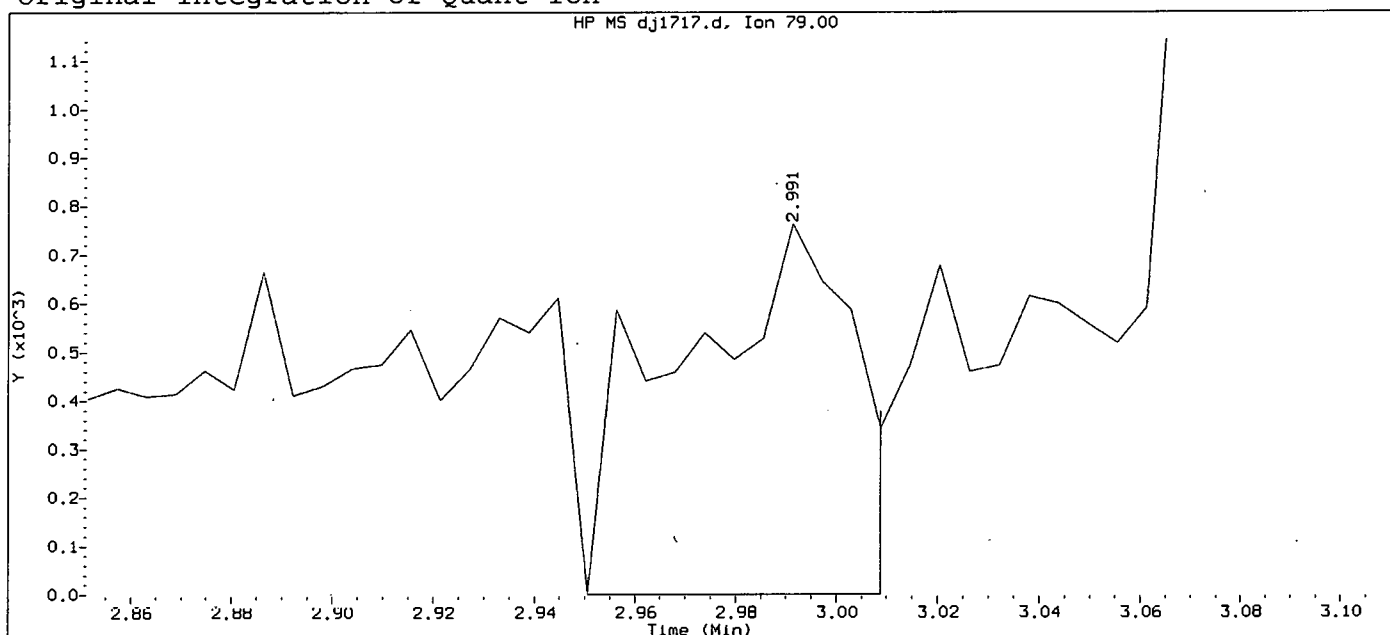
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1717.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 18:23

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all1

Calibration date and time: 27-OCT-2016 08:07

Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

Sample Name: SSTD1.25

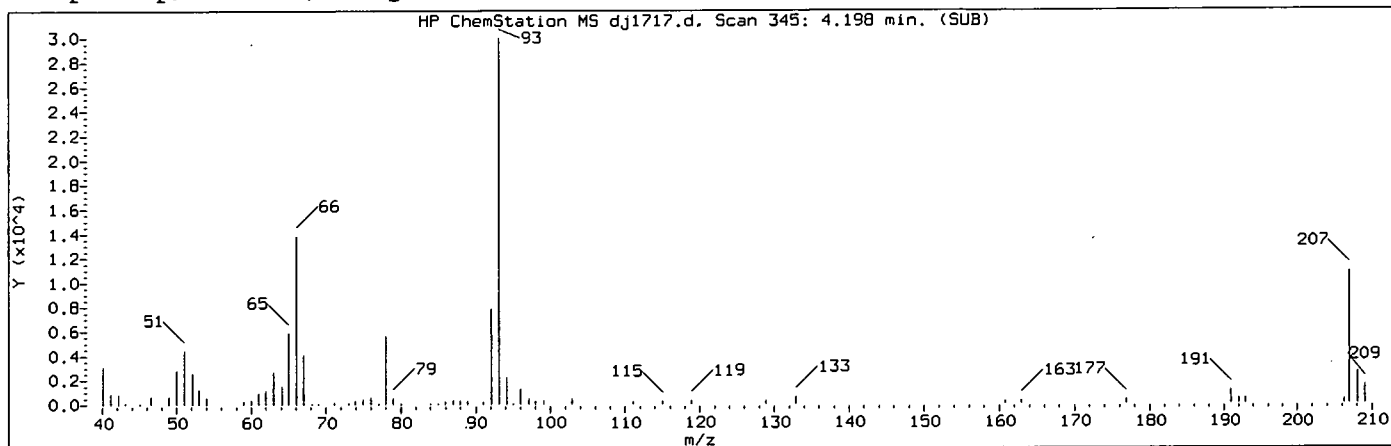
Lab Sample ID: RVSTD2716

Compound Number : 5
 Compound Name : Pyridine
 Scan Number : 138
 Retention Time (minutes) : 2.991
 Quant Ion : 79.00
 Area : 1821
 On-column Amount (ng/ul) : 0.0357
 Integration start scan : 130
 Y at integration start : 0

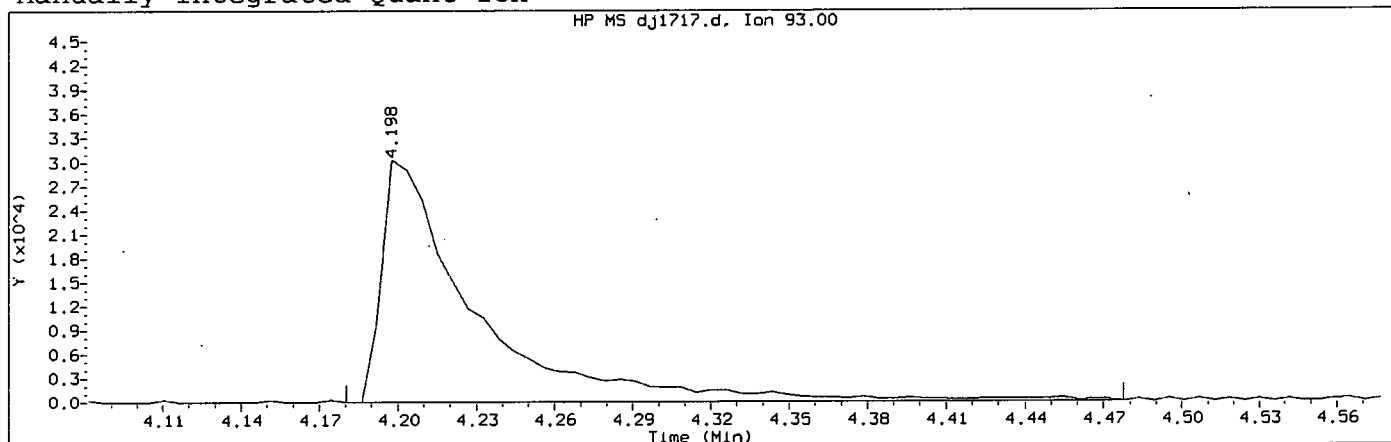
Integration stop scan: 140
 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1717.d
Injection date and time: 20-OCT-2016 18:23

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:24
Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD1.25

Lab Sample ID: RVSTD2716

Compound Number	:	7	
Compound Name	:	2-Picoline	
Scan Number	:	345	
Retention Time (minutes)	:	4.198	
Quant Ion	:	93.00	
Area (flag)	:	75235M	
On-Column Amount (ng/ul)	:	1.1773	
Integration start scan	:	341	Integration stop scan: 392
Y at integration start	:	0	Y at integration end: 0

Reason for manual integration: improper integration

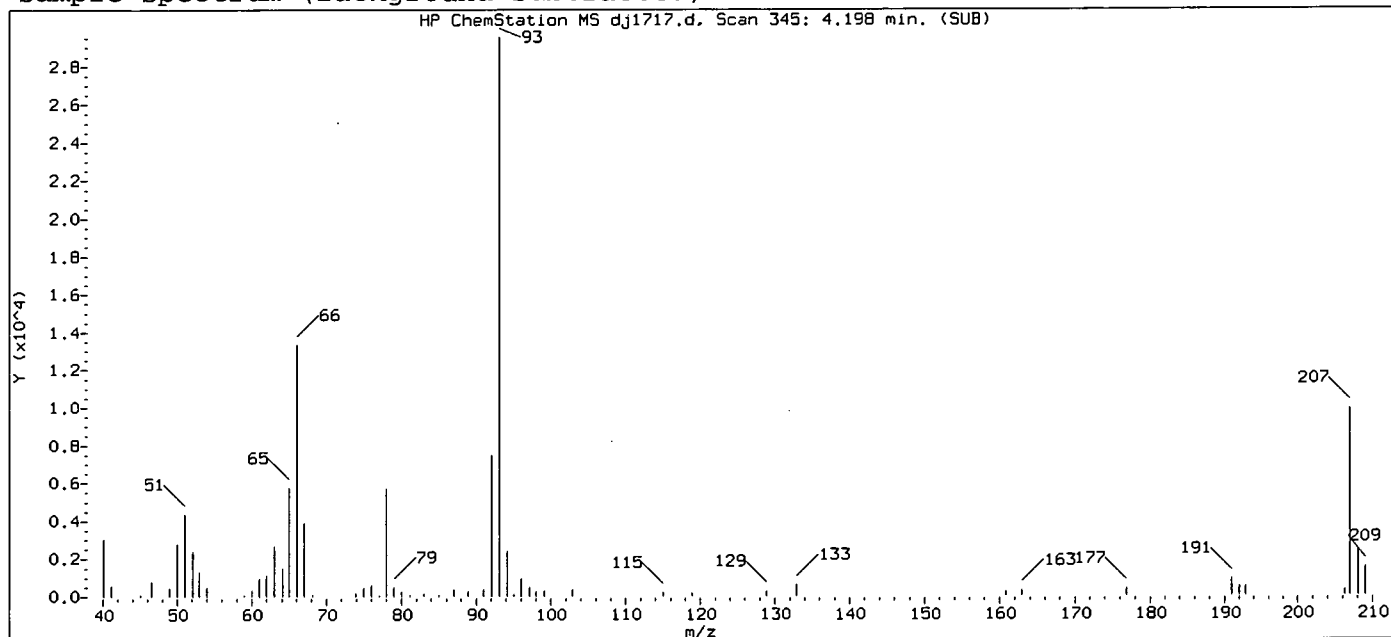
Digitally signed by Holly B. Ziegler
Analyst responsible for change: on 10/27/2016 at 10:14.
Target 3.5 signature user ID: hbz01996

OCT 28 2016

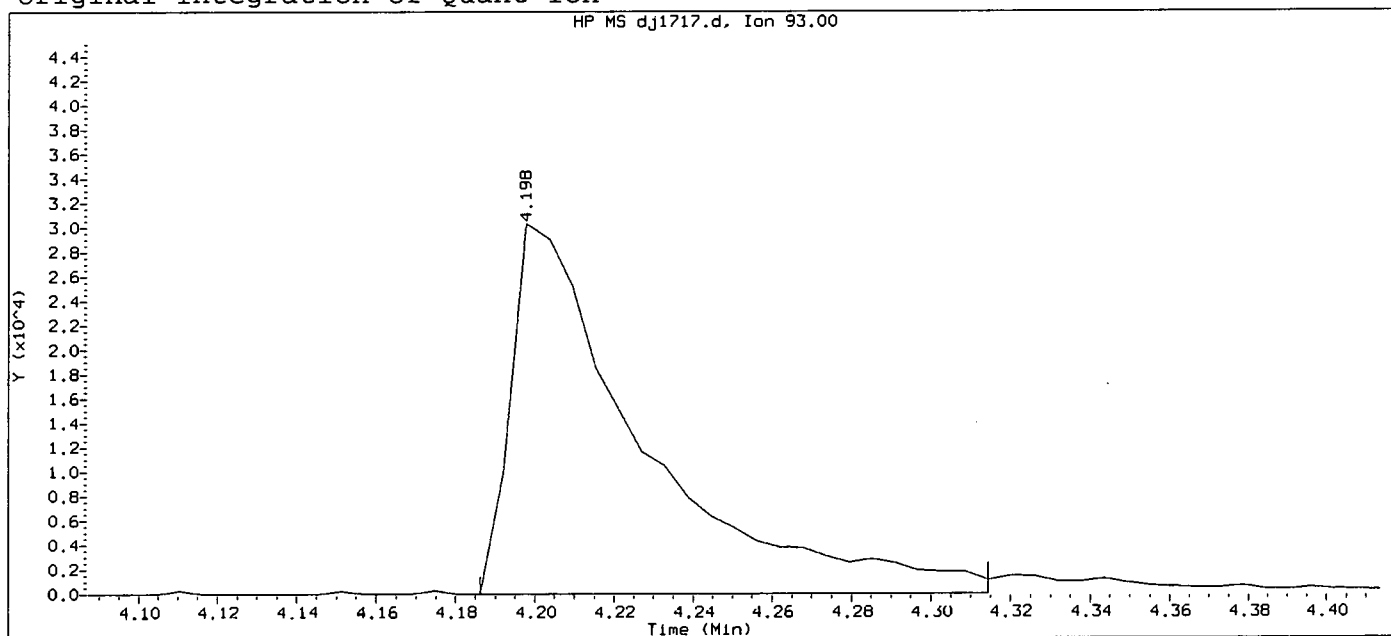
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1717.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 18:23

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all1

Calibration date and time: 27-OCT-2016 08:07

Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

Sample Name: SSTD1.25

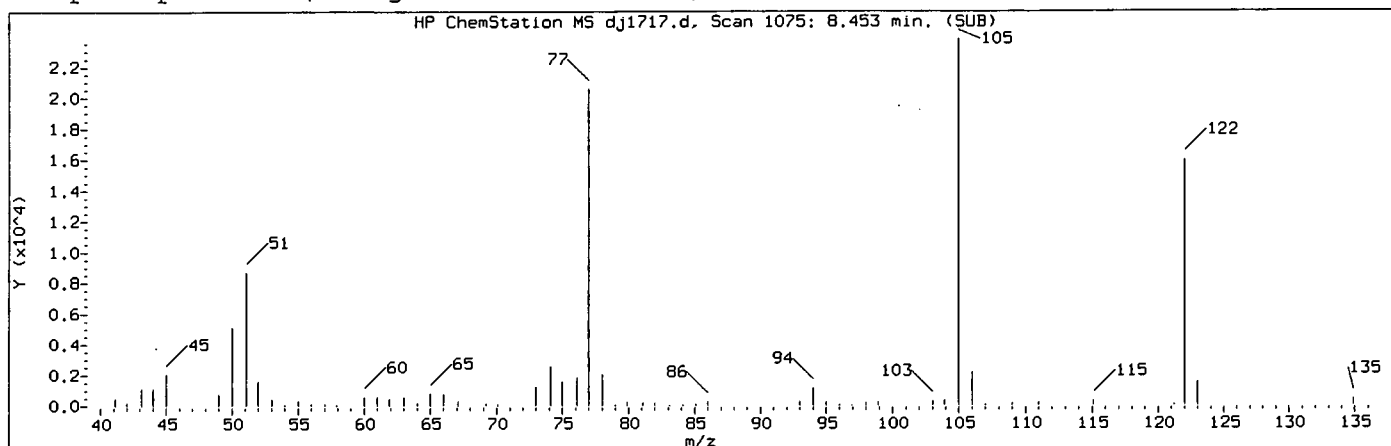
Lab Sample ID: RVSTD2716

Compound Number : 7
 Compound Name : 2-Picoline
 Scan Number : 345
 Retention Time (minutes) : 4.198
 Quant Ion : 93.00
 Area : 69588
 On-column Amount (ng/ul) : 1.1019
 Integration start scan : 342
 Y at integration start : 0

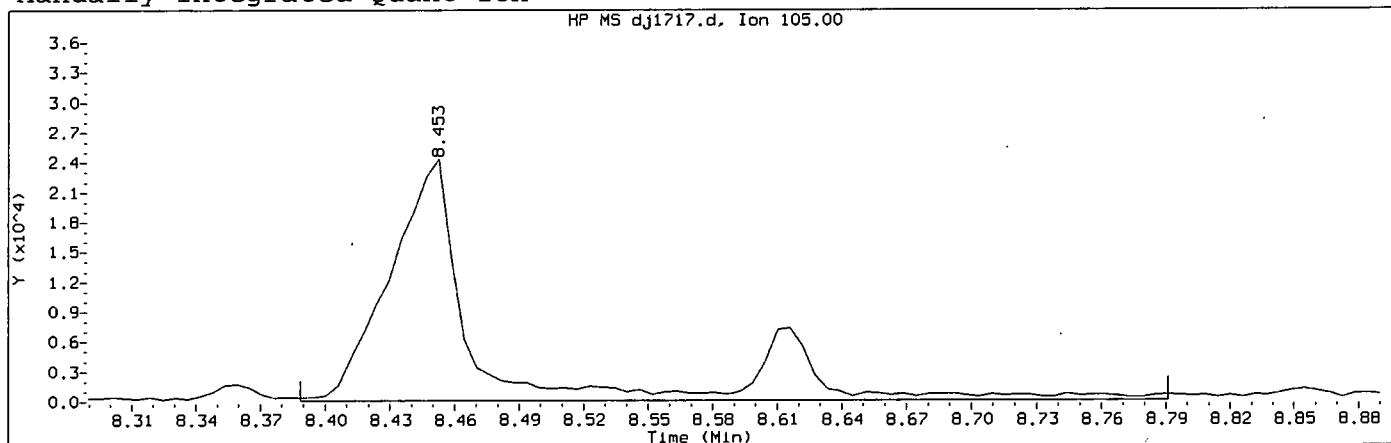
Integration stop scan: 364
 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1717.d
Injection date and time: 20-OCT-2016 18:23

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:24
Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD1.25

Lab Sample ID: RVSTD2716

Compound Number	: 56	
Compound Name	: Benzoic acid	
Scan Number	: 1075	
Retention Time (minutes)	: 8.453	
Quant Ion	: 105.00	
Area (flag)	: 74211M	
On-Column Amount (ng/ul)	: 2.4423	
Integration start scan	: 1063	Integration stop scan: 1132
Y at integration start	: 104	Y at integration end: 104

Reason for manual integration: improper integration

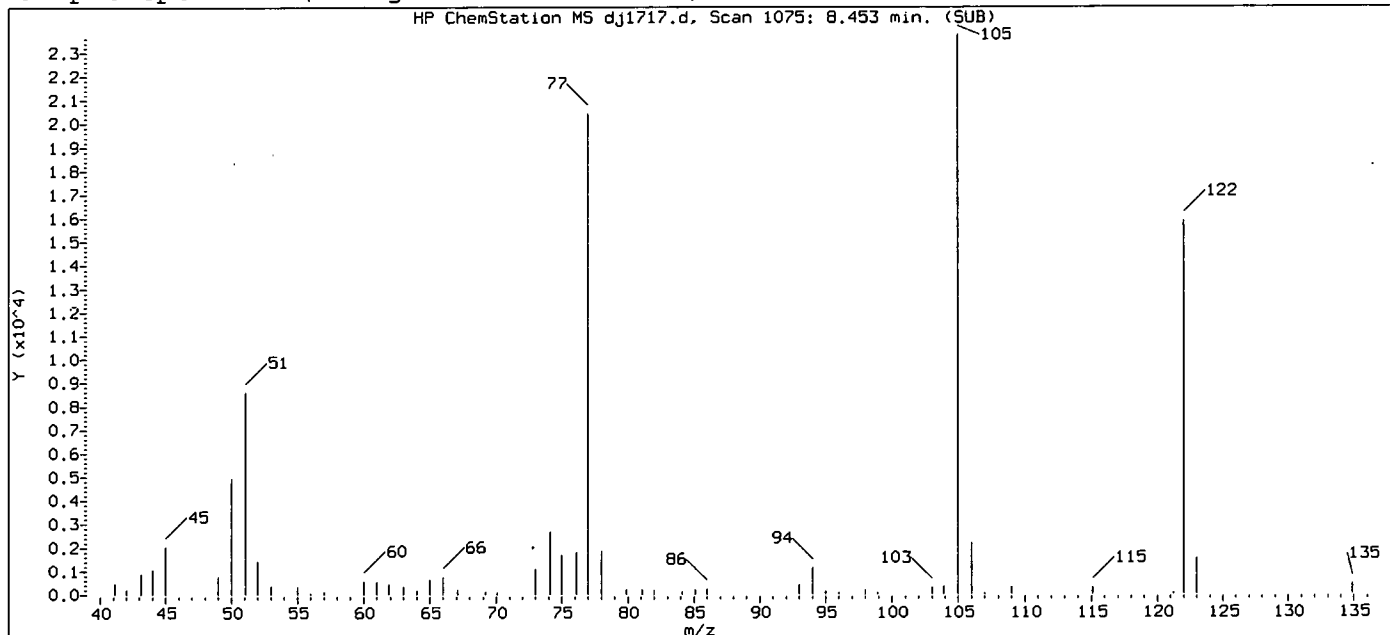
Digitally signed by Holly B. Ziegler
Analyst responsible for change: on 10/27/2016 at 10:14.
Target 3.5 Signature user ID: hbz01996

OCT 28 2016

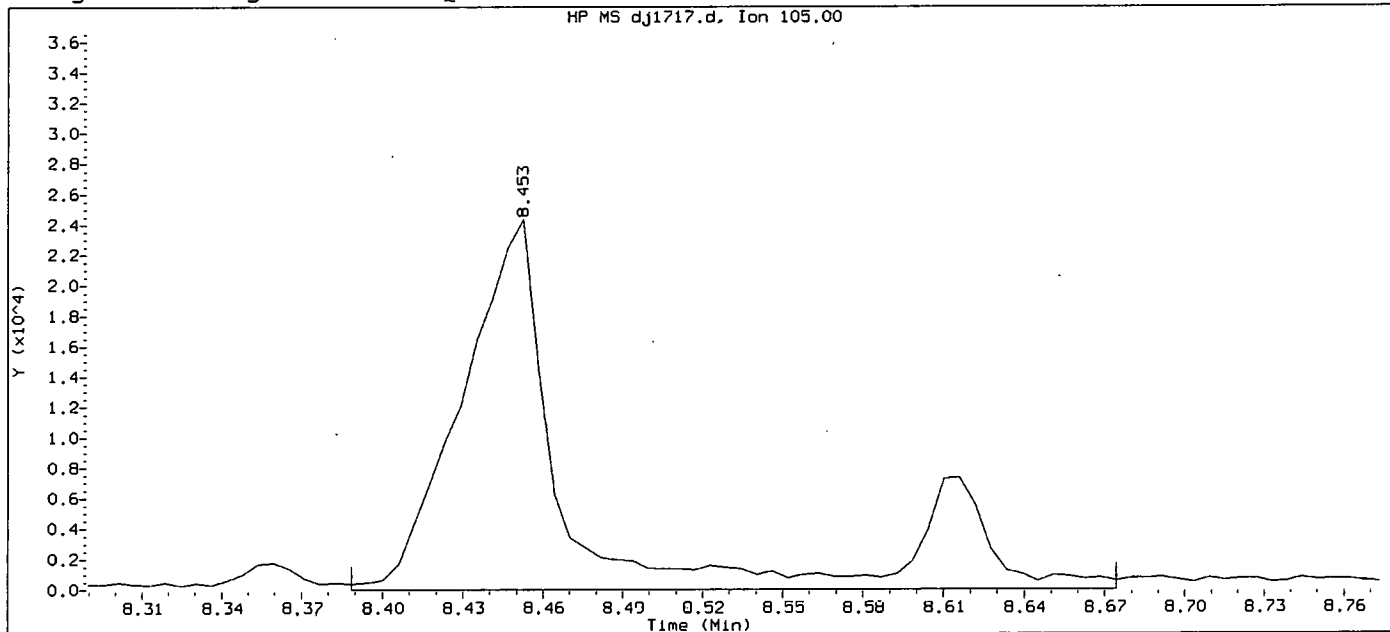
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1717.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 18:23

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all1

Calibration date and time: 27-OCT-2016 08:07

Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

Sample Name: SSTD1.25

Lab Sample ID: RVSTD2716

Compound Number : 56

Compound Name : Benzoic acid

Scan Number : 1075

Retention Time (minutes) : 8.453

Quant Ion : 105.00

Area : 71988

On-column Amount (ng/ul) : 3.4905

Integration start scan : 1063

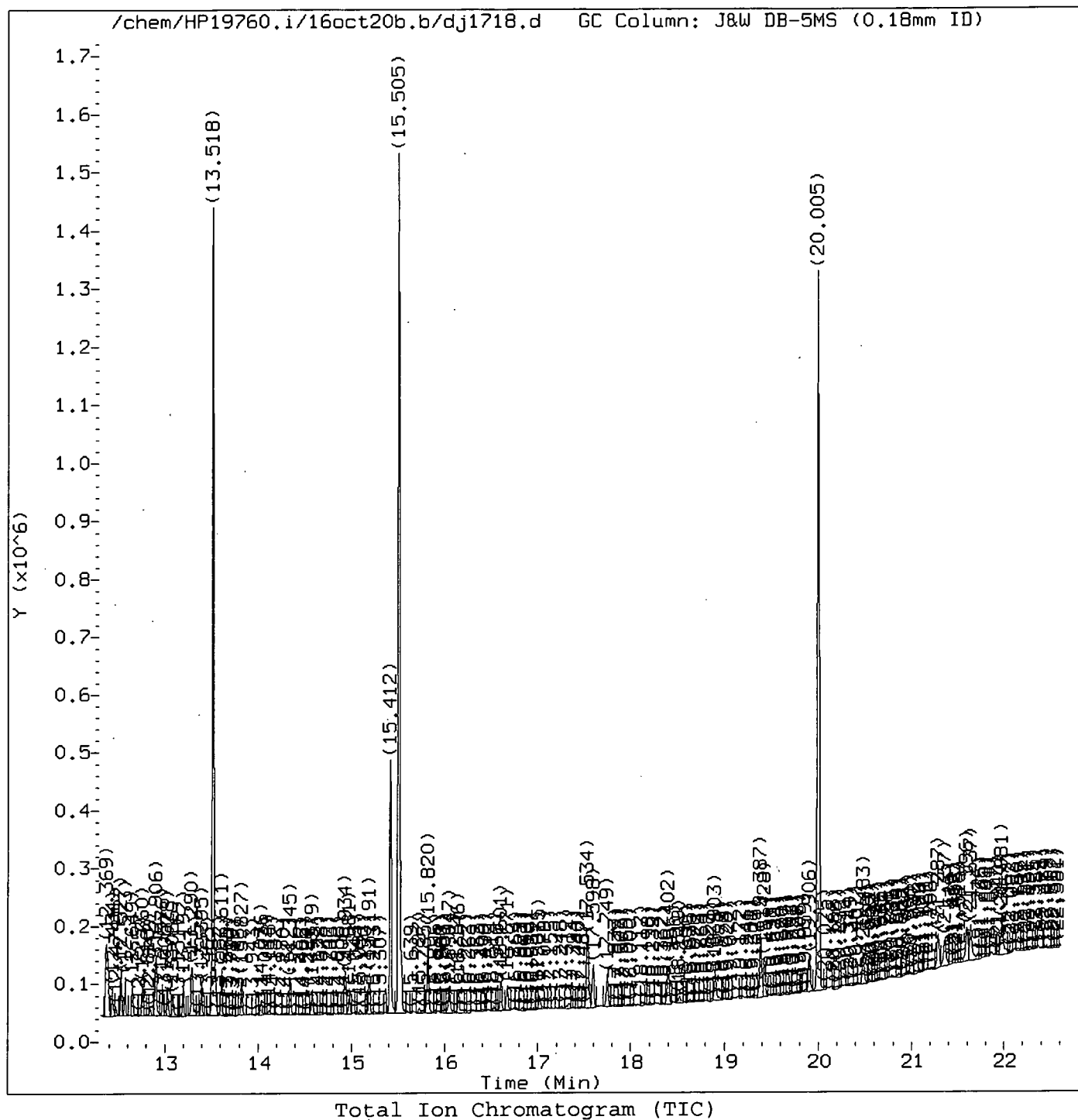
Integration stop scan: 1112

Y at integration start : 0

Y at integration end: 0

Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:14.

Target 3.5 esignature user ID: hbz01996



Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1718.d
Injection date and time: 20-OCT-2016 18:51

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:24
Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2716

Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:14.
Target 3.5 esignature user ID: hbz01996

page 2 of 2

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1718.d
 Injection date and time: 20-OCT-2016 18:51

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:24
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
1) 1,4-Dioxane	(1)	2.461	88	5221M	0.242
4) N-Nitrosodimethylamine	(1)	3.038	74	8575M	0.254
5) Pyridine	(1)	3.143	79	18629M	0.332
7) 2-Picoline	(1)	4.227	93	17162M	0.288
8) N-Nitrosomethylethylamine	(1)	4.384	88	5904M	0.241
9) Methyl methanesulfonate	(1)	4.804	80	7993	0.264
11) \$2-Fluorophenol	(1)	5.031	112	21161	0.486
13) N-Nitrosodiethylamine	(1)	5.369	102	5426	0.238
42) Total Cresols	(1)			23139	0.497
15) Ethyl methanesulfonate	(1)	5.812	109	6031	0.256
16) Benzaldehyde	(1)	6.273	77	10991	0.265
17) \$Phenol-d6	(1)	6.383	99	29657	0.499
18) Phenol	(1)	6.407	94	17285	0.248
19) Aniline	(1)	6.430	93	21196	0.254
20) a-methylstyrene	(1)	6.518	118	16866	0.375
22) bis(2-Chloroethyl) ether	(1)	6.547	93	14348	0.273
23) 2-Chlorophenol	(1)	6.599	128	9874	0.247
24) 1,3-Dichlorobenzene	(1)	6.826	146	11021	0.249
25) *1,4-Dichlorobenzene-d4	(1)	6.914	152	135803	5.000
26) 1,4-Dichlorobenzene	(1)	6.943	146	11372	0.253
27) Benzyl alcohol	(1)	7.130	108	11835	0.386
28) 1,2-Dichlorobenzene	(1)	7.159	146	10177	0.240
30) Indene	(1)	7.299	115	31055	0.399
31) 2-Methylphenol	(1)	7.304	108	10471	0.241
34) bis(2-Chloroisopropyl) ether	(1)	7.363	45	16073	0.268
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.363	45	16073	0.268
97) Isosafrole	(3)			8590	0.232
35) N-Nitrosopyrrolidine	(1)	7.479	100	5408	0.216
36) Acetophenone	(1)	7.520	105	16551	0.239
37) 4-Methylphenol	(1)	7.538	108	12668	0.256
38) N-Nitroso-di-n-propylamine	(1)	7.538	70	10791	0.266
39) N-Nitrosomorpholine	(1)	7.543	56	7469	0.258
40) o-Toluidine	(1)	7.573	106	19828	0.251
43) Hexachloroethane	(1)	7.672	117	4948	0.244
44) \$Nitrobenzene-d5	(2)	7.736	82	26539	0.474
45) Nitrobenzene	(2)	7.765	77	14157	0.248
48) N-Nitrosopiperidine	(2)	7.998	114	5262	0.232
120) 2,4,6-Dinitrotoluenes	(3)			6957	0.362
50) Isophorone	(2)	8.150	82	25105	0.246
51) 2-Nitrophenol	(2)	8.260	139	3410	0.205

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/27/2016 at 10:14.

Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1718.d
 Injection date and time: 20-OCT-2016 18:51

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:24
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTDO.25

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
53) 2,4-Dimethylphenol	(2)	8.359	107	12102	0.243
56) Benzoic acid	(2)	8.424	105	15626M	0.546
57) O,O,O-Triethylphosphorothioate	(2)	8.482	198	5623	0.238
55) bis(2-Chloroethoxy)methane	(2)	8.517	93	16210	0.252
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.616	104	28588	0.389
60) 2,4-Dichlorophenol	(2)	8.633	162	7671	0.225
62) 1,2,4-Trichlorobenzene	(2)	8.773	180	9897	0.252
146) Diallate trans/cis	(4)			10987	0.248
65) *Naphthalene-d8	(2)	8.849	136	515011	5.000
66) Naphthalene	(2)	8.884	128	28744	0.245
67) 4-Chloroaniline	(2)	8.977	127	12248	0.245
68) 2,6-Dichlorophenol	(2)	8.989	162	7455	0.224
69) Hexachloropropene	(2)	9.036	213	6575	0.227
71) Hexachlorobutadiene	(2)	9.111	225	6097	0.241
75) Quinoline	(2)	9.403	129	18335	0.255
76) Caprolactam	(2)	9.478	113	2444	0.215
77) N-Nitrosodi-n-butylamine	(2)	9.554	84	8939	0.210
80) 4-Chloro-3-methylphenol	(2)	9.770	107	9883	0.237
82) Safrole	(2)	9.875	162	7792	0.246
83) 2-Methylnaphthalene	(2)	9.986	142	18242	0.232
84) 1-Methylnaphthalene	(2)	10.137	142	17798	0.249
85) Hexachlorocyclopentadiene	(3)	10.254	237	5355	0.215
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.254	216	10710	0.243
88) cis-Isosafrole	(3)	10.341	162	1260	0.038
90) 2,4,6-Trichlorophenol	(3)	10.446	196	5934	0.234
92) 2,4,5-Trichlorophenol	(3)	10.487	196	6400	0.234
93) \$2-Fluorobiphenyl	(3)	10.598	172	44980	0.510
94) trans-Isosafrole	(3)	10.703	162	7330	0.194
95) 1,1'-Biphenyl	(3)	10.743	154	21664	0.234
96) 2-Chloronaphthalene	(3)	10.755	162	18572	0.252
98) 1-Chloronaphthalene	(3)	10.790	162	17431	0.251
100) 2-Nitroaniline	(3)	10.924	138	4250	0.212
99) Diphenyl ether	(3)	10.924	170	13344	0.250
104) 1,4-Naphthoquinone	(3)	11.041	158	7070	0.236
105) 1,4-Dinitrobenzene	(3)	11.157	168	1719	0.187
106) Dimethylphthalate	(3)	11.268	163	20837	0.248
107) 1,3-Dinitrobenzene	(3)	11.274	168	1610	0.146
108) 2,6-Dinitrotoluene	(3)	11.338	165	3260	0.197
109) Acenaphthylene	(3)	11.414	152	26087	0.242
112) 3-Nitroaniline	(3)	11.571	138	3619	0.205

M = Compound was manually integrated.

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 on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1718.d
 Injection date and time: 20-OCT-2016 18:51

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:24
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
113) *Acenaphthene-d10	(3)	11.629	164	306727	5.000
114) Acenaphthene	(3)	11.676	153	19128	0.241
115) 2,4-Dinitrophenol	(3)	11.734	184	7597	1.057
116) 4-Nitrophenol	(3)	11.839	109	13570	0.937
117) Pentachlorobenzene	(3)	11.874	250	9307	0.254
118) 2,4-Dinitrotoluene	(3)	11.921	165	3697	0.165
119) Dibenzofuran	(3)	11.927	168	26631	0.251
121) 1-Naphthylamine	(3)	12.026	143	17526	0.224
122) 2,3,4,6-Tetrachlorophenol	(3)	12.096	232	4331	0.202
123) 2-Naphthylamine	(3)	12.131	143	18707	0.243
124) Diethylphthalate	(3)	12.276	149	19507	0.233
126) Fluorene	(3)	12.364	166	20999	0.247
125) Thionazin	(3)	12.369	107	4575	0.248
128) 5-Nitro-o-toluidine	(3)	12.381	152	3975M	0.192
129) 4-Nitroaniline	(3)	12.381	138	3850	0.202
127) 4-Chlorophenyl-phenylether	(3)	12.387	204	10694	0.244
130) 4,6-Dinitro-2-methylphenol	(4)	12.434	198	6132	0.602
132) NDPA as diphenylamine	(4)	12.527	169	16542	0.247
131) N-Nitrosodiphenylamine	(4)	12.527	169	16542	0.247
134) 1,2-Diphenylhydrazine	(4)	12.573	77	27135	0.258
135) \$2,4,6-Tribromophenol	(3)	12.649	330	4847	0.408
137) Tetraethylthiopyrophosphate	(4)	12.760	97	4409	0.249
139) 1,3,5-Trinitrobenzene	(4)	12.842	213	744	0.104
140) Diallate (peak 1)	(4)	12.900	86	9236	0.202
141) Phorate	(4)	12.906	75	14023	0.221
142) Phenacetin	(4)	12.912	108	8878	0.188
143) 4-Bromophenyl-phenylether	(4)	12.976	248	6063	0.239
144) Diallate (peak 2)	(4)	13.005	86	1751	0.046
145) Hexachlorobenzene	(4)	13.028	284	7102	0.257
147) Dimethoate	(4)	13.086	87	7739	0.194
148) Atrazine	(4)	13.197	200	5904	0.249
149) Pentachlorophenol	(4)	13.285	266	2646	0.169
150) 4-Aminobiphenyl	(4)	13.290	169	21286	0.247
151) Pentachloronitrobenzene	(4)	13.296	237	2009	0.181
152) Pronamide	(4)	13.395	173	9015	0.225
153) *Phenanthrene-d10	(4)	13.518	188	586626	5.000
154) Dinoseb	(4)	13.541	211	1574	0.103
155) Phenanthrene	(4)	13.547	178	31871	0.254
157) Anthracene	(4)	13.611	178	31163	0.247
163) Carbazole	(4)	13.827	167	27331	0.238

M = Compound was manually integrated.

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 on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1718.d
 Injection date and time: 20-OCT-2016 18:51

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
 Calibration date and time: 27-OCT-2016 08:24
 Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTDO.25

Lab Sample ID: RVSTD2716

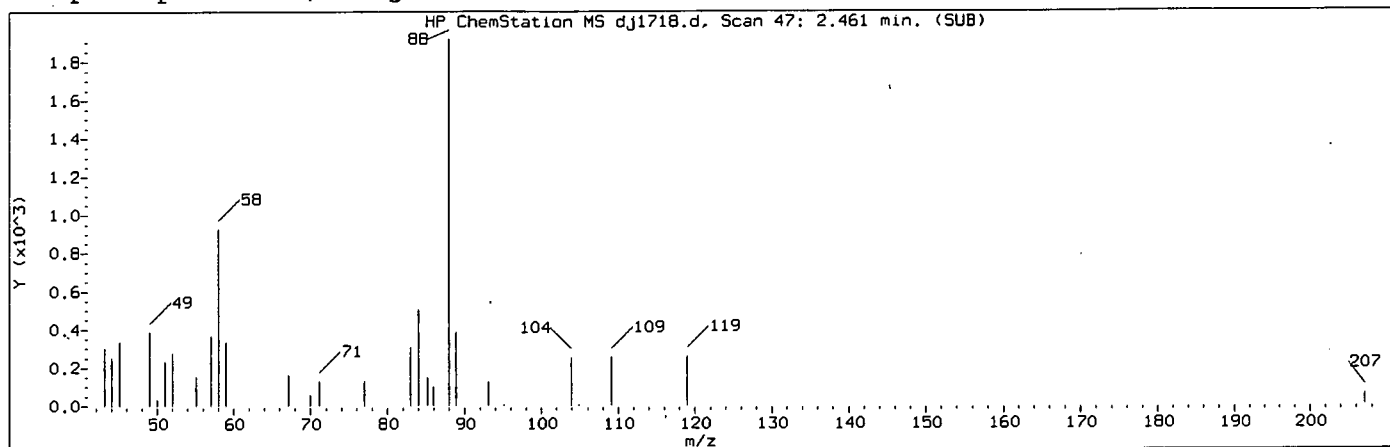
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
164) Methyl parathion	(4)	14.036	109	4903	0.176
165) Di-n-butylphthalate	(4)	14.345	149	32734	0.230
167) Parathion	(4)	14.579	109	4164	0.220
168) 4-Nitroquinoline-1-oxide	(4)	14.579	190	1327	0.117
169) Octachlorostyrene	(4)	14.934	308	4517	0.413
171) Isodrin	(4)	14.981	193	4371	0.272
222) Total PAHs	(6)			562295	4.370
173) Fluoranthene	(4)	15.191	202	35541	0.236
174) Benzidine	(5)	15.412	184	205345	2.138
175)*Pyrene-d10	(5)	15.505	212	717847	5.000
177) Pyrene	(5)	15.534	202	39543	0.254
179)\$Terphenyl-d14	(5)	15.820	244	53181	0.508
182) p-Dimethylaminoazobenzene	(5)	16.053	225	5913	0.212
185) Chlorobenzilate	(5)	16.146	139	9025	0.212
187) 3,3'-Dimethylbenzidine	(5)	16.607	212	23850	0.233
188) Butylbenzylphthalate	(5)	16.671	149	10146	0.174
191) 2-Acetylaminofluorene	(5)	17.021	181	7215	0.126
193) 3,3'-Dichlorobenzidine	(5)	17.528	252	13783	0.231
195) Benzo(a)anthracene	(5)	17.534	228	38064	0.241
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.551	231	7300	0.226
196) Chrysene	(5)	17.598	228	35345	0.245
199) bis(2-Ethylhexyl)phthalate	(5)	17.749	149	17498	0.197
203) 6-Methylchrysene	(5)	18.402	242	24926	0.234
205) Di-n-octylphthalate	(6)	18.903	149	29393	0.178
206) Benzo(b)fluoranthene	(6)	19.381	252	37381	0.232
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.387	256	13283	0.204
208) Benzo(k)fluoranthene	(6)	19.428	252	37184	0.240
211) Benzo(a)pyrene	(6)	19.906	252	35507	0.235
213)*Perylene-d12	(6)	20.005	264	685147	5.000
215) 3-Methylcholanthrene	(6)	20.483	268	17564	0.230
217) Dibenz(a,h)acridine	(6)	21.287	279	30016	0.237
218) Dibenz(a,j)acridine	(6)	21.357	279	27317	0.225
219) Indeno(1,2,3-cd)pyrene	(6)	21.596	276	41112	0.243
220) Dibenz(a,h)anthracene	(6)	21.637	278	34025	0.239
221) Benzo(g,h,i)perylene	(6)	21.981	276	34561	0.249

* = Compound is an internal standard.

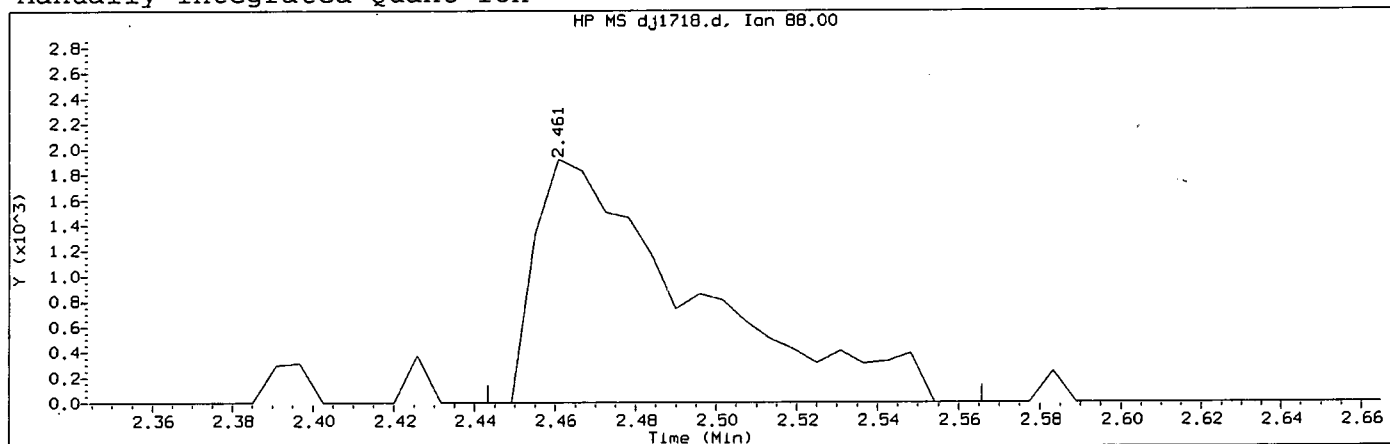
\$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
 on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1718.d
Injection date and time: 20-OCT-2016 18:51

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:24
Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTDO.25

Lab Sample ID: RVSTD2716

Compound Number	:	1	
Compound Name	:	1,4-Dioxane	
Scan Number	:	47	
Retention Time (minutes)	:	2.461	
Quant Ion	:	88.00	
Area (flag)	:	5221M	
On-Column Amount (ng/ul)	:	0.2422	
Integration start scan	:	43	Integration stop scan: 64
Y at integration start	:	0	Y at integration end: 0

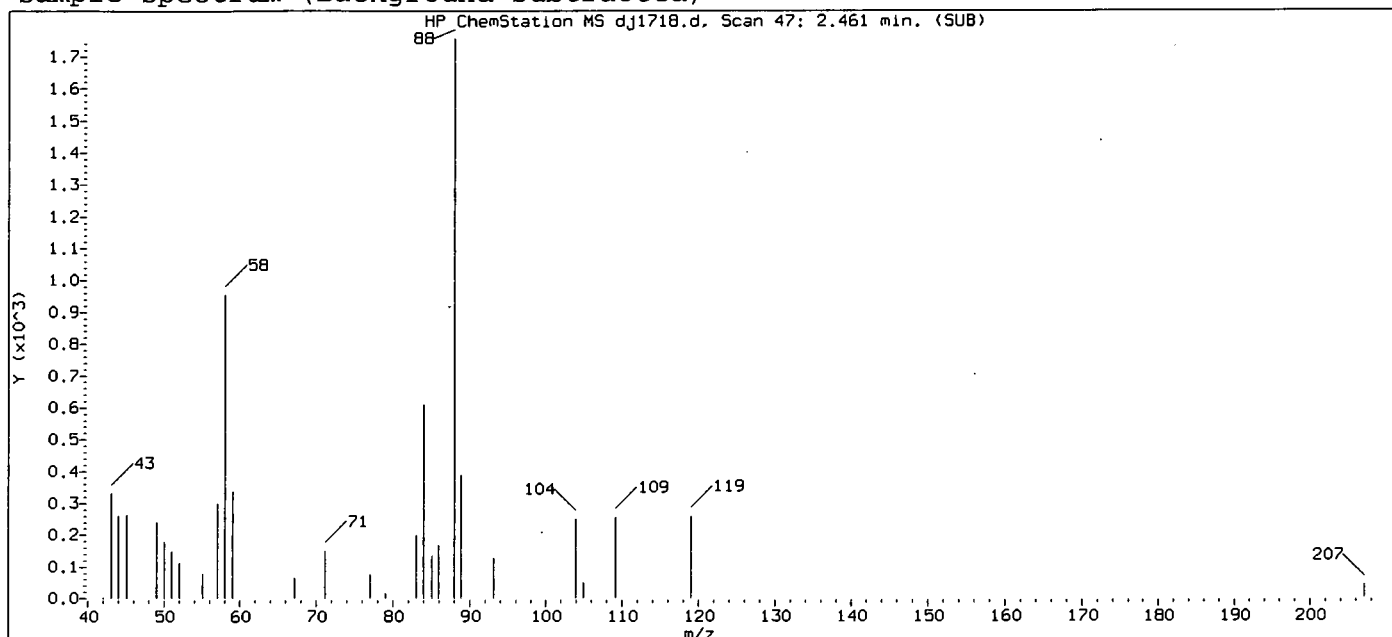
Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:14.
Target 3/5 Signature User ID: hbz01996

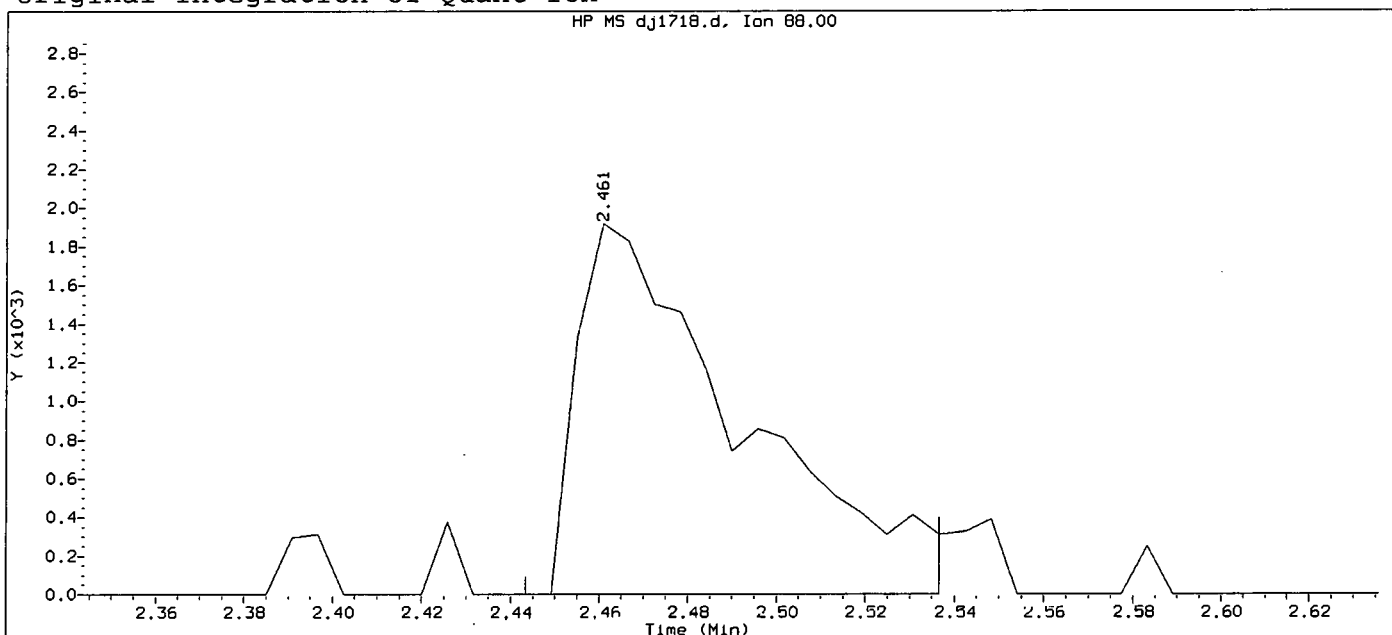
OCT 28 2016

GC/MS audit/management approval: Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1718.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 18:51

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all1

Calibration date and time: 27-OCT-2016 08:07

Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

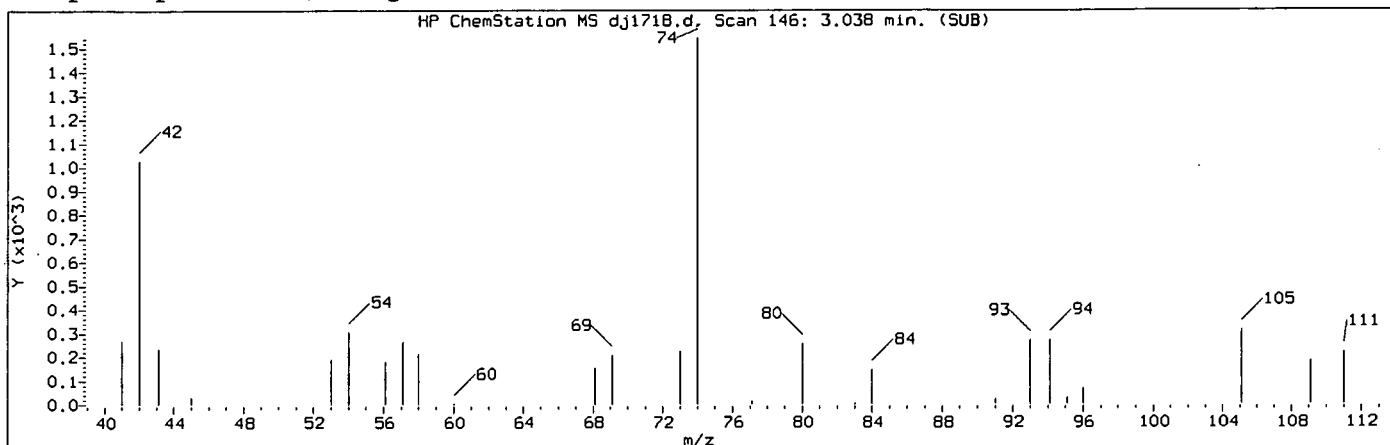
Sample Name: SSTD0.25

Lab Sample ID: RVSTD2716

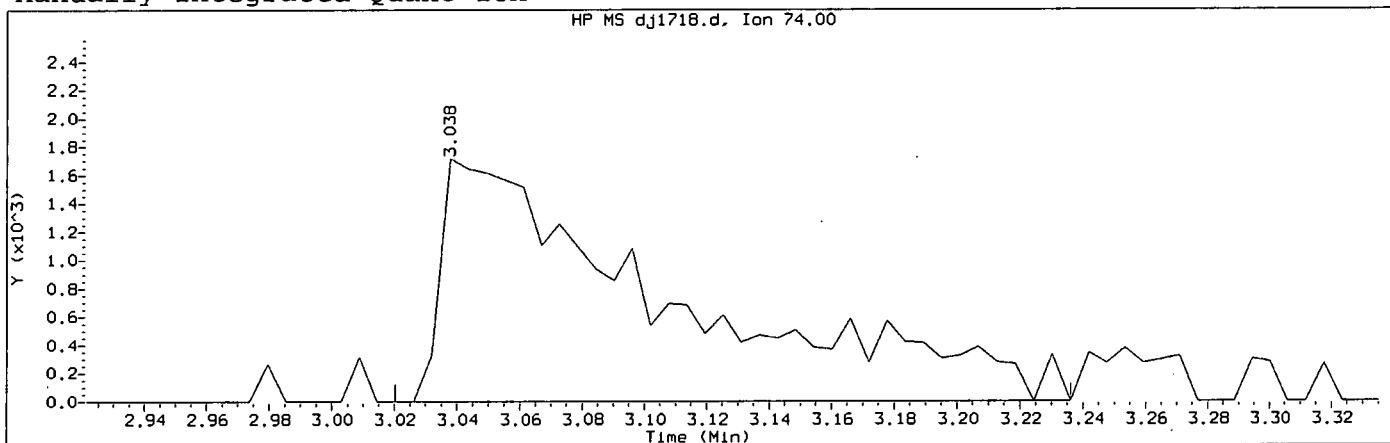
Compound Number	: 1	
Compound Name	: 1,4-Dioxane	
Scan Number	: 47	
Retention Time (minutes)	: 2.461	
Quant Ion	: 88.00	
Area	: 4917	
On-column Amount (ng/ul)	: 0.2315	
Integration start scan	: 43	Integration stop scan: 59
Y at integration start	: 0	Y at integration end: 0

Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:14.
Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1718.d
Injection date and time: 20-OCT-2016 18:51

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:24
Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SST0.25

Lab Sample ID: RVSTD2716

Compound Number	: 4	
Compound Name	: N-Nitrosodimethylamine	
Scan Number	: 146	
Retention Time (minutes)	: 3.038	
Quant Ion	: 74.00	
Area (flag)	: 8575M	
On-Column Amount (ng/ul)	: 0.2541	
Integration start scan	: 142	Integration stop scan: 179
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

Digitally signed by Holly B. Ziegler
Analyst responsible for change: on 10/27/2016 at 10:14.
Target 3.5 signature user ID: hbz01996

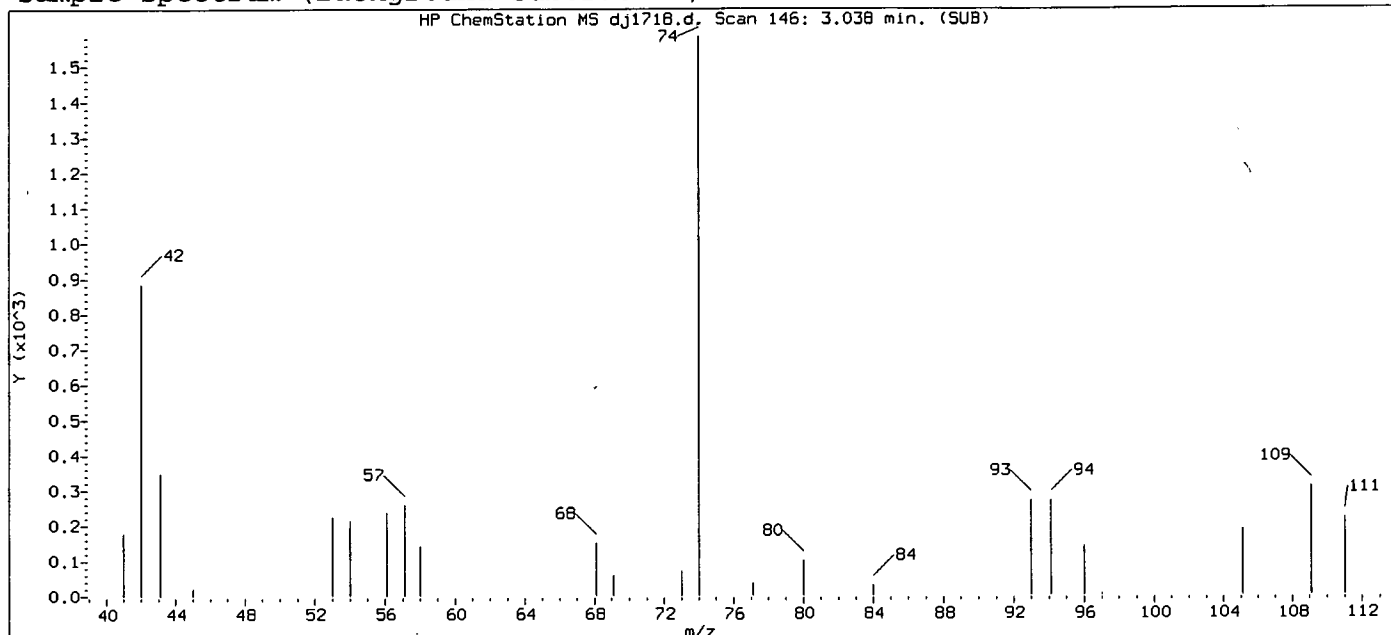
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OCT 28 2016

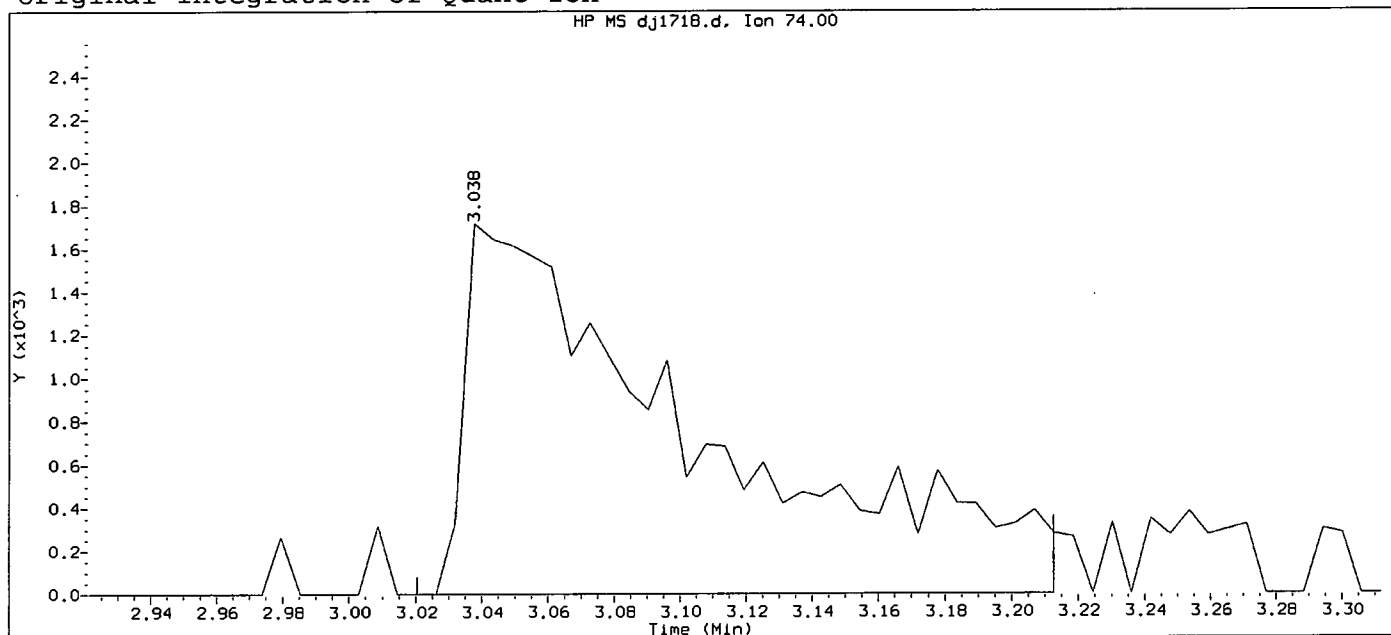
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1718.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 18:51

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all1

Calibration date and time: 27-OCT-2016 08:07

Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

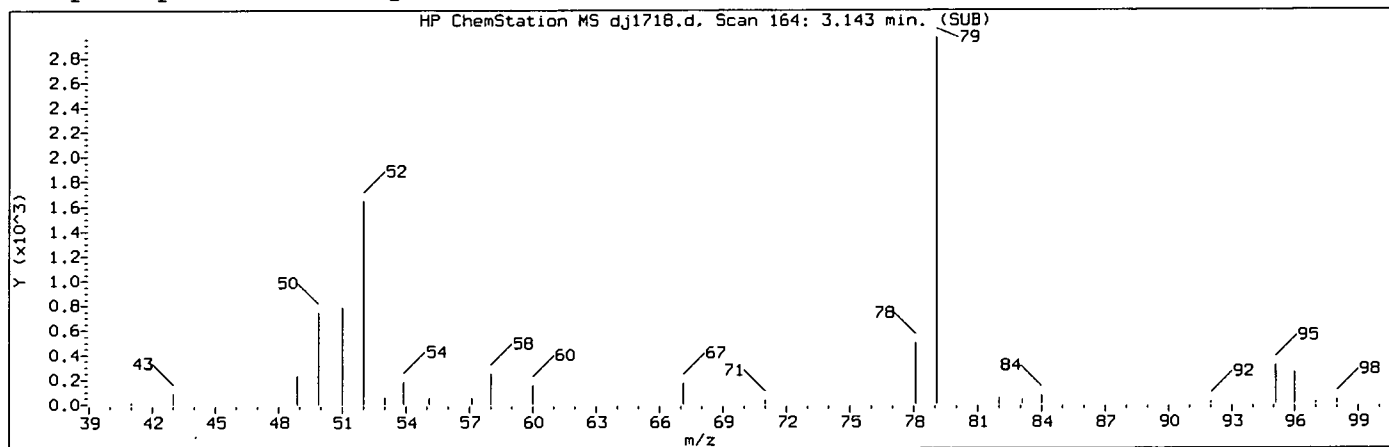
Sample Name: SSTD0.25

Lab Sample ID: RVSTD2716

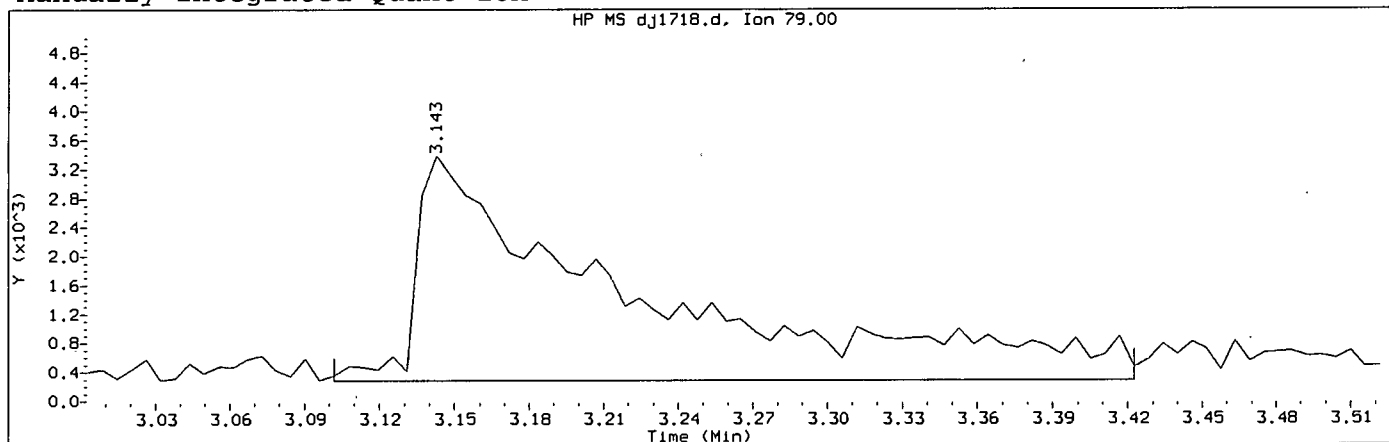
Compound Number	: 4	
Compound Name	: N-Nitrosodimethylamine	
Scan Number	: 146	
Retention Time (minutes)	: 3.038	
Quant Ion	: 74.00	
Area	: 8317	
On-column Amount (ng/ul)	: 0.2465	
Integration start scan	: 142	Integration stop scan: 175
Y at integration start	: 0	Y at integration end: 0

Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:14.
Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1718.d
Injection date and time: 20-OCT-2016 18:51

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all1

Calibration date and time: 27-OCT-2016 08:24

Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2716

Compound Number	: 5	
Compound Name	: Pyridine	
Scan Number	: 164	
Retention Time (minutes)	: 3.143	
Quant Ion	: 79.00	
Area (flag)	: 18629M	
On-Column Amount (ng/ul)	: 0.3317	
Integration start scan	: 156	Integration stop scan: 211
Y at integration start	: 278	Y at integration end: 278

Reason for manual integration: improper integration

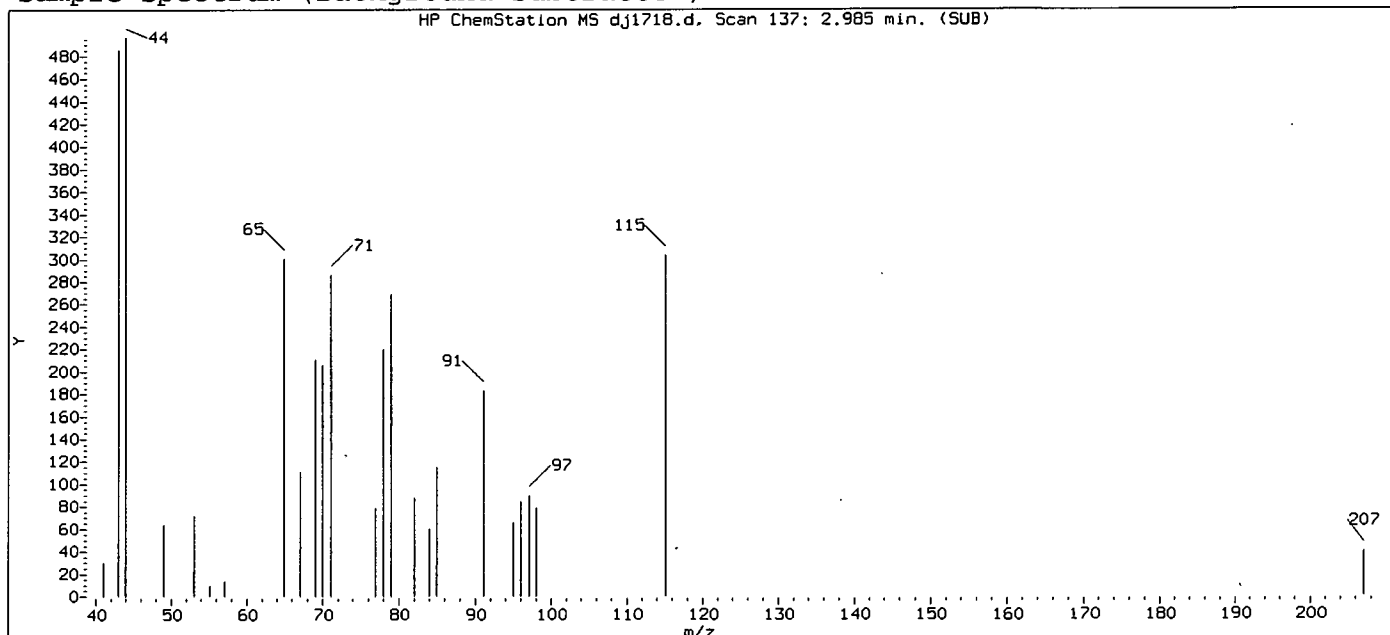
Digitally signed by Holly B. Ziegler
Analyst responsible for change: on 10/27/2016 at 10:14.
Target 3.5 signature user ID: hbz01996

OCT 28 2016

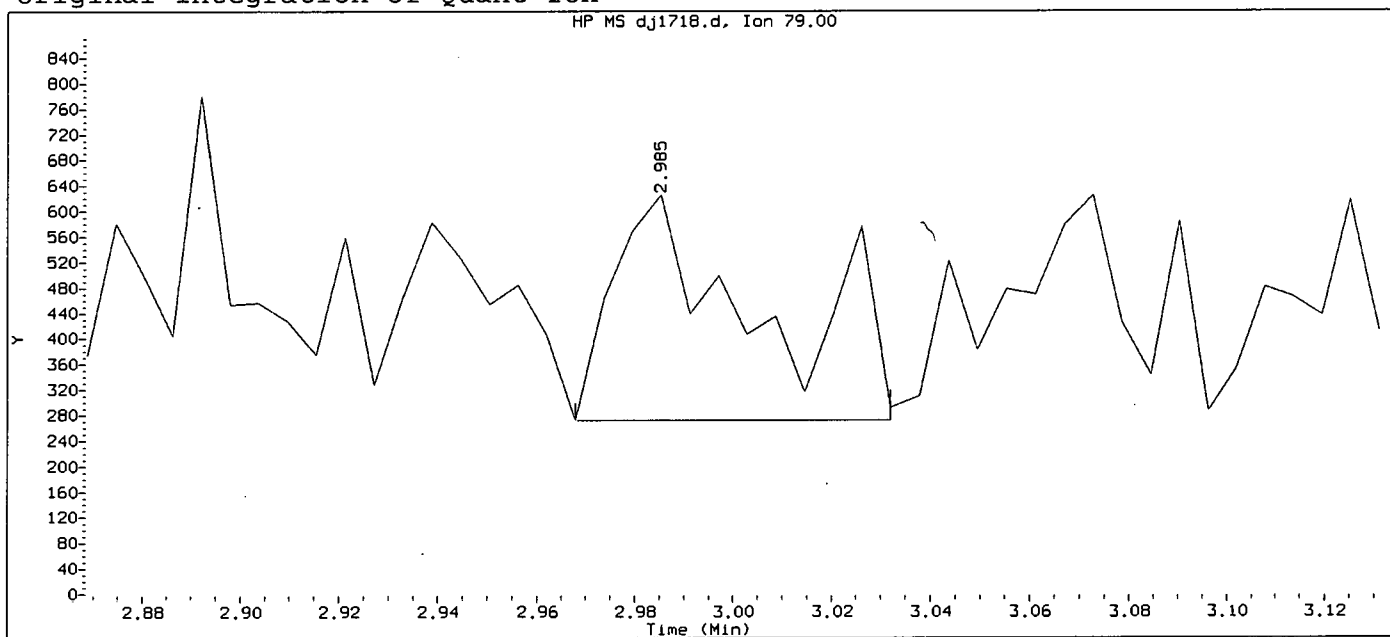
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1718.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 18:51

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all1

Calibration date and time: 27-OCT-2016 08:07

Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

Sample Name: SSTD0.25

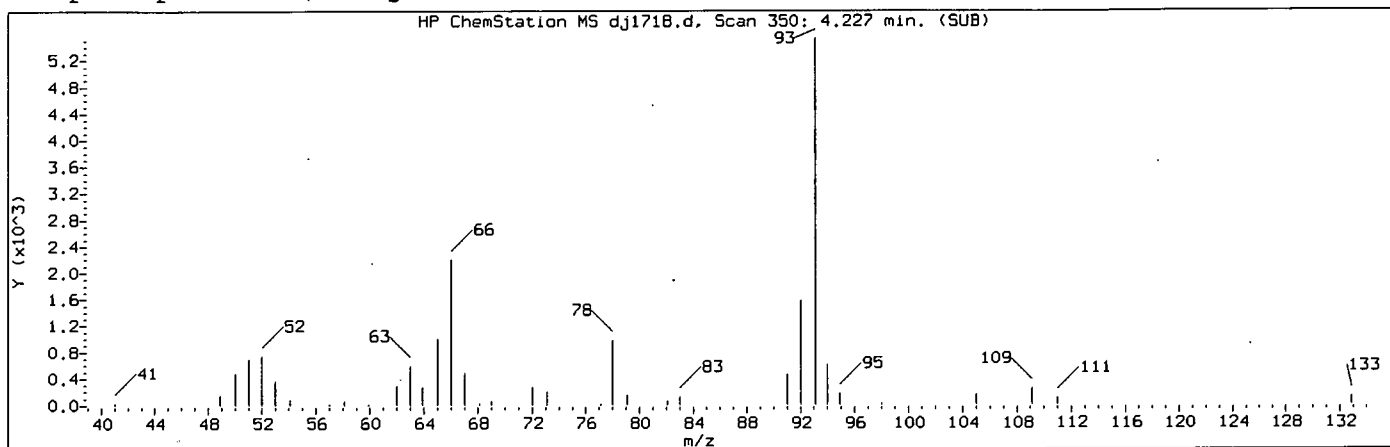
Lab Sample ID: RVSTD2716

Compound Number : 5
 Compound Name : Pyridine
 Scan Number : 137
 Retention Time (minutes) : 2.985
 Quant Ion : 79.00
 Area : 720
 On-column Amount (ng/ul) : 0.0151
 Integration start scan : 133
 Y at integration start : 272

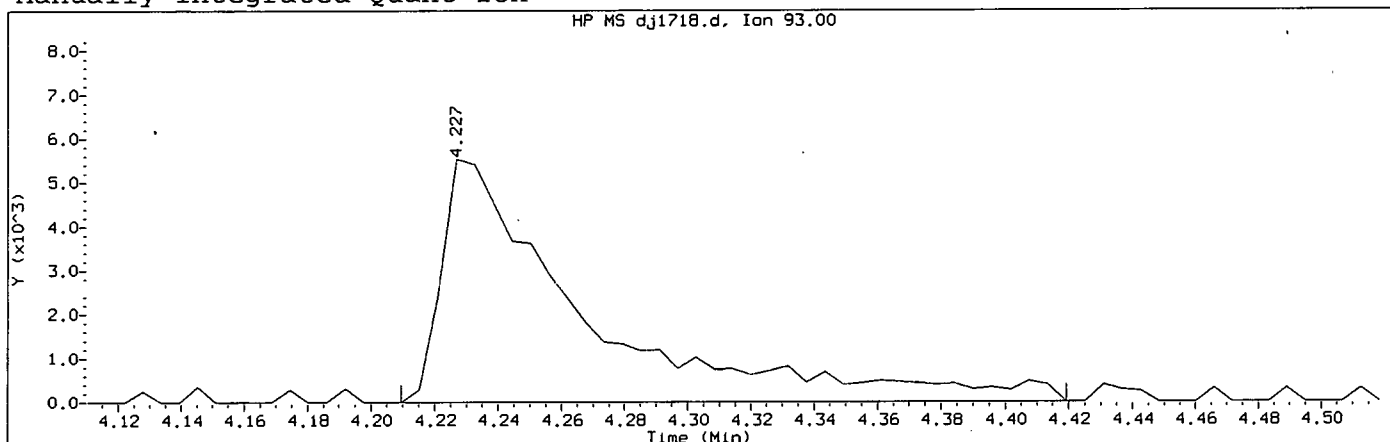
Integration stop scan: 144
 Y at integration end: 272

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 Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1718.d
Injection date and time: 20-OCT-2016 18:51

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:24
Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTDO.25

Lab Sample ID: RVSTD2716

Compound Number	:	7	
Compound Name	:	2-Picoline	
Scan Number	:	350	
Retention Time (minutes)	:	4.227	
Quant Ion	:	93.00	
Area (flag)	:	17162M	
On-Column Amount (ng/ul)	:	0.2880	
Integration start scan	:	346	Integration stop scan: 382
Y at integration start	:	0	Y at integration end: 0

Reason for manual integration: improper integration

Digitally signed by Holly B. Ziegler
Analyst responsible for change: on 10/27/2016 at 10:14.
Target 3.5 esignature user ID: hbz01996

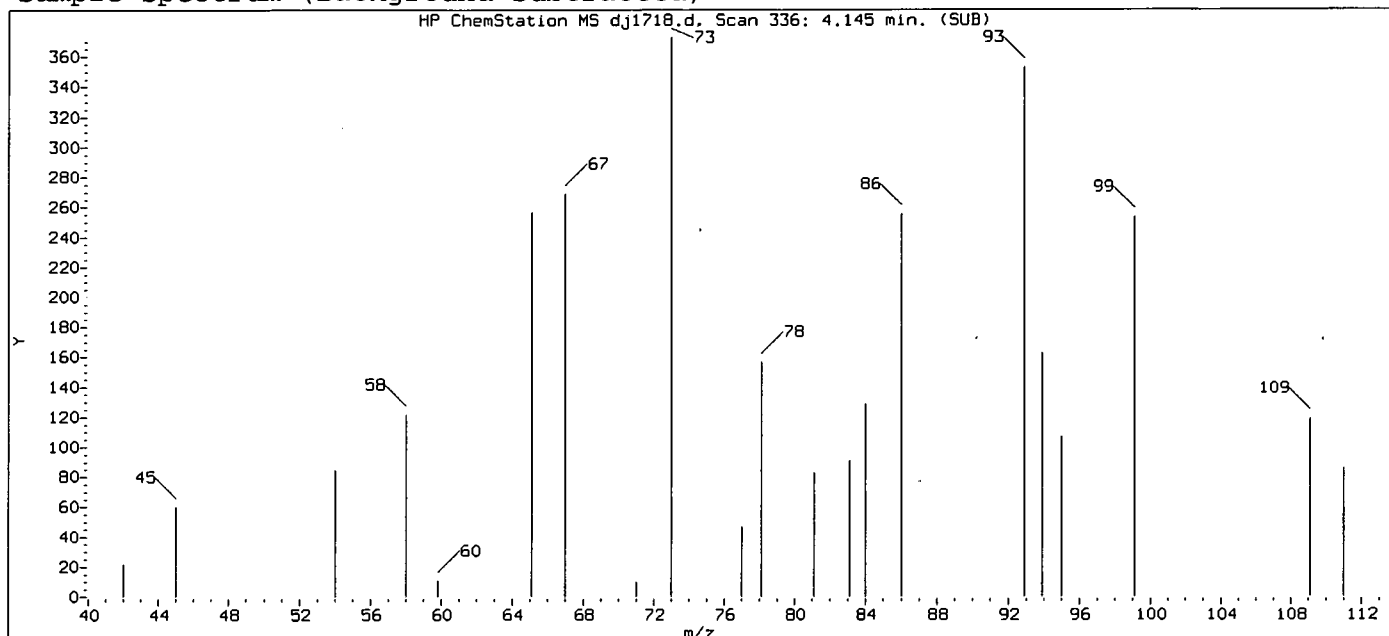
[Handwritten Signature]

OCT 28 2016

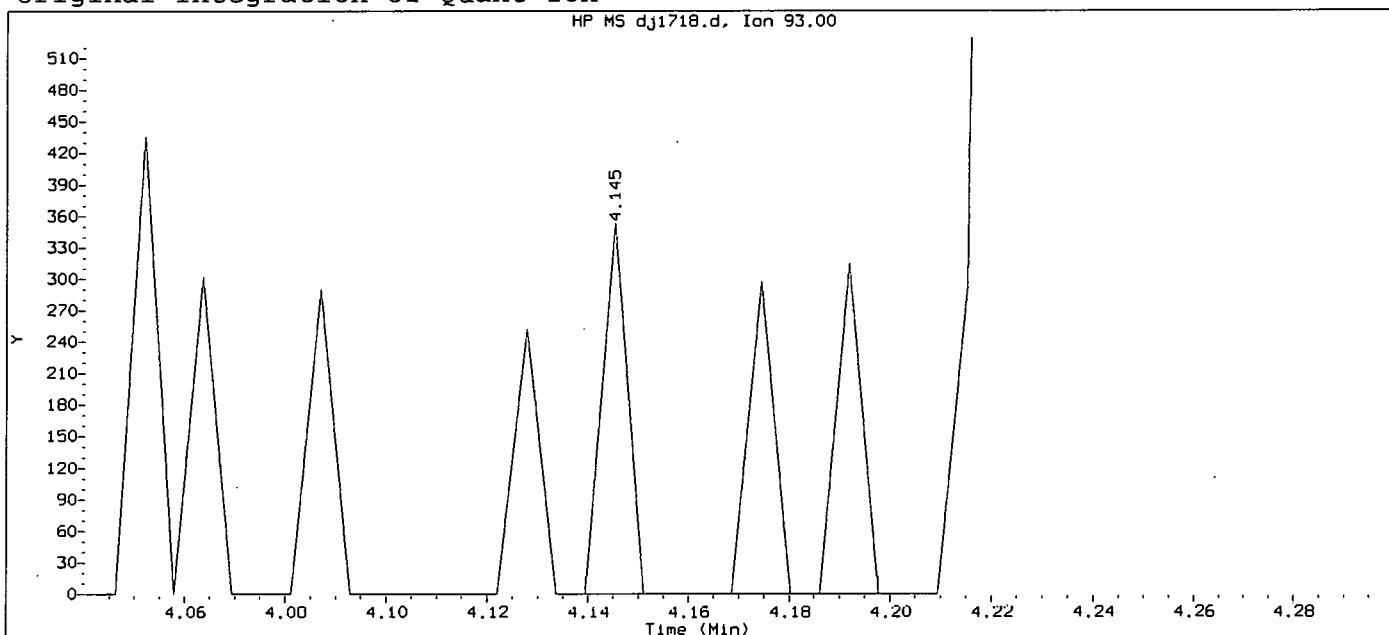
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1718.d
Injection date and time: 20-OCT-2016 18:51

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all1

Calibration date and time: 27-OCT-2016 08:07

Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

Sample Name: SSTD0.25

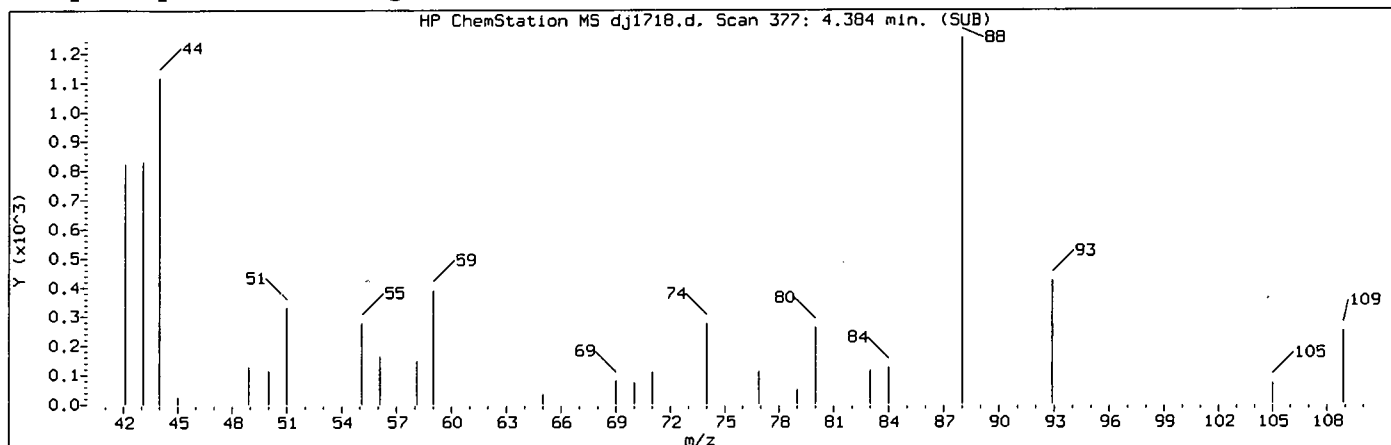
Lab Sample ID: RVSTD2716

Compound Number : 7
Compound Name : 2-Picoline
Scan Number : 336
Retention Time (minutes) : 4.145
Quant Ion : 93.00
Area : 337
On-column Amount (ng/ul) : 0.0057
Integration start scan : 334
Y at integration start : 0

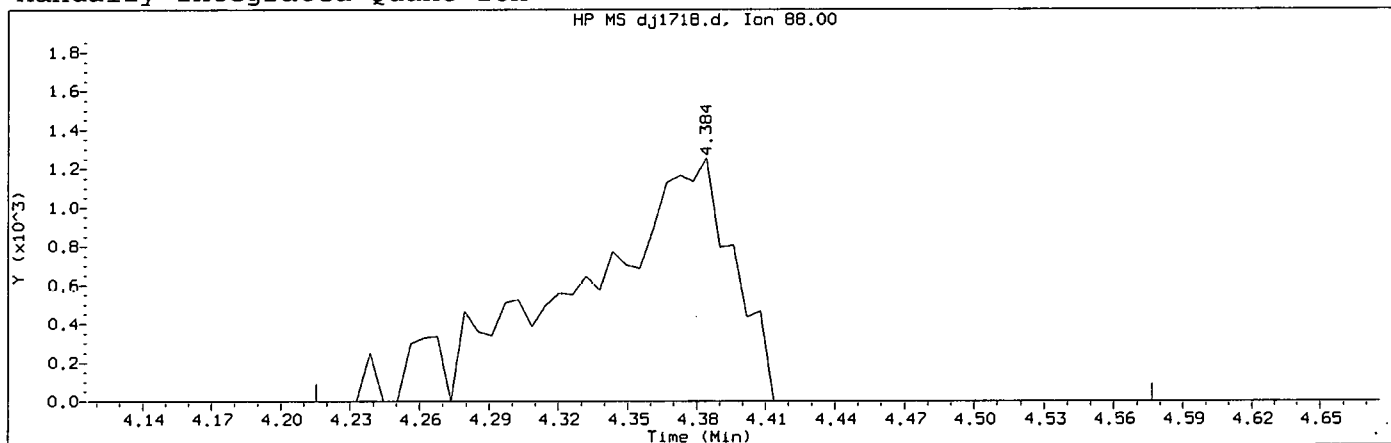
Integration stop scan: 344
Y at integration end: 0

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Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1718.d
Injection date and time: 20-OCT-2016 18:51

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:24
Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTDO.25

Lab Sample ID: RVSTD2716

Compound Number	: 8	
Compound Name	: N-Nitrosomethylethylamine	
Scan Number	: 377	
Retention Time (minutes)	: 4.384	
Quant Ion	: 88.00	
Area (flag)	: 5904M	
On-Column Amount (ng/ul)	: 0.2409	
Integration start scan	: 347	Integration stop scan: 409
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:14.
Target 3.5 signature user ID: hbz01996

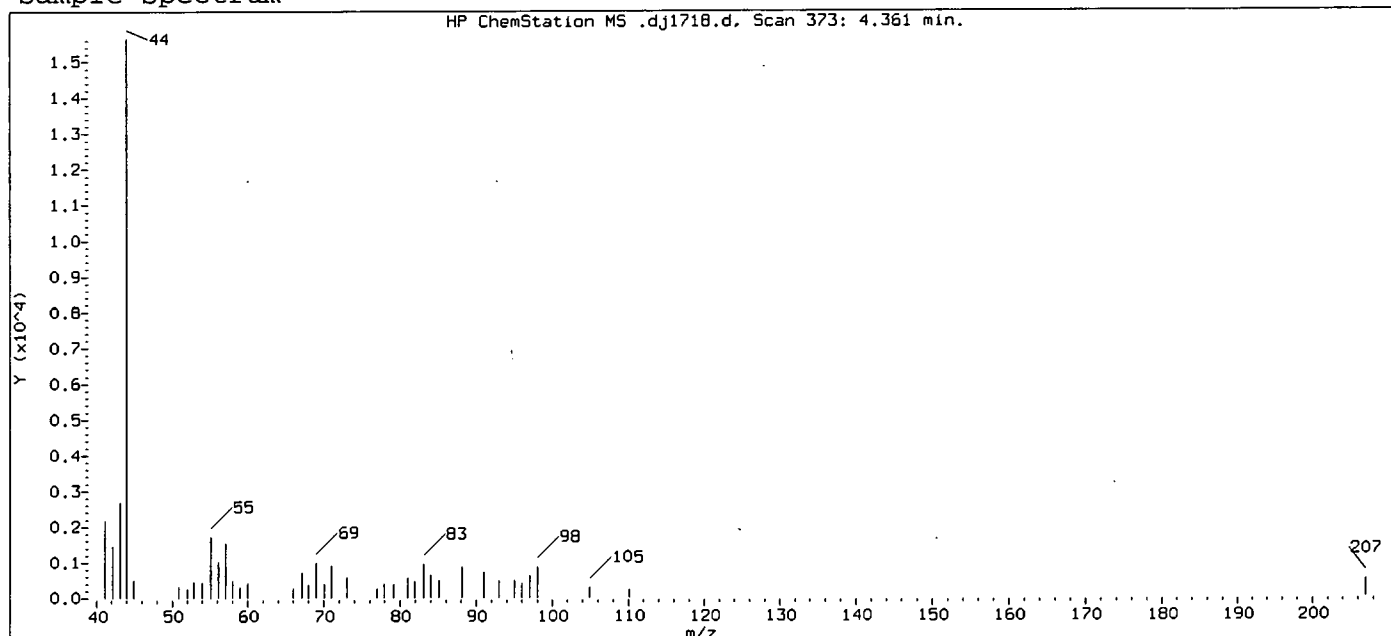
[Handwritten Signature]

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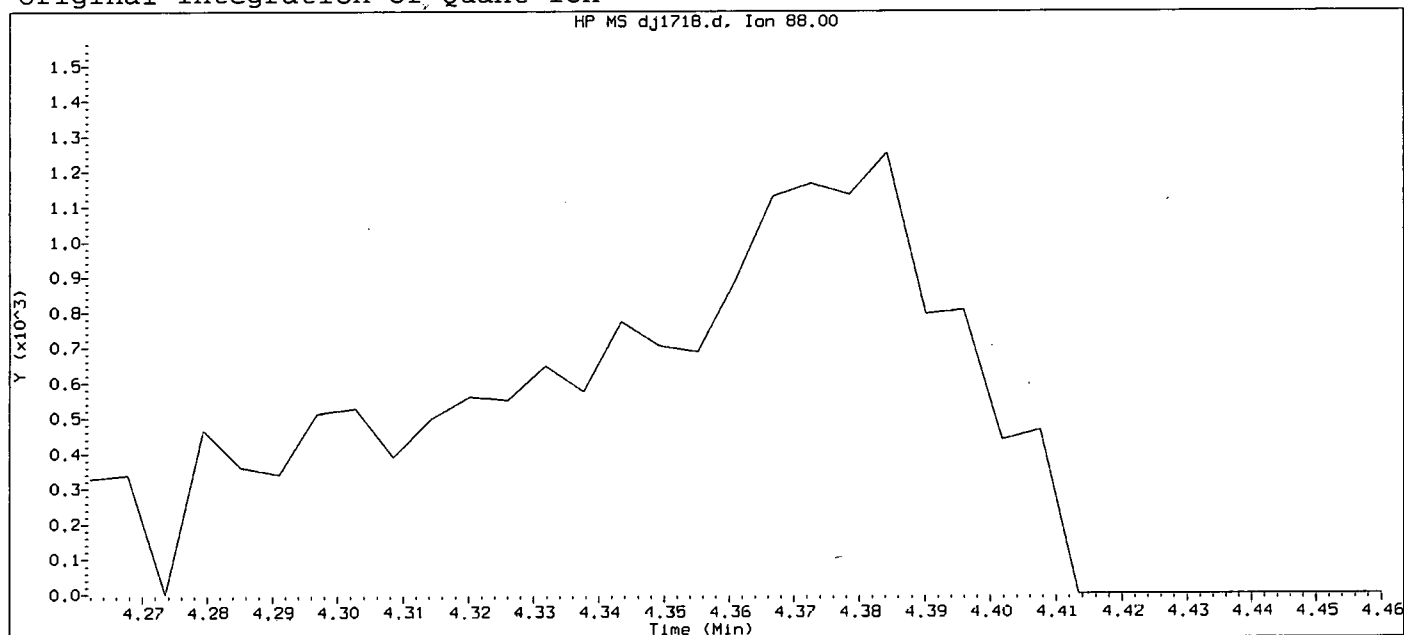
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1718.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 18:51

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all1

Calibration date and time: 27-OCT-2016 08:07

Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

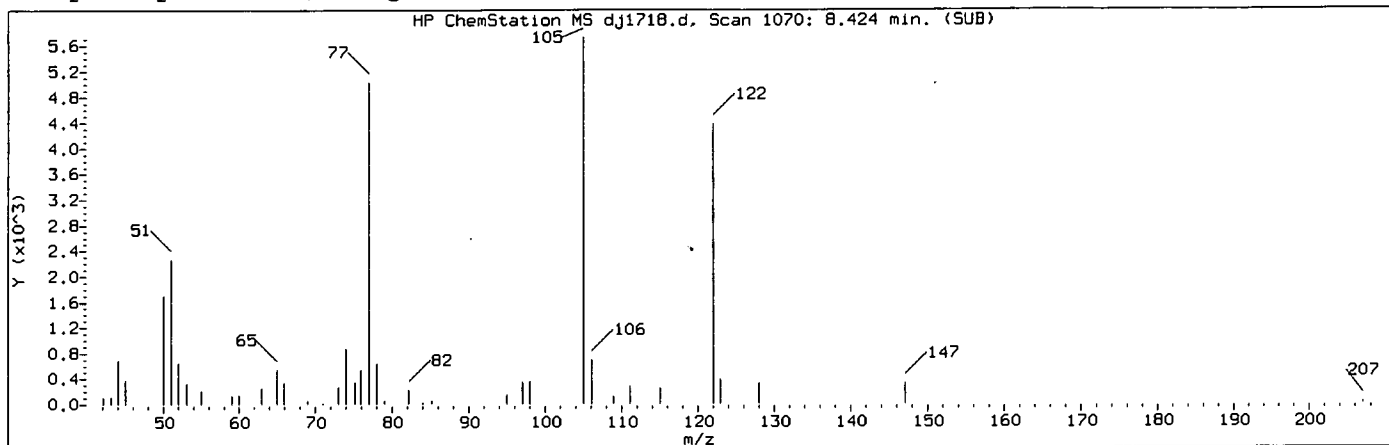
Sample Name: SSTD0.25

Lab Sample ID: RVSTD2716

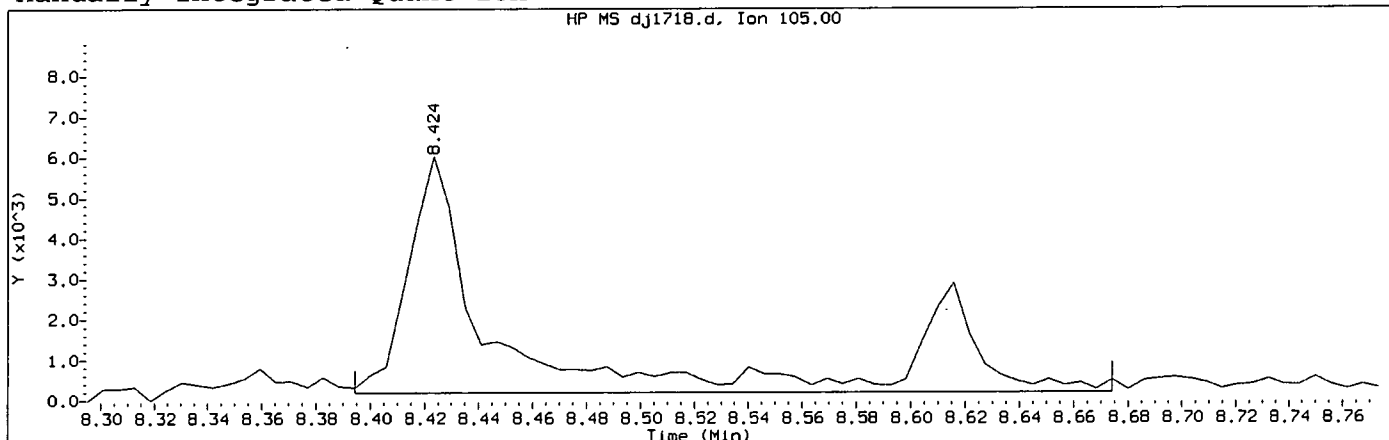
Compound Number : 8
 Compound Name : N-Nitrosomethylethylamine
 Expected RT (minutes) : 4.361
 Quant Ion : 88.00

Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:14.
 Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1718.d
Injection date and time: 20-OCT-2016 18:51

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:24
Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2716

Compound Number	: 56	
Compound Name	: Benzoic acid	
Scan Number	: 1070	
Retention Time (minutes)	: 8.424	
Quant Ion	: 105.00	
Area (flag)	: 15626M	
On-Column Amount (ng/ul)	: 0.5458	
Integration start scan	: 1064	Integration stop scan: 1112
Y at integration start	: 194	Y at integration end: 194

Reason for manual integration: improper integration

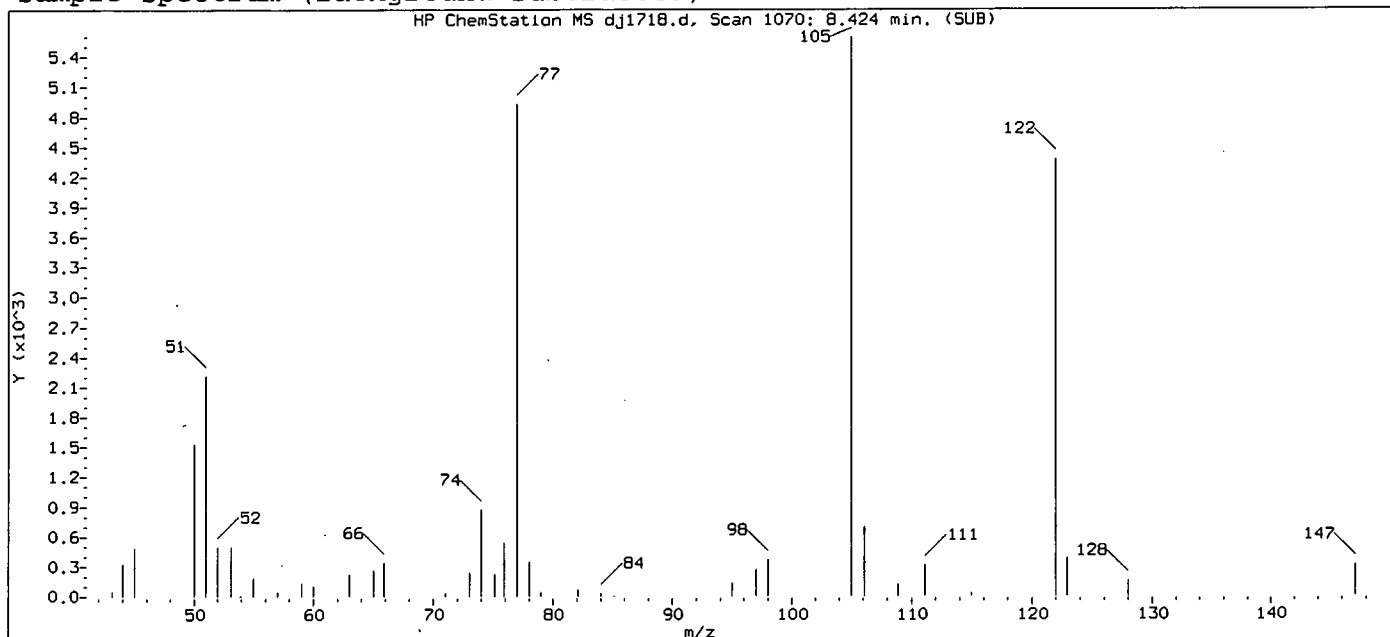
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:14
Target 3.5 signature user ID: hbz01996

OCT 28 2016

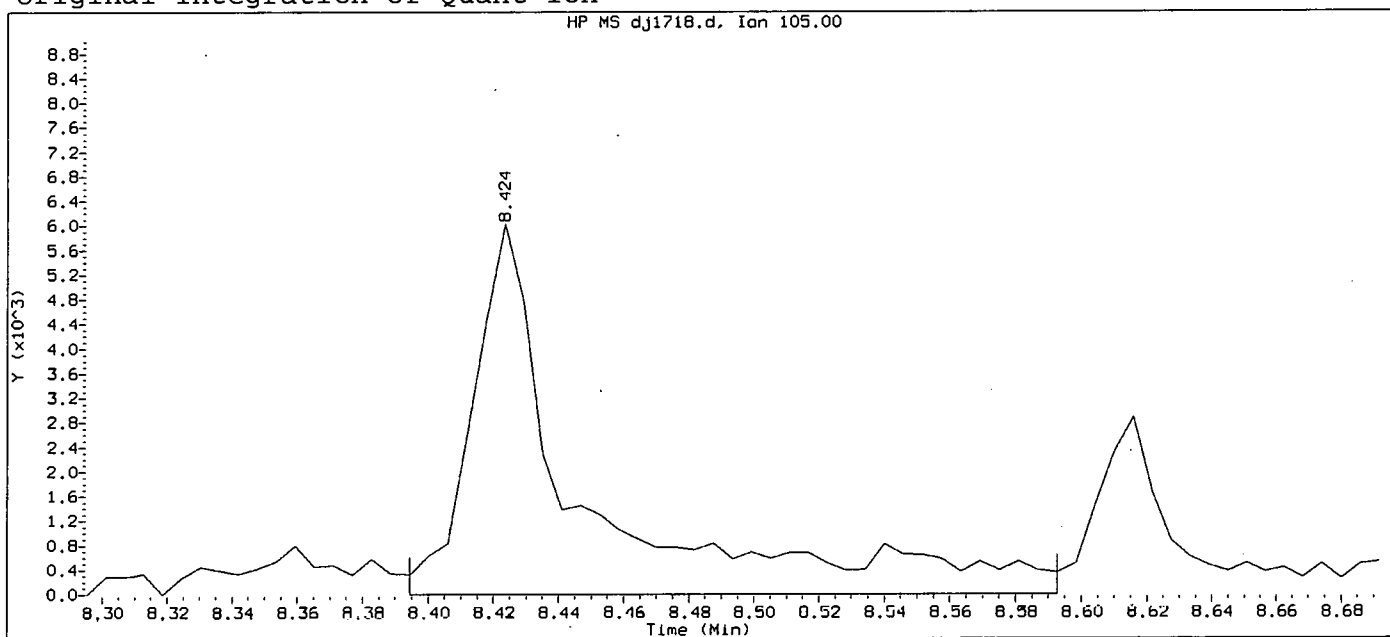
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1718.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 18:51

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all1

Calibration date and time: 27-OCT-2016 08:07

Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2716

Compound Number : 56

Compound Name : Benzoic acid

Scan Number : 1070

Retention Time (minutes) : 8.424

Quant Ion : 105.00

Area : 14194

On-column Amount (ng/ul) : 1.4024

Integration start scan : 1064

Integration stop scan: 1098

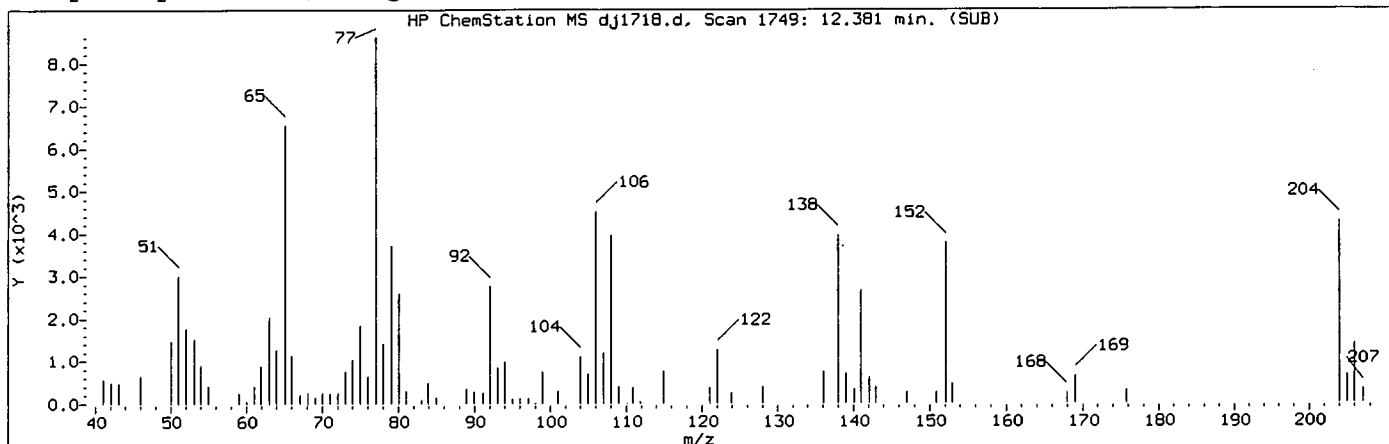
Y at integration start : 0

Y at integration end: 0

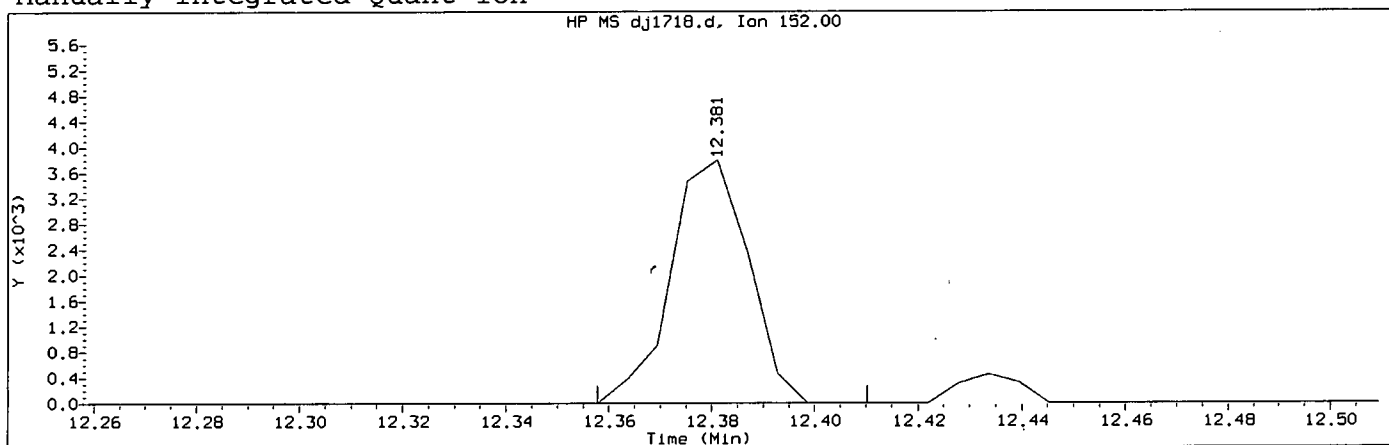
Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:14.

Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1718.d
Injection date and time: 20-OCT-2016 18:51

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: all1
Calibration date and time: 27-OCT-2016 08:24
Date, time and analyst ID of latest file update: 27-Oct-2016 08:24 hbz01996

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2716

Compound Number	:	128	
Compound Name	:	5-Nitro-o-toluidine	
Scan Number	:	1749	
Retention Time (minutes)	:	12.381	
Quant Ion	:	152.00	
Area (flag)	:	3975M	
On-Column Amount (ng/ul)	:	0.1917	
Integration start scan	:	1744	Integration stop scan: 1753
Y at integration start	:	0	Y at integration end: 0

Reason for manual integration: improper integration

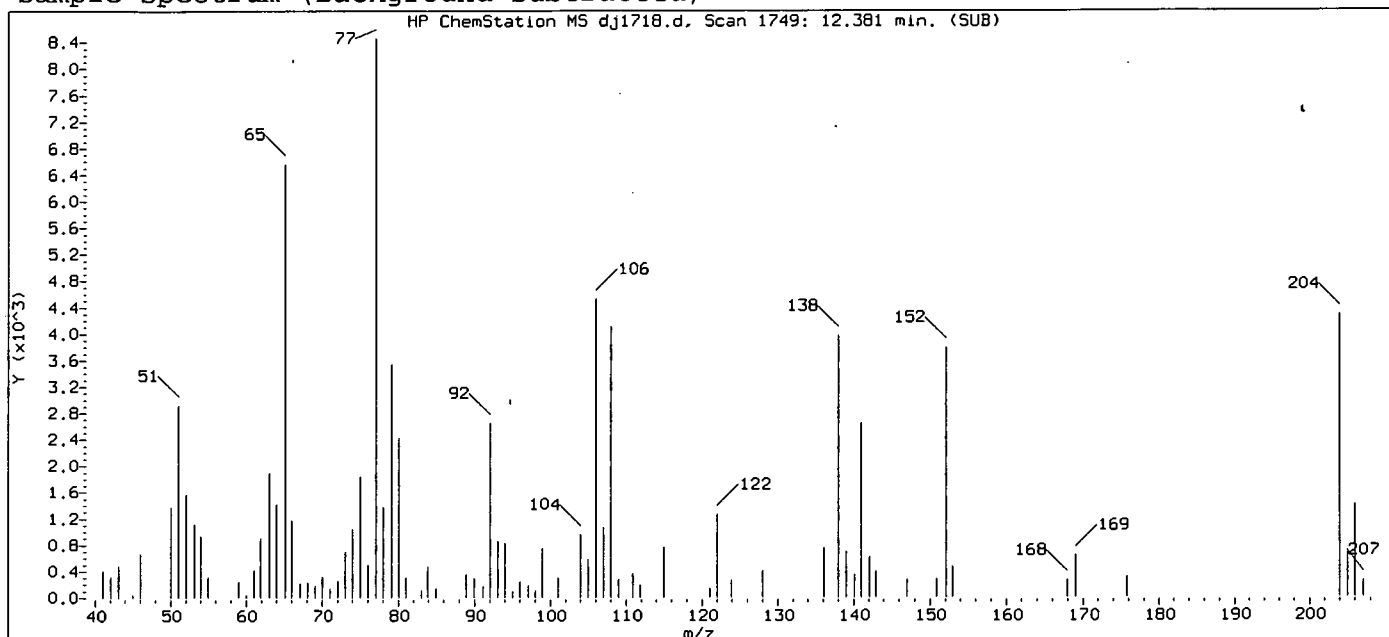
Digitally signed by Holly B. Ziegler
Analyst responsible for change: on 10/27/2016 at 10:14.
Target 3.5 signature user ID: hbz01996

OCT 28 2016

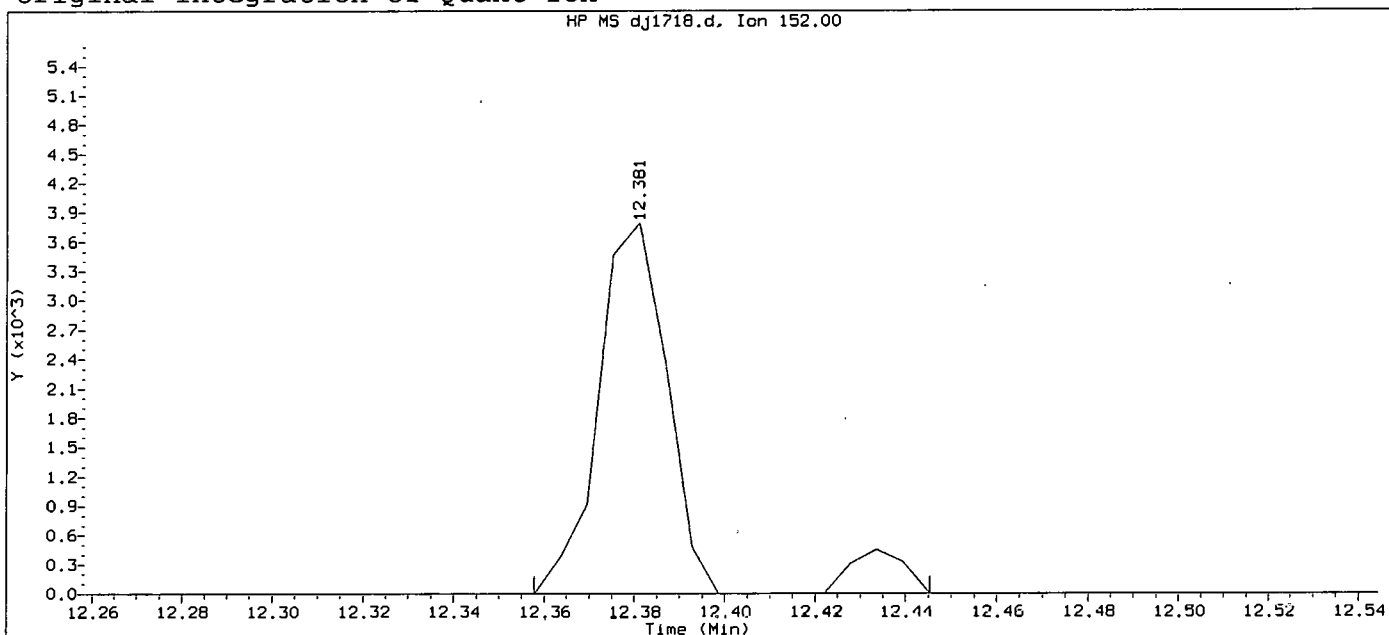
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1718.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 18:51

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: all1

Calibration date and time: 27-OCT-2016 08:07

Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

Sample Name: SSTD0.25

Lab Sample ID: RVSTD2716

Compound Number : 128

Compound Name : 5-Nitro-o-toluidine

Scan Number : 1749

Retention Time (minutes) : 12.381

Quant Ion : 152.00

Area : 4356

On-column Amount (ng/ul) : 0.2079

Integration start scan : 1744

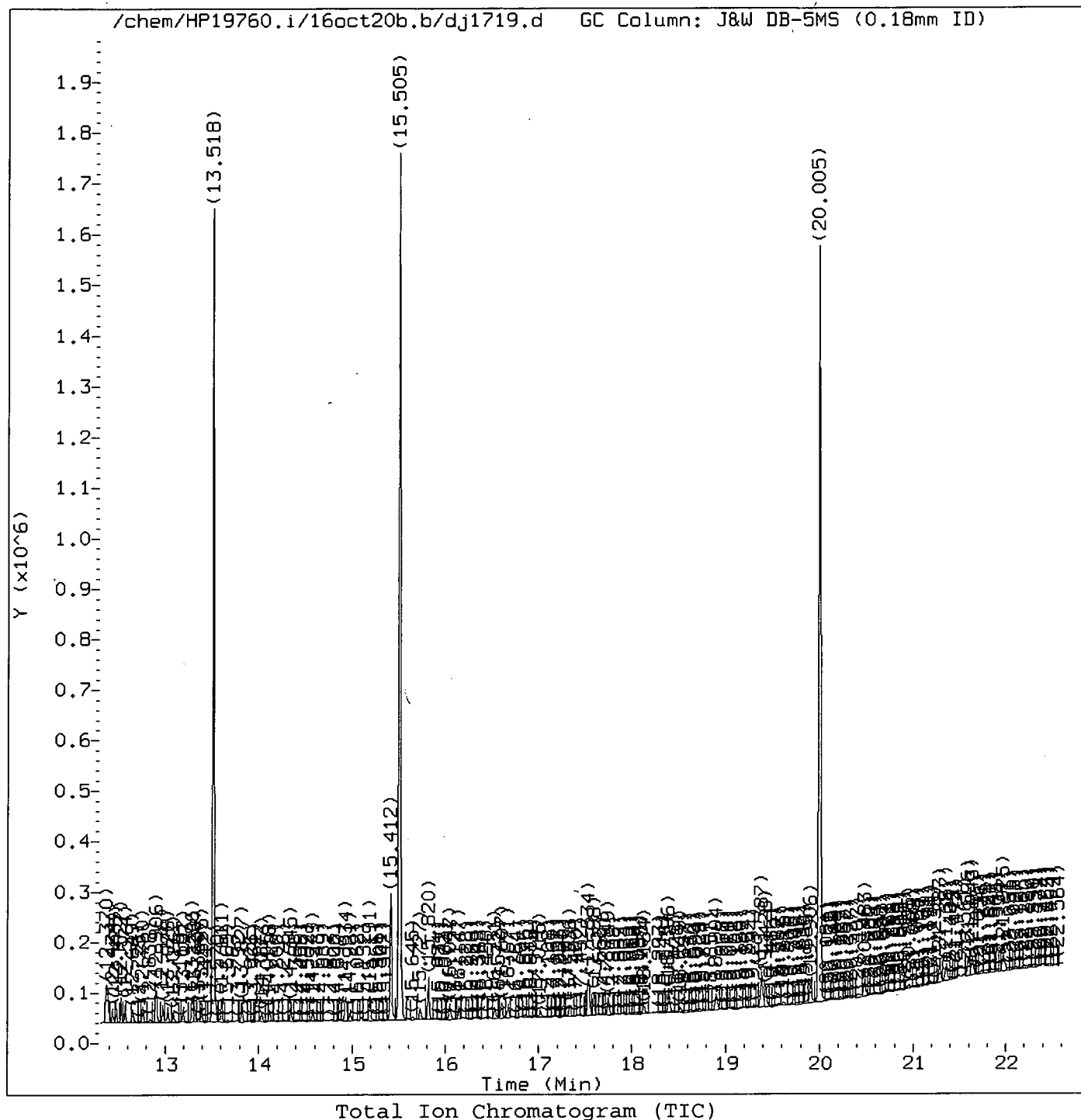
Integration stop scan: 1759

Y at integration start : 0

Y at integration end: 0

Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:14.

Target 3.5 esignature user ID: hbz01996



Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1719.d
Injection date and time: 20-OCT-2016 19:19

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 27-OCT-2016 08:26
Date, time and analyst ID of latest file update: 27-Oct-2016 10:14 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: MDLSTD2716

Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:16.
Target 3.5 esignature user ID: hbz01996

page 2 of 2

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1719.d
 Injection date and time: 20-OCT-2016 19:19

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: mdlall1
 Calibration date and time: 27-OCT-2016 08:26
 Date, time and analyst ID of latest file update: 27-Oct-2016 10:14 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: MDLSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
1) 1,4-Dioxane	(1)	2.467	88	3125M	0.123
4) N-Nitrosodimethylamine	(1)	3.073	74	4841	0.122
5) Pyridine	(1)	3.178	79	10070M	0.152
7) 2-Picoline	(1)	4.244	93	9652M	0.137
8) N-Nitrosomethylethylamine	(1)	4.384	88	3215M	0.111
9) Methyl methanesulfonate	(1)	4.810	80	4432	0.124
11) \$2-Fluorophenol	(1)	5.031	112	12785	0.249
13) N-Nitrosodiethylamine	(1)	5.369	102	2729	0.101
42) Total Cresols	(1)			13678	0.250
15) Ethyl methanesulfonate	(1)	5.812	109	3712	0.133
16) Benzaldehyde	(1)	6.273	77	6588	0.134
17) \$Phenol-d6	(1)	6.384	99	17222	0.245
18) Phenol	(1)	6.407	94	10731	0.130
19) Aniline	(1)	6.436	93	12837	0.130
20) a-methylstyrene	(1)	6.518	118	9724	0.183
22) bis(2-Chloroethyl)ether	(1)	6.547	93	8564	0.138
23) 2-Chlorophenol	(1)	6.593	128	5894	0.125
24) 1,3-Dichlorobenzene	(1)	6.827	146	6446	0.123
25) *1,4-Dichlorobenzene-d4	(1)	6.920	152	160295	5.000
26) 1,4-Dichlorobenzene	(1)	6.943	146	6954	0.131
27) Benzyl alcohol	(1)	7.130	108	7285	0.201
28) 1,2-Dichlorobenzene	(1)	7.165	146	6467	0.129
30) Indene	(1)	7.299	115	18281	0.199
31) 2-Methylphenol	(1)	7.305	108	6554	0.128
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.357	45	8959	0.126
34) bis(2-Chloroisopropyl)ether	(1)	7.357	45	8959	0.126
97) Isosafrole	(3)			5257	0.121
35) N-Nitrosopyrrolidine	(1)	7.479	100	3366	0.114
36) Acetophenone	(1)	7.520	105	10720	0.131
38) N-Nitroso-di-n-propylamine	(1)	7.538	70	6311	0.132
37) 4-Methylphenol	(1)	7.538	108	7124	0.122
39) N-Nitrosomorpholine	(1)	7.543	56	4685	0.137
40) o-Toluidine	(1)	7.573	106	11565	0.124
43) Hexachloroethane	(1)	7.672	117	3225	0.135
44) \$Nitrobenzene-d5	(2)	7.736	82	17631	0.268
45) Nitrobenzene	(2)	7.765	77	9825	0.147
48) N-Nitrosopiperidine	(2)	7.998	114	3408	0.128
120) 2,4,6-Dinitrotoluenes	(3)			3604	0.161
50) Isophorone	(2)	8.150	82	16874	0.141
51) 2-Nitrophenol	(2)	8.260	139	1770	0.090

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
 on 10/27/2016 at 10:16.

Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1719.d
 Injection date and time: 20-OCT-2016 19:19

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: mdlall1
 Calibration date and time: 27-OCT-2016 08:26
 Date, time and analyst ID of latest file update: 27-Oct-2016 10:14 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: MDLSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
53) 2,4-Dimethylphenol	(2)	8.360	107	7214	0.123
56) Benzoic acid	(2)	8.418	105	5687	2.310
57) O,O,O-Triethylphosphorothioate	(2)	8.488	198	3197	0.115
55) bis(2-Chloroethoxy)methane	(2)	8.517	93	10035	0.133
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.616	104	16586	0.192
60) 2,4-Dichlorophenol	(2)	8.633	162	4550	0.114
62) 1,2,4-Trichlorobenzene	(2)	8.773	180	5906	0.128
146) Diallate trans/cis	(4)			5985	0.115
65) *Naphthalene-d8	(2)	8.849	136	604699	5.000
67) 4-Chloroaniline	(2)	8.977	127	7906	0.135
68) 2,6-Dichlorophenol	(2)	8.989	162	4498	0.115
69) Hexachloropropene	(2)	9.036	213	3712	0.109
71) Hexachlorobutadiene	(2)	9.111	225	3958	0.133
75) Quinoline	(2)	9.403	129	11186	0.133
76) Caprolactam	(2)	9.479	113	1526	0.114
77) N-Nitrosodi-n-butylamine	(2)	9.554	84	5477	0.110
80) 4-Chloro-3-methylphenol	(2)	9.770	107	6789	0.139
82) Safrole	(2)	9.875	162	4491	0.121
85) Hexachlorocyclopentadiene	(3)	10.254	237	3117	0.106
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.254	216	6446	0.124
88) cis-Isosafrole	(3)	10.341	162	830	0.021
90) 2,4,6-Trichlorophenol	(3)	10.446	196	2999	0.100
92) 2,4,5-Trichlorophenol	(3)	10.487	196	3646	0.113
93) \$2-Fluorobiphenyl	(3)	10.592	172	26073	0.251
94) trans-Isosafrole	(3)	10.703	162	4427	0.099
95) 1,1'-Biphenyl	(3)	10.743	154	12506	0.115
96) 2-Chloronaphthalene	(3)	10.755	162	11091	0.127
98) 1-Chloronaphthalene	(3)	10.790	162	10141	0.124
99) Diphenyl ether	(3)	10.924	170	7640	0.122
100) 2-Nitroaniline	(3)	10.924	138	2378	0.100
104) 1,4-Naphthoquinone	(3)	11.041	158	3487	0.099
105) 1,4-Dinitrobenzene	(3)	11.157	168	705M	0.065
106) Dimethylphthalate	(3)	11.268	163	11735	0.119
107) 1,3-Dinitrobenzene	(3)	11.274	168	887M	0.068
108) 2,6-Dinitrotoluene	(3)	11.338	165	1798	0.092
112) 3-Nitroaniline	(3)	11.571	138	2038	0.098
113) *Acenaphthene-d10	(3)	11.635	164	361864	5.000
115) 2,4-Dinitrophenol	(3)	11.734	184	3230	0.381
116) 4-Nitrophenol	(3)	11.839	109	7675	0.449
117) Pentachlorobenzene	(3)	11.868	250	5133	0.119

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
 on 10/27/2016 at 10:16.
 Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1719.d
 Injection date and time: 20-OCT-2016 19:19

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: mdlall1
 Calibration date and time: 27-OCT-2016 08:26
 Date, time and analyst ID of latest file update: 27-Oct-2016 10:14 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: MDLSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
118) 2,4-Dinitrotoluene	(3)	11.921	165	1806	0.068
119) Dibenzofuran	(3)	11.927	168	15608	0.125
121) 1-Naphthylamine	(3)	12.026	143	10327	0.112
122) 2,3,4,6-Tetrachlorophenol	(3)	12.101	232	2320	0.092
123) 2-Naphthylamine	(3)	12.131	143	11423	0.126
124) Diethylphthalate	(3)	12.276	149	11475	0.116
125) Thionazin	(3)	12.370	107	2748	0.126
128) 5-Nitro-o-toluidine	(3)	12.375	152	2166	0.089
129) 4-Nitroaniline	(3)	12.381	138	2071	0.092
127) 4-Chlorophenyl-phenylether	(3)	12.387	204	6452	0.125
130) 4,6-Dinitro-2-methylphenol	(4)	12.434	198	3086	0.258
131) N-Nitrosodiphenylamine	(4)	12.527	169	10070	0.128
132) NDPA as diphenylamine	(4)	12.527	169	10070	0.128
134) 1,2-Diphenylhydrazine	(4)	12.574	77	15700	0.127
135) \$2,4,6-Tribromophenol	(3)	12.649	330	2989	0.213
137) Tetraethyldithiopyrophosphate	(4)	12.760	97	2779	0.133
139) 1,3,5-Trinitrobenzene	(4)	12.842	213	419M	0.050
140) Diallate (peak 1)	(4)	12.900	86	5069	0.094
141) Phorate	(4)	12.906	75	7966	0.107
142) Phenacetin	(4)	12.912	108	5674	0.102
143) 4-Bromophenyl-phenylether	(4)	12.976	248	3725	0.125
144) Diallate (peak 2)	(4)	13.005	86	916M	0.021
147) Dimethoate	(4)	13.092	87	4311	0.092
148) Atrazine	(4)	13.197	200	3361	0.120
149) Pentachlorophenol	(4)	13.285	266	1521	0.083
150) 4-Aminobiphenyl	(4)	13.291	169	12610	0.125
151) Pentachloronitrobenzene	(4)	13.296	237	1139	0.087
152) Pronamide	(4)	13.395	173	5368	0.114
153) *Phenanthrene-d10	(4)	13.518	188	689937	5.000
154) Dinoseb	(4)	13.541	211	833M	1.543
163) Carbazole	(4)	13.827	167	16340	0.121
164) Methyl parathion	(4)	14.037	109	3292	0.101
165) Di-n-butylphthalate	(4)	14.345	149	19232	0.115
168) 4-Nitroquinoline-1-oxide	(4)	14.579	190	876	2.495
167) Parathion	(4)	14.579	109	2358	0.106
169) Octachlorostyrene	(4)	14.934	308	2757	0.214
171) Isodrin	(4)	14.981	193	2745	0.145
174) Benzidine	(5)	15.412	184	122230	1.051
175) *Pyrene-d10	(5)	15.505	212	869583	5.000
179) \$Terphenyl-d14	(5)	15.820	244	31911	0.252

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/27/2016 at 10:16.
 Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1719.d
Injection date and time: 20-OCT-2016 19:19

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 27-OCT-2016 08:26
Date, time and analyst ID of latest file update: 27-Oct-2016 10:14 hbz01996

Sample Name: SSTD0.125

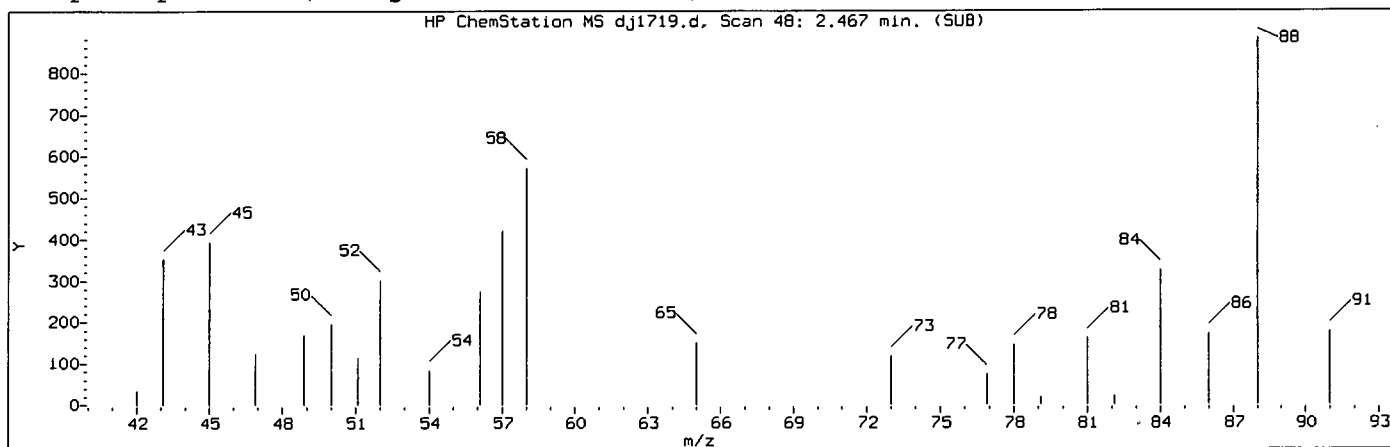
Lab Sample ID: MDLSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
182) p-Dimethylaminoazobenzene	(5)	16.047	225	3631	0.108
185) Chlorobenzilate	(5)	16.147	139	5208	0.101
187) 3,3'-Dimethylbenzidine	(5)	16.607	212	14701	0.118
188) Butylbenzylphthalate	(5)	16.671	149	6287	0.089
191) 2-Acetylaminofluorene	(5)	17.015	181	4522	0.065
193) 3,3'-Dichlorobenzidine	(5)	17.528	252	7777	0.108
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.551	231	4307	0.110
199) bis(2-Ethylhexyl)phthalate	(5)	17.749	149	10218	0.095
203) 6-Methylchrysene	(5)	18.396	242	16104	0.125
205) Di-n-octylphthalate	(6)	18.904	149	17390	0.086
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.387	256	8608	0.108
213) *Perylene-d12	(6)	20.005	264	839006	5.000
215) 3-Methylcholanthrene	(6)	20.483	268	10502	0.112
217) Dibenz(a,h)acridine	(6)	21.287	279	17169	0.111
218) Dibenz(a,j)acridine	(6)	21.357	279	17084	0.115

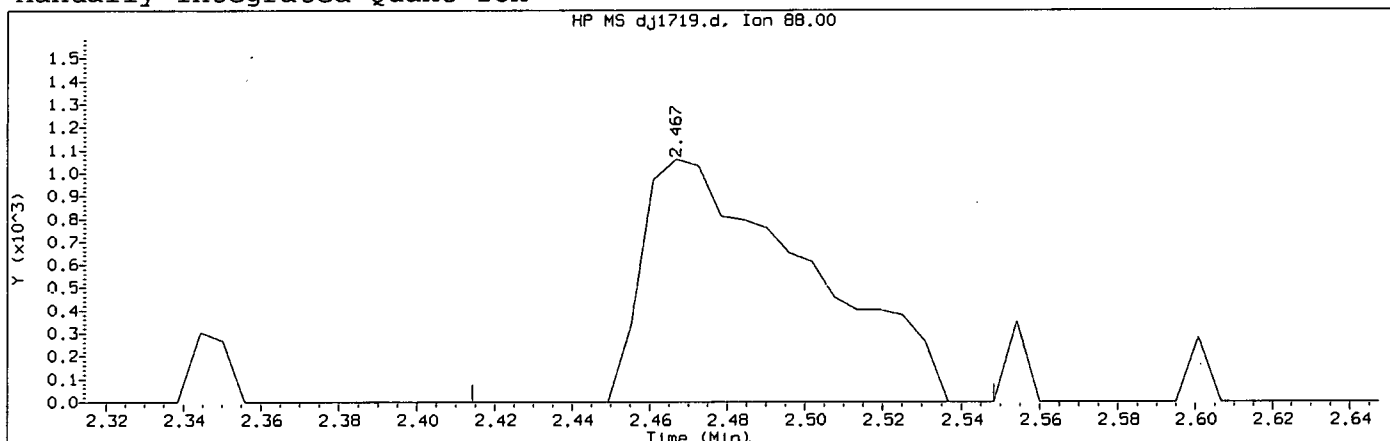
* = Compound is an internal standard.

Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:16.
Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1719.d
Injection date and time: 20-OCT-2016 19:19

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 27-OCT-2016 08:26
Date, time and analyst ID of latest file update: 27-Oct-2016 10:14 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: MDLSTD2716

Compound Number	:	1	
Compound Name	:	1,4-Dioxane	
Scan Number	:	48	
Retention Time (minutes)	:	2.467	
Quant Ion	:	88.00	
Area (flag)	:	3125M	
On-Column Amount (ng/ul)	:	0.1229	
Integration start scan	:	38	Integration stop scan: 61
Y at integration start	:	0	Y at integration end: 0

Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:16.
Target 3.5 esignature user ID: hbz01996

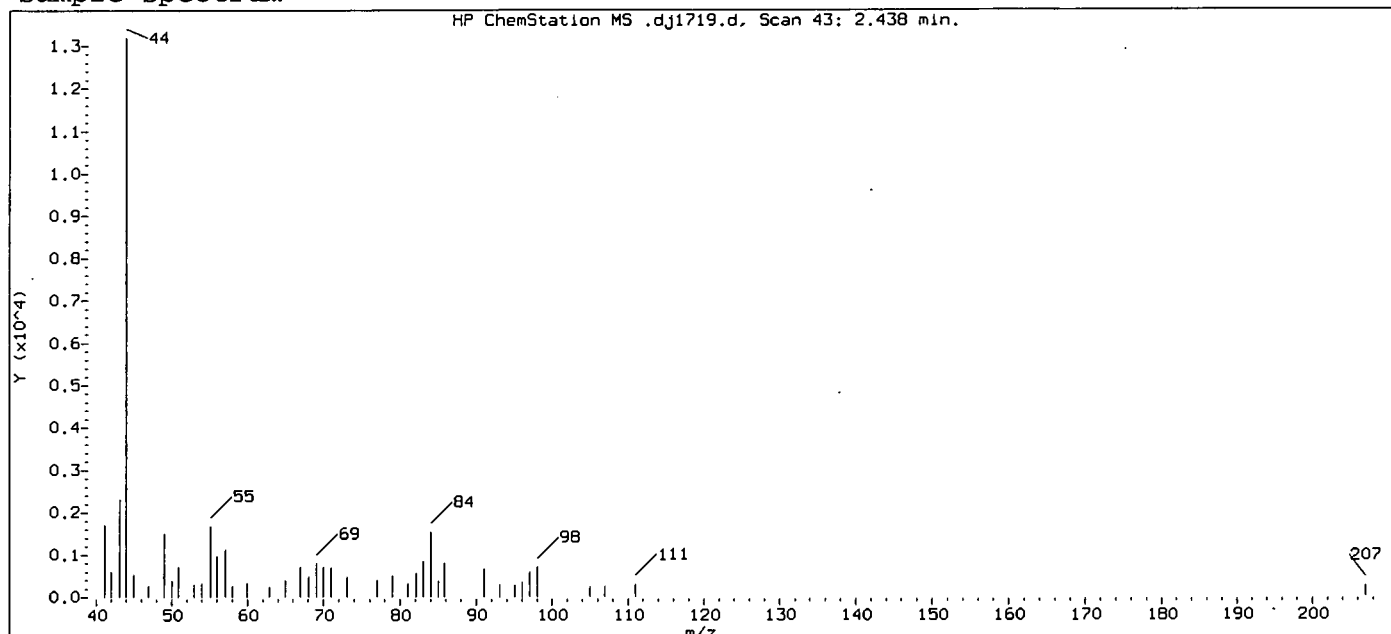
Holly B. Ziegler

GC/MS audit/management approval: _____

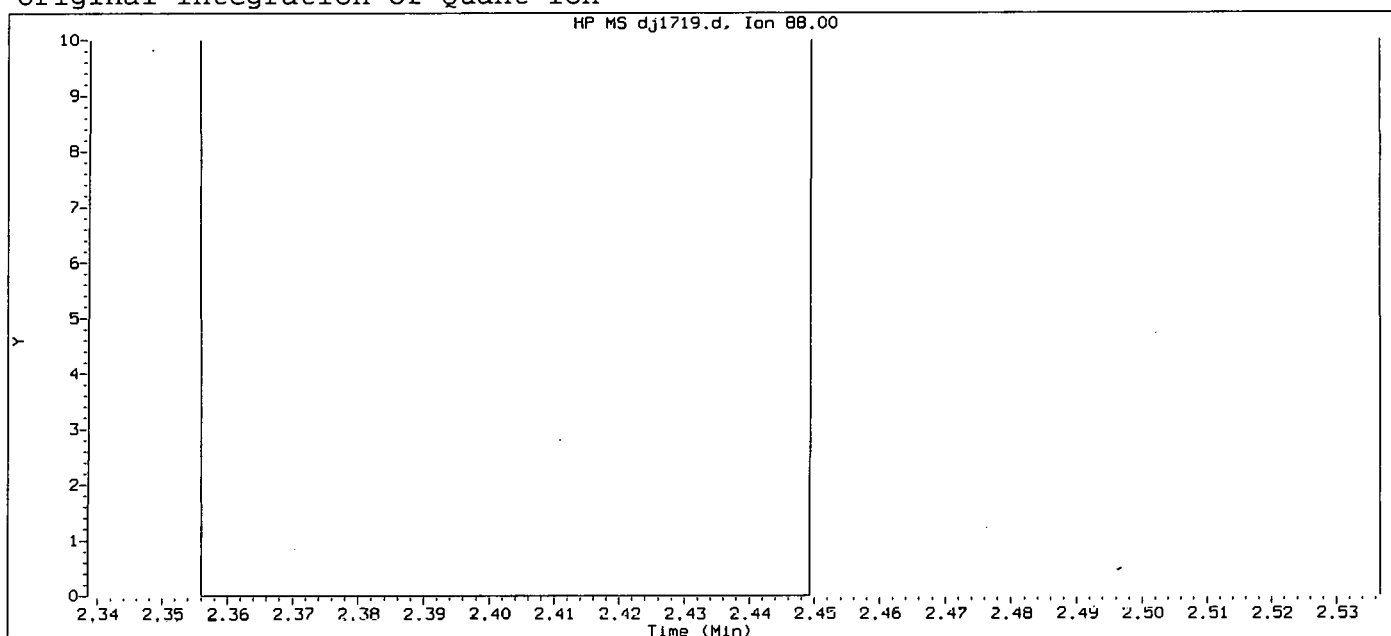
OCT 28 2016

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1719.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 19:19

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: mdlall1

Calibration date and time: 27-OCT-2016 08:07

Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: MDLSTD2716

Compound Number : 1

Compound Name : 1,4-Dioxane

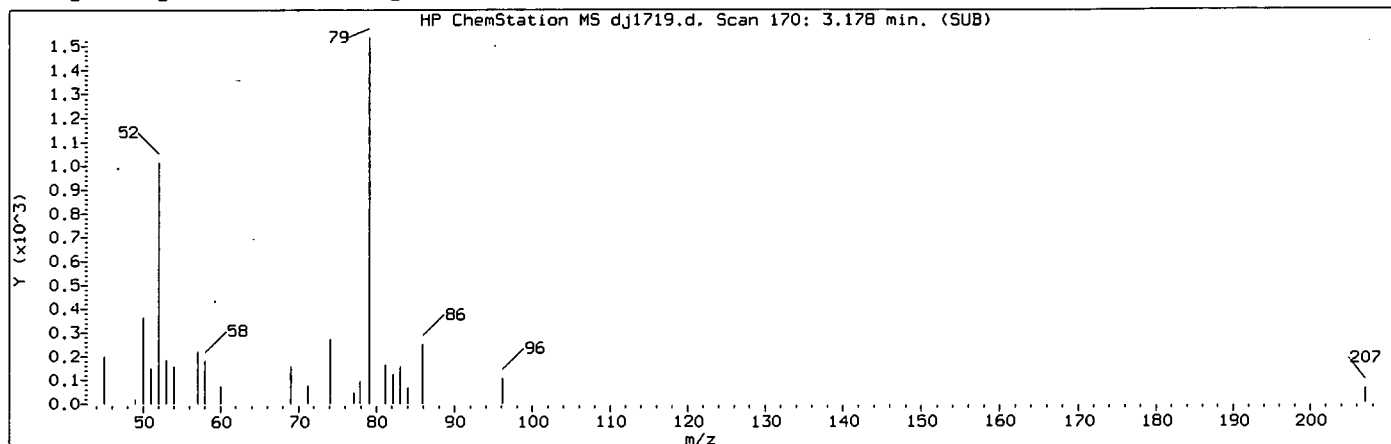
Expected RT (minutes) : 2.438

Quant Ion : 88.00

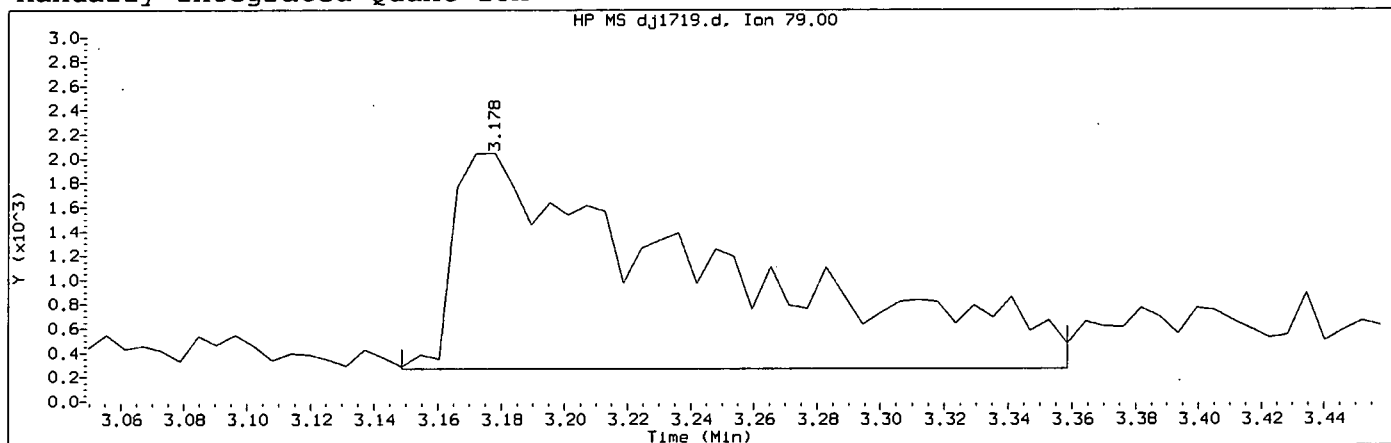
Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:16.

Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1719.d
Injection date and time: 20-OCT-2016 19:19

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 27-OCT-2016 08:26
Date, time and analyst ID of latest file update: 27-Oct-2016 10:14 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: MDLSTD2716

Compound Number	: 5	
Compound Name	: Pyridine	
Scan Number	: 170	
Retention Time (minutes)	: 3.178	
Quant Ion	: 79.00	
Area (flag)	: 10070M	
On-Column Amount (ng/ul)	: 0.1519	
Integration start scan	: 164	Integration stop scan: 200
Y at integration start	: 271	Y at integration end: 271

Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:16.
Target 3.5 signature user ID: hbz01996

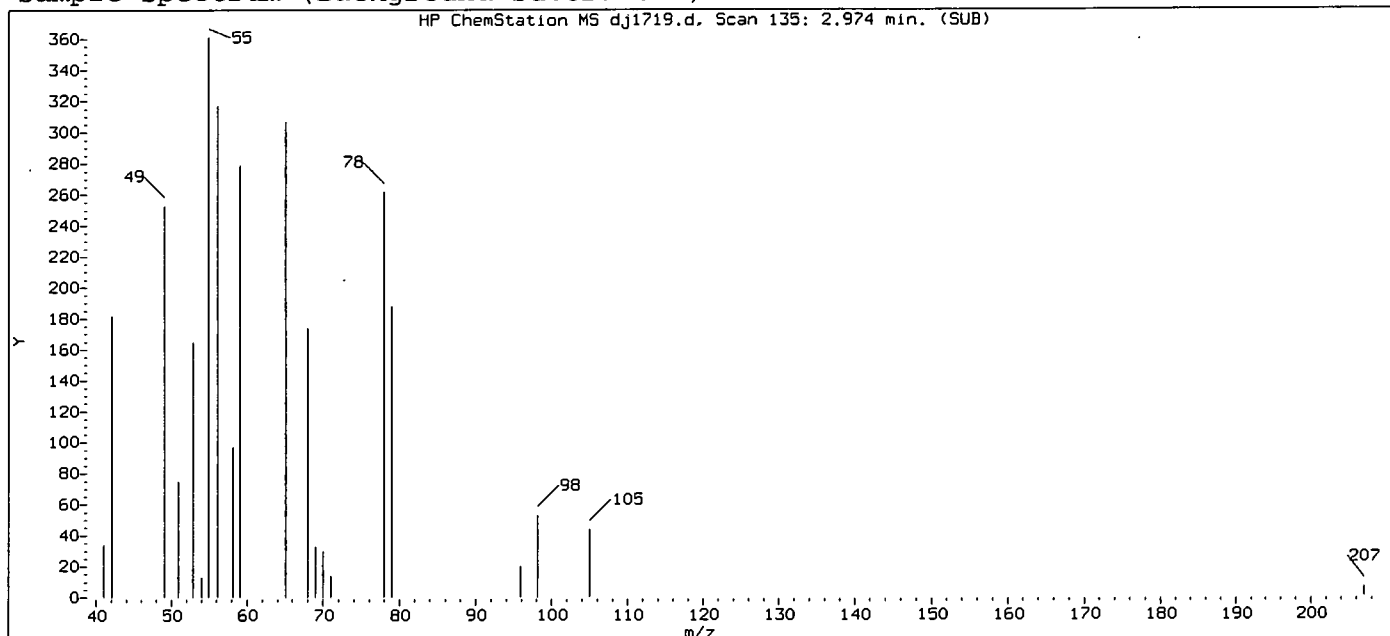
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OCT 28 2016

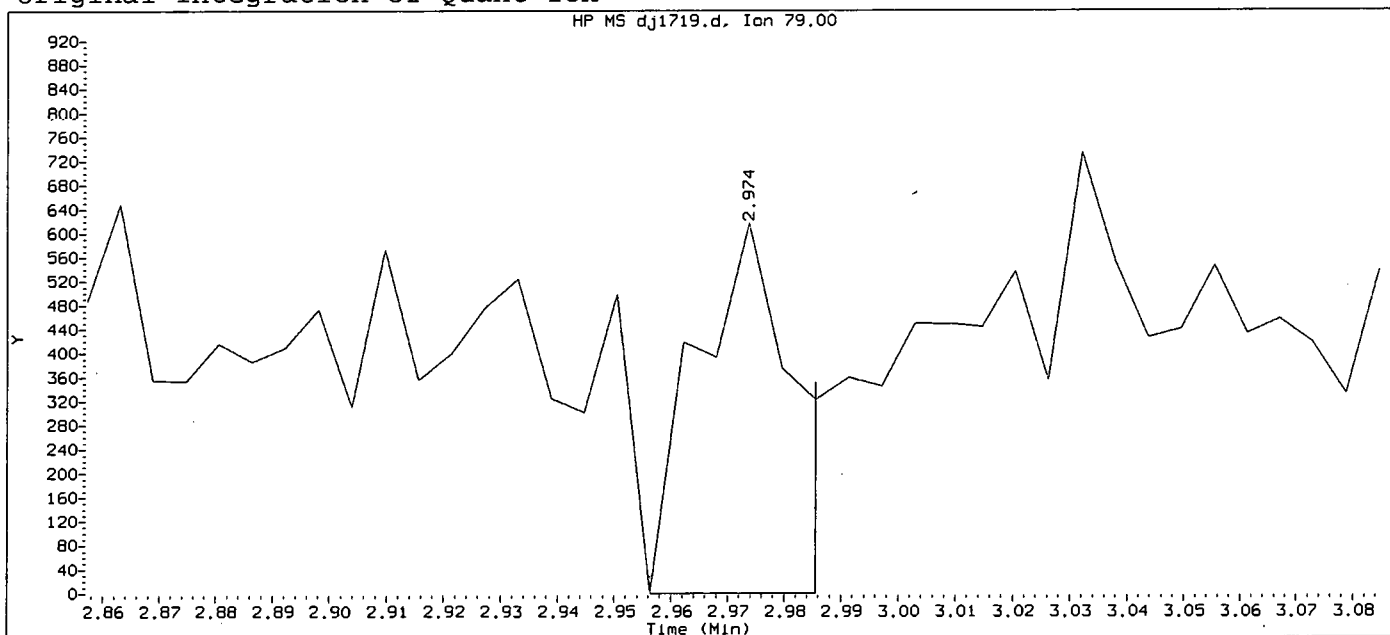
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1719.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 19:19

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: mdlall1

Calibration date and time: 27-OCT-2016 08:07

Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

Sample Name: SSTD0.125

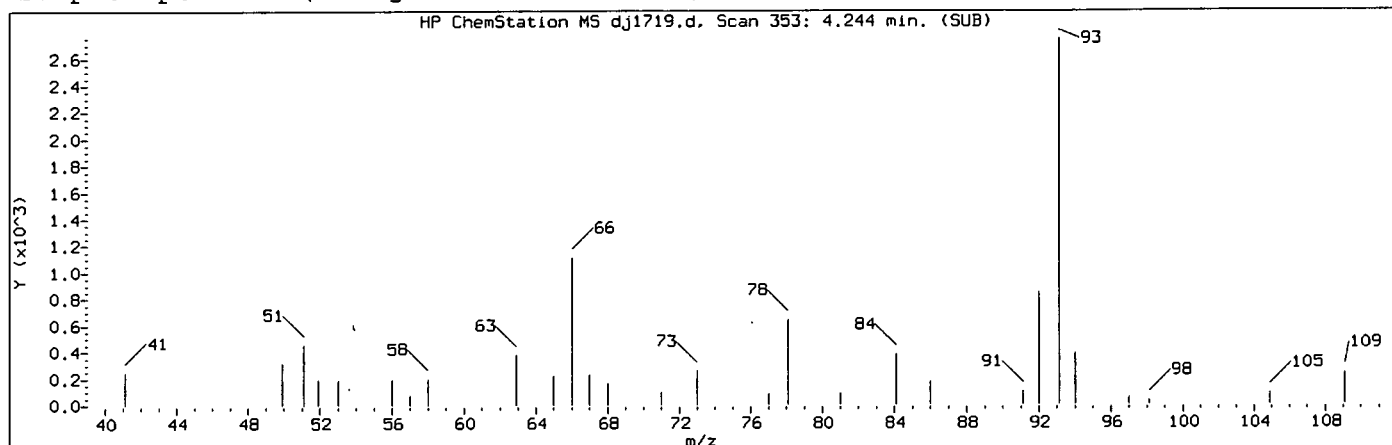
Lab Sample ID: MDLSTD2716

Compound Number : 5
 Compound Name : Pyridine
 Scan Number : 135
 Retention Time (minutes) : 2.974
 Quant Ion : 79.00
 Area : 687
 On-column Amount (ng/ul) : 0.0122
 Integration start scan : 131
 Y at integration start : 0

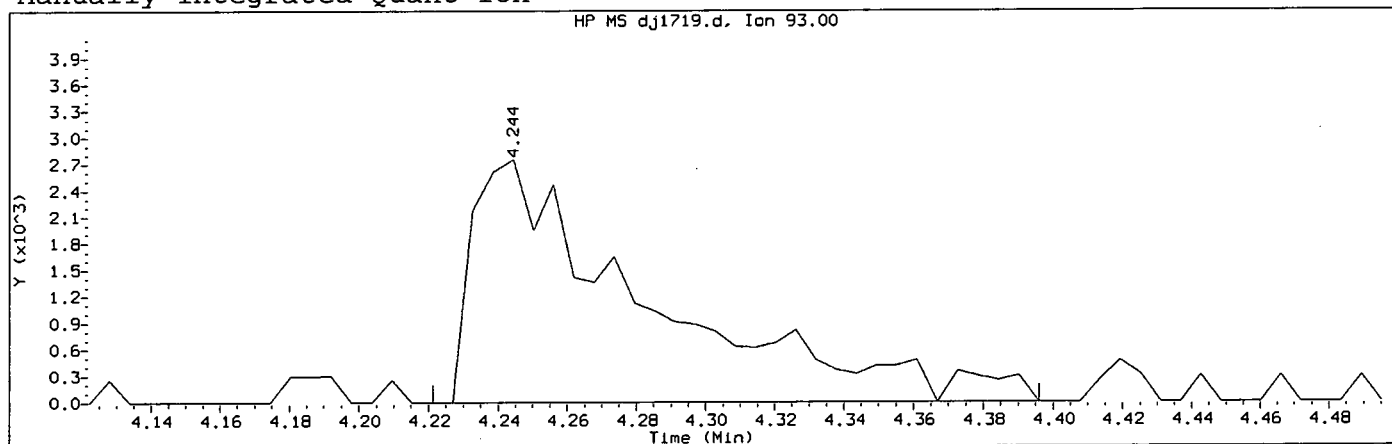
Integration stop scan: 136
 Y at integration end: 0

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 Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1719.d
Injection date and time: 20-OCT-2016 19:19

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 27-OCT-2016 08:26
Date, time and analyst ID of latest file update: 27-Oct-2016 10:14 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: MDLSTD2716

Compound Number	:	7	
Compound Name	:	2-Picoline	
Scan Number	:	353	
Retention Time (minutes)	:	4.244	
Quant Ion	:	93.00	
Area (flag)	:	9652M	
On-Column Amount (ng/ul)	:	0.1372	
Integration start scan	:	348	Integration stop scan: 378
Y at integration start	:	0	Y at integration end: 0

Reason for manual integration: improper integration

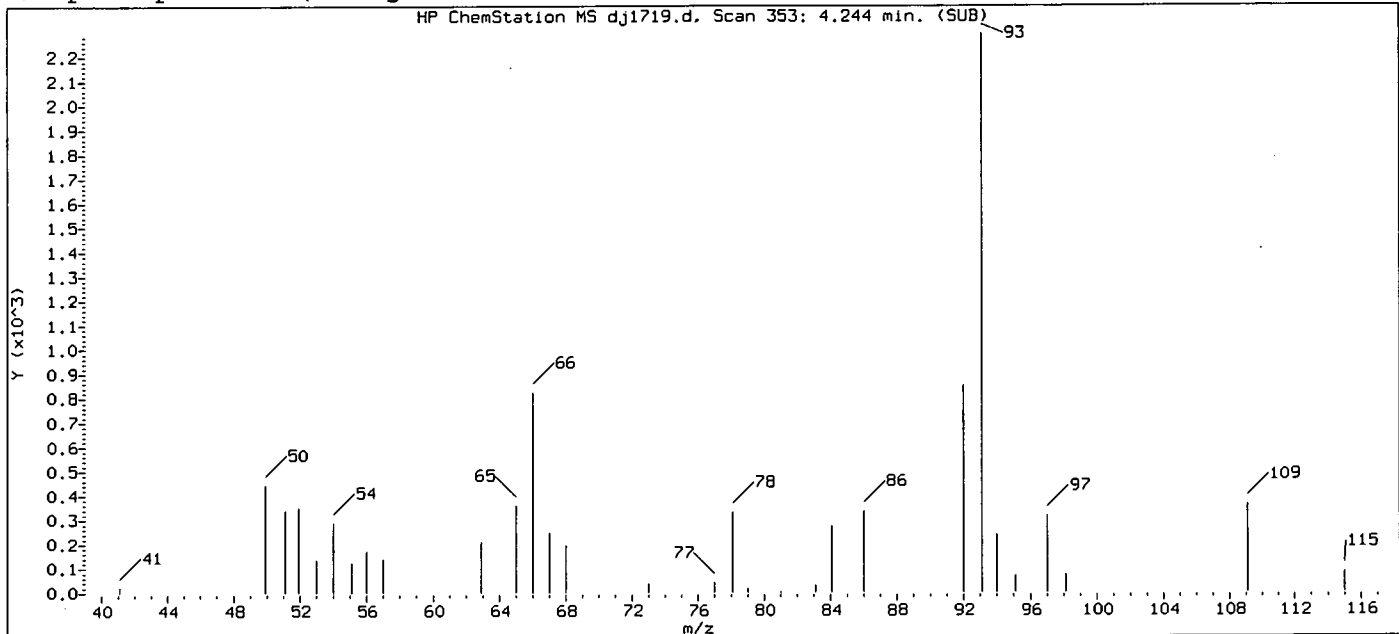
Digitally signed by Holly B. Ziegler
Analyst responsible for change: on 10/27/2016 at 10:16
Target 3.5 signature User ID: hbz01996

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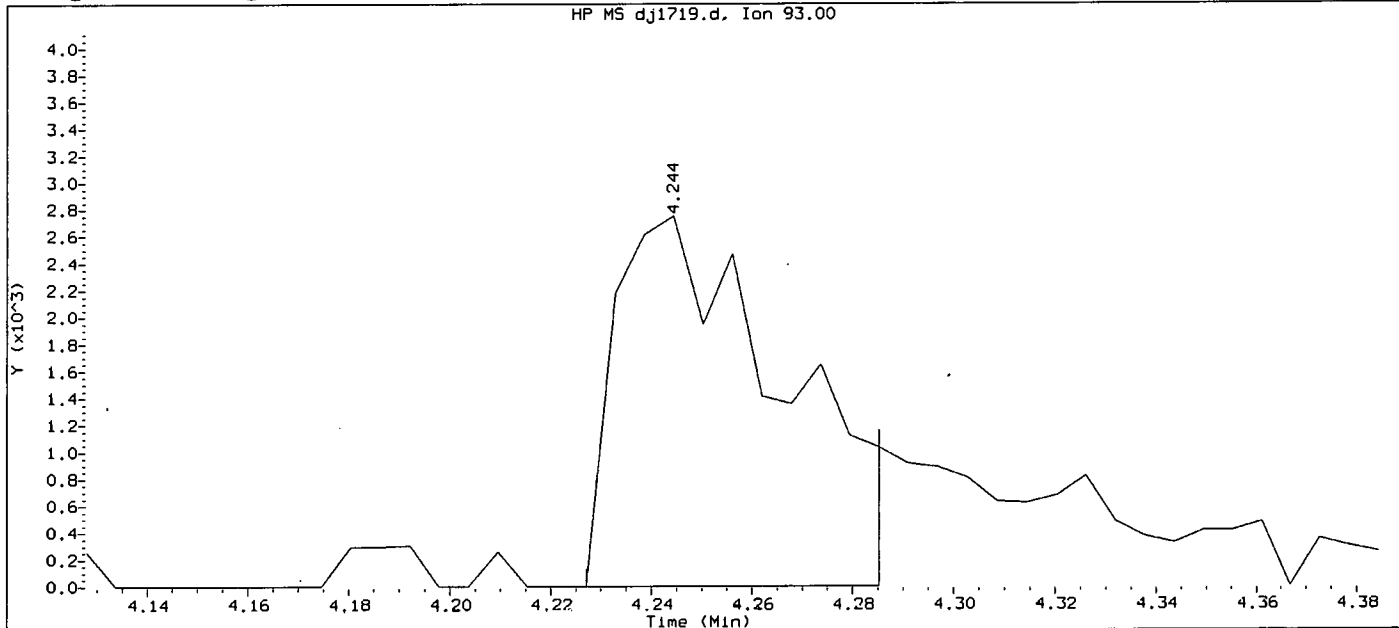
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1719.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 19:19

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: mdlall1

Calibration date and time: 27-OCT-2016 08:07

Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

Sample Name: SSTD0.125

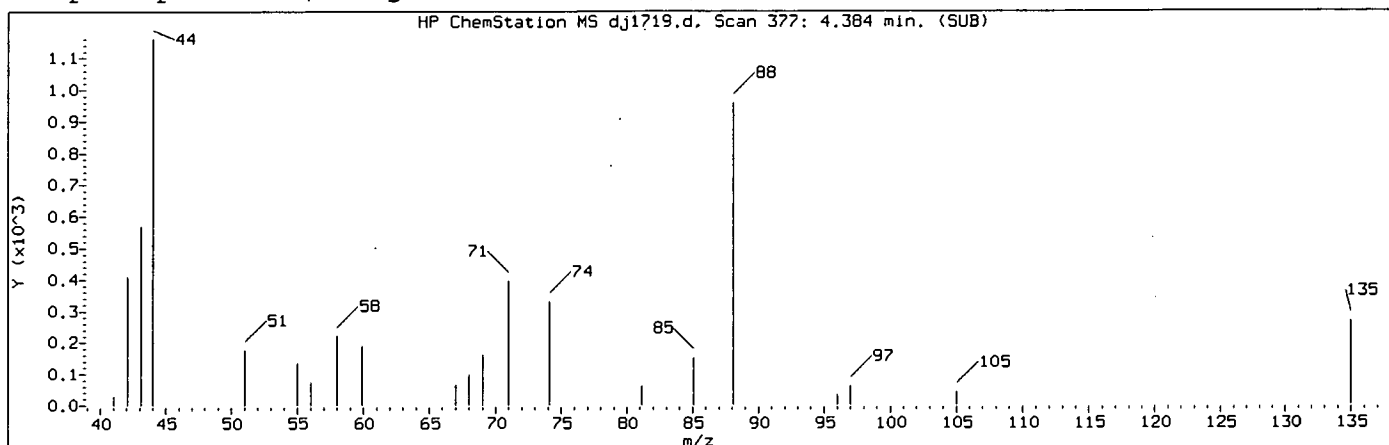
Lab Sample ID: MDLSTD2716

Compound Number : 7
 Compound Name : 2-Picoline
 Scan Number : 353
 Retention Time (minutes) : 4.244
 Quant Ion : 93.00
 Area : 6304
 On-column Amount (ng/ul) : 0.0907
 Integration start scan : 349
 Y at integration start : 0

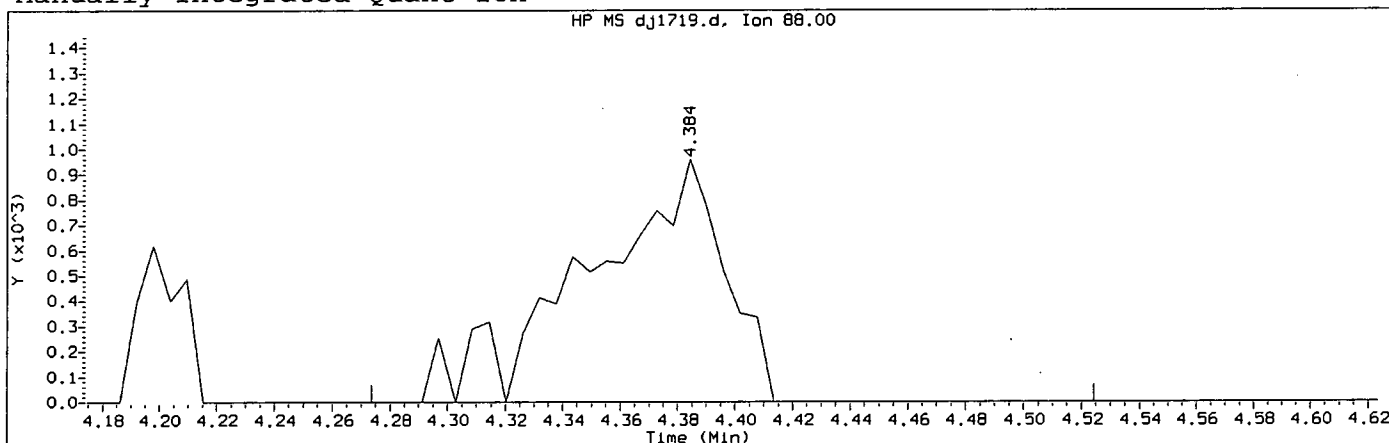
Integration stop scan: 359
 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:16.
 Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1719.d
Injection date and time: 20-OCT-2016 19:19

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 27-OCT-2016 08:26
Date, time and analyst ID of latest file update: 27-Oct-2016 10:14 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: MDLSTD2716

Compound Number	:	8	
Compound Name	:	N-Nitrosomethylethylamine	
Scan Number	:	377	
Retention Time (minutes)	:	4.384	
Quant Ion	:	88.00	
Area (flag)	:	3215M	
On-Column Amount (ng/ul)	:	0.1112	
Integration start scan	:	357	Integration stop scan: 400
Y at integration start	:	0	Y at integration end: 0

Reason for manual integration: missed peak

Digitally signed by Holly B. Ziegler
Analyst responsible for change: on 10/27/2016 at 10:16.
Target 3.5 signature user ID: hbz01996

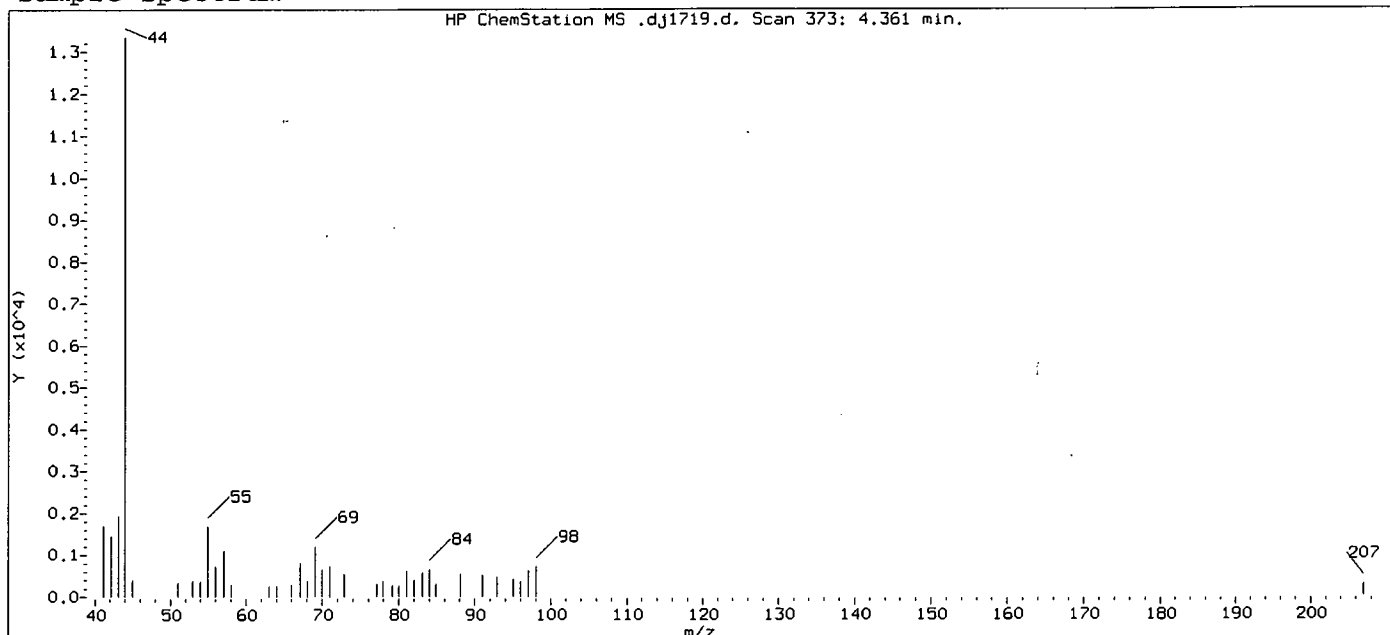
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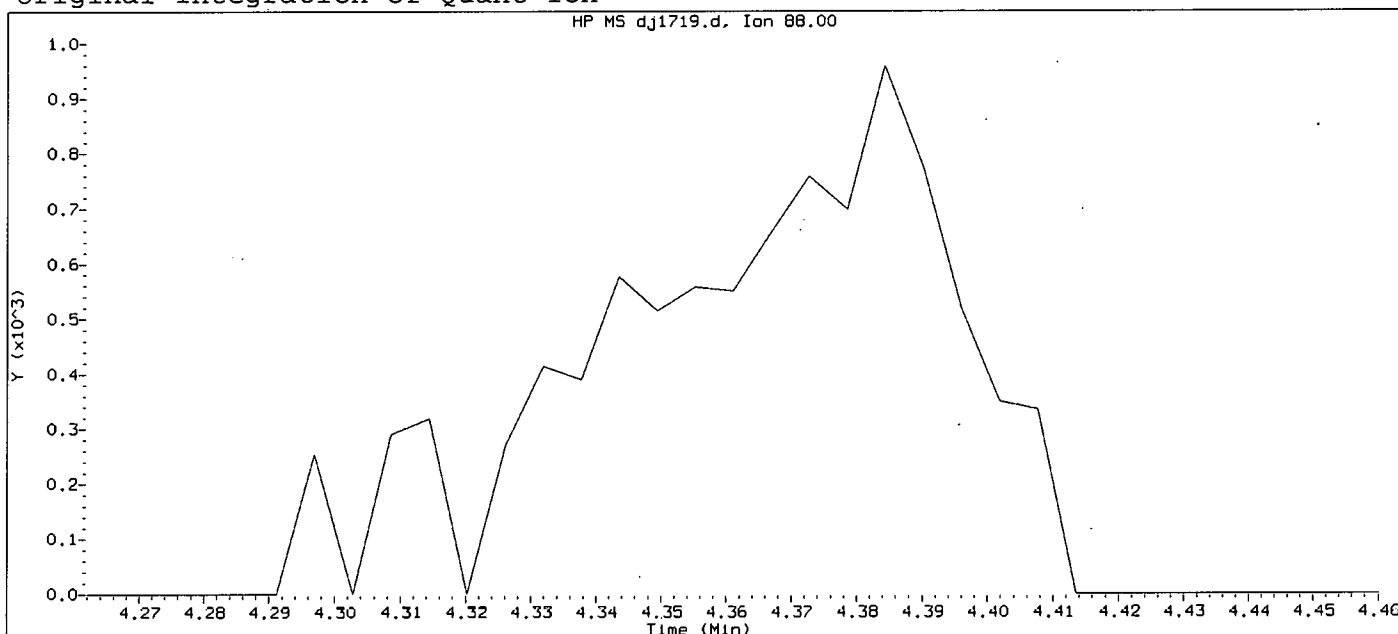
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1719.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 19:19

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: mdlall1

Calibration date and time: 27-OCT-2016 08:07

Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: MDLSTD2716

Compound Number : 8

Compound Name : N-Nitrosomethylethylamine

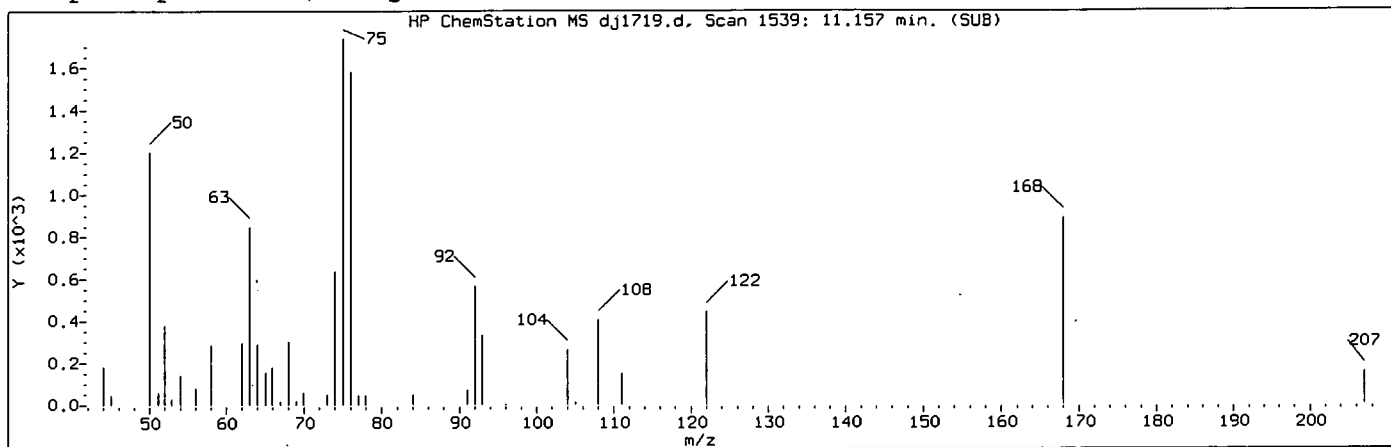
Expected RT (minutes) : 4.361

Quant Ion : 88.00

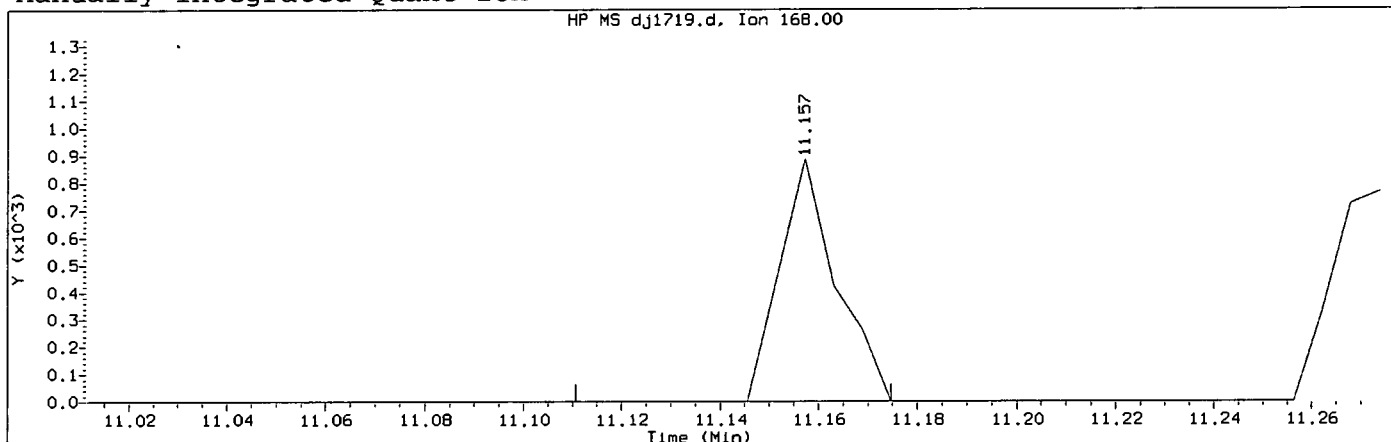
Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:16.

Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1719.d
Injection date and time: 20-OCT-2016 19:19

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 27-OCT-2016 08:26
Date, time and analyst ID of latest file update: 27-Oct-2016 10:14 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: MDLSTD2716

Compound Number	: 105	
Compound Name	: 1,4-Dinitrobenzene	
Scan Number	: 1539	
Retention Time (minutes)	: 11.157	
Quant Ion	: 168.00	
Area (flag)	: 705M	
On-Column Amount (ng/ul)	: 0.0651	
Integration start scan	: 1530	Integration stop scan: 1541
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: missed peak

Digitally signed by Holly B. Ziegler
Analyst responsible for change: on 10/27/2016 at 10:16.
Target 3.5 signature user ID: hbz01996

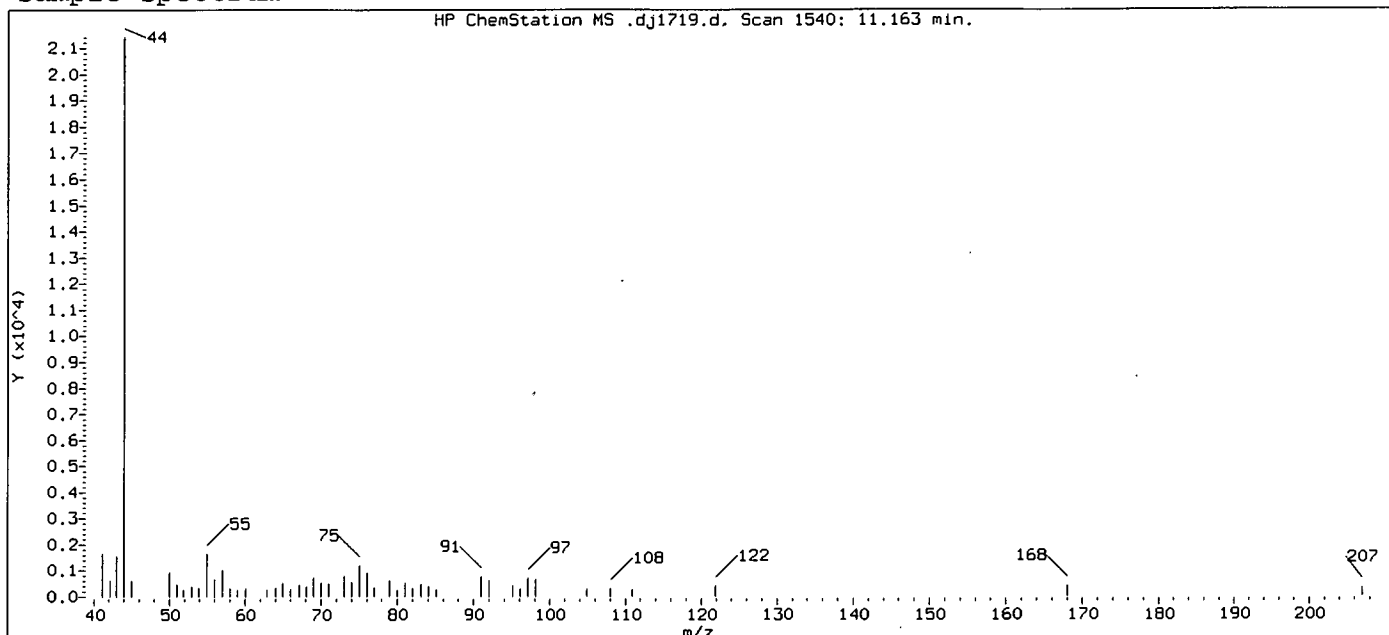
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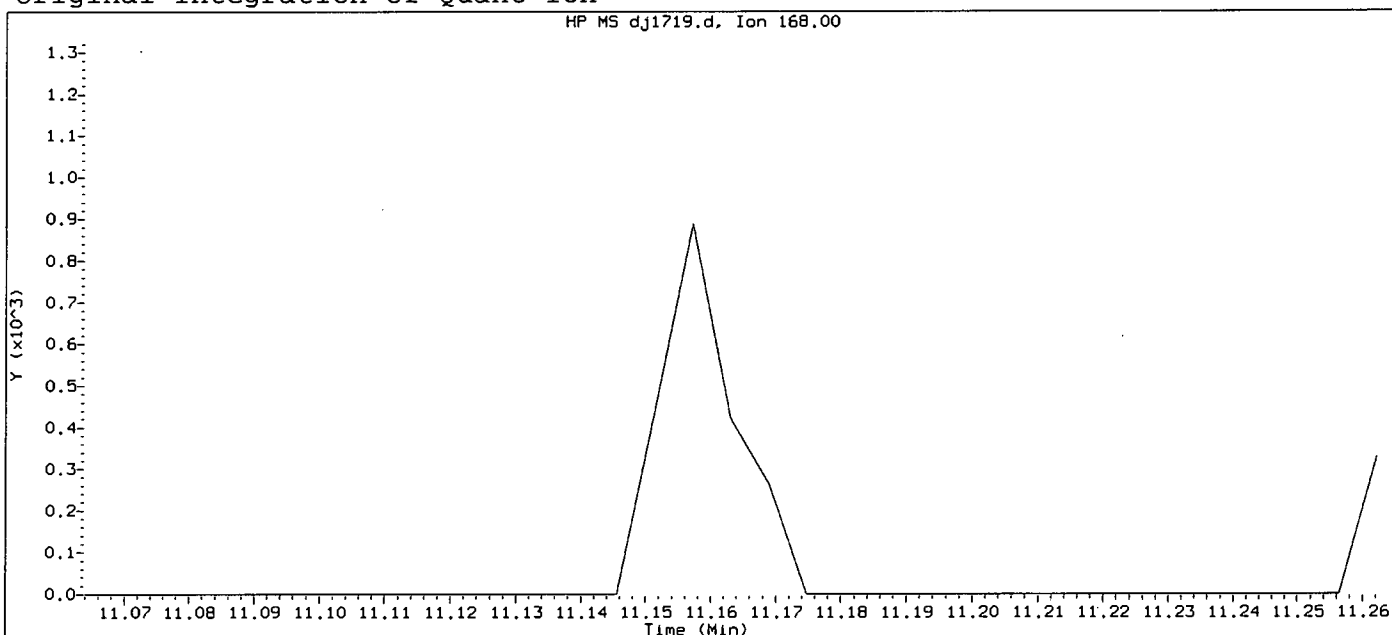
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1719.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 19:19

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: mdlall1

Calibration date and time: 27-OCT-2016 08:07

Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: MDLSTD2716

Compound Number : 105

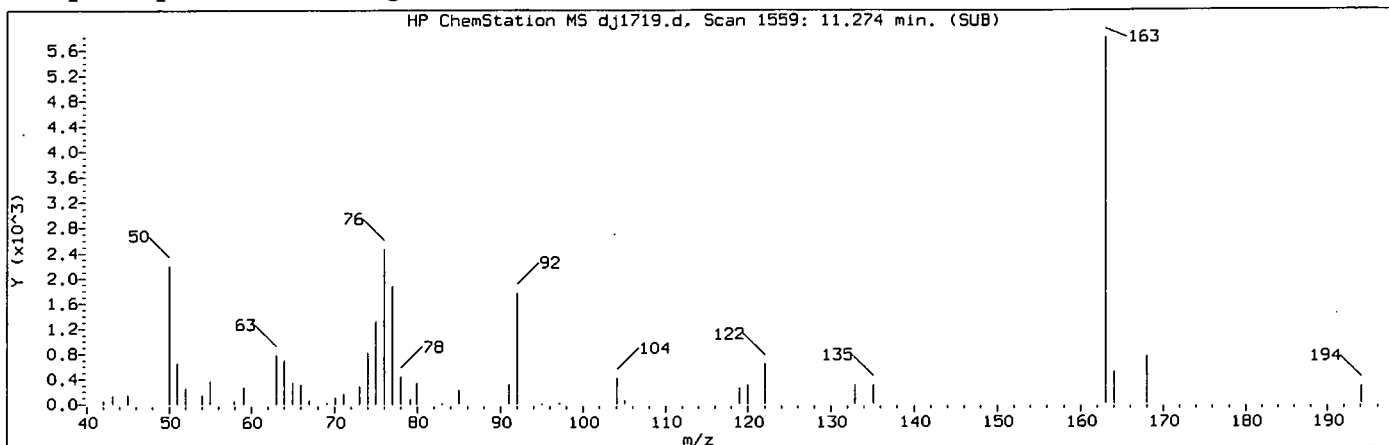
Compound Name : 1,4-Dinitrobenzene

Expected RT (minutes) : 11.163

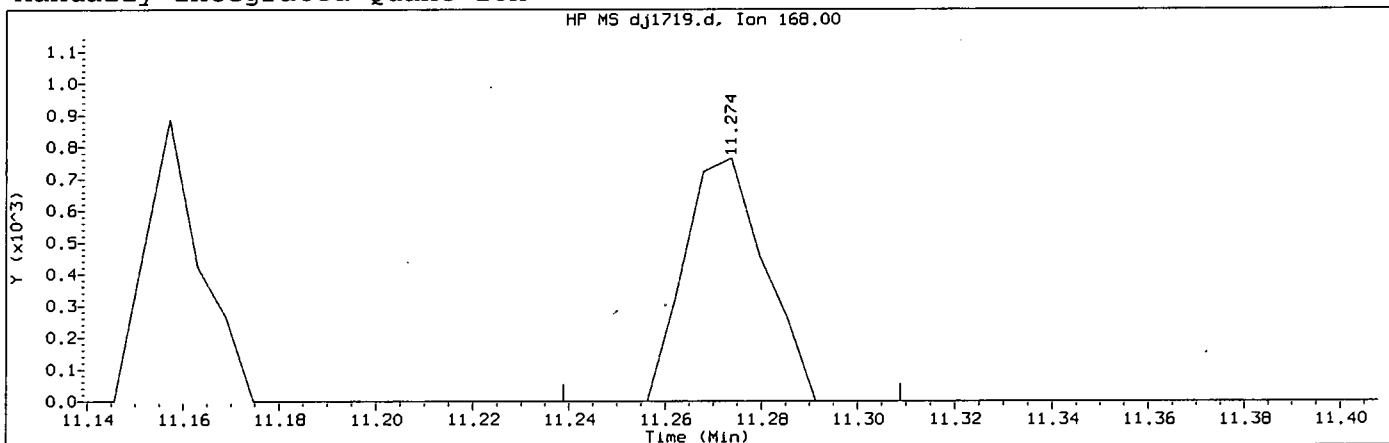
Quant Ion : 168.00

Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:16.
Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1719.d
Injection date and time: 20-OCT-2016 19:19

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 27-OCT-2016 08:26
Date, time and analyst ID of latest file update: 27-Oct-2016 10:14 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: MDLSTD2716

Compound Number	:	107	
Compound Name	:	1,3-Dinitrobenzene	
Scan Number	:	1559	
Retention Time (minutes)	:	11.274	
Quant Ion	:	168.00	
Area (flag)	:	887M	
On-Column Amount (ng/ul)	:	0.0684	
Integration start scan	:	1552	Integration stop scan: 1564
Y at integration start	:	0	Y at integration end: 0

Reason for manual integration: missed peak

Digitally signed by Holly B. Ziegler
Analyst responsible for change: on 10/27/2016 at 10:16.
Target 3.5 signature user ID: hbz01996

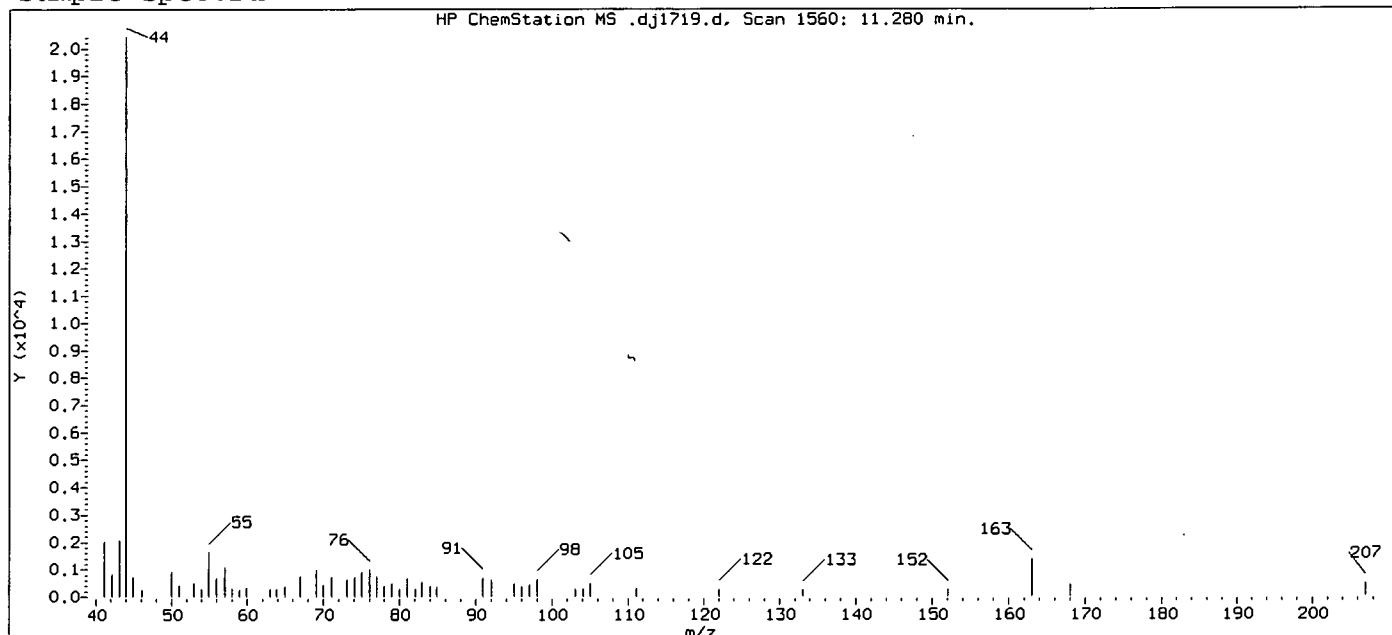
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OCT 28 2016

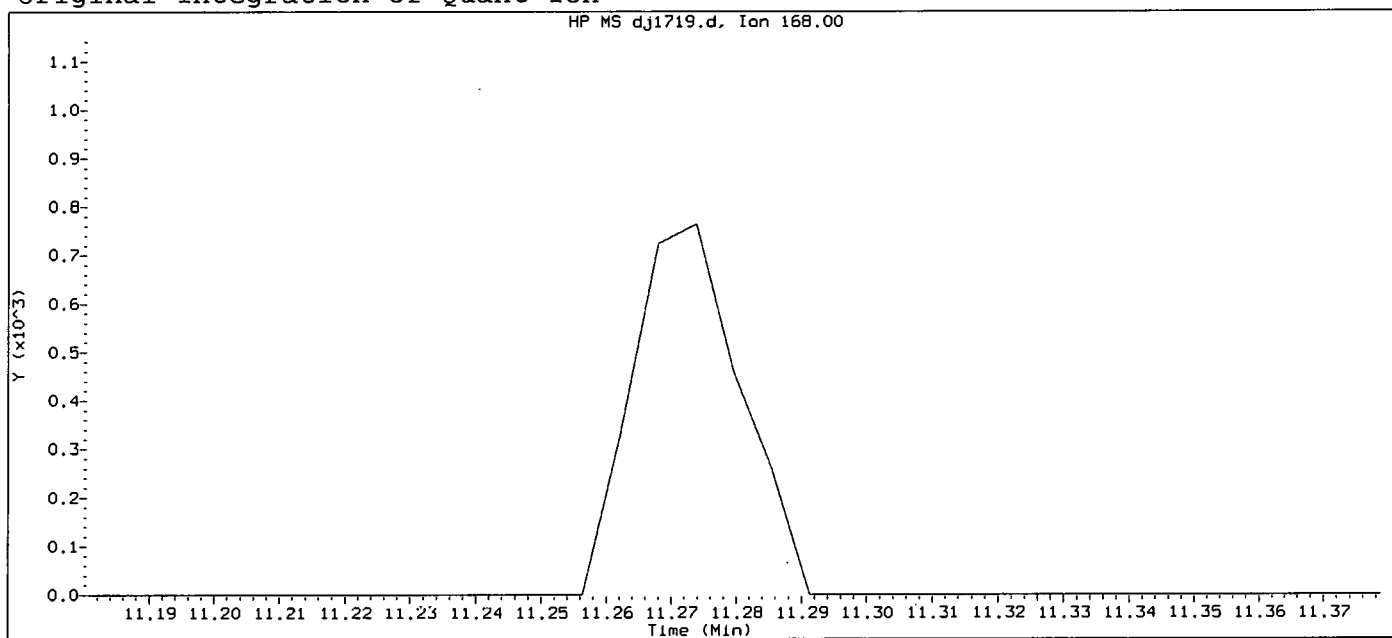
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1719.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 19:19

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: mdlall1

Calibration date and time: 27-OCT-2016 08:07

Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: MDLSTD2716

Compound Number : 107

Compound Name : 1,3-Dinitrobenzene

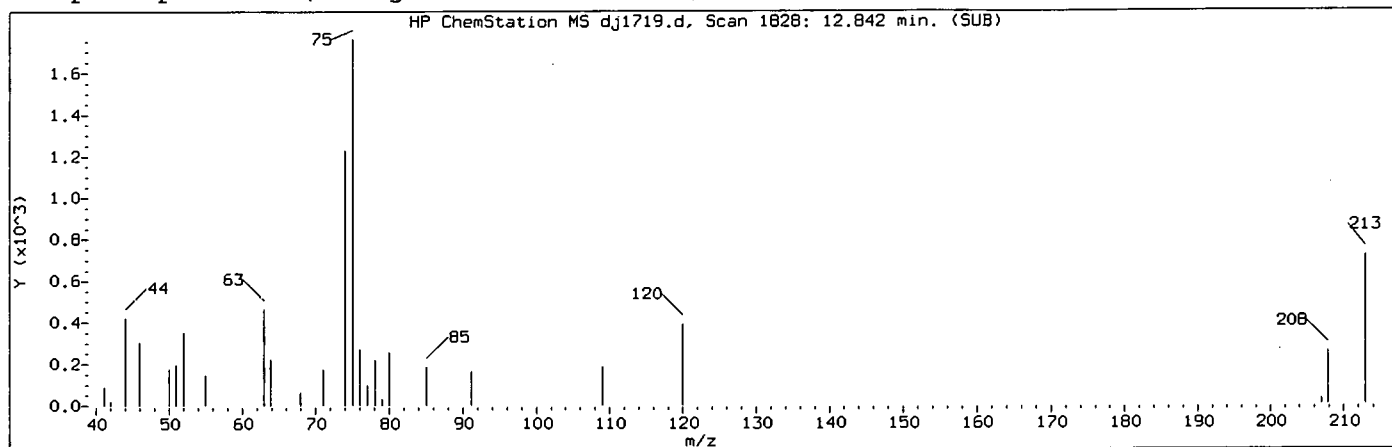
Expected RT (minutes) : 11.280

Quant Ion : 168.00

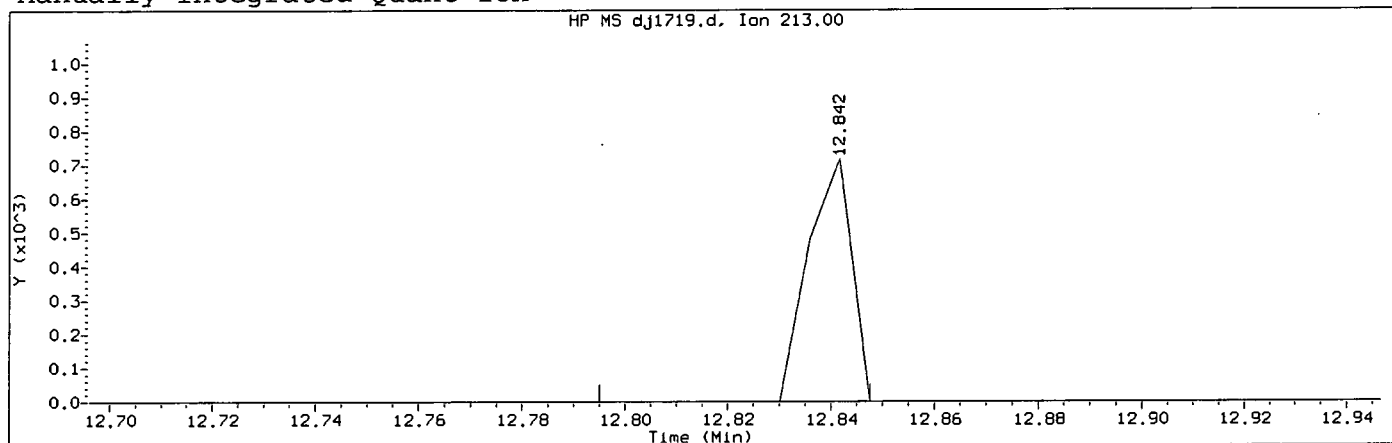
Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:16.

Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1719.d
Injection date and time: 20-OCT-2016 19:19

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 27-OCT-2016 08:26
Date, time and analyst ID of latest file update: 27-Oct-2016 10:14 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: MDLSTD2716

Compound Number	: 139	
Compound Name	: 1,3,5-Trinitrobenzene	
Scan Number	: 1828	
Retention Time (minutes)	: 12.842	
Quant Ion	: 213.00	
Area (flag)	: 419M	
On-Column Amount (ng/ul)	: 0.0498	
Integration start scan	: 1819	Integration stop scan: 1828
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: missed peak

Digitally signed by Holly B. Ziegler
Analyst responsible for change: on 10/27/2016 at 10:16.
Target 3.5 signature user ID: hbz01996

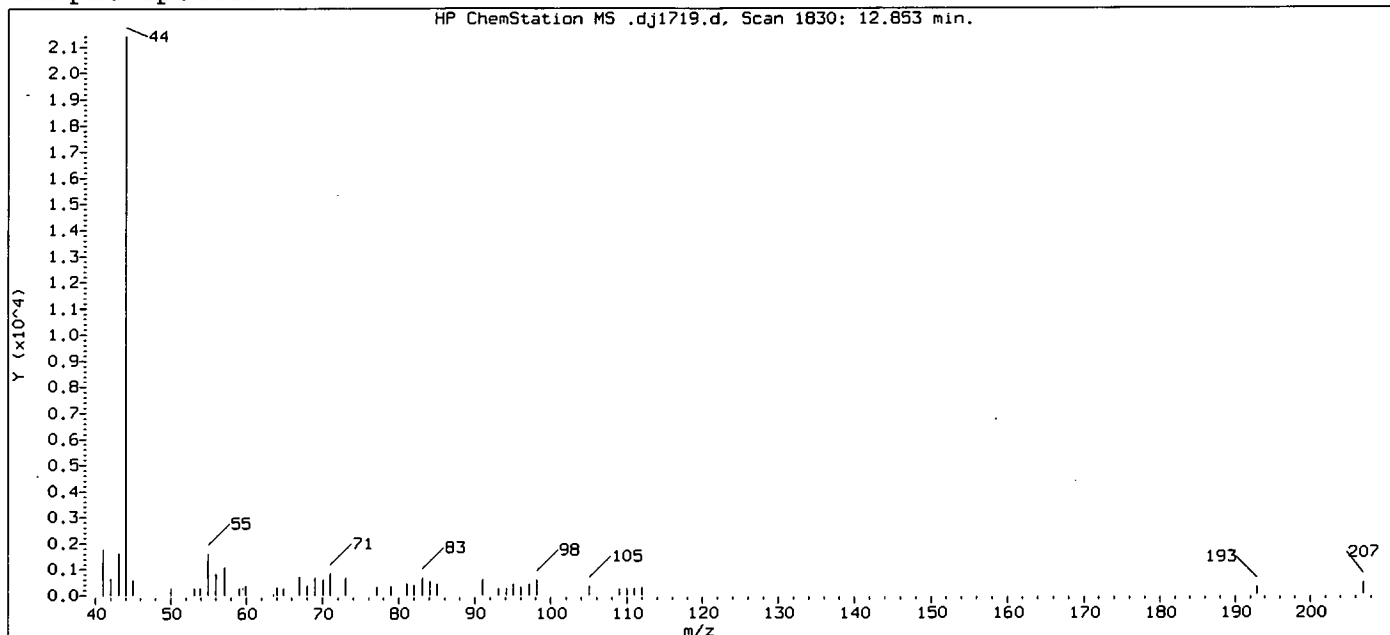
[Handwritten Signature]

OCT 28 2016

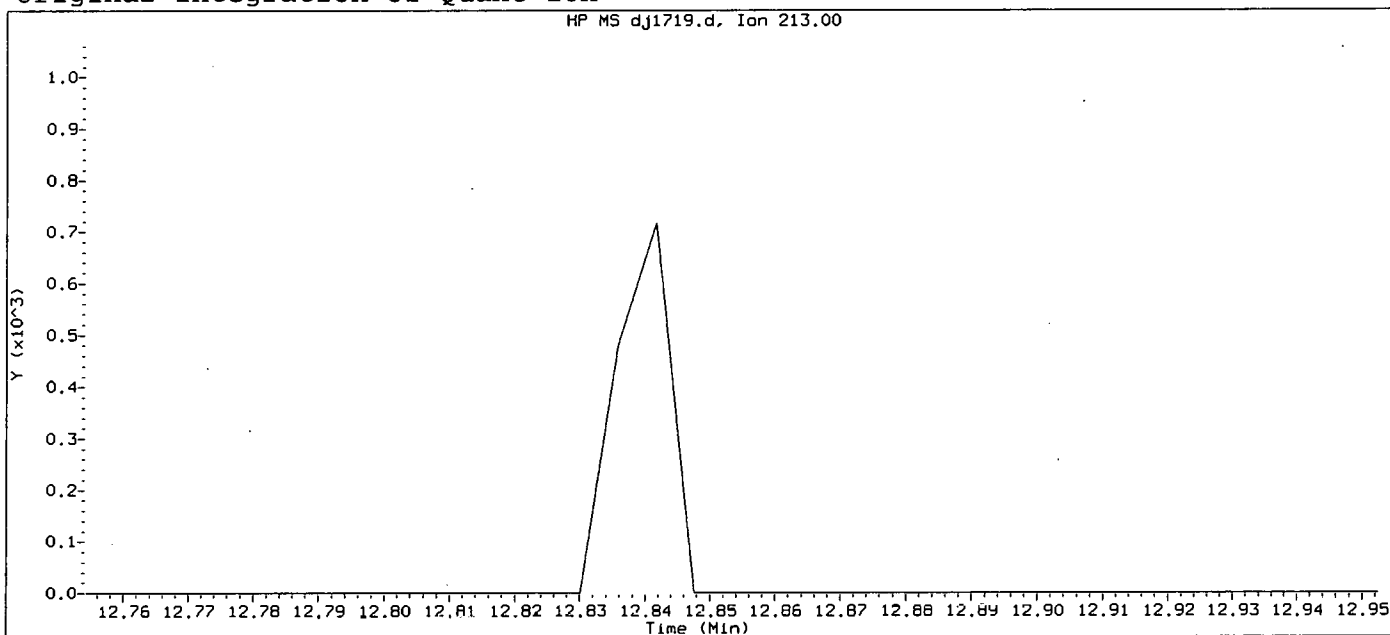
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1719.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 19:19

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: mdlall1

Calibration date and time: 27-OCT-2016 08:07

Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: MDLSTD2716

Compound Number : 139

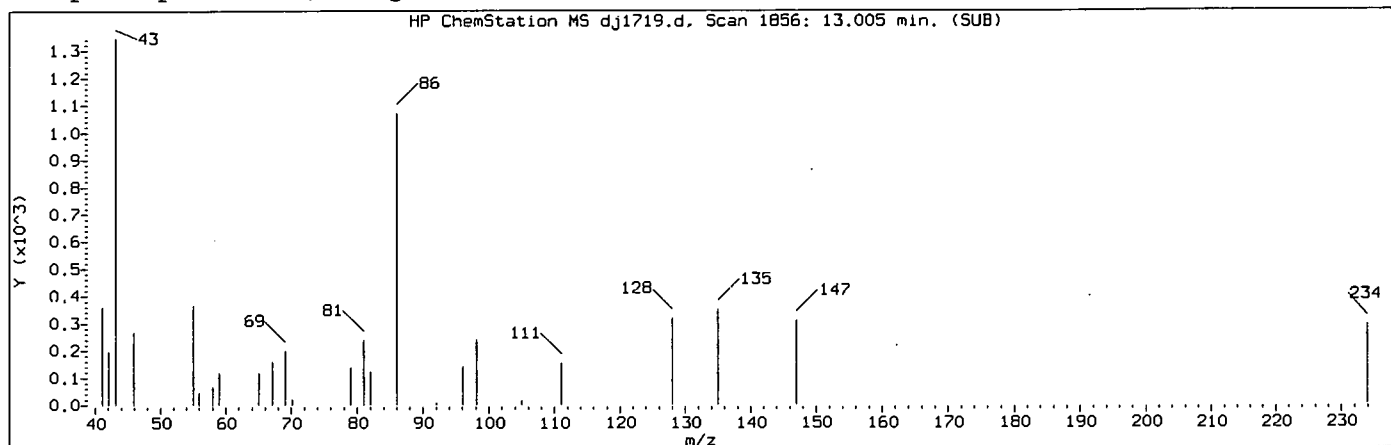
Compound Name : 1,3,5-Trinitrobenzene

Expected RT (minutes) : 12.853

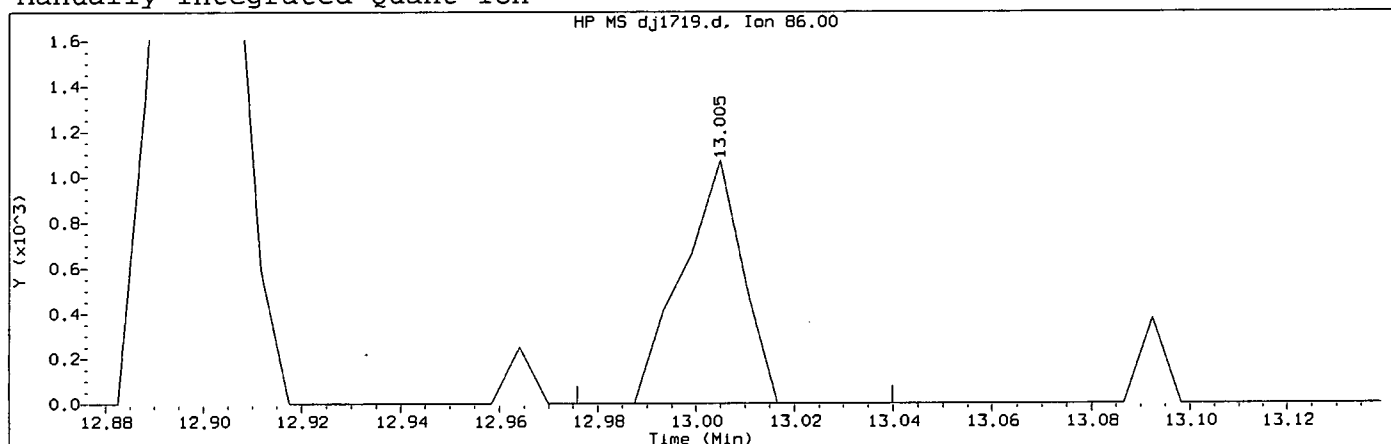
Quant Ion : 213.00

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Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1719.d
Injection date and time: 20-OCT-2016 19:19

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 27-OCT-2016 08:26
Date, time and analyst ID of latest file update: 27-Oct-2016 10:14 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: MDLSTD2716

Compound Number	:	144	
Compound Name	:	Diallate (peak 2)	
Scan Number	:	1856	
Retention Time (minutes)	:	13.005	
Quant Ion	:	86.00	
Area (flag)	:	916M	
On-Column Amount (ng/ul)	:	0.0206	
Integration start scan	:	1850	Integration stop scan: 1861
Y at integration start	:	0	Y at integration end: 0

Reason for manual integration: improper integration

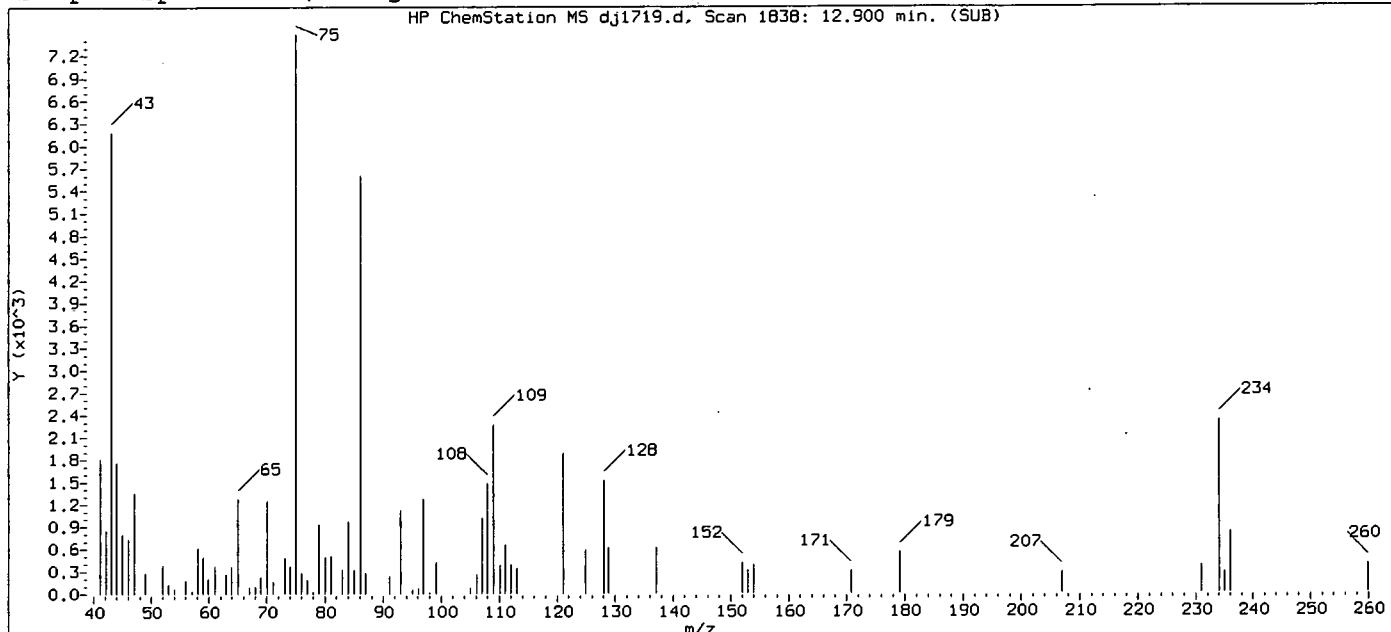
Digitally signed by Holly B. Ziegler
Analyst responsible for change: on 10/27/2016 at 10:16.
Target 3.5 signature user ID: hbz01996

OCT 28 2016

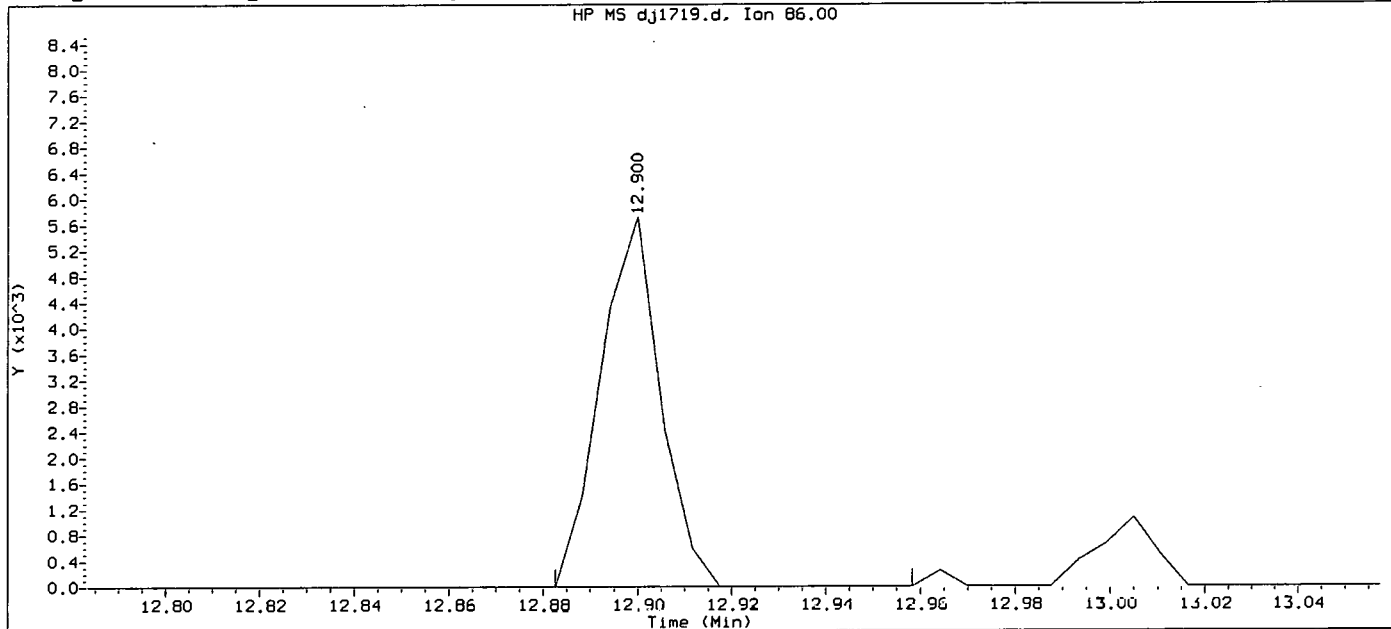
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1719.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 19:19

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: mdlall1

Calibration date and time: 27-OCT-2016 08:07

Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: MDLSTD2716

Compound Number : 144

Compound Name : Diallate (peak 2)

Scan Number : 1838

Retention Time (minutes) : 12.900

Quant Ion : 86.00

Area : 5069

On-column Amount (ng/ul) : 0.1136

Integration start scan : 1834

Integration stop scan: 1847

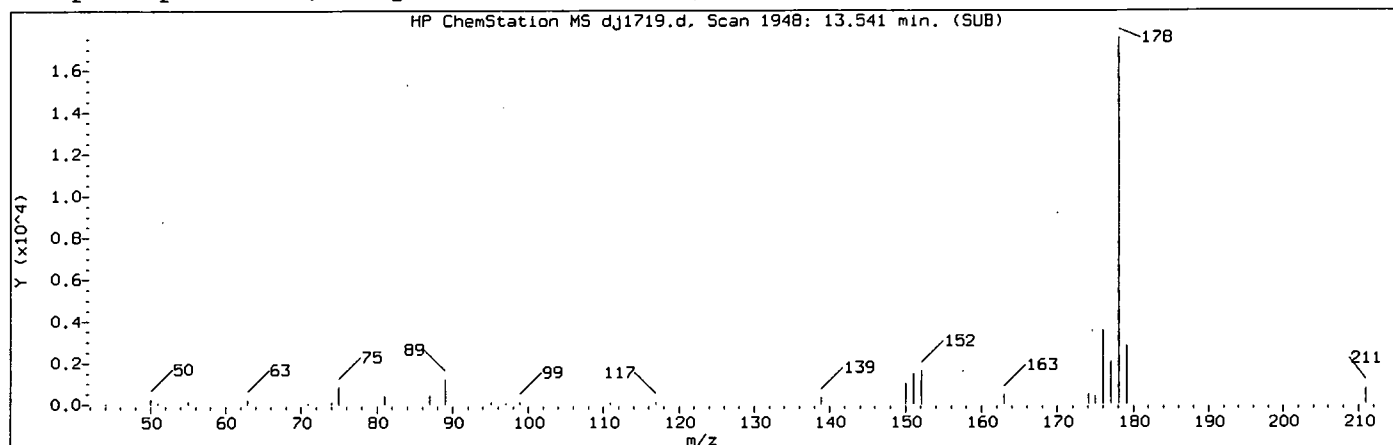
Y at integration start : 0

Y at integration end: 0

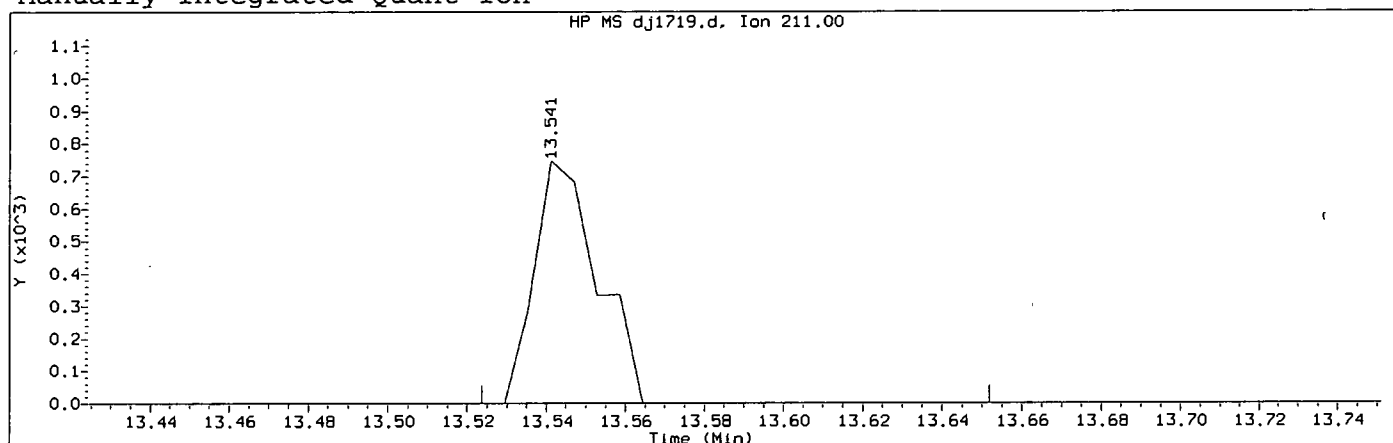
Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:16.

Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1719.d
Injection date and time: 20-OCT-2016 19:19

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 27-OCT-2016 08:26
Date, time and analyst ID of latest file update: 27-Oct-2016 10:14 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: MDLSTD2716

Compound Number	: 154	
Compound Name	: Dinoseb	
Scan Number	: 1948	
Retention Time (minutes)	: 13.541	
Quant Ion	: 211.00	
Area (flag)	: 833M	
On-Column Amount (ng/ul)	: 1.5428	
Integration start scan	: 1944	Integration stop scan: 1966
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: missed peak

Digitally signed by Holly B. Ziegler
Analyst responsible for change: on 10/27/2016 at 10:16.
Target 3.5 esignature user ID: hbz01996

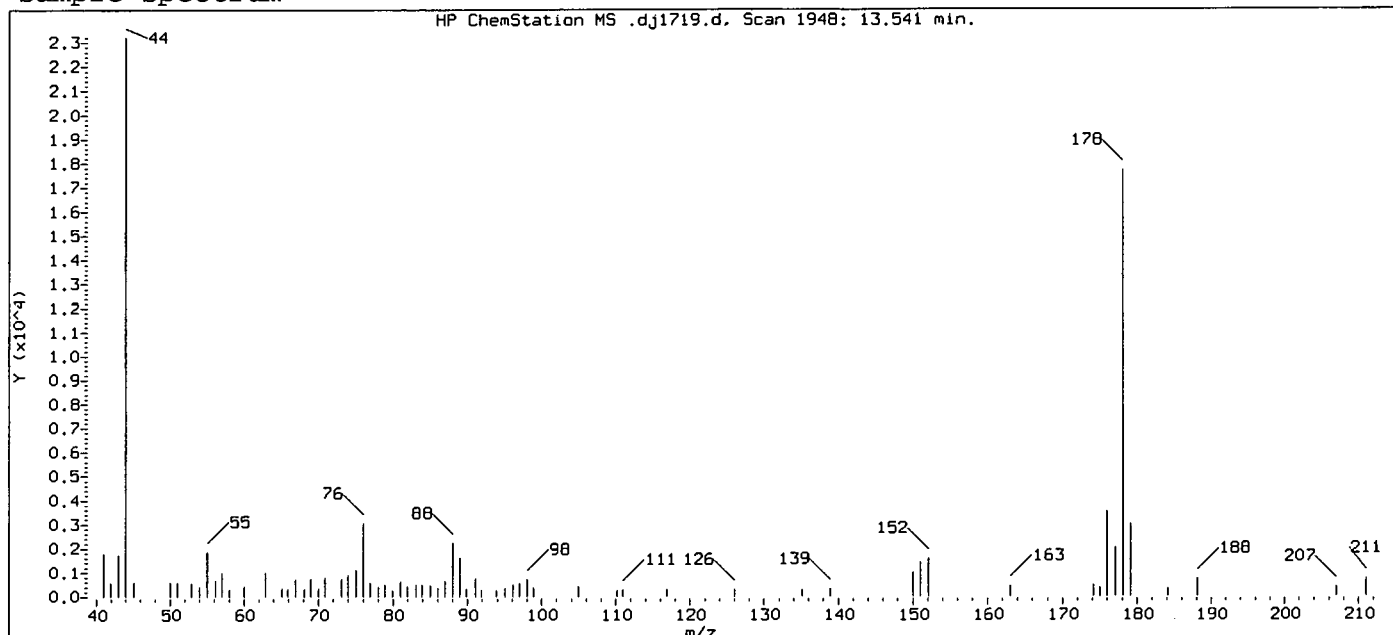
[Handwritten Signature]

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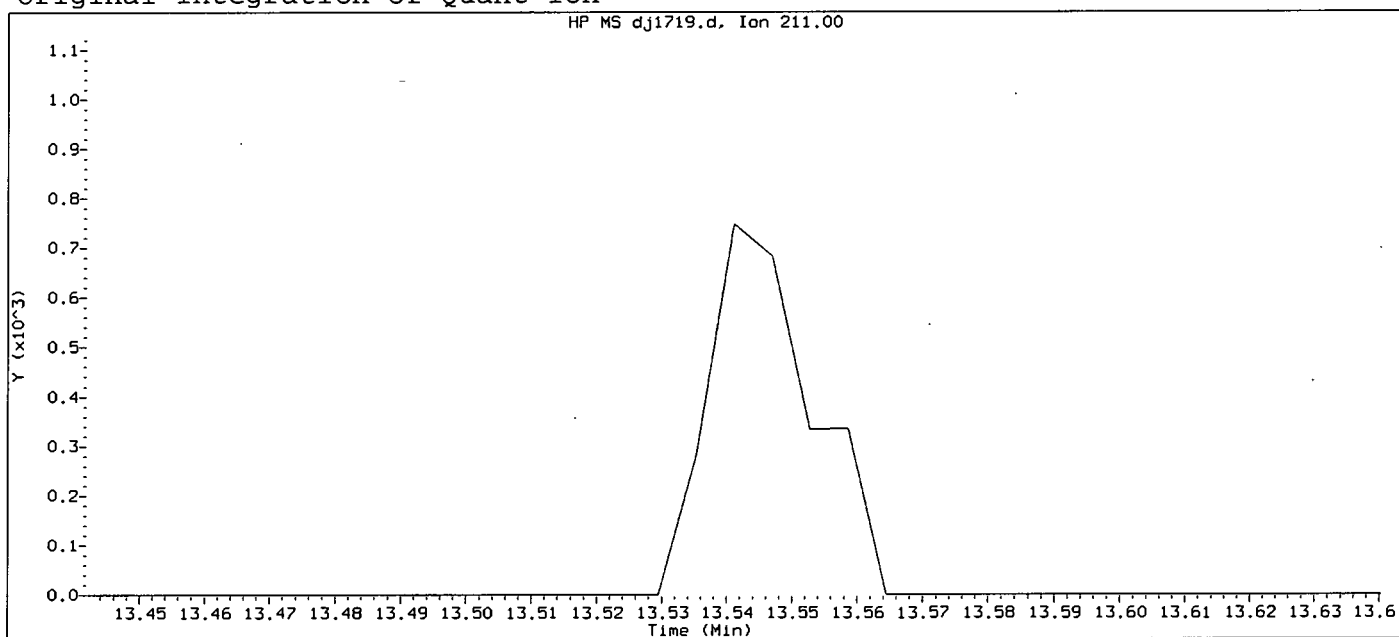
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1719.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 19:19

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: mdlall1

Calibration date and time: 27-OCT-2016 08:07

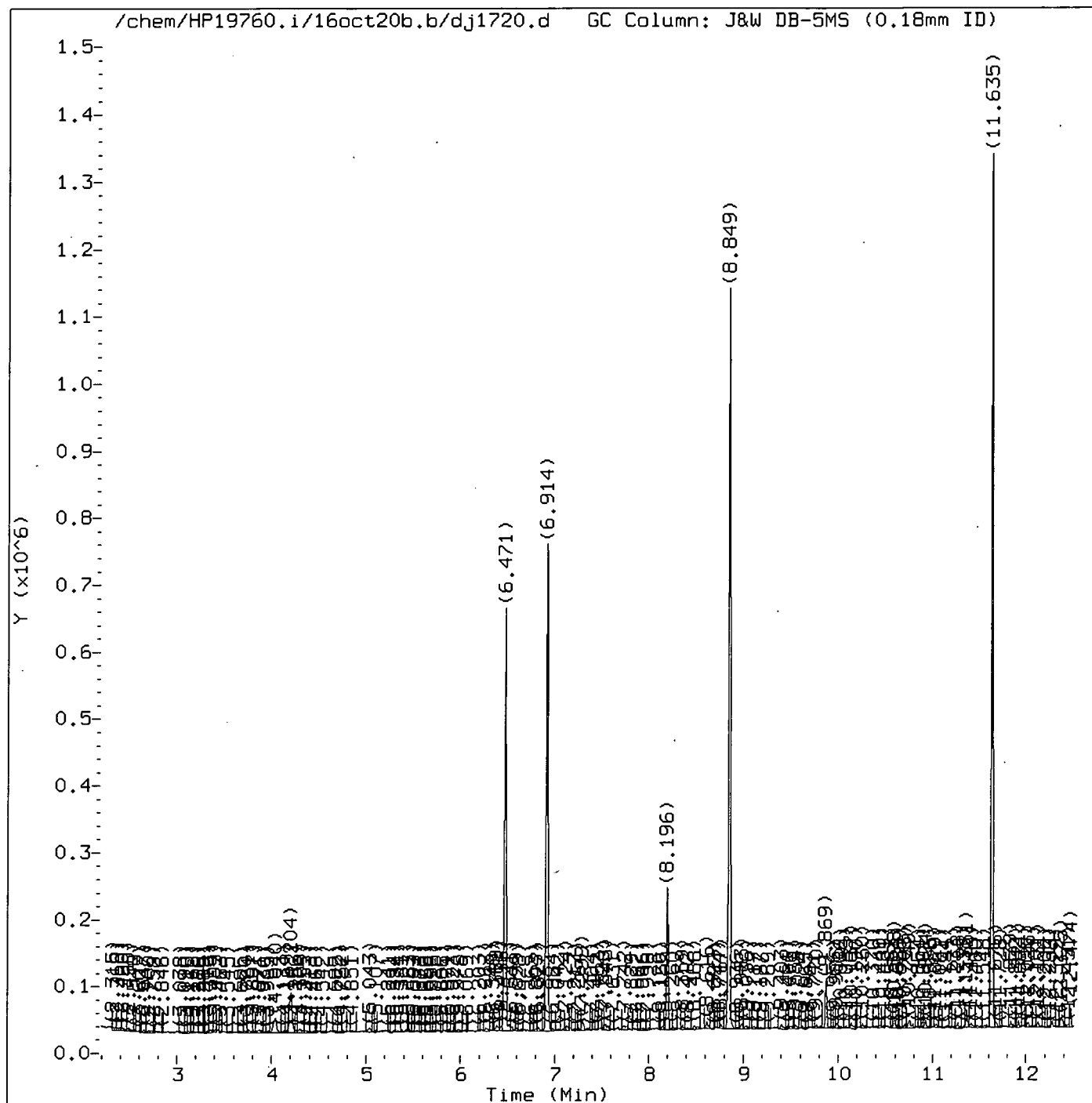
Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

Sample Name: SSTD0.125

Lab Sample ID: MDLSTD2716

Compound Number : 154
 Compound Name : Dinoseb
 Expected RT (minutes) : 13.541
 Quant Ion : 211.00

Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:16.
 Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1720.d
Injection date and time: 20-OCT-2016 19:47

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: pahmdlal11

Calibration date and time: 27-OCT-2016 08:26

Date, time and analyst ID of latest file update: 27-Oct-2016 10:15 hbz01996

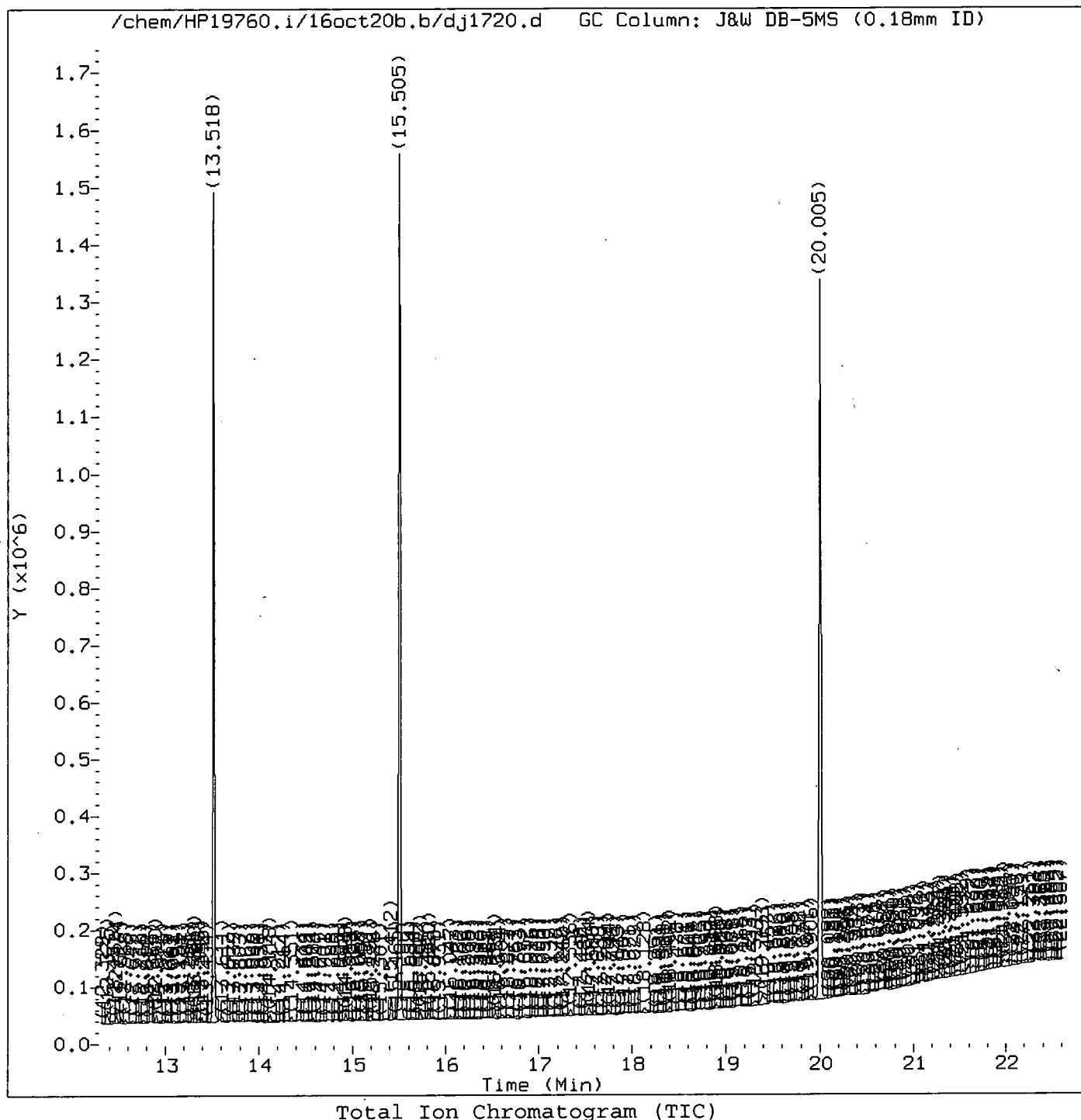
Sample Name: SSTD0.025

Lab Sample ID: PAHMDLSTD2716

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on 10/27/2016 at 10:16.

Target 3.5 esignature user ID: hbz01996

page 1 of 2



Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1720.d
Injection date and time: 20-OCT-2016 19:47

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m
Calibration date and time: 27-OCT-2016 08:26
Date, time and analyst ID of latest file update: 27-Oct-2016 10:15 hbz01996

Sublist used: pahmdlal11

Sample Name: SSTD0.025

Lab Sample ID: PAHMDLSTD2716

Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:16.
Target 3.5 esignature user ID: hbz01996

page 2 of 2

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1720.d
Injection date and time: 20-OCT-2016 19:47

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: pahmdlal11

Calibration date and time: 27-OCT-2016 08:26

Date, time and analyst ID of latest file update: 27-Oct-2016 10:15 hbz01996

Sample Name: SSTD0.025

Lab Sample ID: PAHMDLSTD2716

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
25) *1,4-Dichlorobenzene-d4	(1)	6.920	152	142202	5.000
44) \$Nitrobenzene-d5	(2)	7.736	82	4857	0.082
65) *Naphthalene-d8	(2)	8.849	136	543394	5.000
66) Naphthalene	(2)	8.884	128	3237	0.026
83) 2-Methylnaphthalene	(2)	9.986	142	2170	0.026
84) 1-Methylnaphthalene	(2)	10.137	142	1805	0.024
93) \$2-Fluorobiphenyl	(3)	10.592	172	5103	0.056
109) Acenaphthylene	(3)	11.414	152	2737	0.025
113) *Acenaphthene-d10	(3)	11.635	164	315098	5.000
114) Acenaphthene	(3)	11.676	153	2422	0.030
126) Fluorene	(3)	12.364	166	2374	0.027
145) Hexachlorobenzene	(4)	13.028	284	871	0.030
153) *Phenanthrene-d10	(4)	13.518	188	606061	5.000
155) Phenanthrene	(4)	13.541	178	3317	0.026
157) Anthracene	(4)	13.611	178	3736	0.029
222) Total PAHs	(6)			62490	0.469
173) Fluoranthene	(4)	15.191	202	4443	0.029
175) *Pyrene-d10	(5)	15.505	212	747152	5.000
177) Pyrene	(5)	15.529	202	4563	0.028
179) \$Terphenyl-d14	(5)	15.820	244	5957	0.055
195) Benzo(a)anthracene	(5)	17.534	228	4358	0.026
196) Chrysene	(5)	17.598	228	4039	0.027
206) Benzo(b)fluoranthene	(6)	19.381	252	4055	0.024
208) Benzo(k)fluoranthene	(6)	19.428	252	4253	0.026
211) Benzo(a)pyrene	(6)	19.906	252	3887M	0.025
213) *Perylene-d12	(6)	20.005	264	711419	5.000
219) Indeno(1,2,3-cd)pyrene	(6)	21.596	276	4020	0.023
220) Dibenz(a,h)anthracene	(6)	21.637	278	3522	0.024
221) Benzo(g,h,i)perylene	(6)	21.981	276	3552	0.025

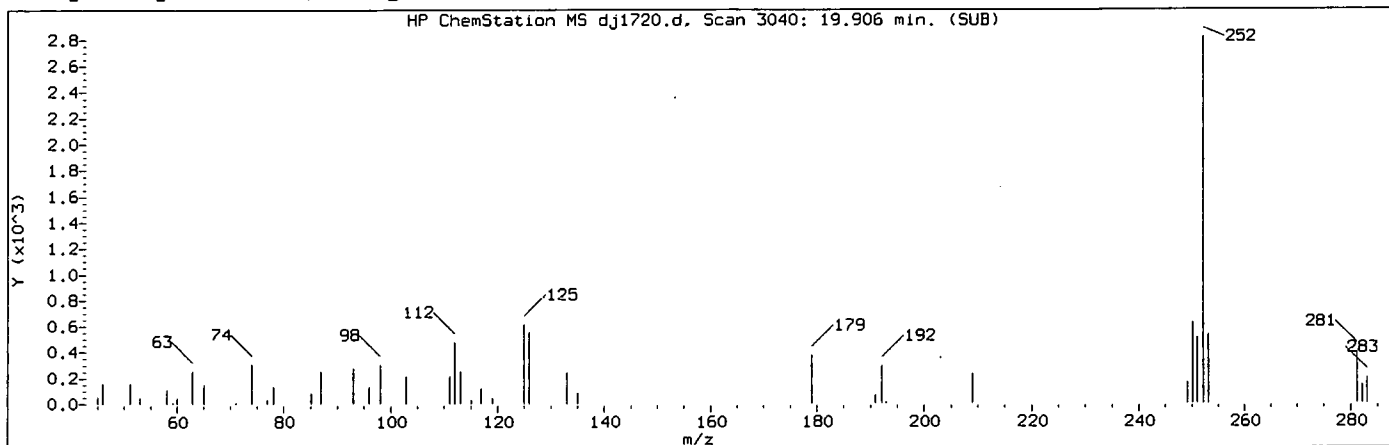
M = Compound was manually integrated.

* = Compound is an internal standard.

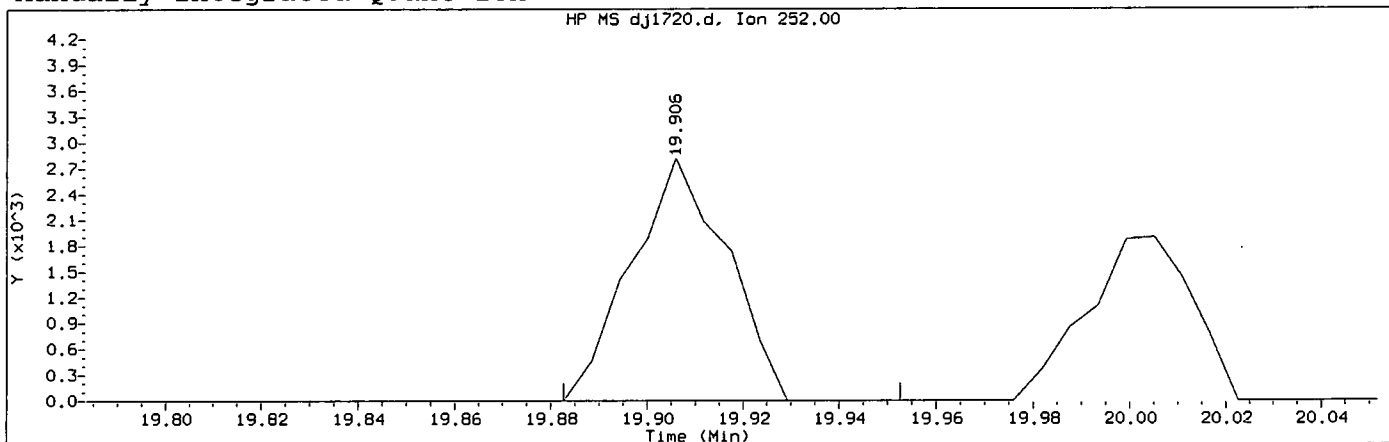
\$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:16.
Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1720.d
Injection date and time: 20-OCT-2016 19:47

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m. Sublist used: pahmdlall1
Calibration date and time: 27-OCT-2016 08:26
Date, time and analyst ID of latest file update: 27-Oct-2016 10:15 hbz01996

Sample Name: SSTD0.025

Lab Sample ID: PAHMDLSTD2716

Compound Number	: 211	
Compound Name	: Benzo(a)pyrene	
Scan Number	: 3040	
Retention Time (minutes)	: 19.906	
Quant Ion	: 252.00	
Area (flag)	: 3887M	
On-Column Amount (ng/ul)	: 0.0248	
Integration start scan	: 3035	Integration stop scan: 3047
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

Digitally signed by Holly B. Ziegler
Analyst responsible for change: on 10/27/2016 at 10:16.
Target 3.5 signature user ID: hbz01996

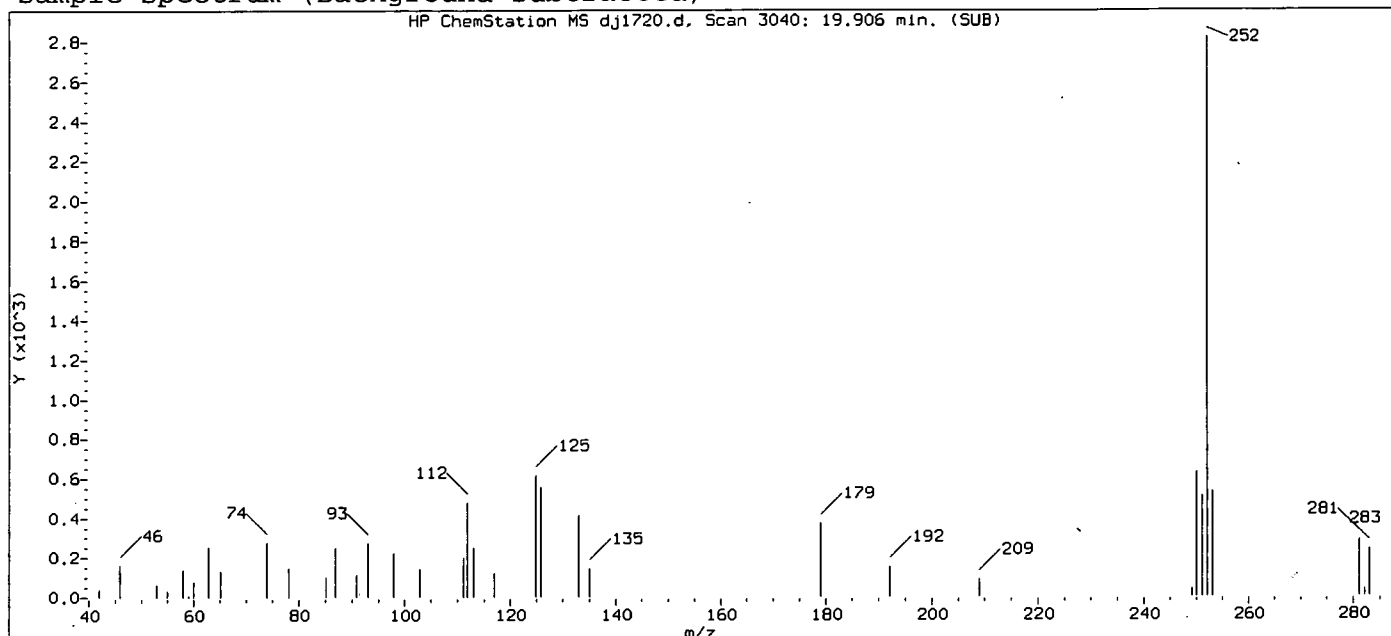
Holly B. Ziegler

OCT 28 2016

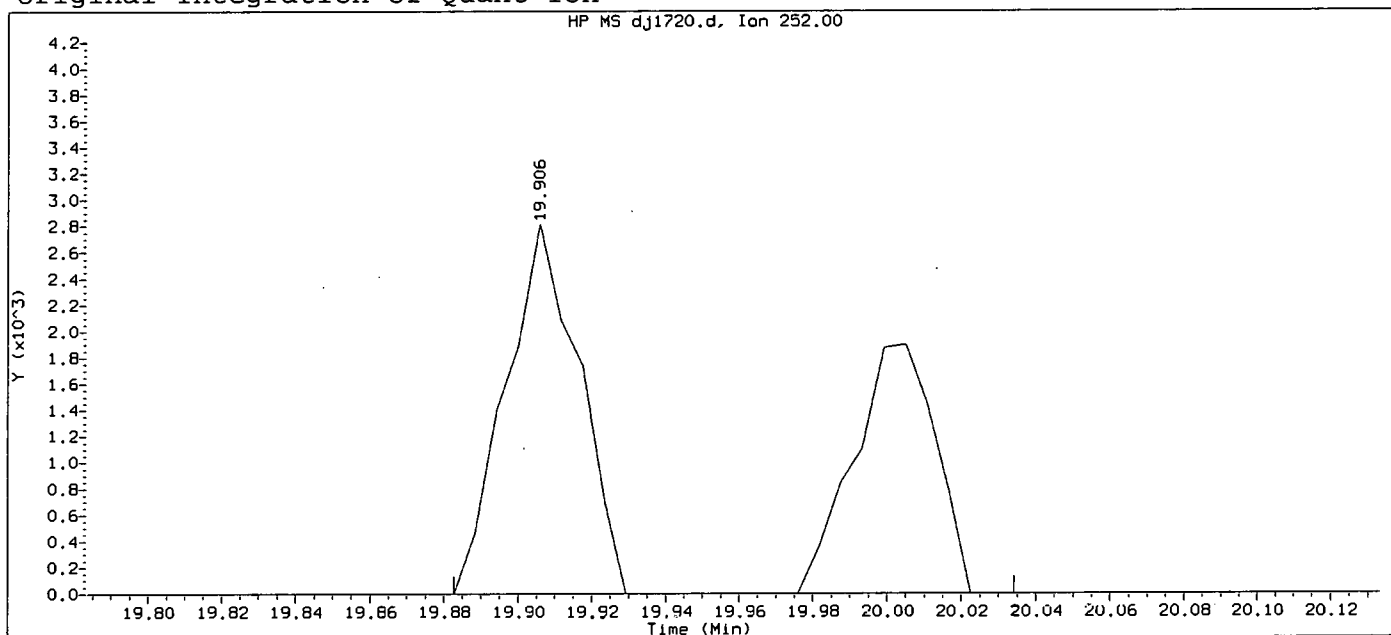
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1720.d

Instrument ID: HP19760.i

Injection date and time: 20-OCT-2016 19:47

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: pahmdlal11

Calibration date and time: 27-OCT-2016 08:07

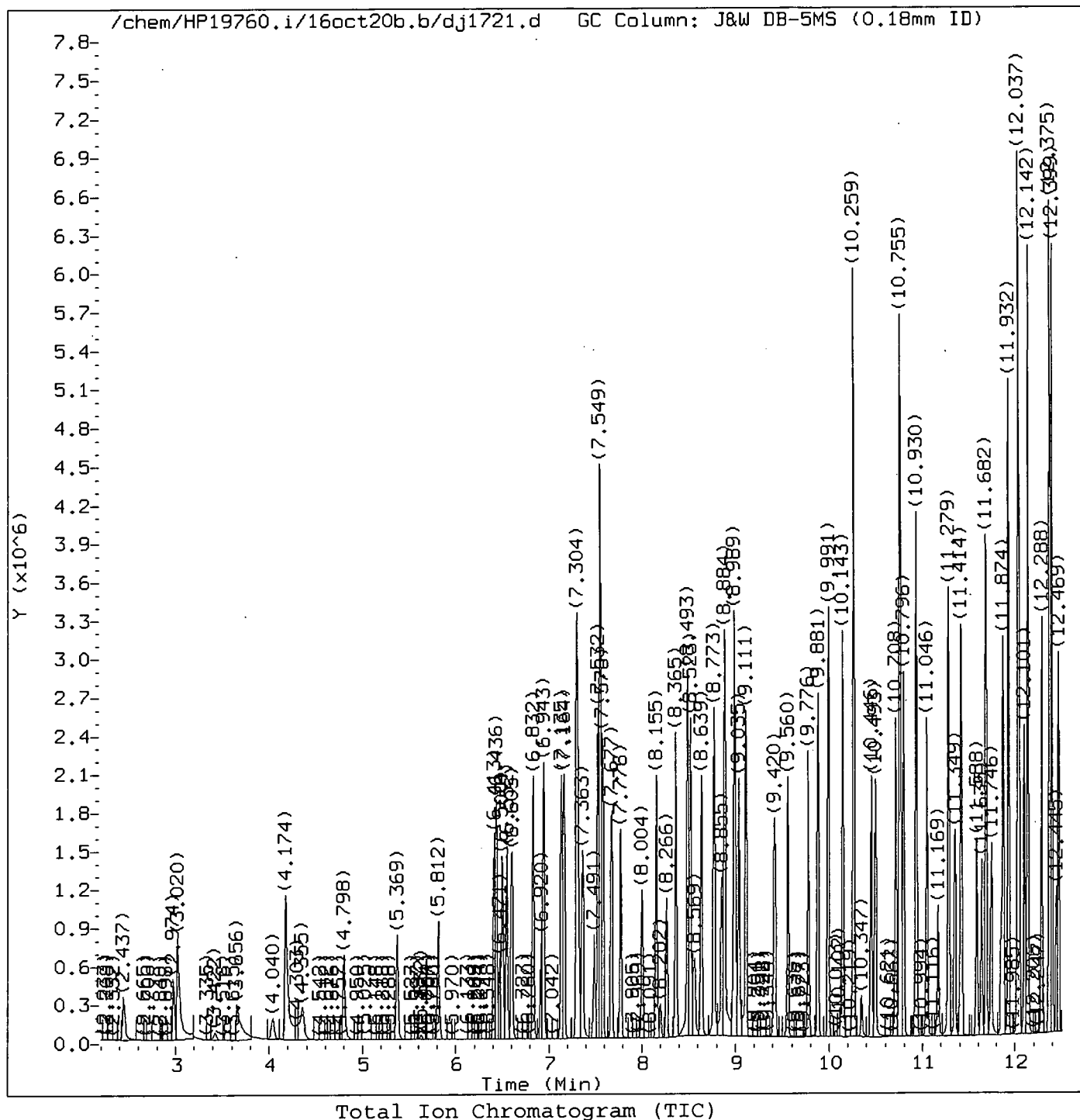
Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

Sample Name: SSTD0.025

Lab Sample ID: PAHMDLSTD2716

Compound Number	: 211	
Compound Name	: Benzo(a)pyrene	
Scan Number	: 3040	
Retention Time (minutes)	: 19.906	
Quant Ion	: 252.00	
Area	: 6785	
On-column Amount (ng/ul)	: 0.0425	
Integration start scan	: 3035	Integration stop scan: 3061
Y at integration start	: 0	Y at integration end: 0

Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:16.
Target 3.5 esignature user ID: hbz01996



Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1721.d
Injection date and time: 20-OCT-2016 20:16

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m
Calibration date and time: 27-OCT-2016 08:26
Date, time and analyst ID of latest file update: 27-Oct-2016 10:15 hbz01996

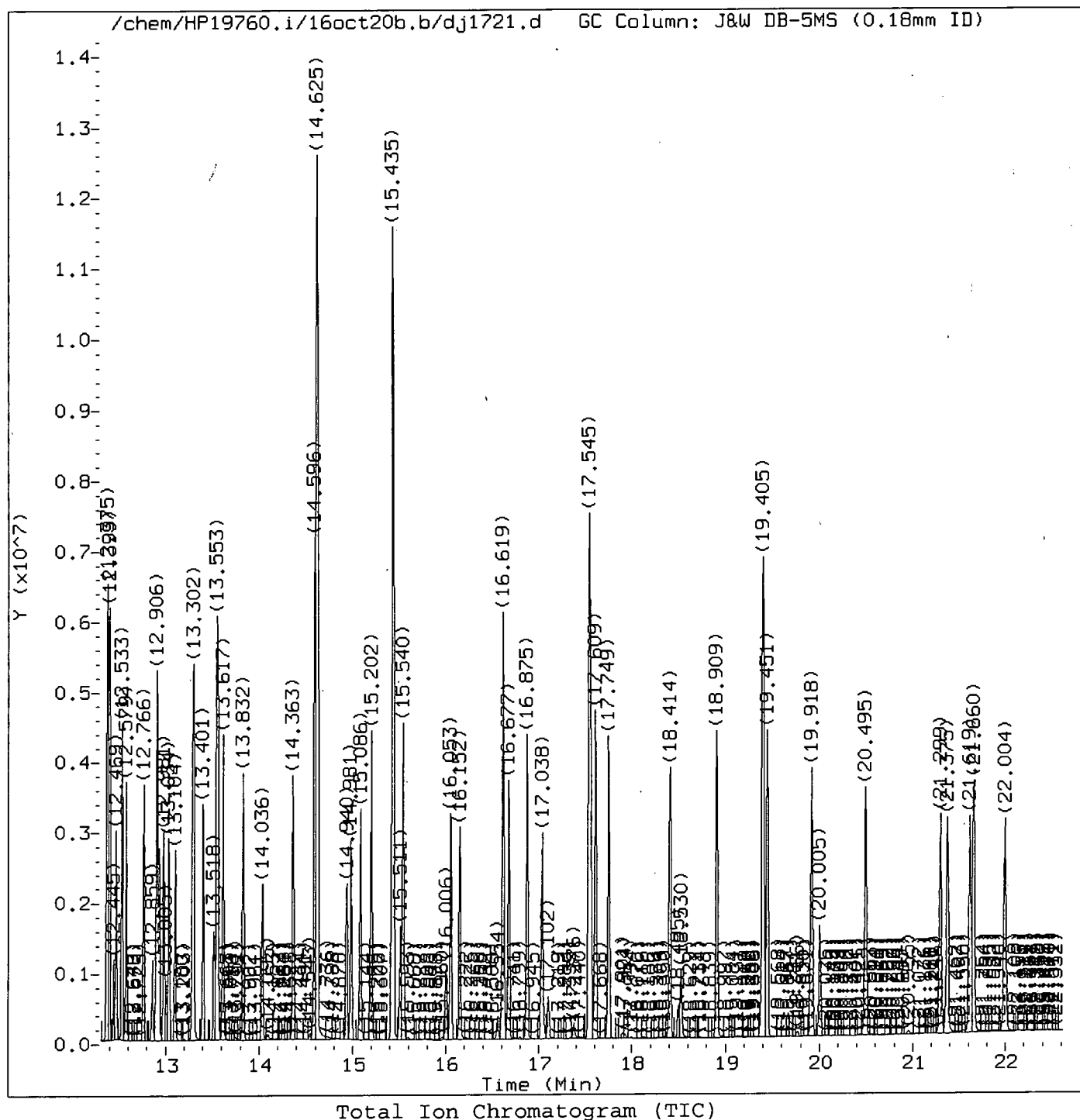
Sublist used: icvall1

Sample Name: SSTD12.5

Lab Sample ID: RVICV2036

Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:16.
Target 3.5 esignature user ID: hbz01996

page 1 of 2



Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1721.d
Injection date and time: 20-OCT-2016 20:16

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: icvall1
Calibration date and time: 27-OCT-2016 08:26
Date, time and analyst ID of latest file update: 27-Oct-2016 10:15 hbz01996

Sample Name: SSTD12.5

Lab Sample ID: RVICV2036

Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:16.
Target 3.5 esignature user ID: hbz01996

page 2 of 2

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1721.d
 Injection date and time: 20-OCT-2016 20:16

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: icvall1
 Calibration date and time: 27-OCT-2016 08:26
 Date, time and analyst ID of latest file update: 27-Oct-2016 10:15 hbz01996

Sample Name: SSTD12.5

Lab Sample ID: RVICV2036

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
1) 1,4-Dioxane	(1)	2.437	88	288628	12.373
4) N-Nitrosodimethylamine	(1)	2.974	74	436080	11.943
5) Pyridine	(1)	3.020	79	757746	12.465
7) 2-Picoline	(1)	4.174	93	786826	12.200
8) N-Nitrosomethylethylamine	(1)	4.355	88	316879	11.947
9) Methyl methanesulfonate	(1)	4.798	80	391241	11.929
13) N-Nitrosodiethylamine	(1)	5.369	102	300988	12.177
42) Total Cresols	(1)	5.660	100	1281297	25.502
15) Ethyl methanesulfonate	(1)	5.818	109	310812	12.189
18) Phenol	(1)	6.413	94	929501	12.304
19) Aniline	(1)	6.436	93	1063353	11.752
22) bis(2-Chloroethyl)ether	(1)	6.552	93	697361	12.250
23) 2-Chlorophenol	(1)	6.605	128	545556	12.635
24) 1,3-Dichlorobenzene	(1)	6.832	146	616811	12.861
25)*1,4-Dichlorobenzene-d4	(1)	6.920	152	146970	5.000
26) 1,4-Dichlorobenzene	(1)	6.943	146	623902	12.801
27) Benzyl alcohol	(1)	7.135	108	427070	12.878
28) 1,2-Dichlorobenzene	(1)	7.164	146	605447	13.218
30) Indene	(1)	7.298	115	1078069	12.797
31) 2-Methylphenol	(1)	7.316	108	607411	12.936
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.363	45	856619	13.176
34) bis(2-Chloroisopropyl)ether	(1)	7.363	45	856619	13.176
97) Isosafrole	(3)	7.383	162	504821	12.497
35) N-Nitrosopyrrolidine	(1)	7.491	100	334271	12.346
36) Acetophenone	(1)	7.532	105	942487	12.552
37) 4-Methylphenol	(1)	7.549	108	673886	12.566
39) N-Nitrosomorpholine	(1)	7.555	56	390562M	12.455
38) N-Nitroso-di-n-propylamine	(1)	7.555	70	546742	12.457
40) o-Toluidine	(1)	7.578	106	1057964	12.374
43) Hexachloroethane	(1)	7.677	117	286892	13.099
45) Nitrobenzene	(2)	7.776	77	744975	11.988
48) N-Nitrosopiperidine	(2)	8.004	114	295717	11.959
120) 2,4,6-Dinitrotoluenes	(3)	8.050	165	563141	26.607
50) Isophorone	(2)	8.155	82	1319224	11.850
51) 2-Nitrophenol	(2)	8.266	139	224452	12.370
53) 2,4-Dimethylphenol	(2)	8.365	107	616708	11.364
57) O,O,O-Triethylphosphorothioate	(2)	8.493	198	319576	12.441
55) bis(2-Chloroethoxy)methane	(2)	8.523	93	852148	12.187
56) Benzoic acid	(2)	8.569	105	699209	19.286
60) 2,4-Dichlorophenol	(2)	8.639	162	470654	12.700

M = Compound was manually integrated.

* = Compound is an internal standard.

Digitally signed by Holly B. Ziegler
 on 10/27/2016 at 10:16.
 Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1721.d
 Injection date and time: 20-OCT-2016 20:16

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: icvall1
 Calibration date and time: 27-OCT-2016 08:26
 Date, time and analyst ID of latest file update: 27-Oct-2016 10:15 hbz01996

Sample Name: SSTD12.5

Lab Sample ID: RVICV2036

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
62) 1,2,4-Trichlorobenzene	(2)	8.773	180	531600	12.453
146) Diallate trans/cis	(4)	8.775	86	626356	12.667
65) *Naphthalene-d8	(2)	8.855	136	560856	5.000
66) Naphthalene	(2)	8.884	128	1606461	12.574
67) 4-Chloroaniline	(2)	8.989	127	686168	12.612
68) 2,6-Dichlorophenol	(2)	8.995	162	455043	12.542
69) Hexachloropropene	(2)	9.041	213	404695	12.808
71) Hexachlorobutadiene	(2)	9.111	225	352344	12.785
75) Quinoline	(2)	9.420	129	953494	12.195
77) N-Nitrosodi-n-butylamine	(2)	9.560	84	504317	10.878
80) 4-Chloro-3-methylphenol	(2)	9.776	107	557246	12.283
82) Safrole	(2)	9.881	162	416342	12.071
83) 2-Methylnaphthalene	(2)	9.991	142	1049222	12.230
84) 1-Methylnaphthalene	(2)	10.143	142	985519	12.639
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.259	216	624747	13.049
85) Hexachlorocyclopentadiene	(3)	10.259	237	629081	23.285
88) cis-Isosafrole	(3)	10.347	162	55811	1.543
90) 2,4,6-Trichlorophenol	(3)	10.452	196	352829	12.827
92) 2,4,5-Trichlorophenol	(3)	10.498	196	376470	12.700
94) trans-Isosafrole	(3)	10.708	162	449010	10.954
95) 1,1'-Biphenyl	(3)	10.749	154	1328865	13.244
96) 2-Chloronaphthalene	(3)	10.761	162	1059340	13.229
98) 1-Chloronaphthalene	(3)	10.796	162	958330	12.725
99) Diphenyl ether	(3)	10.930	170	740626	12.805
100) 2-Nitroaniline	(3)	10.936	138	285805	13.114
104) 1,4-Naphthoquinone	(3)	11.046	158	500965	15.403
105) 1,4-Dinitrobenzene	(3)	11.169	168	125953	12.625
106) Dimethylphthalate	(3)	11.279	163	1128677	12.397
107) 1,3-Dinitrobenzene	(3)	11.285	168	152467	12.767
108) 2,6-Dinitrotoluene	(3)	11.349	165	237350	13.242
109) Acenaphthylene	(3)	11.419	152	1346652	11.512
112) 3-Nitroaniline	(3)	11.588	138	259411	13.509
113) *Acenaphthene-d10	(3)	11.635	164	333032	5.000
114) Acenaphthene	(3)	11.682	153	1128003	13.099
115) 2,4-Dinitrophenol	(3)	11.746	184	197669	25.325
116) 4-Nitrophenol	(3)	11.857	109	204921	13.037
117) Pentachlorobenzene	(3)	11.874	250	494204	12.422
119) Dibenzofuran	(3)	11.932	168	1443956	12.537
118) 2,4-Dinitrotoluene	(3)	11.932	165	325791	13.365
121) 1-Naphthylamine	(3)	12.037	143	2035555	23.953

* = Compound is an internal standard.

Digitally signed by Holly B. Ziegler
 on 10/27/2016 at 10:16.
 Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1721.d
 Injection date and time: 20-OCT-2016 20:16

Instrument ID: HP19760.i
 Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: icvall1
 Calibration date and time: 27-OCT-2016 08:26
 Date, time and analyst ID of latest file update: 27-Oct-2016 10:15 hbz01996

Sample Name: SSTD12.5

Lab Sample ID: RVICV2036

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
122) 2,3,4,6-Tetrachlorophenol	(3)	12.101	232	336881	14.459
123) 2-Naphthylamine	(3)	12.142	143	2008061	24.034
124) Diethylphthalate	(3)	12.288	149	1162471	12.776
126) Fluorene	(3)	12.369	166	1211688	13.141
125) Thionazin	(3)	12.375	107	257013	12.830
128) 5-Nitro-o-toluidine	(3)	12.393	152	301817	13.404
127) 4-Chlorophenyl-phenylether	(3)	12.399	204	622864	13.112
129) 4-Nitroaniline	(3)	12.404	138	268490	12.993
130) 4,6-Dinitro-2-methylphenol	(4)	12.445	198	146748	12.707
131) N-Nitrosodiphenylamine	(4)	12.533	169	992754	13.068
132) NDPA as diphenylamine	(4)	12.533	169	992754	13.068
134) 1,2-Diphenylhydrazine	(4)	12.579	77	1562169	13.078
137) Tetraethyldithiopyrophosphate	(4)	12.766	97	260714	12.968
139) 1,3,5-Trinitrobenzene	(4)	12.859	213	103123	12.704
140) Diallate (peak 1)	(4)	12.906	86	472568	9.093
141) Phorate	(4)	12.911	75	955772	13.284
142) Phenacetin	(4)	12.929	108	712458	13.288
143) 4-Bromophenyl-phenylether	(4)	12.981	248	377694	13.131
144) Diallate (peak 2)	(4)	13.005	86	153788	3.574
145) Hexachlorobenzene	(4)	13.034	284	395608	12.605
147) Dimethoate	(4)	13.104	87	615565	13.592
149) Pentachlorophenol	(4)	13.285	266	254474	14.347
150) 4-Aminobiphenyl	(4)	13.296	169	1260502	12.920
151) Pentachloronitrobenzene	(4)	13.302	237	170494	13.509
152) Pronamide	(4)	13.407	173	611820	13.448
153)*Phenanthrene-d10	(4)	13.518	188	665386	5.000
154) Dinoseb	(4)	13.541	211	232952	11.600
155) Phenanthrene	(4)	13.553	178	1828932	12.854
157) Anthracene	(4)	13.617	178	1870519	13.068
163) Carbazole	(4)	13.832	167	1692415	12.972
164) Methyl parathion	(4)	14.036	109	442166	14.011
165) Di-n-butylphthalate	(4)	14.363	149	2116111	13.106
167) Parathion	(4)	14.590	109	316738	14.724
168) 4-Nitroquinoline-1-oxide	(4)	14.625	190	2597934	151.908
171) Isodrin	(4)	14.981	193	232527	12.772
222) Total PAHs	(6)	15.000	100	34524354	231.912
173) Fluoranthene	(4)	15.202	202	2215117	12.993
174) Benzidine	(5)	15.435	184	6499195	57.666
175)*Pyrene-d10	(5)	15.511	212	842390	5.000
177) Pyrene	(5)	15.540	202	2329375	12.753

* = Compound is an internal standard.

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 on 10/27/2016 at 10:16.
 Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1721.d
Injection date and time: 20-OCT-2016 20:16

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: icvall1
Calibration date and time: 27-OCT-2016 08:26
Date, time and analyst ID of latest file update: 27-Oct-2016 10:15 hbz01996

Sample Name: SSTD12.5

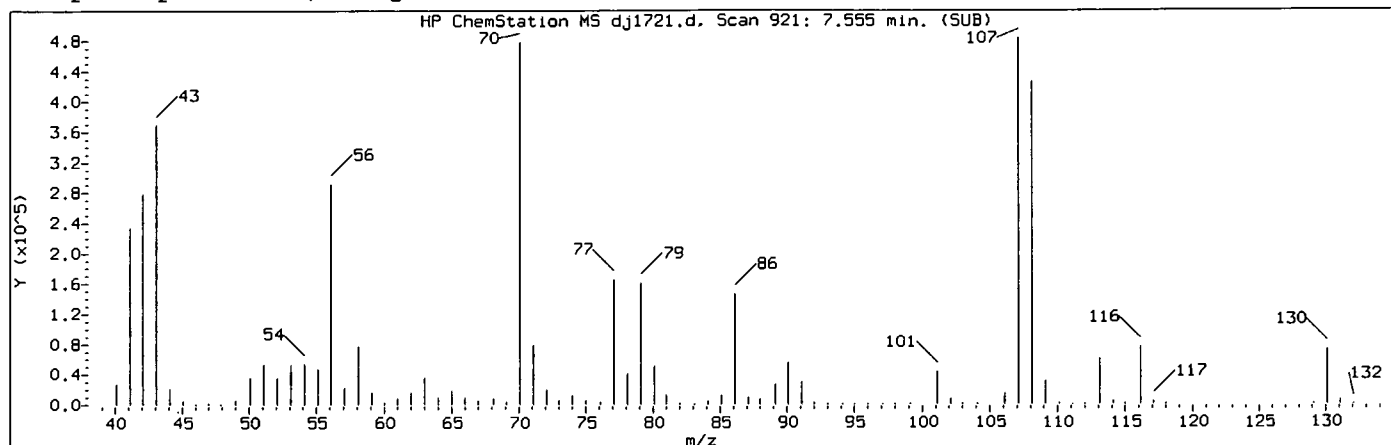
Lab Sample ID: RVICV2036

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
182) p-Dimethylaminoazobenzene	(5)	16.059	225	473076	14.465
185) Chlorobenzilate	(5)	16.152	139	677975	13.587
187) 3,3'-Dimethylbenzidine	(5)	16.619	212	2820588	23.458
188) Butylbenzylphthalate	(5)	16.677	149	949151	13.904
191) 2-Acetylaminofluorene	(5)	17.038	181	897961	13.329
193) 3,3'-Dichlorobenzidine	(5)	17.539	252	868098	12.395
195) Benzo(a)anthracene	(5)	17.545	228	2471233	13.313
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.557	231	504316	13.302
196) Chrysene	(5)	17.609	228	2321666	13.695
199) bis(2-Ethylhexyl)phthalate	(5)	17.749	149	1441900	13.819
203) 6-Methylchrysene	(5)	18.414	242	1571372	12.576
205) Di-n-octylphthalate	(6)	18.909	149	2655329	13.531
206) Benzo(b)fluoranthene	(6)	19.399	252	2551722	13.362
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.410	256	1075644	13.908
208) Benzo(k)fluoranthene	(6)	19.451	252	2433187	13.251
211) Benzo(a)pyrene	(6)	19.923	252	2280505	12.713
213) *Perylene-d12	(6)	20.005	264	812629	5.000
215) 3-Methylcholanthrene	(6)	20.495	268	1139500	12.590
217) Dibenz(a,h)acridine	(6)	21.299	279	1837721	12.213
218) Dibenz(a,j)acridine	(6)	21.375	279	1780569	12.369
219) Indeno(1,2,3-cd)pyrene	(6)	21.619	276	2558401	12.730
220) Dibenz(a,h)anthracene	(6)	21.660	278	2212497	13.095
221) Benzo(g,h,i)perylene	(6)	22.004	276	2123655	12.891

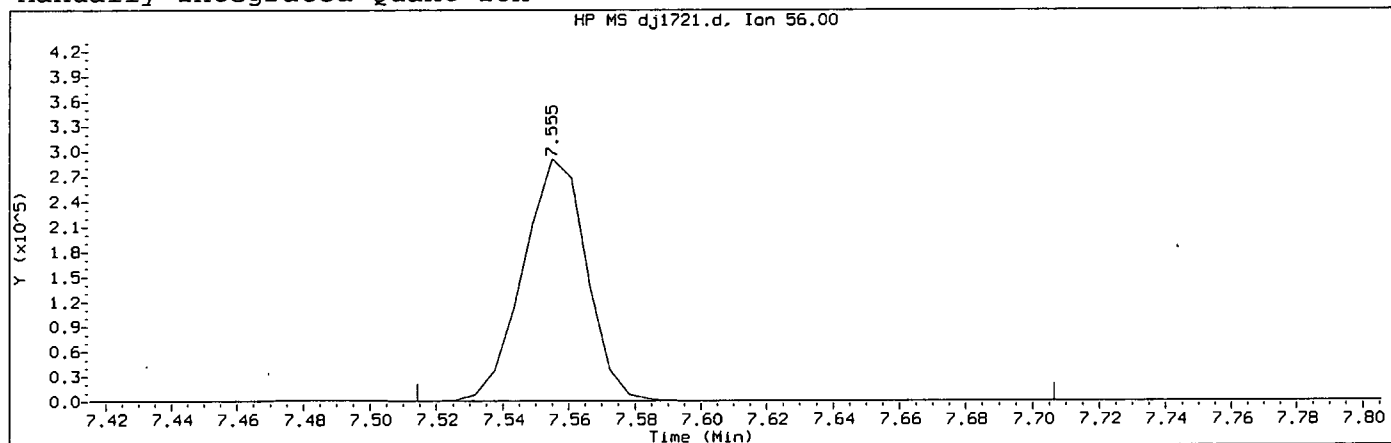
* = Compound is an internal standard.

Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:16.
Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1721.d
Injection date and time: 20-OCT-2016 20:16

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: icvall1
Calibration date and time: 27-OCT-2016 08:26
Date, time and analyst ID of latest file update: 27-Oct-2016 10:15 hbz01996

Sample Name: SSTD12.5

Lab Sample ID: RVICV2036

Compound Number	: 39	
Compound Name	: N-Nitrosomorpholine	
Scan Number	: 921	
Retention Time (minutes)	: 7.555	
Quant Ion	: 56.00	
Area (flag)	: 390562M	
On-Column Amount (ng/ul)	: 12.4550	
Integration start scan	: 913	Integration stop scan: 946
Y at integration start	: 559	Y at integration end: 794

Reason for manual integration: improper integration

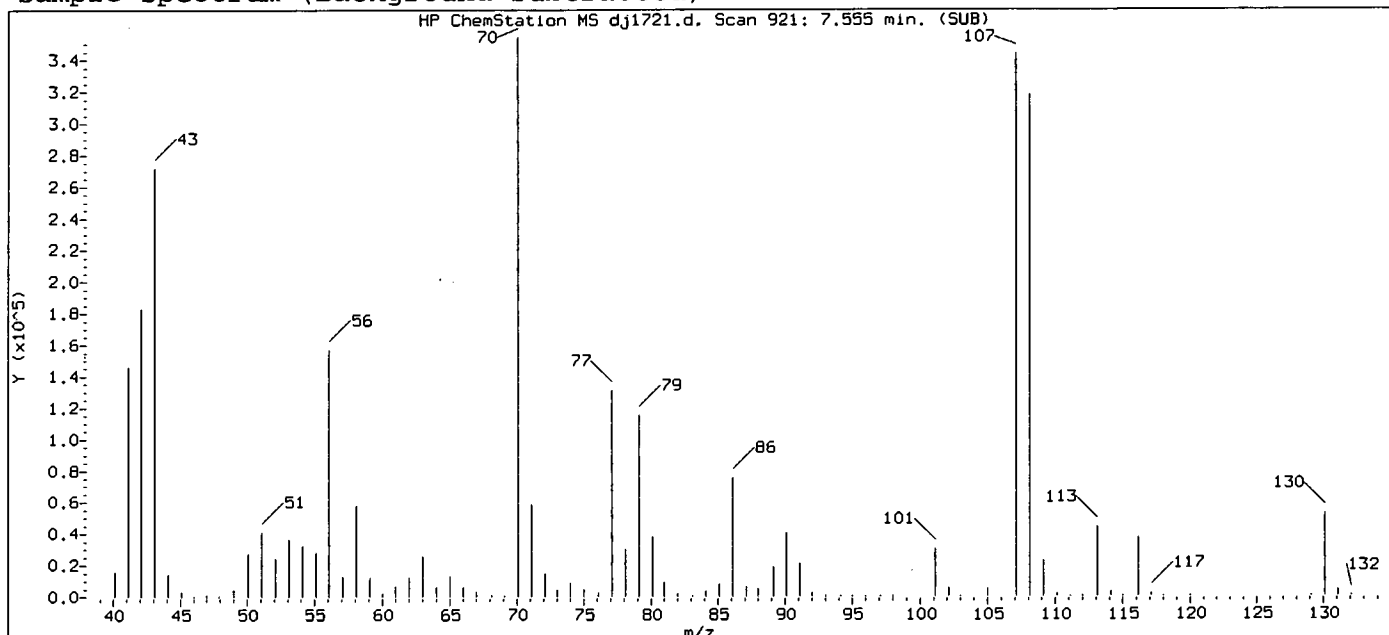
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:16.
Target 3.5 signature user ID: hbz01996

OCT 28 2016

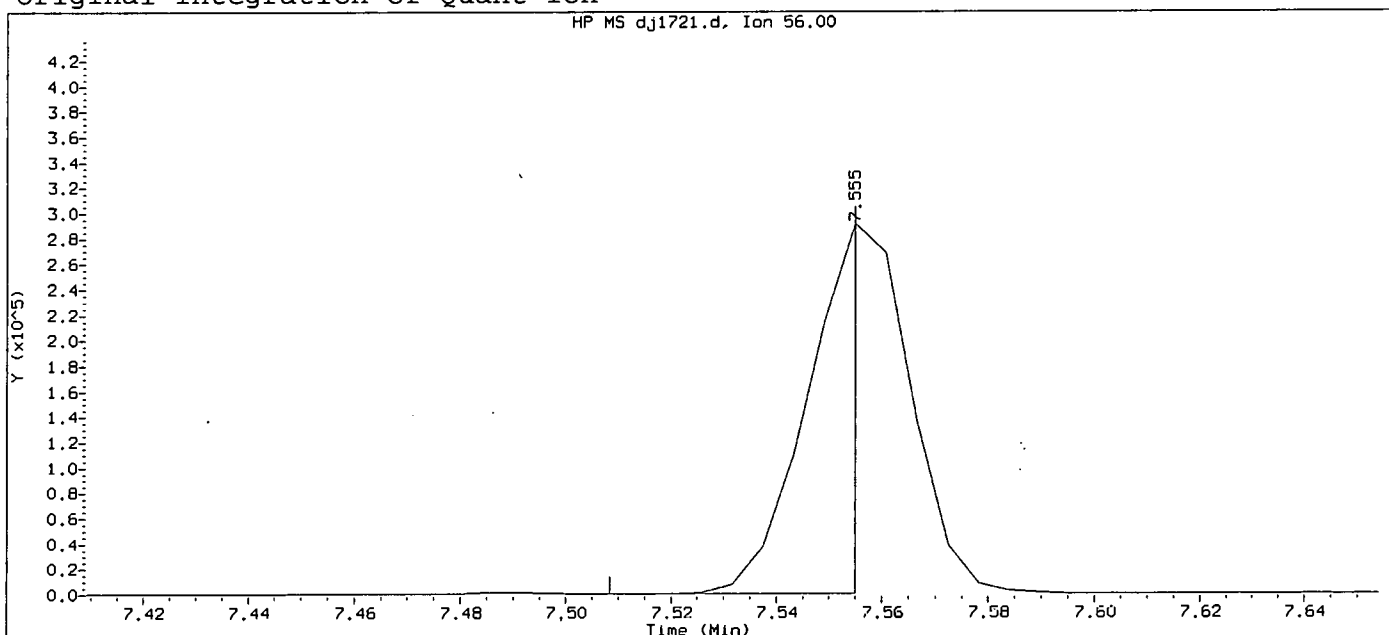
GC/MS audit/management approval: _____

Matthew E. Barton
Senior Specialist

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct20b.b/dj1721.d

Injection date and time: 20-OCT-2016 20:16

Instrument ID: HP19760.i

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: icvall1

Calibration date and time: 27-OCT-2016 08:07

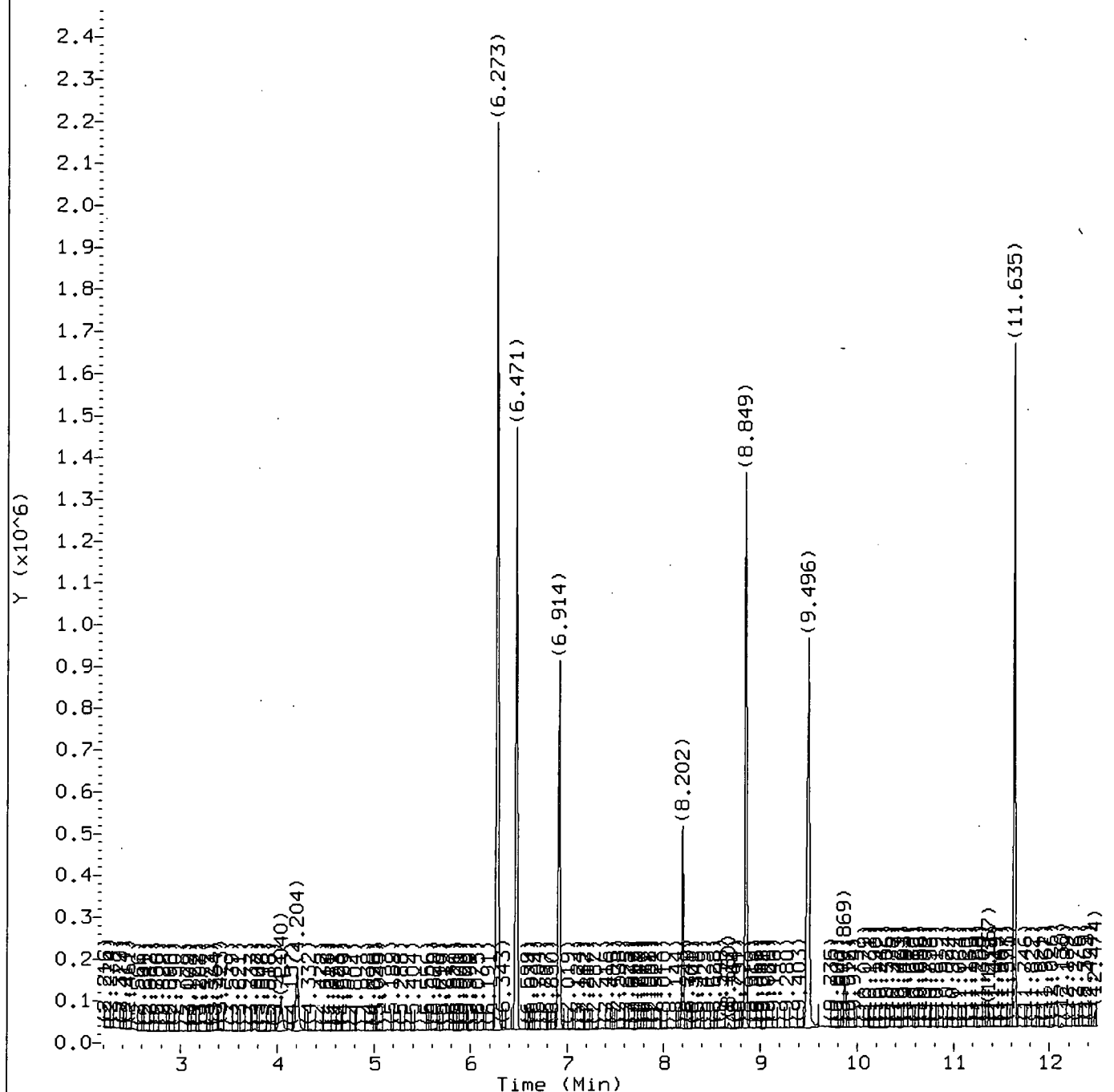
Date, time and analyst ID of latest file update: 27-Oct-2016 08:07 hbz01996

Sample Name: SSTD12.5

Lab Sample ID: RVICV2036

Compound Number	: 39	
Compound Name	: N-Nitrosomorpholine	
Scan Number	: 921	
Retention Time (minutes)	: 7.555	
Quant Ion	: 56.00	
Area	: 180639	
On-column Amount (ng/ul)	: 5.7606	
Integration start scan	: 912	Integration stop scan: 920
Y at integration start	: 700	Y at integration end: 700

Digitally signed by Holly B. Ziegler on 10/27/2016 at 10:16.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1722.d

Injection date and time: 20-OCT-2016 20:44

Instrument ID: HP19760.i

Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m

Sublist used: basicvall1

Calibration date and time: 27-OCT-2016 08:26

Date, time and analyst ID of latest file update: 27-Oct-2016 08:26 hbz01996

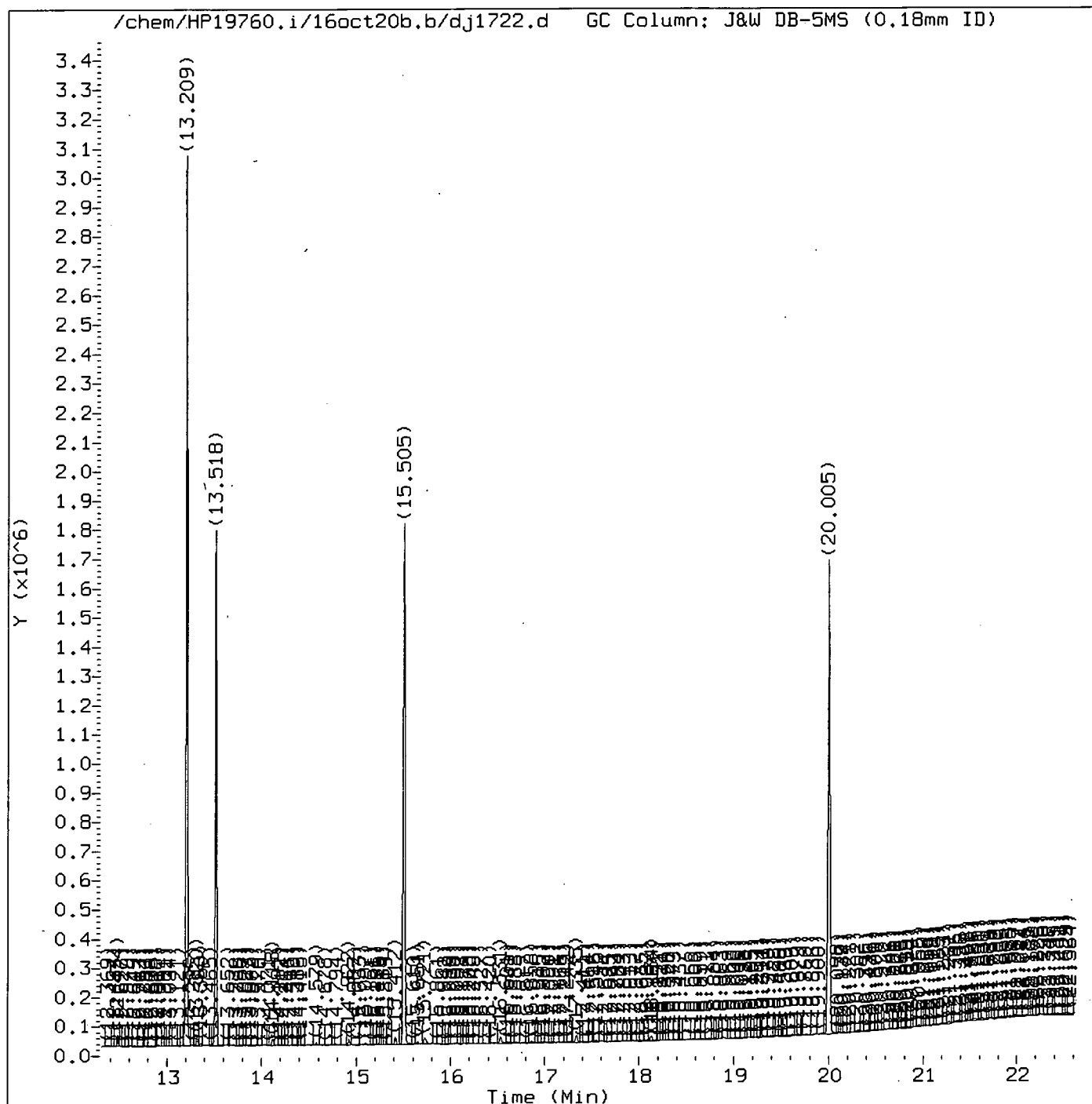
Sample Name: SSTD12.5

Lab Sample ID: RVBASICV2516

Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:16.

Target 3.5 esignature user ID: hbz01996

page 1 of 2



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1722.d
Injection date and time: 20-OCT-2016 20:44

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m
Calibration date and time: 27-OCT-2016 08:26
Date, time and analyst ID of latest file update: 27-Oct-2016 08:26 hbz01996

Sublist used: basicvall1

Sample Name: SSTD12.5

Lab Sample ID: RVBASICV2516

Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:16.
Target 3.5 esignature user ID: hbz01996

page 2 of 2

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct20b.b/dj1722.d
Injection date and time: 20-OCT-2016 20:44

Instrument ID: HP19760.i
Analyst ID: em10340

Method used: /chem/HP19760.i/16oct20b.b/rv8270d.m Sublist used: basicvall1
Calibration date and time: 27-OCT-2016 08:26
Date, time and analyst ID of latest file update: 27-Oct-2016 08:26 hbz01996

Sample Name: SSTD12.5

Lab Sample ID: RVBASICV2516

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
16) Benzaldehyde	(1)	6.273	77	706277	13.341
25) *1,4-Dichlorobenzene-d4	(1)	6.920	152	173091	5.000
65) *Naphthalene-d8	(2)	8.849	136	649298	5.000
76) Caprolactam	(2)	9.496	113	171076	11.934
113) *Acenaphthene-d10	(3)	11.635	164	385176	5.000
148) Atrazine	(4)	13.209	200	411086	13.823
153) *Phenanthrene-d10	(4)	13.518	188	734746	5.000
175) *Pyrene-d10	(5)	15.505	212	907364	5.000
213) *Perylene-d12	(6)	20.005	264	847334	5.000

* = Compound is an internal standard.

Digitally signed by Holly B. Ziegler
on 10/27/2016 at 10:16.
Target 3.5 esignature user ID: hbz01996

Date : 31-OCT-2016 07:25

Client ID: DFTPP12.5

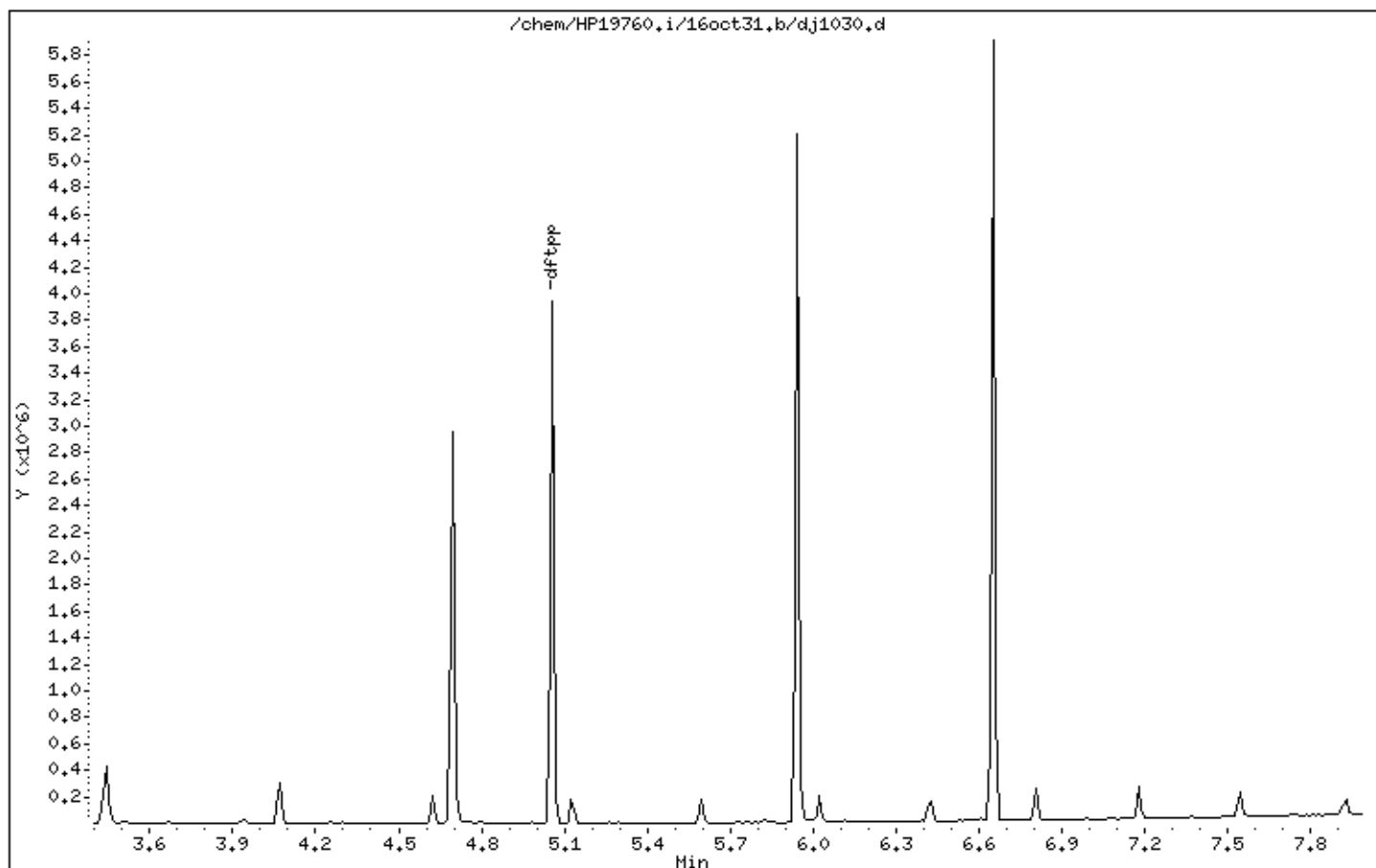
Instrument: HP19760.i

Sample Info: DFTPP12.5;RVDFTPP2706;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS

Column diameter: 0.18



Date : 31-OCT-2016 07:25

Client ID: DFTPP12.5

Instrument: HP19760.i

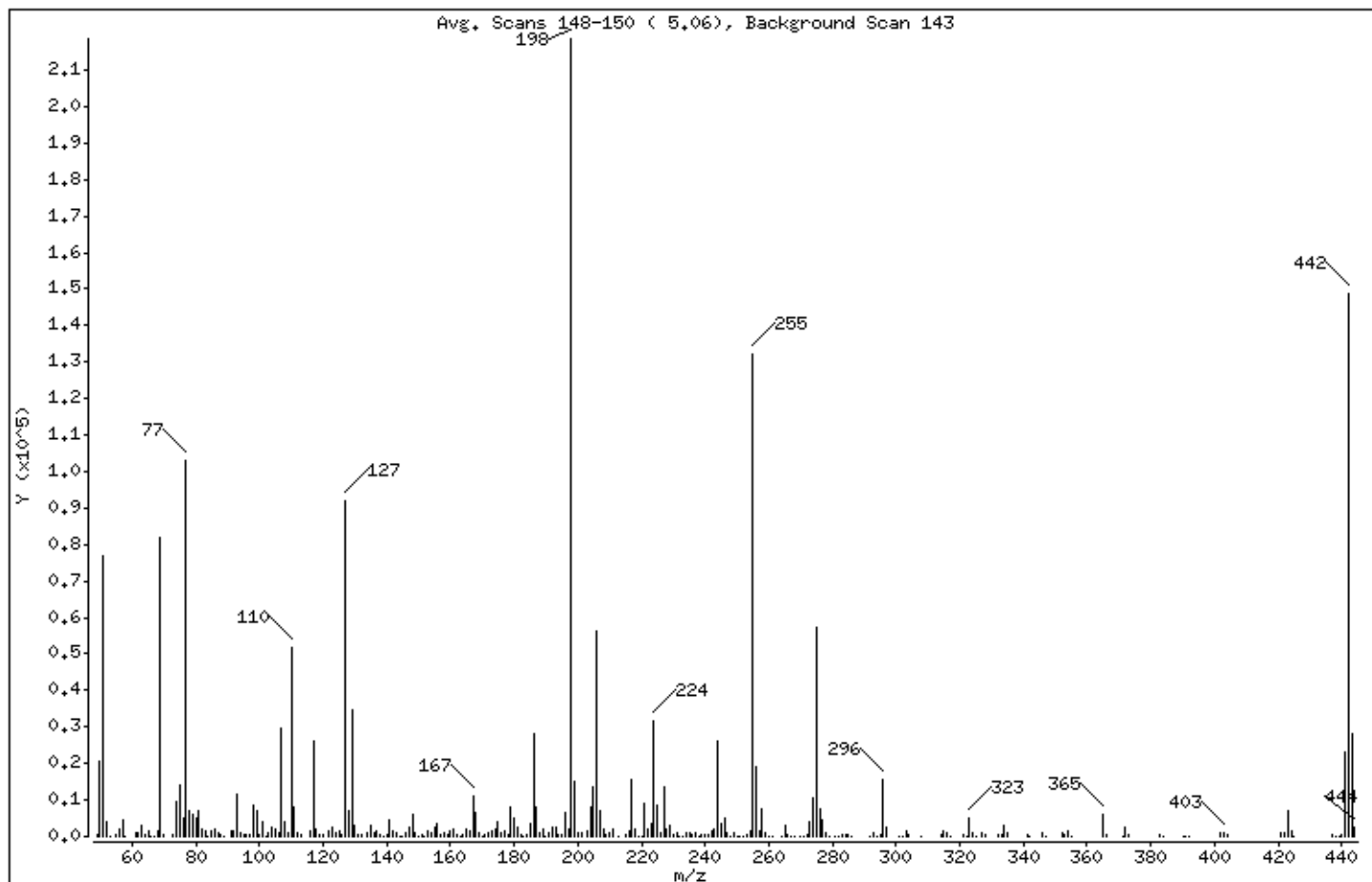
Sample Info: DFTPP12.5;RVDFTPP2706;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	35.22
68	Less than 2.00% of mass 69	0.63 (1.66)
69	Mass 69 relative abundance	37.58
70	Less than 2.00% of mass 69	0.23 (0.62)
127	10.00 - 80.00% of mass 198	42.14
197	Less than 2.00% of mass 198	0.81
199	5.00 - 9.00% of mass 198	6.82
275	10.00 - 60.00% of mass 198	26.14
365	Greater than 1.00% of mass 198	2.73
441	0.01 - 24.00% of mass 442	10.56 (15.52)
442	50.00 - 99.99% of mass 198	68.07
443	15.00 - 24.00% of mass 442	12.97 (19.05)

Date : 31-OCT-2016 07:25

Client ID: DFTPP12.5

Instrument: HP19760.i

Sample Info: DFTPP12.5;RVDFTPP2706;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS

Column diameter: 0.18

Data File: dj1030.d

Spectrum: Avg. Scans 148-150 (5.06), Background Scan 143

Location of Maximum: 198.00

Number of points: 281

m/z	Y	m/z	Y	m/z	Y	m/z	Y
49.00	567	129.00	34496	201.00	932	278.00	765
50.00	20744	130.00	2983	203.00	1494	279.00	125
51.00	76992	131.00	619	204.00	7919	281.00	245
52.00	3968	132.00	322	205.00	13420	282.00	140
53.00	182	134.00	1083	206.00	56488	283.00	461
55.00	644	135.00	2799	207.00	7260	284.00	307
56.00	2204	136.00	1106	208.00	1984	285.00	753
57.00	4638	137.00	1625	209.00	646	286.00	93
58.00	219	138.00	277	210.00	782	292.00	164
61.00	942	139.00	122	211.00	1902	293.00	1094
62.00	1143	140.00	398	213.00	169	294.00	243
63.00	2944	141.00	4355	215.00	528	295.00	362
64.00	523	142.00	1261	216.00	1331	296.00	15741
65.00	1517	143.00	1071	217.00	15357	297.00	2263
66.00	95	144.00	192	218.00	2085	301.00	86
67.00	86	145.00	189	219.00	101	302.00	221
68.00	1367	146.00	812	220.00	120	303.00	1691
69.00	82136	147.00	2551	221.00	8830	304.00	425
70.00	510	148.00	6087	222.00	2061	308.00	116
73.00	650	149.00	1141	223.00	3374	314.00	565
74.00	9303	150.00	234	224.00	31792	315.00	1651
75.00	13981	151.00	582	225.00	8537	316.00	922
76.00	5097	152.00	241	226.00	1015	317.00	128
77.00	102784	153.00	1535	227.00	13378	321.00	417
78.00	6971	154.00	1165	228.00	1936	322.00	166
79.00	6234	155.00	2576	229.00	3014	323.00	4873
80.00	5007	156.00	3547	230.00	374	324.00	831
81.00	6958	157.00	712	231.00	1160	325.00	84
82.00	1842	158.00	777	232.00	173	327.00	836
83.00	1660	159.00	627	233.00	188	328.00	387
84.00	227	160.00	1523	234.00	801	332.00	294
85.00	1383	161.00	2104	235.00	931	333.00	370
86.00	2157	162.00	560	236.00	629	334.00	2898
87.00	928	163.00	132	237.00	1090	335.00	760
88.00	327	164.00	294	238.00	145	341.00	520

Date : 31-OCT-2016 07:25

Client ID: DFTPP12.5

Instrument: HP19760.i

Sample Info: DFTPP12.5;RVDFTPP2706;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS

Column diameter: 0.18

Data File: dj1030.d

Spectrum: Avg. Scans 148-150 (5.06), Background Scan 143

Location of Maximum: 198.00

Number of points: 281

m/z	Y	m/z	Y	m/z	Y	m/z	Y
89.00	143	165.00	1827	239.00	479	342.00	137
91.00	1419	166.00	1520	240.00	406	346.00	941
92.00	1631	167.00	10933	241.00	729	347.00	124
93.00	11363	168.00	6368	242.00	1529	352.00	1254
94.00	794	169.00	922	243.00	2100	353.00	736
95.00	261	170.00	221	244.00	25888	354.00	1339
96.00	524	171.00	367	245.00	3426	355.00	178
97.00	312	172.00	955	246.00	4920	365.00	5974
98.00	8704	173.00	1354	247.00	861	366.00	700
99.00	7163	174.00	2031	248.00	188	371.00	207
100.00	641	175.00	3897	249.00	928	372.00	2270
101.00	4030	176.00	1008	250.00	147	373.00	586
102.00	160	177.00	1740	251.00	164	383.00	564
103.00	1071	178.00	647	252.00	204	384.00	144
104.00	2420	179.00	7816	253.00	627	390.00	230
105.00	2236	180.00	5158	254.00	1460	391.00	173
106.00	900	181.00	2463	255.00	132096	392.00	109
107.00	29432	182.00	410	256.00	19184	402.00	915
108.00	4208	183.00	148	257.00	1415	403.00	1192
109.00	763	184.00	576	258.00	7571	404.00	375
110.00	51776	185.00	3344	259.00	1081	421.00	1122
111.00	7803	186.00	28128	260.00	158	422.00	983
112.00	1009	187.00	8156	261.00	184	423.00	6951
113.00	349	188.00	878	264.00	177	424.00	1659
116.00	1571	189.00	1766	265.00	2907	425.00	87
117.00	26208	190.00	230	266.00	557	437.00	301
118.00	1773	191.00	898	267.00	86	438.00	208
119.00	254	192.00	2529	268.00	85	439.00	125
120.00	387	193.00	2561	270.00	179	440.00	637
122.00	1496	194.00	637	271.00	233	441.00	23088
123.00	2568	195.00	407	272.00	365	442.00	148800
124.00	1227	196.00	6444	273.00	4073	443.00	28344
125.00	1271	197.00	1764	274.00	10455	444.00	2360
126.00	740	198.00	218560	275.00	57128		
127.00	92120	199.00	14911	276.00	7619		

Data File: /chem/HP19760.i/16oct31.b/dj1030.d

Page 5

Date : 31-OCT-2016 07:25

Client ID: DFTPP12.5

Instrument: HP19760.i

Sample Info: DFTPP12.5;RVDFTPP2706;1;3;DFTPP;

Operator: hbz01996

Column phase: DB-5MS

Column diameter: 0,18

Data File: dj1030.d

Spectrum: Avg. Scans 148-150 (5.06), Background Scan 143

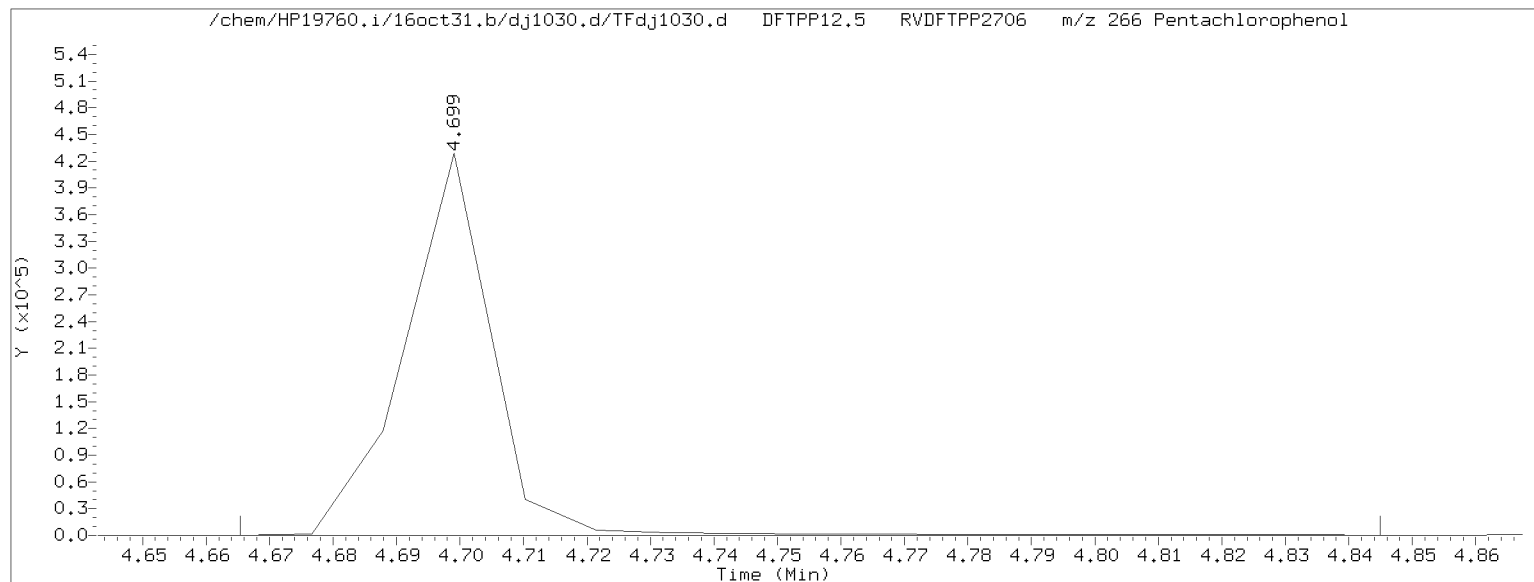
Location of Maximum: 198.00

Number of points: 281

m/z	Y	m/z	Y	m/z	Y	m/z	Y
128.00	6918	200.00	1158	277.00	4505		

Assessment of GC Column Performance and Injection Port Inertness for

Instrument ID: HP19760.i Injection Date: 31-OCT-2016 07:25 Operator: hbz01996



Pentachlorophenol EICP peak height = 429184

EICP peak height at 10% = 42918

Pentachlorophenol EICP area = 407102

Pentachlorophenol EICP peak apex (min.) = 4.699

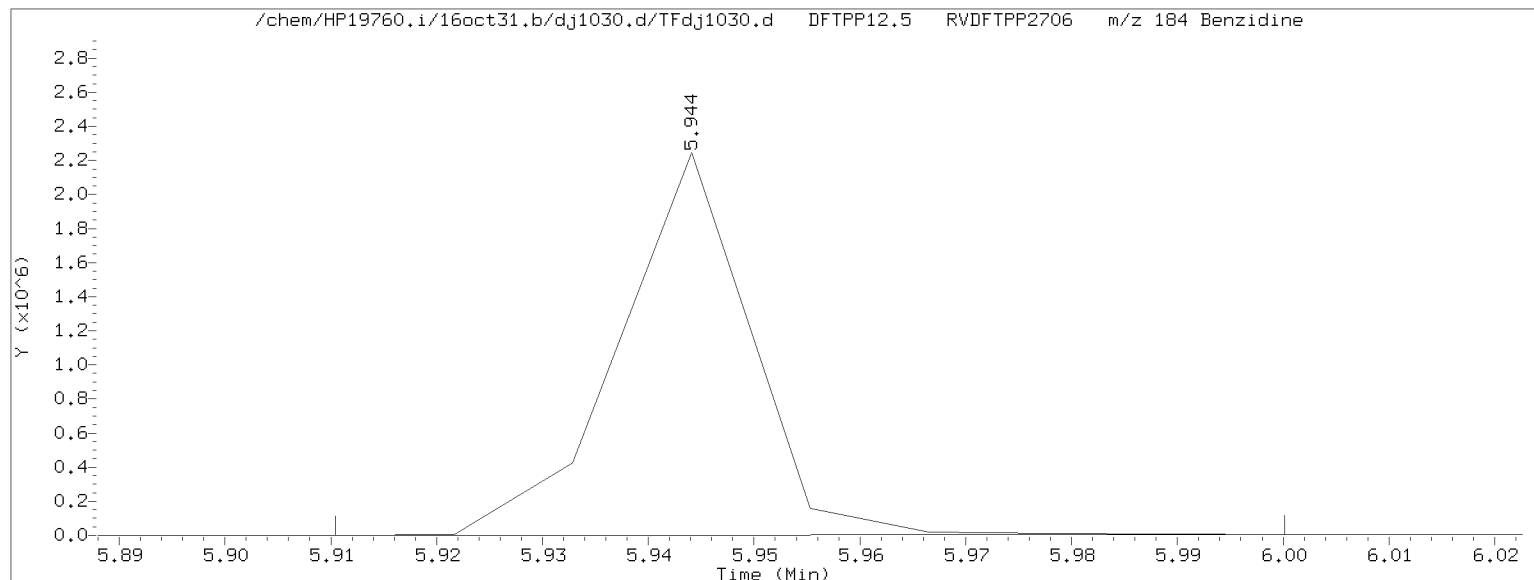
RT at 5% of front half of EICP (min.) = 4.679

RT at 5% of back half of EICP (min.) = 4.716

'Front' peak width (min.) = 0.0204666667

'Tailing' peak width (min.) = 0.0172000000

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0172000000}{0.0204666667} = 0.840$$



Benzidine EICP peak height = 2242856

EICP peak height at 5% = 112143

Benzidine EICP area = 1915902

Benzidine EICP peak apex (min.) = 5.944

RT at 5% of front half of EICP (min.) = 5.925

RT at 5% of back half of EICP (min.) = 5.959

'Front' peak width (min.) = 0.0194666667

'Tailing' peak width (min.) = 0.0146666667

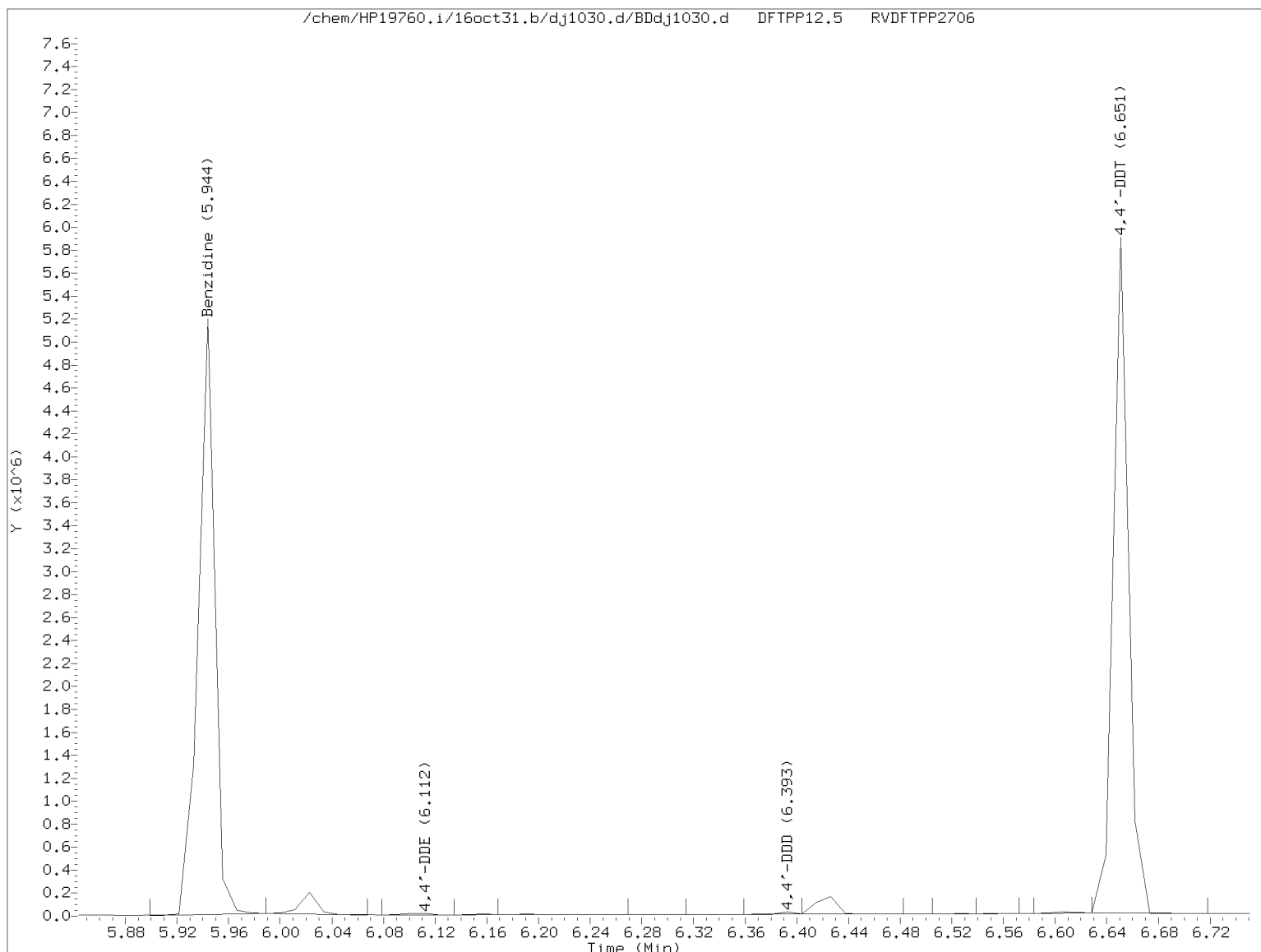
$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0146666667}{0.0194666667} = 0.753$$

page 1 of 2

printed on 10/31/2016 at 07:38

Assessment of GC Column Performance and Injection Port Inertness for

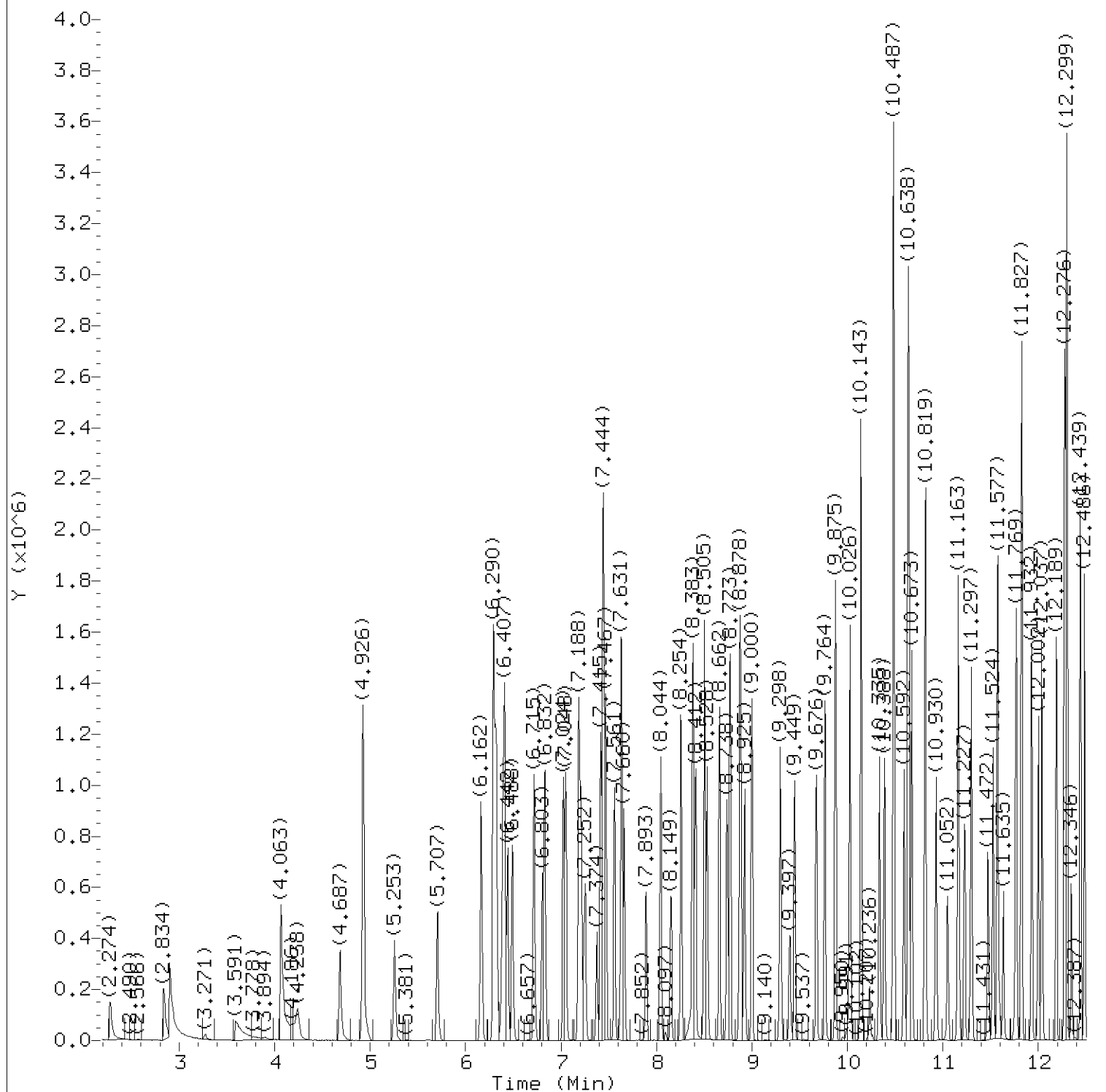
Instrument ID: HP19760.i Injection Date: 31-OCT-2016 07:25 Operator: hbz01996



$$\% \text{ 4,4'-DDT breakdown} = \frac{4,4'\text{-DDE TIC area} + 4,4'\text{-DDD TIC area}}{4,4'\text{-DDE TIC area} + 4,4'\text{-DDD TIC area} + 4,4'\text{-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{15709 + 17621}{15709 + 17621 + 4846998} \times 100 = 0.7$$

page 2 of 2
printed on 10/31/2016 at 07:38



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1031.d
Injection date and time: 31-OCT-2016 07:38

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m
Calibration date and time: 31-OCT-2016 08:16

Sublist used: all1

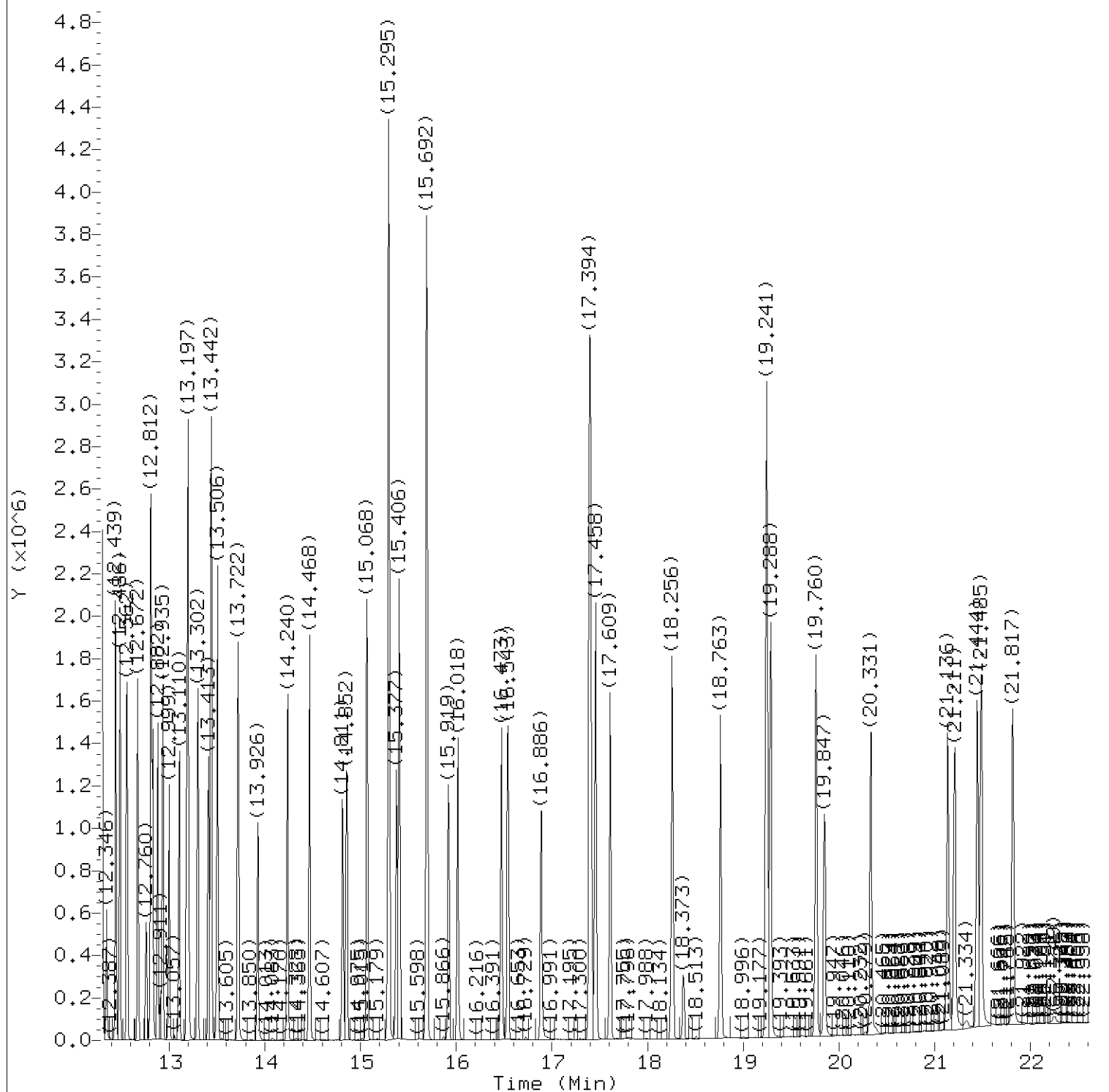
Date, time and analyst ID of latest file update: 31-Oct-2016 08:16 hbz01996

Sample Name: SSTD7.5

Lab Sample ID: RVSTD3006

Digitally signed by Holly B. Ziegler
on 10/31/2016 at 08:23.

Target 3.5 esignature user ID: hbz01996



Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1031.d
Injection date and time: 31-OCT-2016 07:38

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: all1

Calibration date and time: 31-OCT-2016 08:16

Date, time and analyst ID of latest file update: 31-Oct-2016 08:16 hbz01996

Sample Name: SSTD7.5

Lab Sample ID: RVSTD3006

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
1) 1,4-Dioxane	(1)	2.280	88	139676	6.677
4) N-Nitrosodimethylamine	(1)	2.839	74	205802	6.285
5) Pyridine	(1)	2.898	79	336558	6.174
7) 2-Picoline	(1)	4.063	93	396561	6.857
8) N-Nitrosomethylethylamine	(1)	4.238	88	155466	6.537
9) Methyl methanesulfonate	(1)	4.687	80	202513	6.886
11) \$2-Fluorophenol	(1)	4.926	112	617199	14.610
13) N-Nitrosodiethylamine	(1)	5.253	102	154663	6.978
42) Total Cresols	(1)			643154	14.251
15) Ethyl methanesulfonate	(1)	5.707	109	166041	7.261
16) Benzaldehyde	(1)	6.162	77	297781	7.387
17) \$Phenol-d6	(1)	6.290	99	802185	13.899
18) Phenol	(1)	6.308	94	465340	6.869
19) Aniline	(1)	6.325	93	549704	6.775
20) a-methylstyrene	(1)	6.407	118	336345	7.698
22) bis(2-Chloroethyl) ether	(1)	6.442	93	347419	6.806
23) 2-Chlorophenol	(1)	6.488	128	292049	7.542
24) 1,3-Dichlorobenzene	(1)	6.715	146	334471	7.777
25) *1,4-Dichlorobenzene-d4	(1)	6.803	152	131795	5.000
26) 1,4-Dichlorobenzene	(1)	6.832	146	337883	7.731
27) Benzyl alcohol	(1)	7.024	108	204942	6.891
28) 1,2-Dichlorobenzene	(1)	7.048	146	322894	7.861
30) Indene	(1)	7.188	115	570252	7.548
31) 2-Methylphenol	(1)	7.211	108	296812	7.049
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.252	45	371566	6.373
34) bis(2-Chloroisopropyl) ether	(1)	7.252	45	371566	6.373
35) N-Nitrosopyrrolidine	(1)	7.374	100	166166	6.844
97) Isosafrole	(3)			262851	7.649
36) Acetophenone	(1)	7.415	105	491343	7.297
38) N-Nitroso-di-n-propylamine	(1)	7.438	70	244793	6.219
39) N-Nitrosomorpholine	(1)	7.444	56	181720	6.462
37) 4-Methylphenol	(1)	7.444	108	346342	7.202
40) o-Toluidine	(1)	7.467	106	549636	7.169
43) Hexachloroethane	(1)	7.561	117	147959	7.533
44) \$Nitrobenzene-d5	(2)	7.631	82	747099	14.007
45) Nitrobenzene	(2)	7.660	77	371604	6.839
48) N-Nitrosopiperidine	(2)	7.893	114	154767	7.158
50) Isophorone	(2)	8.044	82	632138	6.494
120) 2,4,2,6-Dinitrotoluenes	(3)			299788	16.600
51) 2-Nitrophenol	(2)	8.155	139	135351	8.531

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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on 10/31/2016 at 08:23.

Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1031.d
 Injection date and time: 31-OCT-2016 07:38

Instrument ID: HP19760.i
 Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: all1

Calibration date and time: 31-OCT-2016 08:16

Date, time and analyst ID of latest file update: 31-Oct-2016 08:16 hbz01996

Sample Name: SSTD7.5

Lab Sample ID: RVSTD3006

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
53) 2,4-Dimethylphenol	(2)	8.254	107	335472	7.070
57) O,O,O-Triethylphosphorothioate	(2)	8.383	198	167238	7.446
56) Benzoic acid	(2)	8.400	105	269368M	9.717
55) bis(2-Chloroethoxy)methane	(2)	8.412	93	412396	6.745
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.505	104	515208	7.361
60) 2,4-Dichlorophenol	(2)	8.528	162	252877	7.804
62) 1,2,4-Trichlorobenzene	(2)	8.662	180	290867	7.793
65) *Naphthalene-d8	(2)	8.738	136	490412	5.000
66) Naphthalene	(2)	8.773	128	847585	7.587
146) Diallate trans/cis	(4)			277733	6.893
67) 4-Chloroaniline	(2)	8.872	127	356035	7.484
68) 2,6-Dichlorophenol	(2)	8.884	162	246618	7.774
69) Hexachloropropene	(2)	8.925	213	212312	7.684
71) Hexachlorobutadiene	(2)	9.000	225	191137	7.932
75) Quinoline	(2)	9.298	129	505581	7.395
76) Caprolactam	(2)	9.403	113	71798	6.631
77) N-Nitrosodi-n-butylamine	(2)	9.449	84	245194	6.049
80) 4-Chloro-3-methylphenol	(2)	9.676	107	274002	6.907
82) Safrole	(2)	9.764	162	223573	7.413
83) 2-Methylnaphthalene	(2)	9.875	142	572111	7.627
84) 1-Methylnaphthalene	(2)	10.026	142	522053	7.657
85) Hexachlorocyclopentadiene	(3)	10.143	237	191607	8.293
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.143	216	333886	8.154
88) cis-Isosafrole	(3)	10.236	162	39663	1.282
90) 2,4,6-Trichlorophenol	(3)	10.335	196	188239	8.002
92) 2,4,5-Trichlorophenol	(3)	10.388	196	201408	7.945
93) \$2-Fluorobiphenyl	(3)	10.487	172	1315291	16.069
94) trans-Isosafrole	(3)	10.597	162	223188	6.366
95) 1,1'-Biphenyl	(3)	10.638	154	705762	8.225
96) 2-Chloronaphthalene	(3)	10.644	162	563686	8.231
98) 1-Chloronaphthalene	(3)	10.673	162	509668	7.913
99) Diphenyl ether	(3)	10.813	170	391185	7.908
100) 2-Nitroaniline	(3)	10.819	138	156082	8.374
104) 1,4-Naphthoquinone	(3)	10.930	158	208490	7.496
105) 1,4-Dinitrobenzene	(3)	11.052	168	77833	9.122
106) Dimethylphthalate	(3)	11.163	163	587349	7.543
107) 1,3-Dinitrobenzene	(3)	11.169	168	90017	8.814
108) 2,6-Dinitrotoluene	(3)	11.233	165	128558	8.387
109) Acenaphthylene	(3)	11.297	152	775134	7.748
112) 3-Nitroaniline	(3)	11.477	138	130334	7.936

M = Compound was manually integrated.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

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 on 10/31/2016 at 08:23.

Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1031.d
Injection date and time: 31-OCT-2016 07:38

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: all1

Calibration date and time: 31-OCT-2016 08:16

Date, time and analyst ID of latest file update: 31-Oct-2016 08:16 hbz01996

Sample Name: SSTD7.5

Lab Sample ID: RVSTD3006

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
113) *Acenaphthene-d10	(3)	11.524	164	284821	5.000
114) Acenaphthene	(3)	11.577	153	580537	7.882
115) 2,4-Dinitrophenol	(3)	11.635	184	80471	12.055
116) 4-Nitrophenol	(3)	11.757	109	98267	7.310
117) Pentachlorobenzene	(3)	11.769	250	277207	8.147
119) Dibenzofuran	(3)	11.827	168	777220	7.891
118) 2,4-Dinitrotoluene	(3)	11.827	165	171230	8.213
121) 1-Naphthylamine	(3)	11.932	143	532141	7.322
122) 2,3,4,6-Tetrachlorophenol	(3)	12.002	232	167248	8.393
123) 2-Naphthylamine	(3)	12.037	143	511314	7.156
124) Diethylphthalate	(3)	12.189	149	566047	7.274
126) Fluorene	(3)	12.276	166	614877	7.797
125) Thionazin	(3)	12.282	107	114693	6.694
128) 5-Nitro-o-toluidine	(3)	12.294	152	158564	8.234
129) 4-Nitroaniline	(3)	12.299	138	134524	7.612
127) 4-Chlorophenyl-phenylether	(3)	12.299	204	324163	7.979
130) 4,6-Dinitro-2-methylphenol	(4)	12.352	198	88995	9.651
132) NDPA as diphenylamine	(4)	12.439	169	500103	8.245
131) N-Nitrosodiphenylamine	(4)	12.439	169	500103	8.245
134) 1,2-Diphenylhydrazine	(4)	12.486	77	678553	7.114
135) \$2,4,6-Tribromophenol	(3)	12.562	330	194534	17.619
137) Tetraethyldithiopyrophosphate	(4)	12.672	97	115669	7.206
139) 1,3,5-Trinitrobenzene	(4)	12.766	213	57185	8.822
140) Diallate (peak 1)	(4)	12.806	86	237881	5.733
141) Phorate	(4)	12.812	75	393287	6.846
142) Phenacetin	(4)	12.830	108	310709	7.258
143) 4-Bromophenyl-phenylether	(4)	12.882	248	192380	8.377
144) Diallate (peak 2)	(4)	12.911	86	39852	1.160
145) Hexachlorobenzene	(4)	12.935	284	219313	8.752
147) Dimethoate	(4)	12.999	87	242507	6.706
148) Atrazine	(4)	13.110	200	177191	8.240
149) Pentachlorophenol	(4)	13.185	266	131212	9.265
150) 4-Aminobiphenyl	(4)	13.197	169	626188	8.038
151) Pentachloronitrobenzene	(4)	13.203	237	87851	8.718
152) Pronamide	(4)	13.302	173	279054	7.682
153) *Phenanthrene-d10	(4)	13.413	188	531291	5.000
154) Dinoseb	(4)	13.436	211	137368	8.961
155) Phenanthrene	(4)	13.442	178	910163	8.011
157) Anthracene	(4)	13.506	178	908401	7.948
163) Carbazole	(4)	13.722	167	820263	7.874

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\$ = Compound is a surrogate standard.

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on 10/31/2016 at 08:23.

Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1031.d
 Injection date and time: 31-OCT-2016 07:38

Instrument ID: HP19760.i
 Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: all1

Calibration date and time: 31-OCT-2016 08:16

Date, time and analyst ID of latest file update: 31-Oct-2016 08:16 hbz01996

Sample Name: SSTD7.5

Lab Sample ID: RVSTD3006

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
164) Methyl parathion	(4)	13.926	109	191508	7.600
165) Di-n-butylphthalate	(4)	14.240	149	935662	7.257
167) Parathion	(4)	14.468	109	126562	7.368
168) 4-Nitroquinoline-1-oxide	(4)	14.468	190	66423	7.232
169) Octachlorostyrene	(4)	14.811	308	84001	8.470
171) Isodrin	(4)	14.858	193	107594	7.401
222) Total PAHs	(6)			16553397	142.201
173) Fluoranthene	(4)	15.068	202	1049984	7.713
174) Benzidine	(5)	15.295	184	2017752	23.013
175) *Pyrene-d10	(5)	15.377	212	655341	5.000
177) Pyrene	(5)	15.406	202	1132809	7.972
179) \$Terphenyl-d14	(5)	15.692	244	1549702	16.226
182) p-Dimethylaminoazobenzene	(5)	15.919	225	177922	6.993
185) Chlorobenzilate	(5)	16.018	139	292786	7.542
187) 3,3'-Dimethylbenzidine	(5)	16.473	212	652077	6.971
188) Butylbenzylphthalate	(5)	16.543	149	420743	7.922
191) 2-Acetylaminofluorene	(5)	16.892	181	335930	6.410
193) 3,3'-Dichlorobenzidine	(5)	17.394	252	400959	7.359
195) Benzo(a)anthracene	(5)	17.399	228	1100962	7.624
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.411	231	213140	7.227
196) Chrysene	(5)	17.458	228	1034325	7.842
199) bis(2-Ethylhexyl)phthalate	(5)	17.609	149	593438	7.311
203) 6-Methylchrysene	(5)	18.256	242	718966	7.397
205) Di-n-octylphthalate	(6)	18.763	149	977545	6.777
206) Benzo(b)fluoranthene	(6)	19.241	252	1117621	7.962
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.247	256	474273	8.343
208) Benzo(k)fluoranthene	(6)	19.288	252	1095949	8.120
211) Benzo(a)pyrene	(6)	19.760	252	1032149	7.828
213) *Perylene-d12	(6)	19.847	264	597345	5.000
215) 3-Methylcholanthrene	(6)	20.337	268	481865	7.243
217) Dibenz(a,h)acridine	(6)	21.136	279	837930	7.576
218) Dibenz(a,j)acridine	(6)	21.211	279	867613	8.199
219) Indeno(1,2,3-cd)pyrene	(6)	21.444	276	1219450	8.254
220) Dibenz(a,h)anthracene	(6)	21.485	278	1024534	8.249
221) Benzo(g,h,i)perylene	(6)	21.817	276	1014753	8.380

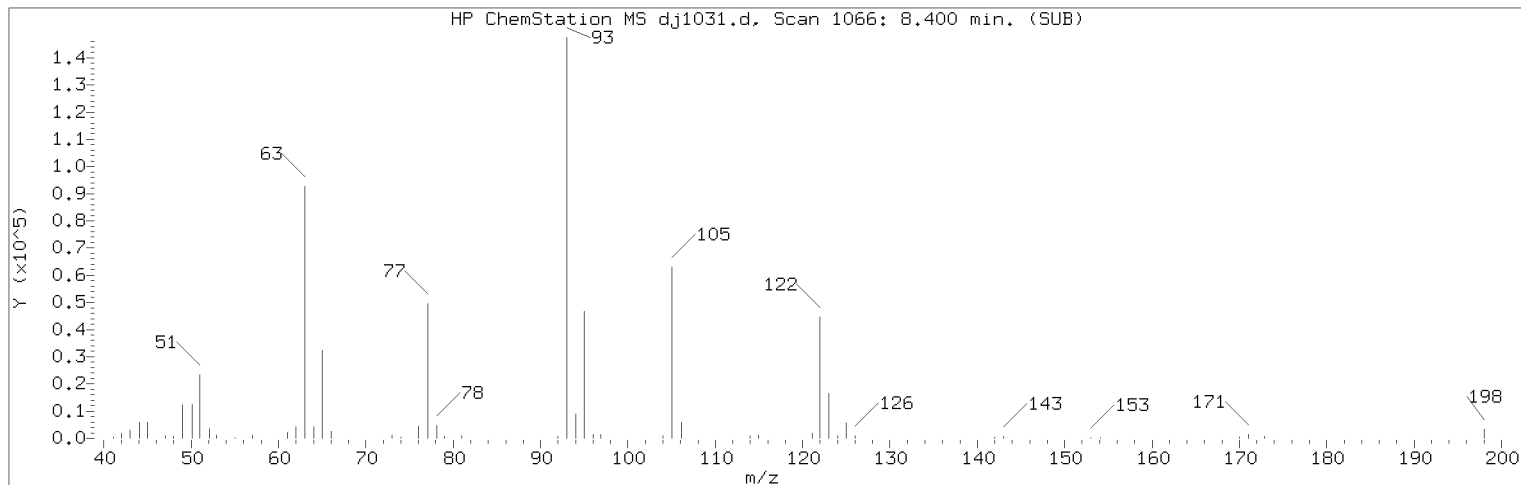
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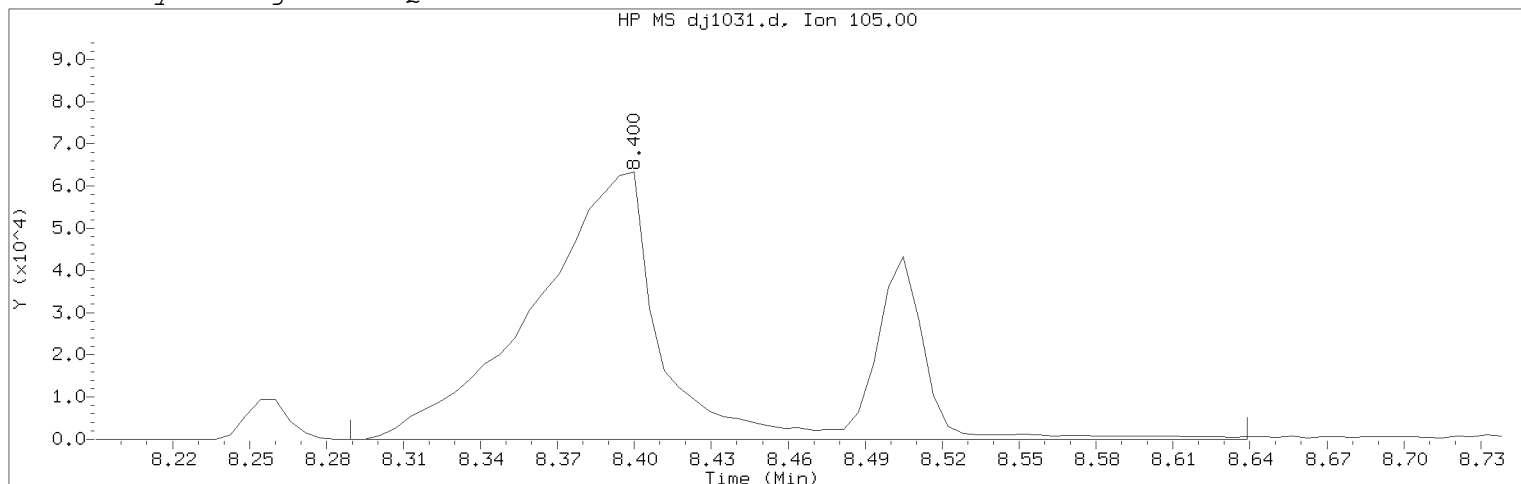
Digitally signed by Holly B. Ziegler
 on 10/31/2016 at 08:23.

Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/16oct31.b/dj1031.d

Instrument ID: HP19760.i

Injection date and time: 31-OCT-2016 07:38

Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: all1

Calibration date and time: 31-OCT-2016 08:16

Date, time and analyst ID of latest file update: 31-Oct-2016 08:16 hbz01996

Sample Name: SSTD7.5

Lab Sample ID: RVSTD3006

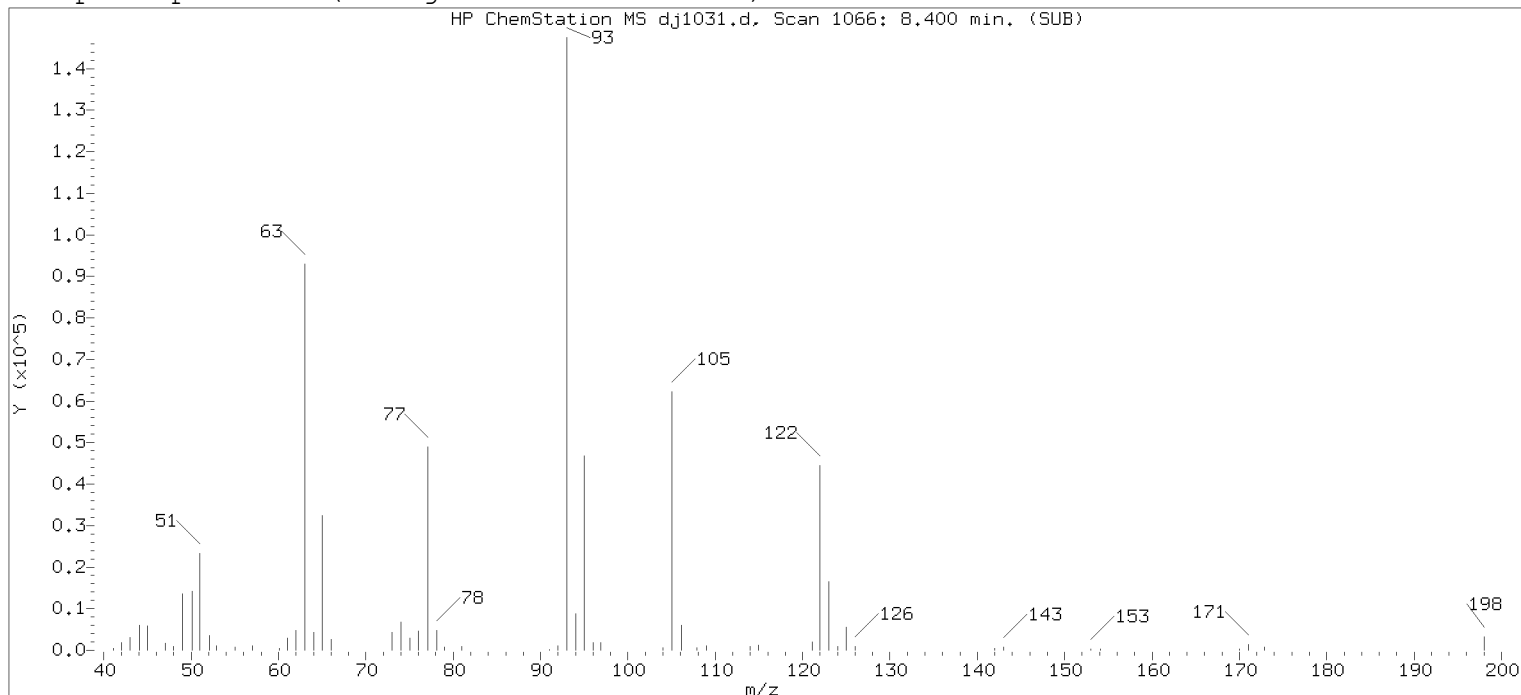
Compound Number	: 56	
Compound Name	: Benzoic acid	
Scan Number	: 1066	
Retention Time (minutes)	: 8.400	
Quant Ion	: 105.00	
Area (flag)	: 269368M	
On-Column Amount (ng/ul)	: 9.7172	
Integration start scan	: 1046	Integration stop scan: 1106
Y at integration start	: -13	Y at integration end: 26

Reason for manual integration: improper integration

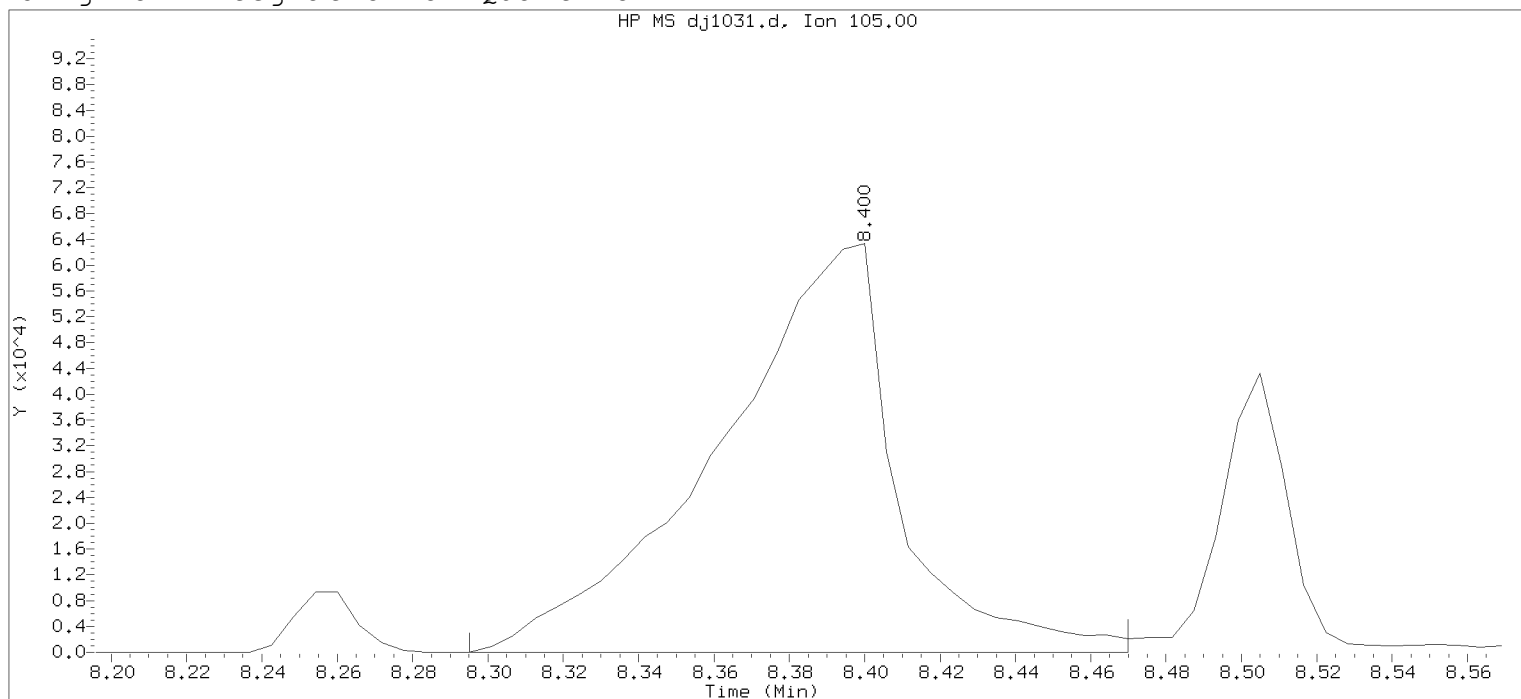
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 10/31/2016 at 08:23.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Mark A. Ratcliff on 11/02/2016 at 10:16.
PARALLAX ID: mar00486

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/16oct31.b/dj1031.d

Instrument ID: HP19760.i

Injection date and time: 31-OCT-2016 07:38

Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: all1

Calibration date and time: 31-OCT-2016 08:05

Date, time and analyst ID of latest file update: 31-Oct-2016 08:06 Automation

Sample Name: SSTD7.5

Lab Sample ID: RVSTD3006

Compound Number	: 56	
Compound Name	: Benzoic acid	
Scan Number	: 1066	
Retention Time (minutes)	: 8.400	
Quant Ion	: 105.00	
Area	: 210643	
On-column Amount (ng/ul)	: 8.0743	
Integration start scan	: 1047	Integration stop scan: 1077
Y at integration start	: 0	Y at integration end: 0

Digitally signed by Holly B. Ziegler on 10/31/2016 at 08:23.
Target 3.5 esignature user RAE76h Page 864 of 883

Raw QC Data

Semivolatiles by GC/MS

SBLKWF302 SBLKWF302

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/16oct31.b/dj1032.d Injection date and time: **31-OCT-2016 08:18**
 Data file Sample Info. Line: SBLKWF302;SBLKWF302;1;3;BLANK;;DRAPERMINI; Instrument ID: **HP19760.i** Batch: **16302WAF**
 Date, time and analyst ID of latest file update: 31-Oct-2016 11:03 hbz01996

Blank Data file reference: /chem/HP19760.i/16oct31.b/dj1032.d

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m Sublist used: **22230M**
 Calibration date and time (Last Method Edit): 31-OCT-2016 11:03
 Mid Level Daily Calibration Standard Reference: /chem/HP19760.i/16oct31.b/dj1031.d

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
 Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.803 (0.000)	792	152	141278 (7)	5.00	
65) Naphthalene-d8	8.738 (0.000)	1124	136	516830 (5)	5.00	
113) Acenaphthene-d10	11.524 (0.000)	1602	164	295071 (4)	5.00	
153) Phenanthrene-d10	13.413 (0.000)	1926	188	547825 (3)	5.00	
175) Pyrene-d10	15.377 (0.000)	2263	212	641741 (-2)	5.00	
213) Perylene-d12	19.848 (0.000)	3030	264	559122 (-6)	5.00	

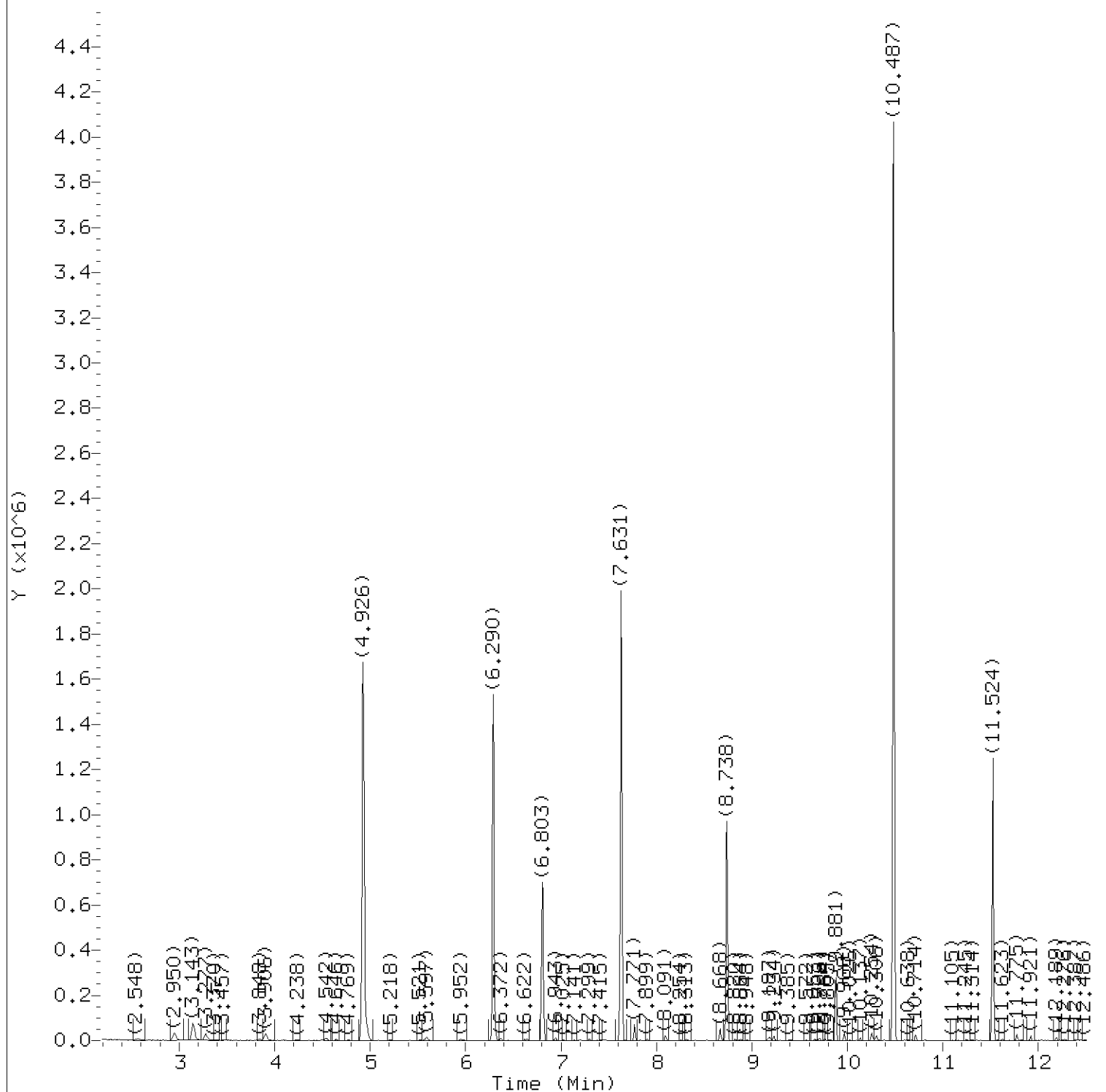
Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.631 (0.000)	82	882036	15.692	63%	*	70 - 130
93) 2-Fluorobiphenyl	(3)	10.487 (0.000)	172	1547907	18.254	73%		70 - 130
179) Terphenyl-d14	(5)	15.698 (0.000)	244	2143332	22.917	92%		70 - 130

* = Surrogate Standard % recovery outside QC limits.

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
108) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
124) Diethylphthalate	(3)			Not Detected					0.5

Total number of targets = 3

Digitally signed by Holly B. Ziegler on 10/31/2016 at 11:03. Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1032.d
Injection date and time: 31-OCT-2016 08:18

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m
Calibration date and time: 31-OCT-2016 11:03

Sublist used: 22230M

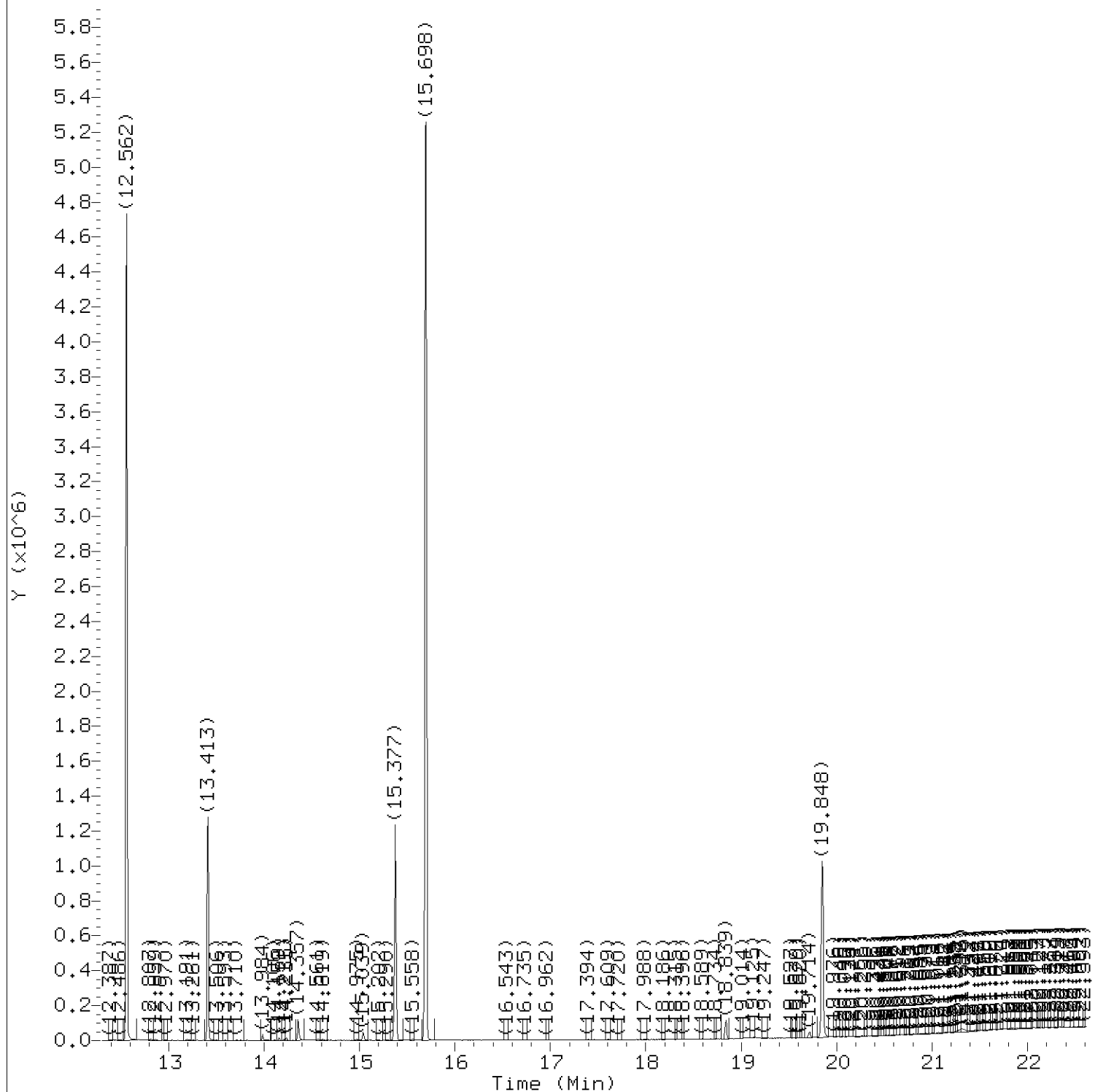
Date, time and analyst ID of latest file update: 31-Oct-2016 11:03 hbz01996

Sample Name: SBLKWF302

Lab Sample ID: SBLKWF302

Digitally signed by Holly B. Ziegler
on 10/31/2016 at 11:03.

Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1032.d
Injection date and time: 31-OCT-2016 08:18

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m
Calibration date and time: 31-OCT-2016 11:03

Sublist used: 22230M

Date, time and analyst ID of latest file update: 31-Oct-2016 11:03 hbz01996

Sample Name: SBLKWF302

Lab Sample ID: SBLKWF302

Digitally signed by Holly B. Ziegler
on 10/31/2016 at 11:03.

Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1032.d

Instrument ID: HP19760.i

Injection date and time: 31-OCT-2016 08:18

Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time: 31-OCT-2016 11:03

Date, time and analyst ID of latest file update: 31-Oct-2016 11:03 hbz01996

Sample Name: SBLKWF302

Lab Sample ID: SBLKWF302

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
25) *1,4-Dichlorobenzene-d4	(1)	6.803	152	141278	5.000
44) \$Nitrobenzene-d5	(2)	7.631	82	882036	15.692
65) *Naphthalene-d8	(2)	8.738	136	516830	5.000
93) \$2-Fluorobiphenyl	(3)	10.487	172	1547907	18.254
113) *Acenaphthene-d10	(3)	11.524	164	295071	5.000
153) *Phenanthrene-d10	(4)	13.413	188	547825	5.000
175) *Pyrene-d10	(5)	15.377	212	641741	5.000
179) \$Terphenyl-d14	(5)	15.698	244	2143332	22.917
213) *Perylene-d12	(6)	19.848	264	559122	5.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler

on 10/31/2016 at 11:03.

Target 3.5 esignature user ID: hbz01996

RAE76 Page 869 of 883

page 1 of 1

R7604MS

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

8666268

Data file: /chem/HP19760.i/16oct31.b/dj1044.d

Injection date and time: 31-OCT-2016 15:16

Data file Sample Info. Line: R7604MS;8666268;1;3;MS;;DRAPERMINI;

Instrument ID: HP19760.i Batch: 16302WAF

Date, time and analyst ID of latest file update: 31-Oct-2016 15:43 Automation

Blank Data file reference: /chem/HP19760.i/16oct31.b/dj1032.d

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time (Last Method Edit): 31-OCT-2016 11:03

Mid Level Daily Calibration Standard Reference: /chem/HP19760.i/16oct31.b/dj1031.d

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1

Unit Correction Factor (Uf): 1

Final Extract Volume (Vt): 1000 ul

Sample Volume (Vo): 249 ml

Volume Injected (Vi): 0.5 ul

Analysis Comments:

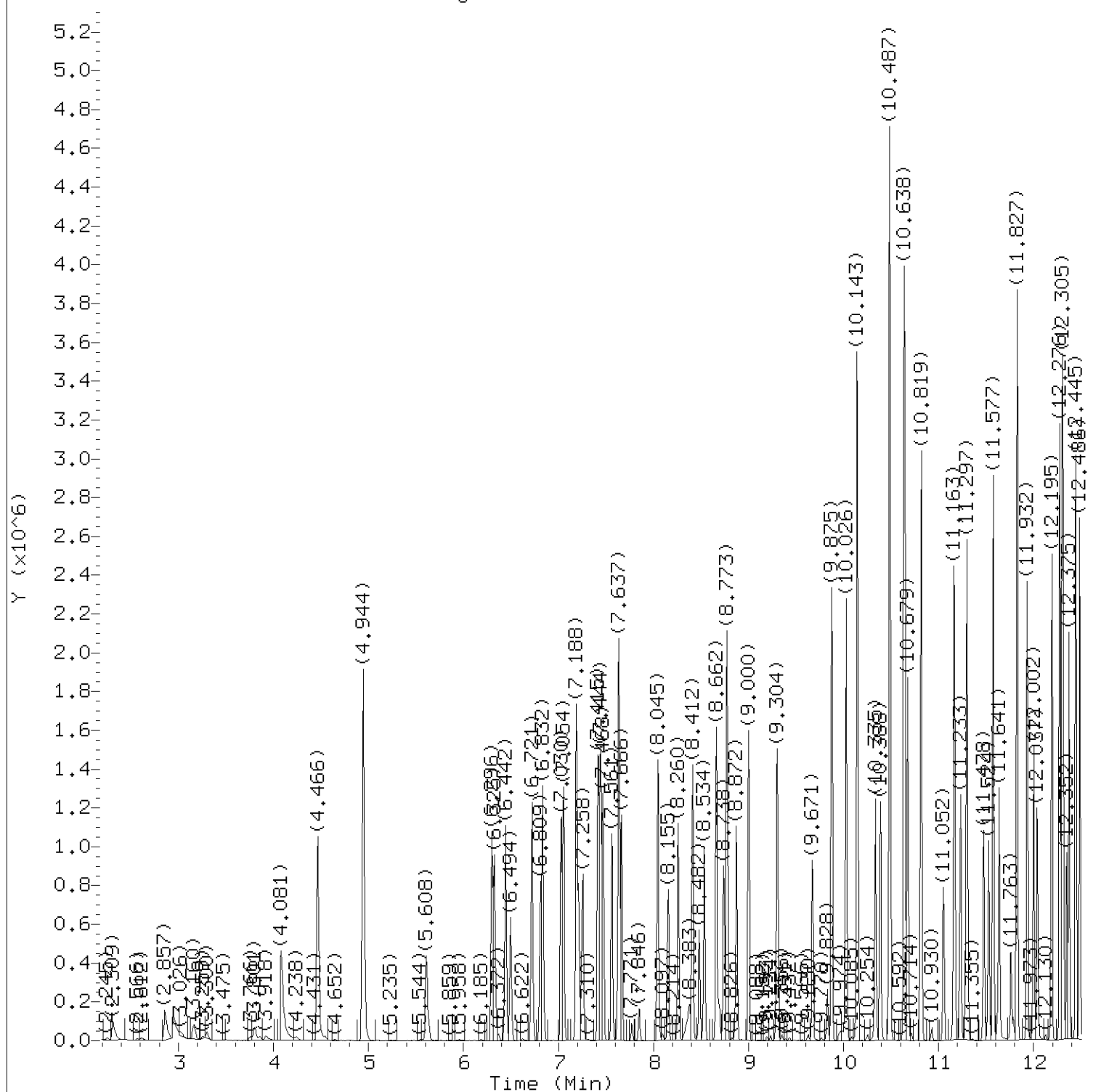
Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
=====	=====	=====	=====	=====	=====	=====
25) 1,4-Dichlorobenzene-d4	6.809(-0.006)	793	152	124256 (-6)	5.00	
65) Naphthalene-d8	8.738(0.000)	1124	136	460232 (-6)	5.00	
113) Acenaphthene-d10	11.530(-0.006)	1603	164	260152 (-9)	5.00	
153) Phenanthrene-d10	13.413(0.000)	1926	188	490511 (-8)	5.00	
175) Pyrene-d10	15.377(0.000)	2263	212	628954 (-4)	5.00	
213) Perylene-d12	19.848(0.000)	3030	264	607376 (2)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
=====	=====	=====	=====	=====	=====	=====	=====	=====
44) Nitrobenzene-d5	(2)	7.637(-0.001)	82	950077	18.981	76%		70 - 130
93) 2-Fluorobiphenyl	(3)	10.487(0.000)	172	1715909	22.952	92%		70 - 130
179) Terphenyl-d14	(5)	15.692(0.000)	244	2138413	23.329	93%		70 - 130

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
108) 2,6-Dinitrotoluene	(3)	11.233(0.000)	165	187933	13.422	53.91			0.1
118) 2,4-Dinitrotoluene	(3)	11.833(0.000)	165	252389	13.254	53.23			0.3
124) Diethylphthalate	(3)	12.194(0.000)	149	843133	11.863	47.64			0.5

Total number of targets = 3

Digitally signed by Anthony P. Bauer on 10/31/2016 at 23:26. Target 3.5 esignature user ID: apb10206



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1044.d
Injection date and time: 31-OCT-2016 15:16

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m
Calibration date and time: 31-OCT-2016 11:03

Sublist used: 22230M

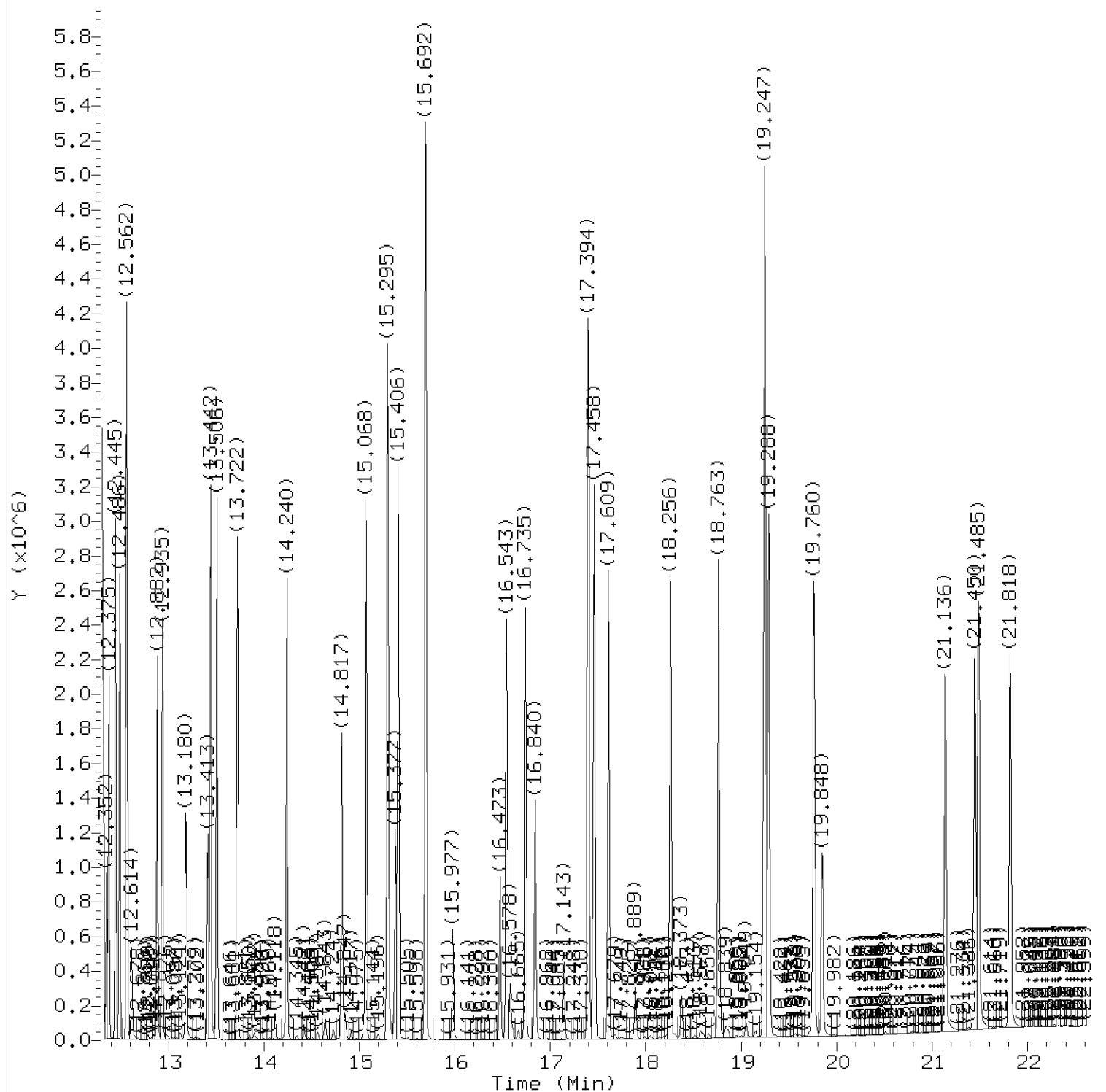
Date, time and analyst ID of latest file update: 31-Oct-2016 15:43 Automation

Sample Name: R7604MS

Lab Sample ID: 8666268

Digitally signed by Anthony P. Bauer
on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206



Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1044.d
Injection date and time: 31-OCT-2016 15:16

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time: 31-OCT-2016 11:03

Date, time and analyst ID of latest file update: 31-Oct-2016 15:43 Automation

Sample Name: R7604MS

Lab Sample ID: 8666268

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
25) *1,4-Dichlorobenzene-d4	(1)	6.809	152	124256	5.000
44) \$Nitrobenzene-d5	(2)	7.637	82	950077	18.981
65) *Naphthalene-d8	(2)	8.738	136	460232	5.000
93) \$2-Fluorobiphenyl	(3)	10.487	172	1715909	22.952
108) 2,6-Dinitrotoluene	(3)	11.233	165	187933	13.422
113) *Acenaphthene-d10	(3)	11.530	164	260152	5.000
118) 2,4-Dinitrotoluene	(3)	11.833	165	252389	13.254
124) Diethylphthalate	(3)	12.195	149	843133	11.863
153) *Phenanthrene-d10	(4)	13.413	188	490511	5.000
175) *Pyrene-d10	(5)	15.377	212	628954	5.000
179) \$Terphenyl-d14	(5)	15.692	244	2138413	23.329
213) *Perylene-d12	(6)	19.848	264	607376	5.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Digitally signed by Anthony P. Bauer
on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206

R7604MSD Lancaster Laboratories, Inc. 8666269

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/16oct31.b/dj1045.d Injection date and time: **31-OCT-2016 15:44**
 Data file Sample Info. Line: R7604MSD;8666269;1;3;MSD;;DRAPERMINI; Instrument ID: **HP19760.i** Batch: **16302WAF**
 Date, time and analyst ID of latest file update: 31-Oct-2016 16:11 Automation

Blank Data file reference: /chem/HP19760.i/16oct31.b/dj1032.d

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m Sublist used: **22230M**
 Calibration date and time (Last Method Edit): 31-OCT-2016 11:03
 Mid Level Daily Calibration Standard Reference: /chem/HP19760.i/16oct31.b/dj1031.d

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
 Sample Volume (Vo): 248 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
=====	=====	=====	=====	=====	=====	=====
25) 1,4-Dichlorobenzene-d4	6.809(-0.006)	793	152	153308 (16)	5.00	
65) Naphthalene-d8	8.738(0.000)	1124	136	564694 (15)	5.00	
113) Acenaphthene-d10	11.524(0.000)	1602	164	328241 (15)	5.00	
153) Phenanthrene-d10	13.413(0.000)	1926	188	616690 (16)	5.00	
175) Pyrene-d10	15.377(0.000)	2263	212	777111 (19)	5.00	
213) Perylene-d12	19.848(0.000)	3030	264	748386 (25)	5.00	

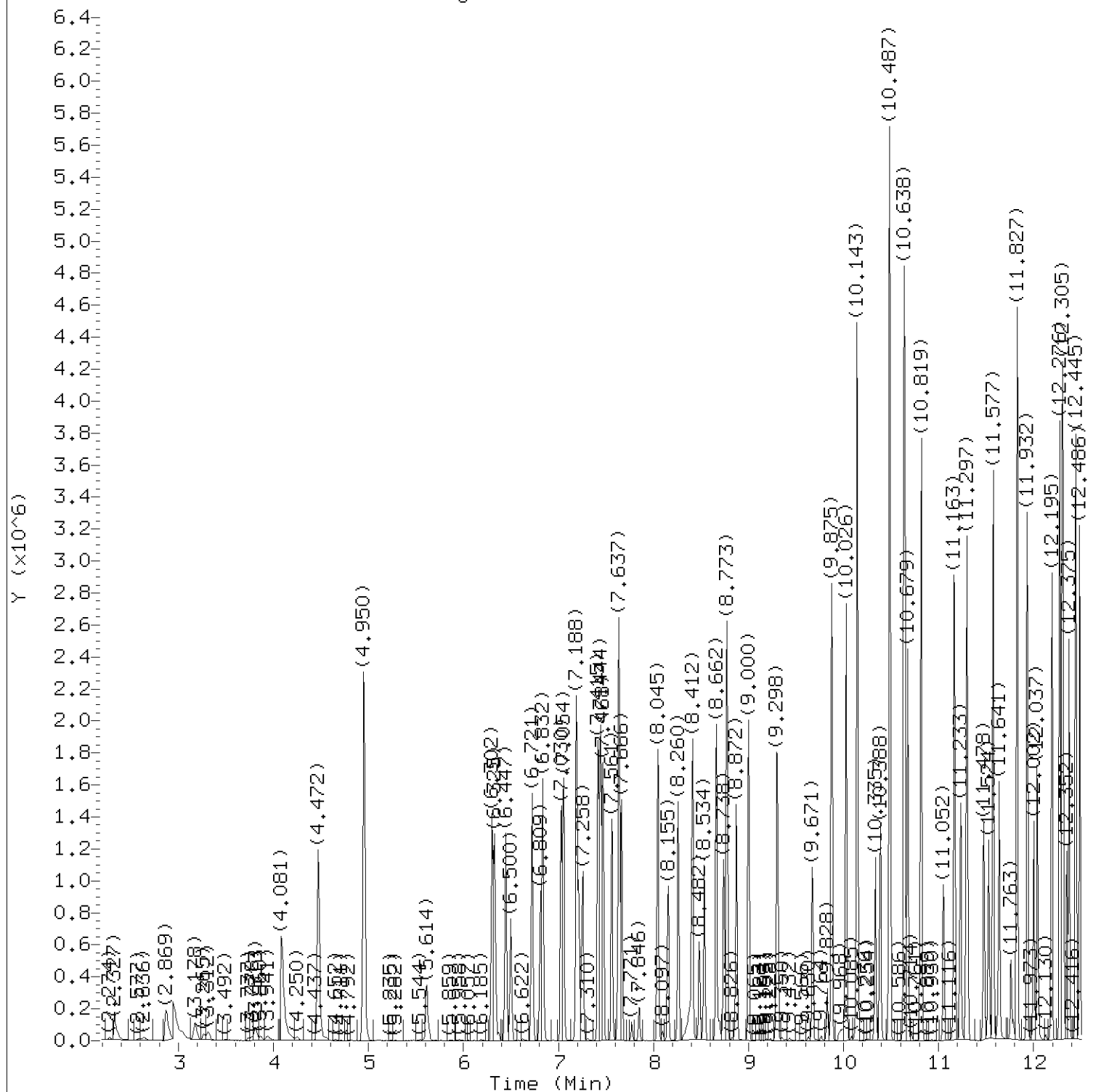
Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
=====	=====	=====	=====	=====	=====	=====	=====	=====
44) Nitrobenzene-d5	(2)	7.637(-0.001)	82	1196115	19.476	78%		70 - 130
93) 2-Fluorobiphenyl	(3)	10.487(0.000)	172	2101853	22.282	89%		70 - 130
179) Terphenyl-d14	(5)	15.698(0.000)	244	2584323	22.818	91%		70 - 130

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
108) 2,6-Dinitrotoluene	(3)	11.233(-0.000)	165	234978	13.301	53.63			0.1
118) 2,4-Dinitrotoluene	(3)	11.833(-0.000)	165	316024	13.154	53.04			0.3
124) Diethylphthalate	(3)	12.194(-0.000)	149	1036779	11.561	46.62			0.5

Total number of targets = 3

Digitally signed by Anthony P. Bauer on 10/31/2016 at 23:26. Target 3.5 esignature user ID: apb10206

Secondary review performed and digitally signed by Mark A. Ratcliff on 11/01/2016 at 22:24. PARALLAX ID: mar00486



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1045.d
Injection date and time: 31-OCT-2016 15:44

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time: 31-OCT-2016 11:03

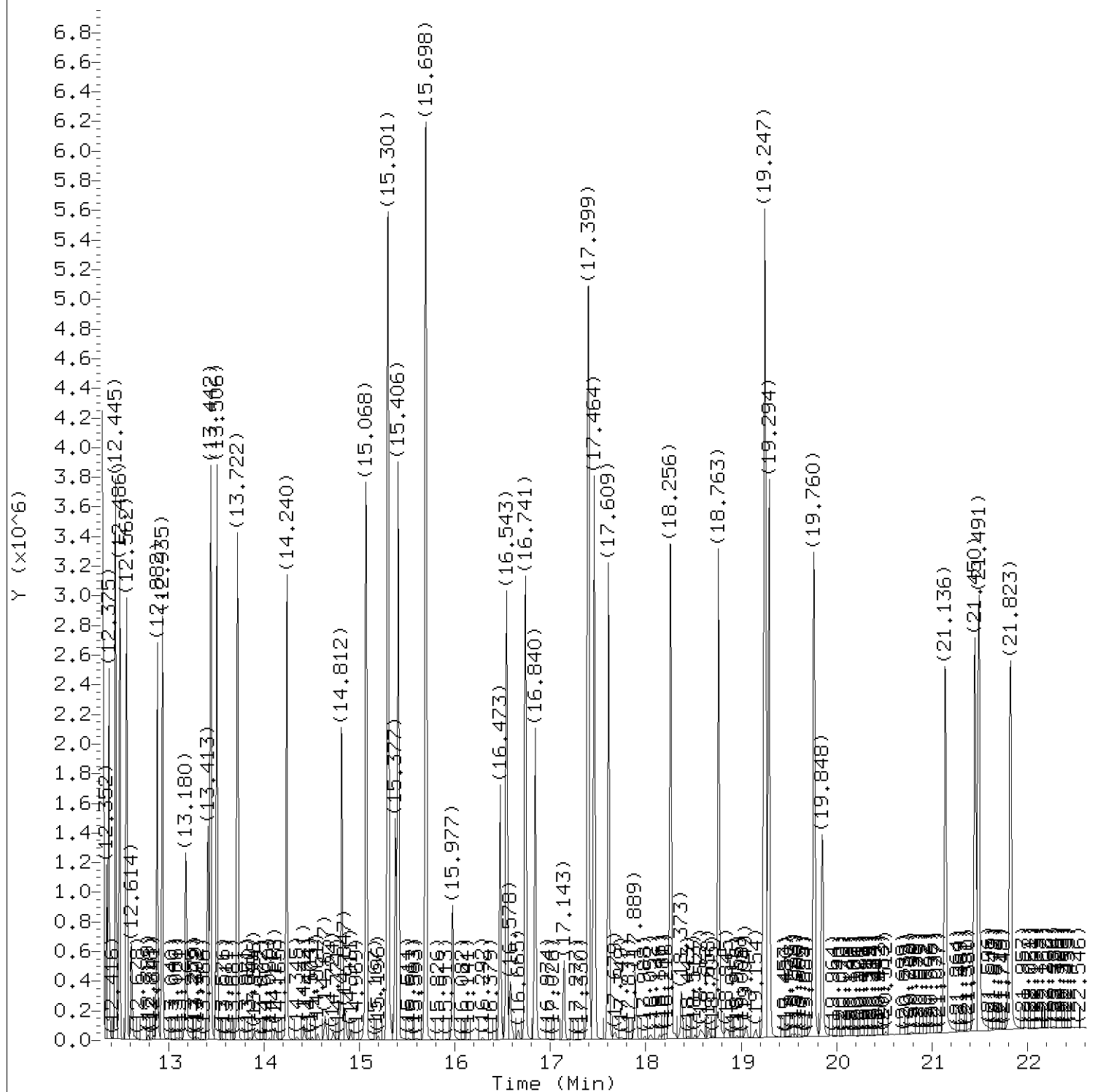
Date, time and analyst ID of latest file update: 31-Oct-2016 16:11 Automation

Sample Name: R7604MSD

Lab Sample ID: 8666269

Digitally signed by Anthony P. Bauer
on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1045.d
Injection date and time: 31-OCT-2016 15:44

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time: 31-OCT-2016 11:03

Date, time and analyst ID of latest file update: 31-Oct-2016 16:11 Automation

Sample Name: R7604MSD

Lab Sample ID: 8666269

Digitally signed by Anthony P. Bauer
on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1045.d

Instrument ID: HP19760.i

Injection date and time: 31-OCT-2016 15:44

Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time: 31-OCT-2016 11:03

Date, time and analyst ID of latest file update: 31-Oct-2016 16:11 Automation

Sample Name: R7604MSD

Lab Sample ID: 8666269

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
25) *1,4-Dichlorobenzene-d4	(1)	6.809	152	153308	5.000
44) \$Nitrobenzene-d5	(2)	7.637	82	1196115	19.476
65) *Naphthalene-d8	(2)	8.738	136	564694	5.000
93) \$2-Fluorobiphenyl	(3)	10.487	172	2101853	22.282
108) 2,6-Dinitrotoluene	(3)	11.233	165	234978	13.301
113) *Acenaphthene-d10	(3)	11.524	164	328241	5.000
118) 2,4-Dinitrotoluene	(3)	11.833	165	316024	13.154
124) Diethylphthalate	(3)	12.195	149	1036779	11.561
153) *Phenanthrene-d10	(4)	13.413	188	616690	5.000
175) *Pyrene-d10	(5)	15.377	212	777111	5.000
179) \$Terphenyl-d14	(5)	15.698	244	2584323	22.818
213) *Perylene-d12	(6)	19.848	264	748386	5.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Digitally signed by Anthony P. Bauer

on 10/31/2016 at 23:26.

Target 3.5 esignature user ID: apb10206

302WFLCS Lancaster Laboratories, Inc. 302WFLCS

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/16oct31.b/dj1033.d Injection date and time: **31-OCT-2016 08:46**
 Data file Sample Info. Line: 302WFLCS;302WFLCS;1;3;LCS;;DRAPERMINI; Instrument ID: **HP19760.i** Batch: **16302WAF**
 Date, time and analyst ID of latest file update: 31-Oct-2016 11:03 hbz01996

Blank Data file reference: /chem/HP19760.i/16oct31.b/dj1032.d

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m Sublist used: **22230M**
 Calibration date and time (Last Method Edit): 31-OCT-2016 11:03
 Mid Level Daily Calibration Standard Reference: /chem/HP19760.i/16oct31.b/dj1031.d

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
 Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

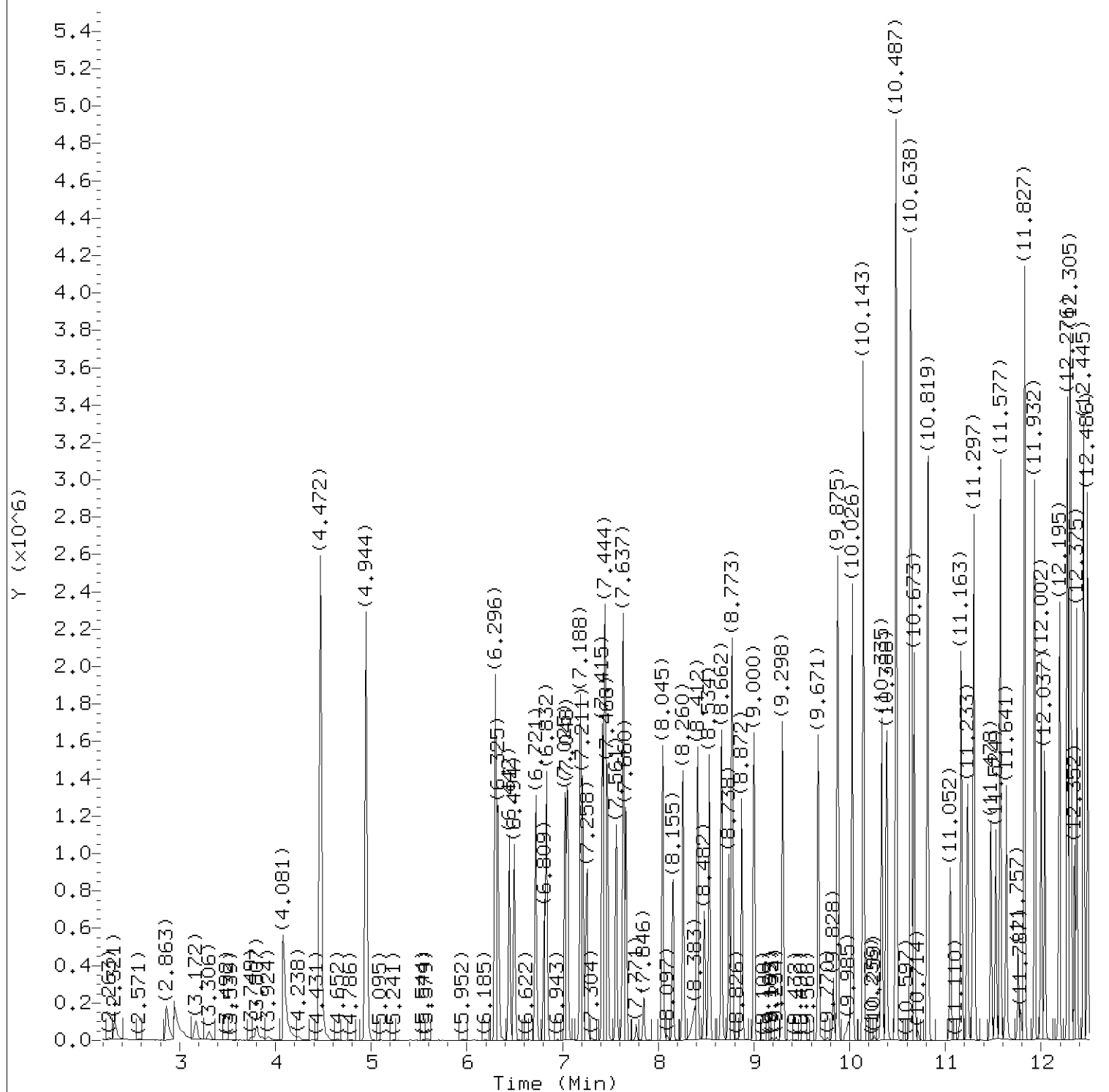
Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
=====	=====	=====	=====	=====	=====	=====
25) 1,4-Dichlorobenzene-d4	6.809(-0.006)	793	152	133815 (2)	5.00	
65) Naphthalene-d8	8.738(0.000)	1124	136	501128 (2)	5.00	
113) Acenaphthene-d10	11.524(0.000)	1602	164	285927 (0)	5.00	
153) Phenanthrene-d10	13.413(0.000)	1926	188	537171 (1)	5.00	
175) Pyrene-d10	15.377(0.000)	2263	212	687818 (5)	5.00	
213) Perylene-d12	19.853(-0.006)	3031	264	663250 (11)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
=====	=====	=====	=====	=====	=====	=====	=====	=====
44) Nitrobenzene-d5	(2)	7.637(-0.001)	82	1033745	18.967	76%		70 - 130
93) 2-Fluorobiphenyl	(3)	10.487(0.000)	172	1804857	21.965	88%		70 - 130
179) Terphenyl-d14	(5)	15.692(0.000)	244	2306553	23.010	92%		70 - 130

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
108) 2,6-Dinitrotoluene	(3)	11.233(-0.000)	165	203910	13.251	53.00			0.1
118) 2,4-Dinitrotoluene	(3)	11.833(-0.000)	165	279182	13.340	53.36			0.3
124) Diethylphthalate	(3)	12.194(-0.000)	149	810489	10.375	41.50			0.5

Total number of targets = 3

Digitally signed by Holly B. Ziegler on 10/31/2016 at 11:04. Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1033.d
Injection date and time: 31-OCT-2016 08:46

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m
Calibration date and time: 31-OCT-2016 11:03

Sublist used: 22230M

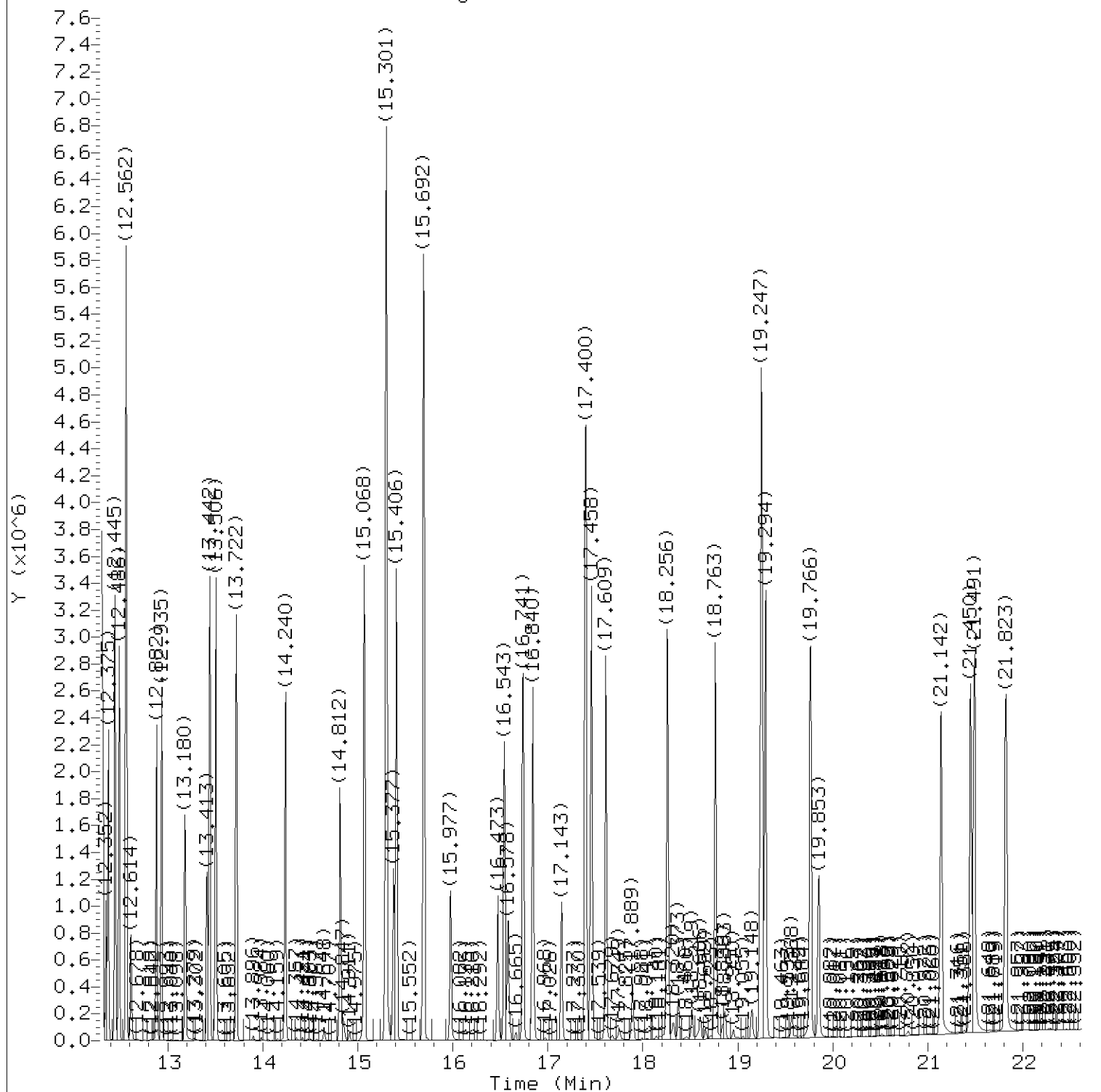
Date, time and analyst ID of latest file update: 31-Oct-2016 11:03 hbz01996

Sample Name: 302WFLCS

Lab Sample ID: 302WFLCS

Digitally signed by Holly B. Ziegler
on 10/31/2016 at 11:04.

Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1033.d
Injection date and time: 31-OCT-2016 08:46

Instrument ID: HP19760.i
Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time: 31-OCT-2016 11:03

Date, time and analyst ID of latest file update: 31-Oct-2016 11:03 hbz01996

Sample Name: 302WFLCS

Lab Sample ID: 302WFLCS

Digitally signed by Holly B. Ziegler
on 10/31/2016 at 11:04.

Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/16oct31.b/dj1033.d

Instrument ID: HP19760.i

Injection date and time: 31-OCT-2016 08:46

Analyst ID: hbz01996

Method used: /chem/HP19760.i/16oct31.b/rv8270d.m

Sublist used: 22230M

Calibration date and time: 31-OCT-2016 11:03

Date, time and analyst ID of latest file update: 31-Oct-2016 11:03 hbz01996

Sample Name: 302WFLCS

Lab Sample ID: 302WFLCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
=====	=====	=====	=====	=====	=====
25) *1,4-Dichlorobenzene-d4	(1)	6.809	152	133815	5.000
44) \$Nitrobenzene-d5	(2)	7.637	82	1033745	18.967
65) *Naphthalene-d8	(2)	8.738	136	501128	5.000
93) \$2-Fluorobiphenyl	(3)	10.487	172	1804857	21.965
108) 2,6-Dinitrotoluene	(3)	11.233	165	203910	13.251
113) *Acenaphthene-d10	(3)	11.524	164	285927	5.000
118) 2,4-Dinitrotoluene	(3)	11.833	165	279182	13.340
124) Diethylphthalate	(3)	12.195	149	810489	10.375
153) *Phenanthrene-d10	(4)	13.413	188	537171	5.000
175) *Pyrene-d10	(5)	15.377	212	687818	5.000
179) \$Terphenyl-d14	(5)	15.692	244	2306553	23.010
213) *Perylene-d12	(6)	19.853	264	663250	5.000

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler

on 10/31/2016 at 11:04.

Target 3.5 esignature user ID: hbz01996

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page 1 of 1

Extraction/Distillation/Digestion Logs

Semivolatiles by GC/MS

Organic Extraction Batchlog

Assigned to: 9874 Kayla Yuditsky

Reviewed by: HBellierStart Date: 10-30-16Start time: 8:00

16302WAF026

Tech 1: 329121

Tech 2: _____

Dept: 26		Prep Analysis: 11010 8270D BNA Extraction				SVOAs 8270D MINI					
QC	Sample Code	Amt (μL)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH 2	pH 11	BC	Comments
8666268MS	R7604	249	SS1629526A	1.0	MS1629526A	1.0	1.0	✓	✓	153A	Clear
8666269MSD	R7604	248	SS1629526A	1.0	MS1629526A	1.0	1.0	✓	✓	153A	↓
BLANKA	SBLKWF302	250	SS1629526A	1.0			1.0	✓	✓		Top 620
LCSA	302WFLCS	250	SS1629526A	1.0	MS1629526A	1.0	1.0	✓	✓	2	↓

Solvent Used	Lot No.
10N NaOH	4605A75
Methylene Chloride	166575
Sodium Sulfate	16300A
Sulfuric Acid	163621

② 08 2894 10-30-16 Spike Solutions: MS1629526B MS1629526A SS1629526A

Witness: N/A

MINI SEP. LCS SPIKE #1

MINI SEP. BNA SURROGATE

Sample #	Sample Code	Amt (μL)	SS/IS Sol.	Amt (mL)	FV (mL)	pH 2	pH 11	BC	Comments	Analyses	List	Due Date	Prio
1 8666264	R7601	249	SS1629526A	1.0	1.0	✓	✓	153A	Clear	14241	22230	11/08/2016	N
2 8666265	R7602	247	SS1629526A	1.0	1.0	✓	✓	153A		14241	22230	11/08/2016	N
3 8666266	R7603	248	SS1629526A	1.0	1.0	✓	✓	153A		14241	22230	11/08/2016	N
4 8666267BKG	R7604	249	SS1629526A	1.0	1.0	✓	✓	153A		14241	22230	11/08/2016	N
5 8666270	R7605	250	SS1629526A	1.0	1.0	✓	✓	153A		14241	22230	11/08/2016	N
6 8666271	R7606	247	SS1629526A	1.0	1.0	✓	✓	153A		14241	22230	11/08/2016	N
7 8666272	R7607	248	SS1629526A	1.0	1.0	✓	✓	153A		14241	22230	11/08/2016	N
8 8666273	R7608	246	SS1629526A	1.0	1.0	✓	✓	153A		14241	22230	11/08/2016	N
9 8666274	R7609	249	SS1629526A	1.0	1.0	✓	✓	153A		14241	22230	11/08/2016	N
10 8666275	R7610	250	SS1629526A	1.0	1.0	✓	✓	153A		14241	22230	11/08/2016	N
11 8666276	R7611	248	SS1629526A	1.0	1.0	✓	✓	153A		14241	22230	11/08/2016	N

RAE76 Page 883 of 883

Bench#	Bench#	Bench#
Rack ID:	Work Station	Micro Temp
Internal Standard	Balance #	100?

R-VAP ID	88° C	R-VAP ID	89° C	R-VAP ID	C
S-bath ID	C	S-bath ID	C	N-Evap	C
				M-vap	C

16302WAF026

DF = Dilution Factor FV = Final Volume

Page 1 of 1

Documented temps are NIST corrected.



Report of Analysis

Draper Aden Associates

2206 South Main Street

Blacksburg, VA 24060

Attention: Janet Frazier

Project Name: **RAAP HWMU16-2016 2nd Semiannual**

Project Number: **B03204-16A**

Lot Number: **RJ27005**

Date Completed: **12/09/2016**

Date Revised: **12/07/2016**



Catherine S. Dover

Project Manager



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The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

SHEALY ENVIRONMENTAL SERVICES, INC.

SC DHEC No: 32010

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

Case Narrative

Draper Aden Associates

Lot Number: RJ27005

Project Name: RAAP HWMU16-2016 2nd Semiannual

Project Number: B03204-16A

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Metals data/forms revised to report RAAP HWMU16 project elements and DLs.

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary
Draper Aden Associates
Lot Number: RJ27005

Project Name: RAAP HWMU16-2016 2nd Semiannual
Project Number: B03204-16A

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	16C1	Aqueous	10/25/2016 1430	10/27/2016
002	16MW8	Aqueous	10/24/2016 1250	10/27/2016
003	16MW9	Aqueous	10/25/2016 1300	10/27/2016
004	16WC1A	Aqueous	10/25/2016 1145	10/27/2016
005	16WDUP	Aqueous	10/25/2016 1200	10/27/2016
006	16WC1B	Aqueous	10/25/2016 1055	10/27/2016
007	16-2	Aqueous	10/24/2016 1155	10/27/2016
008	16-3	Aqueous	10/24/2016 1355	10/27/2016
009	16-5	Aqueous	10/24/2016 0940	10/27/2016
010	16WC2B	Aqueous	10/24/2016 1050	10/27/2016
011	16SPRING	Aqueous	10/24/2016 1000	10/27/2016

(11 samples)

ICP-MS

Client: Draper Aden Associates				Laboratory ID: RJ27005-001			
Description: 16C1				Matrix: Aqueous			
Date Sampled: 10/25/2016 1430				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	11/04/2016 1532	DDD	11/02/2016 0938	25726

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	1
Barium	7440-39-3	6020A	200		10	ug/L	1
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	1.0	U	1.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	1
Vanadium	7440-62-2	6020A	11		10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

Shealy Environmental Services, Inc.
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Mercury

Client: Draper Aden Associates				Laboratory ID: RJ27005-001			
Description: 16C1				Matrix: Aqueous			
Date Sampled: 10/25/2016 1430				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	11/01/2016 1504	COH	11/01/2016 1155	25639

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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ICP-MS

Client: Draper Aden Associates				Laboratory ID: RJ27005-002			
Description: 16MW8				Matrix: Aqueous			
Date Sampled: 10/24/2016 1250				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	11/04/2016 1536	DDD	11/02/2016 0938	25726

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	1
Barium	7440-39-3	6020A	130		10	ug/L	1
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	31		5.0	ug/L	1
Lead	7439-92-1	6020A	2.7		1.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	1
Vanadium	7440-62-2	6020A	11		10	ug/L	1
Zinc	7440-66-6	6020A	130		30	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and $\geq$ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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Mercury

Client: Draper Aden Associates				Laboratory ID: RJ27005-002			
Description: 16MW8				Matrix: Aqueous			
Date Sampled: 10/24/2016 1250				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	11/01/2016 1507	COH	11/01/2016 1155	25639

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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ICP-MS

Client: Draper Aden Associates				Laboratory ID: RJ27005-003			
Description: 16MW9				Matrix: Aqueous			
Date Sampled: 10/25/2016 1300				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	11/04/2016 1540	DDD	11/02/2016 0938	25726

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	1
Barium	7440-39-3	6020A	520		10	ug/L	1
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	1.0	U	1.0	ug/L	1
Nickel	7440-02-0	6020A	14		10	ug/L	1
Vanadium	7440-62-2	6020A	11		10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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Mercury

Client: Draper Aden Associates				Laboratory ID: RJ27005-003			
Description: 16MW9				Matrix: Aqueous			
Date Sampled: 10/25/2016 1300				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	11/01/2016 1510	COH	11/01/2016 1155	25639

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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ICP-MS

Client: Draper Aden Associates				Laboratory ID: RJ27005-004			
Description: 16WC1A				Matrix: Aqueous			
Date Sampled: 10/25/2016 1145				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	11/04/2016 1543	DDD	11/02/2016 0938	25726

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	1
Barium	7440-39-3	6020A	310		10	ug/L	1
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	6.0		5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	1.0	U	1.0	ug/L	1
Nickel	7440-02-0	6020A	11		10	ug/L	1
Vanadium	7440-62-2	6020A	11		10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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Mercury

Client: Draper Aden Associates				Laboratory ID: RJ27005-004			
Description: 16WC1A				Matrix: Aqueous			
Date Sampled: 10/25/2016 1145				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	11/01/2016 1513	COH	11/01/2016 1155	25639

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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ICP-MS

Client: Draper Aden Associates				Laboratory ID: RJ27005-005			
Description: 16WDUP				Matrix: Aqueous			
Date Sampled: 10/25/2016 1200				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	11/04/2016 1609	DDD	11/02/2016 0938	25726

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	1
Barium	7440-39-3	6020A	320		10	ug/L	1
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	6.3		5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	1.0	U	1.0	ug/L	1
Nickel	7440-02-0	6020A	11		10	ug/L	1
Vanadium	7440-62-2	6020A	11		10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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Mercury

Client: Draper Aden Associates				Laboratory ID: RJ27005-005			
Description: 16WDUP				Matrix: Aqueous			
Date Sampled: 10/25/2016 1200				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	11/01/2016 1520	COH	11/01/2016 1155	25639

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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ICP-MS

Client: Draper Aden Associates				Laboratory ID: RJ27005-006			
Description: 16WC1B				Matrix: Aqueous			
Date Sampled: 10/25/2016 1055				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	11/04/2016 1612	DDD	11/02/2016 0938	25726

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	1
Barium	7440-39-3	6020A	130		10	ug/L	1
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	15		5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	1.0	U	1.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	1
Vanadium	7440-62-2	6020A	10		10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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Mercury

Client: Draper Aden Associates				Laboratory ID: RJ27005-006			
Description: 16WC1B				Matrix: Aqueous			
Date Sampled: 10/25/2016 1055				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	7470A	7470A	1	11/10/2016 1132	SLS	11/09/2016 1747	26371

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	2

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
U = Not detected at or above the detection limit J = Estimated result < PQL and $\geq$ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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ICP-MS

Client: Draper Aden Associates				Laboratory ID: RJ27005-007			
Description: 16-2				Matrix: Aqueous			
Date Sampled: 10/24/2016 1155				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	11/04/2016 1616	DDD	11/02/2016 0938	25726

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	1
Barium	7440-39-3	6020A	240		10	ug/L	1
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	1.0	U	1.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	1
Vanadium	7440-62-2	6020A	12		10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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Mercury

Client: Draper Aden Associates				Laboratory ID: RJ27005-007			
Description: 16-2				Matrix: Aqueous			
Date Sampled: 10/24/2016 1155				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	11/01/2016 1529	COH	11/01/2016 1155	25639

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
U = Not detected at or above the detection limit J = Estimated result < PQL and $\geq$ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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ICP-MS

Client: Draper Aden Associates				Laboratory ID: RJ27005-008			
Description: 16-3				Matrix: Aqueous			
Date Sampled: 10/24/2016 1355				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	11/04/2016 1619	DDD	11/02/2016 0938	25726

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	1
Barium	7440-39-3	6020A	770		10	ug/L	1
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	1.0	U	1.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	1
Vanadium	7440-62-2	6020A	13		10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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Mercury

Client: Draper Aden Associates				Laboratory ID: RJ27005-008			
Description: 16-3				Matrix: Aqueous			
Date Sampled: 10/24/2016 1355				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	11/01/2016 1532	COH	11/01/2016 1155	25639

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and $\geq$ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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ICP-MS

Client: Draper Aden Associates				Laboratory ID: RJ27005-009			
Description: 16-5				Matrix: Aqueous			
Date Sampled: 10/24/2016 0940				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	11/04/2016 1623	DDD	11/02/2016 0938	25726

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	1
Barium	7440-39-3	6020A	170		10	ug/L	1
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	1.0	U	1.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	1
Vanadium	7440-62-2	6020A	13		10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and $\geq$ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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Mercury

Client: Draper Aden Associates				Laboratory ID: RJ27005-009			
Description: 16-5				Matrix: Aqueous			
Date Sampled: 10/24/2016 0940				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	11/01/2016 1534	COH	11/01/2016 1155	25639

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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ICP-MS

Client: Draper Aden Associates				Laboratory ID: RJ27005-010			
Description: 16WC2B				Matrix: Aqueous			
Date Sampled: 10/24/2016 1050				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	11/04/2016 1627	DDD	11/02/2016 0938	25726

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	1
Barium	7440-39-3	6020A	110		10	ug/L	1
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	1.0	U	1.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	1
Vanadium	7440-62-2	6020A	13		10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and $\geq$ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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Mercury

Client: Draper Aden Associates				Laboratory ID: RJ27005-010			
Description: 16WC2B				Matrix: Aqueous			
Date Sampled: 10/24/2016 1050				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	11/01/2016 1536	COH	11/01/2016 1155	25639

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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ICP-MS

Client: Draper Aden Associates				Laboratory ID: RJ27005-011			
Description: 16SPRING				Matrix: Aqueous			
Date Sampled: 10/24/2016 1000				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	11/04/2016 1630	DDD	11/02/2016 0938	25726

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	1
Barium	7440-39-3	6020A	210		10	ug/L	1
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	1.0	U	1.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	1
Vanadium	7440-62-2	6020A	13		10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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Mercury

Client: Draper Aden Associates				Laboratory ID: RJ27005-011			
Description: 16SPRING				Matrix: Aqueous			
Date Sampled: 10/24/2016 1000				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	11/01/2016 1539	COH	11/01/2016 1155	25639

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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QC Summary

ICP-MS - MB

Sample ID: RQ25726-001

Matrix: Aqueous

Batch: 25726

Prep Method: 3005A

Analytical Method: 6020A

Prep Date: 11/02/2016 938

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Arsenic	10	U	1	10	ug/L	11/04/2016 1525
Barium	10	U	1	10	ug/L	11/04/2016 1525
Beryllium	1.0	U	1	1.0	ug/L	11/04/2016 1525
Cadmium	1.0	U	1	1.0	ug/L	11/04/2016 1525
Chromium	5.0	U	1	5.0	ug/L	11/04/2016 1525
Cobalt	5.0	U	1	5.0	ug/L	11/04/2016 1525
Copper	5.0	U	1	5.0	ug/L	11/04/2016 1525
Lead	1.0	U	1	1.0	ug/L	11/04/2016 1525
Nickel	10	U	1	10	ug/L	11/04/2016 1525
Vanadium	10	U	1	10	ug/L	11/04/2016 1525
Zinc	30	U	1	30	ug/L	11/04/2016 1525

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

U = Not detected at or above the detection limit

J = Estimated result < PQL and $\geq$ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

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QC Data for Lot Number: RJ27005

ICP-MS - LCS

Sample ID: RQ25726-002

Matrix: Aqueous

Batch: 25726

Prep Method: 3005A

Analytical Method: 6020A

Prep Date: 11/02/2016 938

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Arsenic	100	96		1	96	80-120	11/04/2016 1529
Barium	100	100		1	100	80-120	11/04/2016 1529
Beryllium	100	100		1	101	80-120	11/04/2016 1529
Cadmium	100	99		1	99	80-120	11/04/2016 1529
Chromium	100	100		1	104	80-120	11/04/2016 1529
Cobalt	100	100		1	104	80-120	11/04/2016 1529
Copper	100	100		1	100	80-120	11/04/2016 1529
Lead	100	110		1	107	80-120	11/04/2016 1529
Nickel	100	94		1	94	80-120	11/04/2016 1529
Vanadium	100	110		1	114	80-120	11/04/2016 1529
Zinc	100	99		1	99	80-120	11/04/2016 1529

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

U = Not detected at or above the detection limit

J = Estimated result < PQL and $\geq$ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

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QC Data for Lot Number: RJ27005

ICP-MS - MS

Sample ID: RJ27005-004MS

Matrix: Aqueous

Batch: 25726

Prep Method: 3005A

Analytical Method: 6020A

Prep Date: 11/02/2016 938

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Arsenic	0.0	100	100		1	100	75-125	11/04/2016 1547
Barium	310	100	410		1	108	75-125	11/04/2016 1547
Beryllium	0.0	100	100		1	101	75-125	11/04/2016 1547
Cadmium	0.0	100	97		1	97	75-125	11/04/2016 1547
Chromium	0.0	100	110		1	106	75-125	11/04/2016 1547
Cobalt	6.0	100	110		1	103	75-125	11/04/2016 1547
Copper	0.0	100	94		1	94	75-125	11/04/2016 1547
Lead	0.0	100	100		1	103	75-125	11/04/2016 1547
Nickel	11	100	100		1	92	75-125	11/04/2016 1547
Vanadium	11	100	120		1	109	75-125	11/04/2016 1547
Zinc	0.0	100	97		1	97	75-125	11/04/2016 1547

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

U = Not detected at or above the detection limit

J = Estimated result < PQL and $\geq$ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

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QC Data for Lot Number: RJ27005

ICP-MS - MSD

Sample ID: RJ27005-004MD

Matrix: Aqueous

Batch: 25726

Prep Method: 3005A

Analytical Method: 6020A

Prep Date: 11/02/2016 938

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Arsenic	0.0	100	100		1	102	1.1	75-125	20	11/04/2016 1550
Barium	310	100	420		1	118	2.6	75-125	20	11/04/2016 1550
Beryllium	0.0	100	100		1	101	0.00	75-125	20	11/04/2016 1550
Cadmium	0.0	100	98		1	98	0.17	75-125	20	11/04/2016 1550
Chromium	0.0	100	100		1	105	0.86	75-125	20	11/04/2016 1550
Cobalt	6.0	100	110		1	102	0.55	75-125	20	11/04/2016 1550
Copper	0.0	100	96		1	96	1.3	75-125	20	11/04/2016 1550
Lead	0.0	100	100		1	101	2.0	75-125	20	11/04/2016 1550
Nickel	11	100	100		1	93	1.2	75-125	20	11/04/2016 1550
Vanadium	11	100	120		1	109	0.083	75-125	20	11/04/2016 1550
Zinc	0.0	100	96		1	96	0.68	75-125	20	11/04/2016 1550

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

U = Not detected at or above the detection limit

J = Estimated result < PQL and $\geq$ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Shealy Environmental Services, Inc.

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QC Data for Lot Number: RJ27005

Mercury - MB

Sample ID: RQ25639-001

Matrix: Aqueous

Batch: 25639

Prep Method: 7470A

Analytical Method: 7470A

Prep Date: 11/01/2016 1155

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Mercury	2.0	U	1	2.0	ug/L	11/01/2016 1458

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

U = Not detected at or above the detection limit

J = Estimated result < PQL and $\geq$ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

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QC Data for Lot Number: RJ27005

Mercury - LCS

Sample ID: RQ25639-002

Matrix: Aqueous

Batch: 25639

Prep Method: 7470A

Analytical Method: 7470A

Prep Date: 11/01/2016 1155

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Mercury	2.0	2.0		1	99	80-120	11/01/2016 1501

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

U = Not detected at or above the detection limit

J = Estimated result < PQL and $\geq$ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

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QC Data for Lot Number: RJ27005

Mercury - MS

Sample ID: RJ27005-004MS

Matrix: Aqueous

Batch: 25639

Prep Method: 7470A

Analytical Method: 7470A

Prep Date: 11/01/2016 1155

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Mercury	0.0	2.0	1.9		1	93	85-115	11/01/2016 1515

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

U = Not detected at or above the detection limit

J = Estimated result < PQL and $\geq$ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

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QC Data for Lot Number: RJ27005

Mercury - MSD

Sample ID: RJ27005-004MD

Matrix: Aqueous

Batch: 25639

Prep Method: 7470A

Analytical Method: 7470A

Prep Date: 11/01/2016 1155

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Mercury	0.0	2.0	1.9		1	95	2.1	85-115	20	11/01/2016 1517

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

U = Not detected at or above the detection limit

J = Estimated result < PQL and $\geq$ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

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QC Data for Lot Number: RJ27005

Mercury - MB

Sample ID: RQ26371-001

Matrix: Aqueous

Batch: 26371

Prep Method: 7470A

Analytical Method: 7470A

Prep Date: 11/09/2016 1747

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Mercury	2.0	U	1	2.0	ug/L	11/10/2016 1127

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

U = Not detected at or above the detection limit

J = Estimated result < PQL and $\geq$ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

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QC Data for Lot Number: RJ27005

Mercury - LCS

Sample ID: RQ26371-002

Matrix: Aqueous

Batch: 26371

Prep Method: 7470A

Analytical Method: 7470A

Prep Date: 11/09/2016 1747

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Mercury	2.0	2.2		1	108	80-120	11/10/2016 1129

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

U = Not detected at or above the detection limit

J = Estimated result < PQL and $\geq$ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

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QC Data for Lot Number: RJ27005

Mercury - MS

Sample ID: RJ27005-006MS

Matrix: Aqueous

Batch: 26371

Prep Method: 7470A

Analytical Method: 7470A

Prep Date: 11/09/2016 1747

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Mercury	0.0	2.0	2.5	N	1	126	85-115	11/10/2016 1135

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

U = Not detected at or above the detection limit

J = Estimated result < PQL and $\geq$ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

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QC Data for Lot Number: RJ27005

Mercury - MSD

Sample ID: RJ27005-006MD

Matrix: Aqueous

Batch: 26371

Prep Method: 7470A

Analytical Method: 7470A

Prep Date: 11/09/2016 1747

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Mercury	0.0	2.0	2.6	N	1	127	1.2	85-115	20	11/10/2016 1137

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

U = Not detected at or above the detection limit

J = Estimated result < PQL and $\geq$ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

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QC Data for Lot Number: RJ27005

Chain of Custody and Miscellaneous Documents

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SHEALY ENVIRONMENTAL SERVICES, INC.

HWMU16
Radford Army Ammunition Plant
Semiannual Monitoring Event
DAA JN: B03204-16A

ANALYTICAL METHOD: SEE BELOW
TYPE METHOD: SEE BELOW
CLASS: TOTAL

Method SW 846-6020A/3005A (ICP/MS)

No.	ANALYTE	CAS RN	Required LOQ (µg/l)
1.	Arsenic	7440-38-2	10
2.	Barium	7440-39-3	10
3.	Beryllium	7440-41-7	1
4.	Cadmium	7440-43-9	1
5.	Chromium	7440-47-3	5
6.	Cobalt	7440-48-4	5
7.	Copper	7440-50-8	5
8.	Lead	7440-92-1	1
9.	Nickel	7440-02-0	10
10.	Vanadium	7440-62-2	10
11.	Zinc	7440-66-6	30

Method SW 7470A/CVAA

12	Mercury	7439-97-6 2/7470A	2

Notes: Antimony, selenium and silver deleted 4-6, 2012.
11 Zinc QL increased 11 2016

10/2016 JCF

JCF
10/11/16

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
Document Number: ME0018C-05

Page 1 of 1
Effective Date: 09/28/2016
Expiry Date: 09/28/2021

Sample Receipt Checklist (SRC)

Client: Draper Cooler Inspected by/date: man/10/21/16 Lot #: 12027005

Means of receipt: ☐ SESI ☐ Client ☒ UPS ☐ FedEx ☐ Other _____		
Yes ☒	No ☐	1. Were custody seals present on the cooler?
Yes ☒	No ☐	2. If custody seals were present, were they intact and unbroken?
pH strip ID: _____ CI strip ID: _____		
Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt: <u>382/44/46</u> °C / / °C / / °C / / °C		
Method: ☒ Temperature Blank ☐ Against Bottles IR Gun ID: <u>6</u> IR Gun Correction Factor: <u>0.2</u> °C		
Method of coolant: ☒ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None		
Yes ☐	No ☐	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
Yes ☒	No ☐	4. Is the commercial courier's packing slip attached to this form?
Yes ☒	No ☐	5. Were proper custody procedures (relinquished/received) followed?
Yes ☒	No ☐	6. Were sample IDs listed on the COC?
Yes ☒	No ☐	7. Were sample IDs listed on all sample containers?
Yes ☒	No ☐	8. Was collection date & time listed on the COC?
Yes ☒	No ☐	9. Was collection date & time listed on all sample containers?
Yes ☒	No ☐	10. Did all container label information (ID, date, time) agree with the COC?
Yes ☒	No ☐	11. Were tests to be performed listed on the COC?
Yes ☒	No ☐	12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
Yes ☒	No ☐	13. Was adequate sample volume available?
Yes ☐	No ☒	14. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☒	15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
Yes ☐	No ☐	16. Were bubbles present >"pea-size" (¼" or 6mm in diameter) in any VOA vials?
Yes ☒	No ☐	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
Yes ☐	No ☐	18. Were all cyanide and/or sulfide samples received at a pH > 12?
Yes ☐	No ☐	19. Were all applicable NH3/TKN/cyanide/phenol/BNA (<0.2mg/L) samples free of residual chlorine?
Yes ☐	No ☐	20. Were collection temperatures documented on the COC for NC samples?
Yes ☒	No ☐	21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS?
Yes ☐	No ☒	22. Was the quote number used taken from the container label?
Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)		
Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H2SO4, HNO3, HCl, NaOH) using SR # _____		
Sample(s) _____ were received with bubbles >6 mm in diameter.		
Sample(s) _____ were received with TRC >0.2 mg/L (If #21 is No) and were adjusted accordingly in sample receiving with sodium thiosulfate (NA2S2O3) with Shealy ID: _____		
SC Drinking Water Project Sample(s) pH verified to be > 2 by _____ Date: _____		
Sample(s) _____ were Not received at a pH of < 2 and were adjusted accordingly using SR# _____		
Sample labels applied by: <u>man</u> Verified by: _____ Date: <u>10/21/16</u>		

Comments: _____

Metals



ICP-MS

Client: Draper Aden Associates				Laboratory ID: RJ27005-001			
Description: 16C1				Matrix: Aqueous			
Date Sampled: 10/25/2016 1430				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	11/04/2016 1532	DDD	11/02/2016 0938	25726

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	1
Barium	7440-39-3	6020A	200		10	ug/L	1
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	1.0	U	1.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	1
Vanadium	7440-62-2	6020A	11		10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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Mercury

Client: Draper Aden Associates				Laboratory ID: RJ27005-001			
Description: 16C1				Matrix: Aqueous			
Date Sampled: 10/25/2016 1430				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	11/01/2016 1504	COH	11/01/2016 1155	25639

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
U = Not detected at or above the detection limit J = Estimated result < PQL and $\geq$ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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ICP-MS

Client: Draper Aden Associates				Laboratory ID: RJ27005-002			
Description: 16MW8				Matrix: Aqueous			
Date Sampled: 10/24/2016 1250				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	11/04/2016 1536	DDD	11/02/2016 0938	25726

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	1
Barium	7440-39-3	6020A	130		10	ug/L	1
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	31		5.0	ug/L	1
Lead	7439-92-1	6020A	2.7		1.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	1
Vanadium	7440-62-2	6020A	11		10	ug/L	1
Zinc	7440-66-6	6020A	130		30	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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Mercury

Client: Draper Aden Associates				Laboratory ID: RJ27005-002			
Description: 16MW8				Matrix: Aqueous			
Date Sampled: 10/24/2016 1250				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	11/01/2016 1507	COH	11/01/2016 1155	25639

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
U = Not detected at or above the detection limit J = Estimated result < PQL and $\geq$ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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ICP-MS

Client: Draper Aden Associates				Laboratory ID: RJ27005-003			
Description: 16MW9				Matrix: Aqueous			
Date Sampled: 10/25/2016 1300				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	11/04/2016 1540	DDD	11/02/2016 0938	25726

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	1
Barium	7440-39-3	6020A	520		10	ug/L	1
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	1.0	U	1.0	ug/L	1
Nickel	7440-02-0	6020A	14		10	ug/L	1
Vanadium	7440-62-2	6020A	11		10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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Mercury

Client: Draper Aden Associates				Laboratory ID: RJ27005-003			
Description: 16MW9				Matrix: Aqueous			
Date Sampled: 10/25/2016 1300				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	11/01/2016 1510	COH	11/01/2016 1155	25639

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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ICP-MS

Client: Draper Aden Associates			Laboratory ID: RJ27005-004		
Description: 16WC1A			Matrix: Aqueous		
Date Sampled: 10/25/2016 1145			Project Name: RAAP HWMU16-2016 2nd		
Date Received: 10/27/2016			Project Number: B03204-16A		

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	11/04/2016 1543	DDD	11/02/2016 0938	25726

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	1
Barium	7440-39-3	6020A	310		10	ug/L	1
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	6.0		5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	1.0	U	1.0	ug/L	1
Nickel	7440-02-0	6020A	11		10	ug/L	1
Vanadium	7440-62-2	6020A	11		10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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Mercury

Client: Draper Aden Associates				Laboratory ID: RJ27005-004			
Description: 16WC1A				Matrix: Aqueous			
Date Sampled: 10/25/2016 1145				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	11/01/2016 1513	COH	11/01/2016 1155	25639

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
U = Not detected at or above the detection limit J = Estimated result < PQL and $\geq$ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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ICP-MS

Client: Draper Aden Associates				Laboratory ID: RJ27005-005			
Description: 16WDUP				Matrix: Aqueous			
Date Sampled: 10/25/2016 1200				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	11/04/2016 1609	DDD	11/02/2016 0938	25726

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	1
Barium	7440-39-3	6020A	320		10	ug/L	1
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	6.3		5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	1.0	U	1.0	ug/L	1
Nickel	7440-02-0	6020A	11		10	ug/L	1
Vanadium	7440-62-2	6020A	11		10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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Mercury

Client: Draper Aden Associates				Laboratory ID: RJ27005-005			
Description: 16WDUP				Matrix: Aqueous			
Date Sampled: 10/25/2016 1200				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	11/01/2016 1520	COH	11/01/2016 1155	25639

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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ICP-MS

Client: Draper Aden Associates				Laboratory ID: RJ27005-006			
Description: 16WC1B				Matrix: Aqueous			
Date Sampled: 10/25/2016 1055				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	11/04/2016 1612	DDD	11/02/2016 0938	25726

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	1
Barium	7440-39-3	6020A	130		10	ug/L	1
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	15		5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	1.0	U	1.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	1
Vanadium	7440-62-2	6020A	10		10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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Mercury

Client: Draper Aden Associates				Laboratory ID: RJ27005-006			
Description: 16WC1B				Matrix: Aqueous			
Date Sampled: 10/25/2016 1055				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	7470A	7470A	1	11/10/2016 1132	SLS	11/09/2016 1747	26371

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	2

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
U = Not detected at or above the detection limit J = Estimated result < PQL and $\geq$ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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ICP-MS

Client: Draper Aden Associates				Laboratory ID: RJ27005-007			
Description: 16-2				Matrix: Aqueous			
Date Sampled: 10/24/2016 1155				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	11/04/2016 1616	DDD	11/02/2016 0938	25726

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	1
Barium	7440-39-3	6020A	240		10	ug/L	1
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	1.0	U	1.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	1
Vanadium	7440-62-2	6020A	12		10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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Mercury

Client: Draper Aden Associates				Laboratory ID: RJ27005-007			
Description: 16-2				Matrix: Aqueous			
Date Sampled: 10/24/2016 1155				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	11/01/2016 1529	COH	11/01/2016 1155	25639

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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ICP-MS

Client: Draper Aden Associates				Laboratory ID: RJ27005-008			
Description: 16-3				Matrix: Aqueous			
Date Sampled: 10/24/2016 1355				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	11/04/2016 1619	DDD	11/02/2016 0938	25726

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	1
Barium	7440-39-3	6020A	770		10	ug/L	1
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	1.0	U	1.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	1
Vanadium	7440-62-2	6020A	13		10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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Mercury

Client: Draper Aden Associates				Laboratory ID: RJ27005-008			
Description: 16-3				Matrix: Aqueous			
Date Sampled: 10/24/2016 1355				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	11/01/2016 1532	COH	11/01/2016 1155	25639

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
U = Not detected at or above the detection limit J = Estimated result < PQL and $\geq$ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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ICP-MS

Client: Draper Aden Associates				Laboratory ID: RJ27005-009			
Description: 16-5				Matrix: Aqueous			
Date Sampled: 10/24/2016 0940				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	11/04/2016 1623	DDD	11/02/2016 0938	25726

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	1
Barium	7440-39-3	6020A	170		10	ug/L	1
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	1.0	U	1.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	1
Vanadium	7440-62-2	6020A	13		10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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Mercury

Client: Draper Aden Associates				Laboratory ID: RJ27005-009			
Description: 16-5				Matrix: Aqueous			
Date Sampled: 10/24/2016 0940				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	11/01/2016 1534	COH	11/01/2016 1155	25639

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
U = Not detected at or above the detection limit J = Estimated result < PQL and $\geq$ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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ICP-MS

Client: Draper Aden Associates				Laboratory ID: RJ27005-010			
Description: 16WC2B				Matrix: Aqueous			
Date Sampled: 10/24/2016 1050				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	11/04/2016 1627	DDD	11/02/2016 0938	25726

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	1
Barium	7440-39-3	6020A	110		10	ug/L	1
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	1.0	U	1.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	1
Vanadium	7440-62-2	6020A	13		10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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Mercury

Client: Draper Aden Associates				Laboratory ID: RJ27005-010			
Description: 16WC2B				Matrix: Aqueous			
Date Sampled: 10/24/2016 1050				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	11/01/2016 1536	COH	11/01/2016 1155	25639

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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ICP-MS

Client: Draper Aden Associates				Laboratory ID: RJ27005-011			
Description: 16SPRING				Matrix: Aqueous			
Date Sampled: 10/24/2016 1000				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	11/04/2016 1630	DDD	11/02/2016 0938	25726

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	1
Barium	7440-39-3	6020A	210		10	ug/L	1
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	1.0	U	1.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	1
Vanadium	7440-62-2	6020A	13		10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
 U = Not detected at or above the detection limit J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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Mercury

Client: Draper Aden Associates				Laboratory ID: RJ27005-011			
Description: 16SPRING				Matrix: Aqueous			
Date Sampled: 10/24/2016 1000				Project Name: RAAP HWMU16-2016 2nd			
Date Received: 10/27/2016				Project Number: B03204-16A			

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	11/01/2016 1539	COH	11/01/2016 1155	25639

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range H = Out of holding time
U = Not detected at or above the detection limit J = Estimated result < PQL and $\geq$ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" D = Dilution > 1

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QC Summary

ICP-MS - MB

Sample ID: RQ25726-001

Matrix: Aqueous

Batch: 25726

Prep Method: 3005A

Analytical Method: 6020A

Prep Date: 11/02/2016 938

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Arsenic	10	U	1	10	ug/L	11/04/2016 1525
Barium	10	U	1	10	ug/L	11/04/2016 1525
Beryllium	1.0	U	1	1.0	ug/L	11/04/2016 1525
Cadmium	1.0	U	1	1.0	ug/L	11/04/2016 1525
Chromium	5.0	U	1	5.0	ug/L	11/04/2016 1525
Cobalt	5.0	U	1	5.0	ug/L	11/04/2016 1525
Copper	5.0	U	1	5.0	ug/L	11/04/2016 1525
Lead	1.0	U	1	1.0	ug/L	11/04/2016 1525
Nickel	10	U	1	10	ug/L	11/04/2016 1525
Vanadium	10	U	1	10	ug/L	11/04/2016 1525
Zinc	30	U	1	30	ug/L	11/04/2016 1525

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

U = Not detected at or above the detection limit

J = Estimated result < PQL and $\geq$ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Shealy Environmental Services, Inc.

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QC Data for Lot Number: RJ27005

ICP-MS - LCS

Sample ID: RQ25726-002

Matrix: Aqueous

Batch: 25726

Prep Method: 3005A

Analytical Method: 6020A

Prep Date: 11/02/2016 938

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Arsenic	100	96		1	96	80-120	11/04/2016 1529
Barium	100	100		1	100	80-120	11/04/2016 1529
Beryllium	100	100		1	101	80-120	11/04/2016 1529
Cadmium	100	99		1	99	80-120	11/04/2016 1529
Chromium	100	100		1	104	80-120	11/04/2016 1529
Cobalt	100	100		1	104	80-120	11/04/2016 1529
Copper	100	100		1	100	80-120	11/04/2016 1529
Lead	100	110		1	107	80-120	11/04/2016 1529
Nickel	100	94		1	94	80-120	11/04/2016 1529
Vanadium	100	110		1	114	80-120	11/04/2016 1529
Zinc	100	99		1	99	80-120	11/04/2016 1529

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

U = Not detected at or above the detection limit

J = Estimated result < PQL and $\geq$ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Shealy Environmental Services, Inc.

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QC Data for Lot Number: RJ27005

ICP-MS - MS

Sample ID: RJ27005-004MS

Matrix: Aqueous

Batch: 25726

Prep Method: 3005A

Analytical Method: 6020A

Prep Date: 11/02/2016 938

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Arsenic	0.0	100	100		1	100	75-125	11/04/2016 1547
Barium	310	100	410		1	108	75-125	11/04/2016 1547
Beryllium	0.0	100	100		1	101	75-125	11/04/2016 1547
Cadmium	0.0	100	97		1	97	75-125	11/04/2016 1547
Chromium	0.0	100	110		1	106	75-125	11/04/2016 1547
Cobalt	6.0	100	110		1	103	75-125	11/04/2016 1547
Copper	0.0	100	94		1	94	75-125	11/04/2016 1547
Lead	0.0	100	100		1	103	75-125	11/04/2016 1547
Nickel	11	100	100		1	92	75-125	11/04/2016 1547
Vanadium	11	100	120		1	109	75-125	11/04/2016 1547
Zinc	0.0	100	97		1	97	75-125	11/04/2016 1547

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

U = Not detected at or above the detection limit

J = Estimated result < PQL and $\geq$ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Shealy Environmental Services, Inc.

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QC Data for Lot Number: RJ27005

ICP-MS - MSD

Sample ID: RJ27005-004MD

Matrix: Aqueous

Batch: 25726

Prep Method: 3005A

Analytical Method: 6020A

Prep Date: 11/02/2016 938

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Arsenic	0.0	100	100		1	102	1.1	75-125	20	11/04/2016 1550
Barium	310	100	420		1	118	2.6	75-125	20	11/04/2016 1550
Beryllium	0.0	100	100		1	101	0.00	75-125	20	11/04/2016 1550
Cadmium	0.0	100	98		1	98	0.17	75-125	20	11/04/2016 1550
Chromium	0.0	100	100		1	105	0.86	75-125	20	11/04/2016 1550
Cobalt	6.0	100	110		1	102	0.55	75-125	20	11/04/2016 1550
Copper	0.0	100	96		1	96	1.3	75-125	20	11/04/2016 1550
Lead	0.0	100	100		1	101	2.0	75-125	20	11/04/2016 1550
Nickel	11	100	100		1	93	1.2	75-125	20	11/04/2016 1550
Vanadium	11	100	120		1	109	0.083	75-125	20	11/04/2016 1550
Zinc	0.0	100	96		1	96	0.68	75-125	20	11/04/2016 1550

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

U = Not detected at or above the detection limit

J = Estimated result < PQL and $\geq$ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Shealy Environmental Services, Inc.

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QC Data for Lot Number: RJ27005

Mercury - MB

Sample ID: RQ25639-001

Matrix: Aqueous

Batch: 25639

Prep Method: 7470A

Analytical Method: 7470A

Prep Date: 11/01/2016 1155

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Mercury	2.0	U	1	2.0	ug/L	11/01/2016 1458

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

U = Not detected at or above the detection limit

J = Estimated result < PQL and $\geq$ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Shealy Environmental Services, Inc.

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QC Data for Lot Number: RJ27005

Mercury - LCS

Sample ID: RQ25639-002

Matrix: Aqueous

Batch: 25639

Prep Method: 7470A

Analytical Method: 7470A

Prep Date: 11/01/2016 1155

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Mercury	2.0	2.0		1	99	80-120	11/01/2016 1501

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

U = Not detected at or above the detection limit

J = Estimated result < PQL and $\geq$ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Shealy Environmental Services, Inc.

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QC Data for Lot Number: RJ27005

Mercury - MS

Sample ID: RJ27005-004MS

Matrix: Aqueous

Batch: 25639

Prep Method: 7470A

Analytical Method: 7470A

Prep Date: 11/01/2016 1155

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Mercury	0.0	2.0	1.9		1	93	85-115	11/01/2016 1515

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

U = Not detected at or above the detection limit

J = Estimated result < PQL and $\geq$ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Shealy Environmental Services, Inc.

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QC Data for Lot Number: RJ27005

Mercury - MSD

Sample ID: RJ27005-004MD

Matrix: Aqueous

Batch: 25639

Prep Method: 7470A

Analytical Method: 7470A

Prep Date: 11/01/2016 1155

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Mercury	0.0	2.0	1.9		1	95	2.1	85-115	20	11/01/2016 1517

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

U = Not detected at or above the detection limit

J = Estimated result < PQL and $\geq$ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

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QC Data for Lot Number: RJ27005

Mercury - MB

Sample ID: RQ26371-001

Matrix: Aqueous

Batch: 26371

Prep Method: 7470A

Analytical Method: 7470A

Prep Date: 11/09/2016 1747

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Mercury	2.0	U	1	2.0	ug/L	11/10/2016 1127

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

U = Not detected at or above the detection limit

J = Estimated result < PQL and $\geq$ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Shealy Environmental Services, Inc.

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QC Data for Lot Number: RJ27005

Mercury - LCS

Sample ID: RQ26371-002

Matrix: Aqueous

Batch: 26371

Prep Method: 7470A

Analytical Method: 7470A

Prep Date: 11/09/2016 1747

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Mercury	2.0	2.2		1	108	80-120	11/10/2016 1129

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

U = Not detected at or above the detection limit

J = Estimated result < PQL and $\geq$ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Shealy Environmental Services, Inc.

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QC Data for Lot Number: RJ27005

Mercury - MS

Sample ID: RJ27005-006MS

Matrix: Aqueous

Batch: 26371

Prep Method: 7470A

Analytical Method: 7470A

Prep Date: 11/09/2016 1747

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Mercury	0.0	2.0	2.5	N	1	126	85-115	11/10/2016 1135

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

U = Not detected at or above the detection limit

J = Estimated result < PQL and $\geq$ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Shealy Environmental Services, Inc.

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QC Data for Lot Number: RJ27005

Mercury - MSD

Sample ID: RJ27005-006MD

Matrix: Aqueous

Batch: 26371

Prep Method: 7470A

Analytical Method: 7470A

Prep Date: 11/09/2016 1747

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Mercury	0.0	2.0	2.6	N	1	127	1.2	85-115	20	11/10/2016 1137

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

U = Not detected at or above the detection limit

J = Estimated result < PQL and $\geq$ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

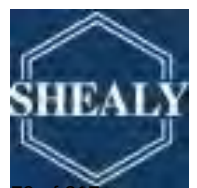
Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Shealy Environmental Services, Inc.

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QC Data for Lot Number: RJ27005

ICP-MS Metals



- COVER PAGE -
INORGANIC ANALYSIS DATA PACKAGE

Client: Draper Aden Associates

SDG No.: RJ27005 Method Type: ICP-MS SOW No.: _____

Contract: RAAP HWMU16-2016 2n Lab Code: SHEALY Case No.: _____ SAS No.: _____

Lab Sample ID	Client Sample ID	QC Description
RJ27005-001	16C1	
RJ27005-002	16MW8	
RJ27005-003	16MW9	
RJ27005-004	16WC1A	
RJ27005-004MD	16WC1ASD	Matrix Spike Duplicate
RJ27005-004MS	16WC1AS	Matrix Spike
RJ27005-005	16WDUP	
RJ27005-006	16WC1B	
RJ27005-007	16-2	
RJ27005-008	16-3	
RJ27005-009	16-5	
RJ27005-010	16WC2B	
RJ27005-011	16SPRING	

Were ICP interelement corrections applied? Yes/No Yes _____

Were ICP background corrections applied? Yes/No Yes _____

If yes - were raw data generated before applications of background corrections? Yes/No No _____

Comments: _____

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: _____

Date: _____ Title: _____

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Draper Aden AssociatesSDG No.: RJ27005Contract: RAAP HWMU16-2016 2ndLab Code: SHEALY

Case No.: _____

SAS No.: _____

Semiannual

Initial Calibration Source:

VHG

Continuing Calibration Source:

High Purity

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV1									
	Arsenic	207.80	200.0	104	90.0 - 110.0	MS	11/4/2016	14:52	MS2110416B 6020, generated 1
	Barium	203.53	200.0	102	90.0 - 110.0	MS	11/4/2016	14:52	MS2110416B 6020, generated 1
	Beryllium	198.43	200.0	99	90.0 - 110.0	MS	11/4/2016	14:52	MS2110416B 6020, generated 1
	Cadmium	190.67	200.0	95	90.0 - 110.0	MS	11/4/2016	14:52	MS2110416B 6020, generated 1
	Chromium	212.10	200.0	106	90.0 - 110.0	MS	11/4/2016	14:52	MS2110416B 6020, generated 1
	Cobalt	207.47	200.0	104	90.0 - 110.0	MS	11/4/2016	14:52	MS2110416B 6020, generated 1
	Copper	192.53	200.0	96	90.0 - 110.0	MS	11/4/2016	14:52	MS2110416B 6020, generated 1
	Lead	201.97	200.0	101	90.0 - 110.0	MS	11/4/2016	14:52	MS2110416B 6020, generated 1
	Nickel	194.17	200.0	97	90.0 - 110.0	MS	11/4/2016	14:52	MS2110416B 6020, generated 1
	Vanadium	218.40	200.0	109	90.0 - 110.0	MS	11/4/2016	14:52	MS2110416B 6020, generated 1
	Zinc	195.03	200.0	98	90.0 - 110.0	MS	11/4/2016	14:52	MS2110416B 6020, generated 1
CCV1									
	Arsenic	297.20	300.0	99	90.0 - 110.0	MS	11/4/2016	15:18	MS2110416B 6020, generated 1
	Barium	309.53	300.0	103	90.0 - 110.0	MS	11/4/2016	15:18	MS2110416B 6020, generated 1
	Beryllium	320.60	300.0	107	90.0 - 110.0	MS	11/4/2016	15:18	MS2110416B 6020, generated 1
	Cadmium	291.60	300.0	97	90.0 - 110.0	MS	11/4/2016	15:18	MS2110416B 6020, generated 1
	Chromium	310.20	300.0	103	90.0 - 110.0	MS	11/4/2016	15:18	MS2110416B 6020, generated 1
	Cobalt	291.47	300.0	97	90.0 - 110.0	MS	11/4/2016	15:18	MS2110416B 6020, generated 1
	Copper	272.50	300.0	91	90.0 - 110.0	MS	11/4/2016	15:18	MS2110416B 6020, generated 1
	Lead	314.73	300.0	105	90.0 - 110.0	MS	11/4/2016	15:18	MS2110416B 6020, generated 1
	Nickel	278.93	300.0	93	90.0 - 110.0	MS	11/4/2016	15:18	MS2110416B 6020, generated 1
	Vanadium	308.77	300.0	103	90.0 - 110.0	MS	11/4/2016	15:18	MS2110416B 6020, generated 1
	Zinc	277.93	300.0	93	90.0 - 110.0	MS	11/4/2016	15:18	MS2110416B 6020, generated 1
CCV2									
	Arsenic	304.23	300.0	101	90.0 - 110.0	MS	11/4/2016	16:01	MS2110416B 6020, generated 1
	Barium	312.23	300.0	104	90.0 - 110.0	MS	11/4/2016	16:01	MS2110416B 6020, generated 1
	Beryllium	312.73	300.0	104	90.0 - 110.0	MS	11/4/2016	16:01	MS2110416B 6020, generated 1
	Cadmium	292.07	300.0	97	90.0 - 110.0	MS	11/4/2016	16:01	MS2110416B 6020, generated 1
	Chromium	321.70	300.0	107	90.0 - 110.0	MS	11/4/2016	16:01	MS2110416B 6020, generated 1
	Cobalt	309.30	300.0	103	90.0 - 110.0	MS	11/4/2016	16:01	MS2110416B 6020, generated 1
	Copper	280.97	300.0	94	90.0 - 110.0	MS	11/4/2016	16:01	MS2110416B 6020, generated 1
	Lead	313.20	300.0	104	90.0 - 110.0	MS	11/4/2016	16:01	MS2110416B 6020, generated 1
	Nickel	288.63	300.0	96	90.0 - 110.0	MS	11/4/2016	16:01	MS2110416B 6020, generated 1
	Vanadium	315.93	300.0	105	90.0 - 110.0	MS	11/4/2016	16:01	MS2110416B 6020, generated 1
	Zinc	283.87	300.0	95	90.0 - 110.0	MS	11/4/2016	16:01	MS2110416B 6020, generated 1

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATIONClient: Draper Aden AssociatesSDG No.: RJ27005Contract: RAAP HWMU16-2016 2ndLab Code: SHEALY

Case No.: _____ SAS No.: _____

Semiannual

Initial Calibration Source: VHGContinuing Calibration Source: High Purity

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV3									
	Arsenic	308.70	300.0	103	90.0 - 110.0	MS	11/4/2016	16:45	MS2110416B 6020, generated 1
	Barium	313.33	300.0	104	90.0 - 110.0	MS	11/4/2016	16:45	MS2110416B 6020, generated 1
	Beryllium	309.10	300.0	103	90.0 - 110.0	MS	11/4/2016	16:45	MS2110416B 6020, generated 1
	Cadmium	294.70	300.0	98	90.0 - 110.0	MS	11/4/2016	16:45	MS2110416B 6020, generated 1
	Chromium	330.30	300.0	110	90.0 - 110.0	MS	11/4/2016	16:45	MS2110416B 6020, generated 1
	Cobalt	319.30	300.0	106	90.0 - 110.0	MS	11/4/2016	16:45	MS2110416B 6020, generated 1
	Copper	283.93	300.0	95	90.0 - 110.0	MS	11/4/2016	16:45	MS2110416B 6020, generated 1
	Lead	315.33	300.0	105	90.0 - 110.0	MS	11/4/2016	16:45	MS2110416B 6020, generated 1
	Nickel	292.10	300.0	97	90.0 - 110.0	MS	11/4/2016	16:45	MS2110416B 6020, generated 1
	Vanadium	314.27	300.0	105	90.0 - 110.0	MS	11/4/2016	16:45	MS2110416B 6020, generated 1
	Zinc	286.90	300.0	96	90.0 - 110.0	MS	11/4/2016	16:45	MS2110416B 6020, generated 1

- 2b -
CRDL STANDARD FOR AA & ICP

Client: Draper Aden AssociatesSDG No.: RJ27005Contract: RAAP HWMU16-2016 2nd Semiannual Lab Code: SHEALY Case No: _____ SAS No.: _____

AA CRDL Standard Source: _____

ICP CRDL Standard Source: _____

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Advisory Limits (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV MW9070									
	Arsenic	1.01	1.0	101	70 - 130	MS	11/4/2016	14:59	MS2110416B 6020, genera
	Barium	4.98	5.0	100	70 - 130	MS	11/4/2016	14:59	MS2110416B 6020, genera
	Beryllium	0.41	0.4	103	70 - 130	MS	11/4/2016	14:59	MS2110416B 6020, genera
	Cadmium	0.12	0.1	120	70 - 130	MS	11/4/2016	14:59	MS2110416B 6020, genera
	Chromium	1.06	1.0	106	70 - 130	MS	11/4/2016	14:59	MS2110416B 6020, genera
	Cobalt	5.09	5.0	102	70 - 130	MS	11/4/2016	14:59	MS2110416B 6020, genera
	Copper	0.97	1.0	97	70 - 130	MS	11/4/2016	14:59	MS2110416B 6020, genera
	Lead	1.04	1.0	104	70 - 130	MS	11/4/2016	14:59	MS2110416B 6020, genera
	Nickel	4.91	5.0	98	70 - 130	MS	11/4/2016	14:59	MS2110416B 6020, genera
	Vanadium	5.01	5.0	100	70 - 130	MS	11/4/2016	14:59	MS2110416B 6020, genera
	Zinc	10.10	10.0	101	70 - 130	MS	11/4/2016	14:59	MS2110416B 6020, genera
LLCCV MW9070									
	Arsenic	1.00	1.0	100	70 - 130	MS	11/4/2016	16:34	MS2110416B 6020, genera
	Barium	4.88	5.0	98	70 - 130	MS	11/4/2016	16:34	MS2110416B 6020, genera
	Beryllium	0.41	0.4	103	70 - 130	MS	11/4/2016	16:34	MS2110416B 6020, genera
	Cadmium	0.12	0.1	120	70 - 130	MS	11/4/2016	16:34	MS2110416B 6020, genera
	Chromium	1.07	1.0	107	70 - 130	MS	11/4/2016	16:34	MS2110416B 6020, genera
	Cobalt	4.99	5.0	100	70 - 130	MS	11/4/2016	16:34	MS2110416B 6020, genera
	Copper	0.96	1.0	96	70 - 130	MS	11/4/2016	16:34	MS2110416B 6020, genera
	Lead	1.01	1.0	101	70 - 130	MS	11/4/2016	16:34	MS2110416B 6020, genera
	Nickel	4.82	5.0	96	70 - 130	MS	11/4/2016	16:34	MS2110416B 6020, genera
	Vanadium	5.20	5.0	104	70 - 130	MS	11/4/2016	16:34	MS2110416B 6020, genera
	Zinc	9.98	10.0	100	70 - 130	MS	11/4/2016	16:34	MS2110416B 6020, genera

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Draper Aden Associates

SDG No.: RJ27005

Contract: RAAP HWMU16-2016 2nd Semiannual

Lab Code: SHEALY

Case No.:

SAS No.:

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	PQL	PQL	M	Analysis Date	Analysis Time	Run
ICB1										
	Arsenic	-0.042	+/-1.000	U	1.000	1.000	MS	11/4/2016	14:55	MS2110416B 6
	Barium	0.003	+/-5.000	U	5.000	5.000	MS	11/4/2016	14:55	MS2110416B 6
	Beryllium	0.030	+/-0.400	U	0.400	0.400	MS	11/4/2016	14:55	MS2110416B 6
	Cadmium	0.004	+/-0.100	U	0.100	0.100	MS	11/4/2016	14:55	MS2110416B 6
	Chromium	0.045	+/-5.000	U	5.000	5.000	MS	11/4/2016	14:55	MS2110416B 6
	Cobalt	0.007	+/-5.000	U	5.000	5.000	MS	11/4/2016	14:55	MS2110416B 6
	Copper	0.002	+/-1.000	U	1.000	1.000	MS	11/4/2016	14:55	MS2110416B 6
	Lead	0.010	+/-1.000	U	1.000	1.000	MS	11/4/2016	14:55	MS2110416B 6
	Nickel	0.010	+/-5.000	U	5.000	5.000	MS	11/4/2016	14:55	MS2110416B 6
	Vanadium	-0.010	+/-5.000	U	5.000	5.000	MS	11/4/2016	14:55	MS2110416B 6
	Zinc	0.032	+/-10.000	U	10.000	10.000	MS	11/4/2016	14:55	MS2110416B 6
CCB1										
	Arsenic	-0.021	+/-1.000	U	1.000	1.000	MS	11/4/2016	15:21	MS2110416B 6
	Barium	0.014	+/-5.000	U	5.000	5.000	MS	11/4/2016	15:21	MS2110416B 6
	Beryllium	0.038	+/-0.400	U	0.400	0.400	MS	11/4/2016	15:21	MS2110416B 6
	Cadmium	0.008	+/-0.100	U	0.100	0.100	MS	11/4/2016	15:21	MS2110416B 6
	Chromium	0.003	+/-5.000	U	5.000	5.000	MS	11/4/2016	15:21	MS2110416B 6
	Cobalt	0.013	+/-5.000	U	5.000	5.000	MS	11/4/2016	15:21	MS2110416B 6
	Copper	0.025	+/-1.000	U	1.000	1.000	MS	11/4/2016	15:21	MS2110416B 6
	Lead	0.023	+/-1.000	U	1.000	1.000	MS	11/4/2016	15:21	MS2110416B 6
	Nickel	0.007	+/-5.000	U	5.000	5.000	MS	11/4/2016	15:21	MS2110416B 6
	Vanadium	-0.001	+/-5.000	U	5.000	5.000	MS	11/4/2016	15:21	MS2110416B 6
	Zinc	0.072	+/-10.000	U	10.000	10.000	MS	11/4/2016	15:21	MS2110416B 6

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Draper Aden Associates

SDG No.: RJ27005

Contract: RAAP HWMU16-2016 2nd Semiannual

Lab Code: SHEALY

Case No.:

SAS No.:

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	PQL	PQL	M	Analysis Date	Analysis Time	Run
CCB2										
	Arsenic	-0.030	+/-1.000	U	1.000	1.000	MS	11/4/2016	16:05	MS2110416B 6
	Barium	0.005	+/-5.000	U	5.000	5.000	MS	11/4/2016	16:05	MS2110416B 6
	Beryllium	0.049	+/-0.400	U	0.400	0.400	MS	11/4/2016	16:05	MS2110416B 6
	Cadmium	0.015	+/-0.100	U	0.100	0.100	MS	11/4/2016	16:05	MS2110416B 6
	Chromium	0.015	+/-5.000	U	5.000	5.000	MS	11/4/2016	16:05	MS2110416B 6
	Cobalt	0.016	+/-5.000	U	5.000	5.000	MS	11/4/2016	16:05	MS2110416B 6
	Copper	0.034	+/-1.000	U	1.000	1.000	MS	11/4/2016	16:05	MS2110416B 6
	Lead	0.020	+/-1.000	U	1.000	1.000	MS	11/4/2016	16:05	MS2110416B 6
	Nickel	0.013	+/-5.000	U	5.000	5.000	MS	11/4/2016	16:05	MS2110416B 6
	Vanadium	0.037	+/-5.000	U	5.000	5.000	MS	11/4/2016	16:05	MS2110416B 6
	Zinc	0.070	+/-10.000	U	10.000	10.000	MS	11/4/2016	16:05	MS2110416B 6
CCB3										
	Arsenic	0.038	+/-1.000	U	1.000	1.000	MS	11/4/2016	16:48	MS2110416B 6
	Barium	0.012	+/-5.000	U	5.000	5.000	MS	11/4/2016	16:48	MS2110416B 6
	Beryllium	0.038	+/-0.400	U	0.400	0.400	MS	11/4/2016	16:48	MS2110416B 6
	Cadmium	0.006	+/-0.100	U	0.100	0.100	MS	11/4/2016	16:48	MS2110416B 6
	Chromium	0.001	+/-5.000	U	5.000	5.000	MS	11/4/2016	16:48	MS2110416B 6
	Cobalt	0.022	+/-5.000	U	5.000	5.000	MS	11/4/2016	16:48	MS2110416B 6
	Copper	0.021	+/-1.000	U	1.000	1.000	MS	11/4/2016	16:48	MS2110416B 6
	Lead	0.025	+/-1.000	U	1.000	1.000	MS	11/4/2016	16:48	MS2110416B 6
	Nickel	0.020	+/-5.000	U	5.000	5.000	MS	11/4/2016	16:48	MS2110416B 6
	Vanadium	0.019	+/-5.000	U	5.000	5.000	MS	11/4/2016	16:48	MS2110416B 6
	Zinc	0.107	+/-10.000	U	10.000	10.000	MS	11/4/2016	16:48	MS2110416B 6

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INTERFERENCE CHECK SAMPLEClient: Draper Aden AssociatesSDG No.: RJ27005Contract: RAAP HWMU16-2016 2nd SemiannualLab Code: SHEALYCase No.: SAS No.: ICS Source: High PurityInstrument ID: ICPMS2

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window	Analysis Date	Analysis Time	Run Number
ICSA MW9006								
	Arsenic	0.33			-2.00 to 2.00	11/4/2016	15:11	MS2110416B 6
	Barium	-0.17			-10.00 to 10.00	11/4/2016	15:11	MS2110416B 6
	Beryllium	0.025			-0.800 to 0.800	11/4/2016	15:11	MS2110416B 6
	Cadmium	0.13			-0.20 to 0.20	11/4/2016	15:11	MS2110416B 6
	Chromium	1.1			-10.0 to 10.0	11/4/2016	15:11	MS2110416B 6
	Cobalt	0.19			-10.00 to 10.00	11/4/2016	15:11	MS2110416B 6
	Copper	-0.34			-2.00 to 2.00	11/4/2016	15:11	MS2110416B 6
	Lead	0.13			-2.00 to 2.00	11/4/2016	15:11	MS2110416B 6
	Nickel	2.5			-10.0 to 10.0	11/4/2016	15:11	MS2110416B 6
	Vanadium	3.6			-10.0 to 10.0	11/4/2016	15:11	MS2110416B 6
	Zinc	3.7			-20.0 to 20.0	11/4/2016	15:11	MS2110416B 6
ICSAB MW9091								
	Arsenic	92.4	100	92	50 - 150%	11/4/2016	15:14	MS2110416B 6
	Barium	103	100	103	50 - 150%	11/4/2016	15:14	MS2110416B 6
	Beryllium	101	100	101	50 - 150%	11/4/2016	15:14	MS2110416B 6
	Cadmium	88.4	100	88	50 - 150%	11/4/2016	15:14	MS2110416B 6
	Chromium	106	100	106	50 - 150%	11/4/2016	15:14	MS2110416B 6
	Cobalt	99.6	100	100	50 - 150%	11/4/2016	15:14	MS2110416B 6
	Copper	81.7	100	82	50 - 150%	11/4/2016	15:14	MS2110416B 6
	Lead	101	100	101	50 - 150%	11/4/2016	15:14	MS2110416B 6
	Nickel	87.6	100	88	50 - 150%	11/4/2016	15:14	MS2110416B 6
	Vanadium	118	100	118	50 - 150%	11/4/2016	15:14	MS2110416B 6
	Zinc	85.3	100	85	50 - 150%	11/4/2016	15:14	MS2110416B 6

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SERIAL DILUTION SAMPLE SUMMARY

Client: Draper Aden Associates

SDG No.: RJ27005

Contract: _____

Lab Code: SHEALY

Case No.: _____ **SAS No.:** _____

Matrix: WATER

Level: _____

Client ID: 16WC1AL

Sample ID: RJ27005-004

Serial Dilution ID: RJ27005-004SD

Batch Number: 25726

Analyte	Initial Result ug/L	C	Serial Result ug/L	C	% Difference	Qual	Acceptance Limits	M
Arsenic	10.00	U	50.00	U			10.00 %	MS
Barium	305.70		311.45		1.9		10.00 %	MS
Beryllium	1.00	U	5.00	U			10.00 %	MS
Cadmium	1.00	U	5.00	U			10.00 %	MS
Chromium	5.00	U	25.00	U			10.00 %	MS
Cobalt	5.98		25.00	U	100.0		10.00 %	MS
Copper	5.00	U	25.00	U			10.00 %	MS
Lead	1.00	U	5.00	U			10.00 %	MS
Nickel	11.05		50.00	U	100.0		10.00 %	MS
Vanadium	11.05		50.00	U	100.0		10.00 %	MS
Zinc	30.00	U	150.00	U			10.00 %	MS

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LINEAR RANGES

Client: Draper Aden Associates

SDG No.: RJ27005

Contract: RAAP HWMU16-2016 2nd Semiannual

Lab Code: SHEALY

Case No.:

SAS No.:

Instrument ID: ICPMS2

Date: 6/1/2016

Analyte	Integration Time (sec)	LDR ug/L
Arsenic	0.10	2000
Barium	0.10	10000
Beryllium	0.10	1000
Cadmium	0.10	2000
Chromium	0.10	2000
Cobalt	0.10	2000
Copper	0.10	2000
Lead	0.10	2000
Nickel	0.10	2000
Vanadium	0.10	2000
Zinc	0.10	2100

ANALYSIS RUN LOG

Client: Draper Aden AssociatesContract: RAAP HWMU16-2016 2nd SemiannualLab Code: SHEALY

Case No.: _____

SAS No.: _____

SDG No.: RJ27005Instrument ID Number: ICPMS2Run Number: MS2110416B 6020, generated 18.20Start Date: 11/4/2016End Date: 11/4/2016

EPA Sample No.	D/F	Time	% R	Analytes																					
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K S	E G	N A	T L	V	Z N
ZZZZZZ	1.00	1419																							
ZZZZZZ	1.00	1423																							
BLANK	1.00	1427				X	X	X	X		X	X	X		X			X					X	X	
CAL1	1.00	1430				X	X	X	X		X	X	X		X			X					X	X	
CAL2	1.00	1434				X	X	X	X		X	X	X		X			X					X	X	
CAL3	1.00	1437				X	X	X	X		X	X	X		X			X					X	X	
CAL4	1.00	1441				X	X	X	X		X	X	X		X			X					X	X	
CAL5	1.00	1444				X	X	X	X		X	X	X		X			X					X	X	
CAL6	1.00	1448				X	X	X	X		X	X	X		X			X					X	X	
ICV1	1.00	1452				X	X	X	X		X	X	X		X			X					X	X	
ICB1	1.00	1455				X	X	X	X		X	X	X		X			X					X	X	
LLICV MW9070	1.00	1459				X	X	X	X		X	X	X		X			X					X	X	
ZZZZZZ	1.00	1502																							
ZZZZZZ	1.00	1506																							
ICSA MW9006	1.00	1511				X	X	X	X		X	X	X		X			X					X	X	
ICSAB MW9091	1.00	1514				X	X	X	X		X	X	X		X			X					X	X	
CCV1	1.00	1518				X	X	X	X		X	X	X		X			X					X	X	
CCB1	1.00	1521				X	X	X	X		X	X	X		X			X					X	X	
R025726-001	1.00	1525				X	X	X	X		X	X	X		X			X					X	X	
R025726-002	1.00	1529				X	X	X	X		X	X	X		X			X					X	X	
RJ27005-001	1.00	1532				X	X	X	X		X	X	X		X			X					X	X	
RJ27005-002	1.00	1536				X	X	X	X		X	X	X		X			X					X	X	
RJ27005-003	1.00	1540				X	X	X	X		X	X	X		X			X					X	X	
RJ27005-004	1.00	1543				X	X	X	X		X	X	X		X			X					X	X	
RJ27005-004MS	1.00	1547				X	X	X	X		X	X	X		X			X					X	X	
RJ27005-004MD	1.00	1550				X	X	X	X		X	X	X		X			X					X	X	
ZZZZZZ	1.00	1554																							
RJ27005-004SD	5.00	1558				X	X	X	X		X	X	X		X			X					X	X	
CCV2	1.00	1601				X	X	X	X		X	X	X		X			X					X	X	
CCB2	1.00	1605				X	X	X	X		X	X	X		X			X					X	X	
RJ27005-005	1.00	1609				X	X	X	X		X	X	X		X			X					X	X	
RJ27005-006	1.00	1612				X	X	X	X		X	X	X		X			X					X	X	
RJ27005-007	1.00	1616				X	X	X	X		X	X	X		X			X					X	X	
RJ27005-008	1.00	1619				X	X	X	X		X	X	X		X			X					X	X	
RJ27005-009	1.00	1623				X	X	X	X		X	X	X		X			X					X	X	
RJ27005-010	1.00	1627				X	X	X	X		X	X	X		X			X					X	X	
RJ27005-011	1.00	1630				X	X	X	X		X	X	X		X			X					X	X	

ANALYSIS RUN LOG

Client: Draper Aden Associates Contract: RAAP HWMU16-2016 2nd Semiannual

Lab Code: SHEALY Case No.: _____ SAS No.: _____ SDG No.: RJ27005

Instrument ID Number: ICPMS2 Run Number: MS2110416B 6020, generated 18.20

Start Date: 11/4/2016 End Date: 11/4/2016

EPA Sample No.	D/F	Time	% R	Analytes																									
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N		
LLCCV MW9070	1.00	1634				X	X	X	X		X	X	X		X				X						X	X			
ZZZZZZ	1.00	1638																											
ZZZZZZ	1.00	1641																											
CCV3	1.00	1645				X	X	X	X		X	X	X		X				X						X	X			
CCB3	1.00	1648				X	X	X	X		X	X	X		X				X						X	X			
ZZZZZZ	1.00	1652																											
ZZZZZZ	1.00	1656																											
ZZZZZZ	1.00	1659																											
ZZZZZZ	1.00	1703																											
ZZZZZZ	1.00	1707																											
ZZZZZZ	1.00	1710																											
ZZZZZZ	1.00	1714																											
ZZZZZZ	1.00	1717																											
ZZZZZZ	5.00	1721																											
ZZZZZZ	1.00	1725																											
ZZZZZZ	1.00	1728																											
ZZZZZZ	1.00	1732																											
ZZZZZZ	1.00	1736																											
ZZZZZZ	1.00	1739																											
ZZZZZZ	1.00	1743																											
ZZZZZZ	1.00	1747																											
ZZZZZZ	1.00	1750																											
ZZZZZZ	1.00	1754																											
ZZZZZZ	1.00	1757																											
ZZZZZZ	1.00	1801																											
ZZZZZZ	1.00	1805																											
ZZZZZZ	1.00	1808																											
ZZZZZZ	1.00	1812																											
ZZZZZZ	1.00	1815																											

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Shealy Environmental Services, In Contract: RAAP HWMU16-2016 2nd Semiannual
 Lab Code: SHEALY Case No.: _____ NRAS No.: _____ SDG NO.: RJ27005
 ICP-MS Instrument ID: ICPMS2 Start Date: 11/04/2016 End Date: 11/04/2016

EPA Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Bi	Q	Element In	Q	Element Li	Q	Element Sc	Q	Element Tb	Q	Element Y	Q
RINSE	ZZZZZZ	1419	0											
TUNE	ZZZZZZ	1423	0											
BLANK	BLANK IM7321-01	1427	100		100		100		100		100		100	
CAL1	CAL1 MW9070	1430	101		100		101		97		100		100	
CAL2	CAL2 MW9071	1434	99		99		99		97		100		99	
CAL3	CAL3 MW9047	1437	99		98		99		97		98		98	
CAL4	CAL4 MW9048	1441	98		96		99		96		97		96	
CAL5	CAL5 MW9049	1444	83		91		88		93		94		94	
CAL6	CAL6 MW9050	1448	78		87		75		92		91		92	
ICV1	ICV1	1452	87		93		87		96		96		98	
ICB1	ICB1	1455	102		104		100		101		102		105	
LLICV MW907	LLICV MW9070	1459	101		102		99		100		102		104	
LLICV2	ZZZZZZ	1502	0											
CO	ZZZZZZ	1506	0											
ICSA MW9006	ICSA MW9006	1511	80		91		78		89		91		88	
ICSAB MW909	ICSAB MW9091	1514	84		94		79		90		95		89	
CCV1	CCV1	1518	89		94		82		93		100		97	
CCB1	CCB1	1521	108		107		97		99		107		104	
RQ25726-001	RQ25726-001MB	1525	108		106		104		98		107		103	
RQ25726-002	LCS	1529	106		103		104		99		105		100	
RJ27005-001	16C1	1532	92		98		103		98		102		99	
RJ27005-002	16MW8	1536	101		101		106		97		104		103	
RJ27005-003	16MW9	1540	90		97		102		96		100		96	
RJ27005-004	16WC1A	1543	90		97		101		96		100		96	
RJ27005-004	16WC1AS	1547	90		95		101		94		99		95	
RJ27005-004	16WC1ASD	1550	89		94		100		95		99		94	
RJ27005-004	ZZZZZZ	1554	0											
RJ27005-004	16WC1AL	1558	97		98		102		95		99		97	

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Shealy Environmental Services, In Contract: RAAP HWMU16-2016 2nd Semiannual
 Lab Code: SHEALY Case No.: _____ NRAS No.: _____ SDG NO.: RJ27005
 ICP-MS Instrument ID: ICPMS2 Start Date: 11/04/2016 End Date: 11/04/2016

EPA Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Bi	Q	Element In	Q	Element Li	Q	Element Sc	Q	Element Tb	Q	Element Y	Q
CCV2	CCV2	1601	82		88		83		90		92		90	
CCB2	CCB2	1605	100		99		99		96		98		98	
RJ27005-005	16WDUP	1609	87		94		101		95		96		94	
RJ27005-006	16WC1B	1612	91		94		103		93		96		95	
RJ27005-007	16-2	1616	90		95		103		95		98		95	
RJ27005-008	16-3	1619	95		99		108		96		101		98	
RJ27005-009	16-5	1623	91		95		106		95		98		95	
RJ27005-010	16WC2B	1627	94		98		109		96		100		96	
RJ27005-011	16SPRING	1630	90		95		105		94		98		95	
LLCCV MW907	LLCCV MW9070	1634	100		99		101		99		98		98	
LLCCV2	ZZZZZZ	1638	0											
CO	ZZZZZZ	1641	0											
CCV3	CCV3	1645	80		86		83		89		91		90	
CCB3	CCB3	1648	99		98		99		96		98		98	
RQ25793-001	ZZZZZZ	1652	0											
RQ25793-002	ZZZZZZ	1656	0											
RK02041-002	ZZZZZZ	1659	0											
RK02041-003	ZZZZZZ	1703	0											
RK02041-004	ZZZZZZ	1707	0											
RK02041-004	ZZZZZZ	1710	0											
RK02041-004	ZZZZZZ	1714	0											
RK02041-004	ZZZZZZ	1717	0											
RK02041-004	ZZZZZZ	1721	0											
CCV	ZZZZZZ	1725	0											
CCB	ZZZZZZ	1728	0											
RK01063-001	ZZZZZZ	1732	0											
RK01063-002	ZZZZZZ	1736	0											
RK01063-003	ZZZZZZ	1739	0											
RK01063-004	ZZZZZZ	1743	0											

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Shealy Environmental Services, In Contract: RAAP HWMU16-2016 2nd SemiannualLab Code: SHEALY Case No.: _____ NRAS No.: _____ SDG NO.: RJ27005ICP-MS Instrument ID: ICPMS2 Start Date: 11/04/2016 End Date: 11/04/2016

EPA Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Bi	Q	Element In	Q	Element Li	Q	Element Sc	Q	Element Tb	Q	Element Y	Q
RK01063-005	ZZZZZZ	1747	0											
LLCCV	ZZZZZZ	1750	0											
LLCCV2	ZZZZZZ	1754	0											
CCV	ZZZZZZ	1757	0											
CCB	ZZZZZZ	1801	0											
LR	ZZZZZZ	1805	0											
IS	ZZZZZZ	1808	0											
RINSE	ZZZZZZ	1812	0											
RINSE	ZZZZZZ	1815	0											

Raw Sample Data



Performance Report

Sample details

Acquired at : 11/4/2016 12:29:15

Report name : Shealy Performance Report ICPMS2 [1/26/2016 11:26:48]

Mass Calibration verification

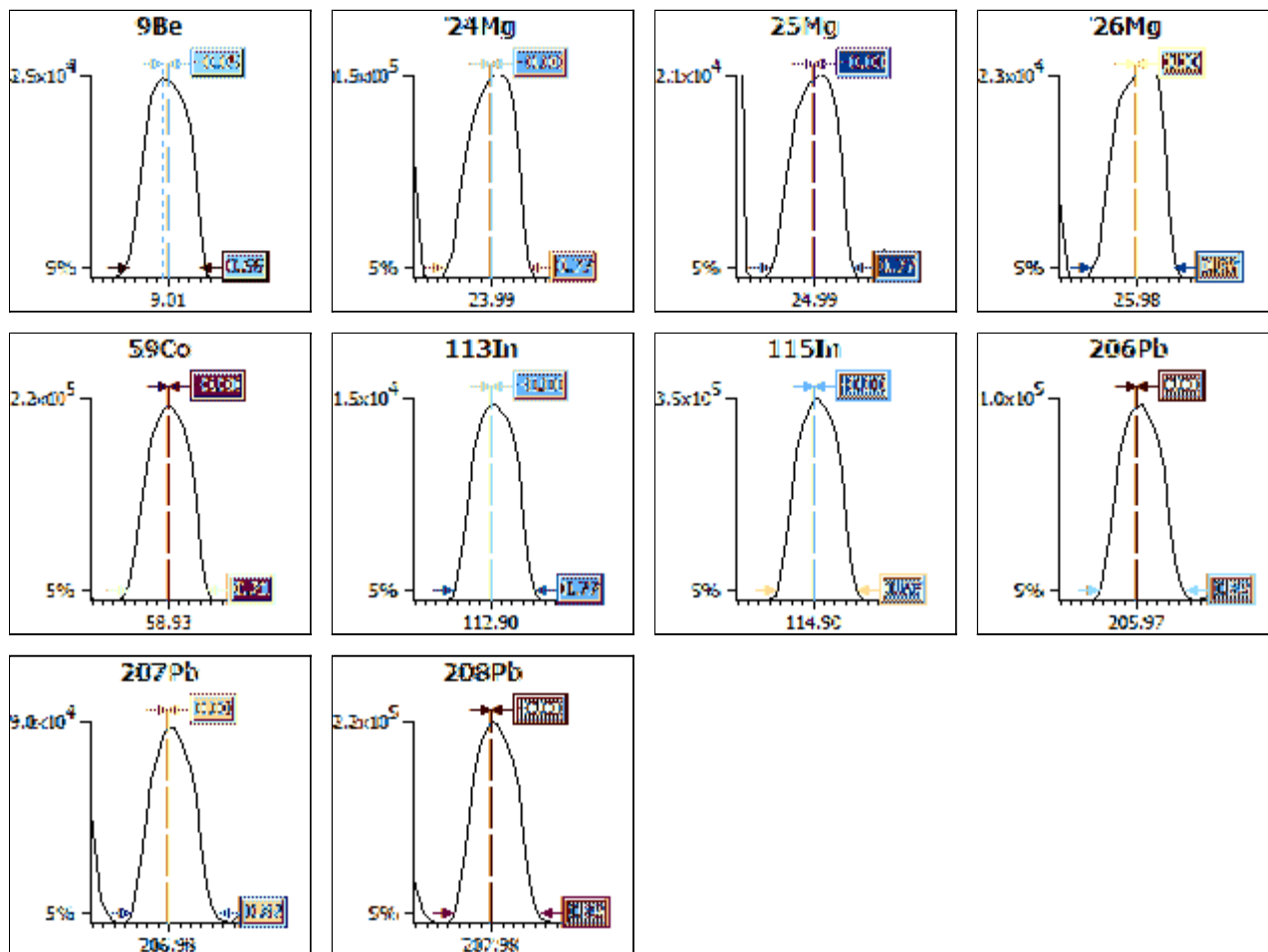
Acquisition parameters

Sweeps : 10

Dwell : 10.0 mSecs

Point spacing : 0.05 amu

Peak width measured at 5% of the peak maximum



Analyte	Limits			Results	
	Max. width	Min. width	Max. error	Peak width	Peak error
⁹Be	0.85	0.65	0.10	0.66	-0.05
²⁴Mg	0.85	0.65	0.10	0.77	-0.00
²⁵Mg	0.85	0.65	0.10	0.77	-0.00
²⁶Mg	0.85	0.65	0.10	0.77	0.00
⁵⁹Co	0.85	0.65	0.10	0.71	-0.00
¹¹³In	0.85	0.65	0.10	0.77	-0.00
¹¹⁵In	0.85	0.65	0.10	0.77	-0.00
²⁰⁶Pb	0.85	0.65	0.10	0.82	0.00
²⁰⁷Pb	0.85	0.65	0.10	0.82	0.00
²⁰⁸Pb	0.85	0.65	0.10	0.82	-0.00

Sample details

Acquired at : 11/4/2016 12:29:15

Report name : Shealy Performance Report ICPMS2 [1/26/2016 11:26:48]

Tune conditions

Major		Minor		Global		Add. Gases
Extraction	-137.3	Lens 3	-197.6	Standard resolution	112	
Lens 1	-1114	Forward power	1404	High resolution	112	
Lens 2	-82.4	Horizontal	136	Analogue Detector	2098	
Focus	17.1	Vertical	646	PC Detector	3245	
D1	-41.6	DA	-60.4			
D2	-147	Cool	13.0			
Pole Bias	1.0	Auxiliary	0.80			
Hexapole Bias	-4.0	Sampling Depth	150			
Nebuliser	0.70					

Sensitivity and stability results**Acquisition parameters**

Sweeps : 130

Run	Time	5Bkg	9Be	24Mg	25Mg	26Mg	56Ar O	59Co	136Ba+ +	101Bkg
Dwell (mSecs)		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Limits	%RSD	-	5.0%	5.0%	5.0%	5.0%	-	5.0%	-	-
	CountRate	-	>5000	>1000	>1000	>1000	-	>10000	-	-
1	12:29:52	0.000	26181.057	159040.96	20913.983	24689.682	928996.82	212617.20	1285.499	0.000
2	12:30:23	0.000	25879.206	161104.25	20958.727	24952.117	932818.00	211972.56	1257.801	0.000
3	12:30:55	0.000	25913.173	161353.56	21472.536	25528.736	925351.64	211892.58	1365.513	0.000
4	12:31:27	0.000	26004.268	163029.68	21702.450	25622.141	929799.06	211770.63	1357.050	0.000
5	12:31:59	0.000	25683.898	168524.81	21908.453	26247.450	931049.18	211989.99	1383.978	0.000
x		0.000	25932.320	162610.65	21391.230	25408.025	929602.94	212048.59	1329.968	0.000
σ		0.00	181.62	3596.70	443.23	610.11	2779.73	329.44	55.00	0.00
%RSD		0.000	0.700	2.212	2.072	2.401	0.299	0.155	4.135	0.000

Run	Time	113In	115In	138Ba	140Ce	156Ce O	206Pb	207Pb	208Pb	220Bkg
Dwell (mSecs)		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Limits	%RSD	5.0%	5.0%	-	-	-	5.0%	5.0%	5.0%	-
	CountRate	>1000	>10000	-	-	-	>10000	>10000	>10000	<2
1	12:29:52	14729.570	347454.18	1489.384	340865.13	9059.506	102138.64	88914.481	217852.37	0.000
2	12:30:23	14970.833	347959.11	1504.002	340888.49	9651.038	101968.58	89151.987	217883.28	0.000
3	12:30:55	14820.525	349363.55	1520.159	339435.70	9086.463	101895.25	88830.382	216520.25	0.000
4	12:31:27	15090.312	348965.83	1551.705	339480.82	8883.904	102218.99	89517.997	217932.42	0.000
5	12:31:59	14973.917	349439.39	1564.784	339880.45	9165.793	101910.85	88715.137	217053.55	0.000
x		14917.031	348636.41	1526.007	340110.12	9169.341	102026.46	89025.997	217448.38	0.000
σ		141.96	885.78	31.72	721.02	288.29	144.56	318.31	633.24	0.00
%RSD		0.952	0.254	2.078	0.212	3.144	0.142	0.358	0.291	0.000

Ratio results

Run	Time	56Ar O / 59Co	136Ba+ + / 138Ba	115In / 101Bkg	156Ce O / 140Ce
Ratio limits		-	-	-	-
1	12:29:52	4.369	0.863	INF	0.027
2	12:30:23	4.401	0.836	INF	0.028
3	12:30:55	4.367	0.898	INF	0.027
4	12:31:27	4.391	0.875	INF	0.026
5	12:31:59	4.392	0.884	INF	0.027
x		4.3839	0.8713	0.0000	0.0270
σ		0.01	0.02	0.00	0.00
%RSD		0.3393	2.6933	0.0000	3.0102

Result : The performance report passed.

FORM 11-IN

ICP-MS INTERNAL STANDARD ASSOCIATION

Lab Name: Shealy Environmental Services, I Contract: _____

Lab Code: SHEALY Case No.: _____ MA No.: _____ SDG No.: _____

Instrument ID: ICPMS2 Date: _____

Run Batch: MS2110416B 6020, generated 1

Analyte	Assoc. Internal Standard 1	Assoc. Internal Standard 2
Aluminum	45Sc	
Antimony	115In	159Tb
Arsenic	115In	
Barium	115In	159Tb
Beryllium	6Li	45Sc
Boron	6Li	45Sc
Cadmium	115In	
Calcium	6Li	45Sc
Chromium	45Sc	89Y
Cobalt	89Y	45Sc
Copper	115In	
Iron	45Sc	89Y
Lead	159Tb	
Magnesium	6Li	45Sc
Manganese	45Sc	89Y
Molybdenum	89Y	115In
Nickel	115In	
Potassium	6Li	45Sc
Selenium	115In	
Silicon	45Sc	
Silver	115In	
Sodium	6Li	45Sc
Thallium	159Tb	
Tin	115In	159Tb
Titanium	45Sc	89Y
Uranium	159Tb	
Vanadium	89Y	
Zinc	115In	

Experiment Details

Description	PlasmaLab Template BlankExperiment
Template Filename	C:\Program Files\Thermo Fisher\PlasmaLab\data\MS2110416A 6020.tee
Created By User	DemoX
Analyte Database	200_8.tea
Creation Timestamp	12/1/2004 11:33:01
Last Edited By	eqi.im
Last Edit Timestamp	11/4/2016 18:18:32
Instrument Detector	Simultaneous
Database Version	3.51
Acquisition Mode	Unknown

Numerical Results report key (text indicates meaning)

Blue text indicates that cell is a statistic.

Underlining indicates that a data warning flag is set.

Column headings	Result cells	Data warning flags
No flag	Internal Standard	I - Invalid calibration
Semi Quant	Excluded	T - Tripped
Standard Addition	QC Warning	F - Interference correction failed
Multi Element	QC Failure	M - Result over max
		V - Valley integration failed
		D - Different method used
	Transient TRA only:	
	Peak Not Found	
	Manually Edited	
	Merged Peak	

Fully Quantitative Concentrations

Id	Label	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al	28Si
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
4	cal1 MW9070	0.400	25.000	25.000	200.000	50.000	50.000	50.000	40.000	100.000
5	cal2 MW9071	2.000	125.000	125.000					200.000	500.000
6	cal3 MW9047	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000
7	cal4 MW9048	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000
8	cal5 MW9049				50000.000	50000.000	50000.000	50000.000		5000.000
9	cal6 MW9050				100000.000	100000.000	100000.000	100000.000		10000.000
Id	Label	39K	43Ca	44Ca	47Ti	51V	52Cr	55Mn	54Fe	56Fe
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
4	cal1 MW9070	200.000	200.000	200.000	5.000	5.000	1.000	5.000	20.000	20.000
5	cal2 MW9071				25.000	25.000	5.000	25.000	100.000	100.000
6	cal3 MW9047	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000
7	cal4 MW9048	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000
8	cal5 MW9049	50000.000	50000.000	50000.000					50000.000	50000.000
9	cal6 MW9050	100000.000	100000.000	100000.000					100000.000	100000.000
Id	Label	57Fe	59Co	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
4	cal1 MW9070	20.000	5.000	5.000	5.000	1.000	1.000	10.000	10.000	10.000
5	cal2 MW9071	100.000	25.000	25.000	25.000	5.000	5.000	50.000	50.000	50.000
6	cal3 MW9047	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000
7	cal4 MW9048	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000
8	cal5 MW9049	50000.000								
9	cal6 MW9050	100000.000								
Id	Label	75As	78Se	82Se	86Sr	95Mo	97Mo	98Mo	107Ag	109Ag
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
4	cal1 MW9070	1.000	1.000	1.000	10.000	10.000	10.000	10.000	1.000	1.000
5	cal2 MW9071	5.000	5.000	5.000	50.000	50.000	50.000	50.000	5.000	5.000
6	cal3 MW9047	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000
7	cal4 MW9048	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000
8	cal5 MW9049									
9	cal6 MW9050									
Id	Label	106Cd	111Cd	114Cd	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
4	cal1 MW9070	0.100	0.100	0.100	5.000	5.000	1.000	1.000	5.000	5.000
5	cal2 MW9071	0.500	0.500	0.500	25.000	25.000	5.000	5.000	25.000	25.000
6	cal3 MW9047	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000
7	cal4 MW9048	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000

8	cal5 MW9049							
9	cal6 MW9050							
Id	Label	203TI	205TI	206Pb	207Pb	208Pb	232Th	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
4	cal1 MW9070	0.500	0.500	1.000	1.000	1.000		50.000
5	cal2 MW9071	2.500	2.500	5.000	5.000	5.000		250.000
6	cal3 MW9047	250.000	250.000	250.000	250.000	250.000		
7	cal4 MW9048	500.000	500.000	500.000	500.000	500.000		500.000
8	cal5 MW9049							
9	cal6 MW9050							

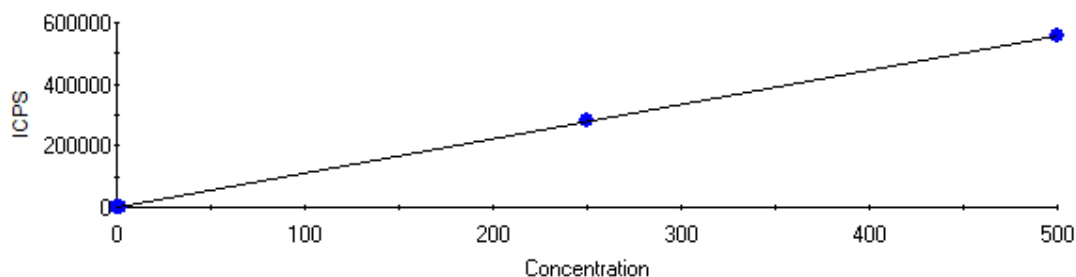
Sample List

No	Label	Type	Weight	Rack	Row	Col	Height
1	RINSE	Unknown	1.000	0	1	10	144
2	TUNE MW9028	Unknown	1.000	0	1	1	144
3	BLANK IM7321-01	Blank	1.000	0	1	1	144
4	cal1 MW9070	Fully Quant Standard	1.000	0	1	2	144
5	cal2 MW9071	Fully Quant Standard	1.000	0	1	3	144
6	cal3 MW9047	Fully Quant Standard	1.000	0	1	4	144
7	cal4 MW9048	Fully Quant Standard	1.000	0	1	5	144
8	cal5 MW9049	Fully Quant Standard	1.000	0	1	6	144
9	cal6 MW9050	Fully Quant Standard	1.000	0	1	7	144
10	ICV MW-9093	QC Sample	1.000	0	1	8	144
11	ICB IM7321-01	QC Sample	1.000	0	1	1	144
12	LLICV MW9070	QC Sample	1.000	0	1	2	144
13	LLICV2 MW9071	QC Sample	1.000	0	1	3	144
14	Co 4ppb MW-9023	Unknown	1.000	3	5	1	144
15	ICSA MW9006	QC Sample	1.000	3	5	2	144
16	ICSAB MW9091	QC Sample	1.000	3	5	3	144
17	CCV MW9101	QC Sample	1.000	0	1	9	144
18	CCB IM7321-01	QC Sample	1.000	0	1	10	144
19	RQ25726-001	Unknown	1.000	4	1	1	144
20	RQ25726-002	Unknown	1.000	4	1	2	144
21	RJ27005-001	Unknown	1.000	4	1	3	144
22	RJ27005-002	Unknown	1.000	4	1	4	144
23	RJ27005-003	Unknown	1.000	4	1	5	144
24	RJ27005-004	Unknown	1.000	4	1	6	144
25	RJ27005-004MS	Unknown	1.000	4	1	7	144
26	RJ27005-004MD	Unknown	1.000	4	1	8	144
27	RJ27005-004PS	Unknown	1.000	4	1	9	144
28	RJ27005-004L(5)	Unknown	1.000	4	1	10	144
29	CCV MW9101	QC Sample	1.000	0	1	9	144
30	CCB IM7321-01	QC Sample	1.000	0	1	10	144
31	RJ27005-005	Unknown	1.000	4	1	11	144
32	RJ27005-006	Unknown	1.000	4	1	12	144
33	RJ27005-007	Unknown	1.000	4	2	1	144
34	RJ27005-008	Unknown	1.000	4	2	2	144
35	RJ27005-009	Unknown	1.000	4	2	3	144
36	RJ27005-010	Unknown	1.000	4	2	4	144
37	RJ27005-011	Unknown	1.000	4	2	5	144
38	LLCCV MW9070	QC Sample	1.000	0	1	2	144
39	LLCCV2 MW9071	Unknown	1.000	0	1	3	144
40	Co 4ppb MW-9023	Unknown	1.000	3	5	1	144
41	CCV MW9041	QC Sample	1.000	0	1	9	144
42	CCB IM7321-01	QC Sample	1.000	0	1	10	144
43	RQ25793-001	Unknown	1.000	4	2	6	144
44	RQ25793-002	Unknown	1.000	4	2	7	144
45	RK02041-002	Unknown	1.000	4	2	8	144
46	RK02041-003	Unknown	1.000	4	2	9	144
47	RK02041-004	Unknown	1.000	4	2	10	144
48	RK02041-004MS	Unknown	1.000	4	2	11	144
49	RK02041-004MD	Unknown	1.000	4	2	12	144
50	RK02041-004ps	Unknown	1.000	4	3	1	144
51	RK02041-004L(5)	Unknown	1.000	4	3	2	144
52	CCV MW9041	QC Sample	1.000	0	1	9	144
53	CCB IM7321-01	QC Sample	1.000	0	1	10	144
54	RK01063-001	Unknown	1.000	4	3	3	144
55	RK01063-002	Unknown	1.000	4	3	4	144
56	RK01063-003	Unknown	1.000	4	3	5	144
57	RK01063-004	Unknown	1.000	4	3	6	144
58	RK01063-005	Unknown	1.000	4	3	7	144
59	LLCCV MW9070	QC Sample	1.000	0	1	2	144
60	LLCCV2 MW9071	Unknown	1.000	0	1	3	144

61	CCV MW9041	QC Sample	1.000	0	1	9	144
62	CCB IM7321-01	QC Sample	1.000	0	1	10	144
63	LR MW8090	Unknown	1.000	3	5	4	144
64	IS MW9112	Unknown	1.000	3	5	10	144
65	RINSE	Unknown	1.000	3	5	11	144
66	RINSE	Unknown	1.000	3	5	12	144

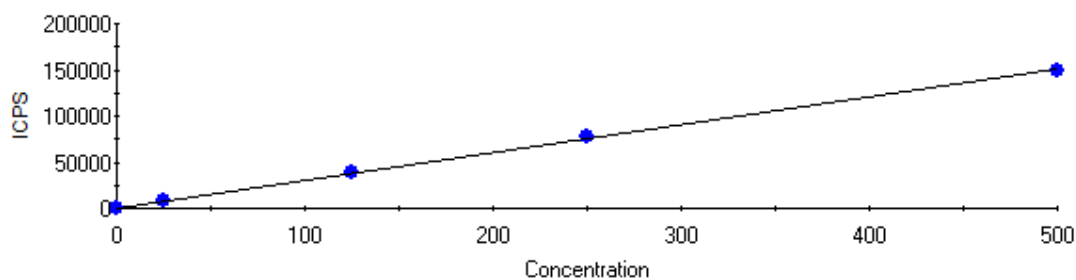
Fully Quant Calibration

9Be FQ Block 1

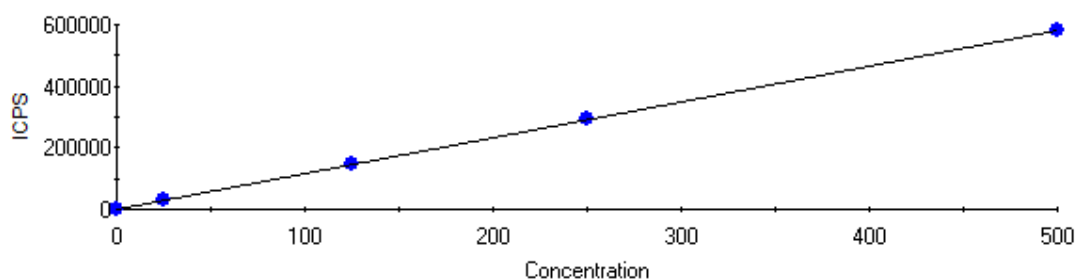


Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	0.000	0.000	20.00	0.00
cal1 MW9070	0.400	0.419	0.019	486.89	4.69
cal2 MW9071	2.000	1.995	0.005	2244.65	0.23
cal3 MW9047	250.000	252.910	2.910	281986.99	1.16
cal4 MW9048	500.000	498.545	1.455	555843.28	0.29

10B FQ Block 1

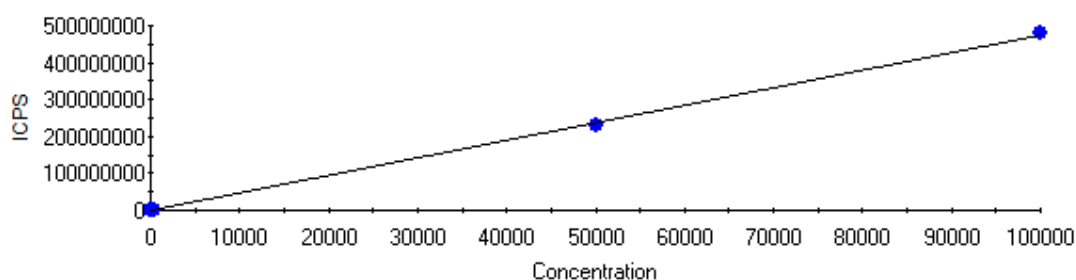


Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	226.59	0.00
cal1 MW9070	25.000	25.063	0.063	7773.63	0.25
cal2 MW9071	125.000	129.232	4.232	39141.84	3.39
cal3 MW9047	250.000	254.374	4.374	76825.65	1.75
cal4 MW9048	500.000	496.752	3.248	149812.12	0.65

11B FQ Block 1

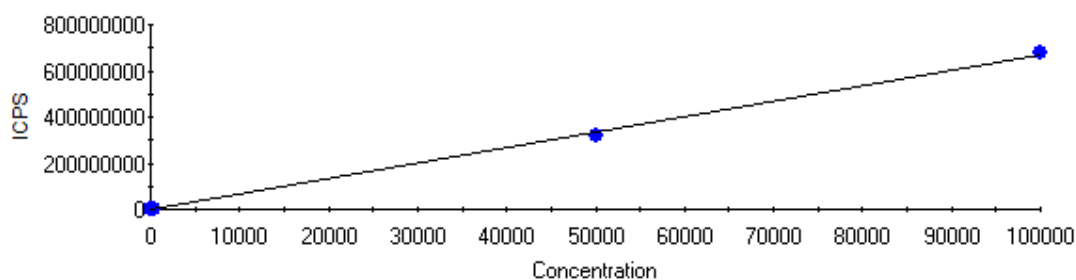
Intercept CPS=916.101501 Intercept Conc=0.790283
Sensitivity=1159.207030 Correlation Coeff=0.999981

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	916.10	0.00
cal1 MW9070	25.000	25.038	0.038	29940.59	0.15
cal2 MW9071	125.000	127.008	2.008	148144.42	1.61
cal3 MW9047	250.000	251.621	1.621	292597.50	0.65
cal4 MW9048	500.000	498.685	1.315	578995.72	0.26

23Na FQ Block 1

Intercept CPS=12992.860681 Intercept Conc=2.727547
Sensitivity=4763.569319 Correlation Coeff=0.999841

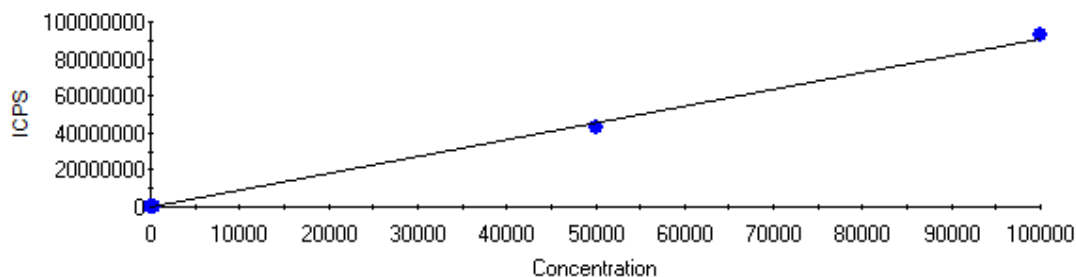
Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	0.000	0.000	12992.86	0.00
cal1 MW9070	200.000	212.152	12.152	1023593.55	6.08
cal3 MW9047	250.000	250.649	0.649	1206975.26	0.26
cal4 MW9048	500.000	457.303	42.697	2191389.37	8.54
cal5 MW9049	50000.000	48466.961	1533.039	230888722.71	3.07
cal6 MW9050	100000.000	100766.707	766.707	480022186.23	0.77

24Mg FQ Block 1

Intercept CPS=3838.714722 Intercept Conc=0.571665
Sensitivity=6714.973584 Correlation Coeff=0.999685

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	3838.71	0.00
cal1 MW9070	50.000	52.062	2.062	353433.05	4.12
cal3 MW9047	250.000	256.759	6.759	1727970.17	2.70
cal4 MW9048	500.000	472.735	27.265	3178243.76	5.45
cal5 MW9049	50000.000	47843.838	2156.162	321273949.01	4.31
cal6 MW9050	100000.000	101078.199	1078.199	678741276.55	1.08

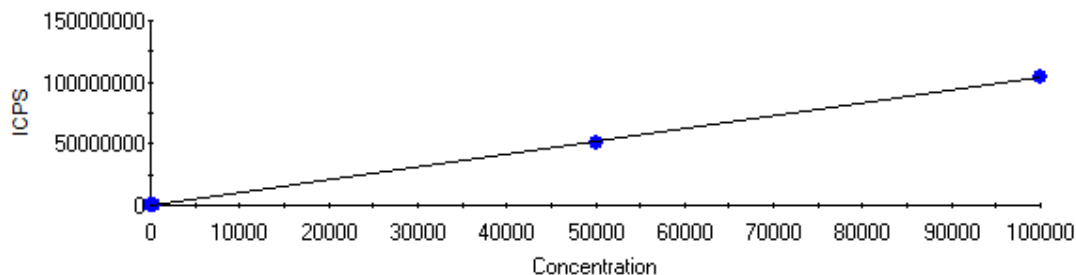
25Mg FQ Block 1



Intercept CPS=535.632643 Intercept Conc=0.587158
Sensitivity=912.246025 Correlation Coeff=0.999465

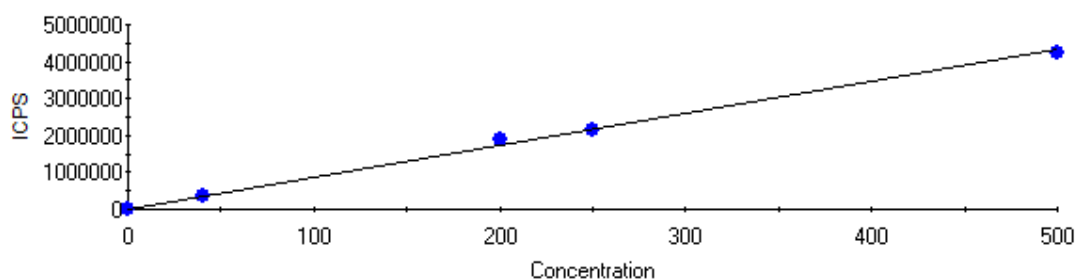
Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	535.63	0.00
cal1 MW9070	50.000	50.465	0.465	46572.20	0.93
cal3 MW9047	250.000	246.483	3.517	225388.50	1.41
cal4 MW9048	500.000	490.330	9.670	447837.43	1.93
cal5 MW9049	50000.000	47188.761	2811.239	43048295.06	5.62
cal6 MW9050	100000.000	101405.677	1405.677	92507460.97	1.41

26Mg FQ Block 1



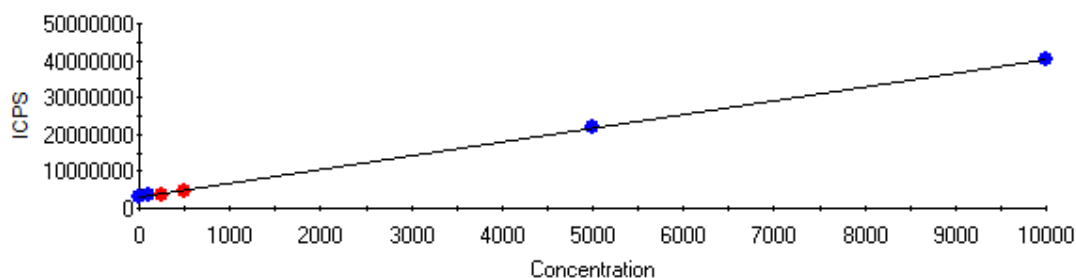
Intercept CPS=609.444875 Intercept Conc=0.587419
Sensitivity=1037.495449 Correlation Coeff=0.999832

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	609.44	0.00
cal1 MW9070	50.000	52.054	2.054	54614.88	4.11
cal3 MW9047	250.000	258.176	8.176	268465.98	3.27
cal4 MW9048	500.000	515.677	15.677	535622.18	3.14
cal5 MW9049	50000.000	48429.013	1570.987	50245489.63	3.14
cal6 MW9050	100000.000	100785.394	785.394	104564996.94	0.79

27Al FQ Block 1

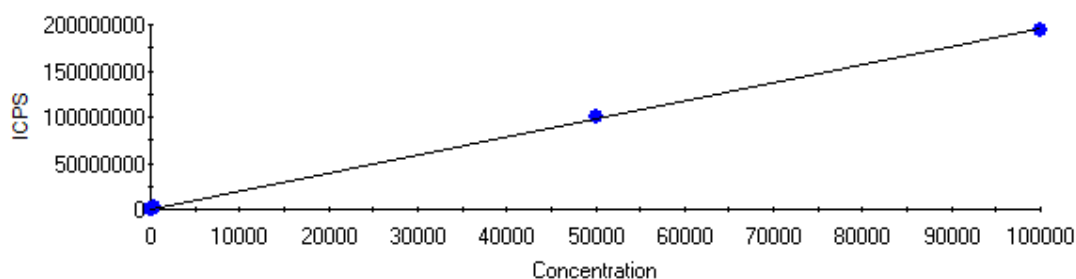
Intercept CPS=1603.154411 Intercept Conc=0.185881
Sensitivity=8624.640067 Correlation Coeff=0.998781

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	1603.15	0.00
cal1 MW9070	40.000	42.320	2.320	366594.58	5.80
cal2 MW9071	200.000	219.720	19.720	1896611.55	9.86
cal3 MW9047	250.000	250.208	0.208	2159555.93	0.08
cal4 MW9048	500.000	491.822	8.178	4243394.19	1.64

28Si FQ Block 1

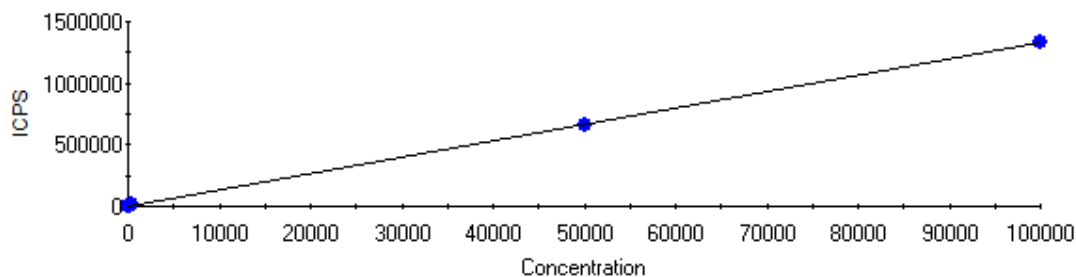
Intercept CPS=2879474.355460 Intercept Conc=767.281867
Sensitivity=3752.824716 Correlation Coeff=0.999955

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	2879474.36	0.00
cal1 MW9070	100.000	141.931	41.931	3412117.61	41.93
cal2 MW9071	500.000	501.184	1.184	4760328.22	0.24
cal3 MW9047	250.000	239.565	10.435	3778520.09	4.17
cal4 MW9048	500.000	485.930	14.070	4703083.47	2.81
cal5 MW9049	5000.000	5075.857	75.857	21928274.68	1.52
cal6 MW9050	10000.000	9961.593	38.407	40263587.46	0.38

39K FQ Block 1

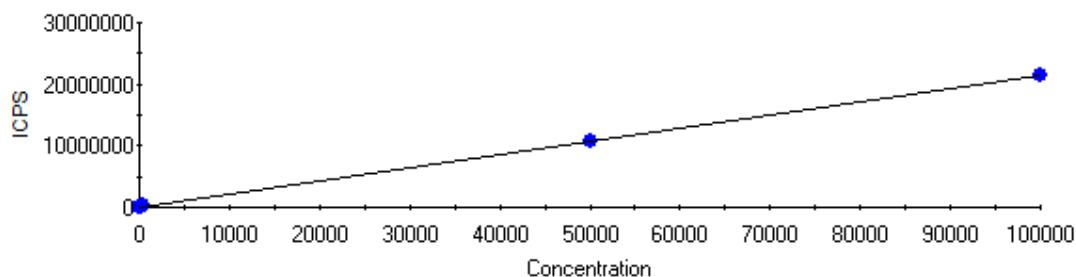
Intercept CPS=104062.547894 Intercept Conc=53.115176
Sensitivity=1959.186722 Correlation Coeff=0.999873

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	104062.55	0.00
cal1 MW9070	200.000	224.235	24.235	543380.79	12.12
cal3 MW9047	250.000	274.701	24.701	642252.75	9.88
cal4 MW9048	500.000	550.690	50.690	1182967.11	10.14
cal5 MW9049	50000.000	51369.041	1369.041	100745605.31	2.74
cal6 MW9050	100000.000	99315.116	684.884	194680918.86	0.68

43Ca FQ Block 1

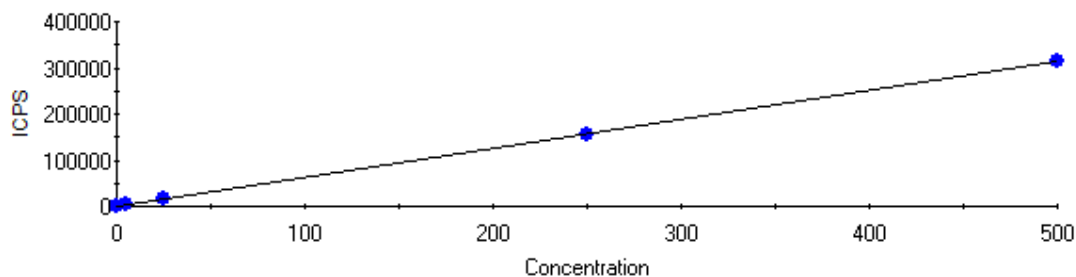
Intercept CPS=39.830487 Intercept Conc=3.003867
Sensitivity=13.259739 Correlation Coeff=0.999980

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	39.83	0.00
cal1 MW9070	200.000	218.171	18.171	2932.72	9.09
cal3 MW9047	250.000	542.479	292.479	7232.96	116.99
cal4 MW9048	500.000	1040.926	540.926	13842.24	108.19
cal5 MW9049	50000.000	49727.703	272.297	659416.18	0.54
cal6 MW9050	100000.000	100132.676	132.676	1327772.96	0.13

44Ca FQ Block 1

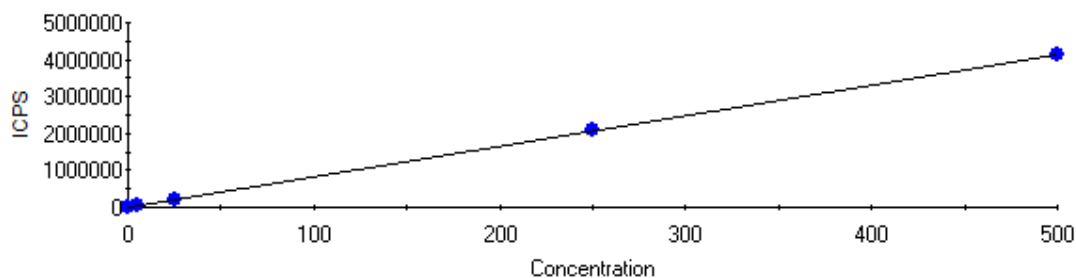
Intercept CPS=22430.346025 Intercept Conc=104.219363
Sensitivity=215.222444 Correlation Coeff=0.999994

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	22430.35	0.00
cal1 MW9070	200.000	213.075	13.075	68288.80	6.54
cal3 MW9047	250.000	407.129	157.129	110053.61	62.85
cal4 MW9048	500.000	815.118	315.118	197862.02	63.02
cal5 MW9049	50000.000	50208.308	208.308	10828385.00	0.42
cal6 MW9050	100000.000	99893.852	106.148	21521829.18	0.11

47Ti FQ Block 1

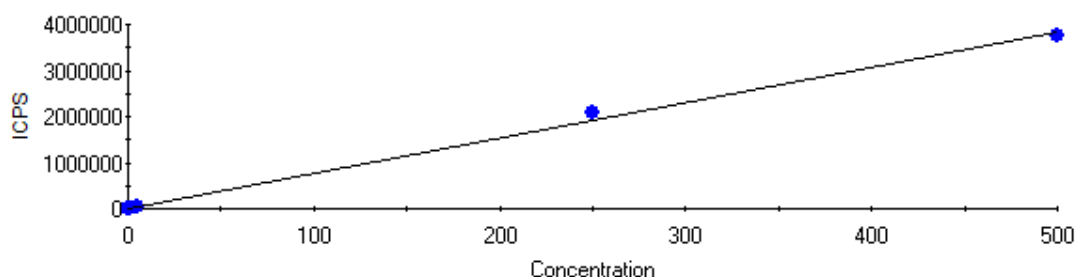
Intercept CPS=57.195806 Intercept Conc=0.091284
Sensitivity=626.570051 Correlation Coeff=0.999983

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	0.000	0.000	57.20	0.00
cal1 MW9070	5.000	5.034	0.034	3211.56	0.69
cal2 MW9071	25.000	24.971	0.029	15703.52	0.11
cal3 MW9047	250.000	247.657	2.343	155231.93	0.94
cal4 MW9048	500.000	501.172	1.172	314076.79	0.23

51V FQ Block 1

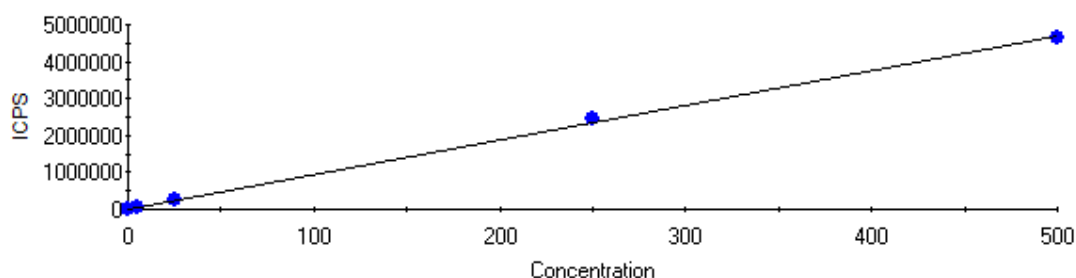
Intercept CPS=538.681655 Intercept Conc=0.065413
Sensitivity=8235.050313 Correlation Coeff=0.999988

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	538.68	0.00
cal1 MW9070	5.000	5.041	0.041	42048.08	0.81
cal2 MW9071	25.000	25.455	0.455	210158.29	1.82
cal3 MW9047	250.000	251.997	1.997	2075746.44	0.80
cal4 MW9048	500.000	498.978	1.022	4109650.74	0.20

52Cr FQ Block 1

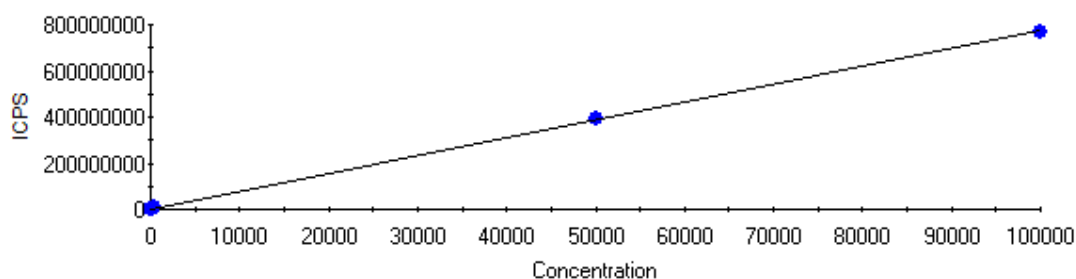
Intercept CPS=2671.765242 Intercept Conc=0.348773
Sensitivity=7660.471586 Correlation Coeff=0.998673

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	2671.77	0.00
cal1 MW9070	1.000	1.067	0.067	10844.31	6.68
cal2 MW9071	5.000	5.145	0.145	42081.80	2.89
cal3 MW9047	250.000	271.071	21.071	2079201.94	8.43
cal4 MW9048	500.000	489.463	10.537	3752189.32	2.11

55Mn FQ Block 1

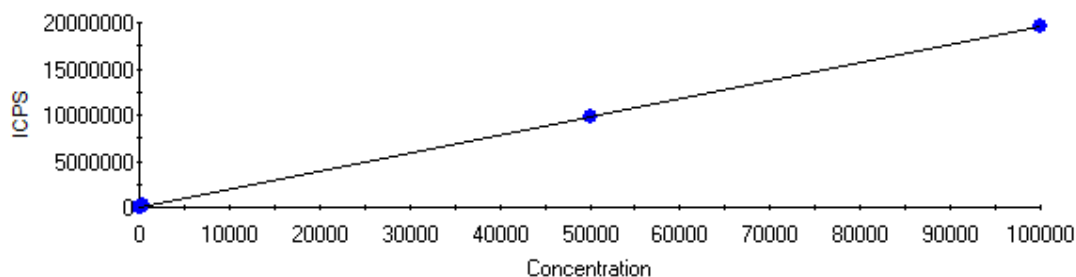
Intercept CPS=214.729225 Intercept Conc=0.022885
Sensitivity=9382.845954 Correlation Coeff=0.999485

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	0.000	0.000	214.73	0.00
cal1 MW9070	5.000	5.178	0.178	48800.72	3.56
cal2 MW9071	25.000	25.671	0.671	241086.36	2.69
cal3 MW9047	250.000	263.006	13.006	2467962.44	5.20
cal4 MW9048	500.000	493.461	6.539	4630287.86	1.31

56Fe FQ Block 1

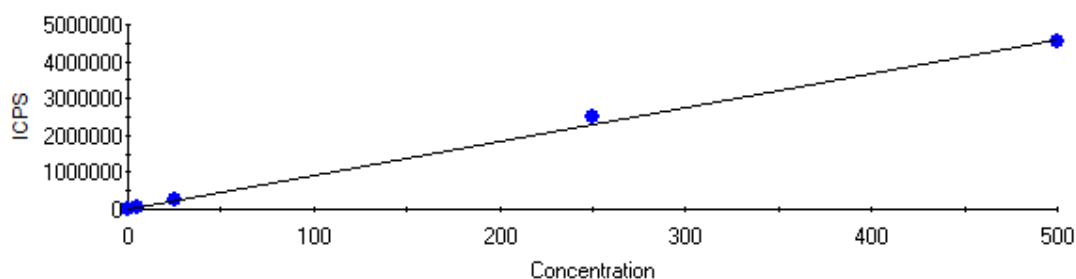
Intercept CPS=727944.085074 Intercept Conc=94.267581
Sensitivity=7722.104187 Correlation Coeff=0.999939

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	0.000	0.000	727944.09	0.00
cal1 MW9070	20.000	23.936	3.936	912777.00	19.68
cal2 MW9071	100.000	119.971	19.971	1654376.29	19.97
cal3 MW9047	250.000	258.258	8.258	2722236.44	3.30
cal4 MW9048	500.000	512.930	12.930	4688842.88	2.59
cal5 MW9049	50000.000	50967.439	967.439	394303815.57	1.93
cal6 MW9050	100000.000	99516.175	483.825	769202212.79	0.48

57Fe FQ Block 1

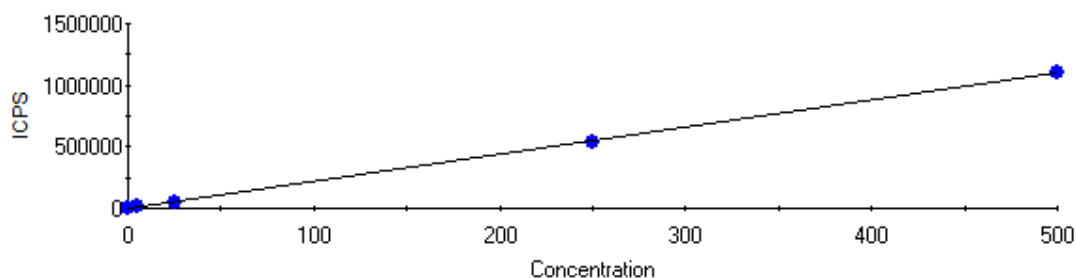
Intercept CPS=8415.667266 Intercept Conc=43.193617
Sensitivity=194.835901 Correlation Coeff=1.000000

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	0.000	0.000	8415.67	0.00
cal1 MW9070	20.000	21.052	1.052	12517.28	5.26
cal2 MW9071	100.000	115.392	15.392	30898.13	15.39
cal3 MW9047	250.000	254.114	4.114	57926.26	1.65
cal4 MW9048	500.000	516.367	16.367	109022.57	3.27
cal5 MW9049	50000.000	49929.184	70.816	9736413.29	0.14
cal6 MW9050	100000.000	100035.300	35.300	19498883.52	0.04

59Co FQ Block 1

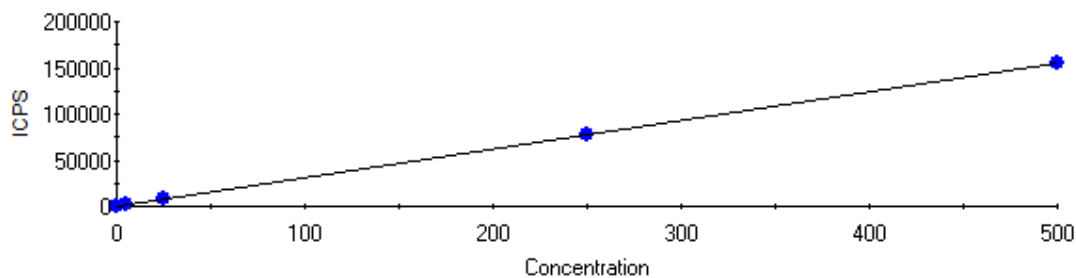
Intercept CPS=34.637249 Intercept Conc=0.003760
Sensitivity=9211.131158 Correlation Coeff=0.998842

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	34.64	0.00
cal1 MW9070	5.000	5.030	0.030	46368.14	0.60
cal2 MW9071	25.000	25.375	0.375	233766.57	1.50
cal3 MW9047	250.000	269.383	19.383	2481355.87	7.75
cal4 MW9048	500.000	490.290	9.710	4516155.54	1.94

60Ni FQ Block 1

Intercept CPS=70.819947 Intercept Conc=0.032250
Sensitivity=2195.987650 Correlation Coeff=0.999948

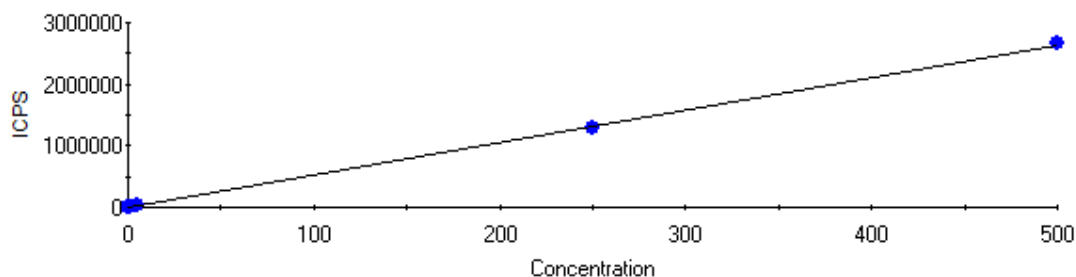
Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	70.82	0.00
cal1 MW9070	5.000	4.735	0.265	10469.25	5.30
cal2 MW9071	25.000	24.052	0.948	52888.26	3.79
cal3 MW9047	250.000	245.768	4.232	539774.57	1.69
cal4 MW9048	500.000	502.166	2.166	1102821.15	0.43

62Ni FQ Block 1

Intercept CPS=728.977264 Intercept Conc=2.354938
Sensitivity=309.552625 Correlation Coeff=0.999995

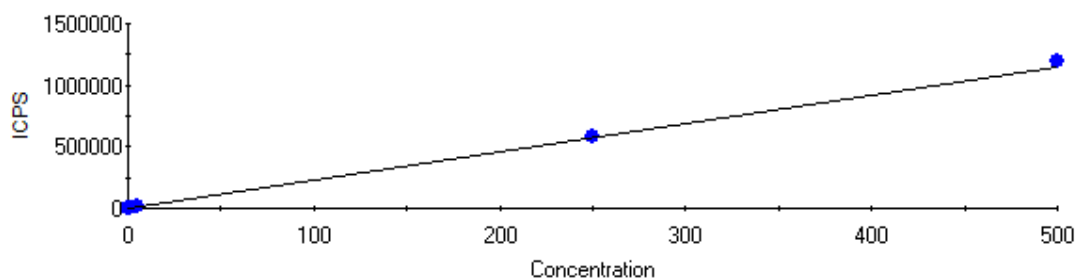
Label	Defined	Measured	Error	Mean CPS	% Error

BLANK IM7321-01	0.000	-0.000	0.000	728.98	0.00
cal1 MW9070	5.000	4.458	0.542	2109.07	10.83
cal2 MW9071	25.000	24.822	0.178	8412.66	0.71
cal3 MW9047	250.000	248.613	1.387	77687.91	0.55
cal4 MW9048	500.000	500.708	0.708	155724.33	0.14

63Cu FQ Block 1

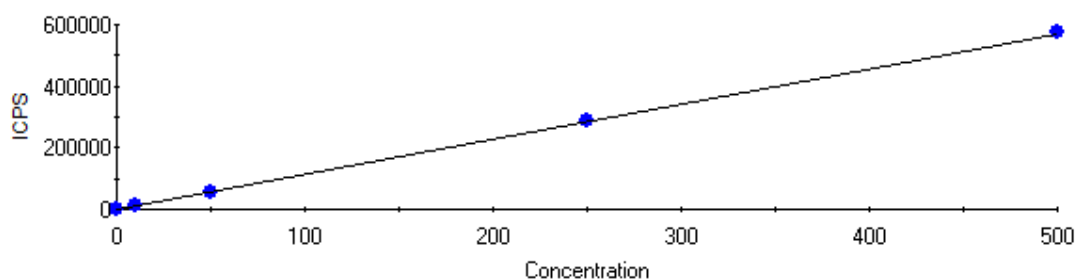
Intercept CPS=226.874213 Intercept Conc=0.043102
Sensitivity=5263.642973 Correlation Coeff=0.999815

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	226.87	0.00
cal1 MW9070	1.000	0.942	0.058	5183.36	5.84
cal2 MW9071	5.000	4.778	0.222	25375.63	4.44
cal3 MW9047	250.000	242.965	7.035	1279107.30	2.81
cal4 MW9048	500.000	505.965	5.965	2663445.76	1.19

65Cu FQ Block 1

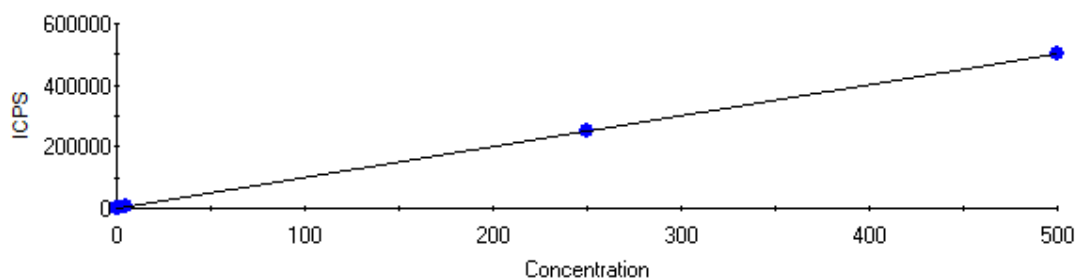
Intercept CPS=89.412653 Intercept Conc=0.038805
Sensitivity=2304.174247 Correlation Coeff=0.999925

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	89.41	0.00
cal1 MW9070	1.000	0.971	0.029	2327.16	2.88
cal2 MW9071	5.000	4.889	0.111	11354.96	2.22
cal3 MW9047	250.000	251.862	1.862	580424.41	0.74
cal4 MW9048	500.000	516.841	16.841	1190980.68	3.37

66Zn FQ Block 1

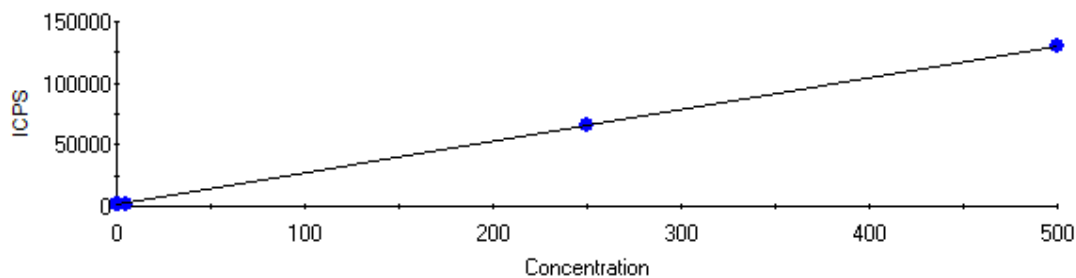
Intercept CPS=145.152030 Intercept Conc=0.127764
Sensitivity=1136.096130 Correlation Coeff=0.999987

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	0.000	0.000	145.15	0.00
cal1 MW9070	10.000	9.911	0.089	11405.07	0.89
cal2 MW9071	50.000	49.543	0.457	56430.75	0.91
cal3 MW9047	250.000	250.561	0.561	284806.17	0.22
cal4 MW9048	500.000	506.380	6.380	575441.99	1.28

75As FQ Block 1

Intercept CPS=179.480142 Intercept Conc=0.178779
Sensitivity=1003.923971 Correlation Coeff=0.999972

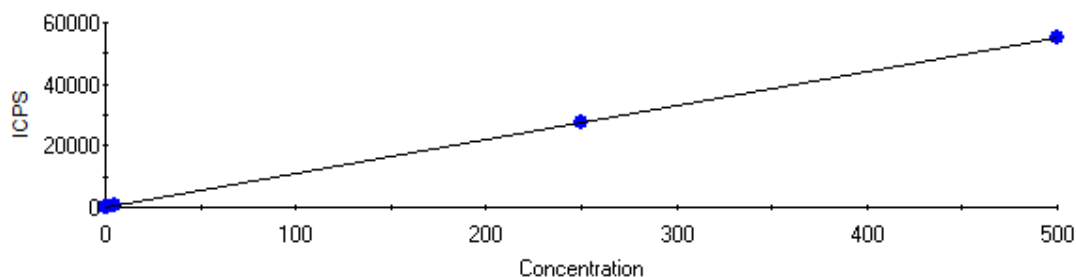
Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	179.48	0.00
cal1 MW9070	1.000	1.014	0.014	1197.17	1.37
cal2 MW9071	5.000	4.772	0.228	4970.32	4.56
cal3 MW9047	250.000	246.887	3.113	248035.38	1.25
cal4 MW9048	500.000	501.559	1.559	503706.27	0.31

78Se FQ Block 1

Intercept CPS=873.807936 Intercept Conc=3.373218
Sensitivity=259.042837 Correlation Coeff=1.000000

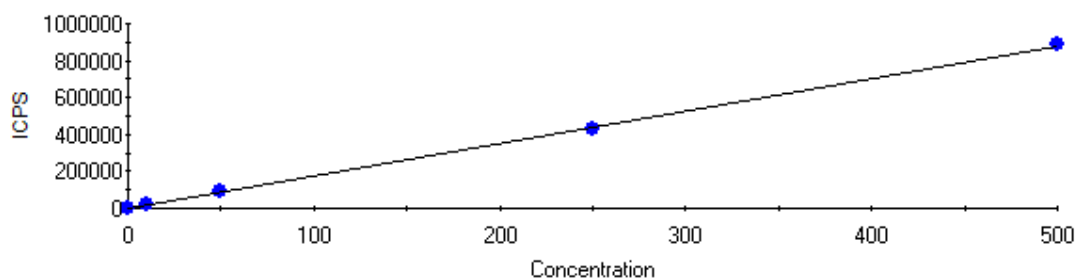
Label	Defined	Measured	Error	Mean CPS	% Error

BLANK IM7321-01	0.000	0.000	0.000	873.81	0.00
cal1 MW9070	1.000	0.877	0.123	1100.99	12.30
cal2 MW9071	5.000	4.762	0.238	2107.39	4.76
cal3 MW9047	250.000	249.697	0.303	65556.06	0.12
cal4 MW9048	500.000	500.154	0.154	130435.14	0.03

82Se FQ Block 1

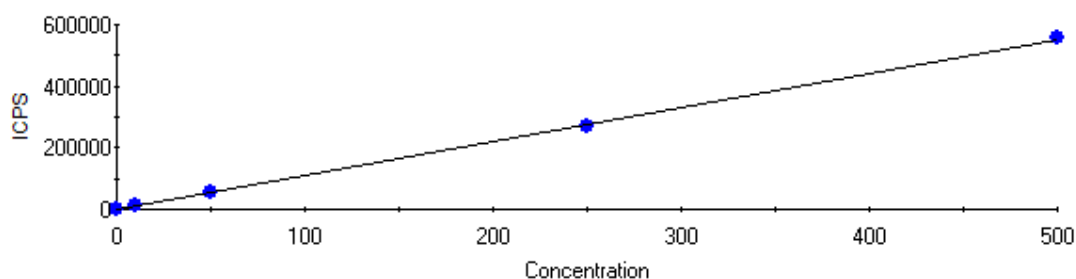
Intercept CPS=95.159044 Intercept Conc=0.869207
Sensitivity=109.477999 Correlation Coeff=0.999992

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	0.000	0.000	95.16	0.00
cal1 MW9070	1.000	1.228	0.228	229.56	22.77
cal2 MW9071	5.000	4.810	0.190	621.70	3.81
cal3 MW9047	250.000	248.372	1.628	27286.41	0.65
cal4 MW9048	500.000	500.816	0.816	54923.44	0.16

95Mo FQ Block 1

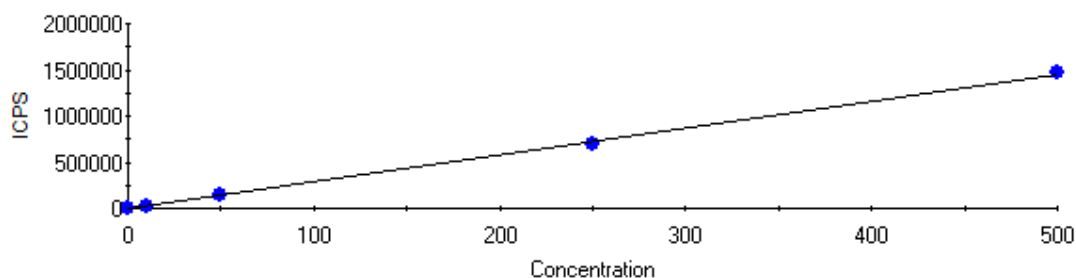
Intercept CPS=301.311472 Intercept Conc=0.171626
Sensitivity=1755.627394 Correlation Coeff=0.999807

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	301.31	0.00
cal1 MW9070	10.000	9.951	0.049	17771.34	0.49
cal2 MW9071	50.000	51.476	1.476	90674.39	2.95
cal3 MW9047	250.000	242.385	7.615	425839.64	3.05
cal4 MW9048	500.000	503.661	3.661	884541.82	0.73

97Mo FQ Block 1

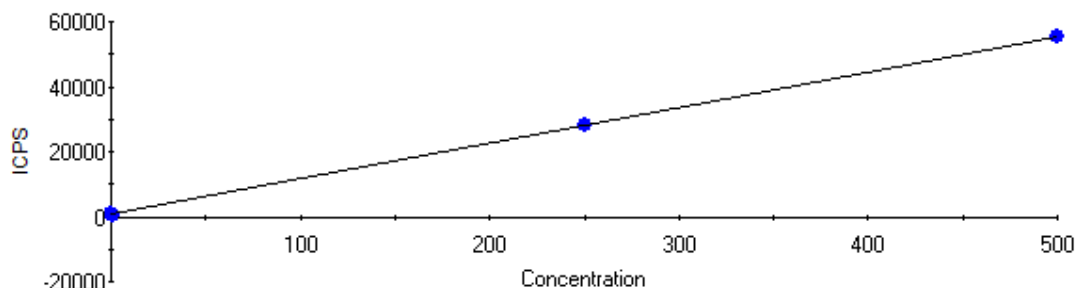
Intercept CPS=185.562950 Intercept Conc=0.168269
Sensitivity=1102.777210 Correlation Coeff=0.999829

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	0.000	0.000	185.56	0.00
cal1 MW9070	10.000	9.960	0.040	11168.70	0.40
cal2 MW9071	50.000	51.760	1.760	57265.75	3.52
cal3 MW9047	250.000	243.614	6.386	268837.60	2.55
cal4 MW9048	500.000	504.928	4.928	557008.11	0.99

98Mo FQ Block 1

Intercept CPS=500.280845 Intercept Conc=0.172440
Sensitivity=2901.182623 Correlation Coeff=0.999733

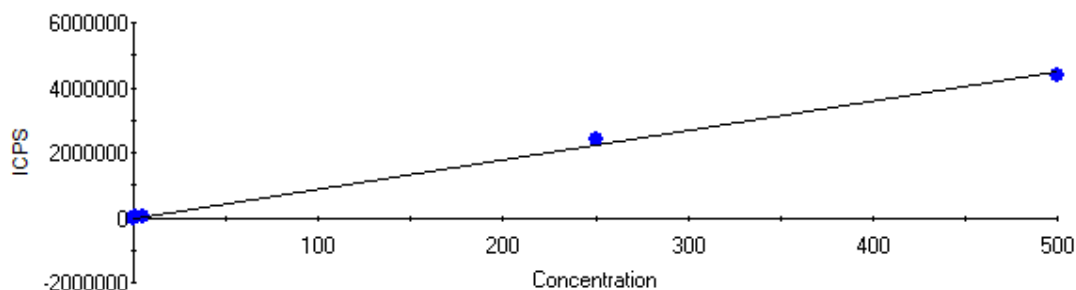
Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	0.000	0.000	500.28	0.00
cal1 MW9070	10.000	9.749	0.251	28782.94	2.51
cal2 MW9071	50.000	50.985	0.985	148417.04	1.97
cal3 MW9047	250.000	242.404	7.596	703758.43	3.04
cal4 MW9048	500.000	507.831	7.831	1473810.49	1.57

106Cd FQ Block 1

Intercept CPS=862.947621 Intercept Conc=7.907208
Sensitivity=109.134301 Correlation Coeff=0.999934

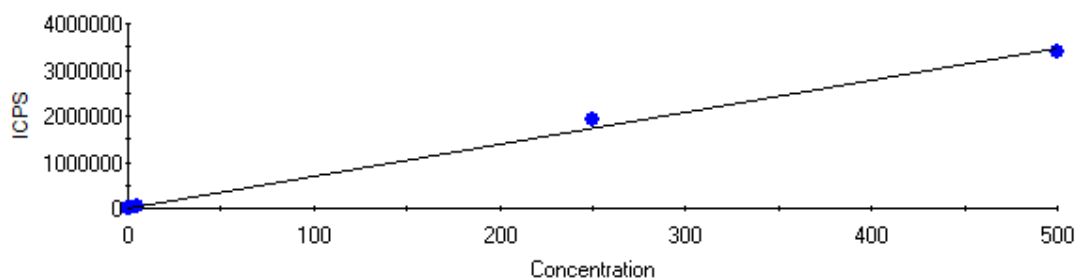
Label	Defined	Measured	Error	Mean CPS	% Error

BLANK IM7321-01	0.000	-0.000	0.000	862.95	0.00
cal1 MW9070	0.100	-1.504	1.604	698.80	1604.07
cal2 MW9071	0.500	-6.307	6.807	174.62	1361.42
cal3 MW9047	250.000	249.972	0.028	28143.45	0.01
cal4 MW9048	500.000	500.021	0.021	55432.41	0.00

107Ag FQ Block 1

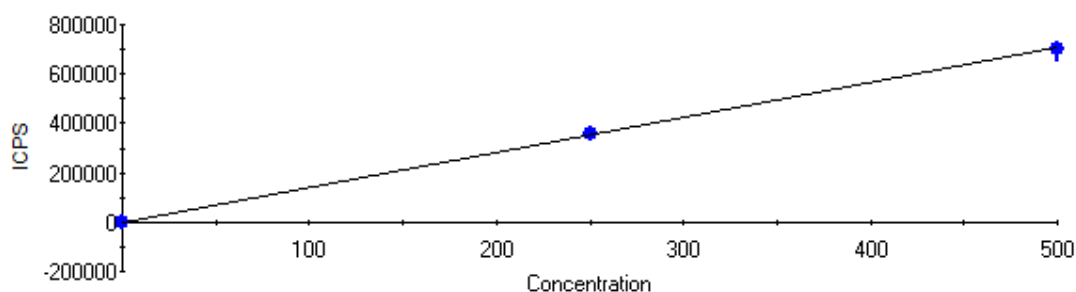
Intercept CPS=-106.432719 Intercept Conc=-0.011868
Sensitivity=8968.082666 Correlation Coeff=0.998911

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	0.000	0.000	-106.43	0.00
cal1 MW9070	1.000	0.817	0.183	7220.55	18.30
cal2 MW9071	5.000	4.168	0.832	37272.60	16.64
cal3 MW9047	250.000	268.955	18.955	2411900.75	7.58
cal4 MW9048	500.000	490.531	9.469	4399019.54	1.89

109Ag FQ Block 1

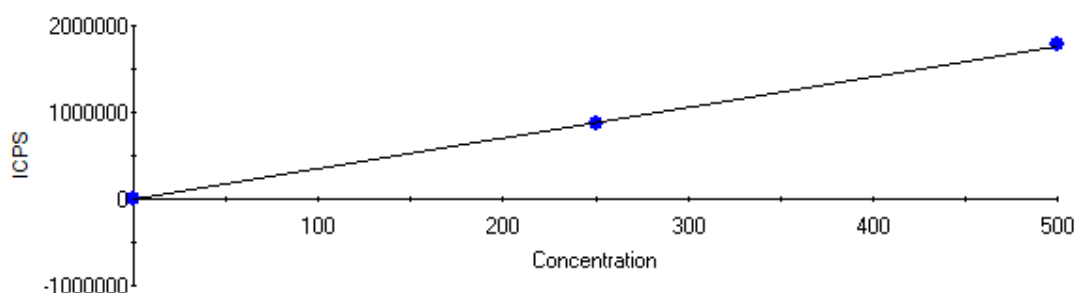
Intercept CPS=26.848301 Intercept Conc=0.003868
Sensitivity=6941.293807 Correlation Coeff=0.998079

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	26.85	0.00
cal1 MW9070	1.000	1.026	0.026	7151.86	2.65
cal2 MW9071	5.000	5.053	0.053	35099.99	1.06
cal3 MW9047	250.000	275.302	25.302	1910977.96	10.12
cal4 MW9048	500.000	487.348	12.652	3382855.89	2.53

111Cd FQ Block 1

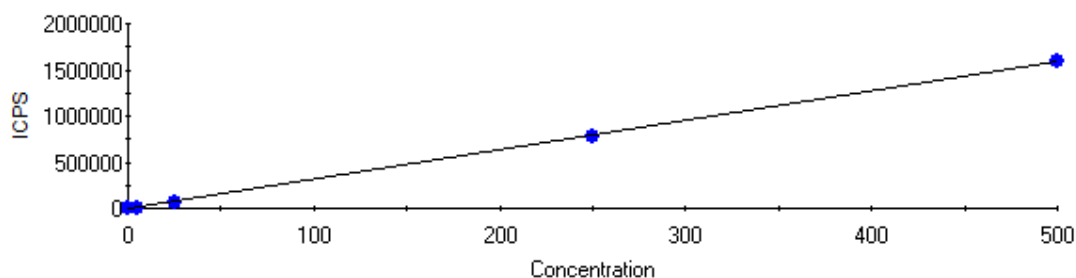
Intercept CPS=-0.550371 Intercept Conc=-0.000390
Sensitivity=1410.021559 Correlation Coeff=0.999942

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	-0.55	0.00
cal1 MW9070	0.100	0.122	0.022	171.74	22.19
cal2 MW9071	0.500	0.535	0.035	754.51	7.10
cal3 MW9047	250.000	254.436	4.436	358759.14	1.77
cal4 MW9048	500.000	497.782	2.218	701883.02	0.44

114Cd FQ Block 1

Intercept CPS=-56.132423 Intercept Conc=-0.015912
Sensitivity=3527.593133 Correlation Coeff=0.999888

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	0.000	0.000	-56.13	0.00
cal1 MW9070	0.100	0.131	0.031	405.73	30.93
cal2 MW9071	0.500	0.535	0.035	1830.10	6.94
cal3 MW9047	250.000	246.305	3.695	868807.13	1.48
cal4 MW9048	500.000	508.250	8.250	1792843.75	1.65

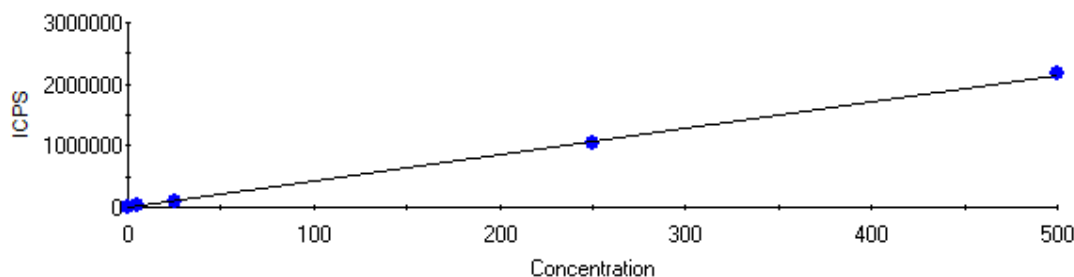
116Sn FQ Block 1

Intercept CPS=80.948912 Intercept Conc=0.025549
Sensitivity=3168.344185 Correlation Coeff=0.999816

Label	Defined	Measured	Error	Mean CPS	% Error

BLANK IM7321-01	0.000	-0.000	0.000	80.95	0.00
cal1 MW9070	5.000	3.108	1.892	9927.60	37.84
cal2 MW9071	25.000	16.283	8.717	51669.98	34.87
cal3 MW9047	250.000	243.897	6.103	772831.12	2.44
cal4 MW9048	500.000	503.506	3.506	1595361.91	0.70

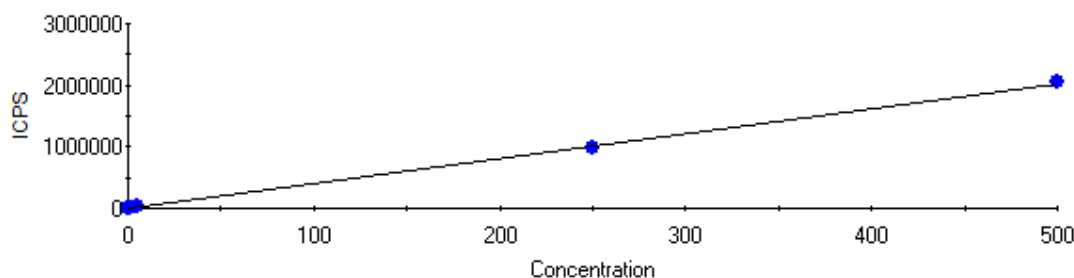
118Sn FQ Block 1



Intercept CPS=3053.248875 Intercept Conc=0.713234
Sensitivity=4280.849009 Correlation Coeff=0.999849

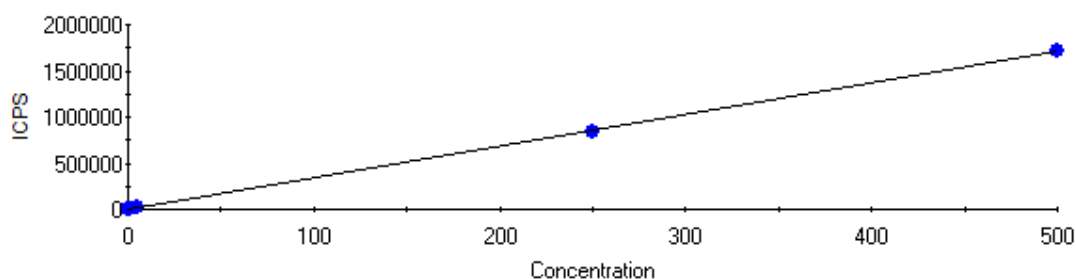
Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	3053.25	0.00
cal1 MW9070	5.000	3.808	1.192	19356.32	23.83
cal2 MW9071	25.000	20.414	4.586	90440.39	18.35
cal3 MW9047	250.000	242.991	7.009	1043259.39	2.80
cal4 MW9048	500.000	503.746	3.746	2159513.52	0.75

121Sb FQ Block 1



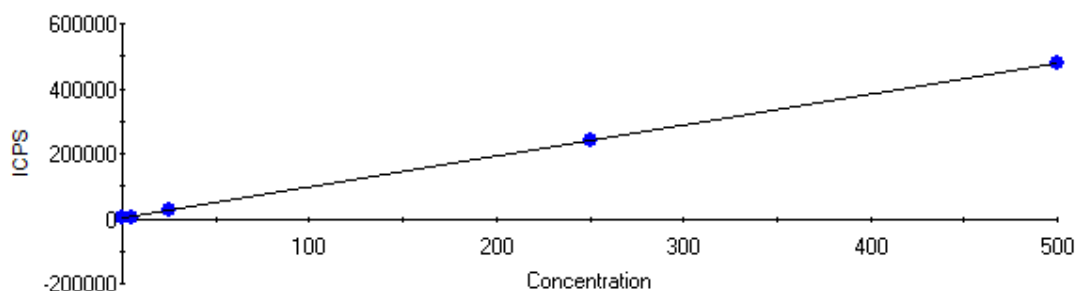
Intercept CPS=269.101818 Intercept Conc=0.066411
Sensitivity=4052.081978 Correlation Coeff=0.999853

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	0.000	0.000	269.10	0.00
cal1 MW9070	1.000	0.959	0.041	4154.78	4.11
cal2 MW9071	5.000	4.586	0.414	18851.49	8.28
cal3 MW9047	250.000	242.863	7.137	984368.62	2.85
cal4 MW9048	500.000	503.573	3.573	2040787.69	0.71

123Sb FQ Block 1

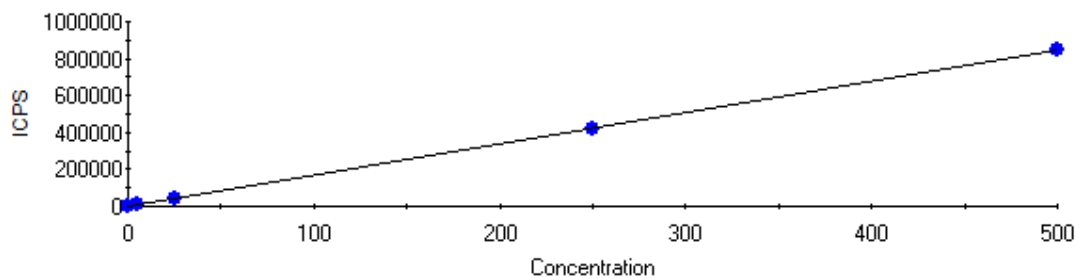
Intercept CPS=171.490576 Intercept Conc=0.050012
Sensitivity=3428.993699 Correlation Coeff=0.999913

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	0.000	0.000	171.49	0.00
cal1 MW9070	1.000	0.937	0.063	3382.80	6.35
cal2 MW9071	5.000	4.601	0.399	15947.80	7.98
cal3 MW9047	250.000	244.515	5.485	838610.24	2.19
cal4 MW9048	500.000	502.747	2.747	1724087.30	0.55

135Ba FQ Block 1

Intercept CPS=6.770361 Intercept Conc=0.007062
Sensitivity=958.669607 Correlation Coeff=0.999998

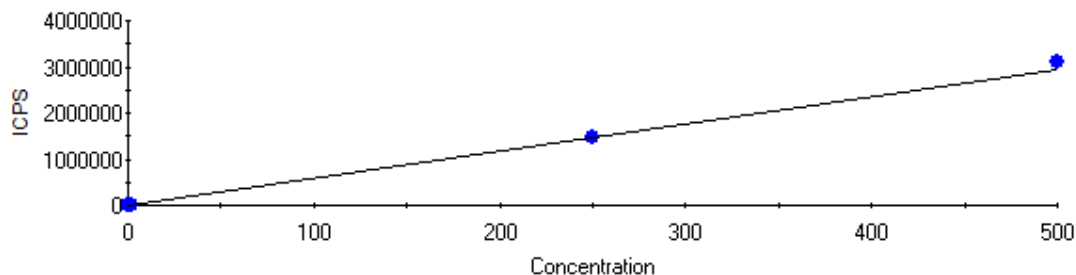
Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	0.000	0.000	6.77	0.00
cal1 MW9070	5.000	4.992	0.008	4792.17	0.17
cal2 MW9071	25.000	24.780	0.220	23762.46	0.88
cal3 MW9047	250.000	249.164	0.836	238872.66	0.33
cal4 MW9048	500.000	500.429	0.429	479752.96	0.09

137Ba FQ Block 1

Intercept CPS=6.649853 Intercept Conc=0.003913
Sensitivity=1699.278242 Correlation Coeff=0.999989

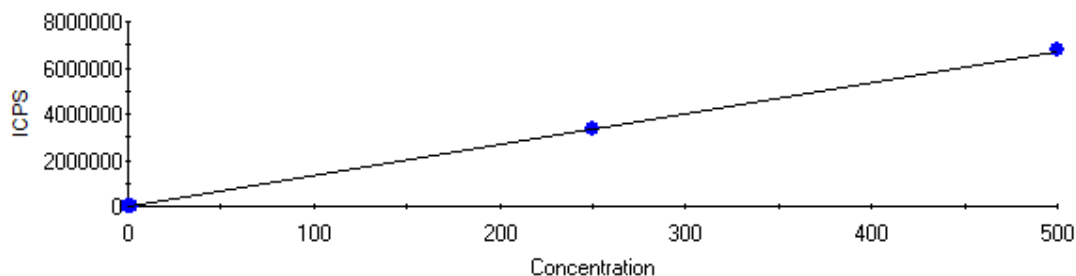
Label	Defined	Measured	Error	Mean CPS	% Error

BLANK IM7321-01	0.000	0.000	0.000	6.65	0.00
cal1 MW9070	5.000	4.865	0.135	8273.12	2.71
cal2 MW9071	25.000	24.459	0.541	41568.76	2.17
cal3 MW9047	250.000	248.031	1.969	421480.99	0.79
cal4 MW9048	500.000	501.013	1.013	851366.67	0.20

203Tl FQ Block 1

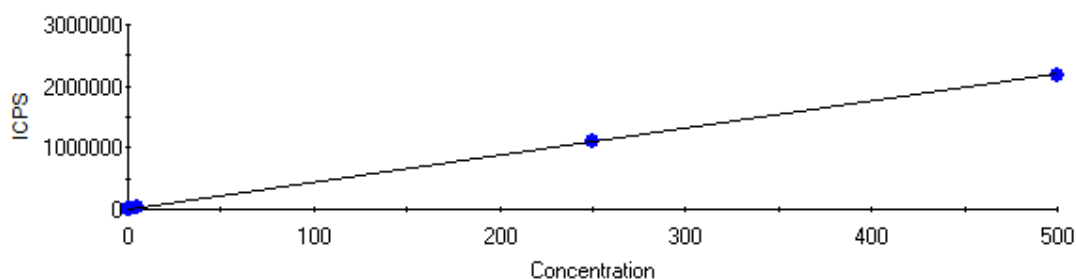
Intercept CPS=14.632715 Intercept Conc=0.002475
Sensitivity=5911.769681 Correlation Coeff=0.999725

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	14.63	0.00
cal1 MW9070	0.500	0.452	0.048	2684.83	9.67
cal2 MW9071	2.500	2.433	0.067	14395.12	2.70
cal3 MW9047	250.000	249.436	0.564	1474625.23	0.23
cal4 MW9048	500.000	524.122	24.122	3098501.75	4.82

205Tl FQ Block 1

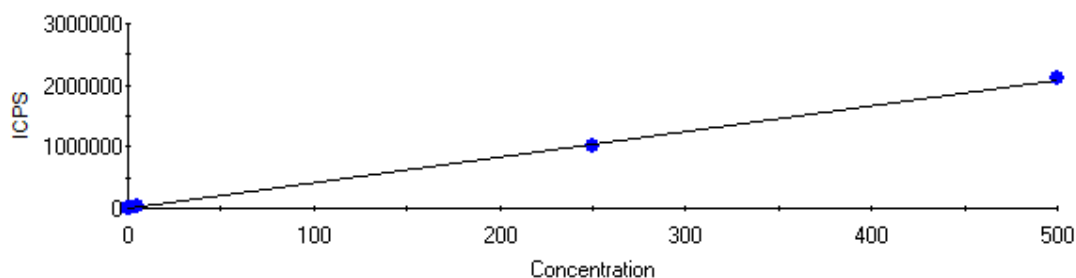
Intercept CPS=22.799323 Intercept Conc=0.001695
Sensitivity=13452.335750 Correlation Coeff=0.999981

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	22.80	0.00
cal1 MW9070	0.500	0.503	0.003	6794.75	0.68
cal2 MW9071	2.500	2.543	0.043	34226.96	1.70
cal3 MW9047	250.000	247.493	2.507	3329375.06	1.00
cal4 MW9048	500.000	501.254	1.254	6743053.60	0.25

206Pb FQ Block 1

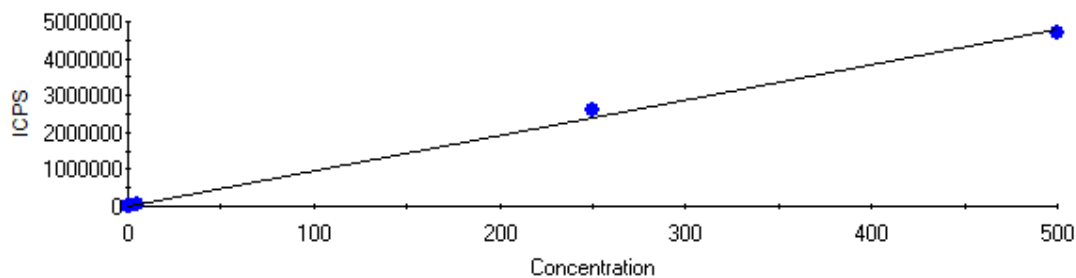
Intercept CPS=21.186721 Intercept Conc=0.004837
Sensitivity=4379.895304 Correlation Coeff=0.999979

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	0.000	0.000	21.19	0.00
cal1 MW9070	1.000	1.103	0.103	4850.04	10.25
cal2 MW9071	5.000	5.233	0.233	22942.20	4.66
cal3 MW9047	250.000	252.727	2.727	1106940.88	1.09
cal4 MW9048	500.000	498.634	1.366	2183984.79	0.27

207Pb FQ Block 1

Intercept CPS=30.293363 Intercept Conc=0.007229
Sensitivity=4190.797563 Correlation Coeff=0.999778

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	30.29	0.00
cal1 MW9070	1.000	0.960	0.040	4052.14	4.03
cal2 MW9071	5.000	4.608	0.392	19343.04	7.83
cal3 MW9047	250.000	241.104	8.896	1010449.71	3.56
cal4 MW9048	500.000	504.062	4.062	2112450.01	0.81

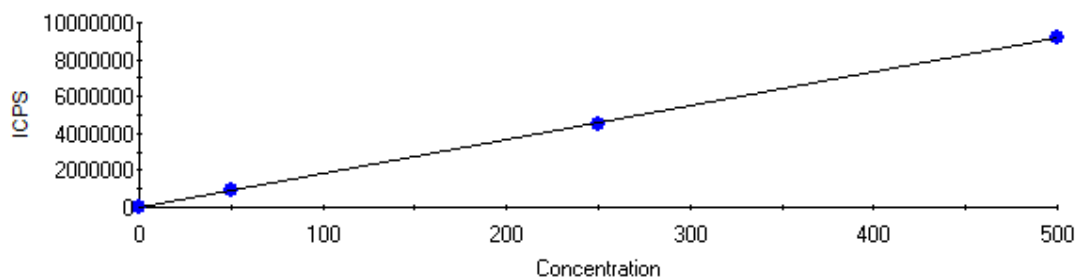
208Pb FQ Block 1

Intercept CPS=72.186941 Intercept Conc=0.007518
Sensitivity=9602.078448 Correlation Coeff=0.998909

Label	Defined	Measured	Error	Mean CPS	% Error

BLANK IM7321-01	0.000	-0.000	0.000	72.19	0.00
cal1 MW9070	1.000	1.003	0.003	9705.27	0.32
cal2 MW9071	5.000	4.901	0.099	47127.34	1.99
cal3 MW9047	250.000	269.078	19.078	2583779.07	7.63
cal4 MW9048	500.000	490.462	9.538	4709527.27	1.91

238U FQ Block 1



Intercept CPS=42.939753 Intercept Conc=0.002350
Sensitivity=18271.184454 Correlation Coeff=0.999938

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7321-01	0.000	-0.000	0.000	42.94	0.00
cal1 MW9070	50.000	49.942	0.058	912539.16	0.12
cal2 MW9071	250.000	245.857	4.143	4492137.15	1.66
cal4 MW9048	500.000	502.077	2.077	9173592.42	0.42

Dilution Corrected Concentrations

RINSE 11/4/2016 14:19:54

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:20:19	96.7%	0.015	0.262	0.298	1.816	0.701	0.712	0.731	0.557
2	14:20:45	100.7%	0.025	0.238	0.307	1.323	0.689	0.627	0.711	0.517
3	14:21:11	102.6%	-0.000	0.259	0.174	1.146	0.651	0.625	0.721	0.545
X		100.0%	0.013	0.253	0.260	1.429	0.680	0.655	0.721	0.540
σ		3.0%	0.013	0.013	0.075	0.347	0.026	0.050	0.010	0.020
%RSD		3.0	96.290	5.200	28.760	24.300	3.810	7.605	1.414	3.764
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:20:19	41.750	394.000	3.604	0.346	4.769	99.2%	-0.046	0.062	-0.000
2	14:20:45	32.350	383.200	1.214	0.913	8.234	100.1%	-0.008	0.028	-0.006
3	14:21:11	0.429	375.000	0.756	2.382	3.437	100.7%	-0.015	0.021	0.027
X		24.840	384.100	1.858	1.214	5.480	100.0%	-0.023	0.037	0.007
σ		21.660	9.552	1.530	1.051	2.476	0.8%	0.020	0.022	0.017
%RSD		87.180	2.487	82.330	86.560	45.190	0.8	86.620	59.600	250.800
Run	Time	53Cr	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:20:19	0.036	0.009	5.263	-3.542	0.005	0.025	-0.371	0.019	0.039
2	14:20:45	-0.030	0.007	4.624	-2.667	0.011	0.001	-0.081	0.006	0.013
3	14:21:11	-0.037	0.014	2.207	-1.823	0.011	0.018	-0.256	0.013	0.027
X		-0.010	0.010	4.031	-2.678	0.009	0.015	-0.236	0.013	0.027
σ		0.040	0.003	1.612	0.860	0.004	0.013	0.146	0.006	0.013
%RSD		396.700	35.040	39.990	32.110	42.680	86.280	61.900	51.090	47.900
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:20:19	0.083	0.012	0.612	2.363	12.770	-0.046	2.461	98.7%	0.029
2	14:20:45	0.106	0.044	0.302	2.592	12.560	0.053	4.053	100.0%	0.034
3	14:21:11	0.089	-0.022	-0.046	2.502	12.330	-0.185	2.721	101.3%	0.075
X		0.093	0.012	0.289	2.486	12.550	-0.059	3.078	100.0%	0.046
σ		0.012	0.033	0.329	0.116	0.222	0.120	0.854	1.3%	0.026
%RSD		12.550	283.200	113.800	4.650	1.770	202.000	27.730	1.3	55.610
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:20:19	0.002	0.029	0.990	0.003	-3.024	0.003	0.006	0.001	98.3%
2	14:20:45	0.035	0.043	0.672	0.006	-2.916	0.010	0.008	0.004	99.4%
3	14:21:11	0.041	0.091	-0.390	0.009	-2.552	0.005	0.003	-0.000	102.2%
X		0.026	0.054	0.424	0.006	-2.831	0.006	0.006	0.002	100.0%
σ		0.021	0.033	0.723	0.003	0.247	0.004	0.003	0.002	2.0%
%RSD		79.480	60.080	170.500	56.800	8.726	67.170	52.800	134.900	2.0
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:20:19	0.016	0.054	0.024	0.026	0.010	0.008	97.8%	0.003	0.002
2	14:20:45	0.004	0.025	0.005	0.042	0.001	0.017	99.8%	0.001	0.003
3	14:21:11	0.026	-0.003	0.028	0.015	-0.007	-0.002	102.4%	0.006	0.005
X		0.015	0.025	0.019	0.028	0.001	0.008	100.0%	0.003	0.003
σ		0.011	0.029	0.012	0.013	0.009	0.009	2.3%	0.003	0.001
%RSD		74.770	111.900	66.040	47.890	638.800	121.000	2.3	77.710	41.030
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	14:20:19	0.005	0.006	0.015	97.4%	0.011				
2	14:20:45	0.011	0.008	0.007	101.3%	0.010				
3	14:21:11	0.009	0.009	0.014	101.3%	0.011				
X		0.009	0.008	0.012	100.0%	0.011				
σ		0.003	0.001	0.005	2.3%	0.001				
%RSD		32.300	14.720	39.170	2.3	6.462				

TUNE MW9028

11/4/2016 14:23:28

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:23:54	95.3%	-0.003	-0.032	-0.039	0.307	0.085	-0.037	0.009	0.001
2	14:24:20	97.2%	0.008	-0.100	0.004	0.020	-0.000	0.109	0.031	-0.017
3	14:24:46	97.7%	0.004	0.045	0.118	-0.055	0.087	0.046	0.022	0.002
X		96.7%	0.003	-0.029	0.028	0.091	0.057	0.039	0.021	-0.005
σ		1.3%	0.005	0.072	0.081	0.191	0.050	0.073	0.011	0.011
%RSD		1.3	184.800	250.800	294.400	210.800	86.850	187.000	53.290	214.600
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:23:54	1.840	287.500	-0.704	-1.808	-1.579	101.3%	-0.034	0.003	-0.014
2	14:24:20	1.600	281.200	-0.566	-1.525	-1.853	102.3%	-0.016	0.020	0.008
3	14:24:46	15.690	276.000	-0.298	0.803	-0.382	103.3%	-0.048	0.003	-0.015
X		5.309	281.600	-0.523	-0.844	-1.271	102.3%	-0.033	0.009	-0.007
σ		9.152	5.731	0.206	1.433	0.782	1.0%	0.016	0.010	0.013
%RSD		172.400	2.035	39.410	169.900	61.510	1.0	48.440	113.300	180.700
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:23:54	-0.049	0.013	1.152	0.842	0.000	0.010	-0.036	-0.002	0.015
2	14:24:20	-0.033	0.007	1.325	-0.794	-0.001	0.009	0.102	-0.004	-0.005
3	14:24:46	-0.038	-0.003	-1.346	-4.306	0.001	0.011	-0.160	0.006	0.001
X		-0.040	0.005	0.377	-1.419	-0.000	0.010	-0.031	-0.000	0.004
σ		0.008	0.008	1.495	2.630	0.001	0.001	0.131	0.005	0.010
%RSD		19.750	147.800	396.300	185.300	2059.000	11.040	421.200	2662.000	277.800
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:23:54	-0.001	-0.039	0.335	1.796	12.500	-0.241	2.521	95.7%	-0.037
2	14:24:20	0.018	-0.060	-0.425	2.213	11.540	-0.295	3.476	97.2%	0.025
3	14:24:46	0.059	-0.058	0.016	2.084	11.380	-0.168	3.102	98.7%	0.005
X		0.025	-0.052	-0.025	2.031	11.810	-0.235	3.033	97.2%	-0.002
σ		0.030	0.012	0.381	0.213	0.608	0.064	0.481	1.5%	0.032
%RSD		120.200	22.490	1538.000	10.500	5.147	27.270	15.870	1.5	1308.000
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:23:54	0.045	0.002	0.066	0.004	-2.694	-0.001	0.006	0.001	94.2%
2	14:24:20	0.017	0.034	0.072	0.002	-2.712	-0.000	0.006	-0.012	96.8%
3	14:24:46	0.022	0.051	-0.472	0.007	-2.524	-0.002	0.006	0.002	100.1%
X		0.028	0.029	-0.111	0.004	-2.643	-0.001	0.006	-0.003	97.0%
σ		0.015	0.025	0.312	0.003	0.104	0.001	0.000	0.008	2.9%
%RSD		55.060	86.530	280.100	65.930	3.935	71.920	3.804	251.400	3.0
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:23:54	0.047	-0.017	0.021	0.005	-0.003	0.006	93.4%	0.001	0.001
2	14:24:20	0.021	0.510	0.008	0.011	0.006	0.003	96.2%	-0.002	0.001
3	14:24:46	-0.005	-0.041	-0.001	0.036	-0.003	0.001	99.3%	-0.001	0.000
X		0.021	0.151	0.009	0.017	0.000	0.003	96.3%	-0.001	0.001
σ		0.026	0.311	0.011	0.016	0.005	0.003	2.9%	0.002	0.001
%RSD		124.500	206.400	124.000	92.780	6358.000	79.370	3.1	264.500	69.520
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	14:23:54	0.005	-0.000	0.000	94.0%	0.001				
2	14:24:20	0.006	-0.003	-0.004	97.7%	-0.000				
3	14:24:46	0.004	-0.002	-0.003	99.4%	-0.000				
X		0.005	-0.002	-0.002	97.0%	0.000				
σ		0.001	0.002	0.002	2.7%	0.001				
%RSD		12.550	86.050	90.770	2.8	233.400				

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:27:27	98.3%	0.000	-0.050	-0.007	0.218	0.005	-0.037	-0.017	0.012
2	14:27:53	100.6%	-0.000	0.106	0.054	-0.082	-0.003	-0.003	0.084	0.004
3	14:28:19	101.0%	-0.000	-0.056	-0.047	-0.136	-0.002	0.040	-0.067	-0.017
X		100.0%	0.000	-0.000	-0.000	0.000	-0.000	-0.000	-0.000	-0.000
σ		1.5%	0.000	0.092	0.051	0.191	0.004	0.038	0.077	0.015
%RSD		1.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:27:27	1.576	3.553	0.438	-1.461	1.932	97.7%	-0.019	0.004	0.014
2	14:27:53	12.490	-1.192	1.029	1.503	-1.979	100.4%	0.010	-0.000	-0.009
3	14:28:19	10.910	-2.360	-1.467	-0.042	0.047	101.9%	0.009	-0.004	-0.006
X		-0.000	-0.000	-0.000	-0.000	-0.000	100.0%	0.000	-0.000	-0.000
σ		11.780	3.132	1.304	1.482	1.956	2.1%	0.017	0.004	0.013
%RSD		0.000	0.000	0.000	0.000	0.000	2.1	0.000	0.000	0.000
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:27:27	-0.007	0.000	2.909	2.722	0.003	0.002	0.554	-0.011	0.012
2	14:27:53	0.001	0.000	-0.809	0.319	-0.001	0.002	-0.235	0.009	-0.011
3	14:28:19	0.006	-0.001	-2.101	-3.041	-0.002	-0.004	-0.320	0.002	-0.000
X		-0.000	0.000	0.000	0.000	-0.000	-0.000	-0.000	-0.000	-0.000
σ		0.007	0.001	2.601	2.895	0.003	0.004	0.482	0.010	0.012
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:27:27	-0.003	-0.045	-0.284	0.222	0.487	-0.176	0.086	97.4%	-0.063
2	14:27:53	-0.009	0.019	0.152	-0.028	-0.015	0.082	0.951	100.3%	-0.000
3	14:28:19	0.012	0.026	0.132	-0.194	-0.472	0.093	-1.038	102.3%	0.063
X		0.000	-0.000	0.000	0.000	0.000	0.000	0.000	100.0%	-0.000
σ		0.011	0.039	0.246	0.209	0.480	0.152	0.997	2.5%	0.063
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.5	0.000
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:27:27	-0.059	-0.014	0.835	0.004	-0.287	0.002	0.000	-0.002	95.9%
2	14:27:53	0.032	-0.002	-0.501	-0.002	0.171	-0.001	0.000	0.003	100.6%
3	14:28:19	0.027	0.016	-0.334	-0.002	0.116	-0.001	-0.000	-0.001	103.5%
X		0.000	0.000	-0.000	0.000	0.000	-0.000	-0.000	0.000	100.0%
σ		0.051	0.015	0.728	0.003	0.250	0.001	0.000	0.003	3.8%
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.8
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:27:27	-0.007	0.039	-0.005	-0.003	0.006	0.003	96.5%	-0.000	-0.000
2	14:27:53	0.006	-0.028	0.002	-0.003	0.001	-0.002	99.7%	0.000	0.001
3	14:28:19	0.001	-0.010	0.002	0.006	-0.007	-0.002	103.8%	0.000	-0.001
X		-0.000	-0.000	0.000	0.000	0.000	0.000	100.0%	-0.000	-0.000
σ		0.007	0.035	0.004	0.005	0.007	0.003	3.7%	0.000	0.001
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	3.7	0.000	0.000
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	14:27:27	0.001	-0.002	0.002	96.9%	0.001				
2	14:27:53	-0.004	-0.002	-0.002	100.1%	-0.000				
3	14:28:19	0.003	0.005	0.000	103.0%	-0.000				
X		0.000	-0.000	-0.000	100.0%	-0.000				
σ		0.004	0.004	0.002	3.0%	0.001				
%RSD		0.000	0.000	0.000	3.0	0.000				

cal1 MW9070

11/4/2016 14:30:36

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:31:02	98.3%	0.453	26.210	25.250	215.200	52.500	50.180	50.120	41.550
2	14:31:28	100.4%	0.395	23.870	24.660	214.500	51.930	51.720	53.230	43.090
3	14:31:54	103.0%	0.409	25.110	25.200	206.700	51.750	49.500	52.810	42.320
X		100.6%	0.419	25.060	25.040	212.200	52.060	50.470	52.050	42.320
σ		2.3%	0.030	1.174	0.325	4.717	0.390	1.136	1.686	0.772
%RSD		2.3	7.222	4.683	1.298	2.223	0.750	2.251	3.239	1.824
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:31:02	108.700	-11.890	215.200	213.400	200.800	98.4%	5.099	5.103	1.014
2	14:31:28	178.500	-11.720	232.700	220.200	225.200	95.2%	4.821	5.018	1.075
3	14:31:54	138.500	-25.410	224.800	220.900	213.300	98.4%	5.183	5.001	1.112
X		141.900	-16.340	224.200	218.200	213.100	97.3%	5.034	5.041	1.067
σ		35.020	7.853	8.769	4.154	12.220	1.9%	0.190	0.055	0.050
%RSD		24.680	48.060	3.910	1.904	5.735	1.9	3.770	1.083	4.659
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:31:02	0.004	5.131	23.060	23.300	4.954	4.899	4.067	0.947	0.958
2	14:31:28	-0.047	5.271	25.040	20.830	5.108	4.728	4.940	0.922	0.951
3	14:31:54	-0.070	5.133	23.710	19.030	5.028	4.579	4.367	0.956	1.005
X		-0.037	5.178	23.940	21.050	5.030	4.735	4.458	0.942	0.971
σ		0.038	0.080	1.007	2.145	0.077	0.160	0.444	0.017	0.029
%RSD		101.600	1.546	4.208	10.190	1.530	3.378	9.948	1.844	3.019
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:31:02	10.070	1.069	0.753	-0.496	0.400	1.266	-1.589	97.9%	9.871
2	14:31:28	9.614	0.991	0.868	-0.612	-0.275	1.359	-0.334	100.9%	9.841
3	14:31:54	10.050	0.982	1.010	-0.897	-1.002	1.059	0.289	101.1%	10.140
X		9.911	1.014	0.877	-0.668	-0.292	1.228	-0.545	100.0%	9.951
σ		0.258	0.048	0.129	0.207	0.701	0.154	0.956	1.8%	0.165
%RSD		2.601	4.704	14.670	30.910	240.000	12.510	175.500	1.8	1.662
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:31:02	9.886	9.652	-2.203	0.843	0.923	0.994	0.109	0.138	98.0%
2	14:31:28	9.793	9.664	-1.053	0.771	0.713	1.032	0.147	0.123	100.4%
3	14:31:54	10.200	9.929	-1.256	0.837	0.663	1.054	0.111	0.132	102.9%
X		9.960	9.749	-1.504	0.817	0.767	1.026	0.122	0.131	100.4%
σ		0.213	0.157	0.614	0.040	0.138	0.031	0.022	0.008	2.4%
%RSD		2.138	1.606	40.810	4.901	17.970	2.971	17.840	5.854	2.4
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:31:02	3.120	3.644	0.969	0.950	4.903	4.974	96.6%	0.479	0.507
2	14:31:28	3.175	3.754	0.922	0.904	4.975	4.677	101.0%	0.426	0.500
3	14:31:54	3.029	4.027	0.986	0.955	5.096	4.943	101.7%	0.450	0.504
X		3.108	3.808	0.959	0.937	4.992	4.865	99.8%	0.452	0.503
σ		0.074	0.197	0.033	0.028	0.098	0.164	2.8%	0.026	0.003
%RSD		2.376	5.180	3.440	2.981	1.955	3.360	2.8	5.850	0.689
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	14:31:02	1.093	0.987	0.993	98.1%	49.760				
2	14:31:28	1.077	0.972	1.027	101.2%	49.410				
3	14:31:54	1.137	0.920	0.990	102.8%	50.650				
X		1.103	0.960	1.003	100.7%	49.940				
σ		0.031	0.035	0.021	2.4%	0.638				
%RSD		2.788	3.658	2.069	2.4	1.277				

cal2 MW9071 11/4/2016 14:34:11

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:34:37	97.5%	1.953	128.300	130.300	921.200	279.600	261.200	262.300	219.400
2	14:35:03	98.5%	1.973	128.800	126.400	946.600	242.000	251.500	260.100	213.300
3	14:35:29	100.3%	2.061	130.600	124.300	965.500	245.400	252.900	269.200	226.500
X		98.7%	1.995	129.200	127.000	944.400	255.700	255.200	263.900	219.700
σ		1.4%	0.057	1.203	3.011	22.220	20.820	5.248	4.732	6.588
%RSD		1.4	2.877	0.931	2.371	2.353	8.142	2.057	1.793	2.998
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:34:37	490.200	-27.300	1006.000	1048.000	1045.000	96.9%	24.790	25.660	5.126
2	14:35:03	507.600	-30.100	1038.000	1056.000	1039.000	97.7%	24.720	25.650	5.082
3	14:35:29	505.700	-41.610	1063.000	1076.000	1085.000	96.2%	25.400	25.050	5.226
X		501.200	-33.010	1035.000	1060.000	1056.000	97.0%	24.970	25.450	5.145
σ		9.566	7.584	28.880	14.610	25.050	0.7%	0.375	0.350	0.074
%RSD		1.909	22.980	2.789	1.378	2.372	0.8	1.501	1.376	1.435
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:34:37	-0.079	25.280	121.300	115.300	25.310	24.770	25.510	4.733	5.010
2	14:35:03	0.006	25.730	116.300	114.200	25.390	23.670	24.140	4.871	4.847
3	14:35:29	-0.172	26.000	122.300	116.700	25.430	23.720	24.810	4.729	4.811
X		-0.082	25.670	120.000	115.400	25.370	24.050	24.820	4.778	4.889
σ		0.089	0.363	3.248	1.264	0.064	0.621	0.687	0.081	0.106
%RSD		109.400	1.415	2.707	1.095	0.251	2.582	2.767	1.696	2.174
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:34:37	50.270	4.934	4.654	-0.769	-0.207	4.658	-2.069	97.0%	50.810
2	14:35:03	49.260	4.879	4.403	-0.582	-0.381	5.582	0.699	98.8%	51.360
3	14:35:29	49.100	4.503	5.230	-0.425	-0.841	4.189	0.118	101.8%	52.260
X		49.540	4.772	4.762	-0.592	-0.476	4.810	-0.417	99.2%	51.480
σ		0.635	0.235	0.424	0.172	0.328	0.709	1.460	2.4%	0.732
%RSD		1.281	4.920	8.906	29.130	68.840	14.740	349.700	2.5	1.422
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:34:37	51.000	50.280	-7.968	4.267	3.677	5.035	0.531	0.532	96.7%
2	14:35:03	51.530	50.970	-5.485	4.082	2.570	5.130	0.527	0.541	99.2%
3	14:35:29	52.750	51.700	-5.469	4.155	2.912	4.993	0.548	0.531	102.1%
X		51.760	50.980	-6.307	4.168	3.053	5.053	0.535	0.535	99.3%
σ		0.900	0.711	1.438	0.094	0.567	0.070	0.011	0.006	2.7%
%RSD		1.738	1.394	22.800	2.245	18.560	1.381	2.073	1.078	2.7
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:34:37	16.200	20.310	4.600	4.605	24.040	24.470	96.9%	2.415	2.493
2	14:35:03	16.070	20.040	4.553	4.503	25.070	24.280	100.0%	2.400	2.531
3	14:35:29	16.580	20.890	4.604	4.694	25.230	24.620	101.6%	2.482	2.604
X		16.280	20.410	4.586	4.601	24.780	24.460	99.5%	2.433	2.543
σ		0.261	0.431	0.028	0.096	0.644	0.170	2.4%	0.044	0.056
%RSD		1.604	2.111	0.620	2.084	2.601	0.694	2.4	1.795	2.211
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	14:34:37	5.165	4.599	4.811	95.8%	242.800				
2	14:35:03	5.270	4.636	4.933	99.1%	245.700				
3	14:35:29	5.265	4.590	4.958	102.7%	249.000				
X		5.233	4.608	4.901	99.2%	245.900				
σ		0.059	0.024	0.079	3.5%	3.079				
%RSD		1.129	0.530	1.606	3.5	1.252				

cal3 MW9047

11/4/2016 14:37:45

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:38:11	97.2%	249.400	259.300	252.100	252.500	273.000	248.400	258.500	246.100
2	14:38:37	98.8%	252.700	252.300	246.800	250.400	257.000	245.500	258.000	246.400
3	14:39:03	100.4%	256.600	251.400	256.000	249.000	240.200	245.500	258.000	258.100
X		98.8%	252.900	254.400	251.600	250.600	256.800	246.500	258.200	250.200
σ		1.6%	3.606	4.321	4.648	1.784	16.410	1.682	0.297	6.796
%RSD		1.6	1.426	1.699	1.847	0.712	6.390	0.682	0.115	2.716
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:38:11	221.500	-40.600	267.900	534.700	405.900	96.9%	242.300	271.400	268.400
2	14:38:37	239.000	-57.550	272.300	529.900	400.600	97.8%	246.400	246.200	267.900
3	14:39:03	258.200	-67.520	284.000	562.900	414.900	94.9%	254.300	238.500	277.000
X		239.600	-55.220	274.700	542.500	407.100	96.5%	247.700	252.000	271.100
σ		18.390	13.610	8.313	17.840	7.269	1.5%	6.137	17.220	5.113
%RSD		7.674	24.640	3.026	3.288	1.785	1.6	2.478	6.833	1.886
Run	Time	53Cr	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:38:11	-10.030	267.500	254.800	254.300	270.400	252.200	252.500	241.500	255.400
2	14:38:37	-10.330	272.000	253.600	245.400	268.200	243.000	248.800	241.400	251.900
3	14:39:03	-12.650	249.600	266.300	262.700	269.600	242.100	244.500	246.000	248.300
X		-11.000	263.000	258.300	254.100	269.400	245.800	248.600	243.000	251.900
σ		1.435	11.860	7.027	8.658	1.141	5.579	4.035	2.629	3.561
%RSD		13.040	4.509	2.721	3.407	0.423	2.270	1.623	1.082	1.414
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:38:11	251.700	250.500	251.300	-0.310	-0.550	255.500	0.471	96.1%	238.200
2	14:38:37	252.100	246.700	248.200	-0.895	-1.602	249.300	-1.243	97.3%	240.000
3	14:39:03	247.900	243.500	249.600	-0.719	-0.618	240.300	0.702	99.2%	248.900
X		250.600	246.900	249.700	-0.641	-0.923	248.400	-0.023	97.5%	242.400
σ		2.305	3.495	1.514	0.300	0.589	7.663	1.062	1.6%	5.706
%RSD		0.920	1.416	0.607	46.760	63.750	3.085	4574.000	1.6	2.354
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:38:11	239.400	237.500	252.800	268.700	18.620	274.800	250.900	247.200	95.0%
2	14:38:37	240.900	240.600	250.700	269.600	21.600	276.900	255.100	246.600	97.9%
3	14:39:03	250.600	249.200	246.400	268.500	19.600	274.200	257.300	245.100	100.4%
X		243.600	242.400	250.000	269.000	19.940	275.300	254.400	246.300	97.7%
σ		6.084	6.047	3.308	0.583	1.515	1.413	3.281	1.110	2.7%
%RSD		2.497	2.495	1.323	0.217	7.599	0.513	1.289	0.451	2.7
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:38:11	241.500	240.600	233.600	240.600	249.000	248.000	95.3%	249.000	249.900
2	14:38:37	243.200	244.400	245.700	246.400	250.300	248.900	98.8%	249.600	246.400
3	14:39:03	247.000	244.000	249.300	246.500	248.200	247.200	101.0%	249.700	246.300
X		243.900	243.000	242.900	244.500	249.200	248.000	98.4%	249.400	247.500
σ		2.816	2.097	8.225	3.391	1.083	0.883	2.9%	0.396	2.045
%RSD		1.155	0.863	3.386	1.387	0.435	0.356	2.9	0.159	0.826
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	14:38:11	246.400	243.900	270.500	96.0%	249.500				
2	14:38:37	244.700	237.400	267.400	98.8%	246.400				
3	14:39:03	267.100	242.000	269.400	101.3%	249.200				
X		252.700	241.100	269.100	98.7%	248.300				
σ		12.500	3.376	1.574	2.7%	1.700				
%RSD		4.946	1.400	0.585	2.7	0.685				

cal4 MW9048

11/4/2016 14:41:20

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:41:46	97.3%	491.900	<u>M 511.500</u>	<u>M 506.700</u>	<u>T 467.200</u>	<u>T 492.900</u>	501.900	522.800	<u>T 498.600</u>
2	14:42:12	98.6%	<u>M 504.600</u>	490.100	498.700	<u>T 455.500</u>	<u>T 470.300</u>	493.800	519.400	<u>T 499.400</u>
3	14:42:38	101.7%	499.200	488.600	490.700	<u>T 449.200</u>	<u>T 455.000</u>	475.300	504.800	<u>T 477.400</u>
X		99.2%	<u>M 498.500</u>	<u>M 496.800</u>	<u>M 498.700</u>	<u>T 457.300</u>	<u>T 472.700</u>	490.300	515.700	<u>T 491.800</u>
σ		2.3%	<u>M 6.368</u>	<u>M 12.800</u>	<u>M 8.002</u>	<u>T 9.177</u>	<u>T 19.080</u>	13.640	9.546	<u>T 12.500</u>
%RSD		2.3	<u>M 1.277</u>	<u>M 2.578</u>	<u>M 1.605</u>	<u>T 2.007</u>	<u>T 4.036</u>	2.781	1.851	<u>T 2.541</u>
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:41:46	<u>T 512.100</u>	-54.090	539.800	1034.000	817.900	94.4%	<u>M 503.100</u>	<u>TM 507.000</u>	<u>T 491.000</u>
2	14:42:12	<u>T 465.100</u>	-58.570	558.700	1070.000	809.800	95.6%	497.600	<u>T 494.100</u>	<u>T 487.700</u>
3	14:42:38	<u>T 480.600</u>	-69.720	553.500	1019.000	817.700	96.7%	<u>M 502.700</u>	<u>T 495.800</u>	<u>T 489.700</u>
X		<u>T 485.900</u>	-60.790	550.700	1041.000	815.100	95.6%	<u>M 501.200</u>	<u>TM 499.000</u>	<u>T 489.500</u>
σ		<u>T 23.950</u>	8.047	9.772	26.540	4.622	1.2%	<u>M 3.069</u>	<u>TM 6.978</u>	<u>T 1.628</u>
%RSD		<u>T 4.928</u>	13.240	1.775	2.550	0.567	1.2	<u>M 0.612</u>	<u>TM 1.398</u>	<u>T 0.333</u>
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:41:46	4.029	<u>T 499.000</u>	<u>T 521.500</u>	515.600	<u>T 499.500</u>	<u>M 510.300</u>	<u>M 518.700</u>	<u>M 504.400</u>	<u>M 525.800</u>
2	14:42:12	2.531	<u>T 489.100</u>	<u>T 511.200</u>	522.500	<u>T 488.100</u>	<u>M 504.300</u>	499.100	<u>M 508.500</u>	<u>M 523.500</u>
3	14:42:38	0.296	<u>T 492.200</u>	<u>T 506.100</u>	511.100	<u>T 483.300</u>	491.900	484.300	<u>M 505.000</u>	<u>M 501.300</u>
X		2.285	<u>T 493.500</u>	<u>T 512.900</u>	516.400	<u>T 490.300</u>	<u>M 502.200</u>	<u>M 500.700</u>	<u>M 506.000</u>	<u>M 516.800</u>
σ		1.878	<u>T 5.075</u>	<u>T 7.843</u>	5.732	<u>T 8.342</u>	<u>M 9.405</u>	<u>M 17.240</u>	<u>M 2.198</u>	<u>M 13.550</u>
%RSD		82.200	<u>T 1.028</u>	<u>T 1.529</u>	1.110	<u>T 1.701</u>	<u>M 1.873</u>	<u>M 3.443</u>	<u>M 0.435</u>	<u>M 2.622</u>
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:41:46	<u>M 513.000</u>	<u>M 506.300</u>	<u>M 502.800</u>	-0.490	-0.224	<u>M 507.100</u>	2.461	93.9%	489.300
2	14:42:12	<u>M 509.400</u>	<u>M 507.800</u>	<u>M 500.100</u>	-0.493	-1.638	<u>M 508.100</u>	-0.032	96.2%	499.200
3	14:42:38	496.800	490.600	497.600	-0.849	0.153	487.200	1.615	96.9%	<u>M 522.500</u>
X		<u>M 506.400</u>	<u>M 501.600</u>	<u>M 500.200</u>	-0.611	-0.570	<u>M 500.800</u>	1.348	95.7%	<u>M 503.700</u>
σ		<u>M 8.541</u>	<u>M 9.481</u>	<u>M 2.600</u>	0.207	0.945	<u>M 11.810</u>	1.268	1.5%	<u>M 17.070</u>
%RSD		<u>M 1.687</u>	<u>M 1.890</u>	<u>M 0.520</u>	33.860	165.800	<u>M 2.358</u>	94.030	1.6	<u>M 3.389</u>
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:41:46	490.400	491.900	488.000	<u>T 490.700</u>	<u>T -54.830</u>	<u>T 484.400</u>	<u>M 512.500</u>	<u>M 506.200</u>	93.0%
2	14:42:12	<u>M 501.400</u>	<u>M 502.800</u>	<u>M 500.100</u>	<u>T 493.300</u>	34.140	<u>T 488.700</u>	<u>T 460.800</u>	<u>M 513.800</u>	95.6%
3	14:42:38	<u>M 523.100</u>	<u>M 528.800</u>	<u>M 512.000</u>	<u>T 487.600</u>	32.570	<u>T 489.000</u>	<u>M 520.100</u>	<u>M 504.800</u>	98.9%
X		<u>M 504.900</u>	<u>M 507.800</u>	<u>M 500.000</u>	<u>T 490.500</u>	<u>T 3.959</u>	<u>T 487.300</u>	<u>TM 497.800</u>	<u>M 508.300</u>	95.8%
σ		<u>M 16.640</u>	<u>M 18.960</u>	<u>M 12.040</u>	<u>T 2.827</u>	<u>T 50.920</u>	<u>T 2.584</u>	<u>TM 32.280</u>	<u>M 4.850</u>	3.0%
%RSD		<u>M 3.295</u>	<u>M 3.734</u>	<u>M 2.408</u>	<u>T 0.576</u>	<u>T 1286.000</u>	<u>T 0.530</u>	<u>TM 6.484</u>	<u>M 0.954</u>	3.1
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:41:46	<u>M 501.100</u>	<u>M 502.800</u>	493.800	495.200	<u>M 503.000</u>	<u>M 501.800</u>	94.1%	<u>M 521.700</u>	<u>T 499.900</u>
2	14:42:12	<u>M 506.800</u>	<u>M 502.500</u>	<u>M 505.700</u>	<u>M 504.500</u>	<u>M 500.900</u>	<u>M 501.300</u>	98.0%	<u>M 522.600</u>	<u>TM 504.000</u>
3	14:42:38	<u>M 502.600</u>	<u>M 505.900</u>	<u>M 511.300</u>	<u>M 508.500</u>	497.400	500.000	99.5%	<u>M 528.100</u>	<u>T 499.900</u>
X		<u>M 503.500</u>	<u>M 503.700</u>	<u>M 503.600</u>	<u>M 502.700</u>	<u>M 500.400</u>	<u>M 501.000</u>	97.2%	<u>M 524.100</u>	<u>TM 501.300</u>
σ		<u>M 2.981</u>	<u>M 1.871</u>	<u>M 8.924</u>	<u>M 6.790</u>	<u>M 2.861</u>	<u>M 0.939</u>	2.8%	<u>M 3.436</u>	<u>TM 2.371</u>
%RSD		<u>M 0.592</u>	<u>M 0.371</u>	<u>M 1.772</u>	<u>M 1.350</u>	<u>M 0.572</u>	<u>M 0.188</u>	2.9	<u>M 0.656</u>	<u>TM 0.473</u>
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	14:41:46	<u>T 497.100</u>	496.800	<u>T 486.100</u>	93.8%	<u>T 493.000</u>				
2	14:42:12	<u>T 500.000</u>	<u>M 505.400</u>	<u>T 490.400</u>	98.0%	<u>TM 503.800</u>				
3	14:42:38	<u>T 498.800</u>	<u>M 510.000</u>	<u>T 494.900</u>	100.9%	<u>TM 509.400</u>				
X		<u>T 498.600</u>	<u>M 504.100</u>	<u>T 490.500</u>	97.6%	<u>TM 502.100</u>				
σ		<u>T 1.435</u>	<u>M 6.723</u>	<u>T 4.360</u>	3.6%	<u>TM 8.314</u>				
%RSD		<u>T 0.288</u>	<u>M 1.334</u>	<u>T 0.889</u>	3.7	<u>TM 1.656</u>				

cal5 MW9049

11/4/2016 14:44:57

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:45:23	89.6%	0.022	5.071	5.708	47570.000	48020.000	47410.000	48180.000	1.144
2	14:45:49	86.5%	0.027	5.416	5.094	49110.000	48670.000	48240.000	48990.000	1.073
3	14:46:15	88.1%	0.027	4.723	4.572	48730.000	46840.000	45910.000	48120.000	1.077
X		88.1%	0.025	5.070	5.125	48470.000	47840.000	47190.000	48430.000	1.098
σ		1.5%	0.003	0.346	0.569	801.800	931.400	1181.000	483.600	0.040
%RSD		1.8	11.290	6.831	11.100	1.654	1.947	2.503	0.999	3.636
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:45:23	5188.000	-50.270	50490.000	49910.000	50430.000	90.3%	1.243	0.048	0.625
2	14:45:49	5039.000	-63.610	51090.000	49440.000	49640.000	94.2%	1.210	0.062	0.584
3	14:46:15	5000.000	-75.150	52520.000	49830.000	50550.000	95.3%	1.322	0.050	0.584
X		5076.000	-63.010	51370.000	49730.000	50210.000	93.3%	1.258	0.053	0.598
σ		99.360	12.450	1045.000	251.800	496.300	2.6%	0.057	0.007	0.024
%RSD		1.958	19.760	2.034	0.506	0.989	2.8	4.569	13.840	3.982
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:45:23	-0.073	0.359	51110.000	50680.000	0.318	1.693	0.812	0.364	0.396
2	14:45:49	-0.069	0.343	50760.000	49730.000	0.292	1.783	0.596	0.376	0.431
3	14:46:15	-0.049	0.356	51030.000	49380.000	0.299	1.620	1.004	0.342	0.356
X		-0.064	0.353	50970.000	49930.000	0.303	1.699	0.804	0.361	0.394
σ		0.013	0.009	180.700	673.400	0.014	0.081	0.204	0.017	0.037
%RSD		19.660	2.476	0.355	1.349	4.471	4.783	25.380	4.824	9.489
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:45:23	0.703	0.029	-0.088	0.553	-0.157	0.101	0.308	92.1%	6.738
2	14:45:49	0.757	0.091	0.425	0.376	-1.003	0.057	0.744	93.8%	6.601
3	14:46:15	0.787	0.054	-0.074	0.766	-0.549	-0.117	0.983	96.2%	6.148
X		0.749	0.058	0.088	0.565	-0.570	0.014	0.678	94.0%	6.496
σ		0.043	0.031	0.292	0.195	0.424	0.115	0.342	2.0%	0.309
%RSD		5.706	53.620	333.600	34.540	74.380	850.700	50.460	2.2	4.754
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:45:23	6.830	6.595	1.218	0.150	-0.291	0.188	0.042	0.025	87.7%
2	14:45:49	6.689	6.578	-0.023	0.160	0.170	0.191	0.013	0.018	92.0%
3	14:46:15	6.270	6.026	0.411	0.152	0.035	0.210	-0.002	0.014	93.5%
X		6.596	6.399	0.536	0.154	-0.029	0.196	0.018	0.019	91.1%
σ		0.291	0.324	0.630	0.005	0.237	0.012	0.023	0.006	3.0%
%RSD		4.414	5.063	117.600	3.461	830.500	5.993	128.400	29.450	3.3
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:45:23	0.590	0.774	1.814	1.756	0.211	0.223	90.5%	0.013	0.019
2	14:45:49	0.584	0.821	1.999	1.665	0.216	0.183	93.9%	0.021	0.018
3	14:46:15	0.594	0.767	1.769	1.604	0.180	0.233	96.8%	0.014	0.015
X		0.589	0.787	1.861	1.675	0.202	0.213	93.8%	0.016	0.017
σ		0.005	0.029	0.122	0.077	0.019	0.027	3.1%	0.004	0.002
%RSD		0.864	3.694	6.567	4.592	9.616	12.440	3.4	26.960	13.990
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	14:45:23	0.117	0.149	0.110	80.4%	0.102				
2	14:45:49	0.114	0.104	0.125	83.4%	0.115				
3	14:46:15	0.121	0.114	0.125	86.1%	0.101				
X		0.117	0.122	0.120	83.3%	0.106				
σ		0.003	0.024	0.008	2.9%	0.008				
%RSD		2.911	19.400	6.906	3.4	7.262				

cal6 MW9050

11/4/2016 14:48:35

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:49:01	73.2%	0.050	2.313	2.718	TM 101200.000	TM 101900.000	TM 103000.000	TM 103900.000	1.804
2	14:49:28	75.6%	0.034	2.336	2.703	T 99560.000	TM 100400.000	TM 101400.000	TM 100200.000	1.778
3	14:49:53	75.3%	0.020	2.701	2.682	TM 101600.000	TM 101000.000	T 99860.000	T 98200.000	1.718
X		74.7%	0.034	2.450	2.701	TM 100800.000	TM 101100.000	TM 101400.000	TM 100800.000	1.767
σ		1.3%	0.015	0.218	0.018	TM 1070.000	TM 773.700	TM 1546.000	TM 2915.000	0.044
%RSD		1.7	44.050	8.893	0.671	TM 1.062	TM 0.765	TM 1.524	TM 2.892	2.516
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:49:01	TM 10200.000	-43.250	T 98380.000	M 101200.000	TM 100400.000	T 88.6%	2.457	0.065	1.131
2	14:49:28	T 9962.000	-68.130	T 99640.000	99540.000	T 99550.000	T 92.3%	2.480	0.057	1.129
3	14:49:53	T 9718.000	-85.150	T 99920.000	99680.000	T 99780.000	T 94.7%	2.242	0.063	1.131
X		TM 9962.000	-65.510	T 99320.000	M 100100.000	TM 99890.000	T 91.9%	2.393	0.062	1.130
σ		TM 243.500	21.070	T 824.500	M 902.200	TM 416.500	T 3.1%	0.131	0.004	0.001
%RSD		TM 2.445	32.160	T 0.830	M 0.901	TM 0.417	T 3.3	5.483	6.589	0.093
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:49:01	-0.020	0.704	TM 101300.000	TM 101600.000	0.557	2.780	0.563	0.755	0.844
2	14:49:28	-0.042	0.658	T 99420.000	T 99550.000	0.592	2.836	0.578	0.707	0.751
3	14:49:53	-0.065	0.612	T 97870.000	T 98930.000	0.553	2.629	0.370	0.682	0.797
X		-0.042	0.658	TM 99520.000	TM 100000.000	0.567	2.748	0.504	0.715	0.797
σ		0.022	0.046	TM 1698.000	TM 1418.000	0.022	0.107	0.116	0.037	0.047
%RSD		53.220	6.996	TM 1.706	TM 1.418	3.840	3.899	23.040	5.159	5.835
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:49:01	1.178	0.220	1.365	1.728	-0.302	0.100	-0.144	90.0%	1.613
2	14:49:28	1.358	0.279	1.305	1.851	-0.633	0.357	1.141	92.9%	1.847
3	14:49:53	1.499	0.180	0.487	2.079	-0.718	0.202	0.914	93.8%	1.819
X		1.345	0.227	1.052	1.886	-0.551	0.220	0.637	92.2%	1.760
σ		0.161	0.050	0.491	0.178	0.220	0.130	0.686	2.0%	0.128
%RSD		11.960	21.900	46.620	9.436	39.830	58.950	107.600	2.2	7.253
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:49:01	1.441	1.627	0.701	0.290	-0.173	0.317	0.023	-0.001	84.2%
2	14:49:28	1.826	1.643	-0.239	0.279	0.146	0.318	0.015	0.025	87.2%
3	14:49:53	1.875	1.749	0.505	0.282	-0.144	0.353	0.008	0.007	89.6%
X		1.714	1.673	0.322	0.284	-0.057	0.329	0.016	0.010	87.0%
σ		0.238	0.067	0.496	0.006	0.176	0.020	0.007	0.013	2.7%
%RSD		13.870	3.977	153.900	2.033	309.500	6.129	46.170	130.100	3.2
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:49:01	0.186	0.306	0.705	0.732	0.280	0.473	87.5%	0.005	0.007
2	14:49:28	0.161	0.238	0.821	0.765	0.395	0.393	91.7%	0.009	0.007
3	14:49:53	0.222	0.279	0.788	0.853	0.460	0.419	92.8%	0.006	0.005
X		0.190	0.274	0.772	0.783	0.378	0.428	90.7%	0.007	0.007
σ		0.031	0.034	0.060	0.063	0.091	0.041	2.8%	0.002	0.002
%RSD		16.230	12.400	7.759	7.982	24.080	9.534	3.1	25.490	24.120
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	14:49:01	0.205	0.203	0.199	75.1%	0.026				
2	14:49:28	0.218	0.189	0.199	78.3%	0.035				
3	14:49:53	0.200	0.178	0.215	81.4%	0.034				
X		0.208	0.190	0.204	78.3%	0.032				
σ		0.010	0.013	0.009	3.1%	0.005				
%RSD		4.598	6.764	4.412	4.0	15.060				

ICV MW-9093 11/4/2016 14:52:13 QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:52:39	85.0%	196.600	212.600	217.300	39240.000	40330.000	41300.000	41430.000	214.500
2	14:53:05	87.3%	200.500	210.000	207.800	39850.000	40300.000	40270.000	41070.000	221.700
3	14:53:32	89.9%	198.200	210.600	190.000	39410.000	39160.000	38600.000	39410.000	212.500
X		87.4%	99.230%	105.534%	102.496%	98.744%	39930.000	40060.000	101.601%	108.120%
σ		2.4%	n/a	n/a	n/a	n/a	668.900	1358.000	n/a	n/a
%RSD		2.8	0.992	0.662	6.756	0.801	1.675	3.391	2.651	2.234
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:52:39	2095.000	-75.710	39160.000	39840.000	40120.000	93.9%	206.300	222.700	214.200
2	14:53:05	2138.000	-79.800	40780.000	41000.000	40690.000	95.3%	207.000	216.900	213.200
3	14:53:32	2095.000	-99.670	40840.000	40610.000	40880.000	97.2%	205.500	215.600	208.900
X		105.473%	-85.060	100.652%	40480.000	101.411%	95.5%	103.149%	109.214%	106.058%
σ		n/a	12.810	n/a	592.500	n/a	1.7%	n/a	n/a	n/a
%RSD		1.182	15.070	2.359	1.464	0.972	1.8	0.360	1.729	1.327
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:52:39	-6.530	211.300	41430.000	40950.000	208.600	197.700	201.600	180.500	197.200
2	14:53:05	-5.790	213.300	41110.000	40720.000	207.400	193.800	194.400	177.100	192.700
3	14:53:32	-6.837	210.700	40830.000	40220.000	206.400	191.000	189.300	174.500	187.700
X		-6.386	105.887%	102.805%	101.582%	103.743%	97.064%	195.100	177.400	96.258%
σ		0.538	n/a	n/a	n/a	n/a	n/a	6.176	3.004	n/a
%RSD		8.427	0.640	0.739	0.925	0.535	1.735	3.165	1.694	2.455
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:52:39	198.200	211.900	194.900	0.195	-0.601	209.300	-1.004	94.8%	206.600
2	14:53:05	193.400	206.900	189.700	0.569	-0.986	197.500	0.246	98.0%	212.500
3	14:53:32	193.500	204.600	186.400	-0.190	-0.997	196.500	0.989	99.8%	219.800
X		97.514%	103.899%	190.300	0.191	-0.862	100.547%	0.077	97.5%	106.479%
σ		n/a	n/a	4.324	0.380	0.226	n/a	1.007	2.6%	n/a
%RSD		1.390	1.817	2.272	198.600	26.190	3.532	1311.000	2.6	3.095
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:52:39	205.900	203.600	193.900	194.300	13.890	190.800	194.700	190.700	89.5%
2	14:53:05	212.000	211.300	198.200	194.600	15.560	191.600	197.100	191.900	93.7%
3	14:53:32	217.400	217.100	195.200	192.600	14.700	193.200	198.200	189.400	95.7%
X		105.881%	105.329%	195.800	96.913%	14.720	191.900	98.333%	95.335%	93.0%
σ		n/a	n/a	2.220	n/a	0.835	1.234	n/a	n/a	3.2%
%RSD		2.723	3.224	1.134	0.536	5.671	0.643	0.905	0.632	3.4
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:52:39	196.900	198.200	188.600	193.600	203.700	204.100	92.3%	188.000	211.600
2	14:53:05	195.100	195.600	188.800	193.400	204.300	202.100	96.7%	188.300	211.000
3	14:53:32	194.500	195.000	194.400	190.600	202.600	198.300	98.7%	190.100	212.900
X		97.743%	98.125%	95.311%	96.284%	101.760%	100.746%	95.9%	188.800	105.927%
σ		n/a	n/a	n/a	n/a	n/a	n/a	3.3%	1.128	n/a
%RSD		0.657	0.858	1.734	0.870	0.406	1.454	3.4	0.597	0.455
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	14:52:39	199.300	180.600	202.000	83.4%	206.100				
2	14:53:05	197.800	179.800	200.800	87.7%	203.600				
3	14:53:32	200.400	182.800	203.100	91.1%	205.800				
X		199.200	181.000	100.967%	87.4%	102.591%				
σ		1.283	1.583	n/a	3.9%	n/a				
%RSD		0.644	0.875	0.564	4.4	0.662				

ICB IM7321-01 11/4/2016 14:55:49 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:56:15	98.7%	0.029	2.079	1.918	3.004	1.316	1.438	1.260	0.018
2	14:56:41	98.6%	0.033	1.969	1.940	2.568	1.232	1.246	1.208	0.032
3	14:57:07	102.3%	0.028	1.848	1.467	1.943	1.006	0.929	0.997	0.032
X		99.8%	0.030	1.965	1.775	2.505	1.185	1.204	1.155	0.027
σ		2.2%	0.003	0.115	0.267	0.533	0.160	0.257	0.140	0.008
%RSD		2.2	8.715	5.873	15.030	21.290	13.520	21.360	12.090	29.440
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:56:15	74.620	-51.430	6.588	1.942	4.877	97.5%	0.013	-0.002	0.054
2	14:56:41	11.100	-70.660	4.384	1.353	4.117	104.2%	0.007	-0.008	0.020
3	14:57:07	63.550	-84.330	4.868	3.280	8.142	100.7%	-0.028	-0.020	0.060
X		49.760	-68.810	5.280	2.192	5.712	100.8%	-0.003	-0.010	0.045
σ		33.930	16.530	1.158	0.988	2.139	3.3%	0.022	0.009	0.021
%RSD		68.200	24.020	21.940	45.070	37.440	3.3	815.500	94.090	47.770
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:56:15	-0.058	0.008	9.086	10.370	0.006	0.021	0.161	-0.001	0.010
2	14:56:41	-0.052	0.007	2.169	5.166	0.008	0.001	-0.119	0.008	0.001
3	14:57:07	-0.083	0.004	4.918	3.737	0.008	0.007	-0.036	0.012	-0.005
X		-0.065	0.006	5.391	6.424	0.007	0.010	0.002	0.006	0.002
σ		0.017	0.002	3.482	3.490	0.001	0.010	0.144	0.006	0.007
%RSD		25.530	28.660	64.590	54.330	15.660	104.400	6722.000	100.400	357.800
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:56:15	0.020	-0.050	0.465	0.122	-0.312	-0.241	0.381	103.3%	1.909
2	14:56:41	0.014	-0.088	0.647	-0.343	0.196	-0.268	1.213	105.1%	2.109
3	14:57:07	0.061	0.012	0.411	-0.462	-0.612	0.066	-0.822	106.9%	1.900
X		0.032	-0.042	0.508	-0.228	-0.243	-0.148	0.258	105.1%	1.973
σ		0.025	0.050	0.124	0.308	0.409	0.185	1.023	1.8%	0.118
%RSD		79.990	119.600	24.390	135.300	168.500	125.600	397.200	1.7	5.978
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:56:15	1.952	1.816	-0.483	0.010	0.175	0.009	0.027	0.004	100.1%
2	14:56:41	2.111	2.004	0.168	0.018	-0.010	0.009	0.006	0.008	104.0%
3	14:57:07	1.773	1.666	-0.377	0.010	0.159	0.007	0.007	0.001	106.4%
X		1.945	1.829	-0.231	0.013	0.108	0.009	0.013	0.004	103.5%
σ		0.169	0.169	0.349	0.005	0.103	0.001	0.012	0.003	3.2%
%RSD		8.702	9.250	151.600	37.450	94.960	10.900	87.320	73.020	3.1
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:56:15	0.064	-0.005	0.474	0.475	0.009	0.007	98.2%	0.013	0.011
2	14:56:41	0.027	0.037	0.493	0.431	0.004	0.011	103.6%	0.009	0.008
3	14:57:07	0.048	0.009	0.481	0.453	-0.004	0.015	104.5%	0.007	0.007
X		0.046	0.013	0.483	0.453	0.003	0.011	102.1%	0.009	0.009
σ		0.019	0.022	0.009	0.022	0.006	0.004	3.4%	0.003	0.002
%RSD		40.550	161.300	1.967	4.827	197.500	37.070	3.3	33.330	26.560
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	14:56:15	0.011	0.009	0.014	99.5%	0.033				
2	14:56:41	0.017	0.012	0.011	102.2%	0.033				
3	14:57:07	0.009	0.007	0.005	104.7%	0.030				
X		0.012	0.010	0.010	102.1%	0.032				
σ		0.004	0.002	0.005	2.6%	0.002				
%RSD		33.930	24.780	44.350	2.5	6.516				

LLICV MW9070 11/4/2016 14:59:24 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:50	96.8%	0.411	27.660	27.290	217.200	54.600	54.400	54.150	41.240
2	15:00:16	101.2%	0.448	26.300	26.050	215.800	52.100	52.770	52.890	43.180
3	15:00:42	100.1%	0.373	26.050	25.640	219.400	53.470	51.780	53.640	42.330
X		99.3%	102.589%	106.680%	105.309%	108.732%	53.390	52.980	107.124%	105.620%
σ		2.3%	n/a	n/a	n/a	n/a	1.248	1.323	n/a	n/a
%RSD		2.3	9.129	3.255	3.275	0.839	2.338	2.497	1.183	2.293
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:50	141.900	-62.600	212.400	202.000	203.700	100.1%	4.969	5.108	1.011
2	15:00:16	150.000	-79.420	224.800	207.800	218.700	98.8%	4.868	4.905	1.077
3	15:00:42	164.400	-92.650	228.300	212.700	221.300	100.8%	4.843	5.013	1.084
X		152.095%	-78.230	110.917%	207.500	107.295%	99.9%	97.869%	100.175%	105.746%
σ		n/a	15.060	n/a	5.362	n/a	1.0%	n/a	n/a	n/a
%RSD		7.479	19.260	3.768	2.584	4.418	1.0	1.370	2.029	3.848
Run	Time	53Cr	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:50	0.026	5.158	26.400	30.220	5.101	4.974	4.938	0.940	1.027
2	15:00:16	-0.087	5.219	30.030	25.670	5.131	5.017	4.890	0.961	0.961
3	15:00:42	-0.084	5.059	23.900	26.090	5.035	4.743	4.881	0.972	0.926
X		-0.048	102.911%	26.780	136.622%	101.782%	98.224%	4.903	0.958	97.106%
σ		0.064	n/a	3.082	n/a	n/a	n/a	0.031	0.016	n/a
%RSD		133.800	1.568	11.510	9.206	0.967	2.994	0.629	1.681	5.264
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:50	10.300	1.016	0.997	-0.686	-0.903	0.780	-1.332	101.4%	10.640
2	15:00:16	10.070	1.161	1.031	-0.722	-1.568	0.919	0.347	104.1%	10.410
3	15:00:42	9.939	0.844	0.862	-0.808	-0.613	0.995	0.152	105.0%	10.740
X		101.029%	100.685%	0.963	-0.739	-1.028	89.790%	-0.278	103.5%	105.979%
σ		n/a	n/a	0.089	0.062	0.489	n/a	0.918	1.9%	n/a
%RSD		1.781	15.740	9.291	8.461	47.610	12.150	330.600	1.8	1.587
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:50	10.520	10.420	-1.662	0.859	0.680	0.981	0.126	0.120	98.2%
2	15:00:16	10.960	10.450	-2.503	0.809	0.948	1.037	0.106	0.129	102.8%
3	15:00:42	10.680	10.390	-0.255	0.812	0.218	1.048	0.129	0.104	106.3%
X		10.720	10.420	-1.473	82.660%	0.615	1.022	0.120	117.659%	102.4%
σ		0.219	0.031	1.136	n/a	0.369	0.036	0.013	n/a	4.1%
%RSD		2.038	0.300	77.080	3.365	59.990	3.524	10.400	10.820	4.0
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:50	3.158	3.815	1.104	1.069	4.797	5.002	99.0%	0.472	0.513
2	15:00:16	3.130	3.774	1.117	1.148	5.237	4.827	101.9%	0.450	0.527
3	15:00:42	3.214	4.060	1.245	1.113	4.912	4.914	104.6%	0.456	0.488
X		3.167	77.664%	1.156	111.037%	99.637%	4.914	101.8%	0.459	101.916%
σ		0.043	n/a	0.078	n/a	n/a	0.087	2.8%	0.012	n/a
%RSD		1.356	3.989	6.747	3.579	4.583	1.776	2.7	2.507	3.888
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	14:59:50	1.059	0.967	1.026	96.0%	48.570				
2	15:00:16	1.040	0.911	1.029	100.6%	49.690				
3	15:00:42	1.032	0.991	1.076	105.4%	50.060				
X		1.044	0.956	104.345%	100.7%	98.880%				
σ		0.014	0.041	n/a	4.7%	n/a				
%RSD		1.331	4.287	2.670	4.7	1.574				

LLICV2 MW9071 11/4/2016 15:02:59 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:03:25	99.9%	1.901	126.800	125.200	959.300	253.200	263.300	267.300	225.900
2	15:03:51	100.4%	2.000	126.800	130.200	950.600	250.900	256.000	268.100	201.500
3	15:04:16	103.1%	1.931	126.800	119.900	940.900	246.800	259.700	271.200	197.200
X		101.2%	1.944	126.800	125.100	950.300	250.300	259.700	268.900	208.200
σ		1.7%	0.051	0.011	5.151	9.221	3.243	3.684	2.073	15.470
%RSD		1.7	2.616	0.008	4.119	0.970	1.296	1.419	0.771	7.430
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:03:25	567.000	-63.700	1014.000	1084.000	1063.000	96.6%	25.320	25.680	5.254
2	15:03:51	552.800	-73.690	1038.000	1058.000	1072.000	99.1%	24.910	25.590	5.251
3	15:04:16	549.300	-80.250	1049.000	1099.000	1072.000	100.2%	25.620	24.800	5.143
X		556.400	-72.550	1034.000	1080.000	1069.000	98.7%	25.280	25.350	5.216
σ		9.369	8.334	17.710	20.540	5.436	1.8%	0.357	0.485	0.063
%RSD		1.684	11.490	1.714	1.901	0.509	1.9	1.413	1.911	1.211
Run	Time	53Cr O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:03:25	-0.129	26.200	127.900	124.900	25.910	24.940	24.310	4.926	5.094
2	15:03:51	-0.085	26.070	125.800	121.100	25.100	24.540	24.580	4.733	5.188
3	15:04:16	-0.078	25.860	119.800	120.500	25.300	23.550	24.470	4.655	4.675
X		-0.097	26.040	124.500	122.100	25.440	24.340	24.460	4.771	4.986
σ		0.027	0.169	4.238	2.393	0.419	0.716	0.137	0.139	0.273
%RSD		28.290	0.650	3.404	1.959	1.649	2.943	0.559	2.921	5.479
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:03:25	49.800	4.520	4.856	-0.775	-0.918	4.287	0.465	101.0%	52.400
2	15:03:51	50.650	5.247	5.154	-0.968	-0.779	6.431	-0.099	103.2%	52.240
3	15:04:16	48.750	4.806	5.478	-0.814	-0.402	5.214	0.425	106.3%	53.900
X		49.740	4.858	5.163	-0.852	-0.700	5.310	0.264	103.5%	52.850
σ		0.952	0.366	0.311	0.102	0.267	1.075	0.315	2.7%	0.915
%RSD		1.915	7.537	6.029	11.980	38.170	20.250	119.400	2.6	1.731
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:03:25	52.210	50.940	-6.731	4.051	2.987	5.028	0.555	0.593	99.4%
2	15:03:51	52.600	51.930	-6.686	4.142	3.104	5.077	0.559	0.618	102.2%
3	15:04:16	53.950	52.990	-4.530	4.139	2.247	4.982	0.588	0.559	105.8%
X		52.920	51.950	-5.982	4.111	2.779	5.029	0.567	0.590	102.5%
σ		0.915	1.028	1.258	0.051	0.465	0.047	0.018	0.030	3.2%
%RSD		1.728	1.979	21.030	1.251	16.710	0.943	3.110	5.062	3.1
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:03:25	16.290	20.120	4.577	4.691	25.380	24.650	98.4%	2.387	2.533
2	15:03:51	16.410	19.910	4.558	4.658	24.790	24.490	102.0%	2.299	2.489
3	15:04:16	16.330	20.320	4.706	4.713	24.830	24.010	103.3%	2.264	2.524
X		16.340	20.120	4.614	4.687	25.000	24.380	101.2%	2.317	2.515
σ		0.064	0.205	0.080	0.028	0.331	0.334	2.5%	0.063	0.023
%RSD		0.391	1.019	1.744	0.597	1.322	1.369	2.5	2.729	0.919
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	15:03:25	5.078	4.542	4.946	97.5%	238.700				
2	15:03:51	5.239	4.824	4.976	101.7%	242.700				
3	15:04:16	5.200	4.707	4.963	104.9%	247.800				
X		5.172	4.691	4.962	101.4%	243.100				
σ		0.084	0.142	0.015	3.7%	4.561				
%RSD		1.627	3.021	0.311	3.7	1.877				

Co 4ppb MW-9023

11/4/2016 15:06:36

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:07:02	99.7%	4.057	6.901	6.389	793.500	817.300	868.000	887.000	6.878
2	15:07:28	100.5%	3.997	7.097	6.191	809.100	827.900	868.900	891.900	6.913
3	15:07:54	106.2%	3.940	6.300	6.321	778.000	798.500	841.600	850.500	6.943
X		102.1%	3.998	6.766	6.300	793.500	814.500	859.500	876.400	6.911
σ		3.6%	0.059	0.416	0.100	15.550	14.860	15.480	22.630	0.033
%RSD		3.5	1.465	6.142	1.594	1.960	1.825	1.801	2.582	0.471
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:07:02	58.040	-41.330	866.400	856.300	849.800	97.6%	4.205	3.998	4.326
2	15:07:28	98.290	-52.610	988.200	834.100	856.500	99.5%	4.300	4.129	4.481
3	15:07:54	116.600	-77.430	891.800	825.800	848.700	101.3%	4.179	4.209	4.370
X		90.980	-57.120	915.500	838.700	851.700	99.5%	4.228	4.112	4.393
σ		29.960	18.470	64.270	15.770	4.204	1.9%	0.064	0.106	0.080
%RSD		32.930	32.340	7.020	1.880	0.494	1.9	1.506	2.589	1.810
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:07:02	-0.073	4.404	841.000	884.900	4.252	4.045	4.461	3.972	4.255
2	15:07:28	-0.146	4.304	838.100	871.100	4.208	4.037	3.477	3.952	4.176
3	15:07:54	-0.001	4.394	852.200	856.400	4.108	3.984	3.497	3.913	4.156
X		-0.073	4.367	843.800	870.800	4.189	4.022	3.812	3.946	4.196
σ		0.072	0.055	7.429	14.220	0.074	0.034	0.562	0.030	0.052
%RSD		98.910	1.254	0.881	1.634	1.760	0.833	14.750	0.768	1.251
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:07:02	4.525	4.258	4.060	-0.900	0.040	4.490	-1.012	101.9%	4.826
2	15:07:28	4.455	3.667	4.196	-0.745	-0.456	3.794	1.266	104.5%	4.703
3	15:07:54	4.463	4.023	4.401	-0.740	-0.805	3.720	-0.653	106.1%	4.839
X		4.481	3.983	4.219	-0.795	-0.407	4.001	-0.133	104.2%	4.789
σ		0.038	0.298	0.171	0.091	0.425	0.425	1.225	2.2%	0.075
%RSD		0.853	7.478	4.062	11.420	104.300	10.620	919.100	2.1	1.566
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:07:02	4.670	4.568	4.501	3.890	0.304	3.939	4.012	3.721	101.1%
2	15:07:28	4.665	4.848	3.256	4.001	0.772	3.873	4.062	3.798	104.4%
3	15:07:54	5.090	4.714	4.421	3.962	0.403	3.930	4.014	3.771	106.9%
X		4.808	4.710	4.059	3.951	0.493	3.914	4.029	3.763	104.1%
σ		0.244	0.140	0.697	0.056	0.247	0.036	0.028	0.040	2.9%
%RSD		5.073	2.968	17.160	1.423	49.980	0.913	0.701	1.051	2.8
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:07:02	4.631	4.878	3.457	3.591	4.339	3.950	99.7%	3.805	3.949
2	15:07:28	4.701	5.602	3.606	3.873	4.035	4.176	103.5%	3.880	3.983
3	15:07:54	4.754	4.999	3.674	3.709	4.213	4.220	105.8%	3.751	4.000
X		4.695	5.160	3.579	3.725	4.195	4.115	103.0%	3.812	3.977
σ		0.061	0.388	0.111	0.142	0.153	0.145	3.1%	0.064	0.026
%RSD		1.307	7.519	3.098	3.802	3.641	3.514	3.0	1.690	0.656
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	15:07:02	4.213	3.778	3.992	98.8%	4.079				
2	15:07:28	4.104	3.694	4.021	102.3%	4.138				
3	15:07:54	4.187	3.692	4.002	105.4%	4.108				
X		4.168	3.721	4.005	102.1%	4.109				
σ		0.057	0.049	0.015	3.3%	0.029				
%RSD		1.366	1.325	0.365	3.2	0.712				

ICSA MW9006 11/4/2016 15:11:00 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:11:25	77.9%	0.023	23.850	24.010	TM 109300.000	T 97800.000	T 97420.000	T 98800.000	TM 97910.000
2	15:11:51	78.0%	0.028	22.450	23.990	TM 108300.000	T 95140.000	T 94410.000	T 96570.000	TM 92220.000
3	15:12:17	76.9%	0.024	26.070	24.050	TM 113300.000	T 94500.000	T 96410.000	T 99780.000	TM 91600.000
X		77.6%	1.#IO%	24.120	1.#IO%	TM 110.298%	T 95820.000	T 96080.000	T 98.383%	TM 93.909%
σ		0.6%	n/a	1.823	n/a	TM n/a	T 1750.000	T 1534.000	T n/a	TM n/a
%RSD		0.8	9.818	7.558	0.126	TM 2.435	T 1.826	T 1.596	T 1.673	TM 3.704
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:11:25	T 288.600	T 17510.000	TM 108800.000	M 111700.000	TM 109100.000	T 85.6%	M 2568.000	3.970	1.081
2	15:11:51	T 256.300	T 17920.000	TM 112000.000	M 110100.000	TM 108300.000	T 90.4%	M 2464.000	3.512	1.122
3	15:12:17	T 240.700	T 18220.000	TM 113200.000	M 110200.000	TM 111300.000	T 91.1%	M 2469.000	3.407	1.081
X		T 1.#IO%	T 17880.000	TM 111.333%	M 110600.000	TM 109.561%	T 89.0%	M 125.023%	1.#IO%	1.#IO%
σ		T n/a	T 359.900	TM n/a	M 893.100	TM n/a	T 3.0%	M n/a	n/a	n/a
%RSD		T 9.325	T 2.012	TM 2.033	M 0.807	TM 1.389	T 3.4	M 2.348	8.263	2.177
Run	Time	53Cr	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:11:25	3.462	0.570	TM 107300.000	TM 107500.000	0.229	2.778	9.217	0.069	-0.398
2	15:11:51	2.916	0.505	TM 105400.000	TM 104700.000	0.146	2.431	8.624	0.110	-0.214
3	15:12:17	3.120	0.480	TM 105300.000	TM 106100.000	0.203	2.296	8.634	0.107	-0.423
X		3.166	1.#IO%	TM 106000.000	TM 106.109%	1.#IO%	1.#IO%	8.825	1.#IO%	-1.#IO%
σ		0.276	n/a	TM 1149.000	TM n/a	n/a	n/a	0.340	n/a	n/a
%RSD		8.705	8.882	TM 1.083	TM 1.362	22.030	9.937	3.849	24.000	33.120
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:11:25	3.831	0.184	1.056	2.057	1.545	-0.281	11.990	85.4%	TM 2705.000
2	15:11:51	3.690	0.398	0.339	2.329	-0.214	0.368	11.110	88.0%	TM 2676.000
3	15:12:17	3.633	0.409	-0.049	3.140	0.162	0.479	13.180	89.8%	TM 2654.000
X		1.#IO%	1.#IO%	0.449	2.509	0.497	1.#IO%	12.090	87.7%	TM 2678.000
σ		n/a	n/a	0.561	0.563	0.926	n/a	1.040	2.2%	TM 25.780
%RSD		2.742	38.430	124.900	22.450	186.200	217.500	8.598	2.5	TM 0.962
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:11:25	M 2706.000	TM 2413.000	3.038	0.155	28.990	0.078	0.507	0.191	86.6%
2	15:11:51	M 2650.000	TM 2392.000	1.858	0.135	27.790	0.099	0.197	0.170	91.6%
3	15:12:17	M 2651.000	TM 2398.000	4.247	0.100	26.550	0.094	0.100	0.021	94.7%
X		M 2669.000	TM 120.045%	3.048	1.#IO%	27.780	0.090	0.268	1.#IO%	90.9%
σ		M 32.150	TM n/a	1.195	n/a	1.219	0.011	0.213	n/a	4.1%
%RSD		M 1.205	TM 0.437	39.200	21.710	4.390	11.980	79.430	73.060	4.5
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:11:25	1.883	0.327	0.234	0.206	-0.146	-0.453	86.7%	0.009	0.015
2	15:11:51	1.749	0.231	0.261	0.218	-0.152	-0.426	92.2%	0.011	0.021
3	15:12:17	1.770	0.355	0.233	0.273	-0.225	-0.430	95.2%	0.013	0.013
X		1.#IO%	1.#IO%	0.243	1.#IO%	-0.174	-1.#IO%	91.4%	0.011	1.#IO%
σ		n/a	n/a	0.016	n/a	0.044	n/a	4.3%	0.002	n/a
%RSD		4.005	21.340	6.609	15.370	25.210	3.353	4.7	17.990	25.490
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	15:11:25	0.137	0.107	0.119	75.7%	0.052				
2	15:11:51	0.117	0.135	0.132	79.6%	0.055				
3	15:12:17	0.145	0.155	0.129	85.5%	0.057				
X		0.133	0.132	1.#IO%	80.3%	0.055				
σ		0.014	0.024	n/a	4.9%	0.002				
%RSD		10.820	18.200	5.372	6.1	4.393				

ICSAB MW9091 11/4/2016 15:14:37 QC Status: WARNING (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:15:03	78.5%	99.890	101.500	99.870	TM 104400.000	T 92380.000	T 93650.000	T 94290.000	TM 92310.000
2	15:15:29	79.3%	100.600	95.390	94.390	TM 105800.000	T 90540.000	T 92410.000	T 94880.000	TM 90610.000
3	15:15:55	79.9%	103.100	93.420	96.230	TM 104200.000	T 89040.000	T 89030.000	T 91500.000	TM 88880.000
X		79.3%	101.197%	96.760	96.832%	TM 104.808%	T 90650.000	T 91700.000	T 93.558%	TM 90.597%
σ		0.7%	n/a	4.195	n/a	TM n/a	T 1675.000	T 2390.000	T n/a	TM n/a
%RSD		0.9	1.688	4.336	2.883	TM 0.835	T 1.847	T 2.607	T 1.930	TM 1.895
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:15:03	T 143.300	T 26830.000	TM 107400.000	M 107600.000	TM 106400.000	T 89.2%	M 2435.000	119.900	106.900
2	15:15:29	T 159.000	T 27630.000	TM 110700.000	M 108500.000	TM 108700.000	89.3%	M 2419.000	119.000	107.700
3	15:15:55	T 133.600	T 27640.000	TM 111000.000	M 107900.000	TM 107100.000	T 91.6%	M 2407.000	114.200	104.500
X		T 145.302%	T 27370.000	TM 109.675%	M 108000.000	TM 107.411%	T 90.1%	M 121.013%	117.715%	106.352%
σ		T n/a	T 469.500	TM n/a	M 470.700	TM n/a	T 1.3%	M n/a	n/a	n/a
%RSD		T 8.826	T 1.716	TM 1.827	M 0.436	TM 1.108	T 1.5	M 0.569	2.598	1.539
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:15:03	2.631	104.900	TM 103000.000	TM 104000.000	100.200	89.680	98.960	81.210	83.490
2	15:15:29	3.217	105.400	TM 103600.000	TM 103200.000	100.700	88.150	94.560	81.310	81.680
3	15:15:55	2.293	102.500	TM 102800.000	TM 102300.000	97.790	84.910	90.070	80.790	79.900
X		2.714	104.299%	TM 103100.000	TM 103.186%	99.555%	87.580%	94.530%	81.101%	81.689%
σ		0.468	n/a	TM 427.800	TM n/a	n/a	n/a	n/a	n/a	n/a
%RSD		17.230	1.470	TM 0.415	TM 0.825	1.550	2.785	4.701	0.336	2.199
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:15:03	87.020	93.570	90.730	7.188	5.763	86.720	12.750	87.1%	TM 2591.000
2	15:15:29	85.800	92.650	91.160	6.092	4.737	83.730	15.440	88.5%	TM 2545.000
3	15:15:55	83.090	90.970	89.680	5.952	3.264	83.530	13.160	91.0%	TM 2559.000
X		85.303%	92.396%	90.530	6.411	4.588	84.660%	13.780	88.9%	TM 2565.000
σ		n/a	n/a	0.763	0.677	1.256	n/a	1.452	2.0%	TM 23.470
%RSD		2.358	1.430	0.843	10.560	27.380	2.110	10.530	2.2	TM 0.915
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:15:03	M 2545.000	TM 2312.000	105.200	75.490	28.920	74.140	94.370	88.400	90.3%
2	15:15:29	M 2547.000	TM 2310.000	107.900	75.500	28.770	74.260	93.320	87.670	94.1%
3	15:15:55	M 2546.000	TM 2305.000	110.600	75.460	24.930	73.560	91.870	89.070	97.5%
X		M 2546.000	TM 115.446%	107.900	75.480%	27.540	73.990	93.190	88.379%	94.0%
σ		M 0.878	TM n/a	2.702	n/a	2.261	0.373	1.257	n/a	3.6%
%RSD		M 0.034	TM 0.147	2.504	0.030	8.211	0.504	1.349	0.791	3.8
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:15:03	96.210	96.500	100.900	101.100	103.300	102.400	91.3%	95.350	104.100
2	15:15:29	96.740	96.400	104.200	104.900	102.700	100.300	95.3%	95.150	105.400
3	15:15:55	95.900	95.630	107.800	104.900	104.300	101.500	97.6%	96.710	104.700
X		96.284%	96.174%	104.300	103.615%	103.400	101.424%	94.7%	95.740	104.745%
σ		n/a	n/a	3.451	n/a	0.841	n/a	3.2%	0.847	n/a
%RSD		0.441	0.494	3.308	2.141	0.813	1.025	3.4	0.885	0.654
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	15:15:03	99.630	90.700	98.640	78.5%	113.700				
2	15:15:29	100.200	91.920	101.400	84.9%	115.600				
3	15:15:55	102.900	92.820	101.500	87.4%	117.000				
X		100.900	91.810	100.509%	83.6%	115.400				
σ		1.765	1.061	n/a	4.6%	1.691				
%RSD		1.749	1.155	1.608	5.5	1.465				

CCV MW9101 11/4/2016 15:18:14 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:18:40	81.0%	317.400	312.700	300.200	59490.000	60750.000	60330.000	60500.000	287.300
2	15:19:06	80.6%	323.000	306.300	286.800	60200.000	59210.000	60050.000	59940.000	290.100
3	15:19:32	82.8%	321.400	305.100	296.500	59670.000	59520.000	59480.000	58860.000	289.200
X		81.5%	106.870%	102.683%	98.163%	99.650%	59820.000	59960.000	99.614%	96.290%
σ		1.2%	n/a	n/a	n/a	n/a	813.000	433.700	n/a	n/a
%RSD		1.5	0.896	1.334	2.345	0.617	1.359	0.723	1.391	0.497
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:18:40	4344.000	59.080	63200.000	61800.000	62160.000	91.7%	315.100	313.500	305.200
2	15:19:06	4353.000	54.710	65050.000	62520.000	63430.000	92.7%	310.700	309.200	299.900
3	15:19:32	4263.000	34.380	65420.000	62340.000	62440.000	94.1%	305.900	303.600	325.500
X		144.003%	49.390	107.595%	62220.000	104.460%	92.8%	103.520%	102.912%	103.397%
σ		n/a	13.180	n/a	373.200	n/a	1.2%	n/a	n/a	n/a
%RSD		1.154	26.690	1.845	0.600	1.067	1.3	1.470	1.607	4.348
Run	Time	53Cr O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:18:40	-1.195	302.300	62410.000	62050.000	292.700	281.400	284.700	261.200	278.900
2	15:19:06	-0.178	299.900	62210.000	61510.000	292.400	279.200	284.400	256.600	272.700
3	15:19:32	-11.580	296.700	61790.000	60470.000	289.300	276.200	274.900	257.100	265.900
X		-4.316	99.877%	103.560%	102.238%	97.152%	92.979%	281.300	258.300	90.833%
σ		6.308	n/a	n/a	n/a	n/a	n/a	5.568	2.510	n/a
%RSD		146.100	0.937	0.509	1.314	0.642	0.949	1.979	0.972	2.390
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:18:40	279.900	299.200	285.700	0.708	-1.292	287.900	-1.513	94.8%	312.500
2	15:19:06	279.600	298.600	281.700	0.935	-0.446	289.400	0.807	96.8%	322.100
3	15:19:32	274.300	293.800	281.200	0.537	-1.237	274.700	1.255	97.9%	332.300
X		92.648%	99.069%	282.900	0.727	-0.992	94.672%	0.183	96.5%	107.439%
σ		n/a	n/a	2.483	0.200	0.474	n/a	1.486	1.5%	n/a
%RSD		1.123	1.009	0.878	27.490	47.760	2.847	811.200	1.6	3.063
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:18:40	316.400	315.600	292.600	302.600	17.960	304.100	300.600	292.500	92.2%
2	15:19:06	326.900	326.300	294.700	304.400	19.470	308.000	305.800	289.900	93.8%
3	15:19:32	331.200	335.600	304.100	299.800	17.110	302.500	299.400	292.400	96.6%
X		108.273%	108.612%	297.100	100.758%	18.180	304.900	301.900	97.199%	94.2%
σ		n/a	n/a	6.111	n/a	1.197	2.807	3.371	n/a	2.2%
%RSD		2.341	3.077	2.057	0.769	6.584	0.921	1.116	0.500	2.4
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:18:40	301.700	305.500	299.500	299.900	309.600	306.100	97.5%	288.500	290.400
2	15:19:06	303.000	301.800	300.700	302.600	310.600	306.700	100.9%	293.600	294.100
3	15:19:32	303.200	302.000	312.700	313.900	308.400	305.500	102.2%	294.800	299.400
X		100.873%	101.029%	101.423%	101.828%	103.178%	102.040%	100.2%	97.428%	98.209%
σ		n/a	n/a	n/a	n/a	n/a	n/a	2.4%	n/a	n/a
%RSD		0.278	0.680	2.395	2.421	0.360	0.199	2.4	1.147	1.523
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	15:18:40	303.600	279.900	315.100	86.5%	312.100				
2	15:19:06	304.200	279.100	310.900	88.8%	311.800				
3	15:19:32	309.000	281.100	318.200	91.7%	316.000				
X		101.866%	93.345%	104.906%	89.0%	104.439%				
σ		n/a	n/a	n/a	2.7%	n/a				
%RSD		0.972	0.357	1.170	3.0	0.749				

CCB IM7321-01 11/4/2016 15:21:53 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:19	96.0%	0.057	2.988	2.825	7.473	2.593	2.423	2.609	0.544
2	15:22:45	98.1%	0.026	2.734	2.427	5.368	1.758	1.643	1.855	0.691
3	15:23:11	97.4%	0.030	2.655	2.226	4.900	1.572	1.677	1.754	0.606
X		97.2%	0.038	2.792	2.493	5.914	1.974	1.915	2.073	0.613
σ		1.1%	0.017	0.174	0.305	1.370	0.544	0.441	0.468	0.074
%RSD		1.1	45.020	6.237	12.230	23.170	27.540	23.030	22.560	12.040
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:19	35.660	-14.120	9.614	1.750	3.497	95.1%	0.036	0.003	0.009
2	15:22:45	-0.883	-31.620	5.749	2.725	0.041	100.2%	0.093	-0.002	0.007
3	15:23:11	18.140	-39.630	5.700	3.228	1.765	101.9%	0.028	-0.003	-0.006
X		17.640	-28.460	7.021	2.568	1.768	99.1%	0.052	-0.001	0.003
σ		18.270	13.040	2.246	0.752	1.728	3.5%	0.036	0.003	0.008
%RSD		103.600	45.830	31.990	29.270	97.780	3.5	68.450	355.100	244.000
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:19	-0.024	0.017	4.333	10.850	0.014	0.017	-0.613	0.026	0.026
2	15:22:45	-0.053	0.017	-3.349	4.550	0.017	0.003	-0.278	0.018	0.031
3	15:23:11	-0.031	0.014	-3.899	1.987	0.009	0.001	-0.441	0.019	0.018
X		-0.036	0.016	-0.972	5.797	0.013	0.007	-0.444	0.021	0.025
σ		0.015	0.001	4.602	4.563	0.004	0.008	0.167	0.004	0.006
%RSD		41.950	9.258	473.700	78.710	31.670	117.200	37.670	20.780	24.490
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:19	0.062	-0.014	0.996	-0.437	-0.876	-0.121	-0.022	101.3%	3.459
2	15:22:45	0.089	-0.011	0.124	-0.344	-0.403	-0.078	1.266	104.4%	3.685
3	15:23:11	0.063	-0.038	0.146	-0.282	-1.110	0.080	0.137	105.3%	3.459
X		0.072	-0.021	0.422	-0.354	-0.796	-0.039	0.460	103.7%	3.534
σ		0.015	0.015	0.497	0.078	0.360	0.106	0.702	2.1%	0.130
%RSD		21.500	69.530	117.900	21.970	45.230	268.300	152.600	2.0	3.682
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:19	3.415	3.595	-0.818	0.026	0.332	0.020	0.003	0.006	103.8%
2	15:22:45	3.729	3.632	-0.993	0.014	0.438	0.012	0.010	0.013	107.0%
3	15:23:11	3.593	3.391	0.107	0.018	0.050	0.016	0.016	0.005	108.7%
X		3.579	3.539	-0.568	0.019	0.273	0.016	0.010	0.008	106.5%
σ		0.158	0.130	0.591	0.006	0.201	0.004	0.006	0.005	2.5%
%RSD		4.404	3.673	104.000	31.650	73.450	22.570	67.240	60.990	2.3
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:19	0.067	0.439	0.924	0.835	0.028	0.013	103.6%	0.028	0.034
2	15:22:45	0.095	-0.045	0.928	0.809	-0.000	0.010	107.1%	0.028	0.025
3	15:23:11	0.136	0.081	0.875	0.799	0.015	0.005	110.9%	0.025	0.026
X		0.099	0.159	0.909	0.815	0.014	0.009	107.2%	0.027	0.028
σ		0.035	0.251	0.030	0.018	0.014	0.004	3.7%	0.002	0.005
%RSD		34.970	158.400	3.274	2.267	101.000	40.220	3.4	6.768	16.310
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	15:22:19	0.028	0.013	0.031	104.6%	0.047				
2	15:22:45	0.025	0.024	0.019	108.3%	0.051				
3	15:23:11	0.019	0.016	0.018	110.8%	0.048				
X		0.024	0.018	0.023	107.9%	0.049				
σ		0.004	0.006	0.007	3.2%	0.002				
%RSD		18.680	32.000	30.850	2.9	4.072				

RQ25726-001 11/4/2016 15:25:32

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:25:58	101.9%	0.056	2.361	2.472	9.766	2.401	2.335	2.671	8.444
2	15:26:24	102.3%	0.035	2.369	2.212	9.459	2.434	2.287	2.480	7.772
3	15:26:50	106.8%	0.026	1.922	2.021	8.520	2.299	2.229	2.601	8.336
X		103.7%	0.039	2.217	2.235	9.248	2.378	2.284	2.584	8.184
σ		2.7%	0.016	0.256	0.226	0.649	0.070	0.053	0.097	0.361
%RSD		2.6	40.060	11.540	10.130	7.020	2.948	2.329	3.751	4.412
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:25:58	9.961	44980.000	16.710	14.440	18.970	94.8%	0.453	9.720	-0.077
2	15:26:24	36.900	44630.000	14.310	14.610	12.210	101.0%	0.073	9.225	-0.067
3	15:26:50	33.700	46410.000	11.720	14.160	16.610	98.0%	0.084	8.822	-0.005
X		20.210	45340.000	14.250	14.410	15.930	97.9%	0.203	9.256	-0.050
σ		26.180	943.900	2.494	0.228	3.430	3.1%	0.216	0.450	0.039
%RSD		129.500	2.082	17.500	1.579	21.530	3.2	106.400	4.860	77.980
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:25:58	9.569	0.044	1.598	4.315	0.008	0.021	-0.347	0.017	0.023
2	15:26:24	8.660	0.044	-6.759	-1.832	0.008	0.031	-0.050	0.034	0.036
3	15:26:50	8.335	0.052	-3.825	-0.476	0.006	0.040	-0.492	0.038	0.023
X		8.854	0.047	-2.995	0.669	0.007	0.031	-0.296	0.030	0.027
σ		0.640	0.004	4.239	3.229	0.001	0.009	0.226	0.011	0.008
%RSD		7.225	9.540	141.500	482.800	14.730	30.930	76.180	36.030	27.660
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:25:58	0.443	-0.204	0.016	8.727	7.296	-0.167	-0.479	100.3%	1.255
2	15:26:24	0.484	-0.111	-0.473	8.015	7.427	-0.398	-0.271	103.4%	1.338
3	15:26:50	0.493	-0.108	-1.045	7.350	7.447	-0.174	-0.287	104.5%	1.336
X		0.473	-0.141	-0.501	8.031	7.390	-0.246	-0.346	102.7%	1.310
σ		0.026	0.054	0.531	0.689	0.082	0.132	0.116	2.2%	0.047
%RSD		5.588	38.690	106.000	8.577	1.107	53.430	33.570	2.1	3.623
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:25:58	1.245	1.251	0.540	0.093	-0.127	0.008	0.017	0.007	103.0%
2	15:26:24	1.290	1.395	-1.054	0.076	0.412	0.008	-0.001	0.011	106.5%
3	15:26:50	1.305	1.214	-0.668	0.070	0.251	0.002	0.002	0.007	108.9%
X		1.280	1.286	-0.394	0.079	0.179	0.006	0.006	0.008	106.1%
σ		0.031	0.096	0.831	0.012	0.277	0.003	0.009	0.002	3.0%
%RSD		2.435	7.432	210.900	14.730	155.100	56.940	148.700	28.870	2.8
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:25:58	0.084	0.119	0.368	0.330	0.053	0.030	103.2%	0.019	0.017
2	15:26:24	0.126	0.140	0.426	0.392	0.012	0.033	108.2%	0.018	0.022
3	15:26:50	0.097	0.018	0.403	0.386	0.023	0.026	110.3%	0.019	0.023
X		0.102	0.092	0.399	0.369	0.029	0.029	107.3%	0.019	0.021
σ		0.022	0.065	0.029	0.035	0.021	0.004	3.7%	0.000	0.003
%RSD		21.230	70.920	7.279	9.369	72.820	12.220	3.4	2.267	14.900
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	15:25:58	0.022	0.023	0.026	105.0%	0.015				
2	15:26:24	0.028	0.016	0.011	107.7%	0.022				
3	15:26:50	0.021	0.007	0.023	111.4%	0.020				
X		0.024	0.015	0.020	108.0%	0.019				
σ		0.004	0.008	0.008	3.2%	0.003				
%RSD		16.790	51.060	38.640	3.0	18.110				

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:29:36	102.0%	103.500	101.200	98.250	899.700	944.900	977.600	1019.000	118.100
2	15:30:02	105.0%	99.980	97.710	95.430	859.900	881.200	945.800	974.100	113.700
3	15:30:28	105.8%	100.700	97.500	93.490	873.900	885.500	939.300	983.800	113.600
X		104.3%	101.400	98.790	95.720	877.800	903.800	954.200	992.200	115.100
σ		2.0%	1.876	2.057	2.392	20.170	35.620	20.490	23.510	2.565
%RSD		1.9	1.850	2.082	2.499	2.298	3.941	2.147	2.369	2.228
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:29:36	914.600	42280.000	1059.000	1181.000	1136.000	96.5%	100.200	114.900	105.000
2	15:30:02	868.600	42660.000	1076.000	1175.000	1108.000	98.6%	102.200	113.900	104.000
3	15:30:28	838.500	42990.000	1059.000	1137.000	1093.000	100.3%	98.450	112.200	101.700
X		873.900	42640.000	1065.000	1164.000	1112.000	98.5%	100.300	113.700	103.600
σ		38.330	355.200	9.513	24.110	21.790	1.9%	1.895	1.390	1.678
%RSD		4.386	0.833	0.894	2.071	1.960	1.9	1.889	1.222	1.620
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:29:36	7.133	105.200	1031.000	1066.000	104.900	97.460	97.840	99.310	102.000
2	15:30:02	6.082	103.600	1023.000	1042.000	103.700	92.610	94.750	98.310	99.870
3	15:30:28	6.801	102.800	1002.000	1041.000	103.900	91.910	96.130	95.930	99.100
X		6.672	103.900	1018.000	1050.000	104.200	93.990	96.240	97.850	100.300
σ		0.537	1.227	14.960	14.310	0.625	3.022	1.546	1.736	1.477
%RSD		8.049	1.182	1.469	1.364	0.600	3.215	1.606	1.774	1.473
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:29:36	100.500	97.660	101.000	7.785	9.320	97.510	0.720	98.4%	102.900
2	15:30:02	97.850	96.350	98.130	7.231	7.271	97.460	0.640	100.3%	104.700
3	15:30:28	97.840	95.320	96.380	8.151	8.196	100.200	-1.503	102.0%	106.100
X		98.740	96.440	98.510	7.722	8.262	98.390	-0.048	100.2%	104.500
σ		1.547	1.173	2.344	0.463	1.026	1.569	1.261	1.8%	1.612
%RSD		1.567	1.216	2.380	5.999	12.420	1.595	2641.000	1.8	1.542
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:29:36	102.900	101.000	103.900	106.500	6.414	108.300	105.100	99.260	99.9%
2	15:30:02	103.400	102.900	97.930	103.900	8.175	106.100	104.400	99.960	105.0%
3	15:30:28	107.100	105.900	102.500	104.600	7.442	108.500	105.200	98.380	105.3%
X		104.500	103.300	101.400	105.000	7.343	107.600	104.900	99.200	103.4%
σ		2.325	2.464	3.098	1.334	0.885	1.342	0.446	0.794	3.0%
%RSD		2.226	2.386	3.055	1.270	12.050	1.247	0.426	0.801	2.9
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:29:36	99.730	99.280	97.860	98.830	100.400	101.000	102.8%	100.600	109.800
2	15:30:02	99.740	97.470	100.800	101.400	98.800	99.320	105.4%	99.940	109.300
3	15:30:28	100.100	99.280	100.600	102.500	100.600	99.360	107.1%	101.400	111.000
X		99.870	98.680	99.750	100.900	99.930	99.900	105.1%	100.600	110.000
σ		0.239	1.040	1.642	1.861	0.980	0.982	2.2%	0.739	0.852
%RSD		0.239	1.054	1.647	1.845	0.981	0.983	2.0	0.734	0.775
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	15:29:36	107.600	98.600	105.100	101.4%	110.800				
2	15:30:02	109.000	99.170	107.100	107.3%	113.800				
3	15:30:28	107.800	99.340	108.200	109.2%	114.100				
X		108.100	99.030	106.800	106.0%	112.900				
σ		0.757	0.387	1.601	4.1%	1.829				
%RSD		0.700	0.391	1.499	3.9	1.620				

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:33:14	101.2%	0.011	5.940	6.008	14898.000	130600.000	131240.000	130710.000	11.650
2	15:33:40	103.1%	0.024	5.847	6.060	14792.000	130050.000	130030.000	131760.000	12.140
3	15:34:05	103.4%	0.010	6.173	5.956	15073.000	129990.000	130070.000	130580.000	11.540
X		102.6%	0.015	5.987	6.008	14921.000	130210.000	130450.000	131020.000	11.770
σ		1.2%	0.008	0.168	0.052	1141.900	1336.400	1686.700	1643.700	0.320
%RSD		1.2	53.790	2.809	0.868	12.884	11.113	12.255	12.075	2.717
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:33:14	18317.000	145360.000	13780.000	109500.000	106500.000	196.0%	1.756	11.360	0.126
2	15:33:40	18376.000	147170.000	13876.000	111300.000	108400.000	197.1%	1.629	10.860	0.156
3	15:34:05	18037.000	146810.000	13914.000	109200.000	105800.000	199.9%	1.602	10.590	0.183
X		18243.000	146450.000	13857.000	110000.000	106900.000	197.7%	1.662	10.940	0.155
σ		1181.300	1957.000	168.800	1126.000	1358.000	12.0%	0.082	0.394	0.029
%RSD		1.2199	12.060	1.1784	1.1023	1.1270	12.0	4.932	3.599	18.510
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:33:14	10.290	39.750	33.540	1454.000	-0.959	5.275	2.241	0.121	0.490
2	15:33:40	9.961	39.800	28.700	1404.000	-1.016	4.938	1.903	0.122	0.440
3	15:34:05	9.456	39.070	26.030	1356.000	-0.985	4.856	1.970	0.124	0.457
X		9.904	39.540	29.420	1405.000	-0.987	5.023	2.038	0.122	0.462
σ		0.422	0.406	3.806	48.970	0.029	0.222	0.179	0.002	0.025
%RSD		4.265	1.027	12.930	3.486	2.888	4.424	8.794	1.315	5.501
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:33:14	1.095	0.097	-0.424	67.930	71.630	-0.064	-1.581	97.9%	1.453
2	15:33:40	1.165	0.382	-0.072	68.750	70.120	0.286	-0.461	99.2%	1.551
3	15:34:05	1.288	-0.073	-0.271	68.620	69.070	-0.001	-0.334	100.1%	1.299
X		1.183	0.136	-0.256	68.430	70.270	0.074	-0.792	99.1%	1.434
σ		0.098	0.230	0.177	0.441	1.284	0.187	0.686	1.1%	0.127
%RSD		8.252	169.400	69.070	0.645	1.827	252.200	86.620	1.1	8.875
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:33:14	1.375	1.406	-9.995	0.174	3.433	0.001	0.044	0.036	95.3%
2	15:33:40	1.454	1.400	-10.060	0.167	3.420	0.006	0.026	0.043	98.0%
3	15:34:05	1.270	1.276	-9.808	0.186	3.400	0.002	0.042	0.034	101.0%
X		1.366	1.361	-9.955	0.176	3.417	0.003	0.037	0.038	98.1%
σ		0.092	0.073	0.132	0.010	0.017	0.002	0.010	0.005	2.8%
%RSD		6.739	5.388	1.324	5.430	0.491	78.850	27.280	12.950	2.9
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:33:14	0.116	-0.529	0.555	0.519	199.700	198.000	98.5%	0.033	0.038
2	15:33:40	0.187	-0.628	0.586	0.569	202.300	197.900	102.0%	0.030	0.036
3	15:34:05	0.092	-0.649	0.564	0.573	200.900	199.400	104.2%	0.035	0.028
X		0.132	-0.602	0.568	0.554	201.000	198.400	101.5%	0.033	0.034
σ		0.049	0.064	0.016	0.030	1.295	0.862	2.9%	0.003	0.006
%RSD		37.470	10.570	2.834	5.504	0.644	0.435	2.8	7.930	16.520
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	15:33:14	0.017	0.013	0.023	89.3%	0.257				
2	15:33:40	0.027	0.016	0.016	92.7%	0.273				
3	15:34:05	0.027	0.014	0.019	94.1%	0.263				
X		0.023	0.014	0.019	92.0%	0.264				
σ		0.006	0.002	0.004	2.5%	0.008				
%RSD		25.140	11.040	18.770	2.7	3.075				

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:51	104.1%	0.391	2.974	3.159	3768.000	4863.000	4752.000	4874.000	149.500
2	15:37:17	108.1%	0.347	2.820	2.979	3752.000	4564.000	4648.000	4869.000	163.800
3	15:37:43	106.5%	0.396	2.965	2.903	3591.000	4594.000	4690.000	4887.000	147.300
X		106.2%	0.378	2.920	3.014	3704.000	4674.000	4697.000	4877.000	153.500
σ		2.0%	0.027	0.087	0.132	97.820	164.900	52.110	9.244	8.935
%RSD		1.9	7.095	2.968	4.364	2.641	3.528	1.110	0.190	5.819
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:51	6493.000	44670.000	3706.000	8215.000	8723.000	97.7%	5.447	12.020	1.569
2	15:37:17	6619.000	46910.000	3877.000	8448.000	9015.000	96.1%	6.332	11.030	1.645
3	15:37:43	6576.000	47760.000	3924.000	8503.000	9071.000	96.6%	5.807	10.800	1.560
X		6562.000	46450.000	3835.000	8389.000	8936.000	96.8%	5.862	11.280	1.591
σ		63.960	1594.000	114.800	152.500	186.900	0.8%	0.445	0.650	0.046
%RSD		0.975	3.432	2.993	1.818	2.091	0.8	7.593	5.764	2.917
Run	Time	53Cr O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:51	11.440	394.400	580.000	709.800	0.985	4.902	4.312	29.190	31.060
2	15:37:17	9.599	402.900	593.100	696.400	1.006	4.813	3.956	29.740	30.100
3	15:37:43	10.020	396.400	591.100	695.200	0.988	4.492	3.780	29.800	30.490
X		10.350	397.900	588.100	700.500	0.993	4.736	4.016	29.580	30.550
σ		0.967	4.413	7.033	8.098	0.012	0.216	0.272	0.338	0.484
%RSD		9.341	1.109	1.196	1.156	1.175	4.554	6.761	1.142	1.586
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:51	132.900	-0.023	-0.262	43.230	43.610	-0.140	-0.983	100.5%	1.009
2	15:37:17	129.000	-0.093	-0.505	43.930	43.700	0.077	-0.873	103.0%	0.876
3	15:37:43	127.900	-0.057	-0.054	43.050	42.310	-0.005	-1.220	104.5%	0.875
X		129.900	-0.058	-0.274	43.400	43.210	-0.022	-1.025	102.7%	0.920
σ		2.627	0.035	0.226	0.466	0.775	0.109	0.177	2.0%	0.077
%RSD		2.022	61.110	82.440	1.073	1.794	486.700	17.280	2.0	8.380
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:51	0.633	0.662	-6.162	0.653	2.179	0.624	0.226	0.237	98.1%
2	15:37:17	0.794	0.770	-6.735	0.662	2.405	0.601	0.211	0.232	102.4%
3	15:37:43	0.728	0.749	-6.508	0.666	2.309	0.663	0.228	0.230	103.9%
X		0.718	0.727	-6.468	0.661	2.298	0.630	0.222	0.233	101.4%
σ		0.081	0.057	0.288	0.007	0.113	0.032	0.009	0.003	3.0%
%RSD		11.260	7.850	4.457	0.993	4.925	5.017	4.043	1.482	3.0
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:51	0.152	-0.369	0.246	0.329	128.000	123.800	99.6%	0.064	0.074
2	15:37:17	0.199	-0.396	0.324	0.358	125.600	124.400	104.4%	0.077	0.067
3	15:37:43	0.219	-0.360	0.281	0.345	124.900	125.500	106.5%	0.062	0.068
X		0.190	-0.375	0.283	0.344	126.200	124.600	103.5%	0.068	0.069
σ		0.034	0.018	0.039	0.015	1.655	0.880	3.5%	0.008	0.004
%RSD		18.020	4.885	13.720	4.298	1.312	0.707	3.4	11.450	5.257
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	15:36:51	2.871	2.587	2.646	96.7%	0.032				
2	15:37:17	2.745	2.499	2.689	101.0%	0.035				
3	15:37:43	2.720	2.461	2.688	104.0%	0.030				
X		2.779	2.516	2.674	100.6%	0.032				
σ		0.081	0.065	0.025	3.7%	0.002				
%RSD		2.922	2.564	0.921	3.7	6.784				

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:40:28	99.5%	0.022	10.020	9.426	4314.000	38390.000	39310.000	40400.000	7.506
2	15:40:54	102.3%	0.017	9.186	9.565	4166.000	37940.000	38520.000	39070.000	7.484
3	15:41:19	102.9%	0.028	10.050	9.254	4292.000	36640.000	37400.000	39420.000	6.968
X		101.6%	0.022	9.752	9.415	4257.000	37660.000	38410.000	39630.000	7.319
σ		1.8%	0.005	0.491	0.156	79.690	911.800	962.600	690.700	0.305
%RSD		1.8	23.090	5.030	1.656	1.872	2.421	2.506	1.743	4.161
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:40:28	9622.000	45950.000	3953.000	124500.000	121100.000	93.8%	1.936	11.330	0.132
2	15:40:54	9468.000	46940.000	4027.000	124900.000	121500.000	95.5%	1.887	10.670	0.120
3	15:41:19	9258.000	46550.000	4049.000	125800.000	120600.000	97.9%	1.944	10.490	0.014
X		9450.000	46480.000	4009.000	125100.000	121100.000	95.8%	1.922	10.830	0.089
σ		183.000	497.800	50.300	703.200	427.700	2.0%	0.031	0.446	0.065
%RSD		1.936	1.071	1.254	0.562	0.353	2.1	1.619	4.117	73.590
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:40:28	10.510	295.500	1195.000	2872.000	2.980	13.660	11.170	0.103	0.588
2	15:40:54	9.232	295.300	1200.000	2786.000	2.902	13.540	10.250	0.120	0.544
3	15:41:19	9.271	290.200	1193.000	2714.000	2.827	13.560	10.460	0.126	0.554
X		9.670	293.700	1196.000	2791.000	2.903	13.590	10.630	0.116	0.562
σ		0.725	2.988	3.493	79.180	0.076	0.064	0.484	0.011	0.023
%RSD		7.498	1.017	0.292	2.837	2.630	0.471	4.552	9.862	4.060
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:40:28	1.041	1.220	0.033	90.910	93.660	0.494	-0.310	94.4%	0.278
2	15:40:54	1.033	1.263	-0.116	89.470	96.190	0.353	0.464	96.5%	0.412
3	15:41:19	1.177	0.889	-0.081	91.930	93.100	0.193	0.270	96.8%	0.321
X		1.084	1.124	-0.055	90.770	94.320	0.347	0.142	95.9%	0.337
σ		0.081	0.205	0.078	1.239	1.645	0.151	0.403	1.3%	0.068
%RSD		7.489	18.200	143.100	1.365	1.745	43.510	284.300	1.3	20.210
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:40:28	0.389	0.292	-10.970	0.196	3.728	0.009	0.024	0.031	93.4%
2	15:40:54	0.309	0.382	-11.560	0.197	3.926	0.004	0.008	0.036	97.4%
3	15:41:19	0.298	0.400	-9.309	0.214	3.180	0.007	0.002	0.030	98.8%
X		0.332	0.358	-10.610	0.202	3.611	0.007	0.011	0.033	96.5%
σ		0.050	0.058	1.166	0.010	0.387	0.002	0.011	0.003	2.8%
%RSD		15.030	16.210	10.980	5.123	10.700	33.660	100.700	10.010	2.9
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:40:28	0.120	-0.779	0.146	0.141	525.500	524.600	96.3%	0.044	0.044
2	15:40:54	0.092	-0.811	0.184	0.175	523.200	523.700	100.4%	0.045	0.049
3	15:41:19	0.077	-0.632	0.218	0.175	524.600	524.700	102.6%	0.036	0.050
X		0.096	-0.741	0.183	0.164	524.400	524.300	99.8%	0.042	0.048
σ		0.022	0.095	0.036	0.020	1.149	0.560	3.2%	0.005	0.003
%RSD		22.940	12.880	19.780	12.120	0.219	0.107	3.2	11.450	6.938
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	15:40:28	0.017	0.003	0.013	86.2%	0.914				
2	15:40:54	0.008	0.011	0.013	90.0%	0.921				
3	15:41:19	0.021	0.008	0.013	92.3%	0.911				
X		0.015	0.007	0.013	89.5%	0.915				
σ		0.007	0.004	0.000	3.1%	0.005				
%RSD		43.850	58.170	2.038	3.4	0.558				

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:44:04	100.5%	0.004	8.307	7.889	4898.000	34490.000	34300.000	34750.000	10.920
2	15:44:30	100.1%	0.014	7.758	8.006	4950.000	33570.000	33580.000	35120.000	10.450
3	15:44:56	101.9%	0.021	7.076	8.175	4747.000	32230.000	32630.000	33650.000	10.200
X		100.9%	0.013	7.714	8.023	4865.000	33430.000	33500.000	34510.000	10.520
σ		1.0%	0.009	0.617	0.144	105.400	1137.000	838.400	762.900	0.370
%RSD		1.0	67.520	8.001	1.789	2.167	3.402	2.503	2.211	3.514
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:44:04	8197.000	47230.000	3067.000	106800.000	104800.000	94.4%	1.466	11.880	0.063
2	15:44:30	8164.000	47640.000	3103.000	107200.000	105100.000	96.9%	1.371	10.890	0.067
3	15:44:56	7898.000	48820.000	3164.000	108100.000	105000.000	97.7%	1.385	10.380	0.089
X		8086.000	47900.000	3111.000	107400.000	105000.000	96.3%	1.407	11.050	0.073
σ		164.000	826.900	49.080	652.500	175.700	1.8%	0.051	0.762	0.014
%RSD		2.028	1.726	1.577	0.608	0.167	1.8	3.622	6.891	19.480
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:44:04	10.400	975.600	1561.000	3003.000	6.058	11.430	8.056	0.225	0.719
2	15:44:30	9.550	951.900	1544.000	2833.000	5.908	11.230	9.073	0.253	0.633
3	15:44:56	9.265	953.400	1556.000	2826.000	5.958	10.480	7.749	0.251	0.588
X		9.738	960.300	1553.000	2887.000	5.975	11.050	8.292	0.243	0.647
σ		0.589	13.280	8.692	100.200	0.076	0.500	0.693	0.016	0.066
%RSD		6.049	1.383	0.560	3.471	1.279	4.525	8.357	6.416	10.280
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:44:04	6.012	0.193	-0.170	71.510	70.900	0.188	1.806	93.3%	0.360
2	15:44:30	6.432	0.738	-0.490	70.680	74.580	-0.311	0.633	96.2%	0.410
3	15:44:56	5.730	0.742	-0.232	65.060	70.660	-0.142	0.403	97.8%	0.356
X		6.058	0.557	-0.297	69.080	72.050	-0.088	0.947	95.8%	0.375
σ		0.353	0.316	0.170	3.508	2.198	0.254	0.752	2.3%	0.030
%RSD		5.825	56.630	57.060	5.078	3.050	288.600	79.420	2.4	8.032
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:44:04	0.290	0.373	-14.860	0.216	5.048	-0.002	0.011	0.040	93.9%
2	15:44:30	0.381	0.396	-13.450	0.194	4.585	0.003	0.005	0.025	97.0%
3	15:44:56	0.347	0.372	-10.650	0.185	3.618	0.002	0.002	0.030	100.4%
X		0.339	0.381	-12.990	0.198	4.417	0.001	0.006	0.032	97.1%
σ		0.046	0.014	2.141	0.016	0.730	0.003	0.005	0.007	3.3%
%RSD		13.430	3.592	16.480	8.018	16.520	295.500	78.510	23.370	3.4
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:44:04	0.070	-1.009	0.087	0.129	308.400	303.200	96.5%	0.052	0.059
2	15:44:30	0.085	-0.928	0.131	0.121	306.200	302.900	101.1%	0.052	0.057
3	15:44:56	0.248	-0.715	0.123	0.177	302.500	298.200	102.8%	0.057	0.056
X		0.134	-0.884	0.114	0.142	305.700	301.400	100.1%	0.054	0.057
σ		0.099	0.152	0.023	0.030	2.981	2.780	3.3%	0.003	0.002
%RSD		73.660	17.180	20.490	21.410	0.975	0.922	3.3	5.441	2.838
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	15:44:04	0.019	0.017	0.017	88.1%	0.782				
2	15:44:30	0.014	0.008	0.009	90.0%	0.780				
3	15:44:56	0.012	0.011	0.011	92.7%	0.764				
X		0.015	0.012	0.012	90.3%	0.775				
σ		0.003	0.004	0.004	2.3%	0.010				
%RSD		23.180	36.510	34.920	2.6	1.297				

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11/4/2016 15:47:16

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:47:42	100.1%	99.470	106.400	104.200	5823.000	35530.000	35500.000	36850.000	118.700
2	15:48:08	100.8%	101.900	104.300	100.800	5734.000	33760.000	35210.000	36050.000	114.400
3	15:48:34	102.6%	101.000	107.500	102.700	5704.000	33120.000	34900.000	35640.000	114.700
X		101.2%	100.800	106.100	102.600	5753.000	34140.000	35200.000	36180.000	115.900
σ		1.3%	1.220	1.603	1.672	61.620	1246.000	296.400	615.300	2.418
%RSD		1.3	1.211	1.512	1.630	1.071	3.650	0.842	1.701	2.086
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:47:42	9364.000	46350.000	4193.000	109800.000	108200.000	92.2%	106.600	121.400	107.100
2	15:48:08	9060.000	46970.000	4291.000	109100.000	107500.000	95.0%	105.500	119.900	104.900
3	15:48:34	9071.000	48030.000	4338.000	109500.000	108500.000	95.2%	106.400	118.300	104.500
X		9165.000	47120.000	4274.000	109500.000	108100.000	94.1%	106.200	119.900	105.500
σ		172.200	850.600	74.090	376.700	537.600	1.7%	0.573	1.583	1.387
%RSD		1.879	1.805	1.733	0.344	0.498	1.8	0.540	1.321	1.315
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:47:42	6.680	1088.000	2620.000	4258.000	110.100	106.500	101.200	89.570	96.520
2	15:48:08	5.642	1076.000	2580.000	4023.000	108.400	102.900	102.600	89.200	94.230
3	15:48:34	7.386	1084.000	2640.000	3951.000	107.700	100.500	98.730	89.520	92.450
X		6.569	1083.000	2613.000	4077.000	108.700	103.300	100.800	89.430	94.400
σ		0.877	6.251	30.860	160.400	1.229	3.057	1.959	0.202	2.038
%RSD		13.350	0.577	1.181	3.934	1.131	2.958	1.943	0.225	2.159
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:47:42	99.010	100.700	94.260	75.190	75.700	96.570	-1.475	92.8%	110.000
2	15:48:08	97.050	102.300	94.590	72.830	76.520	97.460	-0.328	94.9%	111.200
3	15:48:34	94.660	98.100	92.780	69.920	75.250	89.670	0.320	95.9%	112.500
X		96.910	100.400	93.880	72.650	75.820	94.570	-0.495	94.5%	111.200
σ		2.175	2.116	0.964	2.643	0.642	4.266	0.909	1.6%	1.205
%RSD		2.245	2.108	1.027	3.639	0.846	4.511	183.800	1.7	1.084
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:47:42	110.100	109.100	88.040	101.300	9.658	102.800	104.300	97.200	92.0%
2	15:48:08	111.100	110.600	84.690	101.400	14.410	102.900	102.000	97.560	95.1%
3	15:48:34	113.300	111.300	92.640	100.800	10.820	102.800	102.800	97.560	98.5%
X		111.500	110.300	88.460	101.200	11.630	102.800	103.000	97.440	95.2%
σ		1.634	1.089	3.989	0.342	2.479	0.039	1.148	0.204	3.3%
%RSD		1.466	0.987	4.510	0.338	21.320	0.038	1.115	0.210	3.4
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:47:42	99.970	99.020	100.200	101.500	414.000	413.100	96.1%	98.010	106.100
2	15:48:08	101.100	100.500	100.700	102.000	416.500	415.200	98.8%	99.000	108.100
3	15:48:34	99.250	98.240	104.100	103.700	409.200	407.500	101.4%	99.530	108.800
X		100.100	99.270	101.700	102.400	413.200	412.000	98.8%	98.850	107.700
σ		0.945	1.176	2.151	1.137	3.677	3.995	2.7%	0.769	1.432
%RSD		0.943	1.185	2.116	1.111	0.890	0.970	2.7	0.778	1.330
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	15:47:42	102.600	93.640	102.500	87.2%	115.500				
2	15:48:08	102.800	95.030	103.600	89.2%	118.900				
3	15:48:34	104.900	95.020	103.200	93.3%	118.000				
X		103.400	94.560	103.100	89.9%	117.500				
σ		1.299	0.800	0.543	3.1%	1.793				
%RSD		1.257	0.846	0.526	3.5	1.526				

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11/4/2016 15:50:53

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:51:19	97.6%	102.800	109.900	113.300	5959.000	36900.000	36180.000	37420.000	120.200
2	15:51:45	100.3%	100.700	109.300	103.400	6061.000	35470.000	35370.000	36880.000	114.600
3	15:52:11	103.2%	98.750	103.900	103.900	5670.000	33820.000	34340.000	36490.000	112.500
X		100.4%	100.800	107.700	106.900	5897.000	35390.000	35290.000	36930.000	115.800
σ		2.8%	2.048	3.324	5.570	202.600	1542.000	923.700	464.600	4.014
%RSD		2.8	2.032	3.087	5.213	3.436	4.356	2.617	1.258	3.467
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:51:19	9579.000	46500.000	4260.000	113800.000	109800.000	92.1%	106.700	123.200	106.800
2	15:51:45	9141.000	48000.000	4306.000	110900.000	109200.000	94.8%	106.100	119.200	103.600
3	15:52:11	9112.000	47870.000	4273.000	111200.000	108600.000	96.8%	105.000	117.700	103.400
X		9277.000	47460.000	4280.000	111900.000	109200.000	94.6%	105.900	120.000	104.600
σ		261.500	832.400	23.970	1609.000	635.700	2.3%	0.877	2.854	1.910
%RSD		2.819	1.754	0.560	1.438	0.582	2.5	0.828	2.377	1.826
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:51:19	7.112	1089.000	2657.000	4268.000	108.800	106.600	107.000	90.110	97.820
2	15:51:45	6.653	1093.000	2656.000	4129.000	108.800	105.500	104.300	88.600	95.700
3	15:52:11	6.963	1079.000	2607.000	4055.000	106.700	101.600	101.100	87.170	93.470
X		6.909	1087.000	2640.000	4151.000	108.100	104.500	104.100	88.630	95.660
σ		0.234	7.444	28.650	108.100	1.230	2.627	2.964	1.468	2.176
%RSD		3.385	0.685	1.085	2.604	1.138	2.513	2.847	1.657	2.275
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:51:19	97.960	103.700	96.160	72.650	75.390	98.030	0.664	91.7%	111.700
2	15:51:45	96.900	101.500	93.990	73.330	72.510	95.540	0.206	94.3%	111.400
3	15:52:11	93.880	99.440	93.910	71.770	71.380	91.910	1.810	96.3%	112.000
X		96.250	101.500	94.690	72.580	73.090	95.160	0.893	94.1%	111.700
σ		2.117	2.138	1.274	0.779	2.067	3.079	0.827	2.3%	0.301
%RSD		2.200	2.106	1.345	1.073	2.828	3.235	92.530	2.4	0.270
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:51:19	112.800	112.100	82.210	100.200	12.910	101.000	100.200	97.340	90.9%
2	15:51:45	112.500	112.700	88.180	102.000	11.030	102.400	102.500	99.000	94.1%
3	15:52:11	113.700	113.000	88.700	100.400	12.430	102.700	100.700	96.470	97.2%
X		113.000	112.600	86.370	100.900	12.120	102.100	101.100	97.610	94.1%
σ		0.616	0.481	3.606	0.980	0.976	0.905	1.196	1.287	3.1%
%RSD		0.545	0.427	4.175	0.971	8.050	0.887	1.183	1.319	3.3
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:51:19	102.100	99.320	101.400	102.000	426.800	422.300	95.2%	98.710	106.700
2	15:51:45	102.300	100.800	101.400	103.800	424.400	421.600	98.4%	98.910	108.100
3	15:52:11	101.300	100.700	104.000	104.900	420.800	417.300	102.0%	97.770	106.300
X		101.900	100.300	102.300	103.500	424.000	420.400	98.5%	98.460	107.000
σ		0.505	0.825	1.474	1.466	3.020	2.723	3.4%	0.613	0.954
%RSD		0.496	0.823	1.441	1.416	0.712	0.648	3.5	0.622	0.891
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	15:51:19	102.400	94.750	101.400	85.3%	116.300				
2	15:51:45	103.100	93.860	101.800	89.2%	117.600				
3	15:52:11	102.500	93.540	100.000	91.9%	116.700				
X		102.700	94.050	101.100	88.8%	116.800				
σ		0.330	0.627	0.961	3.3%	0.666				
%RSD		0.321	0.666	0.950	3.7	0.570				

RJ27005-004PS

11/4/2016 15:54:31

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:54:57	100.0%	96.350	113.500	108.400	5885.000	35240.000	35360.000	36140.000	119.400
2	15:55:23	102.3%	99.040	110.900	107.800	5675.000	34220.000	33570.000	35380.000	116.500
3	15:55:49	100.6%	101.000	103.900	105.600	5767.000	33600.000	34850.000	35350.000	111.100
X		101.0%	98.800	109.400	107.300	5776.000	34350.000	34590.000	35620.000	115.700
σ		1.2%	2.335	4.947	1.466	105.400	828.600	918.800	446.200	4.185
%RSD		1.2	2.363	4.520	1.367	1.824	2.412	2.656	1.253	3.618
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:54:57	9204.000	46140.000	4045.000	M 107800.000	TM 104900.000	92.5%	104.600	121.900	104.900
2	15:55:23	8927.000	47590.000	4141.000	M 106700.000	TM 103800.000	95.3%	103.400	115.600	102.600
3	15:55:49	8800.000	47940.000	4185.000	M 107600.000	TM 105300.000	96.0%	104.000	116.700	102.100
X		8977.000	47220.000	4124.000	M 107400.000	TM 104700.000	94.6%	104.000	118.100	103.200
σ		206.700	951.000	71.710	M 581.300	TM 781.000	1.9%	0.633	3.371	1.503
%RSD		2.303	2.014	1.739	M 0.541	TM 0.746	2.0	0.608	2.855	1.456
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:54:57	7.344	TM 1067.000	2582.000	4070.000	108.800	103.700	104.100	89.660	95.600
2	15:55:23	5.740	TM 1041.000	2560.000	4018.000	104.000	101.100	102.000	86.760	91.680
3	15:55:49	7.124	TM 1031.000	2529.000	3943.000	105.200	101.100	100.400	86.890	91.700
X		6.736	TM 1046.000	2557.000	4010.000	106.000	102.000	102.200	87.770	92.990
σ		0.869	TM 19.010	26.710	63.890	2.464	1.541	1.875	1.640	2.254
%RSD		12.910	TM 1.817	1.044	1.593	2.325	1.511	1.836	1.869	2.423
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:54:57	96.030	100.800	93.460	71.290	72.240	98.350	-0.207	91.3%	108.500
2	15:55:23	94.760	96.700	92.520	68.070	72.620	92.450	-0.330	94.9%	110.000
3	15:55:49	94.490	96.540	93.510	66.740	68.830	89.880	-0.702	95.9%	110.900
X		95.090	98.000	93.160	68.700	71.230	93.560	-0.413	94.1%	109.800
σ		0.820	2.390	0.556	2.342	2.087	4.341	0.258	2.4%	1.187
%RSD		0.862	2.439	0.597	3.408	2.930	4.640	62.380	2.6	1.081
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:54:57	109.400	108.200	85.430	98.300	11.950	100.500	98.250	95.810	91.1%
2	15:55:23	110.100	109.700	91.600	98.560	10.100	99.620	100.700	95.950	95.8%
3	15:55:49	112.500	110.000	90.760	99.640	10.110	101.200	99.920	95.620	97.1%
X		110.700	109.300	89.260	98.830	10.720	100.400	99.610	95.790	94.7%
σ		1.615	0.917	3.346	0.706	1.063	0.794	1.233	0.168	3.2%
%RSD		1.460	0.839	3.749	0.714	9.917	0.791	1.238	0.175	3.4
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:54:57	99.740	98.500	92.270	94.620	407.200	402.000	94.5%	95.940	105.900
2	15:55:23	97.680	96.620	95.030	95.220	402.500	397.200	98.7%	96.230	103.400
3	15:55:49	99.090	98.480	96.630	98.930	410.100	403.200	100.5%	97.090	106.000
X		98.840	97.870	94.640	96.250	406.600	400.800	97.9%	96.420	105.100
σ		1.056	1.079	2.210	2.337	3.821	3.158	3.1%	0.599	1.477
%RSD		1.068	1.102	2.335	2.428	0.940	0.788	3.1	0.622	1.405
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	15:54:57	101.500	91.580	98.920	84.5%	112.200				
2	15:55:23	101.700	92.400	97.770	89.5%	112.100				
3	15:55:49	101.600	93.010	101.000	91.7%	114.800				
X		101.600	92.330	99.230	88.6%	113.100				
σ		0.127	0.718	1.639	3.7%	1.549				
%RSD		0.125	0.777	1.651	4.2	1.370				

RJ27005-004L(5)

11/4/2016 15:58:08

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:58:34	99.1%	0.015	2.894	2.651	1044.000	7736.000	7607.000	7902.000	3.075
2	15:59:00	101.7%	0.039	2.512	2.356	1022.000	7644.000	7485.000	7531.000	3.117
3	15:59:26	105.6%	0.033	2.614	2.187	984.900	6992.000	7060.000	7399.000	2.929
X		102.1%	0.029	2.673	2.398	1017.000	7457.000	7384.000	7611.000	3.040
σ		3.3%	0.013	0.198	0.235	30.060	405.100	286.900	260.700	0.099
%RSD		3.2	43.370	7.400	9.799	2.956	5.432	3.885	3.426	3.244
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:58:34	1847.000	9602.000	700.700	21850.000	21890.000	92.7%	0.321	2.363	0.053
2	15:59:00	1807.000	10020.000	712.200	21890.000	22090.000	94.2%	0.376	2.317	0.051
3	15:59:26	1759.000	9799.000	692.500	21550.000	21890.000	96.7%	0.318	2.230	0.036
X		1804.000	9808.000	701.800	21770.000	21960.000	94.5%	0.338	2.304	0.047
σ		44.210	210.100	9.893	185.700	116.200	2.0%	0.032	0.068	0.009
%RSD		2.450	2.142	1.410	0.853	0.529	2.1	9.580	2.946	19.100
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:58:34	2.148	228.000	337.000	647.000	1.321	2.450	1.578	0.084	0.150
2	15:59:00	2.007	222.900	322.300	613.400	1.338	2.435	1.780	0.095	0.171
3	15:59:26	1.875	221.400	317.500	591.700	1.335	2.349	1.320	0.067	0.129
X		2.010	224.100	325.600	617.400	1.332	2.411	1.559	0.082	0.150
σ		0.137	3.454	10.130	27.850	0.009	0.054	0.231	0.014	0.021
%RSD		6.792	1.541	3.111	4.510	0.689	2.242	14.810	17.080	14.000
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:58:34	1.838	0.219	-0.642	15.930	16.060	-0.015	1.390	95.0%	0.630
2	15:59:00	1.580	0.259	-0.152	15.660	14.640	0.195	-0.388	97.1%	0.629
3	15:59:26	1.639	0.147	-0.272	15.130	15.230	-0.092	-0.111	98.6%	0.657
X		1.686	0.209	-0.355	15.570	15.310	0.029	0.297	96.9%	0.639
σ		0.135	0.057	0.256	0.403	0.715	0.148	0.957	1.8%	0.016
%RSD		8.003	27.250	71.970	2.589	4.673	503.200	322.100	1.8	2.508
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:58:34	0.625	0.560	-3.448	0.025	1.172	0.006	0.002	0.012	95.3%
2	15:59:00	0.586	0.588	-3.515	0.045	1.230	0.022	0.039	0.038	97.5%
3	15:59:26	0.537	0.552	-3.136	0.031	1.068	0.007	0.002	0.016	100.2%
X		0.583	0.567	-3.366	0.034	1.157	0.012	0.014	0.022	97.7%
σ		0.044	0.019	0.202	0.010	0.082	0.009	0.022	0.014	2.5%
%RSD		7.604	3.329	6.007	30.420	7.103	75.790	153.300	62.490	2.5
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:58:34	0.037	-0.268	0.456	0.418	62.160	61.660	96.0%	0.017	0.021
2	15:59:00	0.060	-0.234	0.492	0.426	62.490	62.450	99.0%	0.054	0.069
3	15:59:26	0.015	-0.252	0.443	0.428	62.210	62.220	100.9%	0.012	0.022
X		0.037	-0.251	0.464	0.424	62.290	62.110	98.6%	0.027	0.037
σ		0.023	0.017	0.026	0.005	0.176	0.407	2.4%	0.023	0.027
%RSD		60.810	6.884	5.502	1.230	0.283	0.655	2.5	82.650	72.820
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	15:58:34	0.009	0.011	0.007	94.3%	0.161				
2	15:59:00	0.049	0.045	0.054	97.0%	0.208				
3	15:59:26	0.010	0.004	0.004	99.3%	0.159				
X		0.023	0.020	0.022	96.9%	0.176				
σ		0.023	0.022	0.028	2.5%	0.028				
%RSD		100.000	110.000	128.500	2.6	15.760				

CCV MW9101 11/4/2016 16:01:45 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:02:12	80.8%	314.200	311.900	309.500	60420.000	60370.000	61340.000	61650.000	293.800
2	16:02:38	82.5%	310.900	308.000	302.000	60470.000	59080.000	59210.000	60390.000	301.000
3	16:03:03	85.1%	313.100	300.700	294.800	59710.000	59040.000	57580.000	59710.000	295.200
X		82.8%	104.244%	102.301%	100.707%	100.332%	59500.000	59370.000	100.972%	98.887%
σ		2.2%	n/a	n/a	n/a	n/a	757.400	1887.000	n/a	n/a
%RSD		2.6	0.537	1.851	2.433	0.700	1.273	3.178	1.626	1.274
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:02:12	4551.000	182.500	63860.000	62090.000	62130.000	88.3%	308.600	321.000	307.200
2	16:02:38	4515.000	193.000	65390.000	62250.000	62570.000	89.9%	316.400	317.200	329.600
3	16:03:03	4463.000	191.800	65400.000	62690.000	62960.000	90.5%	309.000	309.600	328.300
X		150.327%	189.100	108.139%	62340.000	104.253%	89.6%	103.781%	105.313%	107.236%
σ		n/a	5.736	n/a	311.500	n/a	1.2%	n/a	n/a	n/a
%RSD		0.984	3.033	1.368	0.500	0.665	1.3	1.395	1.845	3.920
Run	Time	53Cr O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:02:12	-4.179	303.400	62330.000	61410.000	317.100	297.800	303.900	260.200	290.200
2	16:02:38	-13.910	298.000	61210.000	61850.000	316.500	285.800	287.600	260.900	278.000
3	16:03:03	-11.870	300.200	61980.000	61850.000	294.300	282.300	281.800	259.800	274.700
X		-9.987	100.173%	103.070%	102.839%	103.099%	96.207%	291.100	260.300	93.651%
σ		5.132	n/a	n/a	n/a	n/a	n/a	11.440	0.552	n/a
%RSD		51.390	0.891	0.927	0.417	4.211	2.811	3.931	0.212	2.898
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:02:12	291.400	312.500	282.600	1.840	0.843	301.000	-0.827	88.5%	310.600
2	16:02:38	281.000	299.800	284.200	1.958	1.215	286.700	0.029	90.0%	320.400
3	16:03:03	279.200	300.400	275.100	1.273	0.663	286.800	1.342	92.6%	334.300
X		94.618%	101.413%	280.700	1.691	0.907	97.160%	0.181	90.4%	107.262%
σ		n/a	n/a	4.851	0.366	0.281	n/a	1.092	2.1%	n/a
%RSD		2.330	2.357	1.729	21.660	30.980	2.815	602.700	2.3	3.695
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:02:12	306.700	309.300	291.300	308.300	27.960	307.000	304.200	294.400	83.5%
2	16:02:38	317.000	323.800	295.600	303.600	19.710	309.000	297.500	293.200	88.6%
3	16:03:03	335.000	328.900	301.400	301.500	17.380	303.000	299.400	288.600	90.5%
X		106.518%	106.894%	296.100	101.483%	21.680	306.300	300.400	97.354%	87.5%
σ		n/a	n/a	5.103	n/a	5.557	3.064	3.453	n/a	3.6%
%RSD		4.471	3.170	1.724	1.143	25.630	1.000	1.150	1.060	4.1
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:02:12	307.800	305.800	294.200	297.000	314.300	311.100	89.0%	293.800	295.100
2	16:02:38	300.200	305.000	302.000	305.900	310.000	308.200	92.1%	297.000	297.500
3	16:03:03	302.100	304.300	299.700	302.000	312.400	308.100	94.8%	293.400	297.100
X		101.115%	101.673%	99.534%	100.543%	104.081%	103.048%	92.0%	98.233%	98.853%
σ		n/a	n/a	n/a	n/a	n/a	n/a	2.9%	n/a	n/a
%RSD		1.314	0.235	1.343	1.480	0.677	0.548	3.2	0.675	0.438
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	16:02:12	302.600	279.200	314.200	78.9%	319.800				
2	16:02:38	313.900	285.700	312.400	83.0%	320.200				
3	16:03:03	312.800	280.700	313.000	85.0%	320.400				
X		103.257%	93.947%	104.404%	82.3%	106.707%				
σ		n/a	n/a	n/a	3.1%	n/a				
%RSD		2.002	1.201	0.291	3.8	0.095				

CCB IM7321-01 11/4/2016 16:05:26 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:05:51	98.1%	0.063	2.703	2.458	3.913	2.362	2.463	2.600	0.672
2	16:06:17	99.2%	0.029	2.562	2.335	2.659	1.424	1.226	1.256	0.606
3	16:06:43	100.4%	0.054	1.521	2.277	2.983	1.655	1.596	1.504	0.566
X		99.2%	0.049	2.262	2.357	3.185	1.814	1.762	1.787	0.615
σ		1.1%	0.017	0.645	0.092	0.651	0.489	0.635	0.716	0.053
%RSD		1.1	35.860	28.530	3.908	20.430	26.930	36.040	40.060	8.675
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:05:51	62.750	73.480	6.031	5.006	9.034	93.9%	0.045	0.041	0.022
2	16:06:17	19.950	67.790	3.621	0.099	5.913	97.1%	0.014	0.032	0.029
3	16:06:43	29.070	71.200	4.696	5.145	10.230	96.0%	-0.005	0.036	-0.006
X		37.260	70.820	4.783	3.417	8.394	95.7%	0.018	0.037	0.015
σ		22.540	2.861	1.207	2.874	2.231	1.6%	0.025	0.005	0.019
%RSD		60.510	4.040	25.250	84.110	26.580	1.7	140.800	13.200	121.200
Run	Time	53Cr O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:05:51	0.013	0.007	4.654	8.690	0.022	0.017	0.144	0.024	0.052
2	16:06:17	-0.015	0.003	1.220	4.491	0.015	0.006	-0.260	0.023	0.033
3	16:06:43	0.010	0.016	0.700	5.227	0.011	0.015	-0.285	0.019	0.018
X		0.003	0.008	2.192	6.136	0.016	0.013	-0.134	0.022	0.034
σ		0.015	0.007	2.149	2.243	0.005	0.006	0.241	0.003	0.017
%RSD		553.100	79.990	98.040	36.550	33.780	45.150	180.000	11.770	50.050
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:05:51	0.089	-0.056	0.217	0.193	1.418	-0.555	-1.349	94.9%	2.168
2	16:06:17	0.103	0.010	-0.015	0.111	0.360	-0.088	-0.764	98.2%	2.255
3	16:06:43	0.018	-0.046	-0.302	0.161	0.385	0.078	-0.173	100.8%	2.051
X		0.070	-0.030	-0.033	0.155	0.721	-0.189	-0.762	98.0%	2.158
σ		0.045	0.036	0.260	0.041	0.604	0.328	0.588	3.0%	0.102
%RSD		64.510	117.300	777.300	26.560	83.790	174.000	77.150	3.0	4.742
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:05:51	2.168	2.138	0.700	0.032	-0.236	0.018	0.025	0.022	95.7%
2	16:06:17	2.260	2.256	0.020	0.012	0.047	0.018	0.009	0.011	99.3%
3	16:06:43	1.770	1.933	-1.085	0.022	0.386	0.013	0.015	0.010	101.1%
X		2.066	2.109	-0.122	0.022	0.066	0.016	0.016	0.015	98.7%
σ		0.260	0.163	0.901	0.010	0.312	0.003	0.008	0.007	2.8%
%RSD		12.600	7.747	741.300	43.430	472.300	19.290	47.840	46.720	2.8
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:05:51	0.088	0.108	0.878	0.860	0.014	0.007	94.9%	0.008	0.014
2	16:06:17	0.215	0.058	0.928	0.853	-0.008	0.007	98.1%	0.009	0.006
3	16:06:43	0.099	-0.037	0.897	0.823	0.009	0.019	100.5%	0.008	0.011
X		0.134	0.043	0.901	0.845	0.005	0.011	97.8%	0.008	0.010
σ		0.070	0.073	0.025	0.020	0.011	0.007	2.8%	0.000	0.004
%RSD		52.350	170.100	2.813	2.316	225.900	59.520	2.9	5.794	38.030
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	16:05:51	0.018	0.021	0.024	96.5%	0.051				
2	16:06:17	0.025	0.019	0.017	100.0%	0.053				
3	16:06:43	0.034	0.012	0.020	102.0%	0.049				
X		0.026	0.017	0.020	99.5%	0.051				
σ		0.008	0.005	0.003	2.8%	0.002				
%RSD		31.080	28.060	16.130	2.8	4.687				

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11/4/2016 16:09:03

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:09:28	98.2%	0.022	8.863	9.196	5103.000	37120.000	36210.000	36930.000	6.804
2	16:09:54	100.9%	0.043	8.471	8.545	5023.000	34520.000	34840.000	35980.000	6.573
3	16:10:20	103.4%	0.017	8.512	8.232	5033.000	34770.000	35190.000	35100.000	6.427
X		100.9%	0.027	8.615	8.658	5053.000	35470.000	35410.000	36000.000	6.601
σ		2.6%	0.014	0.216	0.492	43.830	1436.000	711.700	911.700	0.190
%RSD		2.6	49.740	2.501	5.677	0.867	4.049	2.010	2.532	2.876
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:09:28	8729.000	45940.000	3071.000	110500.000	108000.000	92.0%	1.713	11.380	0.119
2	16:09:54	8485.000	47520.000	3208.000	109400.000	106900.000	95.1%	1.608	10.620	0.129
3	16:10:20	8338.000	48040.000	3218.000	110800.000	107500.000	96.5%	1.709	10.850	0.047
X		8517.000	47170.000	3166.000	110200.000	107500.000	94.5%	1.676	10.950	0.099
σ		197.300	1095.000	81.790	724.900	550.800	2.3%	0.059	0.393	0.045
%RSD		2.317	2.323	2.584	0.658	0.513	2.4	3.535	3.584	45.410
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:09:28	10.130	994.800	1622.000	3288.000	6.492	11.680	8.641	0.258	0.647
2	16:09:54	9.915	1005.000	1606.000	3055.000	6.182	10.950	8.608	0.265	0.651
3	16:10:20	9.933	989.900	1612.000	3015.000	6.246	11.140	8.741	0.215	0.698
X		9.993	996.500	1613.000	3119.000	6.307	11.260	8.664	0.246	0.665
σ		0.120	7.606	8.273	147.700	0.164	0.380	0.069	0.027	0.028
%RSD		1.197	0.763	0.513	4.734	2.594	3.373	0.797	11.080	4.244
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:09:28	5.760	0.824	0.252	73.240	73.770	0.117	-0.050	92.0%	0.776
2	16:09:54	5.945	0.925	-0.205	70.770	71.890	0.334	-0.674	95.0%	0.934
3	16:10:20	5.757	0.995	0.030	69.400	73.840	-0.345	0.472	96.1%	0.747
X		5.820	0.915	0.026	71.130	73.170	0.035	-0.084	94.4%	0.819
σ		0.108	0.086	0.228	1.945	1.109	0.347	0.574	2.1%	0.101
%RSD		1.853	9.440	888.000	2.734	1.515	988.300	681.700	2.3	12.320
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:09:28	0.852	0.824	-16.520	0.200	5.637	0.015	0.045	0.065	89.4%
2	16:09:54	0.876	0.858	-10.780	0.176	3.680	0.012	0.016	0.027	94.4%
3	16:10:20	0.863	0.809	-14.530	0.190	4.937	0.006	0.013	0.049	96.9%
X		0.864	0.830	-13.940	0.189	4.751	0.011	0.025	0.047	93.6%
σ		0.012	0.025	2.915	0.012	0.992	0.005	0.018	0.019	3.8%
%RSD		1.380	3.041	20.910	6.315	20.870	44.670	72.710	39.840	4.1
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:09:28	0.123	-1.081	0.521	0.492	322.200	317.600	92.1%	0.059	0.074
2	16:09:54	0.262	-0.666	0.532	0.501	318.700	314.300	96.2%	0.069	0.074
3	16:10:20	0.118	-0.952	0.531	0.516	316.400	315.200	98.5%	0.063	0.059
X		0.167	-0.900	0.528	0.503	319.100	315.700	95.6%	0.064	0.069
σ		0.082	0.213	0.006	0.012	2.913	1.743	3.3%	0.005	0.008
%RSD		48.890	23.630	1.222	2.473	0.913	0.552	3.4	7.295	12.040
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	16:09:28	0.046	0.042	0.033	83.0%	0.845				
2	16:09:54	0.027	0.027	0.022	87.0%	0.839				
3	16:10:20	0.022	0.017	0.025	89.8%	0.817				
X		0.032	0.029	0.027	86.6%	0.834				
σ		0.012	0.012	0.005	3.4%	0.014				
%RSD		39.150	42.900	20.200	4.0	1.738				

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11/4/2016 16:12:39

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:13:05	100.9%	0.047	6.272	6.696	2881.000	17640.000	17440.000	17870.000	11.390
2	16:13:31	102.4%	0.074	6.497	6.175	2853.000	17620.000	17300.000	17890.000	11.080
3	16:13:57	106.1%	0.050	5.814	6.335	2787.000	17030.000	16440.000	17610.000	11.210
X		103.2%	0.057	6.194	6.402	2840.000	17430.000	17060.000	17790.000	11.230
σ		2.7%	0.015	0.348	0.267	47.940	345.600	539.800	154.500	0.157
%RSD		2.6	26.000	5.621	4.172	1.688	1.983	3.164	0.869	1.398
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:13:05	3774.000	46250.000	3367.000	41400.000	41450.000	91.7%	1.084	10.860	0.619
2	16:13:31	3793.000	48350.000	3488.000	42080.000	42190.000	92.6%	0.921	10.470	0.569
3	16:13:57	3720.000	47990.000	3461.000	41580.000	42030.000	94.4%	0.834	10.030	0.649
X		3763.000	47530.000	3439.000	41690.000	41890.000	92.9%	0.946	10.450	0.613
σ		37.750	1121.000	63.380	354.700	390.300	1.4%	0.127	0.416	0.040
%RSD		1.003	2.358	1.843	0.851	0.932	1.5	13.420	3.977	6.584
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:13:05	9.330	6054.000	736.900	1373.000	14.890	5.414	4.605	0.712	0.984
2	16:13:31	9.682	6092.000	741.900	1320.000	15.040	5.204	3.894	0.692	1.020
3	16:13:57	9.268	6034.000	745.500	1323.000	14.840	5.095	3.954	0.718	0.948
X		9.427	6060.000	741.400	1339.000	14.920	5.238	4.151	0.707	0.984
σ		0.224	29.740	4.343	30.040	0.103	0.163	0.395	0.014	0.036
%RSD		2.372	0.491	0.586	2.244	0.688	3.102	9.504	1.924	3.685
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:13:05	4.911	0.061	-0.208	29.690	29.790	0.361	0.070	93.7%	0.344
2	16:13:31	4.647	0.404	-0.433	28.340	29.150	0.115	0.727	94.5%	0.470
3	16:13:57	4.631	0.551	-0.463	27.600	29.860	0.061	-0.730	97.3%	0.353
X		4.730	0.339	-0.368	28.540	29.600	0.179	0.022	95.2%	0.389
σ		0.157	0.252	0.139	1.057	0.394	0.160	0.730	1.9%	0.070
%RSD		3.321	74.200	37.820	3.704	1.331	89.540	3270.000	2.0	18.010
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:13:05	0.345	0.302	-14.760	0.238	5.096	0.089	0.195	0.230	90.8%
2	16:13:31	0.320	0.367	-17.250	0.218	5.931	0.085	0.197	0.200	94.9%
3	16:13:57	0.288	0.332	-16.430	0.206	5.639	0.079	0.182	0.247	96.3%
X		0.317	0.334	-16.150	0.221	5.555	0.084	0.191	0.226	94.0%
σ		0.029	0.033	1.267	0.016	0.424	0.005	0.008	0.024	2.9%
%RSD		8.990	9.794	7.846	7.167	7.628	6.202	4.327	10.600	3.0
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:13:05	0.140	-0.977	0.230	0.287	134.200	132.800	91.9%	0.048	0.054
2	16:13:31	0.174	-1.189	0.291	0.292	133.900	132.100	96.6%	0.042	0.052
3	16:13:57	0.149	-1.153	0.275	0.301	134.200	133.600	99.4%	0.040	0.053
X		0.154	-1.106	0.265	0.293	134.100	132.800	96.0%	0.043	0.053
σ		0.018	0.114	0.032	0.007	0.161	0.712	3.8%	0.004	0.001
%RSD		11.440	10.260	11.960	2.492	0.120	0.536	3.9	8.551	1.992
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	16:13:05	0.049	0.030	0.039	86.6%	0.056				
2	16:13:31	0.052	0.021	0.035	91.2%	0.060				
3	16:13:57	0.048	0.036	0.042	94.4%	0.056				
X		0.049	0.029	0.039	90.7%	0.057				
σ		0.002	0.007	0.003	3.9%	0.002				
%RSD		4.511	25.120	8.784	4.3	4.023				

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11/4/2016 16:16:16

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:16:42	101.2%	0.025	15.820	15.430	14230.000	121950.000	122360.000	122360.000	53.610
2	16:17:08	102.9%	0.007	15.170	15.820	14173.000	120940.000	120980.000	121580.000	51.930
3	16:17:34	104.8%	0.054	14.650	14.740	14351.000	120800.000	121180.000	121690.000	50.870
X		103.0%	0.029	15.210	15.330	14251.000	121230.000	121510.000	121880.000	52.140
σ		1.8%	0.024	0.589	0.546	1627.500	1627.500	1745.500	1420.500	1.384
%RSD		1.7	84.310	3.872	3.562	12.133	12.956	13.466	11.922	2.654
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:16:42	17486.000	146480.000	13793.000	90350.000	189510.000	192.8%	1.891	12.240	0.815
2	16:17:08	17111.000	146940.000	13861.000	90300.000	188380.000	195.9%	1.679	11.650	0.838
3	16:17:34	17295.000	148480.000	13895.000	91340.000	190650.000	195.8%	1.867	11.160	0.832
X		17297.000	147300.000	13850.000	90670.000	189510.000	194.8%	1.812	11.680	0.828
σ		187.700	11051.000	151.730	588.400	11137.000	1.8%	0.116	0.543	0.012
%RSD		2.572	12.221	1.344	0.649	11.270	1.9	6.386	4.651	1.492
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:16:42	10.750	2.436	64.220	1329.000	-0.882	2.590	0.097	0.268	0.562
2	16:17:08	9.977	2.363	59.420	1220.000	-0.864	2.420	2.128	0.233	0.540
3	16:17:34	9.987	2.354	59.900	1215.000	-0.880	2.255	0.382	0.224	0.555
X		10.240	2.385	61.180	1255.000	-0.876	2.422	0.869	0.241	0.553
σ		0.444	0.045	2.647	64.520	0.010	0.167	1.099	0.023	0.011
%RSD		4.339	1.890	4.327	5.141	1.139	6.911	126.500	9.509	1.968
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:16:42	2.897	0.075	-0.149	27.230	28.740	0.399	0.089	93.0%	0.519
2	16:17:08	2.566	-0.671	-0.255	27.240	27.280	-0.384	-0.010	95.5%	0.575
3	16:17:34	2.784	0.465	-0.289	26.550	26.460	0.234	0.615	96.9%	0.610
X		2.749	-0.044	-0.231	27.010	27.490	0.083	0.231	95.1%	0.568
σ		0.168	0.577	0.073	0.397	1.153	0.413	0.336	2.0%	0.046
%RSD		6.114	1323.000	31.550	1.471	4.195	497.900	145.500	2.1	8.101
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:16:42	0.623	0.561	-4.820	0.180	1.636	0.002	0.017	0.016	91.2%
2	16:17:08	0.669	0.553	-6.864	0.235	2.368	0.002	0.005	0.026	95.4%
3	16:17:34	0.699	0.579	-6.324	0.146	2.202	0.004	0.013	0.025	98.2%
X		0.664	0.564	-6.003	0.187	2.069	0.003	0.012	0.022	94.9%
σ		0.038	0.013	1.059	0.045	0.384	0.001	0.006	0.005	3.5%
%RSD		5.751	2.370	17.650	24.000	18.540	43.140	55.160	23.600	3.7
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:16:42	0.045	-0.305	0.178	0.181	239.000	237.600	94.4%	0.011	0.009
2	16:17:08	0.063	-0.362	0.195	0.220	239.200	231.300	98.3%	0.010	0.009
3	16:17:34	0.062	-0.414	0.183	0.197	236.300	234.400	102.1%	0.012	0.012
X		0.057	-0.360	0.185	0.199	238.200	234.400	98.3%	0.011	0.010
σ		0.010	0.055	0.009	0.020	1.628	3.141	3.8%	0.001	0.002
%RSD		17.770	15.190	4.810	10.000	0.684	1.340	3.9	9.962	17.250
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	16:16:42	0.062	0.058	0.073	87.9%	0.319				
2	16:17:08	0.062	0.075	0.077	90.0%	0.309				
3	16:17:34	0.066	0.055	0.069	92.4%	0.327				
X		0.063	0.063	0.073	90.1%	0.319				
σ		0.002	0.011	0.004	2.2%	0.009				
%RSD		3.542	17.590	5.771	2.5	2.828				

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:20:19	105.2%	0.030	5.508	5.393	438.300	16800.000	17010.000	16870.000	20.320
2	16:20:45	107.1%	0.019	5.397	5.224	431.800	15900.000	15770.000	16720.000	19.410
3	16:21:11	110.2%	0.005	5.248	4.859	421.200	15450.000	15840.000	16190.000	18.390
X		107.5%	0.018	5.384	5.159	430.400	16050.000	16210.000	16600.000	19.370
σ		2.6%	0.013	0.131	0.273	8.609	691.200	698.000	357.900	0.965
%RSD		2.4	69.340	2.424	5.283	2.000	4.307	4.307	2.156	4.979
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:20:19	4684.000	46710.000	1080.000	19990.000	19710.000	94.7%	7.641	13.580	1.824
2	16:20:45	4604.000	48890.000	1112.000	19850.000	19970.000	96.2%	0.857	12.720	1.790
3	16:21:11	4522.000	49320.000	1126.000	19800.000	20090.000	97.1%	1.209	12.110	1.776
X		4603.000	48310.000	1106.000	19880.000	19920.000	96.0%	1.858	12.800	1.797
σ		80.910	1398.000	23.440	99.490	196.600	1.2%	5.011	0.739	0.024
%RSD		1.758	2.894	2.119	0.501	0.987	1.3	269.700	5.774	1.358
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:20:19	12.090	0.960	31.090	295.500	-0.164	0.581	0.045	0.853	1.081
2	16:20:45	11.500	0.914	17.770	286.700	-0.177	0.619	-0.434	0.762	0.926
3	16:21:11	10.990	0.933	16.940	274.000	-0.185	0.500	-0.181	0.772	0.961
X		11.530	0.936	21.940	285.400	-0.176	0.567	-0.190	0.795	0.989
σ		0.549	0.023	7.942	10.780	0.010	0.061	0.240	0.050	0.081
%RSD		4.759	2.464	36.200	3.776	5.967	10.790	126.300	6.283	8.223
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:20:19	1.103	-0.431	-0.321	18.110	18.010	-0.173	1.166	95.9%	0.307
2	16:20:45	1.032	-0.191	-0.562	16.710	18.410	0.127	0.255	97.6%	0.308
3	16:21:11	1.158	-0.033	-0.317	16.940	17.200	0.151	-0.783	99.0%	0.282
X		1.098	-0.218	-0.400	17.260	17.870	0.035	0.213	97.5%	0.299
σ		0.063	0.200	0.140	0.753	0.619	0.180	0.975	1.5%	0.015
%RSD		5.743	91.750	35.080	4.363	3.465	515.700	458.800	1.6	4.916
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:20:19	0.256	0.258	-3.406	0.147	1.175	0.000	0.005	0.009	95.3%
2	16:20:45	0.426	0.325	-3.251	0.135	1.107	0.003	0.005	0.010	99.6%
3	16:21:11	0.318	0.279	-3.156	0.131	1.075	0.001	0.011	0.015	101.1%
X		0.333	0.287	-3.271	0.138	1.119	0.002	0.007	0.011	98.6%
σ		0.086	0.034	0.126	0.008	0.051	0.001	0.003	0.003	3.0%
%RSD		25.950	11.890	3.861	6.053	4.539	88.250	45.120	29.730	3.0
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:20:19	0.045	-0.215	0.148	0.168	766.100	776.500	96.7%	0.009	0.008
2	16:20:45	0.043	-0.213	0.165	0.129	775.500	783.900	100.7%	0.000	0.006
3	16:21:11	0.062	-0.210	0.158	0.168	769.100	776.100	104.5%	0.002	0.004
X		0.050	-0.212	0.157	0.155	770.300	778.800	100.6%	0.004	0.006
σ		0.010	0.002	0.009	0.022	4.795	4.420	3.9%	0.004	0.002
%RSD		21.010	1.071	5.650	14.410	0.623	0.568	3.9	122.100	32.930
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	16:20:19	0.043	0.031	0.042	91.9%	0.115				
2	16:20:45	0.031	0.048	0.036	96.1%	0.120				
3	16:21:11	0.051	0.045	0.051	98.2%	0.110				
X		0.042	0.041	0.043	95.4%	0.115				
σ		0.010	0.009	0.008	3.2%	0.005				
%RSD		24.920	21.340	17.740	3.4	4.399				

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:23:58	105.4%	-0.008	25.920	24.540	2371.000	24640.000	24540.000	24630.000	21.340
2	16:24:24	105.5%	0.003	25.080	24.080	2391.000	24000.000	23820.000	24170.000	22.960
3	16:24:50	108.0%	0.002	24.220	25.000	2377.000	23510.000	23130.000	23270.000	23.460
X		106.3%	-0.001	25.070	24.540	2380.000	24050.000	23830.000	24020.000	22.580
σ		1.5%	0.006	0.848	0.461	10.210	566.100	703.300	693.400	1.109
%RSD		1.4	622.100	3.383	1.878	0.429	2.354	2.952	2.886	4.909
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:23:58	5844.000	48090.000	1851.000	67420.000	66020.000	92.4%	1.463	13.380	0.902
2	16:24:24	5664.000	49440.000	1871.000	66560.000	66530.000	94.9%	1.100	12.860	0.808
3	16:24:50	5513.000	49540.000	1880.000	67150.000	67090.000	96.3%	1.114	12.060	0.860
X		5673.000	49020.000	1867.000	67040.000	66550.000	94.5%	1.225	12.770	0.857
σ		165.700	810.100	14.700	442.500	536.200	2.0%	0.205	0.670	0.047
%RSD		2.920	1.653	0.787	0.660	0.806	2.1	16.760	5.246	5.448
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:23:58	11.900	0.581	55.000	985.200	-0.600	2.381	0.603	0.311	0.627
2	16:24:24	11.510	0.631	52.030	946.600	-0.616	2.415	0.416	0.287	0.489
3	16:24:50	10.310	0.599	44.130	844.400	-0.623	2.181	0.252	0.312	0.547
X		11.240	0.604	50.390	925.400	-0.613	2.325	0.424	0.303	0.554
σ		0.832	0.025	5.616	72.740	0.012	0.127	0.176	0.015	0.069
%RSD		7.402	4.192	11.150	7.860	1.921	5.441	41.490	4.783	12.500
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:23:58	1.577	-0.364	-0.068	47.170	48.630	0.347	-0.787	93.2%	1.862
2	16:24:24	1.672	0.047	0.210	43.190	45.870	0.369	0.679	95.4%	1.805
3	16:24:50	1.555	-0.277	0.160	43.810	47.050	0.413	0.598	97.3%	1.850
X		1.601	-0.198	0.101	44.720	47.180	0.376	0.163	95.3%	1.839
σ		0.062	0.217	0.149	2.142	1.384	0.033	0.824	2.0%	0.030
%RSD		3.893	109.600	147.400	4.789	2.933	8.876	504.300	2.1	1.628
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:23:58	1.999	1.817	-11.130	0.206	3.803	0.001	0.005	0.025	91.7%
2	16:24:24	2.102	1.808	-9.541	0.198	3.348	0.005	0.011	0.024	96.1%
3	16:24:50	1.966	1.854	-9.332	0.188	3.188	0.003	0.004	0.019	98.2%
X		2.023	1.826	-10.000	0.197	3.446	0.003	0.007	0.022	95.3%
σ		0.071	0.024	0.985	0.009	0.319	0.002	0.003	0.003	3.3%
%RSD		3.500	1.338	9.846	4.583	9.249	74.590	51.840	14.830	3.4
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:23:58	0.027	-0.741	0.085	0.100	170.400	167.200	94.6%	0.031	0.036
2	16:24:24	0.031	-0.645	0.124	0.114	168.500	168.300	97.6%	0.034	0.033
3	16:24:50	0.052	-0.631	0.132	0.105	168.500	167.700	101.5%	0.028	0.037
X		0.036	-0.672	0.114	0.107	169.100	167.700	97.9%	0.031	0.035
σ		0.013	0.060	0.025	0.007	1.065	0.551	3.5%	0.003	0.002
%RSD		36.530	8.912	21.950	6.494	0.630	0.329	3.5	10.860	6.673
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	16:23:58	0.039	0.027	0.042	88.0%	0.447				
2	16:24:24	0.048	0.025	0.029	91.8%	0.443				
3	16:24:50	0.032	0.034	0.035	94.0%	0.462				
X		0.040	0.029	0.035	91.3%	0.451				
σ		0.008	0.005	0.006	3.1%	0.010				
%RSD		20.800	16.650	17.970	3.3	2.241				

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:27:36	106.6%	0.023	7.589	7.280	538.000	21180.000	22070.000	22380.000	8.253
2	16:28:02	109.8%	-0.005	7.305	7.430	524.700	21250.000	21010.000	21880.000	7.787
3	16:28:28	110.4%	0.002	6.851	7.301	513.300	21100.000	21220.000	21750.000	8.251
X		108.9%	0.007	7.248	7.337	525.300	21180.000	21430.000	22010.000	8.097
σ		2.1%	0.014	0.372	0.081	12.360	76.080	563.000	328.900	0.268
%RSD		1.9	217.600	5.134	1.104	2.354	0.359	2.627	1.495	3.314
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:27:36	4036.000	47170.000	1274.000	25640.000	26210.000	96.5%	0.869	13.850	0.140
2	16:28:02	4117.000	50030.000	1345.000	26950.000	26620.000	95.4%	0.758	12.750	0.110
3	16:28:28	4052.000	49730.000	1337.000	26750.000	26780.000	97.2%	0.802	12.410	0.118
X		4069.000	48970.000	1319.000	26450.000	26540.000	96.4%	0.810	13.010	0.123
σ		43.040	1573.000	38.970	702.800	295.500	0.9%	0.056	0.755	0.016
%RSD		1.058	3.211	2.955	2.658	1.113	0.9	6.920	5.804	13.020
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:27:36	11.570	1.538	25.230	382.200	-0.177	0.927	-0.405	0.114	0.253
2	16:28:02	11.340	1.544	25.870	349.200	-0.191	0.755	-0.533	0.145	0.274
3	16:28:28	11.150	1.459	21.500	359.100	-0.225	0.727	-0.081	0.131	0.240
X		11.350	1.513	24.200	363.500	-0.198	0.803	-0.340	0.130	0.256
σ		0.210	0.048	2.358	16.910	0.025	0.108	0.233	0.016	0.017
%RSD		1.849	3.150	9.742	4.653	12.410	13.500	68.570	11.940	6.711
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:27:36	1.262	0.123	0.281	18.910	20.470	-0.365	0.375	94.1%	2.504
2	16:28:02	1.186	0.381	-1.096	18.180	19.110	0.209	1.341	95.7%	2.465
3	16:28:28	1.249	0.107	-0.363	18.040	18.260	-0.098	0.558	98.2%	2.423
X		1.232	0.204	-0.393	18.380	19.280	-0.085	0.758	96.0%	2.464
σ		0.040	0.154	0.689	0.467	1.115	0.287	0.513	2.1%	0.040
%RSD		3.276	75.610	175.400	2.543	5.783	339.800	67.680	2.2	1.638
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:27:36	2.212	2.454	-6.563	0.134	2.267	-0.001	0.012	0.018	94.7%
2	16:28:02	2.479	2.556	-8.042	0.112	2.732	-0.000	0.020	0.020	98.6%
3	16:28:28	2.334	2.460	-7.544	0.144	2.615	0.002	0.014	0.022	100.0%
X		2.342	2.490	-7.383	0.130	2.538	0.000	0.016	0.020	97.8%
σ		0.134	0.057	0.752	0.016	0.242	0.002	0.004	0.002	2.7%
%RSD		5.719	2.297	10.190	12.480	9.545	401.900	26.220	11.700	2.8
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:27:36	0.054	-0.445	0.075	0.076	114.100	112.300	96.2%	0.005	0.002
2	16:28:02	0.055	-0.562	0.075	0.136	113.700	110.800	100.2%	0.000	0.001
3	16:28:28	0.256	-0.524	0.087	0.108	113.300	110.600	103.4%	0.002	0.002
X		0.122	-0.510	0.079	0.107	113.700	111.200	99.9%	0.002	0.002
σ		0.116	0.060	0.007	0.030	0.360	0.952	3.6%	0.002	0.001
%RSD		95.330	11.680	8.942	28.500	0.317	0.855	3.6	94.570	52.320
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	16:27:36	0.013	0.008	0.006	91.6%	0.372				
2	16:28:02	0.015	0.004	0.010	94.1%	0.356				
3	16:28:28	0.018	0.012	0.009	95.9%	0.368				
X		0.016	0.008	0.008	93.8%	0.365				
σ		0.002	0.004	0.002	2.1%	0.008				
%RSD		15.960	49.800	21.960	2.3	2.287				

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:31:13	103.8%	0.003	25.310	24.410	4689.000	23100.000	22670.000	23440.000	45.580
2	16:31:39	104.5%	0.006	25.330	25.200	4747.000	21940.000	22670.000	23160.000	43.950
3	16:32:05	107.6%	0.009	24.380	24.580	4640.000	21960.000	22100.000	22860.000	42.040
X		105.3%	0.006	25.010	24.730	4692.000	22330.000	22480.000	23150.000	43.860
σ		2.0%	0.003	0.542	0.416	53.520	665.100	326.700	292.000	1.770
%RSD		1.9	49.300	2.169	1.683	1.141	2.978	1.453	1.261	4.035
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:31:13	6531.000	46730.000	2635.000	77110.000	76830.000	92.3%	2.634	13.140	0.740
2	16:31:39	6436.000	47360.000	2708.000	76980.000	76600.000	94.6%	2.567	12.380	0.603
3	16:32:05	6447.000	48280.000	2736.000	77560.000	76310.000	95.3%	2.431	12.080	0.642
X		6471.000	47460.000	2693.000	77220.000	76580.000	94.1%	2.544	12.530	0.661
σ		52.340	779.900	52.310	306.200	258.900	1.6%	0.104	0.542	0.071
%RSD		0.809	1.643	1.942	0.397	0.338	1.7	4.069	4.328	10.670
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:31:13	11.700	17.610	173.600	1206.000	-0.724	2.142	0.046	0.149	0.407
2	16:31:39	10.720	16.910	185.400	1149.000	-0.739	2.063	-0.007	0.141	0.462
3	16:32:05	10.300	17.040	168.500	1117.000	-0.755	1.906	-0.097	0.134	0.389
X		10.910	17.190	175.800	1157.000	-0.739	2.037	-0.019	0.141	0.419
σ		0.721	0.369	8.675	44.700	0.016	0.121	0.072	0.008	0.038
%RSD		6.610	2.147	4.933	3.862	2.123	5.920	372.200	5.371	9.043
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:31:13	1.447	0.358	0.035	49.080	53.780	-0.188	-0.417	92.5%	0.538
2	16:31:39	1.692	-0.024	0.141	48.690	49.220	0.413	0.716	94.4%	0.471
3	16:32:05	1.618	-0.486	-0.402	47.450	48.490	-0.004	2.450	97.1%	0.507
X		1.585	-0.051	-0.075	48.410	50.500	0.073	0.917	94.7%	0.505
σ		0.126	0.423	0.288	0.850	2.864	0.308	1.444	2.3%	0.034
%RSD		7.927	830.000	382.900	1.757	5.671	420.300	157.600	2.5	6.665
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:31:13	0.661	0.528	-12.110	0.174	4.188	-0.002	0.005	0.025	92.6%
2	16:31:39	0.518	0.540	-7.948	0.195	2.826	-0.003	0.014	0.030	95.2%
3	16:32:05	0.528	0.440	-8.518	0.206	2.911	0.001	0.011	0.022	98.4%
X		0.569	0.503	-9.525	0.192	3.309	-0.001	0.010	0.026	95.4%
σ		0.080	0.055	2.256	0.016	0.763	0.002	0.004	0.004	2.9%
%RSD		13.980	10.890	23.680	8.466	23.050	145.300	45.670	14.450	3.1
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:31:13	0.018	-0.857	0.039	0.092	210.500	207.000	94.1%	0.009	0.007
2	16:31:39	0.047	-0.556	0.064	0.071	210.800	207.600	98.3%	0.011	0.007
3	16:32:05	0.042	-0.603	0.053	0.104	209.300	208.200	101.1%	0.006	0.009
X		0.036	-0.672	0.052	0.089	210.200	207.600	97.8%	0.009	0.008
σ		0.016	0.162	0.013	0.017	0.783	0.626	3.5%	0.002	0.001
%RSD		43.590	24.110	24.020	18.990	0.372	0.301	3.6	25.740	18.520
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	16:31:13	0.079	0.069	0.066	86.5%	0.513				
2	16:31:39	0.083	0.061	0.065	89.6%	0.531				
3	16:32:05	0.068	0.075	0.065	92.4%	0.528				
X		0.077	0.068	0.065	89.5%	0.524				
σ		0.008	0.007	0.001	2.9%	0.010				
%RSD		10.050	10.420	1.472	3.3	1.872				

LLCCV MW9070 11/4/2016 16:34:24 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:34:51	99.6%	0.315	25.950	26.570	215.700	53.560	52.560	52.550	43.010
2	16:35:17	101.5%	0.407	27.980	26.220	213.300	51.830	49.340	52.130	40.930
3	16:35:43	102.8%	0.510	25.710	25.030	206.200	51.160	50.520	50.780	41.630
X		101.3%	102.594%	106.193%	103.753%	105.866%	52.190	50.810	103.644%	104.631%
σ		1.6%	n/a	n/a	n/a	n/a	1.240	1.627	n/a	n/a
%RSD		1.6	23.800	4.680	3.096	2.342	2.375	3.202	1.781	2.528
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:34:51	129.800	276.300	219.400	207.700	210.800	95.9%	5.130	5.343	1.101
2	16:35:17	116.600	283.300	222.800	208.800	207.900	99.6%	5.003	5.170	1.054
3	16:35:43	132.100	269.700	225.000	216.900	208.900	100.4%	5.017	5.088	1.059
X		126.183%	276.400	111.190%	211.200	104.607%	98.6%	101.004%	104.013%	107.158%
σ		1n/a	6.800	n/a	5.025	n/a	2.4%	n/a	n/a	n/a
%RSD		6.642	2.460	1.281	2.380	0.696	2.5	1.378	2.506	2.420
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:34:51	0.149	5.097	24.930	20.320	5.056	4.980	4.967	0.963	0.984
2	16:35:17	0.039	4.969	21.640	19.980	5.009	4.856	3.917	0.903	1.018
3	16:35:43	0.060	4.987	22.630	17.010	4.907	4.624	4.749	0.923	0.865
X		0.083	100.354%	23.070	95.524%	99.808%	96.400%	4.544	0.929	95.550%
σ		0.058	n/a	1.686	n/a	n/a	n/a	0.554	0.031	n/a
%RSD		70.540	1.386	7.308	9.518	1.523	3.743	12.200	3.314	8.414
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:34:51	10.120	1.105	1.021	0.900	0.979	0.810	-0.520	95.5%	9.457
2	16:35:17	9.942	1.019	0.131	1.093	0.865	0.781	1.550	97.8%	9.693
3	16:35:43	9.868	0.868	0.651	0.465	0.451	0.503	0.510	99.1%	9.952
X		99.756%	99.710%	0.601	0.819	0.765	69.790%	0.513	97.5%	97.006%
σ		n/a	n/a	0.447	0.322	0.278	n/a	1.035	1.8%	n/a
%RSD		1.283	12.070	74.390	39.280	36.310	24.320	201.700	1.9	2.549
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:34:51	9.962	9.399	-0.304	0.832	0.265	0.934	0.115	0.110	96.2%
2	16:35:17	10.010	9.485	-1.412	0.848	0.690	1.007	0.112	0.124	99.9%
3	16:35:43	9.869	9.810	-3.595	0.797	1.292	1.015	0.132	0.139	101.7%
X		9.946	9.565	-1.770	82.571%	0.749	0.985	0.120	124.321%	99.3%
σ		0.070	0.217	1.675	n/a	0.516	0.044	0.011	n/a	2.8%
%RSD		0.704	2.265	94.580	3.195	68.930	4.491	8.868	11.930	2.8
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:34:51	2.964	3.757	0.933	0.922	5.014	4.857	94.6%	0.446	0.521
2	16:35:17	3.150	3.727	0.954	0.959	4.642	4.797	99.6%	0.498	0.503
3	16:35:43	3.103	3.698	0.969	1.000	4.971	4.836	101.0%	0.485	0.493
X		3.073	74.544%	0.952	96.044%	97.511%	4.830	98.4%	0.476	101.151%
σ		0.097	n/a	0.019	n/a	n/a	0.031	3.4%	0.027	n/a
%RSD		3.141	0.795	1.943	4.058	4.178	0.634	3.5	5.636	2.826
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	16:34:51	1.015	0.979	1.022	96.7%	51.650				
2	16:35:17	1.055	0.954	1.016	100.2%	50.680				
3	16:35:43	1.009	0.999	1.000	102.5%	51.130				
X		1.026	0.977	101.288%	99.8%	102.308%				
σ		0.025	0.023	n/a	3.0%	n/a				
%RSD		2.432	2.337	1.143	3.0	0.946				

LLCCV2 MW9071

11/4/2016 16:38:00

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:38:26	96.4%	2.140	136.000	129.900	956.700	245.300	251.500	257.600	217.600
2	16:38:51	100.9%	1.891	135.300	125.100	943.900	267.700	253.300	255.200	197.700
3	16:39:17	99.2%	1.970	127.300	127.400	927.900	241.000	252.500	255.700	192.000
X		98.8%	2.000	132.900	127.500	942.800	251.400	252.400	256.200	202.400
σ		2.3%	0.127	4.788	2.412	14.460	14.340	0.910	1.293	13.480
%RSD		2.3	6.356	3.604	1.892	1.534	5.703	0.361	0.505	6.658
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:38:26	531.200	119.800	1022.000	1090.000	1032.000	95.3%	24.270	25.820	5.024
2	16:38:51	516.900	127.900	1031.000	1062.000	1037.000	96.6%	24.570	25.390	5.167
3	16:39:17	507.400	130.800	1052.000	1044.000	1032.000	97.5%	24.910	25.620	4.968
X		518.500	126.200	1035.000	1065.000	1034.000	96.4%	24.580	25.610	5.053
σ		12.000	5.697	15.290	23.240	3.187	1.1%	0.319	0.218	0.102
%RSD		2.314	4.514	1.477	2.181	0.308	1.1	1.299	0.851	2.025
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:38:26	-0.108	25.150	114.000	116.700	25.190	24.200	25.230	4.621	4.990
2	16:38:51	0.019	24.880	106.600	115.700	24.620	24.190	23.350	4.646	5.224
3	16:39:17	-0.074	25.170	111.600	109.300	25.160	24.070	24.540	4.619	4.812
X		-0.054	25.070	110.700	113.900	24.990	24.150	24.370	4.629	5.009
σ		0.066	0.164	3.729	3.997	0.321	0.075	0.949	0.015	0.206
%RSD		120.900	0.655	3.368	3.510	1.285	0.309	3.894	0.327	4.120
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:38:26	48.560	4.797	4.155	-0.367	0.620	4.597	-1.165	94.1%	50.550
2	16:38:51	48.600	4.859	4.588	-0.104	-0.486	4.035	-0.540	96.1%	50.540
3	16:39:17	47.790	5.437	4.143	-0.227	-0.257	5.205	-1.083	97.6%	51.170
X		48.320	5.031	4.295	-0.233	-0.041	4.612	-0.929	95.9%	50.760
σ		0.460	0.353	0.254	0.132	0.584	0.585	0.340	1.8%	0.363
%RSD		0.953	7.018	5.904	56.630	1423.000	12.680	36.580	1.9	0.715
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:38:26	51.010	50.360	-7.952	4.188	3.629	4.985	0.536	0.603	93.8%
2	16:38:51	50.820	50.410	-4.647	4.009	2.267	5.209	0.503	0.593	97.1%
3	16:39:17	51.960	50.600	-8.035	4.238	3.457	5.099	0.479	0.539	98.8%
X		51.260	50.460	-6.878	4.145	3.118	5.098	0.506	0.578	96.6%
σ		0.608	0.128	1.933	0.120	0.742	0.112	0.028	0.035	2.6%
%RSD		1.185	0.254	28.100	2.905	23.790	2.196	5.611	5.975	2.7
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:38:26	16.340	20.180	4.441	4.571	25.820	24.470	94.4%	2.391	2.563
2	16:38:51	16.350	20.830	4.684	4.520	24.360	25.060	97.8%	2.408	2.531
3	16:39:17	16.570	20.320	4.701	4.691	24.470	24.410	100.1%	2.424	2.549
X		16.420	20.450	4.609	4.594	24.880	24.640	97.4%	2.407	2.548
σ		0.128	0.339	0.146	0.087	0.815	0.360	2.9%	0.017	0.016
%RSD		0.782	1.660	3.158	1.905	3.277	1.461	2.9	0.688	0.629
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	16:38:26	5.047	4.713	5.050	95.7%	246.800				
2	16:38:51	4.984	4.768	4.990	97.8%	247.400				
3	16:39:17	5.166	4.724	5.011	100.7%	249.600				
X		5.066	4.735	5.017	98.1%	247.900				
σ		0.092	0.029	0.030	2.5%	1.502				
%RSD		1.820	0.612	0.607	2.6	0.606				

Co 4ppb MW-9023

11/4/2016 16:41:36

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:02	98.3%	3.919	6.919	6.683	782.200	802.100	840.600	856.000	6.688
2	16:42:28	101.6%	3.753	6.208	6.169	766.200	788.600	826.500	835.200	6.577
3	16:42:53	102.2%	4.092	6.425	6.112	757.700	748.600	804.300	841.100	6.664
X		100.7%	3.921	6.517	6.321	768.700	779.800	823.800	844.100	6.643
σ		2.1%	0.170	0.364	0.314	12.460	27.820	18.300	10.730	0.059
%RSD		2.1	4.325	5.591	4.971	1.621	3.568	2.222	1.271	0.881
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:02	66.680	96.310	853.100	816.700	815.100	95.6%	3.917	4.200	4.193
2	16:42:28	57.120	87.740	862.700	813.700	803.100	97.5%	4.155	4.171	4.085
3	16:42:53	56.370	82.650	881.600	832.900	821.600	98.2%	3.934	4.150	4.111
X		60.060	88.900	865.800	821.100	813.300	97.1%	4.002	4.174	4.129
σ		5.749	6.905	14.510	10.300	9.355	1.3%	0.133	0.025	0.056
%RSD		9.573	7.768	1.676	1.254	1.150	1.4	3.316	0.602	1.362
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:02	-0.079	4.040	806.800	829.000	4.142	3.970	4.155	3.933	3.874
2	16:42:28	-0.076	4.121	794.000	827.400	3.911	3.942	3.628	3.815	4.074
3	16:42:53	-0.090	4.095	804.600	828.400	4.025	3.784	3.466	3.924	3.987
X		-0.082	4.085	801.800	828.300	4.026	3.898	3.749	3.891	3.978
σ		0.007	0.041	6.859	0.830	0.116	0.100	0.360	0.066	0.101
%RSD		9.044	1.008	0.856	0.100	2.872	2.574	9.607	1.692	2.528
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:02	4.600	4.068	4.198	-0.603	1.573	3.604	0.019	94.6%	4.483
2	16:42:28	4.506	3.971	3.237	-0.316	-0.313	4.122	-0.218	96.5%	4.522
3	16:42:53	4.441	4.072	3.332	-0.419	-0.697	3.163	0.381	98.4%	4.600
X		4.516	4.037	3.589	-0.446	0.188	3.630	0.061	96.5%	4.535
σ		0.080	0.058	0.529	0.146	1.215	0.480	0.302	1.9%	0.059
%RSD		1.779	1.425	14.750	32.620	647.100	13.230	496.600	2.0	1.306
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:02	4.673	4.646	3.192	3.877	0.896	4.017	4.094	3.863	94.9%
2	16:42:28	4.526	4.364	1.982	3.936	1.181	3.924	4.015	3.810	98.3%
3	16:42:53	4.444	4.588	2.620	3.954	0.760	4.011	4.235	3.941	99.9%
X		4.548	4.533	2.598	3.923	0.946	3.984	4.115	3.872	97.7%
σ		0.116	0.149	0.605	0.040	0.215	0.052	0.111	0.066	2.6%
%RSD		2.560	3.283	23.280	1.026	22.700	1.308	2.701	1.699	2.6
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:02	4.619	4.834	3.352	3.657	4.562	4.175	95.3%	3.877	4.130
2	16:42:28	4.572	4.690	3.566	3.621	4.491	4.240	98.2%	3.908	4.117
3	16:42:53	4.655	4.863	3.702	3.540	4.063	4.057	100.9%	3.730	4.117
X		4.615	4.796	3.540	3.606	4.372	4.158	98.1%	3.838	4.121
σ		0.041	0.093	0.176	0.060	0.270	0.093	2.8%	0.095	0.007
%RSD		0.893	1.933	4.979	1.657	6.170	2.233	2.9	2.482	0.179
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	16:42:02	4.319	3.765	4.169	94.5%	4.182				
2	16:42:28	4.198	3.881	4.156	99.6%	4.221				
3	16:42:53	4.308	3.831	4.049	99.6%	4.152				
X		4.275	3.826	4.125	97.9%	4.185				
σ		0.067	0.058	0.066	3.0%	0.035				
%RSD		1.559	1.513	1.603	3.0	0.836				

CCV MW9041 11/4/2016 16:45:12 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:45:38	82.3%	303.400	311.900	309.600	60620.000	60400.000	60560.000	61000.000	290.500
2	16:46:04	82.9%	311.400	308.900	302.400	60290.000	58750.000	59160.000	60220.000	297.900
3	16:46:30	83.8%	312.500	309.300	296.400	60630.000	58220.000	59600.000	61010.000	298.500
X		83.0%	103.022%	103.347%	100.936%	100.857%	59120.000	59780.000	101.236%	98.544%
σ		0.8%	n/a	n/a	n/a	n/a	1134.000	714.000	n/a	n/a
%RSD		0.9	1.611	0.524	2.178	0.321	1.917	1.195	0.747	1.506
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:45:38	4572.000	36.720	63180.000	61510.000	61470.000	87.9%	311.800	314.500	328.900
2	16:46:04	4549.000	40.040	63910.000	62180.000	62220.000	89.7%	310.400	314.400	330.800
3	16:46:30	4524.000	31.530	65810.000	62670.000	63360.000	90.4%	310.800	313.900	331.200
X		151.616%	36.100	107.166%	62120.000	103.920%	89.3%	103.664%	104.757%	110.101%
σ		n/a	4.291	n/a	584.900	n/a	1.3%	n/a	n/a	n/a
%RSD		0.528	11.890	2.117	0.942	1.524	1.5	0.244	0.114	0.370
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:45:38	-13.540	297.200	61850.000	62050.000	324.100	297.800	301.700	262.000	286.800
2	16:46:04	-13.930	301.200	61790.000	61280.000	318.700	290.300	289.500	261.200	284.200
3	16:46:30	-13.650	298.900	61610.000	61210.000	315.100	288.200	287.300	260.100	280.800
X		-13.710	99.699%	102.918%	102.522%	106.426%	97.360%	292.900	261.100	94.635%
σ		0.199	n/a	n/a	n/a	n/a	n/a	7.757	0.952	n/a
%RSD		1.448	0.667	0.208	0.757	1.430	1.730	2.649	0.365	1.055
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:45:38	291.400	315.800	285.200	0.982	0.215	308.000	-1.732	88.1%	313.700
2	16:46:04	286.200	310.000	283.600	0.465	-0.938	292.700	-0.690	90.0%	322.400
3	16:46:30	283.100	300.300	283.300	1.072	-1.287	285.700	-0.220	92.1%	334.400
X		95.633%	102.906%	284.000	0.839	-0.670	98.487%	-0.881	90.0%	107.838%
σ		n/a	n/a	0.989	0.328	0.786	n/a	0.774	2.0%	n/a
%RSD		1.462	2.533	0.348	39.030	117.300	3.867	87.850	2.2	3.209
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:45:38	310.100	311.700	289.300	308.800	21.160	305.600	297.800	294.700	83.2%
2	16:46:04	321.900	321.400	296.200	308.400	17.650	305.400	297.300	294.100	86.0%
3	16:46:30	335.400	334.300	293.500	307.000	18.690	307.400	303.300	295.300	88.5%
X		107.498%	107.499%	293.000	102.686%	19.170	306.200	299.400	98.245%	85.9%
σ		n/a	n/a	3.493	n/a	1.805	1.097	3.307	n/a	2.6%
%RSD		3.923	3.521	1.192	0.305	9.415	0.358	1.104	0.204	3.1
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:45:38	305.100	307.900	287.300	293.600	314.000	313.100	88.0%	296.600	298.300
2	16:46:04	301.800	309.600	297.000	298.100	314.600	312.800	91.0%	292.700	300.500
3	16:46:30	305.800	307.600	288.900	300.300	311.400	310.200	93.2%	295.800	297.600
X		101.409%	102.792%	97.018%	99.106%	104.444%	104.007%	90.7%	98.339%	99.601%
σ		n/a	n/a	n/a	n/a	n/a	n/a	2.6%	n/a	n/a
%RSD		0.700	0.353	1.803	1.148	0.552	0.514	2.9	0.697	0.504
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	16:45:38	286.900	280.900	313.400	76.9%	315.000				
2	16:46:04	310.200	280.600	317.700	82.0%	324.900				
3	16:46:30	309.700	282.200	314.900	82.4%	319.900				
X		100.744%	93.741%	105.112%	80.4%	106.638%				
σ		n/a	n/a	n/a	3.1%	n/a				
%RSD		4.408	0.302	0.683	3.8	1.541				

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:49:16	99.7%	0.043	3.051	2.418	4.509	2.860	2.363	2.546	0.641
2	16:49:42	97.4%	0.023	2.484	2.229	3.487	2.379	2.337	2.617	0.644
3	16:50:08	98.5%	0.048	2.112	2.069	2.802	1.916	1.948	1.805	0.606
X		98.5%	0.038	2.549	2.239	3.599	2.385	2.216	2.322	0.630
σ		1.2%	0.013	0.473	0.175	0.859	0.472	0.233	0.450	0.021
%RSD		1.2	35.410	18.550	7.821	23.870	19.810	10.490	19.360	3.307
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:49:16	76.420	4.681	6.905	5.255	6.899	94.7%	0.064	0.023	0.015
2	16:49:42	33.510	-0.275	5.632	2.922	6.680	96.7%	0.047	0.017	-0.010
3	16:50:08	37.600	-3.624	6.247	1.676	8.675	96.6%	-0.012	0.017	-0.001
X		49.170	0.261	6.261	3.284	7.418	96.0%	0.033	0.019	0.001
σ		23.680	4.178	0.637	1.817	1.094	1.1%	0.040	0.003	0.012
%RSD		48.160	1603.000	10.170	55.310	14.750	1.2	120.800	16.880	1017.000
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:49:16	-0.012	0.013	4.357	8.889	0.028	0.030	0.085	0.032	0.042
2	16:49:42	-0.005	0.020	3.851	7.727	0.021	0.014	-0.601	0.027	0.019
3	16:50:08	-0.019	0.023	3.188	5.234	0.016	0.016	-0.416	0.020	0.002
X		-0.012	0.019	3.799	7.283	0.022	0.020	-0.311	0.026	0.021
σ		0.007	0.005	0.586	1.868	0.006	0.009	0.355	0.006	0.020
%RSD		56.030	25.640	15.430	25.640	28.580	43.460	114.200	23.920	94.520
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:49:16	0.085	-0.072	-0.361	-0.326	0.273	-0.250	-0.030	96.3%	2.190
2	16:49:42	0.163	0.138	0.194	-0.034	-0.289	0.222	-0.065	97.1%	2.028
3	16:50:08	0.074	0.049	-0.347	0.041	-0.767	-0.030	0.037	99.1%	1.817
X		0.107	0.038	-0.171	-0.107	-0.261	-0.019	-0.019	97.5%	2.012
σ		0.049	0.105	0.317	0.194	0.520	0.236	0.052	1.5%	0.187
%RSD		45.310	277.400	184.800	182.000	199.200	1217.000	268.800	1.5	9.289
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:49:16	2.100	2.174	0.454	0.026	-0.155	0.015	0.007	0.011	95.9%
2	16:49:42	2.001	2.088	0.724	0.011	-0.209	0.015	0.010	0.006	98.0%
3	16:50:08	1.796	1.803	-0.871	0.016	0.300	0.020	0.021	-0.000	101.3%
X		1.966	2.022	0.103	0.018	-0.021	0.017	0.013	0.006	98.4%
σ		0.155	0.194	0.854	0.008	0.280	0.003	0.008	0.006	2.7%
%RSD		7.883	9.600	833.000	43.260	1318.000	15.320	59.690	105.300	2.8
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:49:16	0.084	0.081	0.927	0.824	0.014	0.025	94.2%	0.015	0.018
2	16:49:42	0.072	0.220	0.949	0.864	0.013	0.019	98.7%	0.013	0.014
3	16:50:08	0.115	0.039	0.903	0.830	0.009	0.007	100.3%	0.008	0.010
X		0.090	0.113	0.926	0.839	0.012	0.017	97.7%	0.012	0.014
σ		0.022	0.094	0.023	0.021	0.003	0.009	3.1%	0.004	0.004
%RSD		24.590	83.310	2.484	2.535	23.530	53.940	3.2	29.690	26.540
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	16:49:16	0.024	0.029	0.033	96.8%	0.054				
2	16:49:42	0.027	0.018	0.020	98.6%	0.063				
3	16:50:08	0.022	0.028	0.023	102.5%	0.058				
X		0.024	0.025	0.025	99.3%	0.058				
σ		0.002	0.006	0.007	2.9%	0.005				
%RSD		8.512	24.770	27.510	2.9	7.950				

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:52:55	106.8%	0.030	2.602	2.270	36.700	2.670	2.669	2.766	8.789
2	16:53:21	108.1%	0.012	2.174	2.215	37.420	2.922	2.904	3.427	8.691
3	16:53:46	109.3%	0.009	2.330	2.242	37.310	2.832	2.966	2.918	8.499
X		108.1%	0.017	2.369	2.242	37.140	2.808	2.846	3.037	8.660
σ		1.3%	0.011	0.217	0.028	0.388	0.128	0.157	0.346	0.148
%RSD		1.2	66.740	9.153	1.230	1.045	4.554	5.508	11.390	1.705
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:52:55	10.010	70490.000	20.150	37.980	41.280	94.4%	0.132	15.640	0.051
2	16:53:21	2.137	72470.000	21.270	40.180	46.570	95.8%	0.102	15.140	0.002
3	16:53:46	6.998	73210.000	18.920	41.180	47.370	95.7%	0.082	15.100	-0.012
X		1.717	72060.000	20.110	39.780	45.070	95.3%	0.105	15.290	0.014
σ		8.513	1404.000	1.178	1.636	3.311	0.8%	0.025	0.303	0.033
%RSD		495.700	1.949	5.858	4.113	7.346	0.8	23.860	1.984	244.600
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:52:55	14.290	0.112	3.734	5.060	0.006	0.042	-0.054	0.129	0.125
2	16:53:21	14.190	0.108	2.581	5.326	0.010	0.056	0.079	0.126	0.115
3	16:53:46	13.800	0.088	2.010	2.022	0.011	0.053	-0.620	0.136	0.117
X		14.090	0.103	2.775	4.136	0.009	0.051	-0.198	0.131	0.119
σ		0.262	0.013	0.879	1.836	0.003	0.007	0.371	0.005	0.006
%RSD		1.856	12.840	31.660	44.390	28.840	14.580	187.400	3.668	4.686
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:52:55	1.245	-0.327	-0.647	7.888	10.240	-0.210	1.428	93.9%	0.581
2	16:53:21	1.163	0.225	-0.579	7.743	7.643	0.124	-1.063	97.0%	0.569
3	16:53:46	1.132	-0.113	-0.253	7.531	8.267	-0.483	-1.405	97.4%	0.529
X		1.180	-0.072	-0.493	7.721	8.717	-0.190	-0.347	96.1%	0.560
σ		0.059	0.278	0.211	0.179	1.356	0.304	1.547	1.9%	0.027
%RSD		4.964	388.100	42.790	2.324	15.560	160.100	446.300	2.0	4.781
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:52:55	0.389	0.486	-1.137	0.128	0.393	0.009	0.002	0.006	97.7%
2	16:53:21	0.755	0.566	-0.698	0.096	0.241	0.012	0.010	0.004	98.7%
3	16:53:46	0.501	0.536	-0.712	0.119	0.268	0.008	0.004	0.017	102.0%
X		0.548	0.529	-0.849	0.114	0.301	0.009	0.005	0.009	99.5%
σ		0.187	0.040	0.249	0.016	0.081	0.002	0.004	0.007	2.3%
%RSD		34.180	7.647	29.360	14.340	27.100	24.480	78.380	76.640	2.3
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:52:55	0.286	0.179	0.460	0.399	0.135	0.090	96.3%	0.004	0.008
2	16:53:21	0.257	0.240	0.482	0.462	0.106	0.100	100.6%	0.010	0.007
3	16:53:46	0.249	0.233	0.443	0.508	0.108	0.070	101.4%	0.007	0.008
X		0.264	0.217	0.462	0.456	0.116	0.087	99.4%	0.007	0.008
σ		0.019	0.033	0.020	0.055	0.016	0.015	2.7%	0.003	0.001
%RSD		7.343	15.270	4.232	12.000	13.900	17.630	2.7	46.100	8.554
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	16:52:55	0.051	0.026	0.042	96.7%	0.019				
2	16:53:21	0.051	0.044	0.041	99.0%	0.024				
3	16:53:46	0.046	0.037	0.035	101.9%	0.022				
X		0.049	0.036	0.039	99.2%	0.021				
σ		0.003	0.009	0.003	2.6%	0.003				
%RSD		6.633	24.640	8.899	2.7	11.960				

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:56:32	105.6%	99.690	102.600	98.240	932.600	939.800	1009.000	1023.000	115.700
2	16:56:58	109.7%	98.230	95.810	98.910	924.700	919.900	989.800	1059.000	122.500
3	16:57:24	110.4%	97.880	101.600	98.970	923.100	927.100	962.200	1018.000	118.600
X		108.6%	98.600	100.000	98.710	926.800	928.900	986.900	1033.000	118.900
σ		2.6%	0.961	3.658	0.406	5.060	10.090	23.430	22.750	3.408
%RSD		2.4	0.975	3.658	0.411	0.546	1.086	2.374	2.202	2.866
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:56:32	963.800	72120.000	1077.000	1138.000	1126.000	95.7%	99.650	127.400	104.500
2	16:56:58	1018.000	77030.000	1137.000	1189.000	1185.000	92.9%	104.700	124.200	108.200
3	16:57:24	977.200	77750.000	1139.000	1225.000	1152.000	94.7%	105.300	121.400	107.500
X		986.300	75630.000	1118.000	1184.000	1154.000	94.4%	103.200	124.300	106.700
σ		28.140	3065.000	35.590	43.780	29.370	1.4%	3.109	2.980	2.005
%RSD		2.853	4.052	3.184	3.698	2.545	1.5	3.012	2.397	1.878
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:56:32	12.670	103.400	1033.000	1070.000	105.600	99.840	101.400	99.120	104.300
2	16:56:58	11.640	106.900	1060.000	1092.000	108.400	95.280	98.830	99.960	101.200
3	16:57:24	13.200	106.600	1078.000	1097.000	106.800	97.370	97.100	101.100	101.800
X		12.500	105.600	1057.000	1086.000	106.900	97.500	99.120	100.100	102.400
σ		0.795	1.984	22.700	14.530	1.366	2.278	2.188	0.999	1.640
%RSD		6.363	1.878	2.149	1.337	1.277	2.336	2.208	0.999	1.601
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:56:32	101.300	100.500	100.600	10.100	11.310	101.300	-1.139	92.8%	108.200
2	16:56:58	99.480	98.430	98.970	10.490	10.130	97.590	0.033	94.6%	108.100
3	16:57:24	98.670	98.680	97.890	10.190	10.880	94.040	-2.229	96.8%	109.100
X		99.820	99.220	99.150	10.260	10.770	97.660	-1.112	94.7%	108.500
σ		1.345	1.157	1.355	0.204	0.599	3.650	1.131	2.0%	0.563
%RSD		1.348	1.166	1.366	1.987	5.559	3.738	101.700	2.1	0.519
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:56:32	108.700	108.200	105.000	106.400	6.002	109.700	103.800	99.700	94.9%
2	16:56:58	108.400	108.900	105.200	106.600	7.228	109.700	105.500	100.100	98.6%
3	16:57:24	110.600	110.000	105.200	107.400	6.785	109.900	105.100	100.100	100.1%
X		109.200	109.000	105.100	106.800	6.671	109.800	104.800	99.940	97.9%
σ		1.182	0.934	0.146	0.555	0.621	0.129	0.886	0.212	2.7%
%RSD		1.082	0.857	0.139	0.519	9.304	0.117	0.845	0.212	2.7
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:56:32	100.300	99.830	97.830	98.690	102.000	100.700	96.0%	99.950	108.700
2	16:56:58	99.990	100.100	102.100	103.100	101.800	100.100	100.0%	100.800	109.200
3	16:57:24	102.200	101.800	102.100	103.900	102.000	100.500	102.2%	100.900	110.000
X		100.800	100.600	100.700	101.900	101.900	100.400	99.4%	100.500	109.300
σ		1.181	1.047	2.464	2.797	0.117	0.349	3.1%	0.518	0.681
%RSD		1.172	1.042	2.448	2.745	0.115	0.347	3.1	0.515	0.623
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	16:56:32	107.000	98.140	108.100	96.2%	115.100				
2	16:56:58	108.700	97.020	107.300	100.1%	114.500				
3	16:57:24	110.400	98.910	107.000	100.6%	115.600				
X		108.700	98.020	107.500	99.0%	115.100				
σ		1.669	0.949	0.595	2.4%	0.592				
%RSD		1.535	0.968	0.553	2.4	0.515				

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:00:10	108.5%	0.198	13.850	14.030	3171.000	831.400	864.600	926.200	12520.000
2	17:00:36	111.3%	0.205	12.630	12.920	3065.000	781.600	854.400	885.900	12080.000
3	17:01:02	109.6%	0.231	13.070	13.090	3124.000	789.000	817.000	877.600	11730.000
X		109.8%	0.211	13.190	13.350	3120.000	800.600	845.300	896.600	12110.000
σ		1.4%	0.018	0.618	0.597	53.380	26.860	25.070	25.990	396.100
%RSD		1.3	8.311	4.688	4.472	1.711	3.355	2.965	2.899	3.270
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:00:10	10900.000	57460.000	911.800	2775.000	2920.000	104.4%	73.640	40.190	24.100
2	17:00:36	10610.000	58060.000	929.600	2809.000	2896.000	107.6%	67.720	38.400	23.640
3	17:01:02	10360.000	60240.000	938.200	2841.000	2942.000	108.5%	68.670	37.790	23.730
X		10620.000	58590.000	926.500	2808.000	2919.000	106.8%	70.010	38.800	23.830
σ		271.200	1460.000	13.440	33.150	22.950	2.2%	3.183	1.248	0.243
%RSD		2.553	2.493	1.451	1.181	0.786	2.0	4.547	3.217	1.019
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:00:10	10.850	71.650	25840.000	24820.000	1.493	2.405	2.275	10.670	13.290
2	17:00:36	9.428	69.390	25130.000	24370.000	1.399	2.388	2.193	10.250	13.290
3	17:01:02	8.934	68.910	25350.000	24730.000	1.398	2.162	2.239	10.470	12.710
X		9.739	69.980	25440.000	24640.000	1.430	2.318	2.235	10.470	13.100
σ		0.997	1.464	366.000	237.900	0.054	0.136	0.041	0.211	0.334
%RSD		10.230	2.091	1.439	0.965	3.810	5.849	1.849	2.019	2.553
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:00:10	9.652	0.224	-0.748	19.870	19.970	1.016	0.783	126.3%	0.717
2	17:00:36	9.124	0.525	-0.785	20.160	20.330	0.466	-0.001	130.8%	0.791
3	17:01:02	9.173	0.116	-0.887	20.220	17.460	0.858	-1.317	133.3%	0.681
X		9.316	0.288	-0.807	20.080	19.250	0.780	-0.179	130.1%	0.730
σ		0.292	0.212	0.072	0.190	1.565	0.283	1.061	3.6%	0.056
%RSD		3.134	73.560	8.957	0.944	8.128	36.290	594.100	2.7	7.688
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:00:10	0.696	0.672	-1.311	0.213	0.451	0.074	0.050	0.043	96.0%
2	17:00:36	0.780	0.773	-2.774	0.191	0.972	0.082	0.045	0.045	99.7%
3	17:01:02	0.606	0.622	-1.327	0.203	0.549	0.076	0.036	0.038	103.0%
X		0.694	0.689	-1.804	0.202	0.657	0.077	0.043	0.042	99.6%
σ		0.087	0.077	0.840	0.011	0.277	0.004	0.007	0.004	3.5%
%RSD		12.560	11.160	46.570	5.572	42.190	5.357	16.240	9.257	3.5
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:00:10	2.208	1.882	0.498	0.534	33.600	33.640	98.2%	0.096	0.115
2	17:00:36	2.425	1.672	0.476	0.485	33.650	33.780	102.5%	0.091	0.104
3	17:01:02	2.337	1.888	0.516	0.473	33.680	32.630	106.4%	0.097	0.101
X		2.323	1.814	0.497	0.497	33.640	33.350	102.4%	0.095	0.107
σ		0.109	0.123	0.020	0.032	0.039	0.624	4.1%	0.004	0.007
%RSD		4.682	6.775	4.117	6.496	0.117	1.871	4.0	3.794	6.932
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	17:00:10	38.550	33.220	36.810	94.6%	5.271				
2	17:00:36	38.360	33.210	36.610	97.5%	5.279				
3	17:01:02	38.380	33.100	36.150	99.4%	5.202				
X		38.430	33.170	36.520	97.2%	5.251				
σ		0.102	0.067	0.339	2.4%	0.042				
%RSD		0.266	0.201	0.928	2.4	0.801				

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11/4/2016 17:03:23

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:03:50	112.6%	0.047	8.870	8.691	15620.000	1662.000	1843.000	1763.000	766.200
2	17:04:16	114.0%	0.036	8.710	9.147	14840.000	1631.000	1716.000	1730.000	767.200
3	17:04:41	115.6%	0.023	8.426	8.367	15000.000	1646.000	1672.000	1735.000	782.400
X		114.1%	0.035	8.669	8.735	15150.000	1646.000	1744.000	1742.000	771.900
σ		1.5%	0.012	0.225	0.392	413.700	15.180	89.130	18.190	9.100
%RSD		1.3	33.430	2.595	4.488	2.730	0.922	5.111	1.044	1.179
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:03:50	4261.000	75850.000	1386.000	5024.000	5280.000	97.6%	1.987	21.870	2.050
2	17:04:16	4256.000	78310.000	1432.000	5253.000	5355.000	97.2%	17.130	21.270	1.965
3	17:04:41	4232.000	80120.000	1474.000	5149.000	5468.000	97.1%	16.440	20.650	2.071
X		4250.000	78090.000	1431.000	5142.000	5368.000	97.3%	11.850	21.270	2.029
σ		15.380	2141.000	44.080	114.800	94.680	0.3%	8.553	0.609	0.056
%RSD		0.362	2.742	3.081	2.233	1.764	0.3	72.150	2.865	2.773
Run	Time	53Cr	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:03:50	15.530	35.870	1614.000	1696.000	2.537	1.521	0.736	1.380	1.475
2	17:04:16	15.980	36.060	1650.000	1683.000	2.429	1.463	1.044	1.294	1.379
3	17:04:41	15.070	36.360	1634.000	1708.000	2.397	1.500	0.794	1.307	1.327
X		15.530	36.090	1633.000	1696.000	2.455	1.495	0.858	1.327	1.394
σ		0.452	0.246	18.230	12.450	0.073	0.030	0.164	0.047	0.075
%RSD		2.910	0.681	1.116	0.734	2.993	1.980	19.080	3.520	5.354
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:03:50	4.901	0.163	-0.327	35.990	35.580	-0.027	-1.227	96.6%	0.223
2	17:04:16	4.349	0.306	-0.624	35.060	36.200	-0.234	-1.136	100.2%	0.243
3	17:04:41	4.672	0.239	-1.020	34.900	35.440	-0.041	-0.499	100.7%	0.299
X		4.641	0.236	-0.657	35.320	35.740	-0.101	-0.954	99.1%	0.255
σ		0.277	0.071	0.348	0.586	0.406	0.116	0.397	2.2%	0.039
%RSD		5.971	30.230	52.950	1.658	1.135	115.200	41.580	2.3	15.430
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:03:50	0.283	0.252	-5.290	0.167	1.886	0.005	0.052	0.071	96.2%
2	17:04:16	0.359	0.276	-3.477	0.150	1.283	0.007	0.040	0.045	98.1%
3	17:04:41	0.267	0.279	-5.472	0.156	1.894	0.007	0.058	0.072	101.8%
X		0.303	0.269	-4.747	0.158	1.688	0.007	0.050	0.063	98.7%
σ		0.049	0.015	1.103	0.009	0.350	0.001	0.009	0.015	2.8%
%RSD		16.180	5.618	23.240	5.531	20.760	19.730	18.760	23.850	2.9
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:03:50	1.001	0.785	0.271	0.269	31.100	31.630	98.1%	0.048	0.029
2	17:04:16	1.022	0.923	0.288	0.277	32.600	30.100	103.2%	0.030	0.036
3	17:04:41	1.040	0.803	0.325	0.319	31.690	31.040	104.1%	0.032	0.028
X		1.021	0.837	0.295	0.289	31.790	30.920	101.8%	0.037	0.031
σ		0.019	0.075	0.028	0.026	0.758	0.770	3.2%	0.010	0.004
%RSD		1.909	8.992	9.331	9.178	2.383	2.490	3.1	26.370	13.450
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	17:03:50	1.034	0.885	0.979	93.3%	0.258				
2	17:04:16	0.979	0.891	0.961	98.1%	0.256				
3	17:04:41	1.090	0.841	1.026	101.1%	0.263				
X		1.034	0.872	0.988	97.5%	0.259				
σ		0.055	0.027	0.033	3.9%	0.003				
%RSD		5.337	3.100	3.385	4.0	1.276				

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11/4/2016 17:07:02

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:07:28	112.8%	0.027	7.823	8.854	10780.000	1002.000	1088.000	1107.000	866.700
2	17:07:55	114.0%	0.017	8.832	8.486	10940.000	993.300	1048.000	1129.000	852.900
3	17:08:21	117.0%	0.029	8.261	8.233	10420.000	951.000	1059.000	1080.000	795.900
X		114.6%	0.024	8.305	8.524	10710.000	982.100	1065.000	1106.000	838.500
σ		2.2%	0.006	0.506	0.312	264.400	27.280	20.400	24.780	37.560
%RSD		1.9	25.750	6.097	3.662	2.468	2.777	1.915	2.241	4.480
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:07:28	5116.000	76830.000	1285.000	3506.000	3573.000	95.9%	15.260	22.670	2.103
2	17:07:55	4983.000	78310.000	1328.000	3563.000	3738.000	95.0%	14.590	21.410	2.134
3	17:08:21	4989.000	79710.000	1328.000	3554.000	3703.000	96.7%	15.210	21.590	2.117
X		5029.000	78280.000	1314.000	3541.000	3671.000	95.9%	15.020	21.890	2.118
σ		75.050	1437.000	24.710	30.970	87.040	0.8%	0.373	0.684	0.015
%RSD		1.492	1.836	1.881	0.875	2.371	0.9	2.483	3.126	0.723
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:07:28	16.520	45.010	1903.000	1939.000	1.908	1.609	1.023	1.248	1.356
2	17:07:55	15.570	44.900	1923.000	1959.000	1.946	1.425	0.761	1.185	1.220
3	17:08:21	14.890	44.950	1907.000	1956.000	2.025	1.285	0.785	1.302	1.201
X		15.660	44.950	1911.000	1951.000	1.960	1.440	0.856	1.245	1.259
σ		0.821	0.052	10.350	11.000	0.060	0.163	0.145	0.059	0.084
%RSD		5.244	0.116	0.541	0.563	3.054	11.290	16.950	4.710	6.704
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:07:28	15.910	0.380	-0.392	24.520	26.030	-0.125	-0.043	96.5%	0.128
2	17:07:55	16.040	0.190	-0.697	25.180	25.600	0.031	-1.436	99.2%	0.168
3	17:08:21	14.950	0.402	-0.206	26.050	27.350	0.299	0.343	99.7%	0.177
X		15.630	0.324	-0.431	25.250	26.330	0.068	-0.379	98.5%	0.158
σ		0.597	0.116	0.248	0.767	0.912	0.214	0.936	1.7%	0.027
%RSD		3.818	35.900	57.530	3.039	3.463	313.300	247.300	1.8	16.830
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:07:28	0.157	0.149	-3.520	0.135	1.214	0.009	0.023	0.033	96.8%
2	17:07:55	0.154	0.227	-2.973	0.166	1.046	0.012	0.033	0.036	100.4%
3	17:08:21	0.166	0.153	-4.343	0.143	1.481	0.009	0.013	0.055	105.0%
X		0.159	0.176	-3.612	0.148	1.247	0.010	0.023	0.041	100.7%
σ		0.007	0.044	0.690	0.016	0.219	0.001	0.010	0.011	4.1%
%RSD		4.250	24.900	19.090	11.050	17.570	13.280	43.340	27.590	4.1
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:07:28	1.065	1.026	0.215	0.223	24.200	23.860	98.3%	0.044	0.043
2	17:07:55	0.979	1.031	0.215	0.237	24.280	23.760	102.6%	0.044	0.046
3	17:08:21	1.021	0.816	0.221	0.263	24.600	23.460	105.1%	0.043	0.049
X		1.022	0.958	0.217	0.241	24.360	23.690	102.0%	0.044	0.046
σ		0.043	0.123	0.003	0.020	0.213	0.206	3.5%	0.001	0.003
%RSD		4.194	12.810	1.469	8.389	0.876	0.867	3.4	2.056	5.764
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	17:07:28	1.120	1.012	1.088	95.5%	0.209				
2	17:07:55	1.163	0.978	1.120	100.9%	0.197				
3	17:08:21	1.134	1.053	1.092	102.7%	0.206				
X		1.139	1.014	1.100	99.7%	0.204				
σ		0.022	0.037	0.017	3.7%	0.006				
%RSD		1.945	3.667	1.563	3.7	3.027				

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11/4/2016 17:10:41

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:11:06	112.5%	97.580	105.100	98.620	11870.000	1959.000	1919.000	2049.000	7842.000
2	17:11:32	114.5%	96.000	104.800	99.340	11660.000	1828.000	1870.000	1923.000	7635.000
3	17:11:58	121.0%	92.460	96.370	94.290	11280.000	1746.000	1825.000	1923.000	7633.000
X		116.0%	95.350	102.100	97.420	11600.000	1845.000	1871.000	1965.000	7703.000
σ		4.4%	2.620	4.943	2.732	297.200	107.400	47.100	72.700	120.500
%RSD		3.8	2.748	4.843	2.804	2.562	5.823	2.517	3.700	1.564
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:11:06	13230.000	74900.000	2422.000	4672.000	4898.000	98.4%	133.000	130.300	106.400
2	17:11:32	13090.000	77010.000	2468.000	4772.000	5047.000	98.6%	128.700	123.400	105.400
3	17:11:58	13070.000	78030.000	2533.000	4597.000	5018.000	97.9%	128.700	123.700	107.200
X		13130.000	76640.000	2474.000	4680.000	4988.000	98.3%	130.100	125.800	106.300
σ		87.540	1595.000	55.460	87.630	79.050	0.4%	2.454	3.882	0.898
%RSD		0.667	2.081	2.241	1.872	1.585	0.4	1.886	3.086	0.845
Run	Time	53Cr	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:11:06	13.450	150.100	3368.000	3318.000	105.500	99.020	99.810	95.770	102.700
2	17:11:32	12.590	150.500	3444.000	3514.000	105.500	98.030	98.450	96.290	99.380
3	17:11:58	12.090	153.000	3487.000	3580.000	105.500	94.350	97.900	95.770	99.150
X		12.710	151.200	3433.000	3471.000	105.500	97.140	98.720	95.940	100.400
σ		0.683	1.558	60.650	136.100	0.050	2.463	0.983	0.298	1.999
%RSD		5.373	1.030	1.767	3.922	0.047	2.536	0.995	0.311	1.991
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:11:06	112.700	92.790	87.090	27.550	28.930	87.790	1.076	97.5%	95.900
2	17:11:32	110.200	91.780	87.170	27.160	28.700	84.760	1.138	100.0%	96.460
3	17:11:58	107.400	89.920	88.190	26.080	30.170	84.570	1.848	102.3%	97.110
X		110.100	91.500	87.480	26.930	29.270	85.710	1.354	99.9%	96.490
σ		2.630	1.458	0.615	0.763	0.791	1.807	0.429	2.4%	0.603
%RSD		2.389	1.594	0.703	2.832	2.701	2.108	31.670	2.4	0.625
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:11:06	98.000	95.670	97.030	104.500	5.440	105.600	103.100	97.400	96.9%
2	17:11:32	97.360	96.780	96.620	104.000	8.513	106.600	105.100	98.300	100.7%
3	17:11:58	97.700	96.520	97.850	103.000	8.427	106.000	103.200	97.020	104.6%
X		97.690	96.320	97.170	103.800	7.460	106.000	103.800	97.570	100.7%
σ		0.320	0.581	0.624	0.764	1.750	0.520	1.133	0.660	3.8%
%RSD		0.328	0.603	0.642	0.736	23.460	0.490	1.092	0.676	3.8
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:11:06	96.750	96.570	90.780	93.940	128.200	126.700	100.0%	97.060	105.800
2	17:11:32	98.210	97.280	93.610	93.440	128.800	127.600	104.0%	98.400	108.600
3	17:11:58	97.570	94.960	93.680	95.250	126.500	126.100	106.7%	98.410	106.100
X		97.510	96.270	92.690	94.210	127.800	126.800	103.6%	97.950	106.800
σ		0.733	1.191	1.656	0.932	1.213	0.774	3.4%	0.775	1.517
%RSD		0.752	1.237	1.787	0.989	0.949	0.610	3.3	0.792	1.420
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	17:11:06	105.500	97.460	105.200	94.3%	112.600				
2	17:11:32	108.700	97.280	105.700	99.6%	112.600				
3	17:11:58	106.500	97.400	105.600	102.6%	114.500				
X		106.900	97.380	105.500	98.9%	113.200				
σ		1.645	0.090	0.263	4.2%	1.130				
%RSD		1.538	0.092	0.249	4.2	0.998				

RK02041-004MD

11/4/2016 17:14:18

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:44	114.3%	96.420	103.400	103.800	11570.000	1911.000	1916.000	1925.000	7764.000
2	17:15:10	118.3%	96.090	101.400	98.340	10950.000	1792.000	1832.000	1901.000	7694.000
3	17:15:36	121.5%	93.470	99.910	96.970	10950.000	1778.000	1832.000	1902.000	7723.000
X		118.1%	95.330	101.500	99.690	11160.000	1827.000	1860.000	1909.000	7727.000
σ		3.6%	1.614	1.735	3.597	359.700	73.120	48.400	13.560	35.530
%RSD		3.0	1.693	1.709	3.608	3.225	4.002	2.602	0.710	0.460
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:44	13110.000	78130.000	2376.000	4435.000	4783.000	99.6%	127.700	128.100	104.600
2	17:15:10	12980.000	81050.000	2496.000	4535.000	4884.000	98.8%	134.800	127.600	105.700
3	17:15:36	13200.000	82120.000	2508.000	4662.000	4856.000	98.0%	126.100	125.400	107.200
X		13090.000	80430.000	2460.000	4544.000	4841.000	98.8%	129.500	127.000	105.800
σ		109.300	2069.000	73.050	113.300	51.770	0.8%	4.640	1.458	1.321
%RSD		0.835	2.572	2.969	2.494	1.069	0.8	3.582	1.147	1.248
Run	Time	53Cr	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:44	13.780	146.800	3500.000	3630.000	104.400	97.910	101.200	96.540	101.800
2	17:15:10	13.080	149.800	3581.000	3663.000	105.500	98.010	97.630	95.860	100.700
3	17:15:36	14.530	151.100	3553.000	3682.000	105.400	95.000	99.500	96.550	99.600
X		13.800	149.200	3545.000	3659.000	105.100	96.970	99.450	96.320	100.700
σ		0.729	2.202	41.220	26.560	0.620	1.711	1.790	0.395	1.100
%RSD		5.286	1.476	1.163	0.726	0.590	1.765	1.800	0.410	1.093
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:44	113.600	94.540	86.400	23.710	25.870	90.910	1.065	97.6%	101.700
2	17:15:10	109.100	90.540	86.170	23.430	26.850	87.870	-0.638	99.5%	102.600
3	17:15:36	110.900	90.160	87.510	24.450	25.260	85.030	1.073	101.7%	101.300
X		111.200	91.740	86.690	23.860	25.990	87.940	0.500	99.6%	101.900
σ		2.227	2.427	0.718	0.526	0.801	2.939	0.985	2.1%	0.645
%RSD		2.002	2.645	0.828	2.204	3.082	3.343	197.000	2.1	0.633
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:44	100.600	98.960	96.340	104.600	8.536	106.900	102.800	98.160	97.3%
2	17:15:10	102.000	101.500	95.670	104.200	6.455	105.700	104.400	98.140	101.0%
3	17:15:36	101.500	101.700	101.400	105.100	6.630	106.900	104.200	98.590	102.9%
X		101.400	100.700	97.790	104.700	7.207	106.500	103.800	98.300	100.4%
σ		0.732	1.511	3.104	0.466	1.154	0.721	0.865	0.255	2.9%
%RSD		0.722	1.500	3.174	0.445	16.020	0.677	0.834	0.260	2.9
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:44	98.880	97.280	91.510	95.940	130.200	128.300	99.4%	98.910	106.700
2	17:15:10	96.700	98.440	93.220	96.190	128.700	126.300	102.5%	97.950	108.900
3	17:15:36	98.380	98.400	95.660	98.130	127.300	127.500	105.9%	98.370	106.700
X		97.990	98.040	93.460	96.750	128.700	127.300	102.6%	98.410	107.400
σ		1.139	0.658	2.087	1.200	1.470	1.004	3.2%	0.482	1.297
%RSD		1.162	0.671	2.233	1.240	1.142	0.788	3.2	0.490	1.208
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	17:14:44	107.800	99.140	107.000	94.8%	115.400				
2	17:15:10	107.800	100.100	109.200	99.6%	115.200				
3	17:15:36	107.100	96.030	106.000	99.9%	116.400				
X		107.600	98.420	107.400	98.1%	115.700				
σ		0.434	2.130	1.632	2.9%	0.688				
%RSD		0.404	2.165	1.519	2.9	0.595				

RK02041-004ps

11/4/2016 17:17:57

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:18:22	114.0%	93.970	97.570	101.400	11040.000	1807.000	1820.000	1880.000	915.200
2	17:18:48	114.5%	94.420	94.710	97.370	11470.000	1804.000	1841.000	1945.000	945.700
3	17:19:14	122.4%	90.630	98.440	94.120	10350.000	1643.000	1745.000	1777.000	914.300
X		117.0%	93.010	96.910	97.640	10950.000	1751.000	1802.000	1867.000	925.100
σ		4.7%	2.072	1.953	3.662	565.700	93.660	50.470	84.980	17.910
%RSD		4.0	2.227	2.015	3.750	5.165	5.348	2.801	4.551	1.937
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:18:22	5795.000	77010.000	2350.000	4519.000	4648.000	96.5%	113.700	123.700	102.700
2	17:18:48	5917.000	78600.000	2396.000	4540.000	4751.000	95.8%	112.500	120.000	103.400
3	17:19:14	5598.000	77600.000	2384.000	4391.000	4588.000	98.7%	115.300	118.800	102.000
X		5770.000	77740.000	2377.000	4483.000	4662.000	97.0%	113.800	120.800	102.700
σ		160.700	804.200	23.660	80.730	82.680	1.5%	1.391	2.565	0.732
%RSD		2.785	1.034	0.995	1.801	1.773	1.6	1.222	2.123	0.713
Run	Time	53Cr	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:18:22	12.170	146.000	2835.000	2948.000	102.100	95.660	95.960	94.130	99.520
2	17:18:48	11.830	146.600	2871.000	3000.000	103.600	93.370	96.140	95.680	98.360
3	17:19:14	9.988	145.600	2830.000	2984.000	100.800	91.800	90.260	94.000	95.240
X		11.330	146.100	2846.000	2977.000	102.200	93.610	94.120	94.600	97.710
σ		1.175	0.486	22.300	26.410	1.395	1.941	3.347	0.931	2.216
%RSD		10.370	0.333	0.784	0.887	1.365	2.073	3.556	0.984	2.268
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:18:22	108.800	94.810	87.670	24.880	26.290	91.470	-0.573	97.3%	105.700
2	17:18:48	107.900	93.160	90.160	24.590	25.450	90.160	1.847	99.1%	106.900
3	17:19:14	104.000	91.030	87.920	25.270	25.720	89.440	-0.839	101.1%	106.900
X		106.900	93.000	88.580	24.910	25.820	90.350	0.145	99.2%	106.500
σ		2.578	1.897	1.370	0.337	0.429	1.028	1.480	1.9%	0.715
%RSD		2.412	2.040	1.546	1.354	1.660	1.137	1019.000	1.9	0.672
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:18:22	107.300	107.600	94.510	101.500	6.498	103.900	101.300	94.480	96.5%
2	17:18:48	106.900	106.800	93.760	102.800	8.986	104.700	101.000	96.310	99.6%
3	17:19:14	106.200	105.600	95.020	101.800	8.131	102.500	100.600	97.320	103.3%
X		106.800	106.600	94.430	102.000	7.872	103.700	101.000	96.040	99.8%
σ		0.559	1.009	0.632	0.675	1.264	1.127	0.364	1.438	3.4%
%RSD		0.523	0.947	0.670	0.662	16.060	1.087	0.361	1.498	3.4
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:18:22	99.810	97.940	90.910	92.640	124.000	122.600	98.8%	97.440	104.600
2	17:18:48	98.110	98.580	91.890	94.420	121.000	121.900	102.5%	95.900	104.200
3	17:19:14	97.800	97.110	92.360	95.090	121.900	120.200	105.3%	95.700	104.000
X		98.570	97.880	91.720	94.050	122.300	121.500	102.2%	96.350	104.300
σ		1.085	0.737	0.740	1.267	1.496	1.235	3.3%	0.951	0.291
%RSD		1.101	0.753	0.807	1.347	1.223	1.016	3.2	0.987	0.279
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	17:18:22	103.800	94.680	103.000	94.1%	112.400				
2	17:18:48	103.800	95.270	103.000	98.2%	111.500				
3	17:19:14	103.700	94.060	102.400	101.1%	113.200				
X		103.800	94.670	102.800	97.8%	112.300				
σ		0.088	0.609	0.334	3.5%	0.848				
%RSD		0.085	0.643	0.325	3.6	0.754				

RK02041-004L(5)

11/4/2016 17:21:35

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:22:01	106.5%	0.030	2.563	2.517	2390.000	228.500	244.900	250.400	196.600
2	17:22:27	109.6%	0.015	2.313	2.296	2399.000	224.400	238.100	243.800	211.600
3	17:22:53	110.1%	0.038	2.531	2.527	2265.000	215.300	225.300	231.300	200.200
X		108.7%	0.028	2.469	2.447	2352.000	222.700	236.100	241.900	202.800
σ		1.9%	0.012	0.136	0.131	75.060	6.750	9.968	9.730	7.809
%RSD		1.8	41.770	5.511	5.342	3.192	3.030	4.222	4.023	3.850
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:22:01	1123.000	16160.000	289.900	754.500	749.800	96.2%	4.037	4.998	0.506
2	17:22:27	1135.000	17020.000	303.400	765.500	785.600	94.8%	4.239	4.844	0.470
3	17:22:53	1061.000	16610.000	296.300	742.700	746.700	98.9%	4.590	4.765	0.514
X		1106.000	16600.000	296.500	754.200	760.700	96.6%	4.289	4.869	0.497
σ		39.300	427.700	6.770	11.370	21.650	2.1%	0.280	0.118	0.023
%RSD		3.552	2.577	2.283	1.507	2.846	2.2	6.518	2.426	4.716
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:22:01	3.602	9.558	405.500	398.000	0.425	0.308	-0.234	0.267	0.286
2	17:22:27	3.511	9.859	403.000	409.800	0.418	0.347	-0.206	0.257	0.283
3	17:22:53	3.472	9.708	394.300	401.400	0.473	0.376	-0.422	0.318	0.254
X		3.529	9.708	401.000	403.100	0.439	0.343	-0.287	0.281	0.275
σ		0.067	0.151	5.891	6.114	0.030	0.034	0.118	0.033	0.018
%RSD		1.887	1.553	1.469	1.517	6.753	9.864	40.910	11.700	6.394
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:22:01	3.780	0.093	-0.106	5.878	6.037	-0.080	-1.024	95.2%	0.485
2	17:22:27	3.739	2.524	-0.053	5.372	6.377	-0.513	1.155	96.2%	0.452
3	17:22:53	3.742	0.346	-0.496	5.750	6.006	0.233	1.053	98.0%	0.432
X		3.754	0.988	-0.218	5.667	6.140	-0.120	0.395	96.5%	0.456
σ		0.023	1.337	0.242	0.263	0.206	0.375	1.230	1.4%	0.027
%RSD		0.604	135.300	110.600	4.642	3.355	311.800	311.700	1.4	5.899
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:22:01	0.381	0.398	-1.604	0.037	0.584	0.002	0.008	-0.003	96.9%
2	17:22:27	0.427	0.413	-1.391	0.034	0.549	0.004	0.010	0.009	101.0%
3	17:22:53	0.417	0.429	-1.958	0.046	0.706	0.025	0.007	0.027	102.3%
X		0.408	0.413	-1.651	0.039	0.613	0.010	0.009	0.011	100.1%
σ		0.024	0.015	0.287	0.006	0.082	0.013	0.002	0.015	2.8%
%RSD		5.898	3.703	17.360	16.670	13.430	121.500	18.730	139.300	2.8
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:22:01	0.152	0.270	0.490	0.477	5.160	5.037	96.5%	0.013	0.025
2	17:22:27	0.205	0.156	0.563	0.527	5.200	5.243	99.4%	0.019	0.020
3	17:22:53	0.182	0.030	0.553	0.506	5.056	5.132	102.3%	0.042	0.035
X		0.179	0.152	0.535	0.504	5.139	5.137	99.4%	0.025	0.027
σ		0.027	0.120	0.039	0.025	0.074	0.103	2.9%	0.016	0.008
%RSD		14.780	79.220	7.361	5.022	1.449	2.005	3.0	63.470	28.990
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	17:22:01	0.245	0.245	0.265	97.8%	0.049				
2	17:22:27	0.287	0.203	0.233	101.1%	0.051				
3	17:22:53	0.224	0.243	0.260	104.2%	0.063				
X		0.252	0.230	0.252	101.0%	0.054				
σ		0.032	0.024	0.017	3.2%	0.008				
%RSD		12.850	10.260	6.716	3.2	13.970				

CCV MW9041 11/4/2016 17:25:13 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:39	81.9%	321.100	319.900	306.200	62050.000	60850.000	61280.000	61210.000	302.900
2	17:26:06	84.5%	316.400	313.200	298.900	60510.000	58890.000	58200.000	60220.000	301.700
3	17:26:31	83.7%	325.300	310.200	306.500	60780.000	58980.000	58740.000	60190.000	295.500
X		83.4%	106.975%	104.809%	101.296%	101.860%	59570.000	59410.000	100.901%	100.012%
σ		1.4%	n/a	n/a	n/a	n/a	1106.000	1643.000	n/a	n/a
%RSD		1.6	1.378	1.584	1.417	1.344	1.857	2.766	0.956	1.316
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:39	4579.000	349.100	65250.000	62480.000	62940.000	89.1%	315.400	317.900	338.700
2	17:26:06	4522.000	367.500	67350.000	62920.000	63480.000	90.6%	318.800	321.300	332.500
3	17:26:31	4508.000	371.000	67890.000	63020.000	63310.000	92.1%	312.300	320.800	305.700
X		151.205%	362.600	111.381%	62800.000	105.405%	90.6%	105.167%	106.656%	108.543%
σ		n/a	11.780	n/a	288.300	n/a	1.5%	n/a	n/a	n/a
%RSD		0.834	3.250	2.091	0.459	0.437	1.6	1.042	0.570	5.389
Run	Time	53Cr O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:39	-14.750	301.200	61980.000	61670.000	326.200	297.400	299.700	266.600	287.400
2	17:26:06	-12.010	301.800	62740.000	61580.000	316.200	286.900	288.000	263.600	280.900
3	17:26:31	-2.749	299.900	62120.000	61790.000	321.100	285.100	287.100	261.800	275.900
X		-9.835	100.325%	103.804%	102.799%	107.051%	96.595%	291.600	264.000	93.799%
σ		6.287	n/a	n/a	n/a	n/a	n/a	7.019	2.380	n/a
%RSD		63.930	0.322	0.650	0.173	1.556	2.281	2.407	0.902	2.063
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:39	288.900	313.500	285.000	1.625	0.488	300.800	-0.654	88.8%	312.400
2	17:26:06	282.500	303.700	283.700	0.843	0.207	289.500	0.006	90.5%	329.700
3	17:26:31	281.100	301.500	281.000	1.227	0.491	287.800	0.994	92.3%	337.600
X		94.720%	102.087%	283.200	1.232	0.395	97.573%	0.115	90.5%	108.863%
σ		n/a	n/a	2.045	0.391	0.163	n/a	0.829	1.8%	n/a
%RSD		1.475	2.085	0.722	31.750	41.280	2.419	718.400	1.9	3.959
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:39	309.900	310.400	299.100	310.000	24.500	308.700	305.700	296.100	85.4%
2	17:26:06	329.500	329.800	303.500	303.600	16.980	309.800	304.100	291.100	89.4%
3	17:26:31	340.500	339.000	305.500	307.500	23.020	310.800	308.800	297.400	90.9%
X		108.874%	108.804%	302.700	102.342%	21.500	309.800	306.200	98.287%	88.5%
σ		n/a	n/a	3.278	n/a	3.985	1.064	2.382	n/a	2.9%
%RSD		4.751	4.475	1.083	1.050	18.540	0.343	0.778	1.128	3.2
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:39	307.300	308.800	299.500	301.500	313.400	314.500	90.5%	294.500	294.100
2	17:26:06	307.400	311.300	310.900	310.600	312.900	312.200	92.0%	299.900	303.100
3	17:26:31	308.300	306.200	312.900	309.000	316.700	311.200	94.4%	299.600	304.800
X		102.558%	102.911%	102.587%	102.352%	104.780%	104.198%	92.3%	99.336%	100.214%
σ		n/a	n/a	n/a	n/a	n/a	n/a	2.0%	n/a	n/a
%RSD		0.182	0.827	2.343	1.579	0.652	0.539	2.1	1.027	1.917
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	17:25:39	286.700	281.600	318.600	78.8%	316.200				
2	17:26:06	315.200	284.800	318.000	80.5%	323.500				
3	17:26:31	318.000	287.300	322.600	85.3%	328.300				
X		102.203%	94.858%	106.580%	81.5%	107.543%				
σ		n/a	n/a	n/a	3.4%	n/a				
%RSD		5.655	1.011	0.781	4.1	1.890				

CCB IM7321-01 11/4/2016 17:28:51 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:29:17	98.3%	0.063	2.527	2.722	4.941	2.735	2.786	2.726	0.750
2	17:29:43	103.8%	0.024	2.107	2.192	3.862	2.204	2.083	2.335	0.629
3	17:30:09	103.9%	0.069	1.923	1.964	3.679	2.230	2.340	2.151	0.656
X		102.0%	0.052	2.185	2.293	4.161	2.390	2.403	2.404	0.678
σ		3.2%	0.024	0.310	0.389	0.682	0.299	0.355	0.294	0.064
%RSD		3.1	47.220	14.160	16.970	16.390	12.530	14.780	12.230	9.371
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:29:17	85.740	158.300	7.685	2.664	9.909	95.7%	0.015	0.073	0.045
2	17:29:43	55.980	172.600	6.123	5.599	5.407	97.9%	-0.046	0.078	0.029
3	17:30:09	29.600	185.100	6.367	1.583	7.448	98.4%	-0.007	0.065	0.020
X		57.110	172.000	6.725	3.282	7.588	97.3%	-0.012	0.072	0.031
σ		28.090	13.420	0.840	2.078	2.254	1.4%	0.031	0.007	0.013
%RSD		49.180	7.800	12.500	63.300	29.710	1.5	249.500	9.551	40.500
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:29:17	0.023	0.013	3.860	6.487	0.022	0.017	-0.370	0.060	0.035
2	17:29:43	0.030	0.018	1.625	0.779	0.021	0.036	-0.390	0.017	0.054
3	17:30:09	0.034	0.010	0.761	0.048	0.020	0.009	-0.255	0.030	0.019
X		0.029	0.014	2.082	2.438	0.021	0.020	-0.338	0.035	0.036
σ		0.006	0.004	1.600	3.525	0.001	0.014	0.073	0.022	0.017
%RSD		20.060	29.770	76.840	144.600	4.079	67.380	21.510	62.950	48.760
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:29:17	0.026	0.189	0.039	-0.512	1.213	0.617	-0.028	96.0%	2.321
2	17:29:43	0.018	0.090	-0.197	-0.175	-0.223	0.133	0.386	98.3%	2.314
3	17:30:09	0.114	0.081	0.122	-0.220	0.412	-0.004	-0.172	100.4%	2.037
X		0.052	0.120	-0.012	-0.302	0.467	0.249	0.062	98.2%	2.224
σ		0.053	0.060	0.165	0.183	0.720	0.326	0.290	2.2%	0.162
%RSD		101.700	50.370	1377.000	60.590	154.000	131.200	467.900	2.2	7.270
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:29:17	2.179	2.319	-0.289	0.016	0.099	0.019	0.021	0.005	96.3%
2	17:29:43	2.381	2.286	-0.126	0.017	0.114	0.021	0.012	0.008	99.3%
3	17:30:09	1.993	1.917	-0.434	0.014	0.168	0.020	0.012	0.006	102.2%
X		2.185	2.174	-0.283	0.016	0.127	0.020	0.015	0.006	99.3%
σ		0.194	0.223	0.154	0.002	0.036	0.001	0.005	0.001	2.9%
%RSD		8.889	10.260	54.380	10.250	28.520	4.263	34.720	21.530	2.9
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:29:17	0.095	0.077	0.985	0.970	0.014	0.027	94.7%	0.021	0.017
2	17:29:43	0.079	0.303	1.030	0.968	0.017	0.012	98.8%	0.014	0.015
3	17:30:09	0.073	0.037	0.995	0.911	0.005	0.021	101.7%	0.021	0.016
X		0.082	0.139	1.003	0.949	0.012	0.020	98.4%	0.019	0.016
σ		0.011	0.144	0.023	0.034	0.007	0.008	3.5%	0.004	0.001
%RSD		13.760	103.500	2.314	3.537	55.480	39.070	3.6	21.660	7.574
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	17:29:17	0.026	0.038	0.027	96.5%	0.050				
2	17:29:43	0.033	0.027	0.023	99.6%	0.055				
3	17:30:09	0.040	0.022	0.030	101.3%	0.056				
X		0.033	0.029	0.026	99.1%	0.054				
σ		0.007	0.008	0.003	2.4%	0.003				
%RSD		21.240	28.970	13.070	2.5	6.051				

RK01063-001 11/4/2016 17:32:30

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:32:55	109.6%	1.152	10.710	11.450	3657.000	571.500	603.300	629.300	870.100
2	17:33:21	112.3%	1.327	10.430	10.150	3656.000	541.900	587.300	622.800	862.000
3	17:33:47	118.5%	1.141	9.704	9.895	3458.000	554.300	580.500	604.100	831.600
X		113.5%	1.207	10.280	10.500	3590.000	555.900	590.400	618.700	854.600
σ		4.5%	0.105	0.519	0.833	114.300	14.860	11.700	13.050	20.290
%RSD		4.0	8.670	5.047	7.933	3.184	2.673	1.981	2.109	2.374
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:32:55	16460.000	74330.000	1249.000	913.100	1255.000	97.8%	32.590	17.840	2.206
2	17:33:21	16260.000	76180.000	1311.000	909.300	1250.000	99.6%	32.000	18.030	2.113
3	17:33:47	15800.000	75830.000	1287.000	932.100	1239.000	102.0%	31.390	17.230	2.005
X		16170.000	75450.000	1283.000	918.200	1248.000	99.8%	31.990	17.700	2.108
σ		340.000	980.400	30.990	12.230	8.105	2.1%	0.602	0.419	0.101
%RSD		2.102	1.299	2.416	1.332	0.649	2.1	1.880	2.368	4.783
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:32:55	16.290	7.835	1054.000	1073.000	2.807	4.204	4.362	1.520	1.735
2	17:33:21	15.600	7.691	1040.000	1066.000	2.903	4.109	3.730	1.657	1.712
3	17:33:47	15.110	7.739	1035.000	1054.000	2.809	4.095	3.679	1.584	1.681
X		15.670	7.755	1043.000	1064.000	2.840	4.136	3.924	1.587	1.709
σ		0.591	0.073	9.906	9.815	0.055	0.059	0.380	0.068	0.027
%RSD		3.774	0.945	0.950	0.922	1.929	1.433	9.695	4.313	1.585
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:32:55	7.553	-0.283	-0.310	17.280	16.260	-0.306	0.684	108.1%	0.677
2	17:33:21	7.637	0.316	-0.414	16.780	17.510	0.310	-0.892	110.4%	0.788
3	17:33:47	7.660	-0.096	-0.782	16.660	18.350	0.156	0.347	113.3%	0.696
X		7.617	-0.021	-0.502	16.910	17.380	0.053	0.046	110.6%	0.721
σ		0.057	0.307	0.248	0.332	1.051	0.321	0.830	2.6%	0.059
%RSD		0.743	1456.000	49.440	1.965	6.050	601.200	1786.000	2.4	8.213
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:32:55	0.759	0.613	-2.283	0.190	0.796	0.018	0.050	0.056	97.9%
2	17:33:21	0.715	0.806	-1.378	0.153	0.554	0.018	0.069	0.062	102.4%
3	17:33:47	0.756	0.639	-1.590	0.168	0.656	0.011	0.065	0.071	106.4%
X		0.744	0.686	-1.751	0.170	0.669	0.016	0.061	0.063	102.2%
σ		0.025	0.105	0.473	0.019	0.121	0.004	0.010	0.007	4.3%
%RSD		3.333	15.260	27.030	11.100	18.150	25.120	16.470	11.840	4.2
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:32:55	0.321	0.177	0.587	0.553	54.640	53.950	99.3%	0.054	0.067
2	17:33:21	0.304	0.271	0.703	0.611	54.620	54.160	104.7%	0.071	0.073
3	17:33:47	0.339	0.223	0.660	0.627	54.450	54.210	107.1%	0.055	0.071
X		0.321	0.223	0.650	0.597	54.570	54.110	103.7%	0.060	0.070
σ		0.017	0.047	0.059	0.039	0.107	0.137	4.0%	0.009	0.003
%RSD		5.441	21.080	9.058	6.550	0.195	0.254	3.9	15.450	4.731
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	17:32:55	1.588	1.395	1.464	97.6%	0.256				
2	17:33:21	1.610	1.383	1.476	103.1%	0.256				
3	17:33:47	1.627	1.407	1.498	105.9%	0.258				
X		1.608	1.395	1.480	102.2%	0.257				
σ		0.020	0.012	0.017	4.2%	0.001				
%RSD		1.223	0.866	1.141	4.1	0.418				

RK01063-002

11/4/2016 17:36:08

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:36:33	102.2%	1.783	156.700	155.600	18140.000	7387.000	7396.000	7396.000	42640.000
2	17:36:59	105.1%	1.863	148.300	152.500	17630.000	6985.000	7043.000	7375.000	41320.000
3	17:37:25	105.1%	1.756	154.800	155.800	17500.000	6650.000	6715.000	7163.000	39900.000
X		104.1%	1.801	153.300	154.600	17760.000	7007.000	7051.000	7311.000	41280.000
σ		1.7%	0.055	4.396	1.839	338.300	368.700	340.900	129.300	1369.000
%RSD		1.6	3.066	2.868	1.189	1.905	5.261	4.835	1.769	3.315
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:36:33	38180.000	62660.000	36200.000	26260.000	27050.000	117.4%	56.090	73.320	48.580
2	17:36:59	37340.000	64530.000	36720.000	26730.000	27070.000	119.4%	57.270	73.390	48.240
3	17:37:25	36480.000	64780.000	37360.000	26260.000	26810.000	121.7%	54.940	70.960	48.290
X		37330.000	63990.000	36760.000	26410.000	26970.000	119.5%	56.100	72.550	48.370
σ		851.900	1156.000	581.500	272.400	143.900	2.1%	1.163	1.381	0.185
%RSD		2.282	1.807	1.582	1.031	0.533	1.8	2.073	1.904	0.382
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:36:33	9.129	142.000	56030.000	54990.000	5.363	23.970	24.600	26.350	45.120
2	17:36:59	9.147	143.500	55810.000	54260.000	5.373	22.580	23.350	26.620	43.690
3	17:37:25	7.967	143.800	56410.000	54540.000	5.257	22.880	22.050	26.620	43.260
X		8.748	143.100	56080.000	54600.000	5.331	23.140	23.330	26.530	44.020
σ		0.676	0.963	302.200	369.800	0.064	0.728	1.277	0.157	0.974
%RSD		7.728	0.673	0.539	0.677	1.210	3.146	5.474	0.591	2.212
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:36:33	204.000	3.867	-0.809	281.300	269.400	4.564	3.042	259.8%	0.356
2	17:36:59	196.600	3.176	-1.150	284.000	275.800	3.989	1.213	264.5%	0.421
3	17:37:25	196.700	3.692	-0.578	283.300	274.600	3.882	0.536	271.8%	0.452
X		199.100	3.579	-0.846	282.900	273.300	4.145	1.597	265.4%	0.410
σ		4.258	0.359	0.288	1.416	3.416	0.366	1.296	6.1%	0.049
%RSD		2.139	10.040	34.030	0.501	1.250	8.841	81.160	2.3	11.980
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:36:33	0.367	0.303	-7.261	0.358	2.691	0.070	0.439	0.486	95.5%
2	17:36:59	0.487	0.432	-6.127	0.392	2.328	0.075	0.410	0.476	100.5%
3	17:37:25	0.435	0.390	-9.948	0.352	3.808	0.073	0.408	0.428	103.0%
X		0.430	0.375	-7.779	0.367	2.942	0.073	0.419	0.463	99.7%
σ		0.060	0.065	1.962	0.021	0.772	0.002	0.017	0.031	3.8%
%RSD		14.010	17.440	25.230	5.804	26.220	3.044	4.152	6.750	3.8
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:36:33	3.075	1.541	0.125	0.160	215.000	213.300	103.7%	0.381	0.349
2	17:36:59	2.986	1.524	0.149	0.159	212.000	207.700	106.8%	0.332	0.373
3	17:37:25	2.948	1.261	0.158	0.177	210.700	210.200	110.0%	0.349	0.367
X		3.003	1.442	0.144	0.166	212.600	210.400	106.8%	0.354	0.363
σ		0.065	0.157	0.017	0.010	2.207	2.810	3.2%	0.025	0.013
%RSD		2.165	10.880	11.910	5.935	1.038	1.336	3.0	7.083	3.561
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	17:36:33	74.240	65.050	70.940	88.6%	12.500				
2	17:36:59	75.960	66.100	74.130	92.8%	12.830				
3	17:37:25	76.620	66.800	72.290	98.1%	12.880				
X		75.610	65.980	72.450	93.1%	12.740				
σ		1.227	0.879	1.600	4.8%	0.211				
%RSD		1.623	1.332	2.208	5.1	1.652				

RK01063-003

11/4/2016 17:39:45

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:40:10	117.1%	0.364	9.760	8.835	3592.000	1301.000	1397.000	1463.000	65.360
2	17:40:36	121.9%	0.425	8.833	9.034	3340.000	1218.000	1316.000	1363.000	62.590
3	17:41:02	124.7%	0.363	7.800	8.637	3259.000	1194.000	1279.000	1261.000	57.000
X		121.3%	0.384	8.798	8.835	3397.000	1238.000	1331.000	1362.000	61.650
σ		3.8%	0.035	0.980	0.198	173.600	56.200	60.420	101.100	4.258
%RSD		3.2	9.213	11.140	2.246	5.111	4.540	4.541	7.422	6.907
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:40:10	TM 14990.000	72440.000	2407.000	899.400	1149.000	99.4%	3.671	15.780	2.076
2	17:40:36	TM 14200.000	73390.000	2474.000	897.900	1139.000	100.8%	3.532	15.140	2.144
3	17:41:02	TM 14330.000	74180.000	2409.000	903.200	1116.000	101.1%	4.013	14.430	1.970
X		TM 14510.000	73340.000	2430.000	900.200	1135.000	100.4%	3.739	15.120	2.063
σ		TM 425.400	870.600	38.080	2.757	16.740	0.9%	0.248	0.672	0.087
%RSD		TM 2.932	1.187	1.567	0.306	1.476	0.9	6.626	4.448	4.232
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:40:10	14.800	24.340	421.000	411.100	7.430	4.445	3.896	2.152	2.199
2	17:40:36	14.040	23.850	416.900	403.600	7.465	4.155	3.483	2.213	2.117
3	17:41:02	13.490	23.730	410.000	401.800	7.425	4.118	3.375	2.162	2.144
X		14.110	23.970	416.000	405.500	7.440	4.239	3.584	2.176	2.154
σ		0.659	0.322	5.558	4.920	0.022	0.179	0.275	0.033	0.042
%RSD		4.672	1.342	1.336	1.213	0.292	4.226	7.666	1.500	1.939
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:40:10	14.450	-0.115	-0.395	57.990	63.590	0.077	-0.695	101.7%	0.118
2	17:40:36	14.520	0.422	-0.571	54.700	57.780	0.219	0.009	104.6%	0.220
3	17:41:02	14.180	0.087	-0.572	55.160	56.200	0.162	1.071	105.3%	0.186
X		14.380	0.131	-0.513	55.950	59.190	0.153	0.129	103.8%	0.175
σ		0.184	0.271	0.102	1.779	3.893	0.072	0.889	1.9%	0.052
%RSD		1.279	206.600	19.970	3.179	6.578	47.130	692.200	1.8	29.560
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:40:10	0.187	0.167	-2.030	0.146	0.745	0.009	0.075	0.070	105.4%
2	17:40:36	0.162	0.234	-4.302	0.108	1.482	0.003	0.060	0.043	109.1%
3	17:41:02	0.221	0.180	-4.742	0.130	1.663	0.004	0.046	0.037	111.9%
X		0.190	0.194	-3.691	0.128	1.296	0.005	0.060	0.050	108.8%
σ		0.030	0.036	1.456	0.019	0.487	0.003	0.015	0.018	3.2%
%RSD		15.680	18.530	39.440	15.200	37.530	62.270	24.670	35.250	3.0
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:40:10	0.395	0.376	0.211	0.203	108.500	107.100	105.3%	0.073	0.090
2	17:40:36	0.421	0.247	0.284	0.271	107.600	107.400	108.8%	0.080	0.088
3	17:41:02	0.457	0.401	0.262	0.273	107.600	106.700	110.9%	0.080	0.084
X		0.424	0.341	0.252	0.249	107.900	107.100	108.3%	0.078	0.087
σ		0.031	0.083	0.037	0.040	0.530	0.342	2.8%	0.004	0.003
%RSD		7.307	24.200	14.750	15.950	0.491	0.320	2.6	5.455	3.197
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	17:40:10	0.531	0.444	0.492	104.6%	0.099				
2	17:40:36	0.551	0.462	0.498	107.0%	0.101				
3	17:41:02	0.536	0.471	0.480	109.0%	0.104				
X		0.539	0.459	0.490	106.8%	0.101				
σ		0.010	0.014	0.009	2.2%	0.003				
%RSD		1.869	2.989	1.847	2.1	2.519				

RK01063-004

11/4/2016 17:43:22

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:43:48	116.7%	0.166	8.865	9.440	2545.000	1640.000	1630.000	1684.000	630.200
2	17:44:15	121.7%	0.222	9.125	8.868	2525.000	1582.000	1579.000	1639.000	649.900
3	17:44:41	123.3%	0.246	8.604	8.488	2400.000	1489.000	1511.000	1605.000	632.200
X		120.5%	0.211	8.865	8.932	2490.000	1570.000	1573.000	1643.000	637.400
σ		3.4%	0.041	0.260	0.480	78.750	76.340	59.570	39.850	10.790
%RSD		2.9	19.500	2.936	5.368	3.163	4.861	3.787	2.426	1.693
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:43:48	6717.000	70580.000	2513.000	897.300	963.700	99.7%	12.450	19.490	2.162
2	17:44:15	6691.000	72020.000	2565.000	903.600	1019.000	98.4%	13.050	19.220	2.130
3	17:44:41	6654.000	72540.000	2579.000	888.800	1005.000	98.3%	13.620	18.900	2.109
X		6687.000	71710.000	2552.000	896.600	995.900	98.8%	13.040	19.200	2.134
σ		31.400	1013.000	35.050	7.462	28.720	0.8%	0.585	0.296	0.027
%RSD		0.470	1.413	1.373	0.832	2.884	0.8	4.485	1.540	1.242
Run	Time	53Cr O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:43:48	13.870	58.730	2748.000	2867.000	11.300	5.030	4.912	11.200	12.640
2	17:44:15	13.510	58.800	2829.000	2872.000	11.250	4.874	4.095	11.140	11.950
3	17:44:41	12.750	59.760	2880.000	2912.000	11.410	4.949	4.889	11.550	12.270
X		13.370	59.100	2819.000	2884.000	11.320	4.951	4.632	11.300	12.290
σ		0.573	0.572	66.790	24.470	0.080	0.078	0.465	0.221	0.344
%RSD		4.283	0.967	2.370	0.849	0.709	1.576	10.040	1.960	2.803
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:43:48	28.810	1.125	-0.699	18.300	19.300	0.283	1.313	115.2%	0.524
2	17:44:15	29.140	0.354	-0.272	18.300	17.300	-0.325	-0.051	118.2%	0.574
3	17:44:41	28.730	0.611	-0.674	17.360	17.960	0.398	0.899	119.4%	0.550
X		28.890	0.697	-0.548	17.990	18.190	0.119	0.720	117.6%	0.550
σ		0.219	0.393	0.240	0.541	1.016	0.389	0.699	2.2%	0.025
%RSD		0.756	56.320	43.740	3.008	5.589	327.200	97.040	1.8	4.538
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:43:48	0.567	0.469	-3.529	0.137	1.236	0.008	0.053	0.061	103.9%
2	17:44:15	0.498	0.492	-2.303	0.175	0.846	0.008	0.059	0.063	106.8%
3	17:44:41	0.535	0.633	-3.573	0.150	1.250	0.009	0.050	0.066	109.0%
X		0.533	0.532	-3.135	0.154	1.111	0.008	0.054	0.063	106.6%
σ		0.034	0.089	0.721	0.019	0.229	0.001	0.005	0.003	2.6%
%RSD		6.449	16.710	22.990	12.470	20.640	8.453	8.700	4.286	2.4
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:43:48	0.349	0.130	0.174	0.167	122.200	121.900	103.1%	0.133	0.136
2	17:44:15	0.354	0.240	0.209	0.202	123.100	121.200	107.2%	0.107	0.113
3	17:44:41	0.339	0.150	0.205	0.219	121.300	119.900	109.9%	0.117	0.123
X		0.347	0.173	0.196	0.196	122.200	121.000	106.7%	0.119	0.124
σ		0.007	0.058	0.019	0.026	0.916	1.009	3.4%	0.013	0.012
%RSD		2.155	33.690	9.801	13.470	0.750	0.834	3.2	11.020	9.548
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	17:43:48	2.307	1.899	2.115	102.2%	0.271				
2	17:44:15	2.215	1.954	2.125	106.1%	0.296				
3	17:44:41	2.390	2.074	2.095	107.9%	0.296				
X		2.304	1.976	2.112	105.4%	0.288				
σ		0.087	0.090	0.015	2.9%	0.015				
%RSD		3.785	4.544	0.731	2.8	5.124				

RK01063-005

11/4/2016 17:47:02

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:28	123.3%	-0.006	3.720	3.618	419.100	39.490	40.390	41.900	24.740
2	17:47:54	128.3%	0.002	3.455	3.501	397.500	37.560	36.870	41.210	24.790
3	17:48:20	127.5%	-0.001	3.753	3.299	395.200	37.420	35.590	39.420	23.830
X		126.4%	-0.002	3.642	3.473	403.900	38.160	37.620	40.840	24.450
σ		2.7%	0.004	0.163	0.161	13.190	1.155	2.486	1.281	0.544
%RSD		2.1	268.000	4.483	4.642	3.265	3.027	6.609	3.137	2.223
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:28	769.200	77570.000	29.270	231.800	240.100	99.2%	0.880	17.770	0.277
2	17:47:54	798.100	80710.000	30.020	241.500	256.300	96.4%	0.662	15.630	0.265
3	17:48:20	724.000	80010.000	23.370	234.900	242.600	100.9%	0.794	15.200	0.121
X		763.800	79430.000	27.550	236.000	246.400	98.8%	0.779	16.200	0.221
σ		37.360	1648.000	3.643	4.944	8.704	2.3%	0.110	1.374	0.087
%RSD		4.891	2.075	13.220	2.094	3.533	2.3	14.090	8.484	39.190
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:28	15.350	1.385	12.970	0.489	0.013	0.268	-0.453	2.684	2.567
2	17:47:54	14.680	1.477	16.300	3.024	0.010	0.238	-0.530	2.596	2.548
3	17:48:20	14.630	1.410	10.200	-2.581	0.007	0.204	-0.659	2.480	2.303
X		14.890	1.424	13.160	0.311	0.010	0.237	-0.547	2.586	2.473
σ		0.398	0.047	3.054	2.806	0.003	0.032	0.104	0.102	0.148
%RSD		2.674	3.331	23.210	903.800	32.440	13.670	18.970	3.949	5.965
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:28	1.552	-0.426	-0.010	11.100	13.310	-0.204	0.022	99.2%	-0.008
2	17:47:54	1.458	0.125	-0.453	10.560	11.650	-0.417	-0.026	101.2%	0.069
3	17:48:20	1.331	0.034	-0.542	10.380	10.010	0.095	0.814	103.8%	0.035
X		1.447	-0.089	-0.335	10.680	11.660	-0.175	0.270	101.4%	0.032
σ		0.111	0.296	0.285	0.376	1.651	0.257	0.472	2.3%	0.039
%RSD		7.664	331.900	84.950	3.518	14.170	146.400	174.800	2.3	121.900
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:28	0.005	0.011	-1.314	0.139	0.476	-0.003	0.011	0.006	106.7%
2	17:47:54	0.002	0.034	-2.241	0.121	0.773	0.004	0.018	0.015	109.0%
3	17:48:20	0.054	0.044	-1.990	0.113	0.719	0.000	0.008	0.009	112.0%
X		0.020	0.030	-1.848	0.125	0.656	0.001	0.012	0.010	109.2%
σ		0.029	0.017	0.480	0.014	0.158	0.003	0.006	0.005	2.7%
%RSD		145.500	58.250	25.940	10.860	24.150	596.700	45.270	46.830	2.4
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:28	0.190	0.129	0.155	0.173	1.910	1.963	104.7%	0.001	0.003
2	17:47:54	0.199	0.009	0.170	0.177	1.850	1.830	108.9%	0.007	0.003
3	17:48:20	0.176	0.146	0.233	0.168	1.926	1.783	112.6%	-0.000	0.003
X		0.188	0.094	0.186	0.172	1.895	1.859	108.7%	0.003	0.003
σ		0.011	0.075	0.042	0.004	0.040	0.094	3.9%	0.004	0.000
%RSD		6.100	79.170	22.410	2.491	2.125	5.042	3.6	133.600	3.276
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	17:47:28	0.048	0.039	0.049	106.6%	0.009				
2	17:47:54	0.052	0.034	0.043	110.5%	0.010				
3	17:48:20	0.061	0.044	0.043	114.7%	0.005				
X		0.054	0.039	0.045	110.6%	0.008				
σ		0.006	0.005	0.004	4.1%	0.002				
%RSD		11.910	13.430	8.087	3.7	27.220				

LLCCV MW9070 11/4/2016 17:50:38 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:51:04	111.7%	0.450	23.410	23.810	206.100	48.130	45.960	49.410	42.870
2	17:51:30	113.5%	0.412	23.840	24.060	198.800	47.000	46.310	48.170	40.730
3	17:51:56	114.8%	0.336	22.830	22.940	203.800	45.330	44.720	48.240	41.050
X		113.3%	99.842%	93.436%	94.405%	101.455%	46.820	45.670	97.210%	103.872%
σ		1.6%	n/a	n/a	n/a	n/a	1.411	0.837	n/a	n/a
%RSD		1.4	14.490	2.175	2.497	1.850	3.015	1.832	1.437	2.773
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:51:04	125.500	448.500	249.600	204.400	219.700	97.9%	4.737	5.223	1.073
2	17:51:30	113.900	423.300	247.000	221.700	211.700	102.6%	4.706	5.122	1.000
3	17:51:56	121.200	421.000	253.900	235.200	216.600	100.0%	5.043	4.981	1.102
X		120.221%	430.900	125.090%	220.400	108.003%	100.2%	96.569%	102.173%	105.819%
σ		n/a	15.280	n/a	15.480	n/a	2.4%	n/a	n/a	n/a
%RSD		4.886	3.546	1.386	7.023	1.863	2.4	3.860	2.374	4.985
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:51:04	0.139	5.147	27.690	15.000	5.050	4.588	4.665	0.948	1.007
2	17:51:30	0.075	4.949	23.210	11.140	4.816	4.541	4.141	0.968	0.883
3	17:51:56	0.080	5.006	24.630	11.290	4.988	4.476	4.172	0.907	0.920
X		0.098	100.679%	25.180	62.380%	99.029%	90.697%	4.326	0.941	93.663%
σ		0.035	n/a	2.292	n/a	n/a	n/a	0.294	0.031	n/a
%RSD		36.130	2.032	9.102	17.500	2.442	1.243	6.790	3.293	6.791
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:51:04	9.996	0.908	0.707	0.432	2.063	0.394	0.145	100.6%	9.820
2	17:51:30	9.924	0.839	0.620	0.682	1.216	0.729	-1.211	103.0%	9.708
3	17:51:56	9.358	0.671	0.362	0.031	1.224	0.187	-0.312	105.1%	9.846
X		97.592%	80.599%	0.563	0.382	1.501	43.670%	-0.459	102.9%	97.913%
σ		n/a	n/a	0.179	0.328	0.487	n/a	0.690	2.2%	n/a
%RSD		3.583	15.170	31.840	86.010	32.430	62.570	150.200	2.2	0.752
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:51:04	9.860	9.549	-1.916	0.834	0.773	1.018	0.129	0.120	104.4%
2	17:51:30	9.947	10.100	-2.269	0.829	0.954	0.997	0.075	0.105	107.8%
3	17:51:56	10.070	10.240	-2.540	0.845	1.105	0.959	0.114	0.108	111.1%
X		9.960	9.964	-2.241	83.581%	0.944	0.991	0.106	111.084%	107.8%
σ		0.107	0.367	0.313	n/a	0.166	0.030	0.027	n/a	3.3%
%RSD		1.075	3.683	13.950	1.023	17.630	3.061	25.960	6.990	3.1
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:51:04	3.128	3.829	0.999	1.029	4.783	4.814	103.3%	0.459	0.518
2	17:51:30	3.029	3.754	1.035	1.104	5.124	4.894	106.0%	0.490	0.518
3	17:51:56	3.181	3.797	1.059	1.034	4.793	4.928	109.7%	0.503	0.531
X		3.113	75.862%	1.031	105.551%	97.998%	4.878	106.3%	0.484	104.494%
σ		0.077	n/a	0.030	n/a	n/a	0.058	3.2%	0.023	n/a
%RSD		2.476	0.993	2.935	3.944	3.955	1.198	3.0	4.691	1.468
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	17:51:04	0.940	0.984	1.020	104.1%	51.660				
2	17:51:30	1.136	0.987	1.016	107.7%	52.910				
3	17:51:56	1.040	0.969	1.090	111.9%	52.560				
X		1.038	0.980	104.205%	107.9%	104.749%				
σ		0.098	0.010	n/a	3.9%	n/a				
%RSD		9.467	1.016	3.981	3.6	1.233				

LLCCV2 MW9071

11/4/2016 17:54:12

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:54:38	113.0%	1.940	117.200	111.700	1913.800	1221.100	221.900	240.200	196.400
2	17:55:04	111.9%	2.057	116.700	111.000	1868.500	1208.300	232.400	240.100	213.300
3	17:55:30	117.8%	1.977	105.400	108.100	1814.600	1208.500	221.000	229.000	185.800
X		114.3%	1.991	113.100	110.300	1865.600	1212.600	225.100	236.400	198.500
σ		3.2%	0.060	6.675	1.910	149.680	17.341	6.311	6.434	13.870
%RSD		2.8	2.989	5.903	1.732	15.739	13.453	2.804	2.721	6.986
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:54:38	1489.000	158.400	1146.000	1115.000	1045.000	1100.4%	25.320	25.250	5.079
2	17:55:04	1517.200	171.500	1175.000	1068.000	1089.000	199.8%	24.990	25.380	5.110
3	17:55:30	1456.700	140.800	1125.000	1059.000	1056.000	103.0%	25.040	25.220	4.910
X		1487.600	156.900	1148.000	1080.000	1063.000	101.1%	25.120	25.280	5.033
σ		130.260	15.400	124.900	30.290	22.760	11.7%	0.181	0.086	0.108
%RSD		16.205	9.815	12.168	2.803	2.141	1.7	0.720	0.341	2.140
Run	Time	53Cr O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:54:38	-0.110	24.950	114.300	105.800	25.180	23.110	23.290	4.628	4.893
2	17:55:04	-0.140	25.540	122.600	106.500	25.090	22.450	21.690	4.732	4.536
3	17:55:30	-0.017	24.440	114.000	98.390	24.550	22.010	23.000	4.781	4.769
X		-0.089	24.980	116.900	103.500	24.940	22.520	22.660	4.714	4.733
σ		0.064	0.553	4.875	4.482	0.342	0.551	0.852	0.078	0.181
%RSD		71.880	2.215	4.170	4.328	1.370	2.446	3.759	1.652	3.832
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:54:38	48.000	4.779	5.181	-0.191	0.076	4.358	0.548	102.5%	50.450
2	17:55:04	46.540	4.730	5.201	0.315	1.246	4.500	-0.750	103.9%	50.650
3	17:55:30	46.120	4.713	3.775	-0.524	0.666	5.150	0.156	104.5%	51.200
X		46.890	4.741	4.719	-0.133	0.662	4.670	-0.015	103.7%	50.770
σ		0.989	0.034	0.817	0.423	0.585	0.422	0.666	1.0%	0.391
%RSD		2.110	0.725	17.320	317.200	88.320	9.038	4350.000	1.0	0.769
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:54:38	51.450	50.500	-5.628	4.214	3.005	5.125	0.476	0.535	105.7%
2	17:55:04	50.250	51.000	-5.061	4.123	2.479	5.077	0.485	0.507	110.3%
3	17:55:30	51.460	50.470	-5.937	4.200	2.879	5.175	0.506	0.596	111.2%
X		51.050	50.660	-5.542	4.179	2.787	5.126	0.489	0.546	109.1%
σ		0.699	0.298	0.444	0.049	0.275	0.049	0.015	0.046	3.0%
%RSD		1.369	0.588	8.013	1.165	9.851	0.957	3.132	8.399	2.7
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:54:38	16.780	20.760	4.704	4.687	25.020	24.630	105.2%	2.414	2.553
2	17:55:04	16.490	20.540	4.834	4.936	24.990	23.550	108.7%	2.526	2.550
3	17:55:30	16.720	20.580	4.840	5.005	24.730	24.430	110.8%	2.402	2.563
X		16.660	20.630	4.793	4.876	24.910	24.200	108.2%	2.447	2.555
σ		0.152	0.115	0.077	0.167	0.156	0.574	2.8%	0.069	0.006
%RSD		0.910	0.555	1.608	3.433	0.625	2.371	2.6	2.803	0.254
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	17:54:38	5.195	4.856	5.060	104.2%	1250.900				
2	17:55:04	5.329	4.855	5.083	109.1%	1253.400				
3	17:55:30	5.285	4.807	5.214	113.1%	1253.400				
X		5.270	4.839	5.119	108.8%	1252.600				
σ		0.069	0.028	0.083	4.5%	11.495				
%RSD		1.301	0.572	1.621	4.1	0.592				

CCV MW9041 11/4/2016 17:57:49 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:58:14	90.2%	310.300	308.900	287.700	57230.000	54150.000	55420.000	55910.000	287.900
2	17:58:40	89.3%	313.400	286.100	293.400	56990.000	56240.000	55810.000	56290.000	289.900
3	17:59:06	93.4%	300.600	284.000	270.900	55450.000	51260.000	53450.000	55110.000	280.400
X		90.9%	102.701%	97.667%	94.669%	94.267%	53880.000	54890.000	92.952%	95.346%
σ		2.2%	n/a	n/a	n/a	n/a	2502.000	1266.000	n/a	n/a
%RSD		2.4	2.163	4.714	4.111	1.706	4.644	2.306	1.077	1.753
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:58:14	4378.000	104.100	71420.000	63190.000	63510.000	91.5%	308.300	311.200	300.400
2	17:58:40	4329.000	91.140	71390.000	63240.000	64100.000	92.9%	307.100	311.100	300.800
3	17:59:06	4313.000	80.890	72630.000	63530.000	63620.000	93.2%	307.100	303.200	324.100
X		144.669%	92.040	119.690%	63320.000	106.236%	92.5%	102.511%	102.839%	102.818%
σ		n/a	11.620	n/a	182.600	n/a	0.9%	n/a	n/a	n/a
%RSD		0.788	12.630	0.990	0.288	0.487	1.0	0.229	1.482	4.404
Run	Time	53Cr O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:58:14	-1.186	295.300	61720.000	60710.000	316.100	269.800	273.400	262.200	268.300
2	17:58:40	-3.743	294.900	61200.000	60290.000	312.800	271.900	273.700	259.000	268.700
3	17:59:06	-13.910	295.000	61220.000	61640.000	312.600	269.300	279.000	261.000	264.800
X		-6.279	98.363%	102.301%	101.462%	104.620%	90.118%	275.400	260.700	89.089%
σ		6.730	n/a	n/a	n/a	n/a	n/a	3.154	1.593	n/a
%RSD		107.200	0.070	0.481	1.137	0.632	0.493	1.145	0.611	0.811
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:58:14	275.900	292.200	277.200	1.662	1.046	290.100	0.067	93.8%	304.400
2	17:58:40	271.400	289.700	281.800	1.472	0.227	276.800	1.903	95.0%	316.100
3	17:59:06	271.800	292.100	285.800	1.074	-0.502	283.600	-0.689	95.9%	329.700
X		91.012%	97.107%	281.600	1.403	0.257	94.495%	0.427	94.9%	105.586%
σ		n/a	n/a	4.265	0.300	0.774	n/a	1.333	1.0%	n/a
%RSD		0.914	0.479	1.515	21.390	301.300	2.347	312.100	1.1	3.994
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:58:14	306.600	303.300	297.600	302.700	18.320	305.700	307.100	292.200	93.9%
2	17:58:40	317.200	321.000	312.300	308.100	14.800	310.100	305.200	293.300	95.5%
3	17:59:06	330.100	330.600	306.900	312.100	16.120	311.800	308.400	301.300	96.2%
X		105.989%	106.100%	305.600	102.546%	16.410	309.200	306.900	98.536%	95.2%
σ		n/a	n/a	7.452	n/a	1.780	3.117	1.576	n/a	1.2%
%RSD		3.701	4.345	2.438	1.530	10.840	1.008	0.513	1.689	1.2
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:58:14	303.400	305.300	306.500	303.700	309.300	308.400	97.6%	298.100	299.200
2	17:58:40	309.400	308.100	316.100	321.300	311.900	311.500	99.8%	303.900	308.300
3	17:59:06	308.600	311.200	312.700	318.800	312.900	309.000	101.7%	300.200	306.100
X		102.379%	102.734%	103.924%	104.861%	103.783%	103.211%	99.7%	100.240%	101.510%
σ		n/a	n/a	n/a	n/a	n/a	n/a	2.0%	n/a	n/a
%RSD		1.053	0.953	1.559	3.032	0.597	0.542	2.0	0.977	1.563
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	17:58:14	314.200	284.200	320.200	86.5%	326.300				
2	17:58:40	320.800	294.400	328.400	91.0%	330.300				
3	17:59:06	315.800	288.100	329.600	91.6%	330.500				
X		105.651%	96.307%	108.686%	89.7%	109.683%				
σ		n/a	n/a	n/a	2.8%	n/a				
%RSD		1.079	1.782	1.575	3.1	0.720				

CCB IM7321-01 11/4/2016 18:01:28 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:01:53	105.1%	0.040	2.102	1.743	6.482	3.756	3.579	3.734	0.707
2	18:02:19	109.5%	0.085	1.536	1.516	6.657	4.034	4.003	3.967	0.713
3	18:02:44	110.1%	0.048	1.537	1.432	9.353	7.413	7.955	8.327	0.726
X		108.2%	0.058	1.725	1.564	7.497	5.068	5.179	5.343	0.715
σ		2.7%	0.024	0.326	0.161	1.609	2.036	2.413	2.587	0.010
%RSD		2.5	41.210	18.920	10.300	21.470	40.180	46.600	48.420	1.336
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:01:53	13.870	32.990	15.480	3.451	10.560	97.8%	-0.007	0.017	-0.003
2	18:02:19	82.450	46.900	17.920	6.027	12.980	96.3%	0.034	0.036	0.032
3	18:02:44	26.210	27.410	20.740	13.290	16.060	101.4%	0.022	0.051	0.057
X		40.840	35.760	18.040	7.591	13.200	98.5%	0.017	0.035	0.029
σ		36.560	10.040	2.632	5.105	2.759	2.6%	0.021	0.017	0.030
%RSD		89.510	28.070	14.590	67.250	20.900	2.7	126.500	48.930	106.000
Run	Time	53Cr	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:01:53	-0.023	0.020	4.872	-0.221	0.027	0.020	-0.241	0.020	0.024
2	18:02:19	-0.024	0.028	10.860	2.295	0.025	0.015	-0.718	0.020	0.025
3	18:02:44	-0.022	0.082	25.960	11.270	0.086	0.103	-0.774	0.076	0.044
X		-0.023	0.043	13.900	4.448	0.046	0.046	-0.578	0.039	0.031
σ		0.001	0.033	10.870	6.040	0.035	0.050	0.293	0.033	0.011
%RSD		3.013	76.790	78.200	135.800	75.150	107.700	50.740	84.470	35.870
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:01:53	0.095	-0.090	0.155	-0.344	0.438	-0.337	-0.835	101.1%	2.290
2	18:02:19	0.120	-0.026	-0.092	-0.064	0.960	-0.088	0.559	102.9%	2.125
3	18:02:44	0.190	-0.006	0.043	-0.251	-0.224	-0.157	0.640	104.3%	2.052
X		0.135	-0.041	0.035	-0.219	0.391	-0.194	0.122	102.8%	2.156
σ		0.049	0.044	0.124	0.143	0.593	0.129	0.829	1.6%	0.122
%RSD		36.560	107.100	350.500	64.950	151.500	66.410	682.000	1.6	5.651
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:01:53	2.069	2.265	-1.733	0.040	0.627	0.029	0.017	0.021	104.5%
2	18:02:19	2.167	2.306	-1.078	0.034	0.391	0.034	0.021	0.016	108.1%
3	18:02:44	2.061	2.069	-0.583	0.072	0.222	0.060	0.056	0.057	108.7%
X		2.099	2.213	-1.131	0.049	0.414	0.041	0.031	0.031	107.1%
σ		0.059	0.127	0.577	0.020	0.204	0.016	0.021	0.022	2.3%
%RSD		2.829	5.719	50.990	41.840	49.200	40.160	68.190	71.240	2.1
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:01:53	0.089	-0.061	1.038	0.937	0.028	0.016	102.7%	0.015	0.017
2	18:02:19	0.096	-0.006	1.024	0.928	0.039	0.028	107.7%	0.019	0.028
3	18:02:44	0.152	0.034	0.920	0.859	0.061	0.064	109.5%	0.046	0.044
X		0.112	-0.011	0.994	0.908	0.043	0.036	106.6%	0.027	0.030
σ		0.035	0.048	0.065	0.043	0.017	0.025	3.6%	0.017	0.013
%RSD		30.700	430.200	6.511	4.729	39.140	70.650	3.3	63.180	44.830
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	18:01:53	0.041	0.030	0.029	106.9%	0.064				
2	18:02:19	0.028	0.035	0.039	108.8%	0.075				
3	18:02:44	0.068	0.066	0.061	111.1%	0.104				
X		0.045	0.044	0.043	108.9%	0.081				
σ		0.020	0.019	0.016	2.1%	0.020				
%RSD		44.370	44.400	37.990	1.9	24.930				

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:05:30	73.2% M 1033.000	M 1999.000	TM 1919.000	TM 119700.000	TM 111900.000	TM 116700.000	TM 118000.000	TM 117500.000	
2	18:05:56	71.3% M 1088.000	M 1914.000	TM 1993.000	TM 122400.000	TM 114400.000	TM 116900.000	TM 118300.000	TM 111000.000	
3	18:06:22	70.9% M 1090.000	M 1981.000	TM 1909.000	TM 124100.000	TM 113500.000	TM 116500.000	TM 114800.000	TM 104100.000	
X		71.8% M 1071.000	M 1965.000	TM 1940.000	TM 122000.000	TM 113200.000	TM 116700.000	TM 117000.000	TM 110900.000	
σ		1.2% M 32.230	M 44.690	TM 45.910	TM 2211.000	TM 1241.000	TM 186.800	TM 1903.000	TM 6711.000	
%RSD		1.7 M 3.011	M 2.275	TM 2.366	TM 1.811	TM 1.096	TM 0.160	TM 1.626	TM 6.053	
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:05:30	TM 2334.000	4176.000	TM 144500.000	M 136000.000	TM 132400.000	80.1% M 2242.000	TM 2220.000	TM 2072.000	
2	18:05:56	TM 2269.000	4138.000	TM 145100.000	M 133400.000	TM 132100.000	82.5% M 2178.000	TM 2221.000	TM 2068.000	
3	18:06:22	TM 2195.000	4148.000	TM 144500.000	M 131100.000	TM 131000.000	TM 84.4% M 2140.000	TM 2207.000	TM 2020.000	
X		TM 2266.000	4154.000	TM 144700.000	M 133500.000	TM 131800.000	TM 82.4% M 2187.000	TM 2216.000	TM 2053.000	
σ		TM 69.320	19.680	TM 349.900	M 2454.000	TM 714.900	TM 2.2% M 51.210	TM 7.825	TM 28.950	
%RSD		TM 3.059	0.474	TM 0.242	M 1.838	TM 0.542	TM 2.6 M 2.342	TM 0.353	TM 1.410	
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:05:30	27.490 TM 2065.000	TM 127500.000	TM 125700.000	TM 1992.000	TM 1583.000	M 1816.000	TM 1592.000	TM 1485.000	
2	18:05:56	-3.646 TM 2048.000	TM 125700.000	TM 125500.000	TM 1973.000	TM 1561.000	M 1792.000	TM 1577.000	TM 1477.000	
3	18:06:22	3.117 TM 2003.000	TM 122000.000	TM 123900.000	TM 1957.000	TM 1568.000	M 1799.000	TM 1560.000	TM 1485.000	
X		8.986 TM 2039.000	TM 125100.000	TM 125000.000	TM 1974.000	TM 1571.000	M 1802.000	TM 1576.000	TM 1482.000	
σ		16.370 TM 32.050	TM 2761.000	TM 960.000	TM 17.370	TM 11.500	M 12.030	TM 16.060	TM 4.425	
%RSD		182.200 TM 1.572	TM 2.208	TM 0.768	TM 0.880	TM 0.732	M 0.667	TM 1.019	TM 0.299	
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:05:30	M 1758.000	M 1922.000	M 1785.000	3.128	1.825	M 1731.000	13.370	81.5% TM 2591.000	
2	18:05:56	TM 1530.000	M 1927.000	M 1771.000	3.221	0.419	M 1733.000	16.280	82.5% TM 2621.000	
3	18:06:22	TM 1538.000	M 1917.000	M 1770.000	3.590	0.588	M 1713.000	13.070	83.7% TM 2578.000	
X		TM 1609.000	M 1922.000	M 1775.000	3.313	0.944	M 1726.000	14.240	82.5% TM 2597.000	
σ		TM 129.700	M 5.249	M 8.091	0.244	0.767	M 10.870	1.772	1.1% TM 22.490	
%RSD		TM 8.062	M 0.273	M 0.456	7.371	81.280	M 0.630	12.450	1.3 TM 0.866	
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:05:30	M 2567.000	TM 2323.000	M 2245.000	370.200	9.375	33.870	M 2063.000	TM 1741.000	83.6% TM 2591.000
2	18:05:56	M 2561.000	TM 2341.000	M 2193.000	374.100	53.660	33.640	M 2112.000	TM 1760.000	84.9% TM 2621.000
3	18:06:22	M 2575.000	TM 2332.000	M 2166.000	371.600	50.820	33.520	M 2086.000	TM 1744.000	85.9% TM 2578.000
X		M 2568.000	TM 2332.000	M 2201.000	372.000	37.950	33.670	M 2087.000	TM 1748.000	84.8% TM 2597.000
σ		M 6.880	TM 8.920	M 40.600	1.959	24.790	0.177	M 24.500	TM 10.040	1.2% TM 22.490
%RSD		M 0.268	TM 0.383	M 1.845	0.527	65.320	0.524	M 1.174	TM 0.575	1.4 TM 0.866
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:05:30	TM 1893.000	TM 1934.000	TM 1027.000	M 1038.000	TM 10810.000	TM 10710.000	85.4% TM 976.500	TM 976.500	TM 1042.000
2	18:05:56	TM 1952.000	TM 1977.000	TM 1060.000	TM 1011.000	TM 10930.000	TM 10770.000	87.8% TM 975.900	TM 975.900	TM 1034.000
3	18:06:22	TM 1948.000	TM 1996.000	TM 1071.000	TM 1018.000	TM 10960.000	TM 10790.000	90.6% TM 973.400	TM 973.400	TM 1043.000
X		TM 1931.000	TM 1969.000	TM 1053.000	TM 1022.000	TM 10900.000	TM 10760.000	87.9% TM 975.300	TM 975.300	TM 1040.000
σ		TM 33.130	TM 31.760	TM 22.810	TM 13.570	TM 81.960	TM 41.020	2.6% TM 1.631	TM 1.631	TM 4.781
%RSD		TM 1.716	TM 1.614	TM 2.166	TM 1.327	TM 0.752	TM 0.381	3.0 TM 0.167	TM 0.167	TM 0.460
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	18:05:30	TM 1974.000	TM 1897.000	TM 2024.000	76.4% TM 2311.000	TM 2311.000				
2	18:05:56	TM 1983.000	TM 1907.000	TM 2007.000	79.8% TM 2326.000	TM 2326.000				
3	18:06:22	TM 2004.000	TM 1906.000	TM 2005.000	80.4% TM 2306.000	TM 2306.000				
X		TM 1987.000	TM 1903.000	TM 2012.000	78.9% TM 2314.000	TM 2314.000				
σ		TM 15.500	TM 5.864	TM 10.700	2.2% TM 10.660	TM 10.660				
%RSD		TM 0.780	TM 0.308	TM 0.532	2.7 TM 0.461	TM 0.461				

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:09:09	119.4%	0.084	10.270	9.767	11.080	0.729	0.752	0.752	1.370
2	18:09:34	118.4%	0.078	9.085	8.435	8.196	0.946	0.872	1.057	1.724
3	18:10:00	115.2%	0.068	8.165	8.563	8.757	1.471	1.591	1.562	2.157
X		117.7%	0.077	9.175	8.922	9.344	1.048	1.072	1.124	1.750
σ		2.2%	0.008	1.058	0.735	1.529	0.381	0.453	0.409	0.394
%RSD		1.9	10.340	11.530	8.235	16.370	36.360	42.310	36.400	22.510
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:09:09	22.260	1084000.000	45.460	6.522	13.770	90.7%	0.380	193.600	-0.803
2	18:09:34	40.300	1113000.000	41.020	6.291	12.480	89.7%	0.462	198.600	-0.608
3	18:10:00	27.760	1161000.000	39.100	3.989	14.170	89.6%	0.364	195.300	-0.727
X		30.110	1119000.000	41.860	5.601	13.480	90.0%	0.402	195.800	-0.713
σ		9.244	38690.000	3.260	1.401	0.882	0.6%	0.053	2.526	0.098
%RSD		30.700	3.457	7.789	25.010	6.546	0.7	13.170	1.290	13.770
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:09:09	176.300	0.164	5.440	-2.879	0.023	0.109	-0.901	0.410	0.420
2	18:09:34	173.600	0.157	3.562	-4.273	0.028	0.096	-0.595	0.396	0.386
3	18:10:00	160.800	0.162	1.046	-8.310	0.031	0.089	-0.986	0.352	0.330
X		170.200	0.161	3.349	-5.154	0.027	0.098	-0.827	0.386	0.379
σ		8.271	0.003	2.205	2.821	0.004	0.010	0.206	0.030	0.045
%RSD		4.859	2.038	65.830	54.730	14.970	10.560	24.870	7.751	11.930
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:09:09	0.314	0.814	0.930	149.800	154.800	1.078	-1.836	93.7%	14.730
2	18:09:34	0.278	-0.499	0.028	148.300	155.900	0.667	0.387	94.9%	11.760
3	18:10:00	0.269	-1.090	0.075	150.500	151.600	0.942	0.702	95.6%	7.910
X		0.287	-0.259	0.344	149.500	154.100	0.896	-0.249	94.7%	11.470
σ		0.024	0.975	0.508	1.091	2.229	0.209	1.383	1.0%	3.419
%RSD		8.302	376.900	147.500	0.730	1.447	23.330	555.400	1.0	29.810
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:09:09	14.740	14.740	-1.943	1.289	0.740	0.008	0.029	0.037	100.4%
2	18:09:34	11.800	11.650	-1.683	1.415	0.685	0.007	0.024	0.036	100.6%
3	18:10:00	8.157	7.919	-1.525	1.361	0.633	0.002	0.001	0.057	103.9%
X		11.570	11.440	-1.717	1.355	0.686	0.006	0.018	0.043	101.6%
σ		3.297	3.417	0.211	0.063	0.054	0.003	0.015	0.012	1.9%
%RSD		28.510	29.870	12.270	4.651	7.812	61.000	83.240	27.760	1.9
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:09:09	2.328	2.709	2.319	2.308	0.147	0.136	99.6%	0.484	0.480
2	18:09:34	1.893	2.327	2.194	2.108	0.159	0.194	101.6%	0.400	0.416
3	18:10:00	1.551	1.720	1.808	1.775	0.262	0.231	105.3%	0.354	0.366
X		1.924	2.252	2.107	2.064	0.189	0.187	102.2%	0.413	0.421
σ		0.390	0.499	0.266	0.270	0.063	0.048	2.9%	0.066	0.057
%RSD		20.250	22.140	12.640	13.070	33.470	25.760	2.8	15.950	13.610
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	18:09:09	0.091	0.082	0.090	101.1%	0.351				
2	18:09:34	0.072	0.069	0.086	104.7%	0.325				
3	18:10:00	0.073	0.073	0.078	104.6%	0.271				
X		0.079	0.075	0.085	103.4%	0.316				
σ		0.011	0.007	0.006	2.0%	0.041				
%RSD		13.620	8.874	6.753	2.0	12.930				

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:12:46	118.8%	0.081	4.888	4.106	5.766	0.049	-0.038	0.131	0.611
2	18:13:12	117.5%	0.051	4.534	4.586	5.931	0.624	0.536	0.742	1.181
3	18:13:37	114.8%	0.056	3.960	4.308	5.468	0.486	0.521	0.575	1.004
X		117.1%	0.063	4.461	4.334	5.722	0.386	0.340	0.482	0.932
σ		2.0%	0.016	0.468	0.241	0.235	0.300	0.328	0.316	0.292
%RSD		1.7	25.970	10.500	5.563	4.102	77.610	96.440	65.490	31.320
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:12:46	142.520	1130000.000	30.550	2.825	17.880	86.8%	0.342	193.500	-1.127
2	18:13:12	149.040	1162000.000	34.800	3.282	20.330	85.2%	0.260	174.100	-1.084
3	18:13:37	151.510	1132000.000	32.040	4.590	16.850	86.3%	0.285	172.300	-1.381
X		147.690	1142000.000	32.460	3.565	18.350	86.1%	0.296	180.000	-1.197
σ		4.646	17980.000	2.157	0.916	1.789	0.8%	0.042	11.760	0.160
%RSD		9.742	1.575	6.645	25.690	9.747	1.0	14.260	6.533	13.400
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:12:46	179.600	0.146	-0.513	-10.220	0.010	0.060	-0.679	0.277	0.310
2	18:13:12	166.300	0.164	0.314	-11.090	0.029	0.069	-0.827	0.338	0.329
3	18:13:37	164.800	0.116	-2.184	-13.250	0.022	0.040	-0.784	0.309	0.273
X		170.200	0.142	-0.795	-11.520	0.020	0.057	-0.763	0.308	0.304
σ		8.146	0.024	1.273	1.557	0.010	0.015	0.076	0.030	0.029
%RSD		4.786	17.100	160.100	13.510	48.890	26.030	9.945	9.773	9.389
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:12:46	0.175	-0.865	-0.535	149.300	160.100	0.818	0.586	90.1%	2.386
2	18:13:12	0.191	-0.864	-0.356	152.300	159.900	0.201	-1.254	91.8%	2.449
3	18:13:37	0.164	-0.467	-0.283	155.100	163.100	0.849	-0.038	92.6%	2.063
X		0.177	-0.732	-0.391	152.300	161.000	0.623	-0.235	91.5%	2.299
σ		0.014	0.230	0.130	2.896	1.762	0.365	0.936	1.3%	0.207
%RSD		7.703	31.390	33.200	1.902	1.094	58.710	397.600	1.4	9.007
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:12:46	2.278	2.408	-1.943	1.408	0.689	0.006	0.006	0.024	96.4%
2	18:13:12	2.328	2.420	-2.106	1.359	0.747	0.008	0.009	0.019	100.6%
3	18:13:37	2.057	2.079	-1.957	1.361	0.695	0.015	0.027	0.017	100.3%
X		2.221	2.302	-2.002	1.376	0.710	0.010	0.014	0.020	99.1%
σ		0.144	0.194	0.090	0.028	0.032	0.005	0.011	0.004	2.4%
%RSD		6.493	8.406	4.504	2.032	4.492	48.830	79.700	18.220	2.4
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:12:46	0.475	0.321	0.831	0.995	0.074	0.090	97.1%	0.057	0.068
2	18:13:12	0.504	0.425	0.947	1.038	0.154	0.143	100.3%	0.075	0.071
3	18:13:37	0.408	0.370	0.952	0.985	0.112	0.114	101.9%	0.083	0.063
X		0.462	0.372	0.910	1.006	0.113	0.115	99.8%	0.071	0.067
σ		0.049	0.052	0.068	0.029	0.040	0.026	2.4%	0.013	0.004
%RSD		10.590	13.940	7.491	2.835	35.290	22.880	2.4	18.590	6.340
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	18:12:46	0.025	0.021	0.023	98.2%	0.061				
2	18:13:12	0.057	0.028	0.036	101.5%	0.089				
3	18:13:37	0.028	0.024	0.029	103.4%	0.081				
X		0.037	0.024	0.029	101.0%	0.077				
σ		0.018	0.003	0.007	2.6%	0.014				
%RSD		47.620	14.010	22.380	2.6	18.750				

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:16:22	114.2%	0.059	2.819	3.387	10.580	5.331	5.232	5.767	5.123
2	18:16:48	114.8%	0.072	2.819	2.726	10.990	5.573	5.532	6.030	5.289
3	18:17:14	119.7%	0.059	2.868	2.983	12.870	6.176	6.420	6.702	6.139
X		116.2%	0.063	2.835	3.032	11.480	5.694	5.728	6.166	5.517
σ		3.0%	0.007	0.028	0.333	1.219	0.435	0.618	0.482	0.545
%RSD		2.6	11.290	0.996	10.990	10.620	7.640	10.790	7.821	9.877
Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:16:22	18.730	963600.000	35.470	10.860	21.930	86.0%	0.338	149.100	-1.657
2	18:16:48	14.390	936500.000	38.820	13.390	25.030	87.2%	0.361	161.200	-1.780
3	18:17:14	5.743	953900.000	47.180	16.850	21.350	86.9%	0.282	139.200	-1.618
X		9.125	951300.000	40.490	13.700	22.770	86.7%	0.327	149.800	-1.685
σ		13.060	13750.000	6.032	3.008	1.980	0.7%	0.041	11.010	0.085
%RSD		143.100	1.445	14.900	21.960	8.693	0.8	12.450	7.348	5.019
Run	Time	53Cr O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:16:22	144.000	0.208	3.760	-4.712	0.045	0.136	-0.719	0.367	0.334
2	18:16:48	138.700	0.198	1.516	-8.659	0.054	0.163	-0.832	0.352	0.372
3	18:17:14	127.100	0.217	3.856	-6.268	0.075	0.160	-0.907	0.389	0.376
X		136.600	0.207	3.044	-6.546	0.058	0.153	-0.819	0.369	0.361
σ		8.644	0.010	1.324	1.988	0.015	0.015	0.094	0.019	0.023
%RSD		6.327	4.722	43.490	30.370	26.190	9.721	11.530	5.063	6.484
Run	Time	66Zn	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:16:22	1.299	-1.242	-0.277	129.100	132.400	0.201	-1.094	92.5%	0.860
2	18:16:48	1.214	-0.583	-0.194	125.300	134.400	0.557	0.656	92.8%	0.917
3	18:17:14	1.325	0.016	-0.383	130.200	135.000	0.244	1.636	94.4%	0.907
X		1.279	-0.603	-0.284	128.200	133.900	0.334	0.399	93.2%	0.895
σ		0.058	0.630	0.095	2.561	1.343	0.194	1.383	1.1%	0.031
%RSD		4.515	104.400	33.270	1.997	1.002	58.030	346.400	1.1	3.432
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:16:22	0.855	0.807	-2.355	1.242	0.845	0.046	0.050	0.057	98.8%
2	18:16:48	0.848	0.908	-2.213	1.174	0.835	0.054	0.040	0.068	101.8%
3	18:17:14	0.826	0.858	-2.306	1.128	0.882	0.076	0.093	0.081	103.5%
X		0.843	0.858	-2.292	1.181	0.854	0.059	0.061	0.069	101.4%
σ		0.015	0.050	0.072	0.057	0.025	0.016	0.028	0.012	2.4%
%RSD		1.797	5.838	3.153	4.865	2.900	26.840	45.380	17.820	2.4
Run	Time	116Sn	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:16:22	0.268	0.146	0.540	0.627	0.257	0.235	100.3%	0.064	0.060
2	18:16:48	0.314	0.096	0.580	0.692	0.310	0.258	103.2%	0.060	0.062
3	18:17:14	0.312	0.096	0.514	0.702	0.292	0.338	105.4%	0.066	0.065
X		0.298	0.112	0.544	0.674	0.287	0.277	103.0%	0.063	0.062
σ		0.026	0.029	0.033	0.041	0.027	0.054	2.6%	0.003	0.003
%RSD		8.667	25.700	6.088	6.017	9.486	19.660	2.5	4.618	4.394
Run	Time	206Pb	207Pb	208Pb	209Bi	238U				
		ppb	ppb	ppb	ppb	ppb				
1	18:16:22	0.063	0.084	0.083	100.8%	0.076				
2	18:16:48	0.106	0.090	0.097	103.5%	0.074				
3	18:17:14	0.090	0.103	0.096	104.9%	0.091				
X		0.087	0.092	0.092	103.1%	0.080				
σ		0.021	0.010	0.008	2.1%	0.009				
%RSD		24.780	10.590	8.906	2.0	11.290				

Performance Report

Raw Supportive Data



Analyst: COH

Status: Level 2 review in progress

Matrix: Aqueous

Printed: 11/29/16 1408

Prep Batch: 25726

3005A Draper - Total Recoverable Acid Digestion (ICP-MS)

Start Date: 11/02/2016 0938

Level 2 Analyst: DDD

End Date: 11/02/2016 1208

Digestion Cup ID: 1512329

Ext Solvent: 1:1 HNO3/1:1 HCl

Reagents Vol. (mL): 1.0, 0.5

Chem ID: IM7299-01(1/5/17) IM7299-02(1/5/17)

Hot Block ID: Hot Block #4

Sample ID	QC Code	Client Sample ID	Run	Analysis Descript	Initial Vol. (mL)	Spike ID	Spike Vol. (mL)	Final Vol. (mL)	Holding Time Expires	Analytical Due Date	Comments
RQ25726-001	MB		1	6020A	50		0.0	50			LCS/MS/MSD pipette:274
RQ25726-002	LCS		1	6020A	50	16- 1112E(9/17)	0.5	50			
RJ27005-001	Sample	16C1	1	6020A	50		0.0	50	04/23/2017 1430	11/14/2016	
RJ27005-002	Sample	16MW8	1	6020A	50		0.0	50	04/22/2017 1250	11/14/2016	
RJ27005-003	Sample	16MW9	1	6020A	50		0.0	50	04/23/2017 1300	11/14/2016	
RJ27005-004	Sample	16WC1A	1	6020A	50		0.0	50	04/23/2017 1145	11/14/2016	
RJ27005-004MS	MS		1	6020A	50	16- 1112E(9/17)	0.5	50			
RJ27005-004MD	MSD		1	6020A	50	16- 1112E(9/17)	0.5	50			
RJ27005-005	Sample	16WDUP	1	6020A	50		0.0	50	04/23/2017 1200	11/14/2016	
RJ27005-006	Sample	16WC1B	1	6020A	50		0.0	50	04/23/2017 1055	11/14/2016	
RJ27005-007	Sample	16-2	1	6020A	50		0.0	50	04/22/2017 1155	11/14/2016	
RJ27005-008	Sample	16-3	1	6020A	50		0.0	50	04/22/2017 1355	11/14/2016	
RJ27005-009	Sample	16-5	1	6020A	50		0.0	50	04/22/2017 0940	11/14/2016	
RJ27005-010	Sample	16WC2B	1	6020A	50		0.0	50	04/22/2017 1050	11/14/2016	
RJ27005-011	Sample	16SPRING	1	6020A	50		0.0	50	04/22/2017 1000	11/14/2016	

(end of report)

Total Samples: 11

Mercury



- COVER PAGE -
INORGANIC ANALYSIS DATA PACKAGE

Client: Draper Aden Associates

SDG No.: RJ27005 Method Type: CVAA SOW No.: _____

Contract: RAAP HWMU16-2016 2n Lab Code: SHEALY Case No.: _____ SAS No.: _____

Lab Sample ID	Client Sample ID	QC Description
RJ27005-001	16C1	
RJ27005-002	16MW8	
RJ27005-003	16MW9	
RJ27005-004	16WC1A	
RJ27005-004MD	16WC1ASD	Matrix Spike Duplicate
RJ27005-004MS	16WC1AS	Matrix Spike
RJ27005-005	16WDUP	
RJ27005-006	16WC1B	
RJ27005-006MD	16WC1BSD	Matrix Spike Duplicate
RJ27005-006MS	16WC1BS	Matrix Spike
RJ27005-007	16-2	
RJ27005-008	16-3	
RJ27005-009	16-5	
RJ27005-010	16WC2B	

Were ICP interelement corrections applied? Yes/No Yes _____

Were ICP background corrections applied? Yes/No Yes _____

If yes - were raw data generated before applications of background corrections? Yes/No No _____

Comments: _____

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: _____

Date: _____ Title: _____

- COVER PAGE -
INORGANIC ANALYSIS DATA PACKAGE

Client: Draper Aden Associates

SDG No.: RJ27005

Method Type: CVAA

SOW No.: _____

Contract: RAAP HWMU16-2016 2n

Lab Code: SHEALY

Case No.: _____

SAS No.: _____

Lab Sample ID

Client Sample ID

QC Description

RJ27005-011

16SPRING

Were ICP interelement corrections applied?

Yes/No

Yes

Were ICP background corrections applied?

Yes/No

Yes

If yes - were raw data generated before
applications of background corrections?

Yes/No

No

Comments: _____

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____

Name: _____

Date: _____

Title: _____

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Draper Aden Associates

SDG No.: RJ27005

Contract: RAAP HWMU16-2016 2nd

Lab Code: Shealy

Case No.: _____

SAS No.: _____

Semiannual

Initial Calibration Source: VHG

Continuing Calibration Source: High Purity

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV1	Mercury	2.060000	2.000000	103	90.0 - 110.0	CV	11/1/2016	14:44	HG3110116A
CCV1	Mercury	1.960000	2.000000	98	80.0 - 120.0	CV	11/1/2016	14:51	HG3110116A
CCV2	Mercury	1.910000	2.000000	96	80.0 - 120.0	CV	11/1/2016	15:22	HG3110116A
CCV3	Mercury	1.950000	2.000000	98	80.0 - 120.0	CV	11/1/2016	15:41	HG3110116A

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Draper Aden Associates

SDG No.: RJ27005

Contract: RAAP HWMU16-2016 2nd

Lab Code: SHEALY

Case No.: **SAS No.:**

Semiannual

Initial Calibration Source: VHG

Continuing Calibration Source: High Purity

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV1	Mercury	2.080000	2.000000	104	90.0 - 110.0	CV	11/10/2016	11:02	HG3111016A
CCV1	Mercury	1.990000	2.000000	100	80.0 - 120.0	CV	11/10/2016	11:10	HG3111016A
CCV2	Mercury	1.930000	2.000000	97	80.0 - 120.0	CV	11/10/2016	11:52	HG3111016A

- 2b -
CRDL STANDARD FOR AA & ICP

Client: Draper Aden Associates

SDG No.: RJ27005

Contract: RAAP HWMU16-2016 2nd Semiannual Lab Code: Shealy Case No: _____ SAS No.: _____

AA CRDL Standard Source: _____

ICP CRDL Standard Source: _____

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Advisory Limits (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV 16HG2094	Mercury	0.164000	0.200000	82	50 - 150	CV	11/1/2016	14:56	HG3110116A

- 2b -
CRDL STANDARD FOR AA & ICP

Client: Draper Aden Associates

SDG No.: RJ27005

Contract: RAAP HWMU16-2016 2nd Semiannual Lab Code: SHEALY Case No: _____ SAS No.: _____

AA CRDL Standard Source: _____

ICP CRDL Standard Source: _____

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Advisory Limits (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV 16HG2128	Mercury	0.281000	0.200000	141	50 - 150	CV	11/10/2016	11:24	HG3111016A

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Draper Aden Associates

SDG No.: RJ27005

Contract: RAAP HWMU16-2016 2nd Semiannual

Lab Code: Shealy

Case No.:

SAS No.:

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	PQL	PQL	M	Analysis Date	Analysis Time	Run
ICB1	Mercury	-0.004000	+/-0.200000	U	0.200000	0.200000	CV	11/1/2016	14:46	HG3110116A
CCB1	Mercury	-0.030000	+/-0.200000	U	0.200000	0.200000	CV	11/1/2016	14:54	HG3110116A
CCB2	Mercury	-0.033000	+/-0.200000	U	0.200000	0.200000	CV	11/1/2016	15:25	HG3110116A
CCB3	Mercury	-0.038000	+/-0.200000	U	0.200000	0.200000	CV	11/1/2016	15:44	HG3110116A

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Draper Aden Associates

SDG No.: RJ27005

Contract: RAAP HWMU16-2016 2nd Semiannual

Lab Code: SHEALY

Case No.:

SAS No.:

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	PQL	PQL	M	Analysis Date	Analysis Time	Run
ICB1	Mercury	0.003000	+/-0.200000	U	0.200000	0.200000	CV	11/10/2016	11:05	HG3111016A
CCB1	Mercury	0.020000	+/-0.200000	U	0.200000	0.200000	CV	11/10/2016	11:18	HG3111016A
CCB2	Mercury	0.020000	+/-0.200000	U	0.200000	0.200000	CV	11/10/2016	11:21	HG3111016A
CCB3	Mercury	0.025000	+/-0.200000	U	0.200000	0.200000	CV	11/10/2016	11:55	HG3111016A

ANALYSIS RUN LOG

Client: Draper Aden Associates Contract: RAAP HWMU16-2016 2nd Semiannual

Lab Code: Shealy Case No.: _____ SAS No.: _____ SDG No.: RJ27005

Instrument ID Number: Hg3 Run Number: HG3110116A

Start Date: 11/1/2016 End Date: 11/1/2016

EPA Sample No.	D/F	Time	% R	Analytes																											
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N				
Std01Rep1	1.00	1355															X														
Std02Rep1	1.00	1358															X														
Std03Rep1	1.00	1400															X														
Std04Rep1	1.00	1403															X														
Std05Rep1	1.00	1405															X														
Std06Rep1	1.00	1408															X														
ICV1	1.00	1444															X														
ICB1	1.00	1446															X														
ZZZZZZ	1.00	1449																													
CCV1	1.00	1451															X														
CCB1	1.00	1454															X														
LLICV 16HG2094	1.00	1456															X														
R025639-001	1.00	1458															X														
R025639-002	1.00	1501															X														
RJ27005-001	1.00	1504															X														
RJ27005-002	1.00	1507															X														
RJ27005-003	1.00	1510															X														
RJ27005-004	1.00	1513															X														
RJ27005-004MS	1.00	1515															X														
RJ27005-004MD	1.00	1517															X														
RJ27005-005	1.00	1520															X														
CCV2	1.00	1522															X														
CCB2	1.00	1525															X														
ZZZZZZ	1.00	1527																													
RJ27005-007	1.00	1529															X														
RJ27005-008	1.00	1532															X														
RJ27005-009	1.00	1534															X														
RJ27005-010	1.00	1536															X														
RJ27005-011	1.00	1539															X														
CCV3	1.00	1541															X														
CCB3	1.00	1544															X														
ZZZZZZ	1.00	1546																													

ANALYSIS RUN LOG

Client: Draper Aden Associates Contract: RAAP HWMU16-2016 2nd Semiannual

Lab Code: SHEALY Case No.: _____ SAS No.: _____ SDG No.: RJ27005

Instrument ID Number: Hg3 Run Number: HG3111016A

Start Date: 11/10/2016 End Date: 11/10/2016

EPA Sample No.	D/F	Time	% R	Analytes																									
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N		
Std01Rep1	1.00	1046															X												
Std02Rep1	1.00	1049															X												
Std03Rep1	1.00	1052															X												
Std04Rep1	1.00	1055															X												
Std05Rep1	1.00	1057															X												
Std06Rep1	1.00	1100															X												
ICV1	1.00	1102															X												
ICB1	1.00	1105															X												
ZZZZZZ	1.00	1108																											
CCV1	1.00	1110															X												
ZZZZZZ	1.00	1113																											
CCB1	1.00	1118															X												
CCB2	1.00	1121															X												
LLICV 16HG2128	1.00	1124															X												
R026371-001	1.00	1127															X												
R026371-002	1.00	1129															X												
RJ27005-006	1.00	1132															X												
RJ27005-006MS	1.00	1135															X												
RJ27005-006MD	1.00	1137															X												
ZZZZZZ	1.00	1140																											
ZZZZZZ	1.00	1144																											
ZZZZZZ	1.00	1146																											
ZZZZZZ	1.00	1149																											
CCV2	1.00	1152															X												
CCB3	1.00	1155															X												
ZZZZZZ	1.00	1157																											
ZZZZZZ	1.00	1200																											
ZZZZZZ	1.00	1202																											
ZZZZZZ	1.00	1205																											
ZZZZZZ	1.00	1208																											
ZZZZZZ	1.00	1210																											
ZZZZZZ	1.00	1213																											
ZZZZZZ	1.00	1215																											
ZZZZZZ	1.00	1217																											
ZZZZZZ	1.00	1220																											
ZZZZZZ	1.00	1222																											
ZZZZZZ	1.00	1225																											

ANALYSIS RUN LOG

Client: Draper Aden Associates Contract: RAAP HWMU16-2016 2nd Semiannual

Lab Code: SHEALY Case No.: _____ SAS No.: _____ SDG No.: RJ27005

Instrument ID Number: Hg3 Run Number: HG3111016A

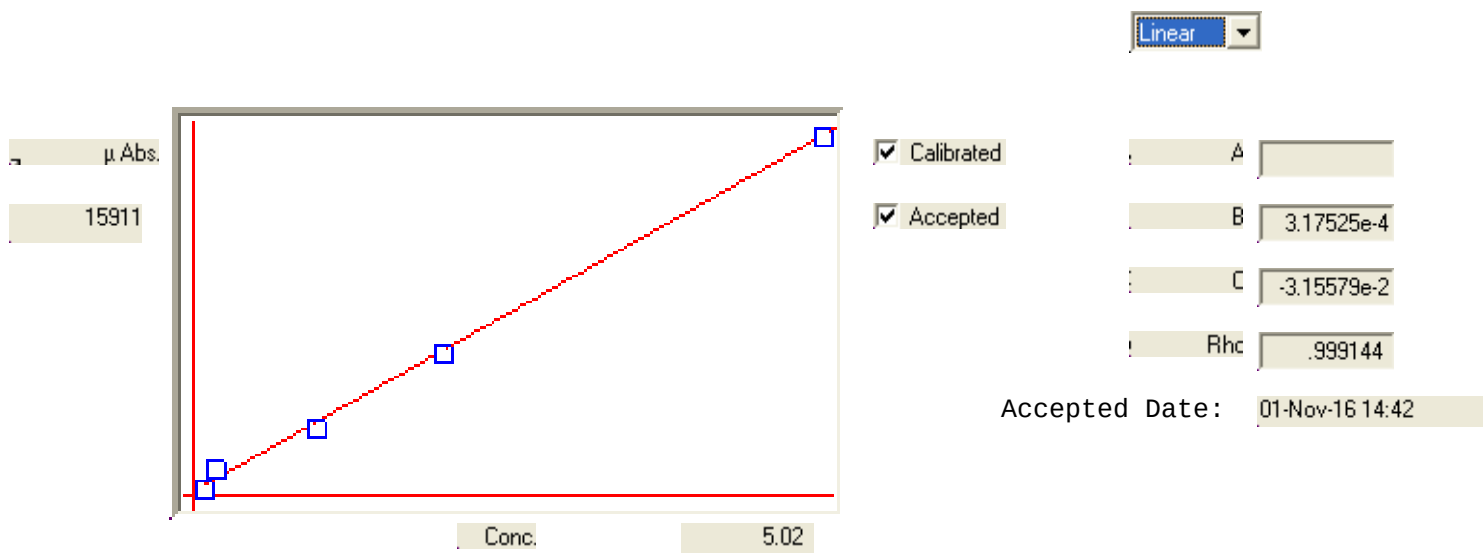
Start Date: 11/10/2016 End Date: 11/10/2016

EPA Sample No.	D/F	Time	% R	Analytes																									
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N		
ZZZZZZ	1.00	1228																											
ZZZZZZ	1.00	1230																											
ZZZZZZ	1.00	1232																											
ZZZZZZ	1.00	1235																											
ZZZZZZ	1.00	1237																											
ZZZZZZ	1.00	1239																											
ZZZZZZ	1.00	1242																											
ZZZZZZ	1.00	1245																											
ZZZZZZ	1.00	1247																											
ZZZZZZ	1.00	1250																											
ZZZZZZ	1.00	1253																											
ZZZZZZ	1.00	1255																											
ZZZZZZ	1.00	1258																											
ZZZZZZ	1.00	1300																											
ZZZZZZ	1.00	1303																											
ZZZZZZ	1.00	1305																											
ZZZZZZ	1.00	1308																											
ZZZZZZ	1.00	1310																											
ZZZZZZ	1.00	1313																											
ZZZZZZ	1.00	1315																											
ZZZZZZ	1.00	1318																											
ZZZZZZ	1.00	1320																											
ZZZZZZ	1.00	1323																											
ZZZZZZ	1.00	1325																											
ZZZZZZ	1.00	1329																											
ZZZZZZ	1.00	1331																											
ZZZZZZ	1.00	1333																											
ZZZZZZ	1.00	1336																											
ZZZZZZ	1.00	1338																											

Raw Sample Data



Protocol: 7470AHG3



S	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
01	.00000	-.033	-.033	-6	1	-5				
02	.10000	.086	-.014	369	0%	369				
03	.20000	.348	.148	1197	0%	1196				
04	1.0000	.920	-.080	2999	0%	2998				
05	2.0000	1.96	-.042	6268	0%	6267				
06	5.0000	5.02	.021	15911	0%	15911				
07										
08										
09										
10										

cup	sample ID	extended ID	weight	volume	? A D F P S U SC UI US C1..7
1	16HG2094	0.2 PPB	1.0000	1.0000	C3 C1 C2 C4 C1 CP
2	RQ25639001	MB 25639	1.0000	1.0000	
3	RQ25639002	LCS 25639	1.0000	1.0000	
4	RJ27005001	25639	1.0000	1.0000	
5	RJ27005002	25639	1.0000	1.0000	
6	RJ27005003	25639	1.0000	1.0000	
7	RJ27005004	25639	1.0000	1.0000	
8	RJ27005004	25639MS	1.0000	1.0000	
9	RJ27005004	25639MSD	1.0000	1.0000	
10	RJ27005005	25639	1.0000	1.0000	C4 C1
11	RJ27005006	25639	1.0000	1.0000	
12	RJ27005007	25639	1.0000	1.0000	
13	RJ27005008	25639	1.0000	1.0000	
14	RJ27005009	25639	1.0000	1.0000	
15	RJ27005010	25639	1.0000	1.0000	
16	RJ27005011	25639	1.0000	1.0000	C4 C1
17	SnCl2	IM7355-01(11/1/16)	1.0000	1.0000	
18			1.0000	1.0000	
19			1.0000	1.0000	
20			1.0000	1.0000	C4 C1
21			1.0000	1.0000	
22			1.0000	1.0000	
23			1.0000	1.0000	
24			1.0000	1.0000	
25			1.0000	1.0000	
26			1.0000	1.0000	
27			1.0000	1.0000	
28			1.0000	1.0000	
29			1.0000	1.0000	
30			1.0000	1.0000	C4 C1
31			1.0000	1.0000	
32			1.0000	1.0000	
33			1.0000	1.0000	
34			1.0000	1.0000	
35			1.0000	1.0000	
36			1.0000	1.0000	
37			1.0000	1.0000	
38			1.0000	1.0000	
39			1.0000	1.0000	
40			1.0000	1.0000	C4 C1
41			1.0000	1.0000	
42			1.0000	1.0000	
43			1.0000	1.0000	

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Standard: 1 Rep: 1				Seq: 1		13:55:39	01 Nov 16	HG
Hg	.000	ppb	-5					
*** Standard: 2 Rep: 1				Seq: 2		13:58:09	01 Nov 16	HG
Hg	.100	ppb	369					
*** Standard: 3 Rep: 1				Seq: 3		14:00:30	01 Nov 16	HG
Hg	.200	ppb	1196					
*** Standard: 4 Rep: 1				Seq: 4		14:03:22	01 Nov 16	HG
Hg	1.00	ppb	2998					
*** Standard: 5 Rep: 1				Seq: 5		14:05:44	01 Nov 16	HG
Hg	2.00	ppb	6267					
*** Standard: 6 Rep: 1				Seq: 6		14:08:28	01 Nov 16	HG
Hg	5.00	ppb	15911					
*** Check Standard: 3 Ck3ICV2098				Seq: 7		14:44:28	01 Nov 16	HG
Line Flag %Rcv. Found True				Units		SD/RSD		
Hg		103.	2.06	2.00	ppb	.000	%	
*** Check Standard: 1 Ck1blank				Seq: 8		14:46:58	01 Nov 16	HG
Line Flag Found Range(+/-) Units						SD/RSD		
Hg		-.004	.100	ppb		.000	%	
*** Check Standard: 2 Ck2PQL2095				Seq: 9		14:49:18	01 Nov 16	HG
Line Flag %Rcv. Found True				Units		SD/RSD		
Hg		141.	.141	.100	ppb	.000	%	
*** Check Standard: 4 Ck4CCV2092				Seq: 10		14:51:47	01 Nov 16	HG
Line Flag %Rcv. Found True				Units		SD/RSD		
Hg		98.2	1.96	2.00	ppb	.000	%	
*** Check Standard: 1 Ck1blank				Seq: 11		14:54:11	01 Nov 16	HG
Line Flag Found Range(+/-) Units						SD/RSD		
Hg		-.030	.100	ppb		.000	%	
*** Sample ID: 16HG2094				Seq: 12		14:56:32	01 Nov 16	HG
			0.2 PPB					
Hg	.164	ppb	.000 %	.164				
=====								
*** Sample ID: RQ25639001				Seq: 13		14:58:51	01 Nov 16	HG
			MB 25639					
Hg	-.029	ppb	.000 %	-.029				
=====								
*** Sample ID: RQ25639002				Seq: 14		15:01:11	01 Nov 16	HG
			LCS 25639					
Hg	1.98	ppb	.000 %	1.98				
=====								
*** Sample ID: RJ27005001				Seq: 15		15:04:01	01 Nov 16	HG
			25639					
Hg	-.023	ppb	.000 %	-.023				
=====								

Line	Conc.	Units	SD/RSD	1	2	3	4	5
=====								
***	Sample ID:	RJ27005002		Seq:	16	15:07:11	01 Nov 16	HG
			25639					
Hg	-.005	ppb	.000 %	-.005				
=====								
***	Sample ID:	RJ27005003		Seq:	17	15:10:06	01 Nov 16	HG
			25639					
Hg	.038	ppb	.000 %	.038				
=====								
***	Sample ID:	RJ27005004		Seq:	18	15:13:07	01 Nov 16	HG
			25639					
Hg	-.021	ppb	.000 %	-.021				
=====								
***	Sample ID:	RJ27005004		Seq:	19	15:15:28	01 Nov 16	HG
			25639MS					
Hg	1.86	ppb	.000 %	1.86				
=====								
***	Sample ID:	RJ27005004		Seq:	20	15:17:50	01 Nov 16	HG
			25639MSD					
Hg	1.90	ppb	.000 %	1.90				
=====								
***	Sample ID:	RJ27005005		Seq:	21	15:20:11	01 Nov 16	HG
			25639					
Hg	-.033	ppb	.000 %	-.033				
=====								
***	Check Standard:	4 Ck4CCV2092		Seq:	22	15:22:43	01 Nov 16	HG
Line	Flag	%Rcv.	Found	True	Units	SD/RSD		
Hg		95.5	1.91	2.00	ppb	.000 %		
=====								
***	Check Standard:	1 Ck1blank		Seq:	23	15:25:12	01 Nov 16	HG
Line	Flag	Found	Range(+/-)	Units	SD/RSD			
Hg		-.033	.100	ppb	.000 %			
=====								
***	Sample ID:	RJ27005006		Seq:	24	15:27:33	01 Nov 16	HG
			25639					
Hg	.452	ppb	.000 %	.452				
=====								
***	Sample ID:	RJ27005007		Seq:	25	15:29:54	01 Nov 16	HG
			25639					
Hg	-.062	ppb	.000 %	-.062				
=====								
***	Sample ID:	RJ27005008		Seq:	26	15:32:16	01 Nov 16	HG
			25639					
Hg	.005	ppb	.000 %	.005				
=====								
***	Sample ID:	RJ27005009		Seq:	27	15:34:35	01 Nov 16	HG
			25639					
Hg	-.019	ppb	.000 %	-.019				
=====								
***	Sample ID:	RJ27005010		Seq:	28	15:36:56	01 Nov 16	HG
			25639					
Hg	-.020	ppb	.000 %	-.020				
=====								
***	Sample ID:	RJ27005011		Seq:	29	15:39:18	01 Nov 16	HG
			25639					
Hg	-.019	ppb	.000 %	-.019				

POST-RUN REPORT

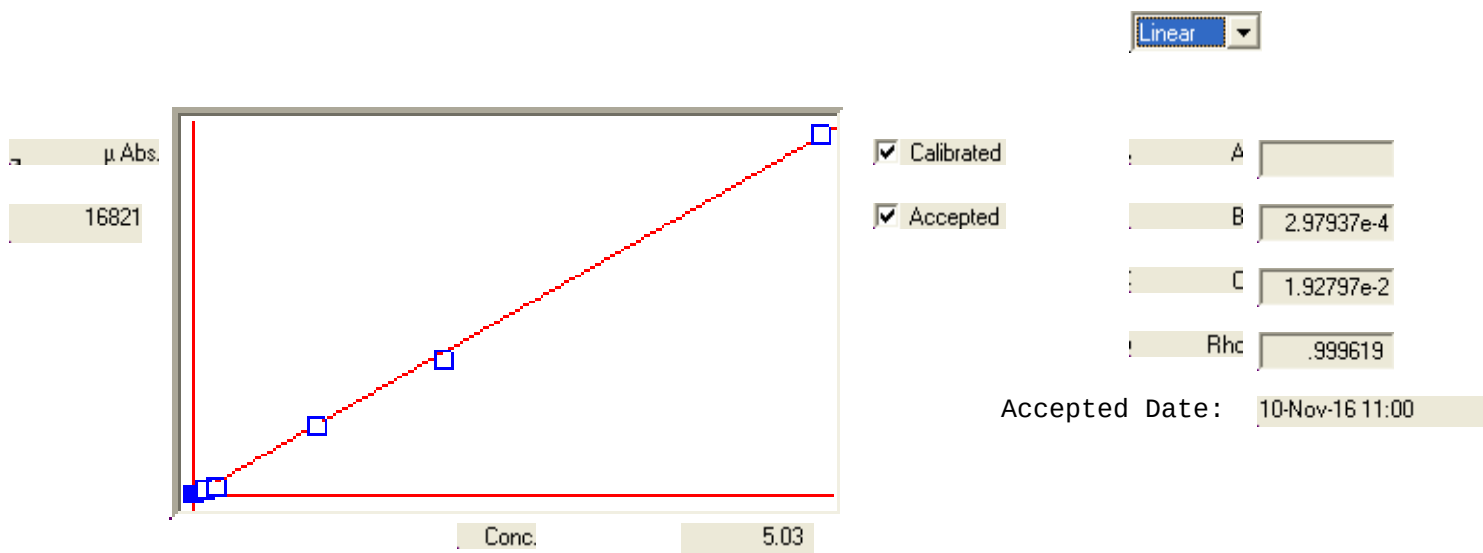
Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Check Standard: 4 Ck4CCV2092 Seq: 30 15:41:42 01 Nov 16 HG
Line Flag %Rcv. Found True Units SD/RSD
Hg 97.7 1.95 2.00 ppb .000 %

*** Check Standard: 1 Ck1blank Seq: 31 15:44:01 01 Nov 16 HG
Line Flag Found Range(+/-) Units SD/RSD
Hg -.038 .100 ppb .000 %

*** Sample ID: SnCl2 Seq: 32 15:46:23 01 Nov 16 HG
IM7355-01(11/1/16)
Hg -.019 ppb .000 % -.019

Protocol: 7470AHG3



S	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
01	.00000	.067	.067	161	0	160				
02	.10000	.120	.020	340	0%	339				
03	.20000	.162	-.038	480	0%	479				
04	1.0000	1.00	.003	3301	0%	3301				
05	2.0000	1.92	-.083	6370	0%	6370				
06	5.0000	5.03	.031	16822	0%	16821				
07										
08										
09										
10										

cup	sample ID	extended ID	weight	volume	? A D F P S U SC UI US C1..7
1	16HG2128	0.2 STD (11/10/16)	1.0000	1.0000	C1 CP
2	RQ26371001	MB 26371	1.0000	1.0000	
3	RQ26371002	LCS 26371	1.0000	1.0000	
4	RJ27005006	26371	1.0000	1.0000	
5	RJ27005006	26371 MS	1.0000	1.0000	
6	RJ27005006	26371 MSD	1.0000	1.0000	
7	RQ26369001	MB 26369	1.0000	1.0000	
8	RQ26369002	LCS 26369	1.0000	1.0000	
9	RK09007001	26369	1.0000	1.0000	
10	RK09007001	26369 MS	1.0000	1.0000	C4 C1
11	RK09007001	26369 MSD	1.0000	1.0000	
12	RK09007002	26369	1.0000	1.0000	
13	RK09007003	26369	1.0000	1.0000	
14	RK09008001	26369	1.0000	1.0000	
15	RK09008002	26369	1.0000	1.0000	
16	RK09008003	26369	1.0000	1.0000	
17	RK09008004	26369	1.0000	1.0000	
18	RK09008005	26369	1.0000	1.0000	
19	RK09008006	26369	1.0000	1.0000	
20	RK09008007	26369	1.0000	1.0000	C4 C1
21	RK09008008	26369	1.0000	1.0000	
22	RK09008009	26369	1.0000	1.0000	
23	RQ26370001	MB 26370	1.0000	1.0000	
24	RQ26370002	LCS 26370	1.0000	1.0000	
25	RK03021021	26370 DISS	1.0000	1.0000	
26	RK03021022	26370 DISS	1.0000	1.0000	
27	RK03021022	26370 DISS MS	1.0000	1.0000	
28	RK03021022	26370 DISS MSD	1.0000	1.0000	
29	RK03021023	26370 DISS	1.0000	1.0000	
30	RK03021024	26370 DISS	1.0000	1.0000	C4 C1
31	RK03021025	26370 DISS	1.0000	1.0000	
32	RK03021026	26370 DISS	1.0000	1.0000	
33	RK03021027	26370 DISS	1.0000	1.0000	
34	RK03021028	26370 DISS	1.0000	1.0000	
35	RK03021029	26370 DISS	1.0000	1.0000	
36	RK03021030	26370 DISS	1.0000	1.0000	
37	RK03021031	26370 DISS	1.0000	1.0000	
38	RK03021032	26370 DISS	1.0000	1.0000	
39	RK03021033	26370 DISS	1.0000	1.0000	
40	RK03021034	26370 DISS	1.0000	1.0000	C4 C1
41	RK03021035	26370 DISS	1.0000	1.0000	
42	RK03021036	26370 DISS	1.0000	1.0000	
43	RK03021037	26370 DISS	1.0000	1.0000	C4 C1

cup	sample ID	extended ID	weight	volume	? A D F P S U SC UI US C1..7
44			1.0000	1.0000	

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Standard: 1 Rep: 1				Seq: 477		10:46:21	10 Nov 16	HG
Hg	.000	ppb	160					
*** Standard: 2 Rep: 1				Seq: 478		10:49:15	10 Nov 16	HG
Hg	.100	ppb	339					
*** Standard: 3 Rep: 1				Seq: 479		10:52:37	10 Nov 16	HG
Hg	.200	ppb	479					
*** Standard: 4 Rep: 1				Seq: 480		10:55:07	10 Nov 16	HG
Hg	1.00	ppb	3301					
*** Standard: 5 Rep: 1				Seq: 481		10:57:32	10 Nov 16	HG
Hg	2.00	ppb	6370					
*** Standard: 6 Rep: 1				Seq: 482		11:00:08	10 Nov 16	HG
Hg	5.00	ppb	16821					
*** Check Standard: 3 Ck3ICV2132				Seq: 483		11:02:38	10 Nov 16	HG
Line Flag %Rcv. Found True				Units	SD/RSD			
Hg		104.	2.08	2.00	ppb	.000	%	
*** Check Standard: 1 Ck1blank				Seq: 484		11:05:39	10 Nov 16	HG
Line Flag Found Range(+/-) Units				SD/RSD				
Hg		.003	.100	ppb	.000	%		
*** Check Standard: 2 Ck2PQL2129				Seq: 485		11:08:00	10 Nov 16	HG
Line Flag %Rcv. Found True				Units	SD/RSD			
Hg		131.	.131	.100	ppb	.000	%	
*** Check Standard: 4 Ck4CCV2126				Seq: 486		11:10:42	10 Nov 16	HG
Line Flag %Rcv. Found True				Units	SD/RSD			
Hg		99.6	1.99	2.00	ppb	.000	%	
*** Check Standard: 1 Ck1blank				Seq: 487		11:13:07	10 Nov 16	HG
Line Flag Found Range(+/-) Units				SD/RSD				
Hg	H	.116	.100	ppb	.000	%		
*** Check Standard: 1 Ck1blank				Seq: 488		11:18:31	10 Nov 16	HG
Line Flag Found Range(+/-) Units				SD/RSD				
Hg		.020	.100	ppb	.000	%		
*** Check Standard: 1 Ck1blank				Seq: 489		11:21:33	10 Nov 16	HG
Line Flag Found Range(+/-) Units				SD/RSD				
Hg		.020	.100	ppb	.000	%		
*** Sample ID: 16HG2128 111016D				Seq: 490		11:24:32	10 Nov 16	HG
			0.2 STD (11/10/16)					
Hg	.281	ppb	.000	% .281				
=====								
*** Sample ID: RQ26371001 111016D				Seq: 491		11:27:07	10 Nov 16	HG
			MB 26371					
Hg	.029	ppb	.000	% .029				
=====								

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: RQ26371002 111016D Seq: 492 11:29:40 10 Nov 16 HG								
LCS 26371								
Hg	2.15	ppb	.000 %	2.15				
*** Sample ID: RJ27005006 111016D Seq: 493 11:32:39 10 Nov 16 HG								
26371								
Hg	.458	ppb	.000 %	.458				
*** Sample ID: RJ27005006 111016D Seq: 494 11:35:09 10 Nov 16 HG								
26371 MS								
Hg	2.52	ppb	.000 %	2.52				
*** Sample ID: RJ27005006 111016D Seq: 495 11:37:34 10 Nov 16 HG								
26371 MSD								
Hg	2.55	ppb	.000 %	2.55				
*** Sample ID: RQ26369001 111016D Seq: 496 11:40:07 10 Nov 16 HG								
MB 26369								
Hg	-.026	ppb	.000 %	-.026				
*** Sample ID: RQ26369002 111016D Seq: 497 11:44:19 10 Nov 16 HG								
LCS 26369								
Hg	2.07	ppb	.000 %	2.07				
*** Sample ID: RK09007001 111016D Seq: 498 11:46:41 10 Nov 16 HG								
26369								
Hg	.064	ppb	.000 %	.064				
*** Sample ID: RK09007001 111016D Seq: 499 11:49:05 10 Nov 16 HG								
26369 MS								
Hg	2.07	ppb	.000 %	2.07				
*** Check Standard: 4 Ck4CCV2126 Seq: 500 11:52:55 10 Nov 16 HG								
Line	Flag	%Rcv.	Found	True	Units	SD/RSD		
Hg		96.6	1.93	2.00	ppb	.000 %		
*** Check Standard: 1 Ck1blank Seq: 501 11:55:26 10 Nov 16 HG								
Line	Flag	Found	Range(+/-)	Units	SD/RSD			
Hg		.025	.100	ppb	.000 %			
*** Sample ID: RK09007001 111016D Seq: 502 11:57:49 10 Nov 16 HG								
26369 MSD								
Hg	1.99	ppb	.000 %	1.99				
*** Sample ID: RK09007002 111016D Seq: 503 12:00:08 10 Nov 16 HG								
26369								
Hg	-.005	ppb	.000 %	-.005				
*** Sample ID: RK09007003 111016D Seq: 504 12:02:51 10 Nov 16 HG								
26369								
Hg	.026	ppb	.000 %	.026				
*** Sample ID: RK09008001 111016D Seq: 505 12:05:10 10 Nov 16 HG								
26369								
Hg	.041	ppb	.000 %	.041				

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: RK09008002 111016D Seq: 506 12:08:12 10 Nov 16 HG								
26369								
Hg	.143	ppb	.000 %	.143				
=====								
*** Sample ID: RK09008003 111016D Seq: 507 12:10:47 10 Nov 16 HG								
26369								
Hg	-.020	ppb	.000 %	-.020				
=====								
*** Sample ID: RK09008004 111016D Seq: 508 12:13:08 10 Nov 16 HG								
26369								
Hg	.067	ppb	.000 %	.067				
=====								
*** Sample ID: RK09008005 111016D Seq: 509 12:15:28 10 Nov 16 HG								
26369								
Hg	-.021	ppb	.000 %	-.021				
=====								
*** Sample ID: RK09008006 111016D Seq: 510 12:17:52 10 Nov 16 HG								
26369								
Hg	.034	ppb	.000 %	.034				
=====								
*** Sample ID: RK09008007 111016D Seq: 511 12:20:23 10 Nov 16 HG								
26369								
Hg	.018	ppb	.000 %	.018				
=====								
*** Check Standard: 4 Ck4CCV2126 Seq: 512 12:22:58 10 Nov 16 HG								
Line	Flag	%Rcv.	Found	True	Units	SD/RSD		
Hg		95.9	1.92	2.00	ppb	.000 %		
=====								
*** Check Standard: 1 Ck1blank Seq: 513 12:25:19 10 Nov 16 HG								
Line	Flag	Found	Range(+/-)	Units	SD/RSD			
Hg		.035	.100	ppb	.000 %			
=====								
*** Sample ID: RK09008008 111016D Seq: 514 12:28:00 10 Nov 16 HG								
26369								
Hg	.100	ppb	.000 %	.100				
=====								
*** Sample ID: RK09008009 111016D Seq: 515 12:30:21 10 Nov 16 HG								
26369								
Hg	.030	ppb	.000 %	.030				
=====								
*** Sample ID: RQ26370001 111016D Seq: 516 12:32:41 10 Nov 16 HG								
MB 26370								
Hg	.015	ppb	.000 %	.015				
=====								
*** Sample ID: RQ26370002 111016D Seq: 517 12:35:01 10 Nov 16 HG								
LCS 26370								
Hg	2.08	ppb	.000 %	2.08				
=====								
*** Sample ID: RK03021021 111016D Seq: 518 12:37:20 10 Nov 16 HG								
26370 DISS								
Hg	.023	ppb	.000 %	.023				
=====								

Line	Conc.	Units	SD/RSD	1	2	3	4	5	
*** Sample ID: RK03021022 111016D Seq: 519 12:39:55 10 Nov 16 HG									
26370 DISS									
Hg	.001	ppb	.000 %	.001					=
*** Sample ID: RK03021022 111016D Seq: 520 12:42:25 10 Nov 16 HG									
26370 DISS MS									
Hg	2.12	ppb	.000 %	2.12					=
*** Sample ID: RK03021022 111016D Seq: 521 12:45:07 10 Nov 16 HG									
26370 DISS MSD									
Hg	2.11	ppb	.000 %	2.11					=
*** Sample ID: RK03021023 111016D Seq: 522 12:47:38 10 Nov 16 HG									
26370 DISS									
Hg	.072	ppb	.000 %	.072					=
*** Sample ID: RK03021024 111016D Seq: 523 12:50:53 10 Nov 16 HG									
26370 DISS									
Hg	.012	ppb	.000 %	.012					=
*** Check Standard: 4 Ck4CCV2126 Seq: 524 12:53:15 10 Nov 16 HG									
Line	Flag	%Rcv.	Found	True	Units	SD/RSD			
Hg		96.0	1.92	2.00	ppb	.000 %			=
*** Check Standard: 1 Ck1blank Seq: 525 12:55:39 10 Nov 16 HG									
Line	Flag	Found Range(+/-) Units			SD/RSD				
Hg		.003	.100	ppb	.000 %				=
*** Sample ID: RK03021025 111016D Seq: 526 12:58:03 10 Nov 16 HG									
26370 DISS									
Hg	.073	ppb	.000 %	.073					=
*** Sample ID: RK03021026 111016D Seq: 527 13:00:40 10 Nov 16 HG									
26370 DISS									
Hg	.088	ppb	.000 %	.088					=
*** Sample ID: RK03021027 111016D Seq: 528 13:03:16 10 Nov 16 HG									
26370 DISS									
Hg	.019	ppb	.000 %	.019					=
*** Sample ID: RK03021028 111016D Seq: 529 13:05:39 10 Nov 16 HG									
26370 DISS									
Hg	.055	ppb	.000 %	.055					=
*** Sample ID: RK03021029 111016D Seq: 530 13:08:20 10 Nov 16 HG									
26370 DISS									
Hg	.020	ppb	.000 %	.020					=
*** Sample ID: RK03021030 111016D Seq: 531 13:10:41 10 Nov 16 HG									
26370 DISS									
Hg	.097	ppb	.000 %	.097					=
*** Sample ID: RK03021031 111016D Seq: 532 13:13:05 10 Nov 16 HG									
26370 DISS									
Hg	-.046	ppb	.000 %	-.046					=

Line	Conc.	Units	SD/RSD	1	2	3	4	5	
*** Sample ID: RK03021032 111016D Seq: 533 13:15:31 10 Nov 16 HG									
26370 DISS									
Hg	.019	ppb	.000 %	.019					=
*** Sample ID: RK03021033 111016D Seq: 534 13:18:02 10 Nov 16 HG									
26370 DISS									
Hg	.081	ppb	.000 %	.081					=
*** Sample ID: RK03021034 111016D Seq: 535 13:20:23 10 Nov 16 HG									
26370 DISS									
Hg	.096	ppb	.000 %	.096					=
*** Check Standard: 4 Ck4CCV2126 Seq: 536 13:23:23 10 Nov 16 HG									
Line	Flag	%Rcv.	Found	True	Units	SD/RSD			
Hg		91.0	1.82	2.00	ppb	.000 %			=
*** Check Standard: 1 Ck1blank Seq: 537 13:25:54 10 Nov 16 HG									
Line	Flag	Found	Range(+/-)	Units	SD/RSD				
Hg		.019	.100	ppb	.000 %				=
*** Sample ID: RK03021035 111016D Seq: 538 13:29:05 10 Nov 16 HG									
26370 DISS									
Hg	.008	ppb	.000 %	.008					=
*** Sample ID: RK03021036 111016D Seq: 539 13:31:26 10 Nov 16 HG									
26370 DISS									
Hg	.016	ppb	.000 %	.016					=
*** Sample ID: RK03021037 111016D Seq: 540 13:33:47 10 Nov 16 HG									
26370 DISS									
Hg	.036	ppb	.000 %	.036					=
*** Check Standard: 4 Ck4CCV2126 Seq: 541 13:36:29 10 Nov 16 HG									
Line	Flag	%Rcv.	Found	True	Units	SD/RSD			
Hg		93.5	1.87	2.00	ppb	.000 %			=
*** Check Standard: 1 Ck1blank Seq: 542 13:38:58 10 Nov 16 HG									
Line	Flag	Found	Range(+/-)	Units	SD/RSD				
Hg		-.027	.100	ppb	.000 %				=

Raw Supportive Data



Analyst: COH

Status: Level 2 review released

Matrix: Solid

Printed: 11/29/16 1433

Prep Batch: 25522

1311/7470A - TCLP Mercury Linked: 7470A

Start Date: 10/31/2016 1245

Level 2 Analyst: BEB

End Date: 10/31/2016 1445

Digestion Cup ID: 1512329

Ext Solvent: H2SO4/1:1HNO3/KMnO4/K2S2O8/NaCl-NH2OH-HCl

Reagents Vol. (mL): 2.0, 2.0, 6.0, 3.2, 2.4

Chem ID: 16-424(3/18) IM7299-01(1/5/17) IM7237-01(12/7/16) IM7299-03(1/5/17) IM7237-02(12/7/16)

Hot Block ID: Hot Block #4

Sample ID	QC Code	Client Sample ID	Run	Analysis Descript	Initial Vol. (mL)	Spike ID	Spike Vol. (mL)	Final Vol. (mL)	Holding Time Expires	Analytical Due Date	Comments
RQ25522-001	MB		1	7470A	40.000		0.0	50			LCS/MS/MSD pipette:247
RQ25522-002	LCS		1	7470A	40.000	16HG2097	1.0	50			(11/28/16)
RJ26053-001	Sample	E-CS-02	1	7470A	40.000		0.0	50	11/23/2016 1700	10/31/2016	
RJ27033-001	Sample	E-CS-03	1	7470A	40.000		0.0	50	11/24/2016 1505	11/01/2016	
RJ27033-001MS	MS		1	7470A	40.000	16HG2097	1.0	50			(11/28/16)
RJ27033-001MD	MSD		1	7470A	40.000	16HG2097	1.0	50			(11/28/16)
RQ25522-004	Standard	Conc = 0.0 mg/L	1	7470A	40.000		0.0	50			CAL 0
RQ25522-104	Standard	Conc = 0.10 mg/L	1	7470A	40.000	16HG2090	0.0	50			(11/1/16)
RQ25522-204	Standard	Conc = 0.0050 mg/L	1	7470A	40.000	16HG2091	0.0	50			(11/1/16)
RQ25522-304	Standard	Conc = 0.0020 mg/L	1	7470A	40.000	16HG2092	0.0	50			(11/1/16)
RQ25522-404	Standard	Conc = 0.0010 mg/L	1	7470A	40.000	16HG2093	0.0	50			(11/1/16)
RQ25522-504	Standard	Conc = 0.00020 mg/L	1	7470A	40.000	16HG2094	0.0	50			(11/1/16)
RQ25522-604	Standard	Conc = 0.00010 mg/L	1	7470A	40.000	16HG2095	0.0	50			(11/1/16)
RQ25522-101	MB		1	7470A	40.000		0.0	50			ICB
RQ25522-804	Standard	Conc = 0.0020 mg/L	1	7470A	40.000	16HG2098(11	0.0	50			ICV
RQ25522-201	MB		1	7470A	40.000		0.0	50			CCB
RQ25522-1004	Standard	Conc = 0.0020 mg/L	1	7470A	40.000	16HG2092(11	0.0	50			CCV

(end of report)

Total Samples: 2

Analyst: COH

Status: Level 2 review released

Matrix: Aqueous

Printed: 11/29/16 1435

Prep Batch: 25639 7470A-P Draper - Mercury Preparation

Start Date: 11/01/2016 1155

Level 2 Analyst: BEB

Weigh Boat ID: 16HG16HG2097

End Date: 11/01/2016 1355

Digestion Cup ID: 1512329

Ext Solvent: H2SO4/1:1HNO3/KMnO4/K2S2O8/NaCl-NH2OH-HCl

Reagents Vol. (mL): 2.0, 2.0, 6.0, 3.2, 2.4

Chem ID: 16-424(3/18) IM7299-01(1/5/17) IM7237-01(12/7/16) IM7299-03(1/5/17) IM7237-02(12/7/16)

Hot Block ID: Hot Block #2

Sample ID	QC Code	Client Sample ID	Run	Analysis Descript	Initial Vol. (mL)	Spike ID	Spike Vol. (mL)	Final Vol. (mL)	Holding Time Expires	Analytical Due Date	Comments
RQ25639-001	MB		1	7470A	40.000		0.0	50			LCS/MS/MSD pipette:247
RQ25639-002	LCS		1	7470A	40.000	16HG2097	1.0	50			(11/28/16)
RJ27005-001	Sample	16C1	1	7470A	40.000		0.0	50	11/22/2016 1430	11/14/2016	
RJ27005-002	Sample	16MW8	1	7470A	40.000		0.0	50	11/21/2016 1250	11/14/2016	
RJ27005-003	Sample	16MW9	1	7470A	40.000		0.0	50	11/22/2016 1300	11/14/2016	
RJ27005-004	Sample	16WC1A	1	7470A	40.000		0.0	50	11/22/2016 1145	11/14/2016	
RJ27005-004MS	MS		1	7470A	40.000	16HG2097	1.0	50			(11/28/16)
RJ27005-004MD	MSD		1	7470A	40.000	16HG2097	1.0	50			(11/28/16)
RJ27005-005	Sample	16WDUP	1	7470A	40.000		0.0	50	11/22/2016 1200	11/14/2016	
RJ27005-006	Sample	16WC1B	1	7470A	40.000		0.0	50	11/22/2016 1055	11/14/2016	
RJ27005-007	Sample	16-2	1	7470A	40.000		0.0	50	11/21/2016 1155	11/14/2016	
RJ27005-008	Sample	16-3	1	7470A	40.000		0.0	50	11/21/2016 1355	11/14/2016	
RJ27005-009	Sample	16-5	1	7470A	40.000		0.0	50	11/21/2016 0940	11/14/2016	
RJ27005-010	Sample	16WC2B	1	7470A	40.000		0.0	50	11/21/2016 1050	11/14/2016	
RJ27005-011	Sample	16SPRING	1	7470A	40.000		0.0	50	11/21/2016 1000	11/14/2016	
RQ25639-004	Standard	Conc = 0.0 mg/L	1	7470A	40.000		0.0	50			CAL 0
RQ25639-104	Standard	Conc = 0.10 mg/L	1	7470A	40.000	16HG2090	0.0	50			(11/1/16)
RQ25639-204	Standard	Conc = 0.0050 mg/L	1	7470A	40.000	16HG2091	0.0	50			(11/1/16)
RQ25639-304	Standard	Conc = 0.0020 mg/L	1	7470A	40.000	16HG2092	0.0	50			(11/1/16)
RQ25639-404	Standard	Conc = 0.0010 mg/L	1	7470A	40.000	16HG2093	0.0	50			(11/1/16)
RQ25639-504	Standard	Conc = 0.00020 mg/L	1	7470A	40.000	16HG2094	0.0	50			(11/1/16)
RQ25639-604	Standard	Conc = 0.00010 mg/L	1	7470A	40.000	16HG2095	0.0	50			(11/1/16)
RQ25639-101	MB		1	7470A	40.000		0.0	50			ICB
RQ25639-804	Standard	Conc = 0.0020 mg/L	1	7470A	40.000	16HG2098(11	0.0	50			ICV
RQ25639-201	MB		1	7470A	40.000		0.0	50			CCB
RQ25639-1004	Standard	Conc = 0.0020 mg/L	1	7470A	40.000	16HG2092(11	0.0	50			CCV

(end of report)

Total Samples: 11

Analyst: SLS

Status: Level 2 review released

Matrix: Aqueous

Printed: 11/29/16 1624

Prep Batch: 26371
7470A-P Draper - Mercury Preparation

Start Date: 11/09/2016 1747

Level 2 Analyst: BEB

End Date: 11/09/2016 1947

Digestion Cup ID: 1512329

Ext Solvent: H2SO4/1:1HNO3/KMnO4/K2S2O8/NaCl-NH2OH-HCl

Reagents Vol. (mL): 2.0, 2.0, 6.0, 3.2, 2.4

Chem ID: 16-424 (3/18), IM7299-01 (1/17), IM7237-01 (12/16), IM7299-03 (1/17), IM7237-02 (12/16) Hot Block ID: Hot Block #4

Sample ID	QC Code	Client Sample ID	Run	Analysis Descript	Initial Vol. (mL)	Spike ID	Spike Vol. (mL)	Final Vol. (mL)	Holding Time Expires	Analytical Due Date	Comments
RQ26371-001	MB		1	7470A	40.000		0.0	50			LCS/MS/MSD pipette 247
RQ26371-002	LCS		1	7470A	40.000	16HG2131 (12/12/16)	1.0	50			
RJ27005-006	Sample	16WC1B	2	7470A	40.000		0.0	50	11/22/2016 1055	11/14/2016	
RJ27005-006MS	MS		2	7470A	40.000	16HG2131 (12/12/16)	1.0	50			
RJ27005-006MD	MSD		2	7470A	40.000	16HG2131 (12/12/16)	1.0	50			
RQ26371-004	Standard	Conc = 0.0 mg/L	1	7470A	40.000		0.0	50			CAL 0
RQ26371-104	Standard	Conc = 0.10 mg/L	1	7470A	40.000	16HG2124	0.0	50			11/10/16
RQ26371-204	Standard	Conc = 0.0050 mg/L	1	7470A	40.000	16HG2125	0.0	50			11/10/16
RQ26371-304	Standard	Conc = 0.0020 mg/L	1	7470A	40.000	16HG2126	0.0	50			11/10/16
RQ26371-404	Standard	Conc = 0.0010 mg/L	1	7470A	40.000	16HG2127	0.0	50			11/10/16
RQ26371-504	Standard	Conc = 0.00020 mg/L	1	7470A	40.000	16HG2128	0.0	50			11/10/16
RQ26371-604	Standard	Conc = 0.00010 mg/L	1	7470A	40.000	16HG2129	0.0	50			11/10/16
RQ26371-101	MB		1	7470A	40.000		0.0	50			CCB
RQ26371-804	Standard	Conc = 0.0020 mg/L	1	7470A	40.000	16HG2126 (11/10/16)	0.0	50			CCV
RQ26371-201	MB		1	7470A	40.000		0.0	50			ICB
RQ26371-1004	Standard	Conc = 0.0020 mg/L	1	7470A	40.000	16HG2132 (11/10/16)	0.0	50			ICV

(end of report)

Total Samples: 1