

Appendix I
Centek Labs Vapor and Air Sampling
Results Data Package

TO-15 Package Review Checklist

Client: Environ & Geologic Project: Highland Plaza SDG: C1603053

		YES	NO	NA
Analytical Results	Present and Complete	☒	☐	☐
TIC's present	Present and Complete	☐	☐	☒
	Holding Times Met	☒	☐	☐
Comments:				

Chain-of-Custody	Present and Complete	<u>✓</u>	<u> </u>	<u> </u>
Surrogate Recovery	Present and Complete	<u>✓</u>	<u> </u>	<u> </u>
	Recoveries within limits	<u>✓</u>	<u> </u>	<u> </u>
	Sample(s) reanalyzed	<u> </u>	<u> </u>	<u>✓</u>
Internal Standards Recovery	Present and Complete	<u>✓</u>	<u> </u>	<u> </u>
	Recoveries within limits	<u> </u>	<u>✓</u>	<u> </u>
	Sample(s) reanalyzed	<u>✓</u>	<u> </u>	<u> </u>

Comments: IS see Narrative

Lab Control Sample (LCS)	Present and Complete	☒	☐	☐
	Recoveries within limits	☐	☒	☐
Lab Control Sample Dupe (LCSD)	Present and Complete	☒	☐	☐
	Recoveries within limits	☐	☒	☐
MS/MSD	Present and Complete	☒	☐	☐
	Recoveries within limits	☐	☒	☐

Comments: ns/nsd See Narrative

Sample Raw Data	Present and Complete	☒	___	___
	Spectra present for all samples	☒	___	___

Comments: _____

TO-15 Package Review Checklist

Client: Environ GeoLogic Project: Highland Plaza SDG: C1603053

		<u>YES</u>	<u>NO</u>	<u>NA</u>
Standards Data				
Initial Calibration Summary	Present and Complete	☒	☐	☐
	Calibration(s) met criteria	☒	☐	☐
Continuing Calibration Summary	Present and Complete	☒	☐	☐
	Calibration(s) met criteria	☒	☐	☐
Standards Raw Data	Present and Complete	☒	☐	☐

Comments: _____

Raw Quality Control Data

Tune Criteria Report	Present and Complete	☒	☐	☐
Method Blank Data	MB Results <PQL	☒	☐	☐
	Associated results flagged "B"	☐	☐	☒
LCS sample data	Present and Complete	☒	☐	☐
LCSD sample data	Present and Complete	☒	☐	☐
MS/MSD sample data	Present and Complete	☒	☐	☐

Comments: _____

Logbooks

Injection Log	Present and Complete	☒	☐	☐
Standards Log	Present and Complete	☒	☐	☐
Can Cleaning Log	Present and Complete	☒	☐	☐
	Raw Data Present	☒	☐	☐
Calculation sheet	Present and Complete	☒	☐	☐
IDL's	Present and Complete	☒	☐	☐
Bottle Order Form	Present and Complete	☒	☐	☐
Sample Tracking Form	Present and Complete	☒	☐	☐

Additional Comments: _____

Section Supervisor: Will Dalt

Date: 4/13/16

QC Supervisor: [Signature]

Date: 4/15/16

ASP CAT B DELIVERABLE PACKAGE

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CENTEK LABORATORIES, LLC

143 Midler Park Drive * Syracuse, NY 13206
Phone (315) 431-9730 * Emergency 24/7 (315) 416-2752
NYSDOH ELAP Certificate No. 11830

Analytical Report

Norm Wohlabaug
Environmental & Geologic Management Services, LLC
15 Briar Hill Road
Orchard Park, NY 14127

Friday, March 25, 2016
Order No.: C1603053

TEL: (716) 445-2105

FAX

RE: Highland Plaza

Dear Norm Wohlabaug:

Centek Laboratories, LLC received 6 sample(s) on 3/18/2016 for the analyses presented in the following report.

I certify that this data package is in compliance with the terms and conditions of the Contract, both technically and for completeness. Release of the data contained in this hardcopy data package and/or in the computer readable data submitted has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Centek Laboratories performs all analyses according to EPA, NIOSH or OSHA-approved analytical methods. Centek Laboratories is dedicated to providing quality analyses and exceptional customer service. All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objective except as indicated in the case narrative. All samples were received and analyzed within the EPA recommended holding times. Test results are not Method Blank (MB) corrected for contamination.

We do our best to make our reporting format clear and understandable and hope you are thoroughly satisfied with our services. Please contact your client service representative at (315) 431-9730 or myself, if you would like any additional information regarding this report.

Thank you for using Centek Laboratories. This report can not be reproduced except in its entirety, without prior written authorization.

Sincerely,

William Dobbin
Lead Technical Director

Disclaimer: The test results and procedures utilized, and laboratory interpretations of the data obtained by Centek as contained in this report are believed by Centek to be accurate and reliable

for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of Centek for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages. ELAP does not offer certification for the following parameters by this method at present time, they are: 4-ethyltoluene, ethyl acetate, propylene, 4-PCH, sulfur derived and silicon series compounds.

Centek Laboratories, LLC Terms and Conditions

Sample Submission

All samples sent to Centek Laboratories should be accompanied by our Request for Analysis Form or Chain of Custody Form. A Chain of Custody will be provided with each order shipped for all sampling events, or if needed, one is available at our website www.CentekLabs.com. Samples received after 3:00pm are considered to be a part of the next day's business.

Sample Media

Samples can be collected in an canister or a Tedlar bag. Depending on your analytical needs, Centek Laboratories may receive a bulk, liquid, soil or other matrix sample for headspace analysis.

Blanks

Every sample is run with a surrogate or tracer compound at a pre-established concentration. The surrogate compound run with each sample is used as a standard to measure the performance of each run of the instrument. If required, a Minican can be provided containing nitrogen to be run as a trip blank with your samples.

Sampling Equipment

Centek Laboratories will be happy to provide the canisters to carry-out your sampling event at no charge. The necessary accessories, such as regulators, tubing or personal sampling belts, are also provided to meet your sampling needs. The customer is responsible for all shipping charges to the client's destination and return shipping to the laboratory. Client assumes all responsibility for lost, stolen and any damages of equipment.

Turn Around time (TAT)

Centek Laboratories will provide results to its clients in one business-week by 6:00pm EST after receipt of samples. For example, if samples are received on a Monday they are due on the following Monday by 6:00pm EST. Results are faxed or emailed to the requested location indicated on the Chain of Custody. Non-routine analysis may require more than the one business-week turnaround time. Please confirm non-routine sample turnaround times.

Reporting

Results are emailed or faxed at no additional charge. A hard copy of the result report is mailed within 24 hours of the faxing or emailing of your results. Cat "B" like packages are within 3-4 weeks from time of analysis. Standard Electronic Disk Deliverables (EDD) is also available at no additional charge.

Payment Terms

Payment for all purchases shall be due within 30 days from date of invoice. The client agrees to pay a finance charge of 1.5% per month on the overdue balance and cost of collection, including attorney fees, if collection proceedings are necessary. You must have a completed credit application on file to extend credit. Purchase orders or checks information must be submitted

for us to release results

Rush Turnaround Samples

Expedited turn around times is available. Please confirm rush turnaround times with Client Services before submitting samples.

Applicable Surcharges for Rush Turnaround Samples:

Same day TAT = 200%

Next business day TAT by Noon = 150%

Next business day TAT by 6:00pm = 100%

Second business day TAT by 6:00pm = 75%

Third business day TAT by 6:00pm = 50%

Fourth business day TAT by 6:00pm = 35%

Fifth business day = Standard

Statement of Confidentiality

Centek Laboratories, LLC is aware of the importance of the confidentiality of results to many of our clients. Your name and data will be held in the strictest of confidence. We will not accept business that may constitute a conflict of interest. We commonly sign Confidential Nondisclosure Agreements with clients prior to beginning work. All research, results and reports will be kept strictly confidential. Secrecy Agreements and Disclosure Statements will be signed for the client if so specified. Results will be provided only to the addressee specified on the Chain of Custody Form submitted with the samples unless law requires release. Written permission is required from the addressee to release results to any other party.

Limitation on Liability

Centek Laboratories, LLC warrants the test results to be accurate to the methodology and sample type for each sample submitted to Centek Laboratories, LLC. In no event shall Centek Laboratories, LLC be liable for direct, indirect, special, punitive, incidental, exemplary or consequential damages, or any damages whatsoever, even if Centek Laboratories, LLC has been previously advised of the possibility of such damages whether in an action under contract, negligence, or any other theory, arising out of or in connection with the use, inability to use or performance of the information, services, products and materials available from the laboratory or this site. These limitations shall apply notwithstanding any failure of essential purpose of any limited remedy. Because some jurisdictions do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of liability for consequential or incidental damages, the above limitations may not apply to you. This is a comprehensive limitation of liability that applies to all damages of any kind, including (without limitation) compensatory, direct, indirect or consequential damages, loss of data, income or profit and or loss of or damage to property and claims of third parties.



CENTEK LABORATORIES, LLC

Date: 13-Apr-16

CLIENT: Environmental & Geologic Management Ser

Project: Highland Plaza

Lab Order: C1603053

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Centek Laboratories, LLC SOP TS-80

Compendium of Methods for the Determination of Toxic Organic Compounds, Compendium Method TO-15, January 1999

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objective except as indicated in the corrective action report(s). All samples were received and analyzed within the EPA recommended holding times. Test results are not Method Blank (MB) corrected for contamination.

NYSDEC ASP samples:

Canisters should be evacuated to a reading of less than or equal to 50 millitorr prior to shipment to sampling personnel. The vacuum in the canister will be field checked prior to sampling, and must read 28" of Hg (± 2 ", vacuum, absolute) before a sample can be collected. After the sample has been collected, the pressure of the canister will be read and recorded again, and must be 5" of Hg (± 1 ", vacuum, absolute) for the sample to be valid. Once received at the laboratory, the canister vacuum should be confirmed to be 5" of Hg, ± 1 ". Please record and report the pressure/vacuum of received canisters on the sample receipt paperwork. A pressure/vacuum reading should also be taken just prior to the withdrawal of sample from the canister, and recorded on the sample preparation log sheet. All regulators are calibrated to meet these requirements before they leave the laboratory. However, due to environmental conditions and use of the equipment Centek can not guarantee that this criteria can always be achieved.

See Corrective Action: [3351] IS did not meet criteria.

See Corrective Action: [3352] MS/MSD did not meet criteria.

Centek Laboratories, LLC

Corrective Action Report

Date Initiated: 22-Mar-16
Initiated By: Russell Pellegrino

Corrective Action Report ID: 3351
Department: MSVOA

Corrective Action Description

CAR Summary: IS did not meet criteria.

Description of Nonconformance Root/Cause(s): IS was high and did not meet criteria for samples C1603053-003A, 005A, 006A 10X. Based on the chromatographic evidence, it appears that the contamination is from a high concentration of interfering compounds that may be associated with a fuel.

Description of Corrective Action w/Proposed C.A.: Samples C1603053-003A and 005A were analyzed further as a dilution with criteria being met. The IS for sample C1603053-006A undiluted met criteria. Due to matrix being in a canister it is difficult to see any signs of problems. All sets of data submitted.

Performed By: Russell Pellegrino

Completion Date: 22-Mar-16

Client Notification

Client Notification Required: No

Notified By:

Comment:

Quality Assurance Review

Nonconformance Type: Deficiency

Further Action required by QA: Monitor all quality control for sample matrix interference. At this time no further corrective action taken. All sets of data submitted.

Approval and Closure

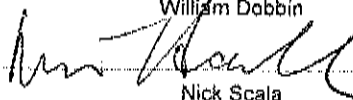
Technical Director /
Deputy Tech. Dir.:



William Dobbin

Close Date: 13-Apr-16

QA Officer Approval:



Nick Scala

QA Date: 23-Mar-16

Last Updated BY bill

Updated: 13-Apr-2016 9:32 AM

Reported: 13-Apr-2016 10:02 A

Centek Laboratories, LLC

Corrective Action Report

Date Initiated: 22-Mar-16
Initiated By: Russell Pellegrino

Corrective Action Report ID: 3352
Department: MSVOA

Corrective Action Description

CAR Summary: MS/MSD did not meet criteria.

Description of Nonconformance Root/Cause(s): MS/MSD did not meet criteria for a several compounds for samples C1603053-006A MS/MSD. Based on the chromatographic evidence this is most likely due to severe matrix interference.

Description of Corrective Action w/Proposed C.A.: Since MS/MSD show similar results at this time no further corrective action taken. All other QC meets criteria. The samples show many hits in the matrix which will interfere with spike results. All sets of data submitted

Performed By: Russell Pellegrino

Completion Date: 22-Mar-16

Client Notification

Client Notification Required: No

Notified By:

Comment:

Quality Assurance Review

Nonconformance Type: Deficiency

Further Action required by QA: Monitor all quality control for sample matrix interference. At this time no further corrective action taken. All sets of data submitted

Approval and Closure

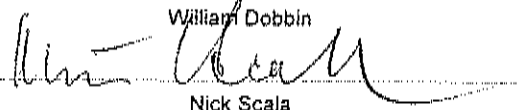
Technical Director /
Deputy Tech. Dir.:



William Dobbin

Close Date: 12-Apr-16

QA Officer Approval:



Nick Scala

QA Date: 22-Mar-16

Last Updated BY bill

Updated: 13-Apr-2016 10:00 AM

Reported: 13-Apr-2016 10:02 A

Centek Chain of Custody				Site Name: <u>Highland Plaza</u>		Detection Limit		Report Level	
143 Midler Park Drive Syracuse, NY 13206 315-431-9730 www.CentekLabs.com				Project: <u>SP/130</u> PO#: <u>5670</u> Quote # <u>5670</u> Other:		☐ Sppbv ☒ 1ug/M3 ☒ 1ug/M3 +TOE 25		☒ Level I ☐ Level II ☒ Cat "B" Like <u>ADUSR</u>	
Company: <u>EGMS</u> Report to: <u>15 Brown Hill Rd</u> Address: <u>Drehanet Park, NY 14127</u> City, State, Zip: <u>Verizon, NY</u> Email: <u>716-445-2105</u> Phone:				Company: <u>EGMS</u> Check Here if Same: ☒		Invoice to: <u>SCM</u> Address: <u>SCM</u> City, State, Zip:		Cat "B" Like <u>ADUSR</u>	
Turnaround Time: 5 Business Days 4 Business Days 3 Business Days 2 Business Days *Next Day by 5pm *Next Day by Noon *Same Day				Check Rush TAT One ☒ Surchage % 0% 25% 50% 75% 100% 150% 200%		Date Sampled <u>3/15/16</u>		Date/Time <u>3-18-16</u>	
TAT *For Same and Next Day TAT Please Notify Lab				Sample ID <u>Outdoor Air #1</u>		Regulator Number <u>171</u>		Analysis Request <u>70-15</u>	
<u>Indoor Air #1</u>				<u>11</u>		<u>142</u>		<u>70-15</u>	
<u>Sub-slab #1</u>				<u>11</u>		<u>92</u>		<u>70-15</u>	
<u>Indoor Air #2</u>				<u>11</u>		<u>471</u>		<u>70-15</u>	
<u>Sub-slab #2</u>				<u>11</u>		<u>353</u>		<u>70-15</u>	
<u>MS/MSD</u>				<u>11</u>		<u>216</u>		<u>70-15</u>	
<u>Condensate #2</u>				<u>11</u>		<u>216</u>		<u>70-15</u>	
Chain of Custody Sampled by: <u>NOVINA A. ALIBEGOVIC</u> Relinquished by: <u>11</u> Received at Lab by: <u>NICK M. MORANO</u>				Signature <u>NOVINA A. ALIBEGOVIC</u> <u>11</u> <u>NICK M. MORANO</u>		Date/Time <u>3-18-16</u>		Courier: CIRCLE ONE FedEx (UPS) Pickup/Dropoff For LAB USE ONLY Work Order # <u>CL603053</u>	

*** By signing Centek Labs Chain of Custody, you are accepting Centek Labs Terms and Conditions listed on the reverse side.



CENTEK LABORATORIES, LLC

Sample Receipt Checklist

Client Name ENVIRO & GEO

Date and Time Receive

3/18/2016

Work Order Number C1603053

Received by

NM

Checklist completed by

Signature

Date

Reviewed by

Initials

Date

Matrix:

Carrier name: UPS

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Water - VOA vials have zero headspace?	No VOA vials submitted ☒	Yes ☐	No ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☒	

Adjusted? _____

Checked by _____

Any No and/or NA (not applicable) response must be detailed in the comments section be

Client contacted _____

Date contacted: _____

Person contacted _____

Contacted by: _____

Regarding: _____

Comments: _____

Corrective Action _____



CENTEK LABORATORIES, LLC

Date: 12-Apr-16

CLIENT: Environmental & Geologic Management Ser
Project: Highland Plaza
Lab Order: C1603053

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
C1603053-001A	Outdoor Air #1	171.145	3/15/2016	3/18/2016
C1603053-002A	Indoor Air #1	162.1156	3/15/2016	3/18/2016
C1603053-003A	Sub-slab #1	92.372	3/15/2016	3/18/2016
C1603053-004A	Indoor Air #2	471.304	3/15/2016	3/18/2016
C1603053-005A	Sub-slab #2	353.433	3/15/2016	3/18/2016
C1603053-006A	MS-MSD Indoor Air #2	216.255	3/15/2016	3/18/2016

Lab Order: C1603053

Client: Environmental & Geologic Management Services, L

Project: Highland Plaza

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
C1603053-001A	Outdoor Air #1	3/15/2016	Air	1ug/M3 by Method TO15			3/19/2016
C1603053-002A	Indoor Air #1			1ug/M3 by Method TO15			3/19/2016
				1ug/M3 by Method TO15			3/20/2016
				1ug/M3 by Method TO15			3/20/2016
C1603053-003A	Sub-slab #1			1ug/M3 by Method TO15			3/19/2016
				1ug/M3 by Method TO15			3/20/2016
C1603053-004A	Indoor Air #2			1ug/M3 by Method TO15			3/19/2016
				1ug/M3 by Method TO15			3/20/2016
C1603053-005A	Sub-slab #2			1ug/M3 by Method TO15			3/19/2016
				1ug/M3 by Method TO15			3/22/2016
				1ug/M3 by Method TO15			3/20/2016
C1603053-006A	MS-MSD Indoor Air #2			1ug/M3 by Method TO15			3/19/2016
				1ug/M3 by Method TO15			3/19/2016

**CEN TEK LABORATORIES, LLC***Air Quality Testing...It's a Gas*

143 Midler Park Drive * Syracuse, NY 13206

TEL: 315-431-9730 * FAX: 315-431-9731

CANISTER ORDER**5670**

12-Apr-16

SHIPPED TO:**Company:** Environmental & Geologic Management Services, LLC**Contact:** Norm Wohlabaugh**Address:** 15 Briar Hill Road

Orchard Park, NY 14127

Phone: (716) 445-2105**Quote ID:** 0**Project:****PO:****Submitted By:****MadeBy:** NM**Ship Date:** 3/10/2016**VIA:** FedEx Ground**Due Date:** 3/11/2016

Bottle Code	Bottle Type	TEST(s)	QTY
MC1400CC	1.4L Mini-Can	1ug/m3 w/ 0.25ug/M3 CT-TCE-VC	1
MC1000CC	1L Mini-Can	1ug/M3 by Method TO15	3
MC1000CC	1L Mini-Can	1ug/m3 w/ 0.25ug/M3 CT-TCE-VC	3

Can / Reg ID	Description
92	1L Mini-Can - 1103 VI
95	1L Mini-Can - 1087 VI
145	Time-Set Reg - 640 VI
162	1L Mini-Can - 1132 VI
171	1L Mini-Can - 1142 VI
216	1.4L Mini-Can - 1122 VI
471	1L Mini-Can - 1368 VI
1156	Time-Set Reg-0682 VI
255	Time-Set Reg - 693 VI
304	Time-Set Reg - 727 VI
353	1L Mini-Can - 1302 VI
372	Time-Set Reg - 746 VI
403	Time-Set Reg - 782 VI
433	Time-Set Reg - 812 VI

Comments: 6 1L @ 8hr + full He set up + Drill + MS/MSD(2SS - no reg no empt) WAC022416 K-L, 030416 A-C 121515D

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

ANALYTICAL RESULTS

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se

Client Sample ID: Outdoor Air #1

Lab Order: C1603053

Tag Number: 171.145

Project: Highland Plaza

Collection Date: 3/15/2016

Lab ID: C1603053-001A

Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		Analyst:		
Lab Vacuum In	-6			"Hg		3/18/2016
Lab Vacuum Out	-30			"Hg		3/18/2016
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,2,4-Trimethylbenzene	0.45	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,3,5-Trimethylbenzene	0.21	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,3-butadiene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,4-Dioxane	< 0.30	0.30		ppbV	1	3/19/2016 5:08:00 PM
2,2,4-trimethylpentane	0.32	0.15		ppbV	1	3/19/2016 5:08:00 PM
4-ethyltoluene	0.13	0.15	J	ppbV	1	3/19/2016 5:08:00 PM
Acetone	8.8	3.0		ppbV	10	3/19/2016 11:32:00 PM
Allyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Benzene	0.57	0.15		ppbV	1	3/19/2016 5:08:00 PM
Benzyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Bromodichloromethane	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Bromoform	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Bromomethane	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Carbon disulfide	0.10	0.15	J	ppbV	1	3/19/2016 5:08:00 PM
Carbon tetrachloride	0.070	0.15	J	ppbV	1	3/19/2016 5:08:00 PM
Chlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Chloroform	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Chloromethane	0.45	0.15		ppbV	1	3/19/2016 5:08:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Cyclohexane	1.2	0.15		ppbV	1	3/19/2016 5:08:00 PM
Dibromochloromethane	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Ethyl acetate	0.31	0.25		ppbV	1	3/19/2016 5:08:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

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Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-001A

Client Sample ID: Outdoor Air #1
 Tag Number: 171.145
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
Ethylbenzene	0.34	0.15		ppbV	1	3/19/2016 5:08:00 PM
Freon 11	0.22	0.15		ppbV	1	3/19/2016 5:08:00 PM
Freon 113	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Freon 114	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Freon 12	0.48	0.15		ppbV	1	3/19/2016 5:08:00 PM
Heptane	0.22	0.15		ppbV	1	3/19/2016 5:08:00 PM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Hexane	0.75	0.15		ppbV	1	3/19/2016 5:08:00 PM
Isopropyl alcohol	1.6	0.15		ppbV	1	3/19/2016 5:08:00 PM
m&p-Xylene	1.1	0.30		ppbV	1	3/19/2016 5:08:00 PM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	3/19/2016 5:08:00 PM
Methyl Ethyl Ketone	1.4	0.30		ppbV	1	3/19/2016 5:08:00 PM
Methyl Isobutyl Ketone	0.38	0.30		ppbV	1	3/19/2016 5:08:00 PM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Methylene chloride	0.54	0.15		ppbV	1	3/19/2016 5:08:00 PM
o-Xylene	0.43	0.15		ppbV	1	3/19/2016 5:08:00 PM
Propylene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Styrene	0.22	0.15		ppbV	1	3/19/2016 5:08:00 PM
Tetrachloroethylene	0.79	0.15		ppbV	1	3/19/2016 5:08:00 PM
Tetrahydrofuran	0.34	0.15		ppbV	1	3/19/2016 5:08:00 PM
Toluene	2.6	1.5		ppbV	10	3/19/2016 11:32:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Trichloroethene	0.050	0.15	J	ppbV	1	3/19/2016 5:08:00 PM
Vinyl acetate	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Vinyl Bromide	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Vinyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Surr: Bromofluorobenzene	124	70-130		%REC	1	3/19/2016 5:08:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-001A

Client Sample ID: Outdoor Air #1
 Tag Number: 171.145
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/19/2016 5:08:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	3/19/2016 5:08:00 PM
1,1,2-Trichloroethane	< 0.82	0.82		ug/m3	1	3/19/2016 5:08:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/19/2016 5:08:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 5:08:00 PM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	3/19/2016 5:08:00 PM
1,2,4-Trimethylbenzene	2.2	0.74		ug/m3	1	3/19/2016 5:08:00 PM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	3/19/2016 5:08:00 PM
1,2-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 5:08:00 PM
1,2-Dichloroethane	< 0.61	0.61		ug/m3	1	3/19/2016 5:08:00 PM
1,2-Dichloropropane	< 0.69	0.69		ug/m3	1	3/19/2016 5:08:00 PM
1,3,5-Trimethylbenzene	1.0	0.74		ug/m3	1	3/19/2016 5:08:00 PM
1,3-butadiene	< 0.33	0.33		ug/m3	1	3/19/2016 5:08:00 PM
1,3-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 5:08:00 PM
1,4-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 5:08:00 PM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	3/19/2016 5:08:00 PM
2,2,4-trimethylpentane	1.5	0.70		ug/m3	1	3/19/2016 5:08:00 PM
4-ethyltoluene	0.64	0.74	J	ug/m3	1	3/19/2016 5:08:00 PM
Acetone	21	7.1		ug/m3	10	3/19/2016 11:32:00 PM
Allyl chloride	< 0.47	0.47		ug/m3	1	3/19/2016 5:08:00 PM
Benzene	1.8	0.48		ug/m3	1	3/19/2016 5:08:00 PM
Benzyl chloride	< 0.86	0.86		ug/m3	1	3/19/2016 5:08:00 PM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	3/19/2016 5:08:00 PM
Bromoform	< 1.6	1.6		ug/m3	1	3/19/2016 5:08:00 PM
Bromomethane	< 0.58	0.58		ug/m3	1	3/19/2016 5:08:00 PM
Carbon disulfide	0.31	0.47	J	ug/m3	1	3/19/2016 5:08:00 PM
Carbon tetrachloride	0.44	0.94	J	ug/m3	1	3/19/2016 5:08:00 PM
Chlorobenzene	< 0.69	0.69		ug/m3	1	3/19/2016 5:08:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/19/2016 5:08:00 PM
Chloroform	< 0.73	0.73		ug/m3	1	3/19/2016 5:08:00 PM
Chloromethane	0.93	0.31		ug/m3	1	3/19/2016 5:08:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 5:08:00 PM
cis-1,3-Dichloropropene	< 0.68	0.68		ug/m3	1	3/19/2016 5:08:00 PM
Cyclohexane	4.1	0.52		ug/m3	1	3/19/2016 5:08:00 PM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	3/19/2016 5:08:00 PM
Ethyl acetate	1.1	0.90		ug/m3	1	3/19/2016 5:08:00 PM
Ethylbenzene	1.5	0.65		ug/m3	1	3/19/2016 5:08:00 PM
Freon 11	1.2	0.84		ug/m3	1	3/19/2016 5:08:00 PM
Freon 113	< 1.1	1.1		ug/m3	1	3/19/2016 5:08:00 PM
Freon 114	< 1.0	1.0		ug/m3	1	3/19/2016 5:08:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

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Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se

Client Sample ID: Outdoor Air #1

Lab Order: C1603053

Tag Number: 171.145

Project: Highland Plaza

Collection Date: 3/15/2016

Lab ID: C1603053-001A

Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
Freon 12	2.4	0.74		ug/m3	1	3/19/2016 5:08:00 PM
Heptane	0.90	0.61		ug/m3	1	3/19/2016 5:08:00 PM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	3/19/2016 5:08:00 PM
Hexane	2.6	0.53		ug/m3	1	3/19/2016 5:08:00 PM
Isopropyl alcohol	4.0	0.37		ug/m3	1	3/19/2016 5:08:00 PM
m&p-Xylene	4.9	1.3		ug/m3	1	3/19/2016 5:08:00 PM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	3/19/2016 5:08:00 PM
Methyl Ethyl Ketone	4.2	0.88		ug/m3	1	3/19/2016 5:08:00 PM
Methyl Isobutyl Ketone	1.6	1.2		ug/m3	1	3/19/2016 5:08:00 PM
Methyl tert-butyl ether	< 0.54	0.54		ug/m3	1	3/19/2016 5:08:00 PM
Methylene chloride	1.9	0.52		ug/m3	1	3/19/2016 5:08:00 PM
o-Xylene	1.9	0.65		ug/m3	1	3/19/2016 5:08:00 PM
Propylene	< 0.26	0.26		ug/m3	1	3/19/2016 5:08:00 PM
Styrene	0.94	0.64		ug/m3	1	3/19/2016 5:08:00 PM
Tetrachloroethylene	5.4	1.0		ug/m3	1	3/19/2016 5:08:00 PM
Tetrahydrofuran	1.0	0.44		ug/m3	1	3/19/2016 5:08:00 PM
Toluene	9.8	5.7		ug/m3	10	3/19/2016 11:32:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 5:08:00 PM
trans-1,3-Dichloropropene	< 0.68	0.68		ug/m3	1	3/19/2016 5:08:00 PM
Trichloroethene	0.27	0.81	J	ug/m3	1	3/19/2016 5:08:00 PM
Vinyl acetate	< 0.53	0.53		ug/m3	1	3/19/2016 5:08:00 PM
Vinyl Bromide	< 0.66	0.66		ug/m3	1	3/19/2016 5:08:00 PM
Vinyl chloride	< 0.38	0.38		ug/m3	1	3/19/2016 5:08:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-002A

Client Sample ID: Indoor Air #1
 Tag Number: 162.1156
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-1			"Hg		3/18/2016
Lab Vacuum Out	-30			"Hg		3/18/2016
1UG/M3 BY METHOD TO15						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	0.24	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,2,4-Trimethylbenzene	0.41	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,3,5-Trimethylbenzene	0.20	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,3-butadiene	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,4-Dioxane	< 0.30	0.30		ppbV	1	3/19/2016 5:46:00 PM
2,2,4-trimethylpentane	0.29	0.15		ppbV	1	3/19/2016 5:46:00 PM
4-ethyltoluene	0.12	0.15	J	ppbV	1	3/19/2016 5:46:00 PM
Acetone	18	3.0		ppbV	10	3/20/2016 12:09:00 AM
Allyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Benzene	2.3	1.5		ppbV	10	3/20/2016 12:09:00 AM
Benzyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Bromodichloromethane	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Bromoform	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Bromomethane	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Carbon disulfide	0.11	0.15	J	ppbV	1	3/19/2016 5:46:00 PM
Carbon tetrachloride	0.060	0.15	J	ppbV	1	3/19/2016 5:46:00 PM
Chlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Chloroform	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Chloromethane	0.62	0.15		ppbV	1	3/19/2016 5:46:00 PM
cis-1,2-Dichloroethene	0.10	0.15	J	ppbV	1	3/19/2016 5:46:00 PM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Cyclohexane	0.66	0.15		ppbV	1	3/19/2016 5:46:00 PM
Dibromochloromethane	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Ethyl acetate	0.44	0.25		ppbV	1	3/19/2016 5:46:00 PM

Qualifiers:	** Reporting Limit	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E Value above quantitation range
H	Holding times for preparation or analysis exceeded	J Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits	

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se

Client Sample ID: Indoor Air #1

Lab Order: C1603053

Tag Number: 162.1156

Project: Highland Plaza

Collection Date: 3/15/2016

Lab ID: C1603053-002A

Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
Ethylbenzene	0.58	0.15		ppbV	1	3/19/2016 5:46:00 PM
Freon 11	0.22	0.15		ppbV	1	3/19/2016 5:46:00 PM
Freon 113	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Freon 114	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Freon 12	0.49	0.15		ppbV	1	3/19/2016 5:46:00 PM
Heptane	0.60	0.15		ppbV	1	3/19/2016 5:46:00 PM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Hexane	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Isopropyl alcohol	9.3	1.5		ppbV	10	3/20/2016 12:09:00 AM
m&p-Xylene	2.1	0.30		ppbV	1	3/19/2016 5:46:00 PM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	3/19/2016 5:46:00 PM
Methyl Ethyl Ketone	32	12		ppbV	40	3/20/2016 12:45:00 AM
Methyl Isobutyl Ketone	< 0.30	0.30		ppbV	1	3/19/2016 5:46:00 PM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Methylene chloride	0.55	0.15		ppbV	1	3/19/2016 5:46:00 PM
o-Xylene	0.65	0.15		ppbV	1	3/19/2016 5:46:00 PM
Propylene	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Styrene	0.24	0.15		ppbV	1	3/19/2016 5:46:00 PM
Tetrachloroethylene	0.81	0.15		ppbV	1	3/19/2016 5:46:00 PM
Tetrahydrofuran	1.8	0.15		ppbV	1	3/19/2016 5:46:00 PM
Toluene	3.4	1.5		ppbV	10	3/20/2016 12:09:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Trichloroethene	0.090	0.15	J	ppbV	1	3/19/2016 5:46:00 PM
Vinyl acetate	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Vinyl Bromide	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Vinyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Surr: Bromofluorobenzene	104	70-130		%REC	1	3/19/2016 5:46:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

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Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-002A

Client Sample ID: Indoor Air #1
 Tag Number: 162.1156
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	1.3	0.82		ug/m3	1	3/19/2016 5:46:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	3/19/2016 5:46:00 PM
1,1,2-Trichloroethane	< 0.82	0.82		ug/m3	1	3/19/2016 5:46:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/19/2016 5:46:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 5:46:00 PM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	3/19/2016 5:46:00 PM
1,2,4-Trimethylbenzene	2.0	0.74		ug/m3	1	3/19/2016 5:46:00 PM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	3/19/2016 5:46:00 PM
1,2-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 5:46:00 PM
1,2-Dichloroethane	< 0.61	0.61		ug/m3	1	3/19/2016 5:46:00 PM
1,2-Dichloropropane	< 0.69	0.69		ug/m3	1	3/19/2016 5:46:00 PM
1,3,5-Trimethylbenzene	0.98	0.74		ug/m3	1	3/19/2016 5:46:00 PM
1,3-butadiene	< 0.33	0.33		ug/m3	1	3/19/2016 5:46:00 PM
1,3-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 5:46:00 PM
1,4-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 5:46:00 PM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	3/19/2016 5:46:00 PM
2,2,4-trimethylpentane	1.4	0.70		ug/m3	1	3/19/2016 5:46:00 PM
4-ethyltoluene	0.59	0.74	J	ug/m3	1	3/19/2016 5:46:00 PM
Acetone	43	7.1		ug/m3	10	3/20/2016 12:09:00 AM
Allyl chloride	< 0.47	0.47		ug/m3	1	3/19/2016 5:46:00 PM
Benzene	7.3	4.8		ug/m3	10	3/20/2016 12:09:00 AM
Benzyl chloride	< 0.86	0.86		ug/m3	1	3/19/2016 5:46:00 PM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	3/19/2016 5:46:00 PM
Bromoform	< 1.6	1.6		ug/m3	1	3/19/2016 5:46:00 PM
Bromomethane	< 0.58	0.58		ug/m3	1	3/19/2016 5:46:00 PM
Carbon disulfide	0.34	0.47	J	ug/m3	1	3/19/2016 5:46:00 PM
Carbon tetrachloride	0.38	0.94	J	ug/m3	1	3/19/2016 5:46:00 PM
Chlorobenzene	< 0.69	0.69		ug/m3	1	3/19/2016 5:46:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/19/2016 5:46:00 PM
Chloroform	< 0.73	0.73		ug/m3	1	3/19/2016 5:46:00 PM
Chloromethane	1.3	0.31		ug/m3	1	3/19/2016 5:46:00 PM
cis-1,2-Dichloroethene	0.40	0.59	J	ug/m3	1	3/19/2016 5:46:00 PM
cis-1,3-Dichloropropene	< 0.68	0.68		ug/m3	1	3/19/2016 5:46:00 PM
Cyclohexane	2.3	0.52		ug/m3	1	3/19/2016 5:46:00 PM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	3/19/2016 5:46:00 PM
Ethyl acetate	1.6	0.90		ug/m3	1	3/19/2016 5:46:00 PM
Ethylbenzene	2.5	0.65		ug/m3	1	3/19/2016 5:46:00 PM
Freon 11	1.2	0.84		ug/m3	1	3/19/2016 5:46:00 PM
Freon 113	< 1.1	1.1		ug/m3	1	3/19/2016 5:46:00 PM
Freon 114	< 1.0	1.0		ug/m3	1	3/19/2016 5:46:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

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Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-002A

Client Sample ID: Indoor Air #1
 Tag Number: 162.1156
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
Freon 12	2.4	0.74		ug/m3	1	3/19/2016 5:46:00 PM
Heptane	2.5	0.61		ug/m3	1	3/19/2016 5:46:00 PM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	3/19/2016 5:46:00 PM
Hexane	< 0.53	0.53		ug/m3	1	3/19/2016 5:46:00 PM
isopropyl alcohol	23	3.7		ug/m3	10	3/20/2016 12:09:00 AM
m&p-Xylene	9.3	1.3		ug/m3	1	3/19/2016 5:46:00 PM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	3/19/2016 5:46:00 PM
Methyl Ethyl Ketone	93	35		ug/m3	40	3/20/2016 12:45:00 AM
Methyl Isobutyl Ketone	< 1.2	1.2		ug/m3	1	3/19/2016 5:46:00 PM
Methyl tert-butyl ether	< 0.54	0.54		ug/m3	1	3/19/2016 5:46:00 PM
Methylene chloride	1.9	0.52		ug/m3	1	3/19/2016 5:46:00 PM
o-Xylene	2.8	0.65		ug/m3	1	3/19/2016 5:46:00 PM
Propylene	< 0.26	0.26		ug/m3	1	3/19/2016 5:46:00 PM
Styrene	1.0	0.64		ug/m3	1	3/19/2016 5:46:00 PM
Tetrachloroethylene	5.5	1.0		ug/m3	1	3/19/2016 5:46:00 PM
Tetrahydrofuran	5.2	0.44		ug/m3	1	3/19/2016 5:46:00 PM
Toluene	13	5.7		ug/m3	10	3/20/2016 12:09:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 5:46:00 PM
trans-1,3-Dichloropropene	< 0.68	0.68		ug/m3	1	3/19/2016 5:46:00 PM
Trichloroethene	0.48	0.81	J	ug/m3	1	3/19/2016 5:46:00 PM
Vinyl acetate	< 0.53	0.53		ug/m3	1	3/19/2016 5:46:00 PM
Vinyl Bromide	< 0.66	0.66		ug/m3	1	3/19/2016 5:46:00 PM
Vinyl chloride	< 0.38	0.38		ug/m3	1	3/19/2016 5:46:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se **Client Sample ID:** Sub-slab #1
Lab Order: C1603053 **Tag Number:** 92.372
Project: Highland Plaza **Collection Date:** 3/15/2016
Lab ID: C1603053-003A **Matrix:** AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		Analyst:		
Lab Vacuum In	-3			"Hg		3/18/2016
Lab Vacuum Out	-30			"Hg		3/18/2016
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,2,4-Trimethylbenzene	1.2	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,3,5-Trimethylbenzene	0.66	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,3-butadiene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,4-Dioxane	< 0.30	0.30		ppbV	1	3/19/2016 9:02:00 PM
2,2,4-trimethylpentane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
4-ethyltoluene	0.31	0.15		ppbV	1	3/19/2016 9:02:00 PM
Acetone	20	3.0		ppbV	10	3/20/2016 4:24:00 AM
Allyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Benzene	0.73	0.15		ppbV	1	3/19/2016 9:02:00 PM
Benzyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Bromodichloromethane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Bromoform	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Bromomethane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Carbon disulfide	0.20	0.15		ppbV	1	3/19/2016 9:02:00 PM
Carbon tetrachloride	0.050	0.15	J	ppbV	1	3/19/2016 9:02:00 PM
Chlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Chloroform	0.20	0.15		ppbV	1	3/19/2016 9:02:00 PM
Chloromethane	0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
cis-1,2-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Cyclohexane	2.4	1.5		ppbV	10	3/20/2016 4:24:00 AM
Dibromochloromethane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Ethyl acetate	0.75	0.25		ppbV	1	3/19/2016 9:02:00 PM

Qualifiers: ** Reporting Limit . Results reported are not blank corrected
 B Analyte detected in the associated Method Blank E Value above quantitation range
 H Holding times for preparation or analysis exceeded J Analyte detected at or below quantitation limits
 JN Non-routine analyte. Quantitation estimated, ND Not Detected at the Reporting Limit
 S Spike Recovery outside accepted recovery limits

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-003A

Client Sample ID: Sub-slab #1
 Tag Number: 92.372
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
Ethylbenzene	0.75	0.15		ppbV	1	3/19/2016 9:02:00 PM
Freon 11	0.22	0.15		ppbV	1	3/19/2016 9:02:00 PM
Freon 113	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Freon 114	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Freon 12	0.43	0.15		ppbV	1	3/19/2016 9:02:00 PM
Heptane	0.65	0.15		ppbV	1	3/19/2016 9:02:00 PM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Hexane	0.87	0.15		ppbV	1	3/19/2016 9:02:00 PM
Isopropyl alcohol	3.6	1.5		ppbV	10	3/20/2016 4:24:00 AM
m&p-Xylene	2.5	3.0	J	ppbV	10	3/20/2016 4:24:00 AM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	3/19/2016 9:02:00 PM
Methyl Ethyl Ketone	4.7	3.0		ppbV	10	3/20/2016 4:24:00 AM
Methyl Isobutyl Ketone	0.18	0.30	J	ppbV	1	3/19/2016 9:02:00 PM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Methylene chloride	4.9	1.5		ppbV	10	3/20/2016 4:24:00 AM
o-Xylene	1.0	0.15		ppbV	1	3/19/2016 9:02:00 PM
Propylene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Styrene	0.58	0.15		ppbV	1	3/19/2016 9:02:00 PM
Tetrachloroethylene	3.4	1.5		ppbV	10	3/20/2016 4:24:00 AM
Tetrahydrofuran	0.61	0.15		ppbV	1	3/19/2016 9:02:00 PM
Toluene	4.4	1.5		ppbV	10	3/20/2016 4:24:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Trichloroethene	0.23	0.15		ppbV	1	3/19/2016 9:02:00 PM
Vinyl acetate	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Vinyl Bromide	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Vinyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Surr: Bromofluorobenzene	107	70-130		%REC	1	3/19/2016 9:02:00 PM

Qualifiers: ** Reporting Limit
 B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 JN Non-routine analyte. Quantitation estimated.
 S Spike Recovery outside accepted recovery limits

. Results reported are not blank corrected
 E Value above quantitation range
 J Analyte detected at or below quantitation limits
 ND Not Detected at the Reporting Limit

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Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-003A

Client Sample ID: Sub-slab #1
 Tag Number: 92.372
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15			TO-15		Analyst: RJP	
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/19/2016 9:02:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	3/19/2016 9:02:00 PM
1,1,2-Trichloroethane	< 0.82	0.82		ug/m3	1	3/19/2016 9:02:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/19/2016 9:02:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 9:02:00 PM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	3/19/2016 9:02:00 PM
1,2,4-Trimethylbenzene	5.7	0.74		ug/m3	1	3/19/2016 9:02:00 PM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	3/19/2016 9:02:00 PM
1,2-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 9:02:00 PM
1,2-Dichloroethane	< 0.61	0.61		ug/m3	1	3/19/2016 9:02:00 PM
1,2-Dichloropropane	< 0.69	0.69		ug/m3	1	3/19/2016 9:02:00 PM
1,3,5-Trimethylbenzene	3.2	0.74		ug/m3	1	3/19/2016 9:02:00 PM
1,3-butadiene	< 0.33	0.33		ug/m3	1	3/19/2016 9:02:00 PM
1,3-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 9:02:00 PM
1,4-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 9:02:00 PM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	3/19/2016 9:02:00 PM
2,2,4-trimethylpentane	< 0.70	0.70		ug/m3	1	3/19/2016 9:02:00 PM
4-ethyltoluene	1.5	0.74		ug/m3	1	3/19/2016 9:02:00 PM
Acetone	47	7.1		ug/m3	10	3/20/2016 4:24:00 AM
Allyl chloride	< 0.47	0.47		ug/m3	1	3/19/2016 9:02:00 PM
Benzene	2.3	0.48		ug/m3	1	3/19/2016 9:02:00 PM
Benzyl chloride	< 0.86	0.86		ug/m3	1	3/19/2016 9:02:00 PM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	3/19/2016 9:02:00 PM
Bromoform	< 1.6	1.6		ug/m3	1	3/19/2016 9:02:00 PM
Bromomethane	< 0.58	0.58		ug/m3	1	3/19/2016 9:02:00 PM
Carbon disulfide	0.62	0.47		ug/m3	1	3/19/2016 9:02:00 PM
Carbon tetrachloride	0.31	0.94	J	ug/m3	1	3/19/2016 9:02:00 PM
Chlorobenzene	< 0.69	0.69		ug/m3	1	3/19/2016 9:02:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/19/2016 9:02:00 PM
Chloroform	0.98	0.73		ug/m3	1	3/19/2016 9:02:00 PM
Chloromethane	0.31	0.31		ug/m3	1	3/19/2016 9:02:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 9:02:00 PM
cis-1,3-Dichloropropene	< 0.68	0.68		ug/m3	1	3/19/2016 9:02:00 PM
Cyclohexane	8.3	5.2		ug/m3	10	3/20/2016 4:24:00 AM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	3/19/2016 9:02:00 PM
Ethyl acetate	2.7	0.90		ug/m3	1	3/19/2016 9:02:00 PM
Ethylbenzene	3.3	0.65		ug/m3	1	3/19/2016 9:02:00 PM
Freon 11	1.2	0.84		ug/m3	1	3/19/2016 9:02:00 PM
Freon 113	< 1.1	1.1		ug/m3	1	3/19/2016 9:02:00 PM
Freon 114	< 1.0	1.0		ug/m3	1	3/19/2016 9:02:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-003A

Client Sample ID: Sub-slab #1
 Tag Number: 92.372
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
Freon 12	2.1	0.74		ug/m3	1	3/19/2016 9:02:00 PM
Heptane	2.7	0.61		ug/m3	1	3/19/2016 9:02:00 PM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	3/19/2016 9:02:00 PM
Hexane	3.1	0.53		ug/m3	1	3/19/2016 9:02:00 PM
Isopropyl alcohol	8.8	3.7		ug/m3	10	3/20/2016 4:24:00 AM
m&p-Xylene	11	13	J	ug/m3	10	3/20/2016 4:24:00 AM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	3/19/2016 9:02:00 PM
Methyl Ethyl Ketone	14	8.8		ug/m3	10	3/20/2016 4:24:00 AM
Methyl Isobutyl Ketone	0.74	1.2	J	ug/m3	1	3/19/2016 9:02:00 PM
Methyl tert-butyl ether	< 0.54	0.54		ug/m3	1	3/19/2016 9:02:00 PM
Methylene chloride	17	5.2		ug/m3	10	3/20/2016 4:24:00 AM
o-Xylene	4.6	0.65		ug/m3	1	3/19/2016 9:02:00 PM
Propylene	< 0.26	0.26		ug/m3	1	3/19/2016 9:02:00 PM
Styrene	2.5	0.64		ug/m3	1	3/19/2016 9:02:00 PM
Tetrachloroethylene	23	10		ug/m3	10	3/20/2016 4:24:00 AM
Tetrahydrofuran	1.8	0.44		ug/m3	1	3/19/2016 9:02:00 PM
Toluene	17	5.7		ug/m3	10	3/20/2016 4:24:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 9:02:00 PM
trans-1,3-Dichloropropene	< 0.68	0.68		ug/m3	1	3/19/2016 9:02:00 PM
Trichloroethene	1.2	0.81		ug/m3	1	3/19/2016 9:02:00 PM
Vinyl acetate	< 0.53	0.53		ug/m3	1	3/19/2016 9:02:00 PM
Vinyl Bromide	< 0.66	0.66		ug/m3	1	3/19/2016 9:02:00 PM
Vinyl chloride	< 0.38	0.38		ug/m3	1	3/19/2016 9:02:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte, Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-004A

Client Sample ID: Indoor Air #2
 Tag Number: 471.304
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		Analyst:		
Lab Vacuum In	-1			"Hg		3/18/2016
Lab Vacuum Out	-30			"Hg		3/18/2016
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,2,4-Trimethylbenzene	0.63	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,3,5-Trimethylbenzene	0.22	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,3-butadiene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,4-Dioxane	< 0.30	0.30		ppbV	1	3/19/2016 6:25:00 PM
2,2,4-trimethylpentane	0.34	0.15		ppbV	1	3/19/2016 6:25:00 PM
4-ethyltoluene	0.16	0.15		ppbV	1	3/19/2016 6:25:00 PM
Acetone	13	3.0		ppbV	10	3/20/2016 1:22:00 AM
Allyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Benzene	2.0	0.15		ppbV	1	3/19/2016 6:25:00 PM
Benzyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Bromodichloromethane	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Bromoform	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Bromomethane	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Carbon disulfide	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Carbon tetrachloride	0.070	0.15	J	ppbV	1	3/19/2016 6:25:00 PM
Chlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Chloroform	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Chloromethane	0.62	0.15		ppbV	1	3/19/2016 6:25:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Cyclohexane	0.52	0.15		ppbV	1	3/19/2016 6:25:00 PM
Dibromochloromethane	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Ethyl acetate	0.24	0.25	J	ppbV	1	3/19/2016 6:25:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-004A

Client Sample ID: Indoor Air #2
 Tag Number: 471.304
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
Ethylbenzene	0.41	0.15		ppbV	1	3/19/2016 6:25:00 PM
Freon 11	0.22	0.15		ppbV	1	3/19/2016 6:25:00 PM
Freon 113	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Freon 114	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Freon 12	0.50	0.15		ppbV	1	3/19/2016 6:25:00 PM
Heptane	0.50	0.15		ppbV	1	3/19/2016 6:25:00 PM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Hexane	2.0	0.15		ppbV	1	3/19/2016 6:25:00 PM
Isopropyl alcohol	3.1	1.5		ppbV	10	3/20/2016 1:22:00 AM
m&p-Xylene	1.6	0.30		ppbV	1	3/19/2016 6:25:00 PM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	3/19/2016 6:25:00 PM
Methyl Ethyl Ketone	2.9	3.0	J	ppbV	10	3/20/2016 1:22:00 AM
Methyl Isobutyl Ketone	< 0.30	0.30		ppbV	1	3/19/2016 6:25:00 PM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Methylene chloride	0.27	0.15		ppbV	1	3/19/2016 6:25:00 PM
o-Xylene	0.49	0.15		ppbV	1	3/19/2016 6:25:00 PM
Propylene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Styrene	0.19	0.15		ppbV	1	3/19/2016 6:25:00 PM
Tetrachloroethylene	1.1	0.15		ppbV	1	3/19/2016 6:25:00 PM
Tetrahydrofuran	4.1	1.5		ppbV	10	3/20/2016 1:22:00 AM
Toluene	2.6	1.5		ppbV	10	3/20/2016 1:22:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Trichloroethene	0.090	0.15	J	ppbV	1	3/19/2016 6:25:00 PM
Vinyl acetate	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Vinyl Bromide	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Vinyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Surr: Bromofluorobenzene	109	70-130		%REC	1	3/19/2016 6:25:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-004A

Client Sample ID: Indoor Air #2
 Tag Number: 471.304
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/19/2016 6:25:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	3/19/2016 6:25:00 PM
1,1,2-Trichloroethane	< 0.82	0.82		ug/m3	1	3/19/2016 6:25:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/19/2016 6:25:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 6:25:00 PM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	3/19/2016 6:25:00 PM
1,2,4-Trimethylbenzene	3.1	0.74		ug/m3	1	3/19/2016 6:25:00 PM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	3/19/2016 6:25:00 PM
1,2-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 6:25:00 PM
1,2-Dichloroethane	< 0.61	0.61		ug/m3	1	3/19/2016 6:25:00 PM
1,2-Dichloropropane	< 0.69	0.69		ug/m3	1	3/19/2016 6:25:00 PM
1,3,5-Trimethylbenzene	1.1	0.74		ug/m3	1	3/19/2016 6:25:00 PM
1,3-butadiene	< 0.33	0.33		ug/m3	1	3/19/2016 6:25:00 PM
1,3-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 6:25:00 PM
1,4-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 6:25:00 PM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	3/19/2016 6:25:00 PM
2,2,4-trimethylpentane	1.6	0.70		ug/m3	1	3/19/2016 6:25:00 PM
4-ethyltoluene	0.79	0.74		ug/m3	1	3/19/2016 6:25:00 PM
Acetone	30	7.1		ug/m3	10	3/20/2016 1:22:00 AM
Allyl chloride	< 0.47	0.47		ug/m3	1	3/19/2016 6:25:00 PM
Benzene	6.5	0.48		ug/m3	1	3/19/2016 6:25:00 PM
Benzyl chloride	< 0.86	0.86		ug/m3	1	3/19/2016 6:25:00 PM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	3/19/2016 6:25:00 PM
Bromoform	< 1.6	1.6		ug/m3	1	3/19/2016 6:25:00 PM
Bromomethane	< 0.58	0.58		ug/m3	1	3/19/2016 6:25:00 PM
Carbon disulfide	< 0.47	0.47		ug/m3	1	3/19/2016 6:25:00 PM
Carbon tetrachloride	0.44	0.94	J	ug/m3	1	3/19/2016 6:25:00 PM
Chlorobenzene	< 0.69	0.69		ug/m3	1	3/19/2016 6:25:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/19/2016 6:25:00 PM
Chloroform	< 0.73	0.73		ug/m3	1	3/19/2016 6:25:00 PM
Chloromethane	1.3	0.31		ug/m3	1	3/19/2016 6:25:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 6:25:00 PM
cis-1,3-Dichloropropene	< 0.68	0.68		ug/m3	1	3/19/2016 6:25:00 PM
Cyclohexane	1.8	0.52		ug/m3	1	3/19/2016 6:25:00 PM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	3/19/2016 6:25:00 PM
Ethyl acetate	0.86	0.90	J	ug/m3	1	3/19/2016 6:25:00 PM
Ethylbenzene	1.8	0.65		ug/m3	1	3/19/2016 6:25:00 PM
Freon 11	1.2	0.84		ug/m3	1	3/19/2016 6:25:00 PM
Freon 113	< 1.1	1.1		ug/m3	1	3/19/2016 6:25:00 PM
Freon 114	< 1.0	1.0		ug/m3	1	3/19/2016 6:25:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

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Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-004A

Client Sample ID: Indoor Air #2
 Tag Number: 471.304
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
Freon 12	2.5	0.74		ug/m3	1	3/19/2016 6:25:00 PM
Heptane	2.0	0.61		ug/m3	1	3/19/2016 6:25:00 PM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	3/19/2016 6:25:00 PM
Hexane	7.1	0.53		ug/m3	1	3/19/2016 6:25:00 PM
Isopropyl alcohol	7.6	3.7		ug/m3	10	3/20/2016 1:22:00 AM
m&p-Xylene	6.7	1.3		ug/m3	1	3/19/2016 6:25:00 PM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	3/19/2016 6:25:00 PM
Methyl Ethyl Ketone	8.6	8.8	J	ug/m3	10	3/20/2016 1:22:00 AM
Methyl Isobutyl Ketone	< 1.2	1.2		ug/m3	1	3/19/2016 6:25:00 PM
Methyl tert-butyl ether	< 0.54	0.54		ug/m3	1	3/19/2016 6:25:00 PM
Methylene chloride	0.94	0.52		ug/m3	1	3/19/2016 6:25:00 PM
o-Xylene	2.1	0.65		ug/m3	1	3/19/2016 6:25:00 PM
Propylene	< 0.26	0.26		ug/m3	1	3/19/2016 6:25:00 PM
Styrene	0.81	0.64		ug/m3	1	3/19/2016 6:25:00 PM
Tetrachloroethylene	7.3	1.0		ug/m3	1	3/19/2016 6:25:00 PM
Tetrahydrofuran	12	4.4		ug/m3	10	3/20/2016 1:22:00 AM
Toluene	9.8	5.7		ug/m3	10	3/20/2016 1:22:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 6:25:00 PM
trans-1,3-Dichloropropene	< 0.68	0.68		ug/m3	1	3/19/2016 6:25:00 PM
Trichloroethene	0.48	0.81	J	ug/m3	1	3/19/2016 6:25:00 PM
Vinyl acetate	< 0.53	0.53		ug/m3	1	3/19/2016 6:25:00 PM
Vinyl Bromide	< 0.66	0.66		ug/m3	1	3/19/2016 6:25:00 PM
Vinyl chloride	< 0.38	0.38		ug/m3	1	3/19/2016 6:25:00 PM

Qualifiers: ** Reporting Limit
 B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 JN Non-routine analyte. Quantitation estimated.
 S Spike Recovery outside accepted recovery limits

, Results reported are not blank corrected
 E Value above quantitation range
 J Analyte detected at or below quantitation limits
 ND Not Detected at the Reporting Limit

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Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se **Client Sample ID:** Sub-slab #2
Lab Order: C1603053 **Tag Number:** 353.433
Project: Highland Plaza **Collection Date:** 3/15/2016
Lab ID: C1603053-005A **Matrix:** AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		Analyst:		
Lab Vacuum In	-1			"Hg		3/18/2016
Lab Vacuum Out	-30			"Hg		3/18/2016
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,1-Dichloroethene	0.24	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,2,4-Trimethylbenzene	0.76	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,3,5-Trimethylbenzene	0.41	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,3-butadiene	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,4-Dioxane	< 0.30	0.30		ppbV	1	3/19/2016 9:41:00 PM
2,2,4-trimethylpentane	0.32	0.15		ppbV	1	3/19/2016 9:41:00 PM
4-ethyltoluene	0.23	0.15		ppbV	1	3/19/2016 9:41:00 PM
Acetone	20	12		ppbV	40	3/22/2016 8:31:00 PM
Allyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Benzene	1.9	0.15		ppbV	1	3/19/2016 9:41:00 PM
Benzyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Bromodichloromethane	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Bromoform	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Bromomethane	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Carbon disulfide	4.2	1.5		ppbV	10	3/20/2016 5:00:00 AM
Carbon tetrachloride	0.060	0.15	J	ppbV	1	3/19/2016 9:41:00 PM
Chlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Chloroform	1.6	0.15		ppbV	1	3/19/2016 9:41:00 PM
Chloromethane	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
cis-1,2-Dichloroethene	42	6.0		ppbV	40	3/22/2016 8:31:00 PM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Cyclohexane	13	1.5		ppbV	10	3/20/2016 5:00:00 AM
Dibromochloromethane	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Ethyl acetate	0.58	0.25		ppbV	1	3/19/2016 9:41:00 PM

Qualifiers: ** Reporting Limit
 B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 JN Non-routine analyte. Quantitation estimated.
 S Spike Recovery outside accepted recovery limits
 . Results reported are not blank corrected
 E Value above quantitation range
 J Analyte detected at or below quantitation limits
 ND Not Detected at the Reporting Limit

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-005A

Client Sample ID: Sub-slab #2
 Tag Number: 353.433
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15			TO-15		Analyst: RJP	
Ethylbenzene	0.65	0.15		ppbV	1	3/19/2016 9:41:00 PM
Freon 11	0.18	0.15		ppbV	1	3/19/2016 9:41:00 PM
Freon 113	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Freon 114	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Freon 12	0.43	0.15		ppbV	1	3/19/2016 9:41:00 PM
Heptane	5.3	1.5		ppbV	10	3/20/2016 5:00:00 AM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Hexane	6.8	1.5		ppbV	10	3/20/2016 5:00:00 AM
Isopropyl alcohol	3.6	1.5		ppbV	10	3/20/2016 5:00:00 AM
m&p-Xylene	2.3	0.30		ppbV	1	3/19/2016 9:41:00 PM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	3/19/2016 9:41:00 PM
Methyl Ethyl Ketone	3.2	3.0		ppbV	10	3/20/2016 5:00:00 AM
Methyl Isobutyl Ketone	0.60	0.30		ppbV	1	3/19/2016 9:41:00 PM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Methylene chloride	1.9	0.15		ppbV	1	3/19/2016 9:41:00 PM
o-Xylene	0.85	0.15		ppbV	1	3/19/2016 9:41:00 PM
Propylene	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Styrene	0.41	0.15		ppbV	1	3/19/2016 9:41:00 PM
Tetrachloroethylene	22	6.0		ppbV	40	3/22/2016 8:31:00 PM
Tetrahydrofuran	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Toluene	5.3	1.5		ppbV	10	3/20/2016 5:00:00 AM
trans-1,2-Dichloroethene	5.2	1.5		ppbV	10	3/20/2016 5:00:00 AM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Trichloroethene	20	6.0		ppbV	40	3/22/2016 8:31:00 PM
Vinyl acetate	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Vinyl Bromide	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Vinyl chloride	0.92	0.15		ppbV	1	3/19/2016 9:41:00 PM
Surr; Bromofluorobenzene	88.0	70-130		%REC	1	3/19/2016 9:41:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-005A

Client Sample ID: Sub-slab #2
 Tag Number: 353.433
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15				TO-15		Analyst: RJP
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/19/2016 9:41:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	3/19/2016 9:41:00 PM
1,1,2-Trichloroethane	< 0.82	0.82		ug/m3	1	3/19/2016 9:41:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/19/2016 9:41:00 PM
1,1-Dichloroethene	0.95	0.59		ug/m3	1	3/19/2016 9:41:00 PM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	3/19/2016 9:41:00 PM
1,2,4-Trimethylbenzene	3.7	0.74		ug/m3	1	3/19/2016 9:41:00 PM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	3/19/2016 9:41:00 PM
1,2-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 9:41:00 PM
1,2-Dichloroethane	< 0.61	0.61		ug/m3	1	3/19/2016 9:41:00 PM
1,2-Dichloropropane	< 0.69	0.69		ug/m3	1	3/19/2016 9:41:00 PM
1,3,5-Trimethylbenzene	2.0	0.74		ug/m3	1	3/19/2016 9:41:00 PM
1,3-butadiene	< 0.33	0.33		ug/m3	1	3/19/2016 9:41:00 PM
1,3-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 9:41:00 PM
1,4-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 9:41:00 PM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	3/19/2016 9:41:00 PM
2,2,4-trimethylpentane	1.5	0.70		ug/m3	1	3/19/2016 9:41:00 PM
4-ethyltoluene	1.1	0.74		ug/m3	1	3/19/2016 9:41:00 PM
Acetone	48	28		ug/m3	40	3/22/2016 8:31:00 PM
Allyl chloride	< 0.47	0.47		ug/m3	1	3/19/2016 9:41:00 PM
Benzene	6.0	0.48		ug/m3	1	3/19/2016 9:41:00 PM
Benzyl chloride	< 0.86	0.86		ug/m3	1	3/19/2016 9:41:00 PM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	3/19/2016 9:41:00 PM
Bromoform	< 1.6	1.6		ug/m3	1	3/19/2016 9:41:00 PM
Bromomethane	< 0.58	0.58		ug/m3	1	3/19/2016 9:41:00 PM
Carbon disulfide	13	4.7		ug/m3	10	3/20/2016 5:00:00 AM
Carbon tetrachloride	0.38	0.94	J	ug/m3	1	3/19/2016 9:41:00 PM
Chlorobenzene	< 0.69	0.69		ug/m3	1	3/19/2016 9:41:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/19/2016 9:41:00 PM
Chloroform	7.8	0.73		ug/m3	1	3/19/2016 9:41:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	3/19/2016 9:41:00 PM
cis-1,2-Dichloroethene	170	24		ug/m3	40	3/22/2016 8:31:00 PM
cis-1,3-Dichloropropene	< 0.68	0.68		ug/m3	1	3/19/2016 9:41:00 PM
Cyclohexane	44	5.2		ug/m3	10	3/20/2016 5:00:00 AM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	3/19/2016 9:41:00 PM
Ethyl acetate	2.1	0.90		ug/m3	1	3/19/2016 9:41:00 PM
Ethylbenzene	2.8	0.65		ug/m3	1	3/19/2016 9:41:00 PM
Freon 11	1.0	0.84		ug/m3	1	3/19/2016 9:41:00 PM
Freon 113	< 1.1	1.1		ug/m3	1	3/19/2016 9:41:00 PM
Freon 114	< 1.0	1.0		ug/m3	1	3/19/2016 9:41:00 PM

Qualifiers: ** Reporting Limit
 B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 JN Non-routine analyte. Quantitation estimated.
 S Spike Recovery outside accepted recovery limits

. Results reported are not blank corrected
 E Value above quantitation range
 J Analyte detected at or below quantitation limits
 ND Not Detected at the Reporting Limit

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Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
Lab Order: C1603053
Project: Highland Plaza
Lab ID: C1603053-005A

Client Sample ID: Sub-slab #2
Tag Number: 353.433
Collection Date: 3/15/2016
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15			TO-15		Analyst: RJP	
Freon 12	2.1	0.74		ug/m3	1	3/19/2016 9:41:00 PM
Heptane	22	6.1		ug/m3	10	3/20/2016 5:00:00 AM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	3/19/2016 9:41:00 PM
Hexane	24	5.3		ug/m3	10	3/20/2016 5:00:00 AM
Isopropyl alcohol	8.8	3.7		ug/m3	10	3/20/2016 5:00:00 AM
m&p-Xylene	10	1.3		ug/m3	1	3/19/2016 9:41:00 PM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	3/19/2016 9:41:00 PM
Methyl Ethyl Ketone	9.4	8.8		ug/m3	10	3/20/2016 5:00:00 AM
Methyl Isobutyl Ketone	2.5	1.2		ug/m3	1	3/19/2016 9:41:00 PM
Methyl tert-butyl ether	< 0.54	0.54		ug/m3	1	3/19/2016 9:41:00 PM
Methylene chloride	6.5	0.52		ug/m3	1	3/19/2016 9:41:00 PM
o-Xylene	3.7	0.65		ug/m3	1	3/19/2016 9:41:00 PM
Propylene	< 0.26	0.26		ug/m3	1	3/19/2016 9:41:00 PM
Styrene	1.7	0.64		ug/m3	1	3/19/2016 9:41:00 PM
Tetrachloroethylene	150	41		ug/m3	40	3/22/2016 8:31:00 PM
Tetrahydrofuran	< 0.44	0.44		ug/m3	1	3/19/2016 9:41:00 PM
Toluene	20	5.7		ug/m3	10	3/20/2016 5:00:00 AM
trans-1,2-Dichloroethene	21	5.9		ug/m3	10	3/20/2016 5:00:00 AM
trans-1,3-Dichloropropene	< 0.68	0.68		ug/m3	1	3/19/2016 9:41:00 PM
Trichloroethene	110	32		ug/m3	40	3/22/2016 8:31:00 PM
Vinyl acetate	< 0.53	0.53		ug/m3	1	3/19/2016 9:41:00 PM
Vinyl Bromide	< 0.66	0.66		ug/m3	1	3/19/2016 9:41:00 PM
Vinyl chloride	2.4	0.36		ug/m3	1	3/19/2016 9:41:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-006A

Client Sample ID: MS-MSD Indoor Air #2
 Tag Number: 216.255
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		Analyst:		
Lab Vacuum In	-5			"Hg		3/18/2016
Lab Vacuum Out	-30			"Hg		3/18/2016
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,2,4-Trimethylbenzene	0.67	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,3,5-Trimethylbenzene	0.22	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,3-butadiene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,4-Dioxane	< 0.30	0.30		ppbV	1	3/19/2016 3:04:00 PM
2,2,4-trimethylpentane	0.30	0.15		ppbV	1	3/19/2016 3:04:00 PM
4-ethyltoluene	0.18	0.15		ppbV	1	3/19/2016 3:04:00 PM
Acetone	11	3.0		ppbV	10	3/19/2016 10:56:00 PM
Allyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Benzene	2.2	0.15		ppbV	1	3/19/2016 3:04:00 PM
Benzyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Bromodichloromethane	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Bromoform	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Bromomethane	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Carbon disulfide	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Carbon tetrachloride	0.070	0.15	J	ppbV	1	3/19/2016 3:04:00 PM
Chlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Chloroform	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Chloromethane	0.62	0.15		ppbV	1	3/19/2016 3:04:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Cyclohexane	0.44	0.15		ppbV	1	3/19/2016 3:04:00 PM
Dibromochloromethane	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Ethyl acetate	0.27	0.25		ppbV	1	3/19/2016 3:04:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Page

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-006A

Client Sample ID: MS-MSD Indoor Air #2
 Tag Number: 216.255
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
Ethylbenzene	0.47	0.15		ppbV	1	3/19/2016 3:04:00 PM
Freon 11	0.22	0.15		ppbV	1	3/19/2016 3:04:00 PM
Freon 113	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Freon 114	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Freon 12	0.48	0.15		ppbV	1	3/19/2016 3:04:00 PM
Heptane	0.45	0.15		ppbV	1	3/19/2016 3:04:00 PM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Hexane	1.9	0.15		ppbV	1	3/19/2016 3:04:00 PM
Isopropyl alcohol	2.3	1.5		ppbV	10	3/19/2016 10:56:00 PM
m&p-Xylene	1.7	0.30		ppbV	1	3/19/2016 3:04:00 PM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	3/19/2016 3:04:00 PM
Methyl Ethyl Ketone	2.2	3.0	J	ppbV	10	3/19/2016 10:56:00 PM
Methyl Isobutyl Ketone	< 0.30	0.30		ppbV	1	3/19/2016 3:04:00 PM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Methylene chloride	0.32	0.15		ppbV	1	3/19/2016 3:04:00 PM
o-Xylene	0.58	0.15		ppbV	1	3/19/2016 3:04:00 PM
Propylene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Styrene	0.22	0.15		ppbV	1	3/19/2016 3:04:00 PM
Tetrachloroethylene	0.93	0.15		ppbV	1	3/19/2016 3:04:00 PM
Tetrahydrofuran	2.9	1.5		ppbV	10	3/19/2016 10:56:00 PM
Toluene	1.9	1.5		ppbV	10	3/19/2016 10:56:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Trichloroethene	0.080	0.15	J	ppbV	1	3/19/2016 3:04:00 PM
Vinyl acetate	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Vinyl Bromide	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Vinyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Surr: Bromofluorobenzene	113	70-130		%REC	1	3/19/2016 3:04:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

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Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-006A

Client Sample ID: MS-MSD Indoor Air #2

Tag Number: 216.255

Collection Date: 3/15/2016

Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/19/2016 3:04:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	3/19/2016 3:04:00 PM
1,1,2-Trichloroethane	< 0.82	0.82		ug/m3	1	3/19/2016 3:04:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/19/2016 3:04:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 3:04:00 PM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	3/19/2016 3:04:00 PM
1,2,4-Trimethylbenzene	3.3	0.74		ug/m3	1	3/19/2016 3:04:00 PM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	3/19/2016 3:04:00 PM
1,2-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 3:04:00 PM
1,2-Dichloroethane	< 0.61	0.61		ug/m3	1	3/19/2016 3:04:00 PM
1,2-Dichloropropane	< 0.69	0.69		ug/m3	1	3/19/2016 3:04:00 PM
1,3,5-Trimethylbenzene	1.1	0.74		ug/m3	1	3/19/2016 3:04:00 PM
1,3-butadiene	< 0.33	0.33		ug/m3	1	3/19/2016 3:04:00 PM
1,3-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 3:04:00 PM
1,4-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 3:04:00 PM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	3/19/2016 3:04:00 PM
2,2,4-trimethylpentane	1.4	0.70		ug/m3	1	3/19/2016 3:04:00 PM
4-ethyltoluene	0.88	0.74		ug/m3	1	3/19/2016 3:04:00 PM
Acetone	25	7.1		ug/m3	10	3/19/2016 10:56:00 PM
Allyl chloride	< 0.47	0.47		ug/m3	1	3/19/2016 3:04:00 PM
Benzene	7.0	0.48		ug/m3	1	3/19/2016 3:04:00 PM
Benzyl chloride	< 0.86	0.86		ug/m3	1	3/19/2016 3:04:00 PM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	3/19/2016 3:04:00 PM
Bromoform	< 1.6	1.6		ug/m3	1	3/19/2016 3:04:00 PM
Bromomethane	< 0.58	0.58		ug/m3	1	3/19/2016 3:04:00 PM
Carbon disulfide	< 0.47	0.47		ug/m3	1	3/19/2016 3:04:00 PM
Carbon tetrachloride	0.44	0.94	J	ug/m3	1	3/19/2016 3:04:00 PM
Chlorobenzene	< 0.69	0.69		ug/m3	1	3/19/2016 3:04:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/19/2016 3:04:00 PM
Chloroform	< 0.73	0.73		ug/m3	1	3/19/2016 3:04:00 PM
Chloromethane	1.3	0.31		ug/m3	1	3/19/2016 3:04:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 3:04:00 PM
cis-1,3-Dichloropropene	< 0.68	0.68		ug/m3	1	3/19/2016 3:04:00 PM
Cyclohexane	1.5	0.52		ug/m3	1	3/19/2016 3:04:00 PM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	3/19/2016 3:04:00 PM
Ethyl acetate	0.97	0.90		ug/m3	1	3/19/2016 3:04:00 PM
Ethylbenzene	2.0	0.65		ug/m3	1	3/19/2016 3:04:00 PM
Freon 11	1.2	0.84		ug/m3	1	3/19/2016 3:04:00 PM
Freon 113	< 1.1	1.1		ug/m3	1	3/19/2016 3:04:00 PM
Freon 114	< 1.0	1.0		ug/m3	1	3/19/2016 3:04:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

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Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-006A

Client Sample ID: MS-MSD Indoor Air #2
 Tag Number: 216.255
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15				TO-15	Analyst: RJP	
Freon 12	2.4	0.74		ug/m3	1	3/19/2016 3:04:00 PM
Heptane	1.8	0.61		ug/m3	1	3/19/2016 3:04:00 PM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	3/19/2016 3:04:00 PM
Hexane	6.8	0.53		ug/m3	1	3/19/2016 3:04:00 PM
Isopropyl alcohol	5.7	3.7		ug/m3	10	3/19/2016 10:56:00 PM
m&p-Xylene	7.3	1.3		ug/m3	1	3/19/2016 3:04:00 PM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	3/19/2016 3:04:00 PM
Methyl Ethyl Ketone	6.5	8.8	J	ug/m3	10	3/19/2016 10:56:00 PM
Methyl Isobutyl Ketone	< 1.2	1.2		ug/m3	1	3/19/2016 3:04:00 PM
Methyl tert-butyl ether	< 0.54	0.54		ug/m3	1	3/19/2016 3:04:00 PM
Methylene chloride	1.1	0.52		ug/m3	1	3/19/2016 3:04:00 PM
o-Xylene	2.5	0.65		ug/m3	1	3/19/2016 3:04:00 PM
Propylene	< 0.26	0.26		ug/m3	1	3/19/2016 3:04:00 PM
Styrene	0.94	0.64		ug/m3	1	3/19/2016 3:04:00 PM
Tetrachloroethylene	6.3	1.0		ug/m3	1	3/19/2016 3:04:00 PM
Tetrahydrofuran	8.5	4.4		ug/m3	10	3/19/2016 10:56:00 PM
Toluene	7.2	5.7		ug/m3	10	3/19/2016 10:56:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 3:04:00 PM
trans-1,3-Dichloropropene	< 0.68	0.68		ug/m3	1	3/19/2016 3:04:00 PM
Trichloroethene	0.43	0.81	J	ug/m3	1	3/19/2016 3:04:00 PM
Vinyl acetate	< 0.53	0.53		ug/m3	1	3/19/2016 3:04:00 PM
Vinyl Bromide	< 0.66	0.66		ug/m3	1	3/19/2016 3:04:00 PM
Vinyl chloride	< 0.38	0.38		ug/m3	1	3/19/2016 3:04:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte, Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

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GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

QUALITY CONTROL SUMMARY

CEN TEK LABORATORIES, LLC

QC SUMMARY REPORT

SURROGATE RECOVERIES

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza
Test No: TO-15 **Matrix:** A

[illegible]

Acronym	Surrogate	QC Limits
BR4FBZ	= Bromofluorobenzene	70-130

* Surrogate recovery outside acceptance limits

Tune File : C:\HPCHEM\1\DATA\AN031902.D

Tune Time : 19 Mar 2016 11:03 am

Daily Calibration File : C:\HPCHEM\1\DATA\AN031902.D

(BFB)

(IS1)

(IS2)

(IS3)

36534

105385

58346

File	Sample	DL Surrogate Recovery %	Internal Standard Responses		
AN031903.D	ALCS1UG-031916	104	36285	110067	63580
AN031904.D	AMB1UG-031916	100	34117	103853	71175
AN031908.D	C1603053-006A	113	35701	111392	72199
AN031909.D	C1603053-006A MS	114	37594	113213	63330
AN031910.D	C1603053-006A MSD	104	38268	115653	62286
AN031911.D	C1603053-001A	124	36674	115072	65600
AN031912.D	C1603053-002A	104	37895	123396	72311
AN031913.D	C1603053-004A	109	36973	120238	70458
AN031917.D	C1603053-003A	107	44618	144163	89938*
AN031918.D	C1603053-005A	88	47150	157151*	88889*
AN031919.D	ALCS1UGD-031916	108	44229	140457	79639
AN031920.D	C1603053-006A 10x	97	37569	119280	85952*
AN031921.D	C1603053-001A 10x	105	34803	105659	72368
AN031922.D	C1603053-002A 10x	99	34033	100861	66653
AN031923.D	C1603053-002A 40x	95	33549	103110	73489
AN031924.D	C1603053-004A 10x	96	32680	99282	67489
AN031929.D	C1603053-003A 10x	107	31791	94432	67050
AN031930.D	C1603053-005A 10x	104	33135	100727	67270
AN031931.D	C1603053-005A 20X	114	33808	97685	61946

t - fails 24hr time check * - fails criteria

Created: Thu Apr 07 13:20:19 2016 MSD #1/

Tune File : C:\HPCHEM\1\DATA\AN032206.D

Tune Time : 22 Mar 2016 2:52 pm

Daily Calibration File : C:\HPCHEM\1\DATA\AN032206.D

	(BFB)	(IS1)	(IS2)	(IS3)
		42720	115502	70604
File	Sample	DL	Surrogate Recovery %	Internal Standard Responses
=====	=====	=====	=====	=====
AN032207.D	ALCS1UG-032216	102		40588 111197 68665
-----	-----	-----	-----	-----
AN032208.D	AMB1UG-032216	98		40595 112561 85892
-----	-----	-----	-----	-----
AN032214.D	C1603053-005A 40X	97		36183 98847 74833
-----	-----	-----	-----	-----
t - fails 24hr time check * - fails criteria				

Created: Thu Apr 07 13:22:37 2016 MSD #1/



Date: 07-Apr-16

ANALYTICAL QC SUMMARY REPORT

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	AMB1UG-031916	Sample Type:	MBLK	TestCode:	1ugM3_TO15	Units:	ppbv	Prep Date:	RunNo:	10790		
Client ID:	ZZZZZ	Batch ID:	R10790	TestNo:	TO-15			Analysis Date:	SeqNo:	126779		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane		< 0.15	0.15									
1,1,2,2-Tetrachloroethane		< 0.15	0.15									
1,1,2-Trichloroethane		< 0.15	0.15									
1,1-Dichloroethane		< 0.15	0.15									
1,1-Dichloroethene		< 0.15	0.15									
1,2,4-Trichlorobenzene		< 0.15	0.15									
1,2,4-Trimethylbenzene		< 0.15	0.15									
1,2-Dibromoethane		< 0.15	0.15									
1,2-Dichlorobenzene		< 0.15	0.15									
1,2-Dichloroethane		< 0.15	0.15									
1,2-Dichloropropane		< 0.15	0.15									
1,3,5-Trimethylbenzene		< 0.15	0.15									
1,3-butadiene		< 0.15	0.15									
1,3-Dichlorobenzene		< 0.15	0.15									
1,4-Dichlorobenzene		< 0.15	0.15									
1,4-Dioxane		< 0.30	0.30									
2,2,4-trimethylpentane		< 0.15	0.15									
4-ethyltoluene		< 0.15	0.15									
Acetone		< 0.30	0.30									
Allyl chloride		< 0.15	0.15									
Benzene		< 0.15	0.15									
Benzyl chloride		< 0.15	0.15									
Bromodichloromethane		< 0.15	0.15									
Bromoform		< 0.15	0.15									
Bromomethane		< 0.15	0.15									

Qualifiers: . Results reported are not blank corrected
J Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits

E Value above quantitation range
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	AMB1UG-031916	SampleType	MBLK	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10790					
Client ID:	ZZZZZ	Batch ID:	R10790	TestNo: TO-15		Analysis Date: 3/19/2016	SeqNo: 126779					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon disulfide		< 0.15	0.15									
Carbon tetrachloride		< 0.15	0.15									
Chlorobenzene		< 0.15	0.15									
Chloroethane		< 0.15	0.15									
Chloroform		< 0.15	0.15									
Chloromethane		< 0.15	0.15									
cis-1,2-Dichloroethene		< 0.15	0.15									
cis-1,3-Dichloropropene		< 0.15	0.15									
Cyclohexane		< 0.15	0.15									
Dibromochloromethane		< 0.15	0.15									
Ethyl acetate		< 0.25	0.25									
Ethylbenzene		< 0.15	0.15									
Freon 11		< 0.15	0.15									
Freon 113		< 0.15	0.15									
Freon 114		< 0.15	0.15									
Freon 12		< 0.15	0.15									
Heptane		< 0.15	0.15									
Hexachloro-1,3-butadiene		< 0.15	0.15									
Hexane		< 0.15	0.15									
Isopropyl alcohol		< 0.15	0.15									
m&p-Xylene		< 0.30	0.30									
Methyl Butyl Ketone		< 0.30	0.30									
Methyl Ethyl Kefone		< 0.30	0.30									
Methyl Isobutyl Ketone		< 0.30	0.30									
Methyl tert-butyl ether		< 0.15	0.15									
Methylene chloride		< 0.15	0.15									
o-Xylene		< 0.15	0.15									
Propylene		< 0.15	0.15									
Styrene		< 0.15	0.15									
Tetrachloroethylene		< 0.15	0.15									
Tetrahydrofuran		< 0.15	0.15									

Qualifiers:

J	Analyte detected at or below quantitation limits	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
S	Spike Recovery outside accepted recovery limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	AMB1UG-031916	Sample Type:	MBLK	Test Code:	1ugM3_TO15	Units:	ppbv	Prep Date:	RunNo:	10790			
Client ID:	ZZZZZ	Batch ID:	R10790	TestNo:	TO-15			Analysis Date:	SeqNo:	126779			
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Toluene	< 0.15	0	1	0	100	70	130						
trans-1,2-Dichloroethene	< 0.15												
trans-1,3-Dichloropropene	< 0.15												
Trichloroethene	< 0.15												
Vinyl acetate	< 0.15												
Vinyl Bromide	< 0.15												
Vinyl chloride	< 0.15												
Surr: Bromofluorobenzene	1.000												

Sample ID	AMBIUG-032216	SampleType:	MBLK	TestCode:	1ugM3_TO15	Units:	ppbv	Prep Date:	RunNo:	10791			
Client ID:	ZZZZZ	Batch ID:	R10791	TestNo:	TO-15			Analysis Date:	SeqNo:	126820			
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1-Trichloroethane	< 0.15	0.15											
1,1,2,2-Tetrachloroethane	< 0.15	0.15											
1,1,2-Trichloroethane	< 0.15	0.15											
1,1-Dichloroethane	< 0.15	0.15											
1,1-Dichloroethene	< 0.15	0.15											
1,2,4-Trichlorobenzene	< 0.15	0.15											
1,2,4-Trimethylbenzene	< 0.15	0.15											
1,2-Dibromoethane	< 0.15	0.15											
1,2-Dichlorobenzene	< 0.15	0.15											
1,2-Dichloroethane	< 0.15	0.15											
1,2-Dichloropropene	< 0.15	0.15											
1,3,5-Trimethylbenzene	< 0.15	0.15											
1,3-butadiene	< 0.15	0.15											
1,3-Dichlorobenzene	< 0.15	0.15											
1,4-Dichlorobenzene	< 0.15	0.15											
1,4-Dioxane	< 0.30	0.30											
2,2,4-trimethylpentane	< 0.15	0.15											

Qualifiers: J Results reported are not blank corrected
S Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
 Work Order: C1603053
 Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	AMB1UG-032216	SampType: MBLK	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10791						
Client ID: ZZZZZ		Batch ID: R10791	TestNo: TO-15		Analysis Date: 3/22/2016	SeqNo: 126820						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-ethyltoluene		< 0.15	0.15									
Acetone		< 0.30	0.30									
Allyl chloride		< 0.15	0.15									
Benzene		< 0.15	0.15									
Benzyl chloride		< 0.15	0.15									
Bromodichloromethane		< 0.15	0.15									
Bromoform		< 0.15	0.15									
Bromomethane		< 0.15	0.15									
Carbon disulfide		< 0.15	0.15									
Carbon tetrachloride		< 0.15	0.15									
Chlorobenzene		< 0.15	0.15									
Chloroethane		< 0.15	0.15									
Chloroform		< 0.15	0.15									
Chloromethane		< 0.15	0.15									
cis-1,2-Dichloroethene		< 0.15	0.15									
cis-1,3-Dichloropropene		< 0.15	0.15									
Cyclohexane		< 0.15	0.15									
Dibromochloromethane		< 0.15	0.15									
Ethyl acetate		< 0.25	0.25									
Ethylbenzene		< 0.15	0.15									
Freon 11		< 0.15	0.15									
Freon 113		< 0.15	0.15									
Freon 114		< 0.15	0.15									
Freon 12		< 0.15	0.15									
Heptane		< 0.15	0.15									
Hexachloro-1,3-butadiene		< 0.15	0.15									
Hexane		< 0.15	0.15									
Isopropyl alcohol		< 0.15	0.15									
m&p-Xylene		< 0.30	0.30									
Methyl Butyl Ketone		< 0.30	0.30									
Methyl Ethyl Ketone		< 0.30	0.30									

Qualifiers: J Results reported are not blank corrected E Value above quantitation range H Holding times for preparation or analysis exceeded
 S Analyte detected at or below quantitation limits NID Not Detected at the Reporting Limit R RPD outside accepted recovery limits
 Spike Recovery outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	AMB1UG-032216	Sample Type	MBLK	TestCode	1ugM3_TO15	Units	ppbV	Prep Date	RunNo: 10791
Client ID	ZZZZZ	Batch ID	R10791	TestNo	TO-15			Analysis Date	3/22/2016
SeqNo									SeqNo: 126820

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl Isobutyl Ketone	< 0.30	0.30									
Methyl tert-butyl ether	< 0.15	0.15									
Methylene chloride	< 0.15	0.15									
o-Xylene	< 0.15	0.15									
Propylene	< 0.15	0.15									
Styrene	< 0.15	0.15									
Tetrachloroethylene	< 0.15	0.15									
Tetrahydrofuran	< 0.15	0.15									
Toluene	< 0.15	0.15									
trans-1,2-Dichloroethene	< 0.15	0.15									
trans-1,3-Dichloropropene	< 0.15	0.15									
Trichloroethene	< 0.15	0.15									
Vinyl acetate	< 0.15	0.15									
Vinyl Bromide	< 0.15	0.15									
Vinyl chloride	< 0.15	0.15									
Surr: Bromofluorobenzene	0.9800	0	1	0	98.0	70	130				

Qualifiers:

J	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
S	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	Spike Recovery outside accepted recovery limits				



CENTEK LABORATORIES, LLC

Date: 07-Apr-16

ANALYTICAL QC SUMMARY REPORT

CLIENT: Environmental & Geologic Management Se

Work Order: C1603053

Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	ALCS1UG-031916	Batch ID: R10790	SampType: LCS	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10790				
Client ID: ZZZZZ				TestNo: TO-15		Analysis Date: 3/19/2016	SeqNo: 126780				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.8400	0.15	1	0	84.0	70	130				
1,1,2,2-Tetrachloroethane	0.8100	0.15	1	0	81.0	70	130				
1,1,2-Trichloroethane	0.8500	0.15	1	0	85.0	70	130				
1,1-Dichloroethane	0.8600	0.15	1	0	86.0	70	130				
1,1-Dichloroethene	0.8500	0.15	1	0	85.0	70	130				
1,2,4-Trichlorobenzene	0.7100	0.15	1	0	71.0	70	130				
1,2,4-Trimethylbenzene	0.7900	0.15	1	0	79.0	70	130				
1,2-Dibromoethane	0.8500	0.15	1	0	85.0	70	130				
1,2-Dichlorobenzene	0.7600	0.15	1	0	76.0	70	130				
1,2-Dichloroethane	0.8200	0.15	1	0	82.0	70	130				
1,2-Dichloropropane	0.8400	0.15	1	0	84.0	70	130				
1,3,5-Trimethylbenzene	0.8400	0.15	1	0	84.0	70	130				
1,3-butadiene	0.8700	0.15	1	0	87.0	70	130				
1,3-Dichlorobenzene	0.8400	0.15	1	0	84.0	70	130				
1,4-Dichlorobenzene	0.8400	0.15	1	0	84.0	70	130				
1,4-Dioxane	1.140	0.30	1	0	114	70	130				
2,2,4-trimethylpentane	0.8900	0.15	1	0	89.0	70	130				
4-ethyltoluene	0.8300	0.15	1	0	83.0	70	130				
Acetone	1.020	0.30	1	0	102	70	130				
Allyl chloride	0.6200	0.15	1	0	62.0	70	130				S
Benzene	0.8500	0.15	1	0	85.0	70	130				
Benzyl chloride	0.7400	0.15	1	0	74.0	70	130				
Bromodichloromethane	0.9200	0.15	1	0	92.0	70	130				
Bromoform	1.380	0.15	1	0	138	70	130				S
Bromomethane	0.8700	0.15	1	0	87.0	70	130				

Qualifiers: J Results reported are not blank corrected
S Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits

E Value above quantitation range
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se

Work Order: C1603053

Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	ALCS1UG-031916	SampleType: LCS	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10790					
Client ID: ZZZZZ		Batch ID: R10790	TestNo: TO-15		Analysis Date: 3/19/2016	SeqNo: 126780					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon disulfide	0.8300	0.15	1	0	83.0	70	130				
Carbon tetrachloride	0.8400	0.15	1	0	84.0	70	130				
Chlorobenzene	0.8300	0.15	1	0	83.0	70	130				
Chloroethane	0.9400	0.15	1	0	94.0	70	130				
Chloroform	0.8300	0.15	1	0	83.0	70	130				
Chloromethane	0.8800	0.15	1	0	88.0	70	130				
cis-1,2-Dichloroethene	0.8500	0.15	1	0	85.0	70	130				
cis-1,3-Dichloropropene	0.8700	0.15	1	0	87.0	70	130				
Cyclohexane	0.8500	0.15	1	0	85.0	70	130				
Dibromochloromethane	0.9100	0.15	1	0	91.0	70	130				
Ethyl acetate	0.8600	0.25	1	0	86.0	70	130				
Ethylbenzene	0.8200	0.15	1	0	82.0	70	130				
Freon 11	0.9100	0.15	1	0	91.0	70	130				
Freon 113	0.8700	0.15	1	0	87.0	70	130				
Freon 114	0.8400	0.15	1	0	84.0	70	130				
Freon 12	0.8900	0.15	1	0	89.0	70	130				
Heptane	0.8300	0.15	1	0	83.0	70	130				
Hexachloro-1,3-butadiene	0.7900	0.15	1	0	79.0	70	130				
Hexane	0.8300	0.15	1	0	83.0	70	130				
Isopropyl alcohol	0.8800	0.15	1	0	88.0	70	130				
m&p-Xylene	1.620	0.30	2	0	81.0	70	130				
Methyl Butyl Ketone	1.060	0.30	1	0	106	70	130				
Methyl Ethyl Ketone	0.9000	0.30	1	0	90.0	70	130				
Methyl Isobutyl Ketone	1.180	0.30	1	0	118	70	130				
Methyl tert-butyl ether	0.8400	0.15	1	0	84.0	70	130				
Methylene chloride	0.8300	0.15	1	0	83.0	70	130				
o-Xylene	0.7700	0.15	1	0	77.0	70	130				
Propylene	0.8500	0.15	1	0	85.0	70	130				
Styrene	0.8500	0.15	1	0	85.0	70	130				
Tetrachloroethylene	0.7700	0.15	1	0	77.0	70	130				
Tetrahydrofuran	0.8000	0.15	1	0	80.0	70	130				

Qualifiers: J Results reported are not blank corrected E Value above quantitation range H Holding times for preparation or analysis exceeded
S Analyte detected at or below quantitation limits ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: IngM3_TO15

Sample ID	ALCS1UG-031916	Sample Type:	LCS	TestCode:	1ugM3_TO15	Units:	ppbv	Prep Date:	RunNo:	10790	
Client ID:	ZZZZ	Batch ID:	R10790	TestNo:	TO-15			Analysis Date:	SeqNo:	126780	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Toluene	0.8400	0.15	1	0	84.0	70	130				
trans-1,2-Dichloroethene	0.8400	0.15	1	0	84.0	70	130				
trans-1,3-Dichloropropene	0.9100	0.15	1	0	91.0	70	130				
Trichloroethene	0.8200	0.15	1	0	82.0	70	130				
Vinyl acetate	0.7000	0.15	1	0	70.0	70	130				
Vinyl Bromide	0.8700	0.15	1	0	87.0	70	130				
Vinyl chloride	0.7500	0.15	1	0	75.0	70	130				
Surf: Bromofluorobenzene	1.040	0	1	0	104	70	130				

Sample ID	ALCS1UG-032216	Sample Type:	LCS	TestCode:	1ugM3_TO15	Units:	ppbv	Prep Date:	RunNo:	10791	
Client ID:	ZZZZ	Batch ID:	R10791		TestNo:	TO-15		Analysis Date:	SeqNo:	126821	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1-Trichloroethane	0.8100	0.15	1	0	81.0	70	130				
1,1,2,2-Tetrachloroethane	0.8500	0.15	1	0	85.0	70	130				
1,1,2-Trichloroethane	0.9500	0.15	1	0	95.0	70	130				
1,1-Dichloroethane	0.7900	0.15	1	0	79.0	70	130				
1,1-Dichloroethene	0.7700	0.15	1	0	77.0	70	130				
1,2,4-Trichlorobenzene	0.8500	0.15	1	0	85.0	70	130				
1,2,4-Trimethylbenzene	0.8000	0.15	1	0	80.0	70	130				
1,2-Dibromoethane	0.9400	0.15	1	0	94.0	70	130				
1,2-Dichlorobenzene	1.050	0.15	1	0	105	70	130				
1,2-Dichloroethane	0.7100	0.15	1	0	71.0	70	130				
1,2-Dichloropropane	0.8600	0.15	1	0	86.0	70	130				
1,3,5-Trimethylbenzene	0.8400	0.15	1	0	84.0	70	130				
1,3-butadiene	0.7200	0.15	1	0	72.0	70	130				
1,3-Dichlorobenzene	1.080	0.15	1	0	108	70	130				
1,4-Dichlorobenzene	1.100	0.15	1	0	110	70	130				
1,4-Dioxane	1.040	0.30	1	0	104	70	130				
2,2,4-trimethylpentane	0.9500	0.15	1	0	95.0	70	130				

Qualifiers: J Results reported are not blank corrected
S Analyte detected at or below quantitation limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
 Work Order: C1603053
 Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	ALCS1UG-032216	Sample Type: LCS	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10791					
Client ID: ZZZZZ		Batch ID: R10791	TestNo: TO-15		Analysis Date: 3/22/2016	SeqNo: 126821					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-ethyltoluene	0.8500	0.15	1	0	86.0	70	130				
Acetone	0.9300	0.30	1	0	93.0	70	130				
Allyl chloride	0.7800	0.15	1	0	78.0	70	130				
Benzene	0.9200	0.15	1	0	92.0	70	130				
Benzyl chloride	0.7800	0.15	1	0	78.0	70	130				
Bromodichloromethane	0.9000	0.15	1	0	90.0	70	130				
Bromoform	1.540	0.15	1	0	154	70	130				
Bromomethane	0.8400	0.15	1	0	84.0	70	130				
Carbon disulfide	0.8200	0.15	1	0	82.0	70	130				
Carbon tetrachloride	0.8100	0.15	1	0	81.0	70	130				
Chlorobenzene	0.8500	0.15	1	0	85.0	70	130				
Chloroethane	0.7600	0.15	1	0	76.0	70	130				
Chloroform	0.7500	0.15	1	0	75.0	70	130				
Chloromethane	0.7400	0.15	1	0	74.0	70	130				
cis-1,2-Dichloroethene	0.7800	0.15	1	0	78.0	70	130				
cis-1,3-Dichloropropene	0.9100	0.15	1	0	91.0	70	130				
Cyclohexane	0.9300	0.15	1	0	93.0	70	130				
Dibromochloromethane	0.9000	0.15	1	0	90.0	70	130				
Ethyl acetate	0.7700	0.25	1	0	77.0	70	130				
Ethylbenzene	0.7600	0.15	1	0	76.0	70	130				
Freon 11	0.8300	0.15	1	0	83.0	70	130				
Freon 113	0.8200	0.15	1	0	82.0	70	130				
Freon 114	0.7900	0.15	1	0	79.0	70	130				
Freon 12	0.8100	0.15	1	0	81.0	70	130				
Heptane	0.8200	0.15	1	0	82.0	70	130				
Hexachloro-1,3-butadiene	1.070	0.15	1	0	107	70	130				
Hexane	0.7700	0.15	1	0	77.0	70	130				
Isopropyl alcohol	0.6700	0.15	1	0	67.0	70	130				
m&p-Xylene	1.490	0.30	2	0	74.5	70	130				S
Methyl Butyl Ketone	1.390	0.30	1	0	139	70	130				S
Methyl Ethyl Ketone	0.8500	0.30	1	0	85.0	70	130				

Qualifiers: J Results reported are not blank corrected
 S Analyte detected at or below quantitation limits
 H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits
 E Value above quantitation range
 ND Not Detected at the Reporting Limit

CLIENT: Environmental & Geologic Management Se
 Work Order: C1603053
 Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	ALCS1UG-032216	SampType: LCS	TestCode: 1ugM3_TO15	Units: ppbv	Prep Date:	RunNo: 10791					
Client ID: ZZZZZ	Batch ID: R10791	TestNo: TO-15			Analysis Date: 3/22/2016	SeqNo: 126821					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl Isobutyl Ketone	1.160	0.30	1	0	116	70	130				
Methyl tert-butyl ether	0.8100	0.15	1	0	81.0	70	130				
Methylene chloride	0.9900	0.15	1	0	99.0	70	130				
o-Xylene	0.7000	0.15	1	0	70.0	70	130				
Propylene	0.7900	0.15	1	0	79.0	70	130				
Styrene	0.8000	0.15	1	0	80.0	70	130				
Tetrachloroethylene	0.8500	0.15	1	0	85.0	70	130				
Tetrahydrofuran	0.7300	0.15	1	0	73.0	70	130				
Toluene	0.7700	0.15	1	0	77.0	70	130				
trans-1,2-Dichloroethene	0.7600	0.15	1	0	76.0	70	130				
trans-1,3-Dichloropropene	0.9500	0.15	1	0	95.0	70	130				
Trichloroethene	0.9300	0.15	1	0	93.0	70	130				
Vinyl acetate	0.7000	0.15	1	0	70.0	70	130				
Vinyl Bromide	0.8500	0.15	1	0	85.0	70	130				
Vinyl chloride	0.7000	0.15	1	0	70.0	70	130				
Surf: Bromofluorobenzene	1.020	0	1	0	102	70	130				

Qualifiers: J Results reported are not blank corrected
 S Analyte detected at or below quantitation limits
 S Spike Recovery outside accepted recovery limits

E Value above quantitation range
 ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits



CEN TEK LABORATORIES, LLC

Date: 07-Apr-16

Centek Laboratories, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: Environmental & Geologic Management Se

Work Order: C1603053

Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	ALCS1UGD-031916	SampleType: LCSD	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10790					
Client ID: ZZZZ		Batch ID: R10790	TestNo: TO-15		Analysis Date: 3/19/2016	SeqNo: 126781					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.8900	0.15	1	0	89.0	70	130	0.84	5.78	30	
1,1,2,2-Tetrachloroethane	0.9500	0.15	1	0	95.0	70	130	0.81	15.9	30	
1,1,2-Trichloroethane	0.9100	0.15	1	0	91.0	70	130	0.85	6.82	30	
1,1-Dichloroethane	0.9400	0.15	1	0	94.0	70	130	0.86	8.89	30	
1,1-Dichloroethene	0.8300	0.15	1	0	83.0	70	130	0.85	2.38	30	
1,2,4-Trichlorobenzene	0.8700	0.15	1	0	87.0	70	130	0.71	20.3	30	
1,2,4-Trimethylbenzene	1.040	0.15	1	0	104	70	130	0.79	27.3	30	
1,2-Dibromoethane	0.9800	0.15	1	0	98.0	70	130	0.85	14.2	30	
1,2-Dichlorobenzene	1.020	0.15	1	0	102	70	130	0.76	29.2	30	
1,2-Dichloroethane	0.8800	0.15	1	0	88.0	70	130	0.82	7.06	30	
1,2-Dichloropropane	0.9000	0.15	1	0	90.0	70	130	0.84	6.90	30	
1,3,5-Trimethylbenzene	1.040	0.15	1	0	104	70	130	0.84	21.3	30	
1,3-butadiene	0.9100	0.15	1	0	91.0	70	130	0.87	4.49	30	
1,3-Dichlorobenzene	1.050	0.15	1	0	105	70	130	0.84	22.2	30	
1,4-Dichlorobenzene	1.040	0.15	1	0	104	70	130	0.84	21.3	30	
1,4-Dioxane	0.9000	0.30	1	0	90.0	70	130	1.14	23.5	30	
2,2,4-trimethylpentane	1.020	0.15	1	0	102	70	130	0.89	13.6	30	
4-ethyltoluene	1.030	0.15	1	0	103	70	130	0.83	21.5	30	
Acetone	0.9200	0.30	1	0	92.0	70	130	1.02	10.3	30	
Allyl chloride	0.9800	0.15	1	0	98.0	70	130	0.62	45.0	30	R
Benzene	0.9600	0.15	1	0	96.0	70	130	0.85	12.2	30	
Benzyl chloride	0.8300	0.15	1	0	83.0	70	130	0.74	11.5	30	
Bromodichloromethane	0.8600	0.15	1	0	86.0	70	130	0.92	6.74	30	
Bromoform	0.7800	0.15	1	0	78.0	70	130	1.38	55.6	30	R
Bromomethane	0.8800	0.15	1	0	88.0	70	130	0.87	1.14	30	

Qualifiers: J Results reported are not blank corrected
S Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits

E Value above quantitation range
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	ALCS1UGD-031916	SampleType: LCSD	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10790					
Client ID: ZZZZZ		Batch ID: R10790	TestNo: TO-15		Analysis Date: 3/19/2016	SeqNo: 126781					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon disulfide	0.9500	0.15	1	0	95.0	70	130	0.83	13.5	30	
Carbon tetrachloride	0.8100	0.15	1	0	81.0	70	130	0.84	3.64	30	
Chlorobenzene	1.010	0.15	1	0	101	70	130	0.83	19.6	30	
Chloroethane	0.9000	0.15	1	0	90.0	70	130	0.94	4.35	30	
Chloroform	0.9100	0.15	1	0	91.0	70	130	0.83	9.20	30	
Chloromethane	0.8800	0.15	1	0	88.0	70	130	0.88	0	30	
cis-1,2-Dichloroethene	1.010	0.15	1	0	101	70	130	0.85	17.2	30	
cis-1,3-Dichloropropene	0.9300	0.15	1	0	93.0	70	130	0.87	6.67	30	
Cyclohexane	1.030	0.15	1	0	103	70	130	0.85	19.1	30	
Dibromochloromethane	0.8200	0.15	1	0	82.0	70	130	0.91	10.4	30	
Ethyl acetate	0.9400	0.25	1	0	94.0	70	130	0.86	8.89	30	
Ethylbenzene	1.010	0.15	1	0	101	70	130	0.82	20.8	30	
Freon 11	0.8400	0.15	1	0	84.0	70	130	0.91	8.00	30	
Freon 113	0.8700	0.15	1	0	87.0	70	130	0.87	0	30	
Freon 114	0.8900	0.15	1	0	89.0	70	130	0.84	5.78	30	
Freon 12	0.9200	0.15	1	0	92.0	70	130	0.89	3.31	30	
Heptane	0.9600	0.15	1	0	96.0	70	130	0.83	14.5	30	
Hexachloro-1,3-butadiene	0.9900	0.15	1	0	99.0	70	130	0.79	22.5	30	
Hexane	1.050	0.15	1	0	105	70	130	0.83	23.4	30	
Isopropyl alcohol	0.8700	0.15	1	0	87.0	70	130	0.88	1.14	30	
m&p-Xylene	2.000	0.30	2	0	100	70	130	1.62	21.0	30	
Methyl Butyl Ketone	0.7600	0.30	1	0	76.0	70	130	1.06	33.0	30	R
Methyl Ethyl Ketone	0.9900	0.30	1	0	99.0	70	130	0.9	9.52	30	
Methyl Isobutyl Ketone	0.8800	0.30	1	0	88.0	70	130	1.18	29.1	30	
Methyl tert-butyl ether	1.050	0.15	1	0	105	70	130	0.84	22.2	30	
Methylene chloride	0.9900	0.15	1	0	99.0	70	130	0.83	17.6	30	
o-Xylene	0.9000	0.15	1	0	90.0	70	130	0.77	15.6	30	
Propylene	0.9000	0.15	1	0	90.0	70	130	0.85	5.71	30	
Styrene	1.050	0.15	1	0	105	70	130	0.85	21.1	30	
Tetrachloroethylene	0.9300	0.15	1	0	93.0	70	130	0.77	18.8	30	
Tetrahydrofuran	1.020	0.15	1	0	102	70	130	0.8	24.2	30	

Qualifiers: F Results reported are not blank corrected
S Analyte detected at or below quantitation limits
ND Value above quantitation range
E Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	ALCS1UGD-031916	SampType:	LCSD	TestCode:	1ugM3_TO15	Units:	ppbV	Prep Date:	RunNo:	10790	
Client ID:	ZZZZZ	Batch ID:	R10790	TestNo:	TO-15			Analysis Date:	SeqNo:	126781	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	1.020	0.15	1	0	102	70	130	0.84	19.4	30	
trans-1,2-Dichloroethene	0.9800	0.15	1	0	98.0	70	130	0.84	15.4	30	
trans-1,3-Dichloropropene	0.9800	0.15	1	0	98.0	70	130	0.91	7.41	30	
Trichloroethene	0.9500	0.15	1	0	95.0	70	130	0.82	14.7	30	
Vinyl acetate	0.9400	0.15	1	0	94.0	70	130	0.7	29.3	30	
Vinyl Bromide	0.9100	0.15	1	0	91.0	70	130	0.87	4.49	30	
Vinyl chloride	0.8200	0.15	1	0	82.0	70	130	0.75	8.92	30	
Surr. Bromofluorobenzene	1.080	0	1	0	108	70	130	0	0	30	

Sample ID	ALCS1UGD-032216	SampType: LCSD	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10791					
Client ID: ZZZZZ		Batch ID: R10791	TestNo: TO-15		Analysis Date: 3/23/2016	SeqNo: 126822					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.9000	0.15	1	0	90.0	70	130	0.81	10.5	30	
1,1,2,2-Tetrachloroethane	0.9700	0.15	1	0	97.0	70	130	0.85	13.2	30	
1,1,2-Trichloroethane	1.070	0.15	1	0	107	70	130	0.95	11.9	30	
1,1-Dichloroethane	0.8600	0.15	1	0	86.0	70	130	0.79	8.48	30	
1,1-Dichloroethene	0.9100	0.15	1	0	91.0	70	130	0.77	16.7	30	
1,2,4-Trichlorobenzene	0.4000	0.15	1	0	40.0	70	130	0.85	72.0	30	SR
1,2,4-Trimethylbenzene	0.8600	0.15	1	0	86.0	70	130	0.8	7.23	30	
1,2-Dibromoethane	0.9400	0.15	1	0	94.0	70	130	0.94	0	30	
1,2-Dichlorobenzene	1.020	0.15	1	0	102	70	130	1.05	2.90	30	
1,2-Dichloroethane	0.7300	0.15	1	0	73.0	70	130	0.71	2.78	30	
1,2-Dichloropropane	0.9400	0.15	1	0	94.0	70	130	0.86	8.89	30	
1,3,5-Trimethylbenzene	0.9700	0.15	1	0	97.0	70	130	0.84	14.4	30	
1,3-butadiene	0.8300	0.15	1	0	83.0	70	130	0.72	14.2	30	
1,3-Dichlorobenzene	1.140	0.15	1	0	114	70	130	1.08	5.41	30	
1,4-Dichlorobenzene	1.180	0.15	1	0	118	70	130	1.1	7.02	30	
1,4-Dioxane	1.000	0.30	1	0	100	70	130	1.04	3.92	30	
2,2,4-trimethylpentane	1.040	0.15	1	0	104	70	130	0.95	9.05	30	

Qualifiers: J Results reported are not blank corrected
S Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	ALCS1UGD-032216	Sample Type	LCSD	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10791	SeqNo: 126822			
Client ID: ZZZZZ		Batch ID: R10791		TestNo: TO-15		Analysis Date: 3/23/2016					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-ethyltoluene	1.020	0.15	1	0	102	70	130	0.86	17.0	30	
Acetone	0.9000	0.30	1	0	90.0	70	130	0.93	3.28	30	
Allyl chloride	0.8000	0.15	1	0	80.0	70	130	0.78	2.53	30	
Benzene	0.9200	0.15	1	0	92.0	70	130	0.92	0	30	
Benzyl chloride	0.7000	0.15	1	0	70.0	70	130	0.78	10.8	30	
Bromodichloromethane	1.000	0.15	1	0	100	70	130	0.9	10.5	30	
Bromoform	1.860	0.15	1	0	186	70	130	1.54	18.8	30	S
Bromomethane	0.9600	0.15	1	0	96.0	70	130	0.84	13.3	30	
Carbon disulfide	0.8900	0.15	1	0	89.0	70	130	0.82	8.19	30	
Carbon tetrachloride	0.9400	0.15	1	0	94.0	70	130	0.81	14.9	30	
Chlorobenzene	0.9100	0.15	1	0	91.0	70	130	0.85	6.82	30	
Chloroethane	0.8700	0.15	1	0	87.0	70	130	0.76	13.5	30	
Chloroform	0.8100	0.15	1	0	81.0	70	130	0.75	7.69	30	
Chloromethane	0.8400	0.15	1	0	84.0	70	130	0.74	12.7	30	
cis-1,2-Dichloroethene	0.8200	0.15	1	0	82.0	70	130	0.78	5.00	30	
cis-1,3-Dichloropropene	1.040	0.15	1	0	104	70	130	0.91	13.3	30	
Cyclohexane	0.9700	0.15	1	0	97.0	70	130	0.93	4.21	30	
Dibromochloromethane	0.9400	0.15	1	0	94.0	70	130	0.9	4.35	30	
Ethyl acetate	0.8600	0.25	1	0	86.0	70	130	0.77	11.0	30	
Ethylbenzene	0.8200	0.15	1	0	82.0	70	130	0.76	7.59	30	
Freon 11	0.9400	0.15	1	0	94.0	70	130	0.83	12.4	30	
Freon 113	1.020	0.15	1	0	102	70	130	0.82	21.7	30	
Freon 114	0.9400	0.15	1	0	94.0	70	130	0.79	17.3	30	
Freon 12	0.9400	0.15	1	0	94.0	70	130	0.81	14.9	30	
Heptane	0.8200	0.15	1	0	82.0	70	130	0.82	0	30	
Hexachloro-1,3-butadiene	0.9500	0.15	1	0	95.0	70	130	1.07	11.9	30	
Hexane	0.7500	0.15	1	0	75.0	70	130	0.77	2.63	30	
Isopropyl alcohol	0.7500	0.15	1	0	75.0	70	130	0.67	11.3	30	
m&p-Xylene	1.720	0.30	2	0	86.0	70	130	1.49	14.3	30	
Methyl Butyl Kefone	0.7100	0.30	1	0	71.0	70	130	1.39	64.8	30	R
Methyl Ethyl Kefone	0.8900	0.30	1	0	89.0	70	130	0.85	4.60	30	

Qualifiers: J Results reported are not blank corrected
S Analyte detected at or below quantitation limits
R Spike Recovery outside accepted recovery limits
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	ALCS1UGD-032216	SampleType:	LCSD	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10791				
Client ID: ZZZZZ		Batch ID: R10791		TestNo: TO-15		Analysis Date: 3/23/2016	SeqNo: 126822				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl Isobutyl Ketone	0.8000	0.30	1	0	80.0	70	130	1.16	36.7	30	R
Methyl tert-butyl ether	0.7900	0.15	1	0	79.0	70	130	0.81	2.50	30	
Methylene chloride	0.9900	0.15	1	0	99.0	70	130	0.99	0	30	
o-Xylene	0.8700	0.15	1	0	87.0	70	130	0.7	21.7	30	
Propylene	0.8700	0.15	1	0	87.0	70	130	0.79	9.64	30	
Styrene	1.000	0.15	1	0	100	70	130	0.8	22.2	30	
Tetrachloroethylene	0.8300	0.15	1	0	83.0	70	130	0.85	2.38	30	
Tetrahydrofuran	0.7400	0.15	1	0	74.0	70	130	0.73	1.36	30	
Toluene	0.7000	0.15	1	0	70.0	70	130	0.77	9.52	30	
trans-1,2-Dichloroethene	0.8100	0.15	1	0	81.0	70	130	0.76	6.37	30	
trans-1,3-Dichloropropene	1.040	0.15	1	0	104	70	130	0.95	9.05	30	
Trichloroethene	1.010	0.15	1	0	101	70	130	0.93	8.25	30	
Vinyl acetate	0.6100	0.15	1	0	61.0	70	130	0.7	13.7	30	S
Vinyl Bromide	0.9500	0.15	1	0	95.0	70	130	0.85	11.1	30	
Vinyl chloride	0.7600	0.15	1	0	76.0	70	130	0.7	8.22	30	
Surr: Bromofluorobenzene	1.150	0	1	0	115	70	130	0	0	30	

Qualifiers: J Results reported are not blank corrected
S Analyte detected at or below quantitation limits
R Spike Recovery outside accepted recovery limits
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits



Date: 07-Apr-16

ANALYTICAL QC SUMMARY REPORT

CLIENT: Environmental & Geologic Management Se

Work Order: C1603053

Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	C1603053-006A MS	SampType: MS	TestCode: 1ugM3_TO15	Units: ppbv	Prep Date:	RunNo: 10790					
Client ID:	MS-MSD Indoor Air	Batch ID: R10790	TestNo: TO-15		Analysis Date: 3/19/2016	SeqNo: 126792					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.000	0.15	1	0	100	70	130				
1,1,2,2-Tetrachloroethane	0.8700	0.15	1	0	87.0	70	130				
1,1,2-Trichloroethane	1.040	0.15	1	0	104	70	130				
1,1-Dichloroethane	0.9600	0.15	1	0	96.0	70	130				
1,1-Dichloroethene	0.9400	0.15	1	0	94.0	70	130				
1,2,4-Trichlorobenzene	1.350	0.15	1	0	135	70	130				S
1,2,4-Trimethylbenzene	1.540	0.15	1	0.67	87.0	70	130				
1,2-Dibromoethane	0.9300	0.15	1	0	93.0	70	130				
1,2-Dichlorobenzene	0.9600	0.15	1	0	96.0	70	130				
1,2-Dichloroethane	0.9200	0.15	1	0	92.0	70	130				
1,2-Dichloropropane	0.9200	0.15	1	0	92.0	70	130				
1,3,5-Trimethylbenzene	1.160	0.15	1	0.22	94.0	70	130				S
1,3-butadiene	7.120	0.15	1	0	712	70	130				
1,3-Dichlorobenzene	1.050	0.15	1	0	105	70	130				
1,4-Dichlorobenzene	1.100	0.15	1	0	110	70	130				
1,4-Dioxane	0.8400	0.30	1	0	84.0	70	130				
2,2,4-trimethylpentane	1.360	0.15	1	0.3	106	70	130				
4-ethyltoluene	1.070	0.15	1	0.18	89.0	70	130				
Acetone	13.55	0.30	1	13.04	51.0	70	130				
Allyl chloride	0.9200	0.15	1	0	92.0	70	130				S
Benzene	3.110	0.15	1	2.19	92.0	70	130				
Benzyl chloride	0.8600	0.15	1	0	86.0	70	130				
Bromodichloromethane	0.9100	0.15	1	0	91.0	70	130				
Bromoform	0.7400	0.15	1	0	74.0	70	130				
Bromomethane	0.9400	0.15	1	0	94.0	70	130				

Qualifiers: J Results reported are not blank corrected
S Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: Environmental & Geologic Management Sc
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID C1603053-006A MS		SampType: MS		TestCode: 1ugM3_TO15		Units: ppbV		Prep Date:		RunNo: 10790	
Client ID: MS-MSD Indoor Air		Batch ID: R10790		TestNo: TO-15				Analysis Date: 3/19/2016		SeqNo: 126792	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon disulfide	0.9700	0.15	1	0	97.0	70	130				
Carbon tetrachloride	0.9200	0.15	1	0.07	85.0	70	130				
Chlorobenzene	0.9400	0.15	1	0	94.0	70	130				
Chloroethane	0.9300	0.15	1	0	93.0	70	130				
Chloroform	0.9500	0.15	1	0	95.0	70	130				
Chloromethane	1.510	0.15	1	0.62	89.0	70	130				
cis-1,2-Dichloroethene	1.070	0.15	1	0	107	70	130				
cis-1,3-Dichloropropene	0.9700	0.15	1	0	97.0	70	130				
Cyclohexane	2.060	0.15	1	0.44	162	70	130				S
Dibromochloromethane	0.8500	0.15	1	0	85.0	70	130				
Ethyl acetate	1.130	0.25	1	0.27	86.0	70	130				
Ethylbenzene	1.340	0.15	1	0.47	87.0	70	130				
Freon 11	1.130	0.15	1	0.22	91.0	70	130				
Freon 113	1.070	0.15	1	0	107	70	130				
Freon 114	0.9600	0.15	1	0	96.0	70	130				
Freon 12	1.350	0.15	1	0.48	87.0	70	130				
Heptane	1.450	0.15	1	0.45	100	70	130				
Hexachloro-1,3-butadiene	1.070	0.15	1	0	107	70	130				
Hexane	3.060	0.15	1	1.93	113	70	130				
Isopropyl alcohol	3.710	0.15	1	2.97	74.0	70	130				
m&p-Xylene	3.480	0.30	2	1.67	90.5	70	130				
Methyl Butyl Ketone	1.070	0.30	1	0	107	70	130				
Methyl Ethyl Ketone	3.840	0.30	1	3.35	49.0	70	130				S
Methyl Isobutyl Ketone	0.9900	0.30	1	0	99.0	70	130				
Methyl tert-butyl ether	0.9600	0.15	1	0	96.0	70	130				
Methylene chloride	1.370	0.15	1	0.32	105	70	130				
o-Xylene	1.380	0.15	1	0.58	80.0	70	130				
Propylene	7.240	0.15	1	0	724	70	130				
Styrene	1.130	0.15	1	0.22	91.0	70	130				
Tetrachloroethylene	1.920	0.15	1	0.93	99.0	70	130				S
Tetrahydrofuran	5.220	0.15	1	4.42	80.0	70	130				

Qualifiers: J Results reported are not blank corrected
S Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits
E Value above quantitation range
NID Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	C1603053-006A MS	MS	MS-MSD Indoor Air	Batch ID: R10790	TestCode: 1ugM3_TO15	Units: ppbv	TestNo: TO-15	Prep Date:	Analysis Date: 3/19/2016	RunNo: 10790	SeqNo: 126792
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	4.750	0.15	1	3.19	156	70	130				S
Trans-1,2-Dichloroethene	1.100	0.15	1	0	110	70	130				
Trans-1,3-Dichloropropene	1.020	0.15	1	0	102	70	130				
Trichloroethene	1.040	0.15	1	0.08	96.0	70	130				
Vinyl acetate	1.190	0.15	1	0	119	70	130				
Vinyl Bromide	0.9500	0.15	1	0	95.0	70	130				
Vinyl chloride	0.8600	0.15	1	0	86.0	70	130				
Surr: Bromofluorobenzene	1.140	0	1	0	114	70	130				

Sample ID	C1603053-006A MS	MSD	MS-MSD Indoor Air	Batch ID: R10790	TestCode: 1ugM3_TO15	Units: ppbv	TestNo: TO-15	Prep Date:	Analysis Date: 3/19/2016	RunNo: 10790	SeqNo: 126793
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.000	0.15	1	0	100	70	130	1	0	30	
1,1,2,2-Tetrachloroethane	0.9600	0.15	1	0	96.0	70	130	0.87	9.84	30	
1,1,2-Trichloroethane	1.030	0.15	1	0	103	70	130	1.04	0.966	30	
1,1-Dichloroethane	0.9700	0.15	1	0	97.0	70	130	0.96	1.04	30	
1,1-Dichloroethene	0.9600	0.15	1	0	96.0	70	130	0.94	2.11	30	
1,2,4-Trichlorobenzene	1.500	0.15	1	0	150	70	130	1.35	10.5	30	S
1,2,4-Trimethylbenzene	1.710	0.15	1	0.67	104	70	130	1.54	10.5	30	
1,2-Dibromoethane	0.9800	0.15	1	0	98.0	70	130	0.93	5.24	30	
1,2-Dichlorobenzene	1.060	0.15	1	0	106	70	130	0.96	9.90	30	
1,2-Dichloroethane	0.9200	0.15	1	0	92.0	70	130	0.92	0	30	
1,2-Dichloropropane	0.9200	0.15	1	0	92.0	70	130	0.92	0	30	
1,3,5-Trimethylbenzene	1.210	0.15	1	0.22	99.0	70	130	1.16	4.22	30	
1,3-butadiene	6.870	0.15	1	0	687	70	130	7.12	3.57	30	S
1,3-Dichlorobenzene	1.120	0.15	1	0	112	70	130	1.05	6.45	30	
1,4-Dichlorobenzene	1.120	0.15	1	0	112	70	130	1.1	1.80	30	
1,4-Dioxane	1.040	0.30	1	0	104	70	130	0.84	21.3	30	
2,2,4-Trimethylpentane	1.360	0.15	1	0.3	106	70	130	1.36	0	30	

Qualifiers: J Results reported are not blank corrected
S Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	C1603053-006A MS	MSD	SampType:	MS	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10790	SeqNo: 126793		
Client ID:	MS-MSD Indoor Air	Batch ID: R10790	TestNo: TO-15				Analysis Date: 3/19/2016				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-ethyltoluene	1.100	0.15	1	0.18	92.0	70	130	1.07	2.76	30	
Acetone	13.31	0.30	1	13.04	27.0	70	130	13.55	1.79	30	S
Allyl chloride	1.030	0.15	1	0	103	70	130	0.92	11.3	30	
Benzene	3.090	0.15	1	2.19	90.0	70	130	3.11	0.645	30	
Benzyl chloride	0.9000	0.15	1	0	90.0	70	130	0.86	4.55	30	
Bromodichloromethane	0.8900	0.15	1	0	89.0	70	130	0.91	2.22	30	
Bromoform	0.7500	0.15	1	0	75.0	70	130	0.74	1.34	30	
Bromomethane	0.9600	0.15	1	0	96.0	70	130	0.94	2.11	30	
Carbon disulfide	1.000	0.15	1	0	100	70	130	0.97	3.05	30	
Carbon tetrachloride	0.9300	0.15	1	0.07	86.0	70	130	0.92	1.08	30	
Chlorobenzene	0.9900	0.15	1	0	99.0	70	130	0.94	5.18	30	
Chloroethane	0.9500	0.15	1	0	95.0	70	130	0.93	2.13	30	
Chloroform	0.9600	0.15	1	0	96.0	70	130	0.95	1.05	30	
Chloromethane	1.440	0.15	1	0.62	82.0	70	130	1.51	4.75	30	
cis-1,2-Dichloroethene	1.110	0.15	1	0	111	70	130	1.07	3.67	30	
cis-1,3-Dichloropropene	0.9800	0.15	1	0	98.0	70	130	0.97	1.03	30	
Cyclohexane	2.010	0.15	1	0.44	157	70	130	2.06	2.46	30	S
Dibromochloromethane	0.8500	0.15	1	0	85.0	70	130	0.85	0	30	
Ethyl acetate	1.090	0.25	1	0.27	82.0	70	130	1.13	3.60	30	
Ethylbenzene	1.360	0.15	1	0.47	89.0	70	130	1.34	1.48	30	
Freon 11	1.120	0.15	1	0.22	90.0	70	130	1.13	0.889	30	
Freon 113	1.030	0.15	1	0	103	70	130	1.07	3.81	30	
Freon 114	0.9500	0.15	1	0	95.0	70	130	0.96	1.05	30	
Freon 12	1.360	0.15	1	0.48	88.0	70	130	1.35	0.738	30	
Heptane	1.290	0.15	1	0.45	84.0	70	130	1.45	11.7	30	
Hexachloro-1,3-butadiene	1.200	0.15	1	0	120	70	130	1.07	11.5	30	
Hexane	3.090	0.15	1	1.93	116	70	130	3.06	0.976	30	
Isopropyl alcohol	3.770	0.15	1	2.97	80.0	70	130	3.71	1.60	30	
m&p-Xylene	3.500	0.30	2	1.67	91.5	70	130	3.48	0.573	30	
Methyl Butyl Ketone	1.080	0.30	1	0	108	70	130	1.07	0.930	30	
Methyl Ethyl Ketone	3.660	0.30	1	3.35	31.0	70	130	3.84	4.80	30	S

Qualifiers: J Results reported are not blank corrected
 S Analyte detected at or below quantitation limits
 R Spike Recovery outside accepted recovery limits
 H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	C1603053-006A MS	SampType: MSD	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10790					
Client ID:	MS-MSD Indoor Air	Batch ID: R10790	TestNo: TO-15		Analysis Date: 3/19/2016	SeqNo: 126793					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl Isobutyl Ketone	1.180	0.30	1	0	118	70	130	0.99	17.5	30	
Methyl tert-butyl ether	0.9800	0.15	1	0	98.0	70	130	0.96	2.06	30	
Methylene chloride	1.500	0.15	1	0.32	118	70	130	1.37	9.06	30	
o-Xylene	1.380	0.15	1	0.58	80.0	70	130	1.38	0	30	
Propylene	7.400	0.15	1	0	740	70	130	7.24	2.19	30	S
Styrene	1.140	0.15	1	0.22	92.0	70	130	1.13	0.881	30	
Tetrachloroethylene	1.960	0.15	1	0.93	103	70	130	1.92	2.06	30	
Tetrahydrofuran	5.230	0.15	1	4.42	81.0	70	130	5.22	0.191	30	
Toluene	4.820	0.15	1	3.19	163	70	130	4.75	1.46	30	S
trans-1,2-Dichloroethene	1.120	0.15	1	0	112	70	130	1.1	1.80	30	
trans-1,3-Dichloropropene	1.040	0.15	1	0	104	70	130	1.02	1.94	30	
Trichloroethene	1.040	0.15	1	0.08	96.0	70	130	1.04	0	30	
Vinyl acetate	1.250	0.15	1	0	125	70	130	1.19	4.92	30	
Vinyl Bromide	0.9700	0.15	1	0	97.0	70	130	0.95	2.08	30	
Vinyl chloride	0.8600	0.15	1	0	86.0	70	130	0.85	0	30	
Surr: Bromofluorobenzene	1.040	0	1	0	104	70	130	0	0	30	

Qualifiers: - Results reported are not blank corrected
 J Analyte detected at or below quantitation limits
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits

Name	Amount	IDL#1	IDL#2	IDL#3	IDL#4	IDL#5	IDL#6	IDL#7	Average	StdDev	%Rec	IDL
Propylene	0.15	0.16	0.15	0.16	0.14	0.16	0.14	0.16	0.153	0.010	98.1	0.030
Freon 12	0.15	0.18	0.17	0.17	0.17	0.18	0.17	0.17	0.173	0.005	86.8	0.015
Chloromethane	0.15	0.19	0.18	0.16	0.18	0.18	0.2	0.17	0.180	0.013	83.3	0.041
Freon 114	0.15	0.18	0.17	0.17	0.17	0.18	0.17	0.18	0.174	0.005	86.1	0.017
Vinyl Chloride	0.15	0.17	0.16	0.16	0.15	0.16	0.15	0.15	0.157	0.008	95.5	0.024
Butane	0.15	0.18	0.16	0.17	0.18	0.18	0.19	0.19	0.179	0.011	84.0	0.034
1,3-butadiene	0.15	0.21	0.2	0.2	0.22	0.17	0.18	0.23	0.201	0.021	74.5	0.066
Bromomethane	0.15	0.18	0.2	0.21	0.18	0.22	0.16	0.21	0.194	0.021	77.2	0.068
Chloroethane	0.15	0.19	0.19	0.16	0.19	0.19	0.18	0.19	0.184	0.011	81.4	0.036
Ethanol	0.15	0.16	0.16	0.18	0.17	0.19	0.18	0.19	0.176	0.013	85.4	0.040
Acrolein	0.15	0.22	0.17	0.19	0.16	0.18	0.21	0.17	0.186	0.022	80.8	0.070
Vinyl Bromide	0.15	0.17	0.15	0.16	0.16	0.17	0.17	0.17	0.164	0.008	91.3	0.025
Freon 11	0.15	0.18	0.17	0.17	0.18	0.19	0.17	0.18	0.177	0.008	84.7	0.024
Acetone	0.15	0.2	0.17	0.18	0.15	0.15	0.18	0.14	0.167	0.021	89.7	0.067
Pentane	0.15	0.18	0.17	0.18	0.16	0.17	0.2	0.16	0.174	0.014	86.1	0.044
Isopropyl alcohol	0.15	0.22	0.2	0.19	0.2	0.19	0.21	0.19	0.200	0.012	75.0	0.036
1,1-dichloroethene	0.15	0.2	0.17	0.19	0.19	0.19	0.18	0.18	0.186	0.010	80.8	0.031
Freon 113	0.15	0.17	0.16	0.18	0.18	0.18	0.17	0.17	0.173	0.008	86.8	0.024
t-Butyl alcohol	0.15	0.21	0.2	0.2	0.21	0.2	0.2	0.18	0.200	0.010	75.0	0.031
Methylene chloride	0.15	0.2	0.18	0.19	0.18	0.2	0.19	0.17	0.187	0.011	80.2	0.035
Allyl chloride	0.15	0.18	0.17	0.16	0.18	0.18	0.2	0.18	0.179	0.012	84.0	0.038
Carbon disulfide	0.15	0.2	0.17	0.19	0.19	0.2	0.18	0.19	0.189	0.011	79.5	0.034
trans-1,2-dichloroethene	0.15	0.15	0.14	0.14	0.14	0.16	0.14	0.15	0.146	0.008	102.9	0.025
methyl tert-butyl ether	0.15	0.14	0.14	0.14	0.13	0.15	0.14	0.13	0.139	0.007	108.2	0.022
1,1-dichloroethane	0.15	0.17	0.15	0.16	0.15	0.17	0.16	0.16	0.160	0.008	93.8	0.026
Vinyl acetate	0.15	0.14	0.13	0.14	0.13	0.13	0.13	0.12	0.131	0.007	114.1	0.022
Methyl Ethyl Ketone	0.15	0.17	0.17	0.16	0.16	0.15	0.13	0.12	0.151	0.020	99.1	0.061
cis-1,2-dichloroethene	0.15	0.15	0.14	0.16	0.15	0.16	0.15	0.14	0.150	0.008	100.0	0.026
Hexane	0.15	0.12	0.14	0.13	0.13	0.13	0.12	0.12	0.127	0.008	118.0	0.024
Ethyl acetate	0.15	0.16	0.17	0.14	0.15	0.14	0.16	0.13	0.150	0.014	100.0	0.044
Chloroform	0.15	0.16	0.16	0.16	0.16	0.17	0.16	0.17	0.163	0.005	92.1	0.015
Tetrahydrofuran	0.15	0.15	0.13	0.15	0.15	0.15	0.15	0.14	0.146	0.008	102.9	0.025
1,2-dichloroethane	0.15	0.16	0.15	0.16	0.16	0.17	0.16	0.17	0.161	0.007	92.9	0.022
1,1,1-trichloroethane	0.15	0.17	0.16	0.17	0.17	0.16	0.17	0.17	0.167	0.005	89.7	0.015
Cyclohexane	0.15	0.14	0.14	0.14	0.15	0.15	0.14	0.14	0.143	0.005	105.0	0.015
Carbon tetrachloride	0.15	0.13	0.15	0.15	0.15	0.15	0.15	0.16	0.149	0.009	101.0	0.028
Benzene	0.15	0.15	0.16	0.16	0.15	0.16	0.16	0.16	0.157	0.005	95.5	0.015
Methyl methacrylate	0.15	0.15	0.15	0.14	0.14	0.14	0.15	0.11	0.140	0.014	107.1	0.044
1,4-dioxane	0.15	0.18	0.18	0.19	0.18	0.15	0.17	0.12	0.167	0.024	89.7	0.076

Confidential

1/8/2016

Centek Laboratories
IDL Study1ug/M3 Detection Limit
January 2016Method TO-15A
Units=ppb

Name	Amount	IDL#1	IDL#2	IDL#3	IDL#4	IDL#5	IDL#6	IDL#7	Average	StdDev	%Rec	IDL
2,2,4-trimethylpentane	0.15	0.15	0.15	0.15	0.16	0.14	0.16	0.15	0.151	0.007	99.1	0.022
Heptane	0.15	0.12	0.13	0.13	0.12	0.13	0.13	0.13	0.127	0.005	118.0	0.015
Trichloroethene	0.15	0.14	0.15	0.14	0.15	0.15	0.14	0.15	0.146	0.005	102.9	0.017
1,2-dichloropropane	0.15	0.16	0.17	0.17	0.16	0.17	0.16	0.16	0.164	0.005	91.3	0.017
Bromodichloromethane	0.15	0.16	0.16	0.16	0.15	0.16	0.17	0.16	0.160	0.006	93.8	0.018
cis-1,3-dichloropropene	0.15	0.13	0.13	0.14	0.14	0.13	0.13	0.13	0.133	0.005	112.9	0.015
trans-1,3-dichloropropene	0.15	0.16	0.13	0.13	0.14	0.14	0.14	0.16	0.143	0.013	105.0	0.039
1,1,2-trichloroethane	0.15	0.16	0.15	0.16	0.15	0.16	0.18	0.17	0.161	0.011	92.9	0.034
Toluene	0.15	0.14	0.14	0.14	0.13	0.16	0.14	0.15	0.143	0.010	105.0	0.030
Methyl Isobutyl Ketone	0.15	0.18	0.18	0.18	0.18	0.16	0.18	0.15	0.173	0.013	86.8	0.039
Dibromochloromethane	0.15	0.16	0.16	0.17	0.18	0.16	0.17	0.18	0.169	0.009	89.0	0.028
Methyl Butyl Ketone	0.15	0.17	0.16	0.18	0.17	0.16	0.17	0.14	0.164	0.013	91.3	0.040
1,2-dibromoethane	0.15	0.16	0.17	0.16	0.16	0.16	0.16	0.17	0.163	0.005	92.1	0.015
Tetrachloroethylene	0.15	0.16	0.17	0.16	0.16	0.16	0.17	0.17	0.164	0.005	91.3	0.017
Chlorobenzene	0.15	0.16	0.16	0.16	0.17	0.15	0.17	0.17	0.163	0.008	92.1	0.024
1,1,1,2-tetrachloroethane	0.15	0.17	0.17	0.17	0.18	0.16	0.18	0.17	0.171	0.007	87.5	0.022
Ethylbenzene	0.15	0.13	0.14	0.14	0.14	0.12	0.14	0.13	0.134	0.008	111.7	0.025
m&p-xylene	0.15	0.25	0.25	0.25	0.23	0.25	0.25	0.25	0.247	0.008	121.4	0.024
Nonane	0.15	0.11	0.11	0.11	0.11	0.1	0.1	0.11	0.107	0.005	140.0	0.015
Styrene	0.15	0.12	0.13	0.13	0.11	0.12	0.13	0.12	0.123	0.008	122.1	0.024
Bromoform	0.15	0.15	0.15	0.16	0.15	0.15	0.17	0.16	0.156	0.008	96.3	0.025
o-xylene	0.15	0.11	0.12	0.12	0.14	0.14	0.12	0.11	0.123	0.013	122.1	0.039
Cumene	0.15	0.12	0.13	0.13	0.12	0.13	0.13	0.13	0.127	0.005	118.0	0.015
Bromofluorobenzene	1	0.88	0.9	0.9	0.87	0.89	0.89	0.9	0.890	0.012	112.4	0.036
1,1,2,2-tetrachloroethane	0.15	0.16	0.16	0.17	0.16	0.17	0.17	0.16	0.164	0.005	91.3	0.017
Propylbenzene	0.15	0.13	0.12	0.13	0.13	0.11	0.13	0.11	0.123	0.010	122.1	0.030
2-Chlorotoluene	0.15	0.13	0.13	0.13	0.14	0.13	0.12	0.13	0.130	0.006	115.4	0.018
4-ethyltoluene	0.15	0.11	0.12	0.12	0.12	0.13	0.13	0.11	0.120	0.008	125.0	0.026
1,3,5-trimethylbenzene	0.15	0.12	0.13	0.14	0.12	0.13	0.13	0.13	0.129	0.007	116.7	0.022
1,2,4-trimethylbenzene	0.15	0.12	0.13	0.12	0.12	0.13	0.12	0.12	0.123	0.005	122.1	0.015
1,3-dichlorobenzene	0.15	0.14	0.14	0.14	0.13	0.14	0.13	0.14	0.137	0.005	109.4	0.015
benzyl chloride	0.15	0.13	0.16	0.13	0.15	0.13	0.15	0.16	0.144	0.014	104.0	0.044
1,4-dichlorobenzene	0.15	0.13	0.11	0.12	0.12	0.12	0.12	0.13	0.121	0.007	123.5	0.022
1,2,3-trimethylbenzene	0.15	0.12	0.11	0.12	0.12	0.12	0.11	0.11	0.116	0.005	129.6	0.017
1,2-dichlorobenzene	0.15	0.13	0.14	0.14	0.14	0.14	0.14	0.13	0.137	0.005	109.4	0.015
1,2,4-trichlorobenzene	0.15	0.1	0.11	0.1	0.11	0.11	0.12	0.1	0.107	0.008	140.0	0.024
Naphthalene	0.15	0.13	0.13	0.14	0.11	0.12	0.14	0.12	0.127	0.011	118.0	0.035
Hexachloro-1,3-butadiene	0.15	0.16	0.17	0.17	0.17	0.16	0.16	0.16	0.164	0.005	91.3	0.017

Confidential

1/8/2016

Centek Laboratories
IDL Study0.25ug/M3 Detection Limit
January 2016Method TO-15A
Units=ppb

Name	Amount	IDL#1	IDL#2	IDL#3	IDL#4	IDL#5	IDL#6	IDL#7	Average	StdDev	%Rec	IDL
Vinyl Chloride	0.1	0.11	0.11	0.09	0.09	0.1	0.09	0.1	0.099	0.009	101.4	0.028
Carbon tetrachloride	0.1	0.1	0.11	0.08	0.09	0.09	0.09	0.09	0.093	0.010	107.7	0.030
Trichloroethene	0.1	0.1	0.1	0.07	0.08	0.08	0.08	0.08	0.084	0.011	118.6	0.036
Tetrachloroethylene	0.1	0.11	0.12	0.09	0.09	0.1	0.09	0.09	0.099	0.012	101.4	0.038
Naphthalene	0.1	0.09	0.08	0.07	0.06	0.06	0.07	0.06	0.070	0.012	142.9	0.036

Confidential

1/15/2016

GC/MS-Whole Air Calculations

Relative Response Factor (RRF)

$$RRF = \frac{A_x * C_{is}}{A_{is} * C_x}$$

where: A_x = area of the characteristic ion for the compound being measured
 A_{is} = area of the characteristic ion for the specific internal standard of the compound being measured
 C_x = concentration of the compound being measured (ppbv)
 C_{is} = concentration of the internal standard (ppbv)

Percent Relative Standard Deviation (%RSD)

$$\% RSD = \frac{\text{Standard deviation of RRF values} * 100}{\text{mean RRF}}$$

Percent Difference (%D)

$$\% D = \frac{(RRF_c - \text{mean RRF}_i) * 100}{\text{mean RRF}_i}$$

where: RRF_c = relative response factor from the continuing calibration
 mean RRF_i = mean relative response factor from the initial calibration

Sample Calculations

$$\text{ppbv} = \frac{A_x * I_s * D_f}{A_{is} * RRF}$$

where: A_x = area of the characteristic ion for the compound being measured
 A_{is} = area of the characteristic ion for the specific internal standard of the compound being measured
 I_s = Concentration of the internal standard injected (ppbv)
 RRF = relative response factor for the compound being measured
 D_f = Dilution factor

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

SAMPLE DATA

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-001A

Client Sample ID: Outdoor Air #1
 Tag Number: 171.145
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		Analyst:		
Lab Vacuum In	-6			"Hg		3/18/2016
Lab Vacuum Out	-30			"Hg		3/18/2016
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,2,4-Trimethylbenzene	0.45	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,3,5-Trimethylbenzene	0.21	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,3-butadiene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
1,4-Dioxane	< 0.30	0.30		ppbV	1	3/19/2016 5:08:00 PM
2,2,4-trimethylpentane	0.32	0.15		ppbV	1	3/19/2016 5:08:00 PM
4-ethyltoluene	0.13	0.15	J	ppbV	1	3/19/2016 5:08:00 PM
Acetone	8.8	3.0		ppbV	10	3/19/2016 11:32:00 PM
Allyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Benzene	0.57	0.15		ppbV	1	3/19/2016 5:08:00 PM
Benzyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Bromodichloromethane	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Bromoform	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Bromomethane	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Carbon disulfide	0.10	0.15	J	ppbV	1	3/19/2016 5:08:00 PM
Carbon tetrachloride	0.070	0.15	J	ppbV	1	3/19/2016 5:08:00 PM
Chlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Chloroform	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Chloromethane	0.45	0.15		ppbV	1	3/19/2016 5:08:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Cyclohexane	1.2	0.15		ppbV	1	3/19/2016 5:08:00 PM
Dibromochloromethane	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Ethyl acetate	0.31	0.25		ppbV	1	3/19/2016 5:08:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-001A

Client Sample ID: Outdoor Air #1
 Tag Number: 171.145
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
Ethylbenzene	0.34	0.15		ppbV	1	3/19/2016 5:08:00 PM
Freon 11	0.22	0.15		ppbV	1	3/19/2016 5:08:00 PM
Freon 113	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Freon 114	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Freon 12	0.48	0.15		ppbV	1	3/19/2016 5:08:00 PM
Heptane	0.22	0.15		ppbV	1	3/19/2016 5:08:00 PM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Hexane	0.75	0.15		ppbV	1	3/19/2016 5:08:00 PM
Isopropyl alcohol	1.6	0.15		ppbV	1	3/19/2016 5:08:00 PM
m&p-Xylene	1.1	0.30		ppbV	1	3/19/2016 5:08:00 PM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	3/19/2016 5:08:00 PM
Methyl Ethyl Ketone	1.4	0.30		ppbV	1	3/19/2016 5:08:00 PM
Methyl Isobutyl Ketone	0.38	0.30		ppbV	1	3/19/2016 5:08:00 PM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Methylene chloride	0.54	0.15		ppbV	1	3/19/2016 5:08:00 PM
o-Xylene	0.43	0.15		ppbV	1	3/19/2016 5:08:00 PM
Propylene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Styrene	0.22	0.15		ppbV	1	3/19/2016 5:08:00 PM
Tetrachloroethylene	0.79	0.15		ppbV	1	3/19/2016 5:08:00 PM
Tetrahydrofuran	0.34	0.15		ppbV	1	3/19/2016 5:08:00 PM
Toluene	2.6	1.5		ppbV	10	3/19/2016 11:32:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Trichloroethene	0.050	0.15	J	ppbV	1	3/19/2016 5:08:00 PM
Vinyl acetate	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Vinyl Bromide	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Vinyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 5:08:00 PM
Surr: Bromofluorobenzene	124	70-130		%REC	1	3/19/2016 5:08:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-001A

Client Sample ID: Outdoor Air #1
 Tag Number: 171.145
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15			TO-15		Analyst: RJP	
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/19/2016 5:08:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	3/19/2016 5:08:00 PM
1,1,2-Trichloroethane	< 0.82	0.82		ug/m3	1	3/19/2016 5:08:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/19/2016 5:08:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 5:08:00 PM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	3/19/2016 5:08:00 PM
1,2,4-Trimethylbenzene	2.2	0.74		ug/m3	1	3/19/2016 5:08:00 PM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	3/19/2016 5:08:00 PM
1,2-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 5:08:00 PM
1,2-Dichloroethane	< 0.61	0.61		ug/m3	1	3/19/2016 5:08:00 PM
1,2-Dichloropropane	< 0.69	0.69		ug/m3	1	3/19/2016 5:08:00 PM
1,3,5-Trimethylbenzene	1.0	0.74		ug/m3	1	3/19/2016 5:08:00 PM
1,3-butadiene	< 0.33	0.33		ug/m3	1	3/19/2016 5:08:00 PM
1,3-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 5:08:00 PM
1,4-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 5:08:00 PM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	3/19/2016 5:08:00 PM
2,2,4-trimethylpentane	1.5	0.70		ug/m3	1	3/19/2016 5:08:00 PM
4-ethyltoluene	0.64	0.74	J	ug/m3	1	3/19/2016 5:08:00 PM
Acetone	21	7.1		ug/m3	10	3/19/2016 11:32:00 PM
Allyl chloride	< 0.47	0.47		ug/m3	1	3/19/2016 5:08:00 PM
Benzene	1.8	0.48		ug/m3	1	3/19/2016 5:08:00 PM
Benzyl chloride	< 0.86	0.86		ug/m3	1	3/19/2016 5:08:00 PM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	3/19/2016 5:08:00 PM
Bromoform	< 1.6	1.6		ug/m3	1	3/19/2016 5:08:00 PM
Bromomethane	< 0.58	0.58		ug/m3	1	3/19/2016 5:08:00 PM
Carbon disulfide	0.31	0.47	J	ug/m3	1	3/19/2016 5:08:00 PM
Carbon tetrachloride	0.44	0.94	J	ug/m3	1	3/19/2016 5:08:00 PM
Chlorobenzene	< 0.69	0.69		ug/m3	1	3/19/2016 5:08:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/19/2016 5:08:00 PM
Chloroform	< 0.73	0.73		ug/m3	1	3/19/2016 5:08:00 PM
Chloromethane	0.93	0.31		ug/m3	1	3/19/2016 5:08:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 5:08:00 PM
cis-1,3-Dichloropropene	< 0.68	0.68		ug/m3	1	3/19/2016 5:08:00 PM
Cyclohexane	4.1	0.52		ug/m3	1	3/19/2016 5:08:00 PM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	3/19/2016 5:08:00 PM
Ethyl acetate	1.1	0.90		ug/m3	1	3/19/2016 5:08:00 PM
Ethylbenzene	1.5	0.65		ug/m3	1	3/19/2016 5:08:00 PM
Freon 11	1.2	0.84		ug/m3	1	3/19/2016 5:08:00 PM
Freon 113	< 1.1	1.1		ug/m3	1	3/19/2016 5:08:00 PM
Freon 114	< 1.0	1.0		ug/m3	1	3/19/2016 5:08:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Page 1 of 12

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-001A

Client Sample ID: Outdoor Air #1
 Tag Number: 171.145
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
Freon 12	2.4	0.74		ug/m3	1	3/19/2016 5:08:00 PM
Heptane	0.90	0.61		ug/m3	1	3/19/2016 5:08:00 PM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	3/19/2016 5:08:00 PM
Hexane	2.6	0.53		ug/m3	1	3/19/2016 5:08:00 PM
Isopropyl alcohol	4.0	0.37		ug/m3	1	3/19/2016 5:08:00 PM
m&p-Xylene	4.9	1.3		ug/m3	1	3/19/2016 5:08:00 PM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	3/19/2016 5:08:00 PM
Methyl Ethyl Ketone	4.2	0.88		ug/m3	1	3/19/2016 5:08:00 PM
Methyl Isobutyl Ketone	1.6	1.2		ug/m3	1	3/19/2016 5:08:00 PM
Methyl tert-butyl ether	< 0.54	0.54		ug/m3	1	3/19/2016 5:08:00 PM
Methylene chloride	1.9	0.52		ug/m3	1	3/19/2016 5:08:00 PM
o-Xylene	1.9	0.65		ug/m3	1	3/19/2016 5:08:00 PM
Propylene	< 0.26	0.26		ug/m3	1	3/19/2016 5:08:00 PM
Styrene	0.94	0.64		ug/m3	1	3/19/2016 5:08:00 PM
Tetrachloroethylene	5.4	1.0		ug/m3	1	3/19/2016 5:08:00 PM
Tetrahydrofuran	1.0	0.44		ug/m3	1	3/19/2016 5:08:00 PM
Toluene	9.8	5.7		ug/m3	10	3/19/2016 11:32:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 5:08:00 PM
trans-1,3-Dichloropropene	< 0.68	0.68		ug/m3	1	3/19/2016 5:08:00 PM
Trichloroethene	0.27	0.81	J	ug/m3	1	3/19/2016 5:08:00 PM
Vinyl acetate	< 0.53	0.53		ug/m3	1	3/19/2016 5:08:00 PM
Vinyl Bromide	< 0.66	0.66		ug/m3	1	3/19/2016 5:08:00 PM
Vinyl chloride	< 0.38	0.38		ug/m3	1	3/19/2016 5:08:00 PM

Qualifiers:	**	Reporting Limit	,	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Page 2 of 12

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031911.D
 Acq On : 19 Mar 2016 5:08 pm
 Sample : C1603053-001A
 Misc : A316_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 20 12:45:39 2016

Vial: 11
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Thu Mar 17 10:24:27 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.78	128	36674	1.00	ppb	-0.03
35) 1,4-difluorobenzene	12.05	114	115072	1.00	ppb	-0.01
50) Chlorobenzene-d5	16.55	117	65600	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.13	95	52364	1.24	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	124.00%

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
3) Freon 12	4.18	85	74738	0.48	ppb	99
4) Chloromethane	4.39	50	18397	0.45	ppb	93
14) Freon 11	5.79	101	35064	0.22	ppb	95
15) Acetone	6.00	58	132500	8.37	ppb	# 1
17) Isopropyl alcohol	6.12	45	83606	1.62	ppb	# 46
21) Methylene chloride	7.03	84	22101	0.54	ppb	98
23) Carbon disulfide	7.18	76	12767	0.10	ppb	# 72
28) Methyl Ethyl Ketone	8.91	72	24006m (m)	1.42	ppb	
30) Hexane	8.89	57	35973	0.75	ppb	# 76
31) Ethyl acetate	9.51	43	20337	0.31	ppb	98
33) Tetrahydrofuran	10.14	42	10344	0.34	ppb	82
37) Cyclohexane	11.43	56	52845	1.19	ppb	# 69
38) Carbon tetrachloride	11.38	117	7972	0.07	ppb	98
39) Benzene	11.35	78	54809	0.57	ppb	96
42) 2,2,4-trimethylpentane	12.18	57	52861	0.32	ppb	# 42
43) Heptane	12.52	43	8716m (m)	0.22	ppb	
44) Trichloroethene	12.67	130	2348	0.05	ppb	89
51) Toluene	14.66	92	153436	3.45	ppb	99
52) Methyl Isobutyl Ketone	13.82	43	29910	0.38	ppb	95
56) Tetrachloroethylene	15.65	164	33637	0.79	ppb	99
59) Ethylbenzene	16.84	91	26330	0.34	ppb	98
60) m&p-xylene	17.01	91	68928	1.14	ppb	94
62) Styrene	17.45	104	9150	0.22	ppb	93
64) o-xylene	17.48	91	31204	0.43	ppb	87
70) 4-ethyltoluene	18.69	105	10406m (m)	0.13	ppb	
71) 1,3,5-trimethylbenzene	18.74	105	19298m (m)	0.21	ppb	
72) 1,2,4-trimethylbenzene	19.18	105	35948	0.45	ppb	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN031911.D A316_1UG.M Thu Apr 07 13:08:56 2016 MSD1

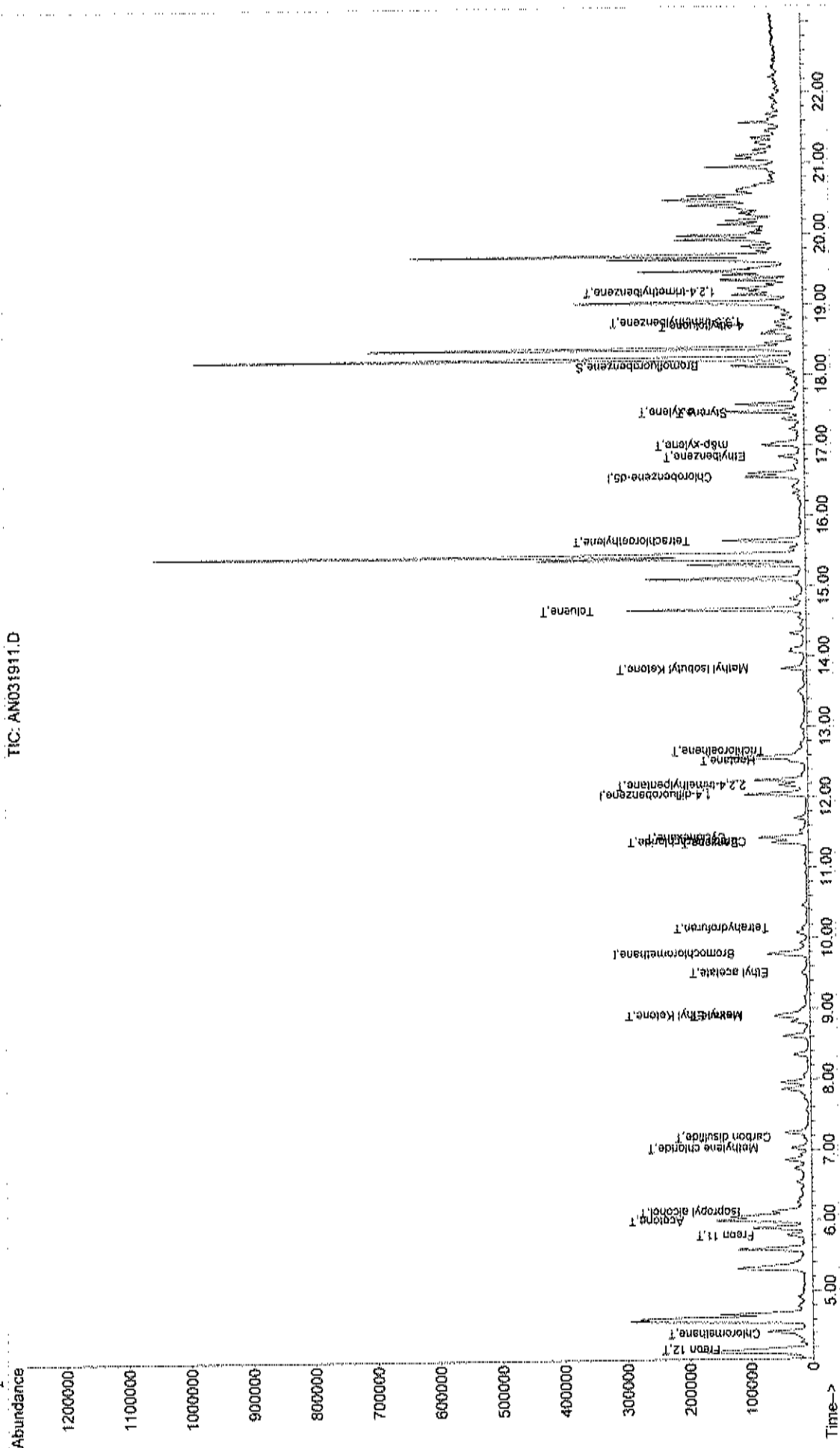
Data File : C:\HPCHEM\1\DATA\AN031911.D
Acq On : 19 Mar 2016 5:08 pm
Sample : C1603053-001A
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 23 16:25 2016

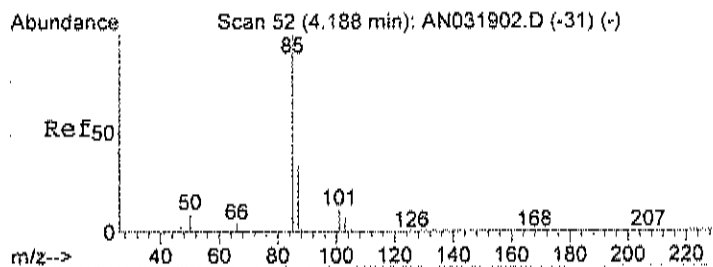
Vial: 11
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration

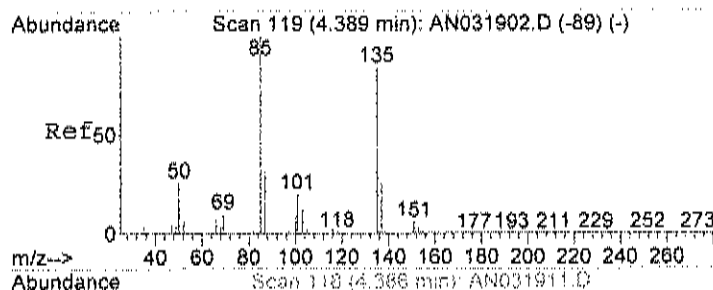
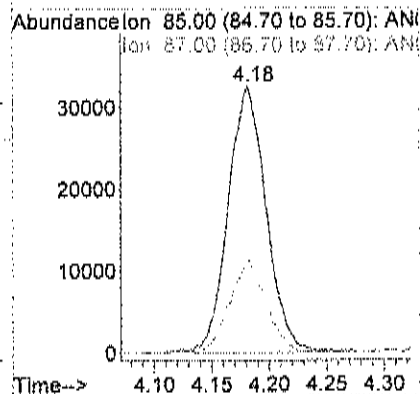
TIC: AN031911.D





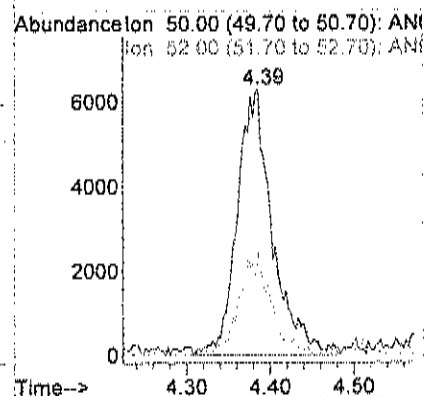
#3
Freon 12
Concen: 0.48 ppb
RT: 4.18 min Scan# 50
Delta R.T. -0.01 min
Lab File: AN031911.D
Acq: 19 Mar 2016 5:08 pm

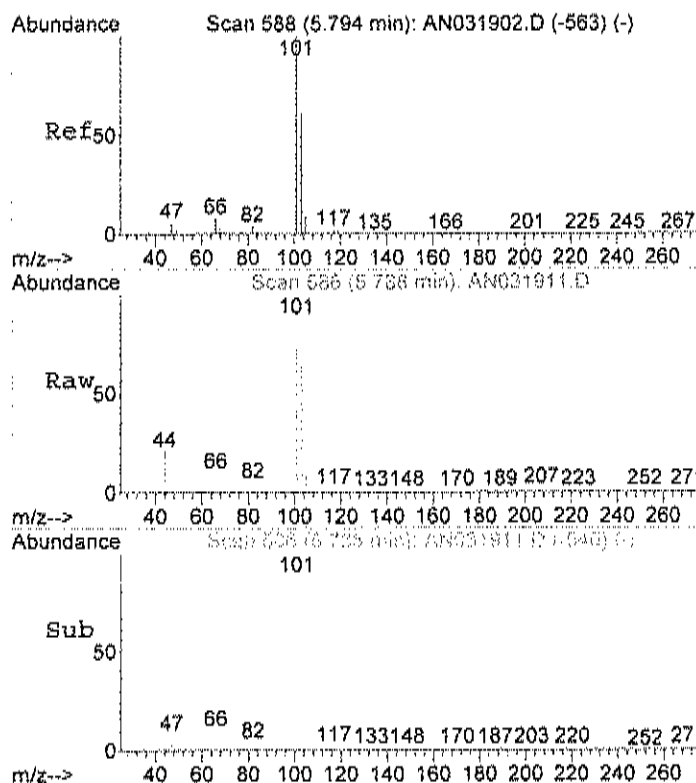
Tgt Ion: 85 Resp: 74738
Ion Ratio Lower Upper
85 100
87 32.9 12.5 52.5



#4
Chloromethane
Concen: 0.45 ppb
RT: 4.39 min Scan# 118
Delta R.T. -0.01 min
Lab File: AN031911.D
Acq: 19 Mar 2016 5:08 pm

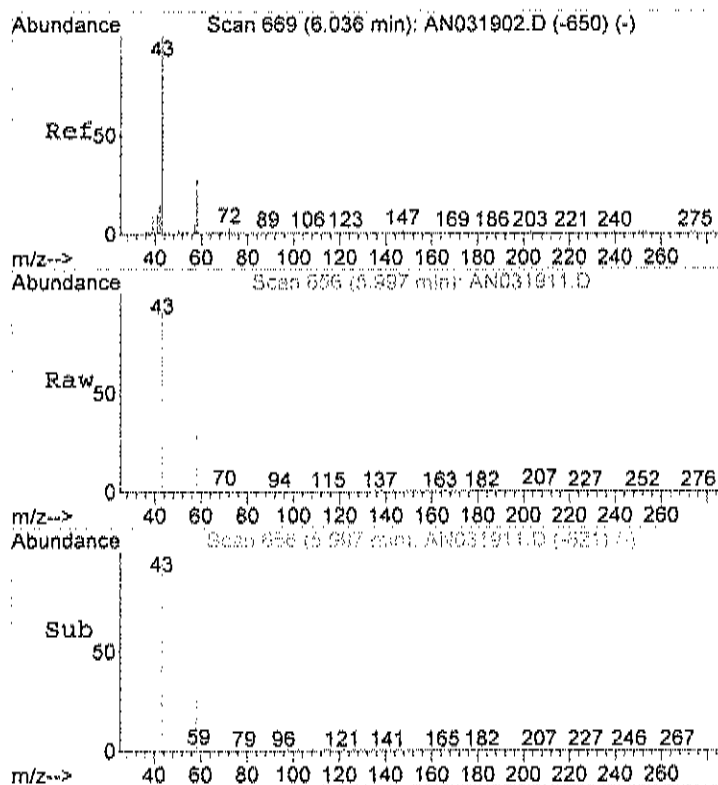
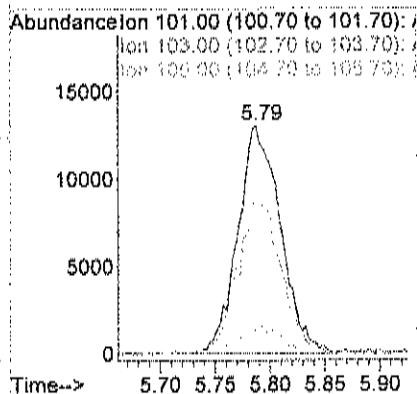
Tgt Ion: 50 Resp: 18397
Ion Ratio Lower Upper
50 100
52 33.1 9.2 49.2





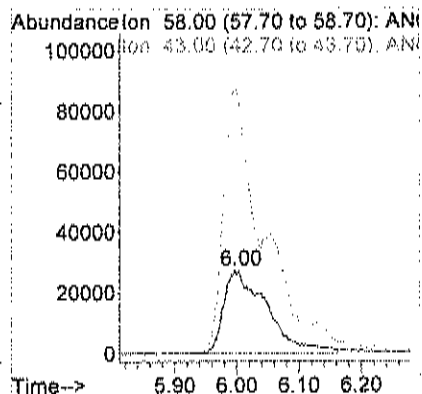
#14
Freon 11
Concen: 0.22 ppb
RT: 5.79 min Scan# 586
Delta R.T. -0.01 min
Lab File: AN031911.D
Acq: 19 Mar 2016 5:08 pm

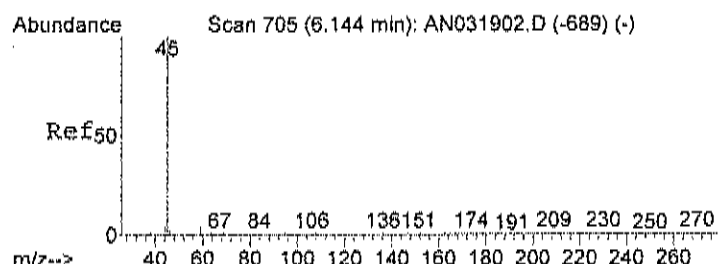
Tgt Ion	101	Resp	35064
Ion	Ratio	Lower	Upper
101	100		
103	69.2	44.6	84.6
105	13.0	0.0	31.6



#15
Acetone
Concen: 8.37 ppb
RT: 6.00 min Scan# 656
Delta R.T. -0.04 min
Lab File: AN031911.D
Acq: 19 Mar 2016 5:08 pm

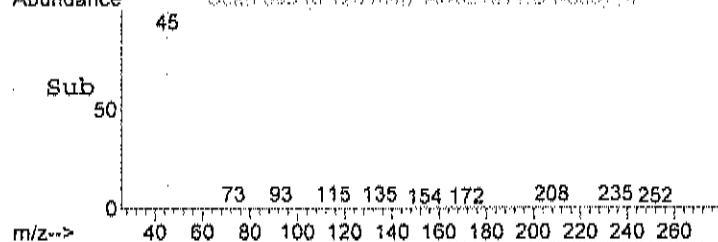
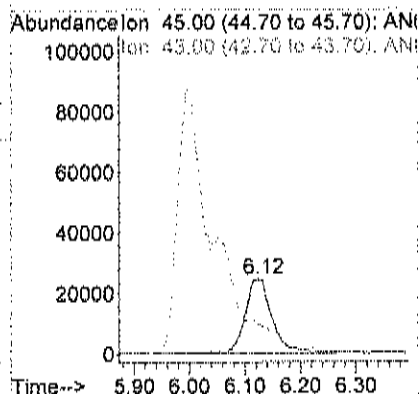
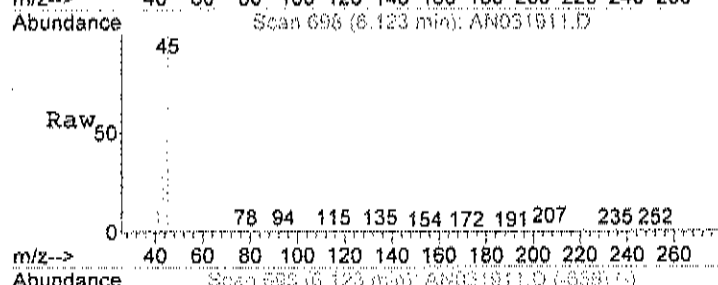
Tgt Ion	58	Resp	132500
Ion	Ratio	Lower	Upper
58	100		
43	294.5	661.8	721.8#





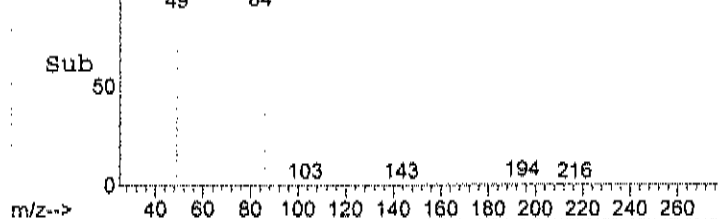
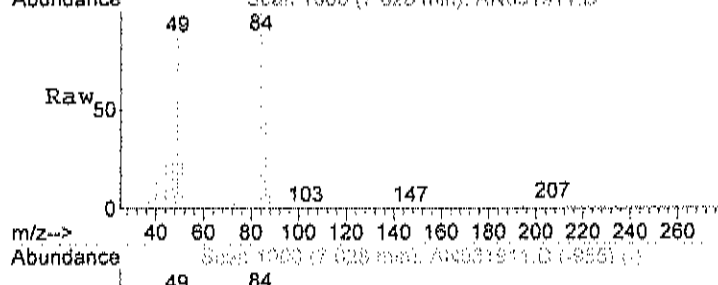
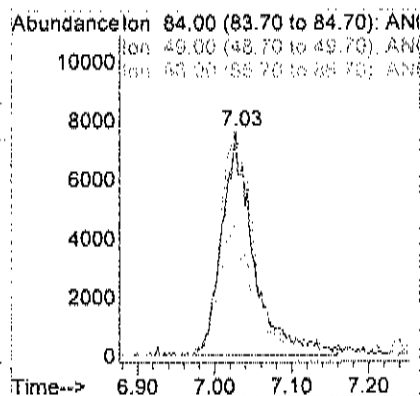
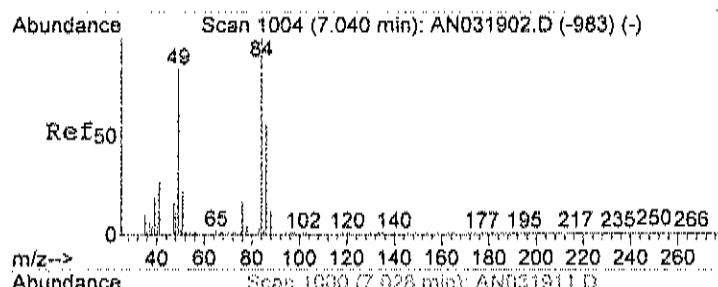
#17
Isopropyl alcohol
Concen: 1.62 ppb
RT: 6.12 min Scan# 698
Delta R.T. -0.02 min
Lab File: AN031911.D
Acq: 19 Mar 2016 5:08 pm

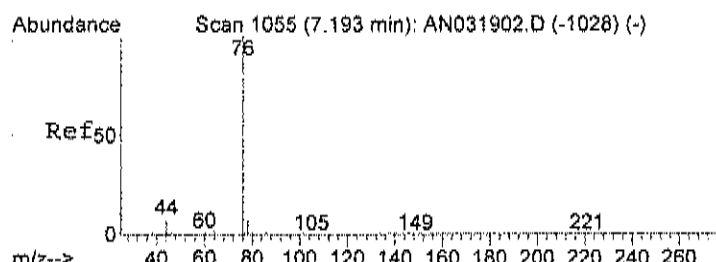
Tgt Ion	Ratio	Lower	Upper
45	100		
43	0.0	8.9	48.9#



#21
Methylene chloride
Concen: 0.54 ppb
RT: 7.03 min Scan# 1000
Delta R.T. -0.01 min
Lab File: AN031911.D
Acq: 19 Mar 2016 5:08 pm

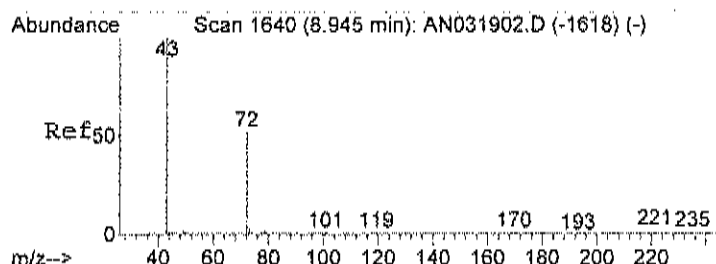
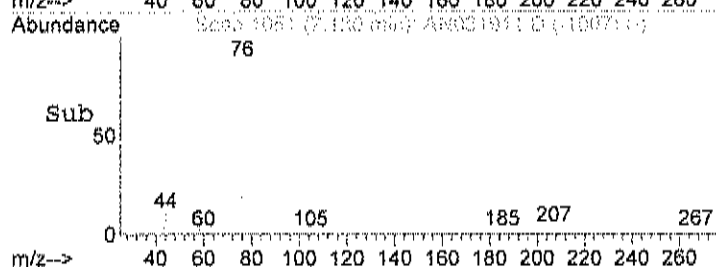
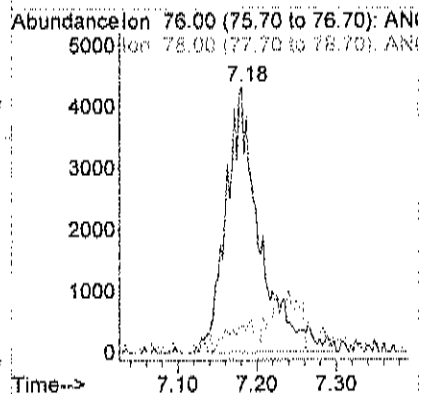
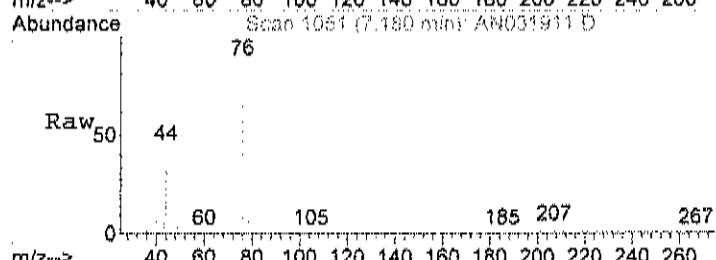
Tgt Ion	Ratio	Lower	Upper
84	100		
49	111.0	87.8	127.8
86	63.8	43.1	83.1





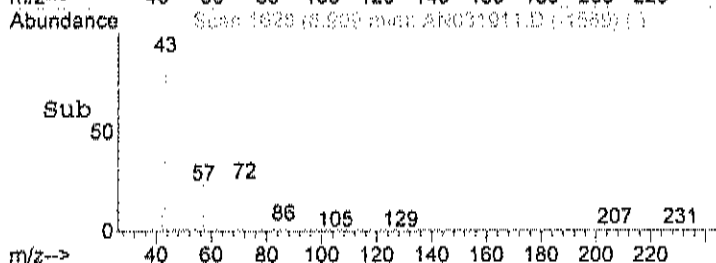
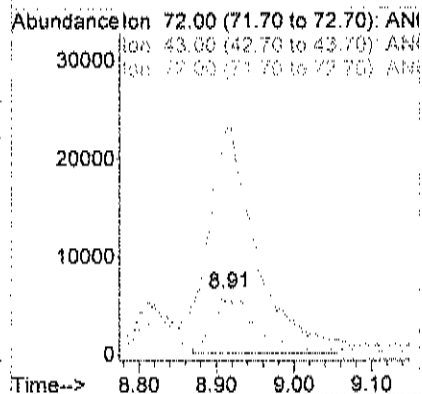
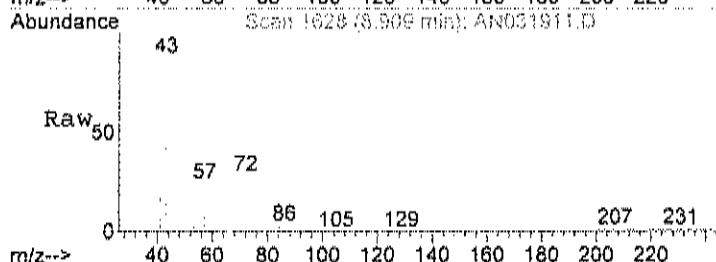
#23
Carbon disulfide
Concen: 0.10 ppb
RT: 7.18 min Scan# 1051
Delta R.T. -0.02 min
Lab File: AN031911.D
Acq: 19 Mar 2016 5:08 pm

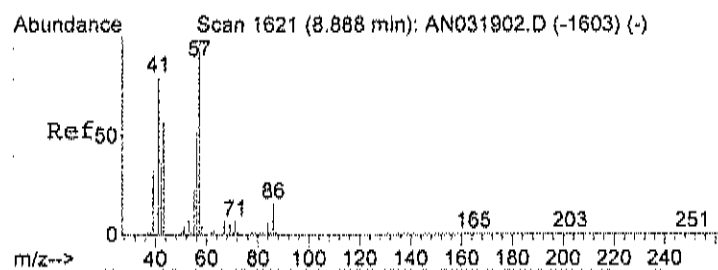
Tgt Ion	76	Resp	12767
Ion	Ratio	Lower	Upper
76	100		
78	0.0	0.0	30.3



#28
Methyl Ethyl Ketone
Concen: 1.42 ppb m
RT: 8.91 min Scan# 1628
Delta R.T. -0.03 min
Lab File: AN031911.D
Acq: 19 Mar 2016 5:08 pm

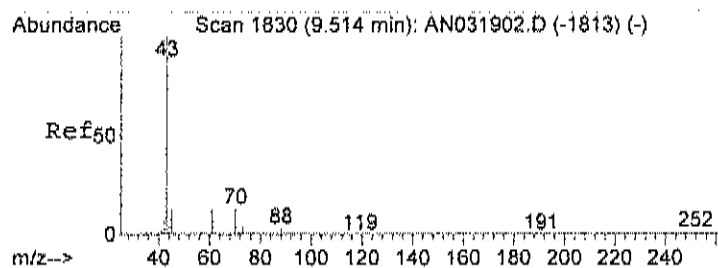
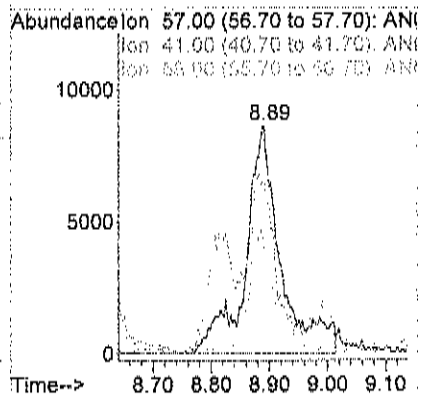
Tgt Ion	72	Resp	24006
Ion	Ratio	Lower	Upper
72	100		
43	420.0	0.0	20.0#
72	135.5	80.0	120.0#





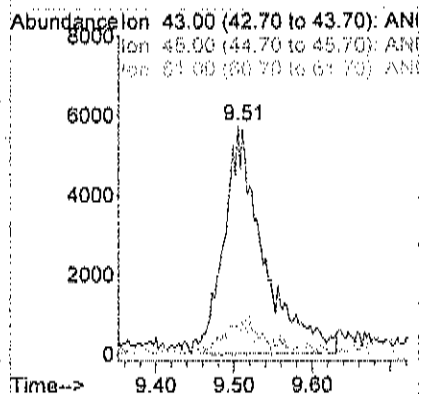
#30
Hexane
Concen: 0.75 ppb
RT: 8.89 min Scan# 1622
Delta R.T. -0.01 min
Lab File: AN031911.D
Acq: 19 Mar 2016 5:08 pm

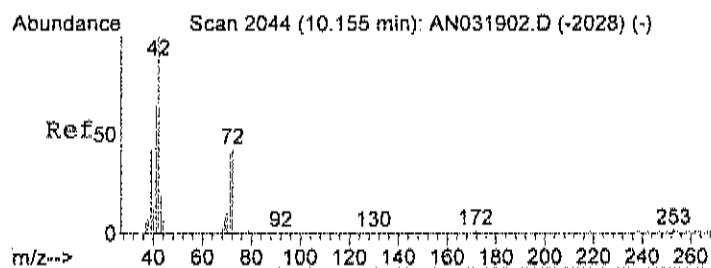
Tgt Ion	57	Resp	35973
Ion	Ratio	Lower	Upper
57	100		
41	112.2	66.6	106.6#
56	37.8	30.6	70.6



#31
Ethyl acetate
Concen: 0.31 ppb
RT: 9.51 min Scan# 1827
Delta R.T. -0.02 min
Lab File: AN031911.D
Acq: 19 Mar 2016 5:08 pm

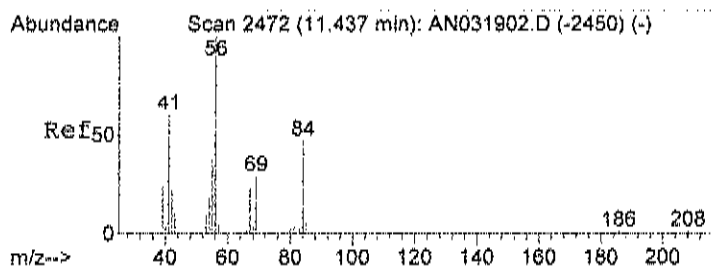
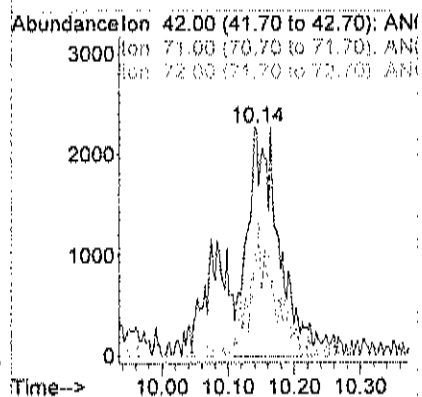
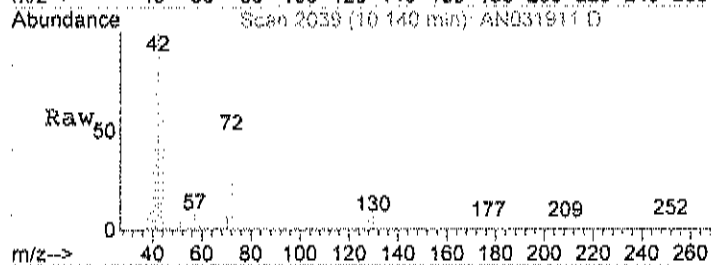
Tgt Ion	43	Resp	20337
Ion	Ratio	Lower	Upper
43	100		
45	14.8	0.0	33.8
61	12.9	0.0	33.3





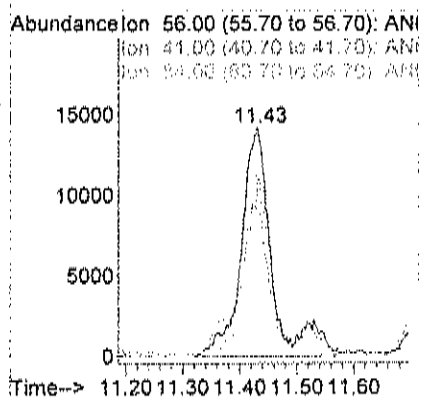
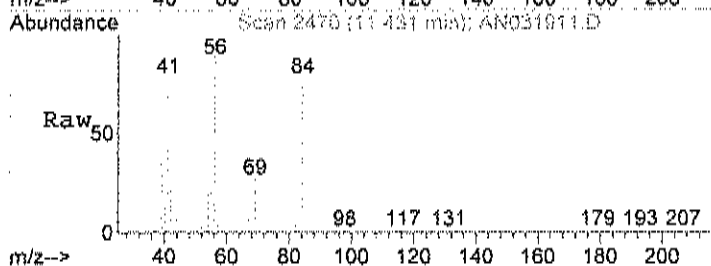
#33
Tetrahydrofuran
Concen: 0.34 ppb
RT: 10.14 min Scan# 2039
Delta R.T. -0.01 min
Lab File: AN031911.D
Acq: 19 Mar 2016 5:08 pm

Tgt Ion	42	Resp	10344
Ion	Ratio	Lower	Upper
42	100		
71	26.0	20.0	60.0
72	31.2	19.1	59.1

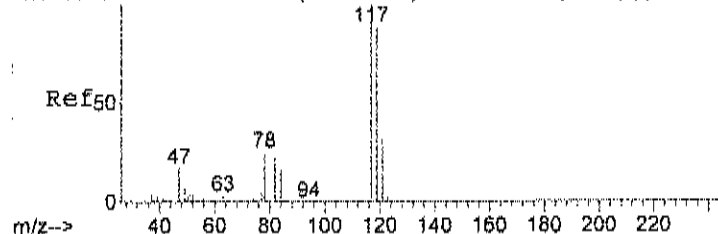


#37
Cyclohexane
Concen: 1.19 ppb
RT: 11.43 min Scan# 2470
Delta R.T. -0.01 min
Lab File: AN031911.D
Acq: 19 Mar 2016 5:08 pm

Tgt Ion	56	Resp	52845
Ion	Ratio	Lower	Upper
56	100		
41	76.6	47.3	87.3
84	63.2	88.1	128.1#



Abundance Scan 2456 (11.389 min): AN031902.D (-2430) (-)



#38

Carbon tetrachloride

Concen: 0.07 ppb

RT: 11.38 min Scan# 2454

Delta R.T. -0.00 min

Lab File: AN031911.D

Acq: 19 Mar 2016 5:08 pm

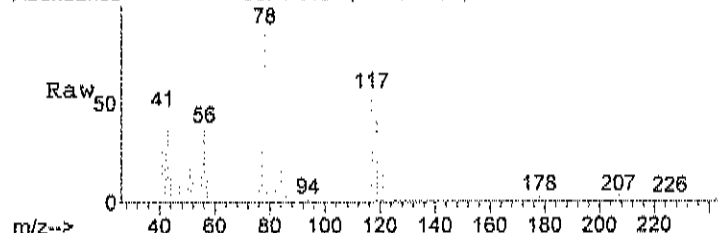
Tgt Ion: 117 Resp: 7972

Ion Ratio Lower Upper

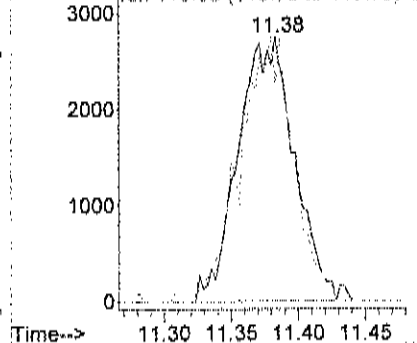
117 100

119 96.0 74.5 114.5

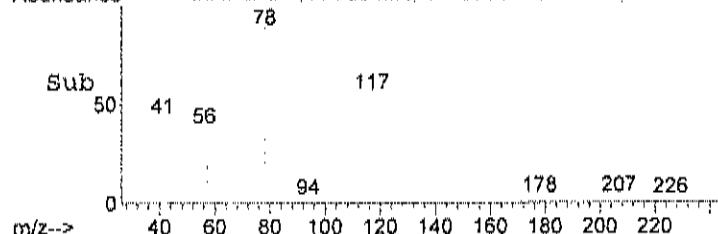
Abundance Scan 2454 (11.383 min): AN031911.D



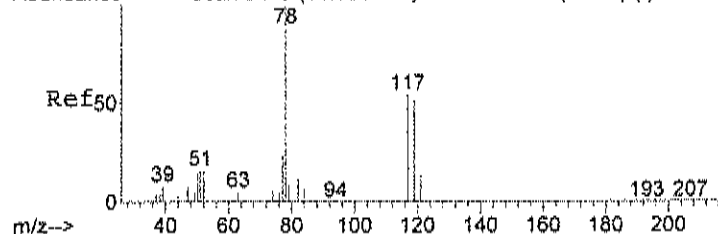
Abundance Ion 117.00 (116.70 to 117.70): AN031911.D



Abundance Scan 2454 (11.383 min): AN031911.D (-2400) (-)



Abundance Scan 2445 (11.356 min): AN031902.D (-2424) (-)



#39

Benzene

Concen: 0.57 ppb

RT: 11.35 min Scan# 2444

Delta R.T. -0.01 min

Lab File: AN031911.D

Acq: 19 Mar 2016 5:08 pm

Tgt Ion: 78 Resp: 54809

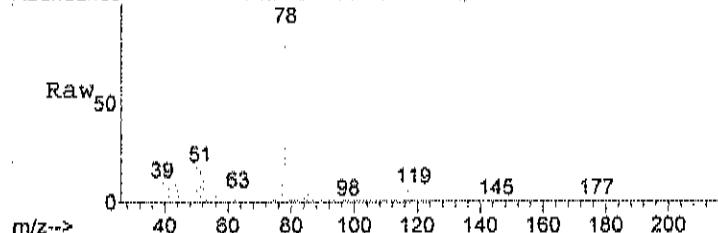
Ion Ratio Lower Upper

78 100

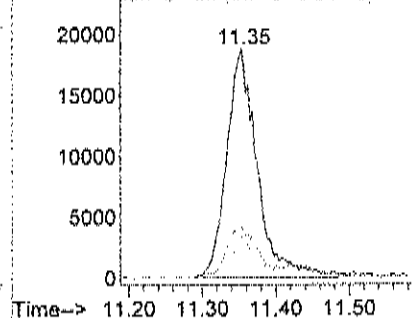
77 29.2 6.0 46.0

51 22.6 2.1 42.1

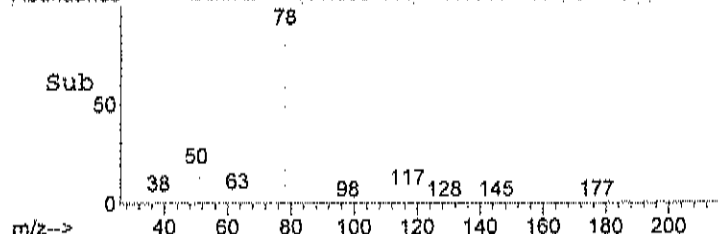
Abundance Scan 2444 (11.353 min): AN031911.D

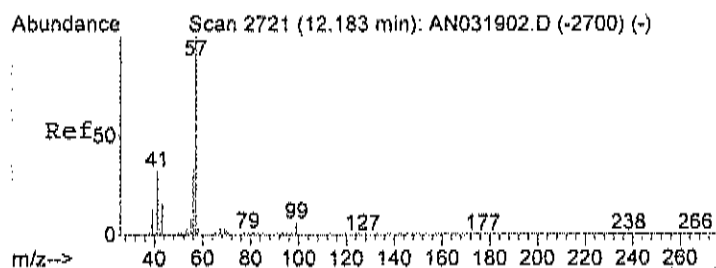


Abundance Ion 78.00 (77.70 to 78.70): AN031911.D



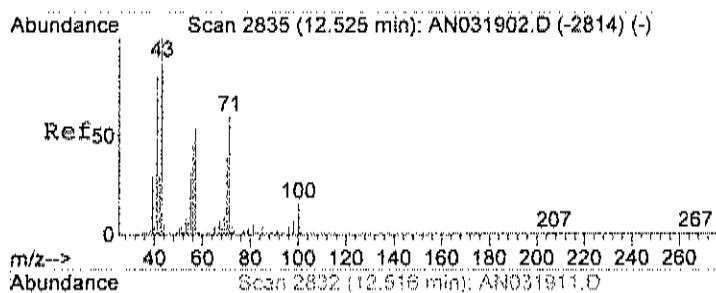
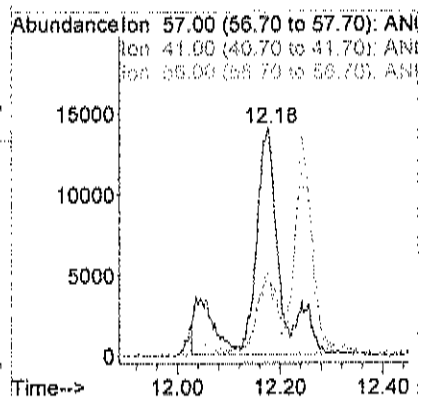
Abundance Scan 2444 (11.353 min): AN031911.D (-2387) (-)





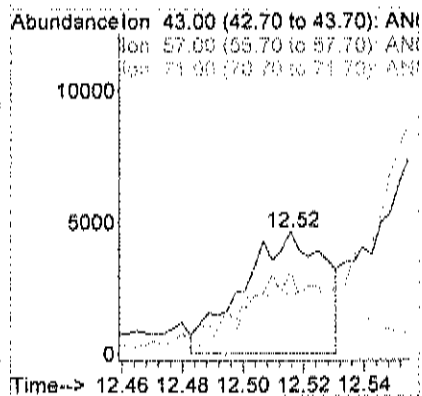
#42
2,2,4-trimethylpentane
Concen: 0.32 ppb
RT: 12.18 min Scan# 2719
Delta R.T. -0.01 min
Lab File: AN031911.D
Acq: 19 Mar 2016 5:08 pm

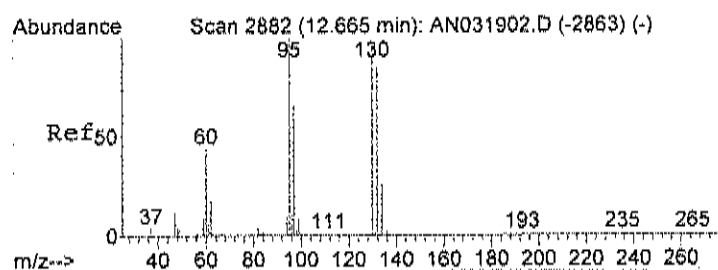
Tgt Ion	Resp	Ratio	Lower	Upper
57	52861	100		
41		0.0	14.1	54.1#
56		0.0	11.4	51.4#



#43
Heptane
Concen: 0.22 ppb m
RT: 12.52 min Scan# 2832
Delta R.T. -0.01 min
Lab File: AN031911.D
Acq: 19 Mar 2016 5:08 pm

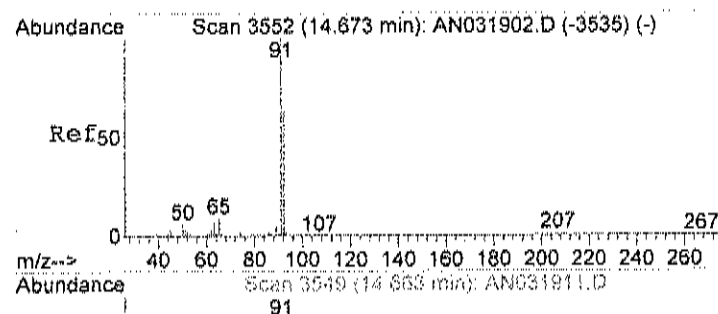
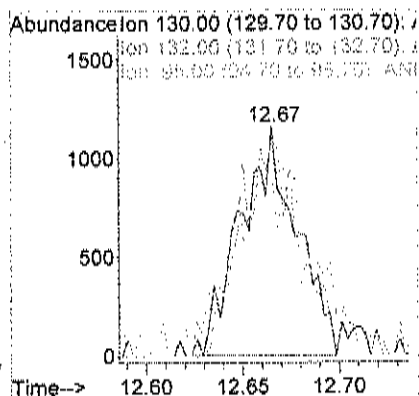
Tgt Ion	Resp	Ratio	Lower	Upper
43	8716	100		
57		433.7	31.3	71.3#
71		0.0	34.8	74.8#





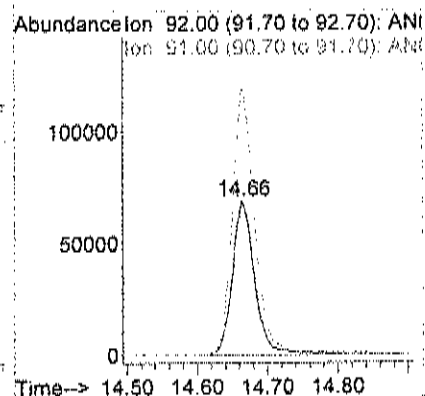
#44
Trichloroethene
Concen: 0.05 ppb
RT: 12.67 min Scan# 2882
Delta R.T. -0.01 min
Lab File: AN031911.D
Acq: 19 Mar 2016 5:08 pm

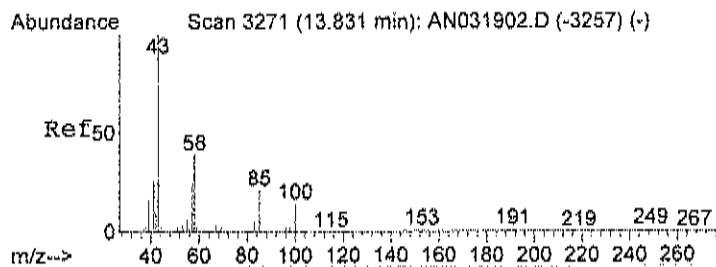
Tgt Ion	Ratio	Lower	Upper
130	100		
132	106.4	76.1	116.1
95	115.8	85.0	125.0



#51
Toluene
Concen: 3.45 ppb
RT: 14.66 min Scan# 3549
Delta R.T. -0.01 min
Lab File: AN031911.D
Acq: 19 Mar 2016 5:08 pm

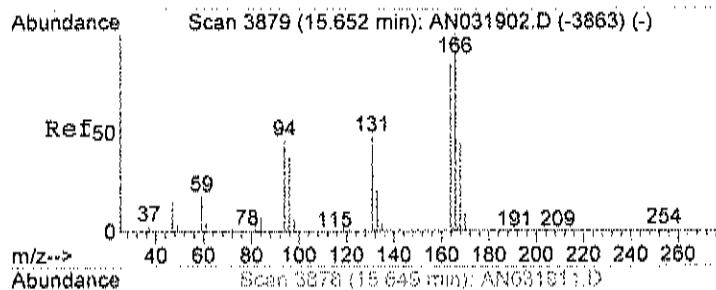
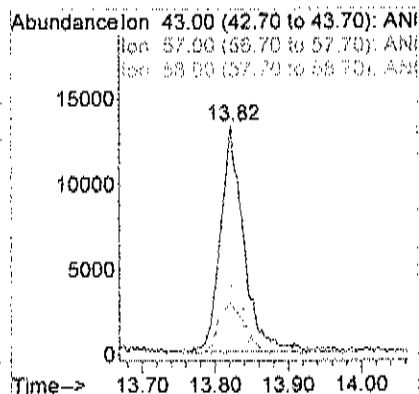
Tgt Ion	Ratio	Lower	Upper
92	100		
91	174.3	152.5	192.5





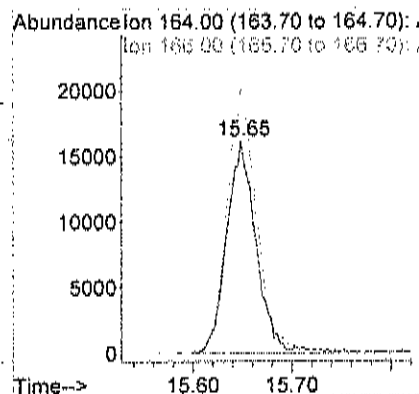
#52
Methyl Isobutyl Ketone
Concen: 0.38 ppb
RT: 13.82 min Scan# 3268
Delta R.T. -0.01 min
Lab File: AN031911.D
Acq: 19 Mar 2016 5:08 pm

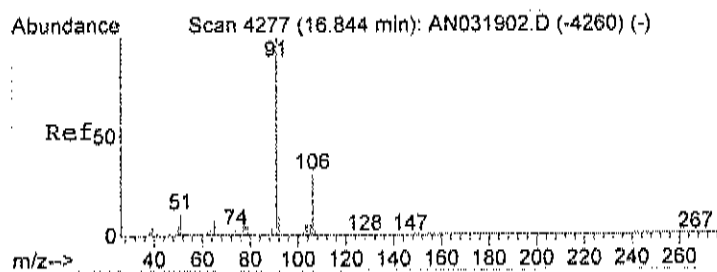
Tgt Ion	43	Resp	29910
Ion	Ratio	Lower	Upper
43	100		
57	23.8	6.1	46.1
58	33.4	16.5	56.5



#56
Tetrachloroethylene
Concen: 0.79 ppb
RT: 15.65 min Scan# 3878
Delta R.T. -0.01 min
Lab File: AN031911.D
Acq: 19 Mar 2016 5:08 pm

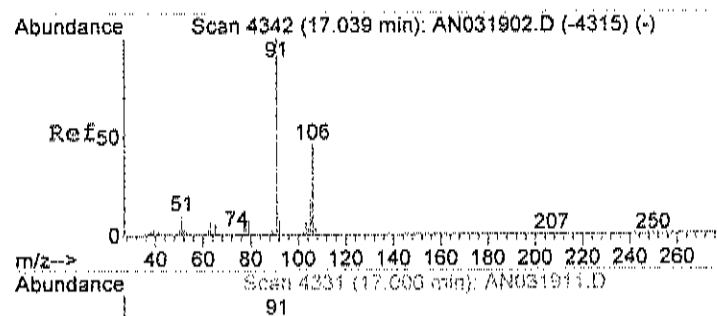
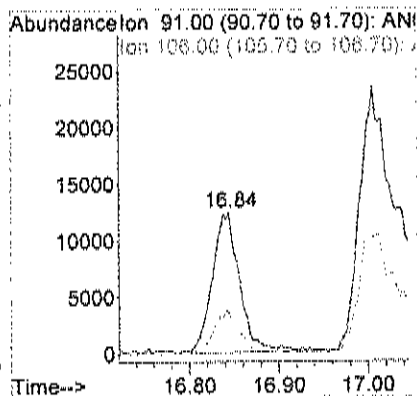
Tgt Ion	164	Resp	33637
Ion	Ratio	Lower	Upper
164	100		
166	127.2	108.6	148.6





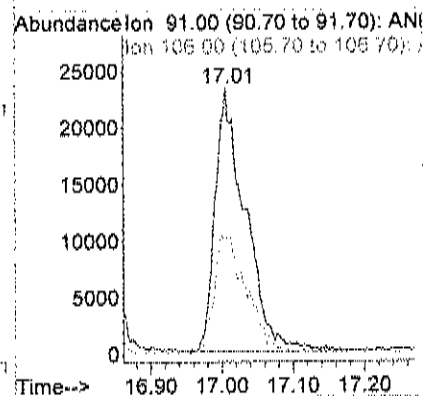
#59
Ethylbenzene
Concen: 0.34 ppb
RT: 16.84 min Scan# 4277
Delta R.T. -0.01 min
Lab File: AN031911.D
Acq: 19 Mar 2016 5:08 pm

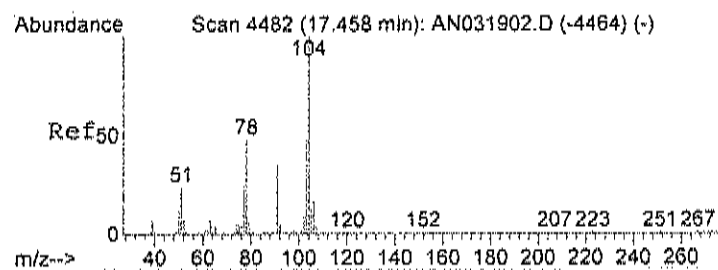
Tgt Ion: 91 Resp: 26330
Ion Ratio Lower Upper
91 100
106 29.0 9.9 49.9



#60
m&p-xylene
Concen: 1.14 ppb
RT: 17.01 min Scan# 4331
Delta R.T. -0.03 min
Lab File: AN031911.D
Acq: 19 Mar 2016 5:08 pm

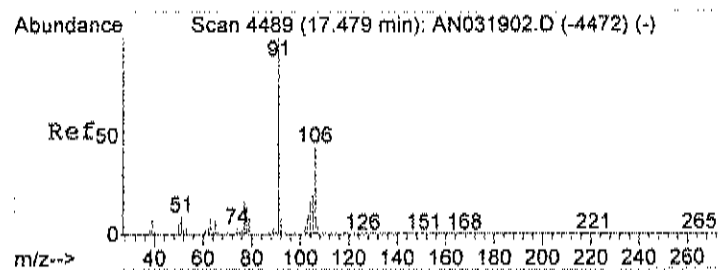
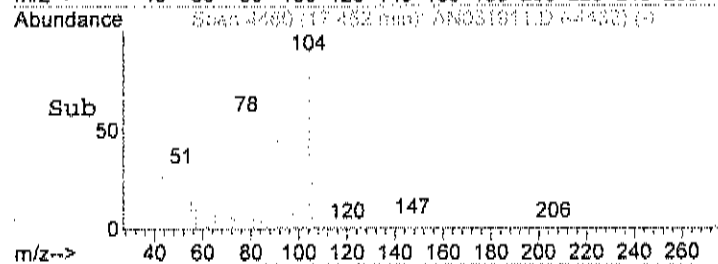
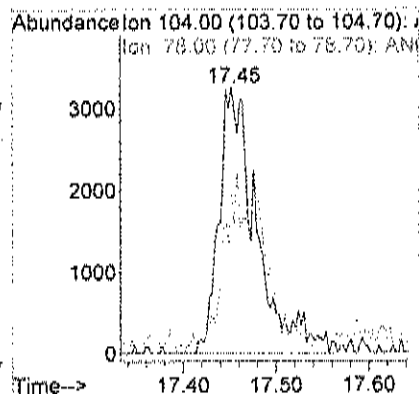
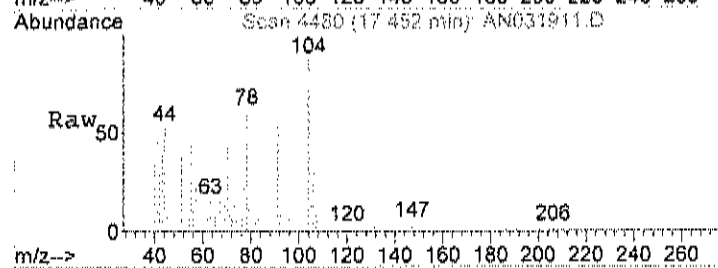
Tgt Ion: 91 Resp: 68928
Ion Ratio Lower Upper
91 100
106 49.0 25.3 65.3





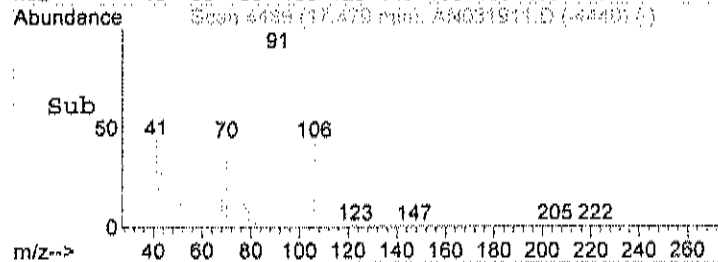
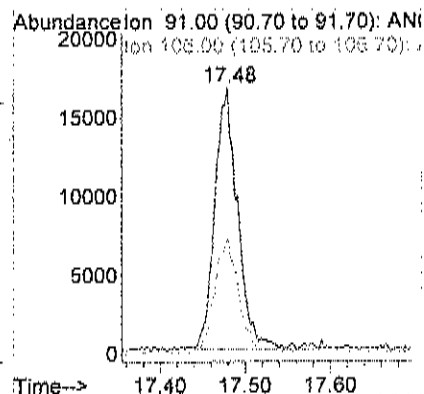
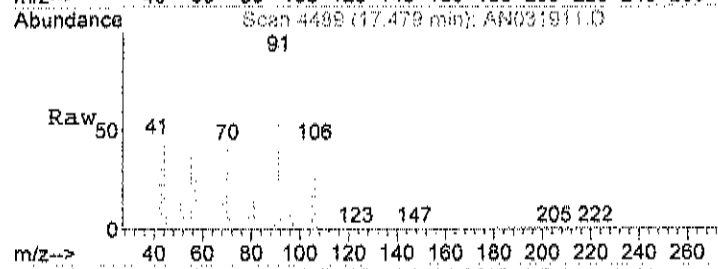
#62
Styrene
Concen: 0.22 ppb
RT: 17.45 min Scan# 4480
Delta R.T. -0.01 min
Lab File: AN031911.D
Acq: 19 Mar 2016 5:08 pm

Tgt Ion	104	Resp	9150
Ion Ratio	100	Lower	Upper
78	70.0	44.4	84.4

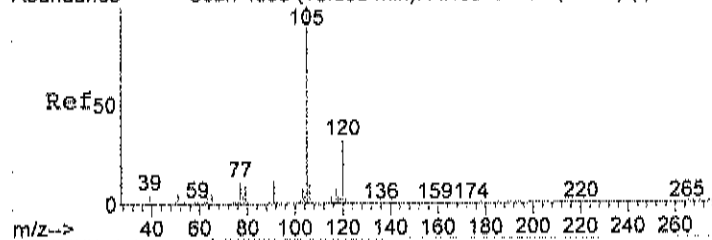


#64
o-xylene
Concen: 0.43 ppb
RT: 17.48 min Scan# 4489
Delta R.T. -0.00 min
Lab File: AN031911.D
Acq: 19 Mar 2016 5:08 pm

Tgt Ion	91	Resp	31204
Ion Ratio <td>100</td> <td>Lower</td> <td>Upper</td>	100	Lower	Upper
106	46.3	18.4	58.4



Abundance Scan 4895 (18.696 min): AN031902.D (-4881) (-)



#70

4-ethyltoluene

Concen: 0.13 ppb m

RT: 18.69 min Scan# 4894

Delta R.T. -0.00 min

Lab File: AN031911.D

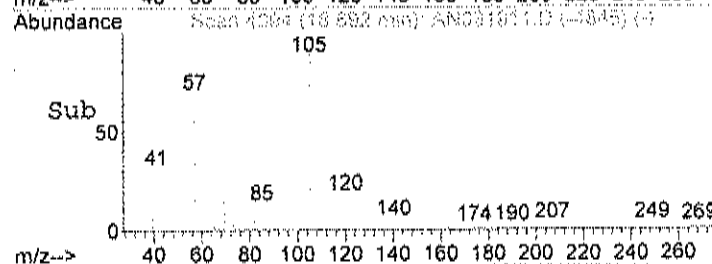
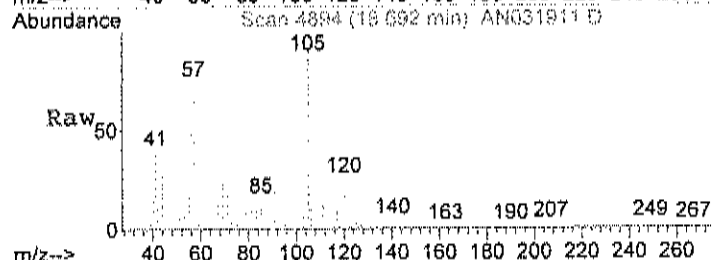
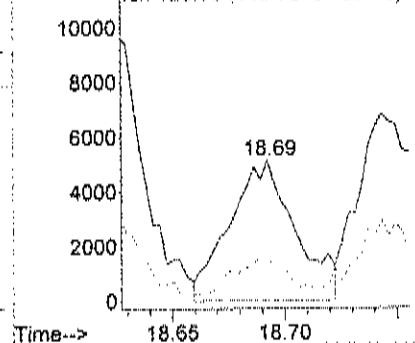
Acq: 19 Mar 2016 5:08 pm

Tgt Ion: 105 Resp: 10406

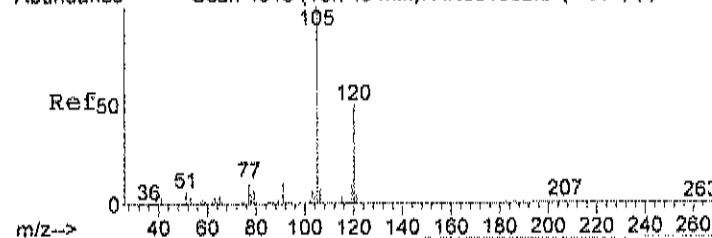
Ion Ratio Lower Upper

105 100

120 141.4 0.0 20.0#

Abundance Ion 105.00 (104.70 to 105.70):
Ion 120.00 (119.70 to 120.70):

Abundance Scan 4913 (18.749 min): AN031902.D (-4904) (-)



#71

1,3,5-trimethylbenzene

Concen: 0.21 ppb m

RT: 18.74 min Scan# 4911

Delta R.T. -0.01 min

Lab File: AN031911.D

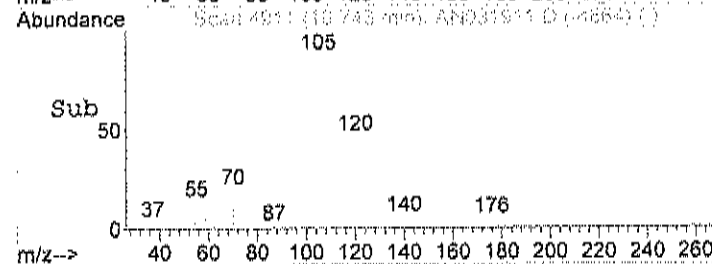
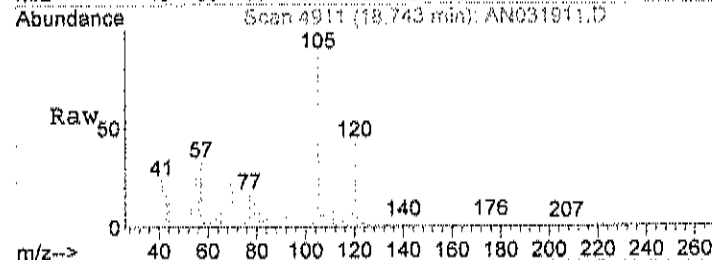
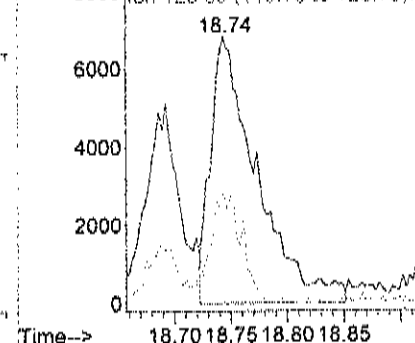
Acq: 19 Mar 2016 5:08 pm

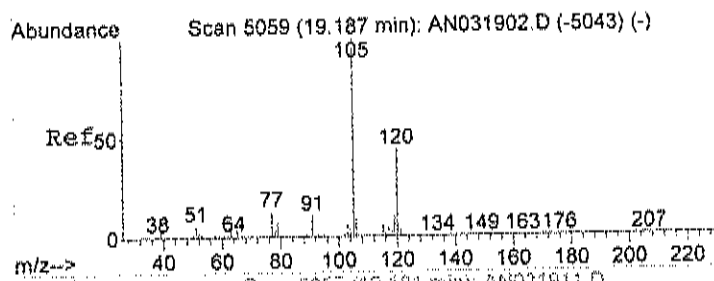
Tgt Ion: 105 Resp: 19298

Ion Ratio Lower Upper

105 100

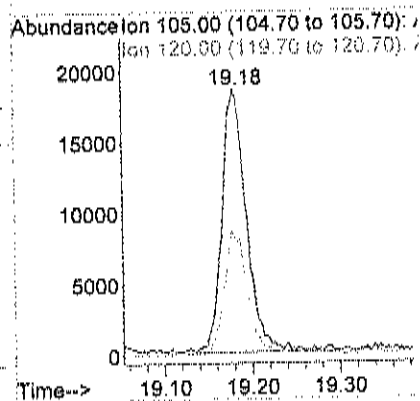
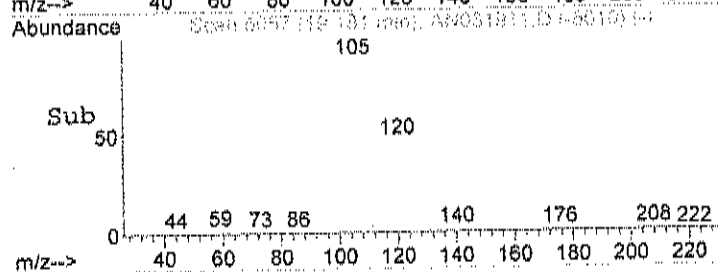
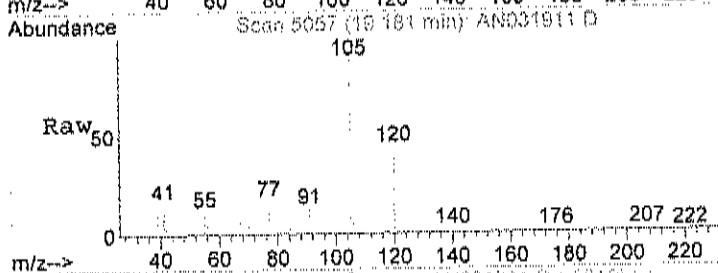
120 74.7 0.0 20.0#

Abundance Ion 105.00 (104.70 to 105.70):
Ion 120.00 (119.70 to 120.70):



#72
1,2,4-trimethylbenzene
Concen: 0.45 ppb
RT: 19.18 min Scan# 5057
Delta R.T. -0.01 min
Lab File: AN031911.D
Acq: 19 Mar 2016 5:08 pm

Tgt Ion:	105	Resp:	35948
Ion Ratio	Lower	Upper	
105	100		
120	45.7	22.1	62.1



Data File : C:\HPCHEM\1\DATA\AN031921.D

Vial: 21

Acq On : 19 Mar 2016 11:32 pm

Operator: RJP

Sample : C1603053-001A 10x

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 20 12:45:49 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.82	128	34803	1.00	ppb	0.02
35) 1,4-difluorobenzene	12.07	114	105659	1.00	ppb	0.00
50) Chlorobenzene-d5	16.56	117	72368	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.14	95	48931	1.05	ppb	0.00
Spiked Amount	1.000	Range	70 ~ 130	Recovery	=	105.00%

Target Compounds

						Qvalue
15) Acetone	6.06	58	13153	0.88	ppb	# 1
17) Isopropyl alcohol	6.16	45	10493	0.21	ppb	# 46
28) Methyl Ethyl Ketone	9.00	72	4580	0.29	ppb	# 100
51) Toluene	14.68	92	12837	0.26	ppb	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed
AN031921.D A316_1UG.M Thu Apr 07 13:10:36 2016 MSD1

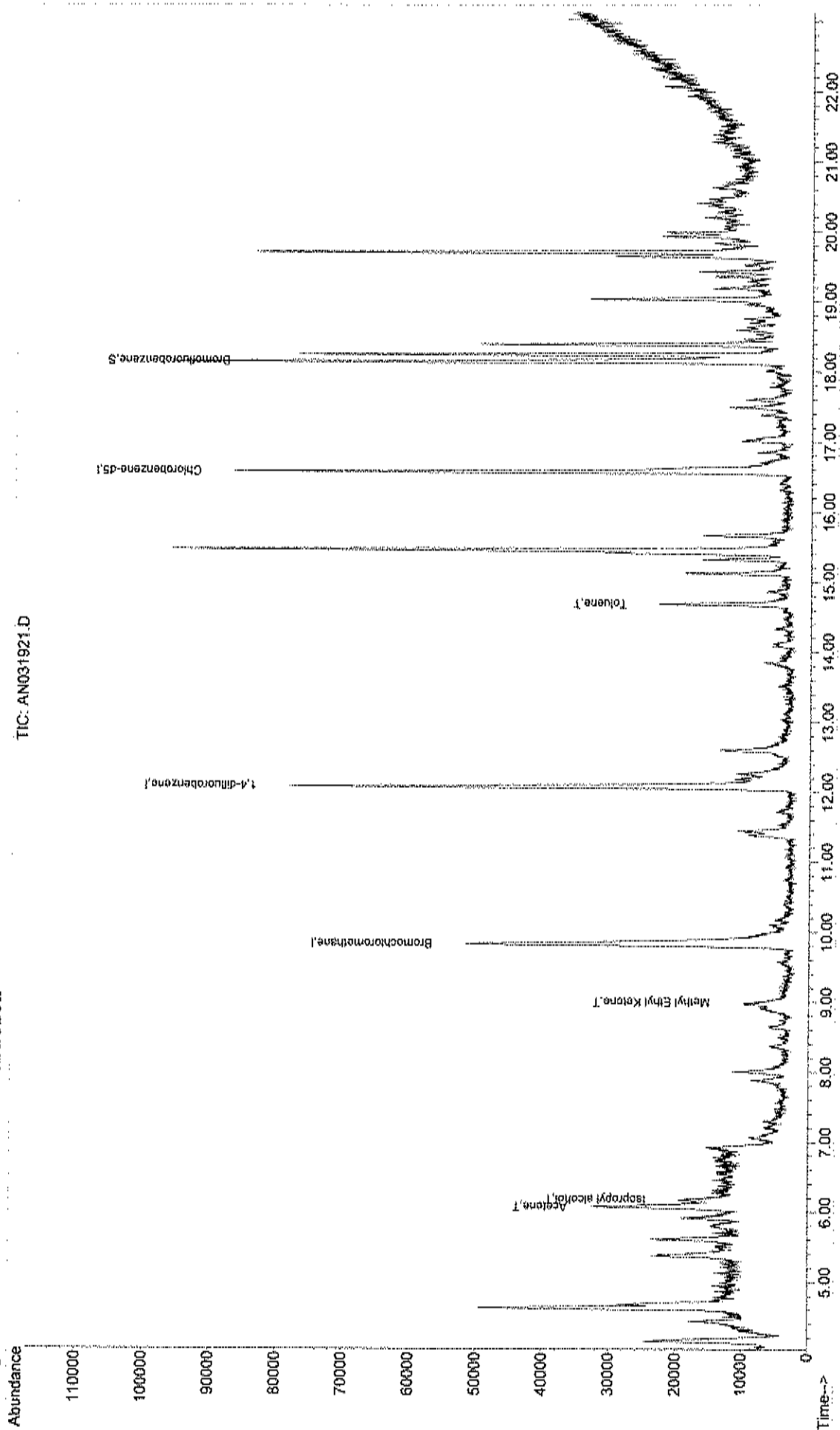
Quantitation Report (QT Reviewed)

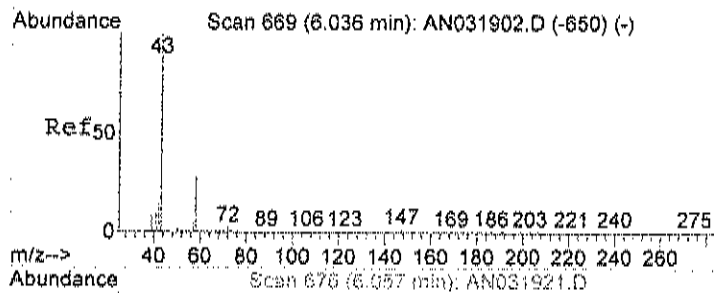
Data File : C:\HPCHEM\1\DATA\AN031921.D
Acq On : 19 Mar 2016 11:32 pm
Sample : C1603053-001A 10x
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 24 16:28 2016

Vial: 21
Operator: RJP
Inst : MSD #1
Multiplx: 1.00

Quant Results File: A316_1UG.RES

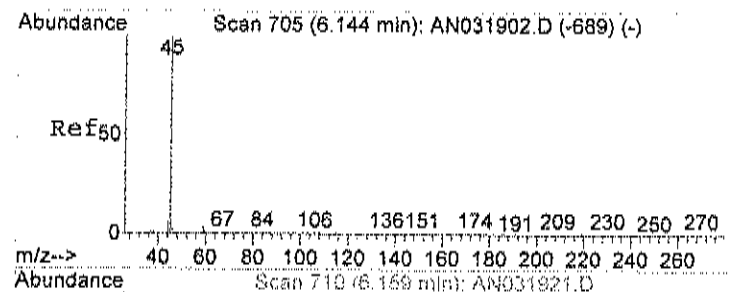
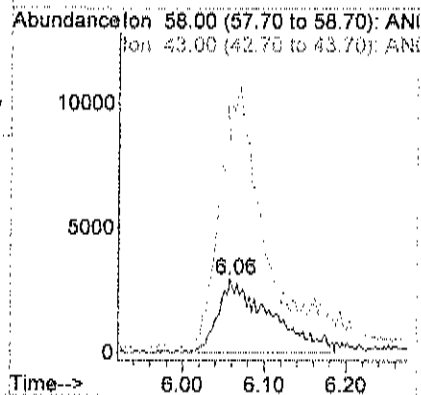
Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration





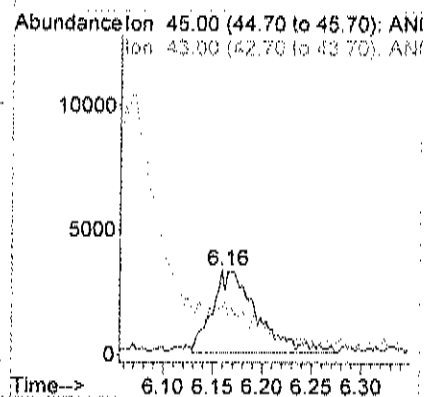
#15
Acetone
Concen: 0.88 ppb
RT: 6.06 min Scan# 676
Delta R.T. 0.02 min
Lab File: AN031921.D
Acq: 19 Mar 2016 11:32 pm

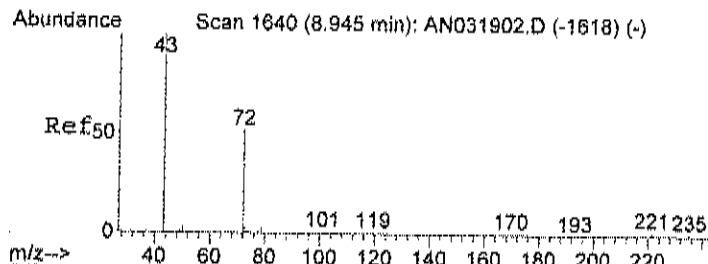
Tgt Ion: 58 Resp: 13153
Ion Ratio Lower Upper
58 100
43 321.1 661.8 721.8#



#17
Isopropyl alcohol
Concen: 0.21 ppb
RT: 6.16 min Scan# 710
Delta R.T. 0.01 min
Lab File: AN031921.D
Acq: 19 Mar 2016 11:32 pm

Tgt Ion: 45 Resp: 10493
Ion Ratio Lower Upper
45 100
43 0.0 8.9 48.9#





#28

Methyl Ethyl Ketone

Concen: 0.29 ppb

RT: 9.00 min Scan# 1657

Delta R.T. 0.05 min

Lab File: AN031921.D

Acq: 19 Mar 2016 11:32 pm

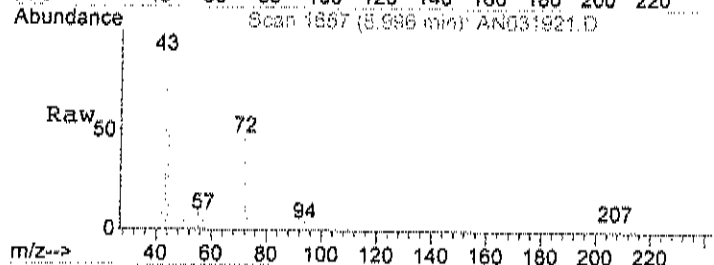
Tgt Ion: 72 Resp: 4580

Ion Ratio Lower Upper

72 100

43 377.7 0.0 20.0#

72 100.0 80.0 120.0



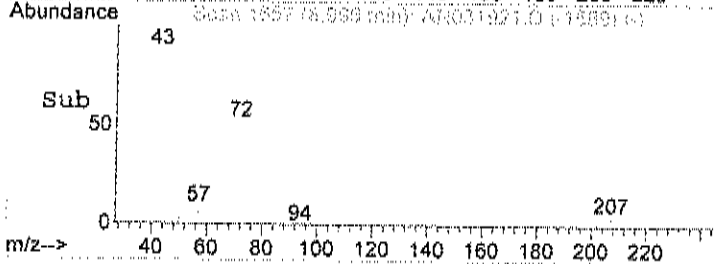
Abundance Ion 72.00 (71.70 to 72.70): AN

Ion 43.00 (42.70 to 43.70): AN

Ion 72.00 (71.70 to 72.70): AN

Time-->

8.90 8.95 9.00 9.05 9.10

Scan 1657 (8.996 min): AN031921.D (-1585) (-)

Time-->

8.90 8.95 9.00 9.05 9.10

Abundance

Scan 3552 (14.673 min): AN031902.D (-3535) (-)

Ref50

m/z-->

50 65 91 106 207 267

#51

Toluene

Concen: 0.26 ppb

RT: 14.68 min Scan# 3556

Delta R.T. 0.01 min

Lab File: AN031921.D

Acq: 19 Mar 2016 11:32 pm

Tgt Ion: 92 Resp: 12837

Ion Ratio Lower Upper

92 100

91 170.7 152.5 192.5

Abundance

Scan 3556 (14.684 min): AN031921.D (-3504) (-)

Raw50

m/z-->

40 65 91 130 197 249

Abundance Ion 92.00 (91.70 to 92.70): AN

Ion 91.00 (90.70 to 91.70): AN

Time-->

14.60 14.70 14.80

Abundance

Scan 3556 (14.684 min): AN031921.D (-3504) (-)

Sub50

m/z-->

39 65 91 130 197 249

Scan 3556 (14.684 min): AN031921.D (-3504) (-)

Time-->

14.60 14.70 14.80

AN031921.D A316_LUG.M

Thu Apr 07 13:10:39 2016

MSD1

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Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-002A

Client Sample ID: Indoor Air #1
 Tag Number: 162.1156
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS						
			FLD			Analyst:
Lab Vacuum In	-1			"Hg		3/18/2016
Lab Vacuum Out	-30			"Hg		3/18/2016
1UG/M3 BY METHOD TO15						
			TO-15			Analyst: RJP
1,1,1-Trichloroethane	0.24	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,2,4-Trimethylbenzene	0.41	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,3,5-Trimethylbenzene	0.20	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,3-butadiene	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
1,4-Dioxane	< 0.30	0.30		ppbV	1	3/19/2016 5:46:00 PM
2,2,4-trimethylpentane	0.29	0.15		ppbV	1	3/19/2016 5:46:00 PM
4-ethyltoluene	0.12	0.15	J	ppbV	1	3/19/2016 5:46:00 PM
Acetone	18	3.0		ppbV	10	3/20/2016 12:09:00 AM
Allyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Benzene	2.3	1.5		ppbV	10	3/20/2016 12:09:00 AM
Benzyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Bromodichloromethane	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Bromoform	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Bromomethane	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Carbon disulfide	0.11	0.15	J	ppbV	1	3/19/2016 5:46:00 PM
Carbon tetrachloride	0.060	0.15	J	ppbV	1	3/19/2016 5:46:00 PM
Chlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Chloroform	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Chloromethane	0.62	0.15		ppbV	1	3/19/2016 5:46:00 PM
cis-1,2-Dichloroethene	0.10	0.15	J	ppbV	1	3/19/2016 5:46:00 PM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Cyclohexane	0.66	0.15		ppbV	1	3/19/2016 5:46:00 PM
Dibromochloromethane	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Ethyl acetate	0.44	0.25		ppbV	1	3/19/2016 5:46:00 PM

Qualifiers: ** Reporting Limit . Results reported are not blank corrected
 B Analyte detected in the associated Method Blank E Value above quantitation range
 H Holding times for preparation or analysis exceeded J Analyte detected at or below quantitation limits
 JN Non-routine analyte. Quantitation estimated. ND Not Detected at the Reporting Limit
 S Spike Recovery outside accepted recovery limits

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Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-002A

Client Sample ID: Indoor Air #1
 Tag Number: 162.1156
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
Ethylbenzene	0.58	0.15		ppbV	1	3/19/2016 5:46:00 PM
Freon 11	0.22	0.15		ppbV	1	3/19/2016 5:46:00 PM
Freon 113	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Freon 114	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Freon 12	0.49	0.15		ppbV	1	3/19/2016 5:46:00 PM
Heptane	0.60	0.15		ppbV	1	3/19/2016 5:46:00 PM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Hexane	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Isopropyl alcohol	9.3	1.5		ppbV	10	3/20/2016 12:09:00 AM
m&p-Xylene	2.1	0.30		ppbV	1	3/19/2016 5:46:00 PM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	3/19/2016 5:46:00 PM
Methyl Ethyl Ketone	32	12		ppbV	40	3/20/2016 12:45:00 AM
Methyl Isobutyl Ketone	< 0.30	0.30		ppbV	1	3/19/2016 5:46:00 PM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Methylene chloride	0.55	0.15		ppbV	1	3/19/2016 5:46:00 PM
o-Xylene	0.65	0.15		ppbV	1	3/19/2016 5:46:00 PM
Propylene	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Styrene	0.24	0.15		ppbV	1	3/19/2016 5:46:00 PM
Tetrachloroethylene	0.81	0.15		ppbV	1	3/19/2016 5:46:00 PM
Tetrahydrofuran	1.8	0.15		ppbV	1	3/19/2016 5:46:00 PM
Toluene	3.4	1.5		ppbV	10	3/20/2016 12:09:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Trichloroethene	0.090	0.15	J	ppbV	1	3/19/2016 5:46:00 PM
Vinyl acetate	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Vinyl Bromide	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Vinyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 5:46:00 PM
Surr: Bromofluorobenzene	104	70-130		%REC	1	3/19/2016 5:46:00 PM

Qualifiers: ** Reporting Limit
 B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 JN Non-routine analyte. Quantitation estimated.
 S Spike Recovery outside accepted recovery limits
 , Results reported are not blank corrected
 E Value above quantitation range
 J Analyte detected at or below quantitation limits
 ND Not Detected at the Reporting Limit

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Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-002A

Client Sample ID: Indoor Air #1
 Tag Number: 162.1156
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	1.3	0.82		ug/m3	1	3/19/2016 5:46:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	3/19/2016 5:46:00 PM
1,1,2-Trichloroethane	< 0.82	0.82		ug/m3	1	3/19/2016 5:46:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/19/2016 5:46:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 5:46:00 PM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	3/19/2016 5:46:00 PM
1,2,4-Trimethylbenzene	2.0	0.74		ug/m3	1	3/19/2016 5:46:00 PM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	3/19/2016 5:46:00 PM
1,2-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 5:46:00 PM
1,2-Dichloroethane	< 0.61	0.61		ug/m3	1	3/19/2016 5:46:00 PM
1,2-Dichloropropane	< 0.69	0.69		ug/m3	1	3/19/2016 5:46:00 PM
1,3,5-Trimethylbenzene	0.98	0.74		ug/m3	1	3/19/2016 5:46:00 PM
1,3-butadiene	< 0.33	0.33		ug/m3	1	3/19/2016 5:46:00 PM
1,3-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 5:46:00 PM
1,4-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 5:46:00 PM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	3/19/2016 5:46:00 PM
2,2,4-trimethylpentane	1.4	0.70		ug/m3	1	3/19/2016 5:46:00 PM
4-ethyltoluene	0.59	0.74	J	ug/m3	1	3/19/2016 5:46:00 PM
Acetone	43	7.1		ug/m3	10	3/20/2016 12:09:00 AM
Allyl chloride	< 0.47	0.47		ug/m3	1	3/19/2016 5:46:00 PM
Benzene	7.3	4.8		ug/m3	10	3/20/2016 12:09:00 AM
Benzyl chloride	< 0.86	0.86		ug/m3	1	3/19/2016 5:46:00 PM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	3/19/2016 5:46:00 PM
Bromoform	< 1.6	1.6		ug/m3	1	3/19/2016 5:46:00 PM
Bromomethane	< 0.58	0.58		ug/m3	1	3/19/2016 5:46:00 PM
Carbon disulfide	0.34	0.47	J	ug/m3	1	3/19/2016 5:46:00 PM
Carbon tetrachloride	0.38	0.94	J	ug/m3	1	3/19/2016 5:46:00 PM
Chlorobenzene	< 0.69	0.69		ug/m3	1	3/19/2016 5:46:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/19/2016 5:46:00 PM
Chloroform	< 0.73	0.73		ug/m3	1	3/19/2016 5:46:00 PM
Chloromethane	1.3	0.31		ug/m3	1	3/19/2016 5:46:00 PM
cis-1,2-Dichloroethene	0.40	0.59	J	ug/m3	1	3/19/2016 5:46:00 PM
cis-1,3-Dichloropropene	< 0.68	0.68		ug/m3	1	3/19/2016 5:46:00 PM
Cyclohexane	2.3	0.52		ug/m3	1	3/19/2016 5:46:00 PM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	3/19/2016 5:46:00 PM
Ethyl acetate	1.6	0.90		ug/m3	1	3/19/2016 5:46:00 PM
Ethylbenzene	2.5	0.65		ug/m3	1	3/19/2016 5:46:00 PM
Freon 11	1.2	0.84		ug/m3	1	3/19/2016 5:46:00 PM
Freon 113	< 1.1	1.1		ug/m3	1	3/19/2016 5:46:00 PM
Freon 114	< 1.0	1.0		ug/m3	1	3/19/2016 5:46:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-002A

Client Sample ID: Indoor Air #1
 Tag Number: 162.1156
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
Freon 12	2.4	0.74		ug/m3	1	3/19/2016 5:46:00 PM
Heptane	2.5	0.61		ug/m3	1	3/19/2016 5:46:00 PM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	3/19/2016 5:46:00 PM
Hexane	< 0.53	0.53		ug/m3	1	3/19/2016 5:46:00 PM
Isopropyl alcohol	23	3.7		ug/m3	10	3/20/2016 12:09:00 AM
m&p-Xylene	9.3	1.3		ug/m3	1	3/19/2016 5:46:00 PM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	3/19/2016 5:46:00 PM
Methyl Ethyl Ketone	93	35		ug/m3	40	3/20/2016 12:45:00 AM
Methyl Isobutyl Ketone	< 1.2	1.2		ug/m3	1	3/19/2016 5:46:00 PM
Methyl tert-butyl ether	< 0.54	0.54		ug/m3	1	3/19/2016 5:46:00 PM
Methylene chloride	1.9	0.52		ug/m3	1	3/19/2016 5:46:00 PM
o-Xylene	2.8	0.65		ug/m3	1	3/19/2016 5:46:00 PM
Propylene	< 0.26	0.26		ug/m3	1	3/19/2016 5:46:00 PM
Styrene	1.0	0.64		ug/m3	1	3/19/2016 5:46:00 PM
Tetrachloroethylene	5.5	1.0		ug/m3	1	3/19/2016 5:46:00 PM
Tetrahydrofuran	5.2	0.44		ug/m3	1	3/19/2016 5:46:00 PM
Toluene	13	5.7		ug/m3	10	3/20/2016 12:09:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 5:46:00 PM
trans-1,3-Dichloropropene	< 0.68	0.68		ug/m3	1	3/19/2016 5:46:00 PM
Trichloroethene	0.48	0.81	J	ug/m3	1	3/19/2016 5:46:00 PM
Vinyl acetate	< 0.53	0.53		ug/m3	1	3/19/2016 5:46:00 PM
Vinyl Bromide	< 0.66	0.66		ug/m3	1	3/19/2016 5:46:00 PM
Vinyl chloride	< 0.38	0.38		ug/m3	1	3/19/2016 5:46:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

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Quantitation Report

(QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031912.D
 Acq On : 19 Mar 2016 5:46 pm
 Sample : C1603053-002A
 Misc : A316_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 20 12:45:40 2016

Vial: 12
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Thu Mar 17 10:24:27 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.78	128	37895	1.00	ppb	-0.03
35) 1,4-difluorobenzene	12.05	114	123396	1.00	ppb	0.00
50) Chlorobenzene-d5	16.56	117	72311	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.13	95	48218	1.04	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	104.00%

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
3) Freon 12	4.18	85	79378	0.49	ppb	100
4) Chloromethane	4.39	50	26396	0.62	ppb	99
14) Freon 11	5.79	101	36204	0.22	ppb	100
15) Acetone	5.99	58	285039	17.42	ppb	# 18
17) Isopropyl alcohol	6.11	45	440124	8.24	ppb	# 46
21) Methylene chloride	7.03	84	23480	0.55	ppb	97
23) Carbon disulfide	7.20	76	13587	0.11	ppb	89
28) Methyl Ethyl Ketone	8.89	72	724534	41.52	ppb	# 100
29) cis-1,2-dichloroethene	9.32	61	4556	0.10	ppb	88
31) Ethyl acetate	9.50	43	29803	0.44	ppb	95
33) Tetrahydrofuran	10.13	42	55454	1.77	ppb	95
36) 1,1,1-trichloroethane	10.74	97	27985	0.24	ppb	98
37) Cyclohexane	11.43	56	31634m (w)	0.66	ppb	
38) Carbon tetrachloride	11.38	117	8301	0.06	ppb	97
39) Benzene	11.36	78	228666	2.23	ppb	95
42) 2,2,4-trimethylpentane	12.18	57	52750	0.29	ppb	70
43) Heptane	12.52	43	25137	0.60	ppb	83
44) Trichloroethene	12.67	130	4572	0.09	ppb	99
51) Toluene	14.67	92	206070	4.20	ppb	97
56) Tetrachloroethylene	15.65	164	38131	0.81	ppb	98
59) Ethylbenzene	16.84	91	48686	0.58	ppb	97
60) m&p-xylene	17.01	91	143233	2.14	ppb	95
62) Styrene	17.46	104	11355	0.24	ppb	80
64) o-xylene	17.48	91	51932	0.65	ppb	91
70) 4-ethyltoluene	18.69	105	10264m (w)	0.12	ppb	
71) 1,3,5-trimethylbenzene	18.75	105	20223m (w)	0.20	ppb	
72) 1,2,4-trimethylbenzene	19.18	105	36363	0.41	ppb	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN031912.D A316_1UG.M Thu Apr 07 13:09:14 2016 MSD1

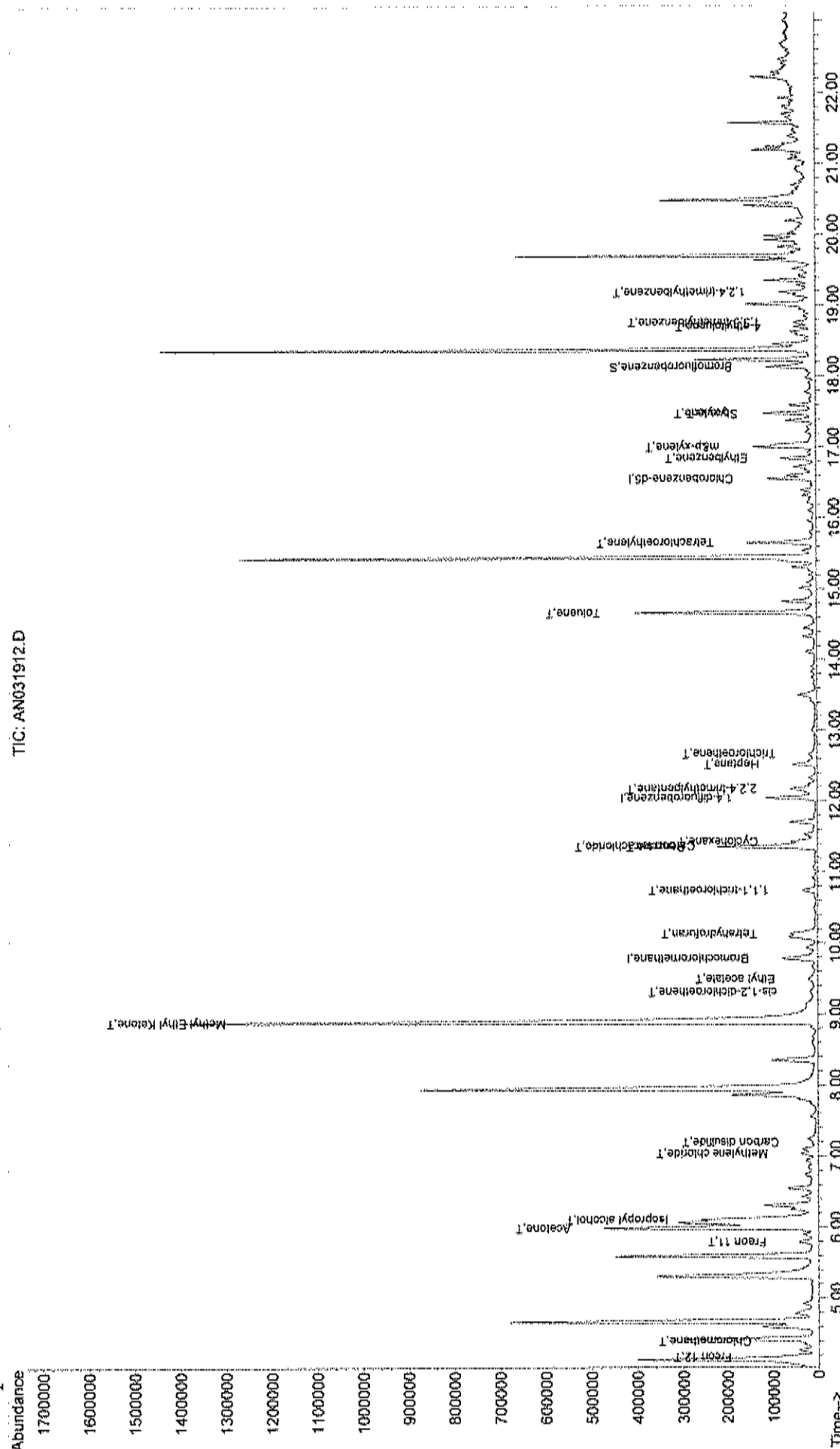
Data File : C:\HPCHEM\1\DATA\AN031912.D
Acq On : 19 Mar 2016 5:46 pm
Sample : C1603053-002A
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 24 15:30 2016

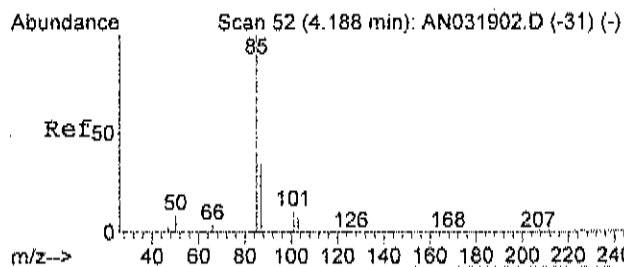
Vial: 12

Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A316_1UG.RES

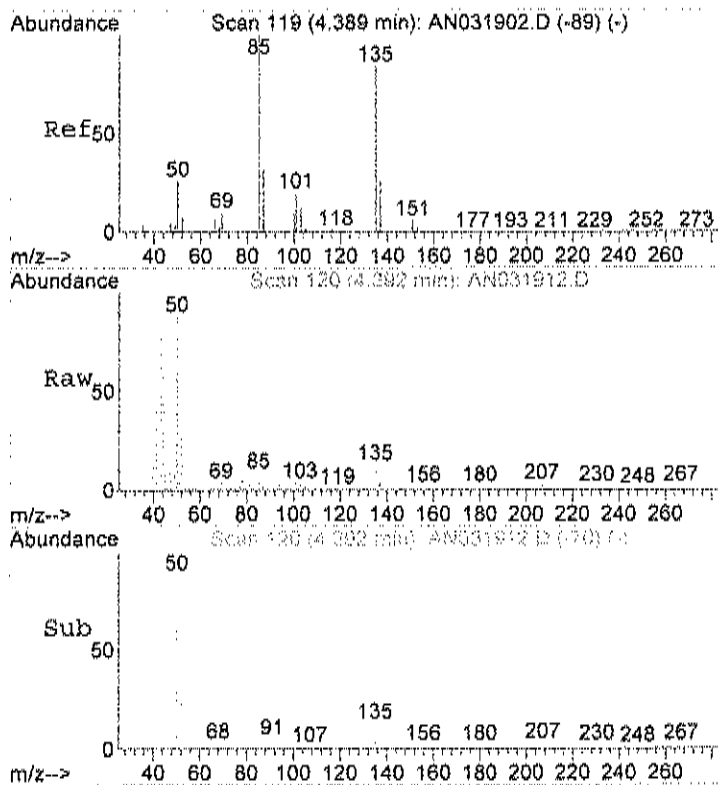
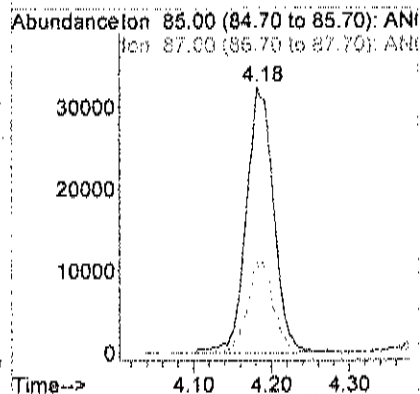
Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration





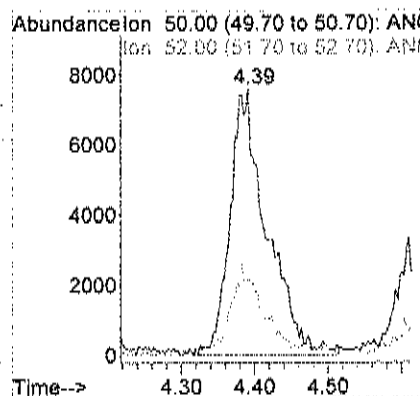
#3
Freon 12
Concen: 0.49 ppb
RT: 4.18 min Scan# 50
Delta R.T. -0.01 min
Lab File: AN031912.D
Acq: 19 Mar 2016 5:46 pm

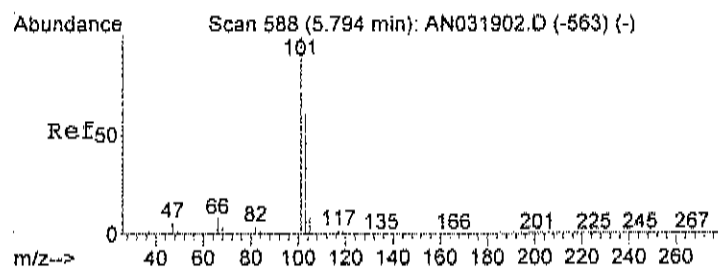
Tgt Ion	85	87
Resp	79378	
Ratio	100	32.4
Lower		12.5
Upper		52.5



#4
Chloromethane
Concen: 0.62 ppb
RT: 4.39 min Scan# 120
Delta R.T. 0.00 min
Lab File: AN031912.D
Acq: 19 Mar 2016 5:46 pm

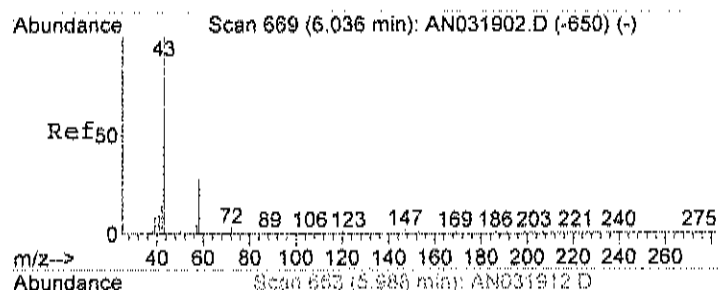
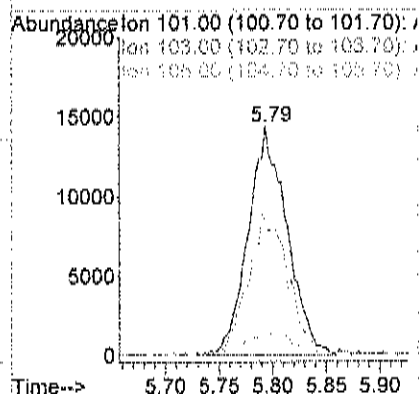
Tgt Ion	50	52
Resp	26396	
Ratio	100	28.7
Lower		9.2
Upper		49.2





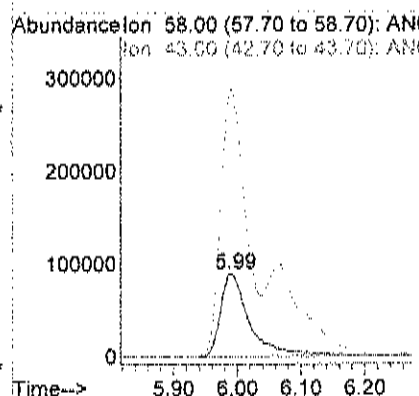
#14
Freon 11
Concen: 0.22 ppb
RT: 5.79 min Scan# 588
Delta R.T. -0.01 min
Lab File: AN031912.D
Acq: 19 Mar 2016 5:46 pm

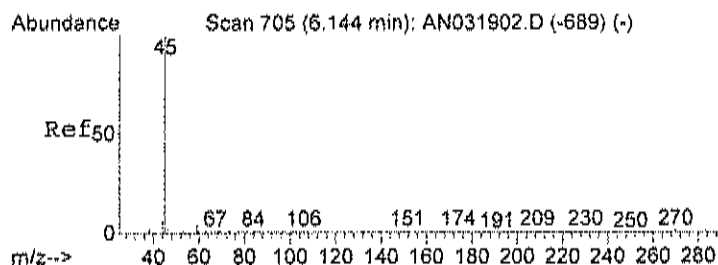
Tgt Ion	Ratio	Lower	Upper
101	100		
103	64.8	44.6	84.6
105	12.0	0.0	31.6



#15
Acetone
Concen: 17.42 ppb
RT: 5.99 min Scan# 653
Delta R.T. -0.05 min
Lab File: AN031912.D
Acq: 19 Mar 2016 5:46 pm

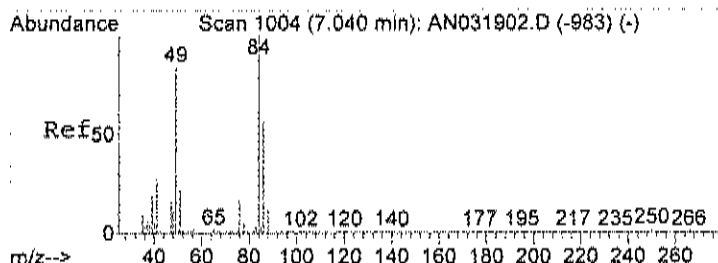
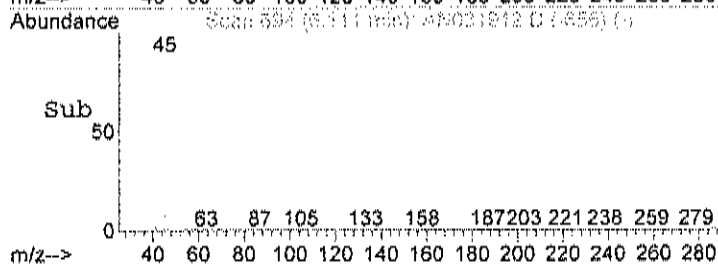
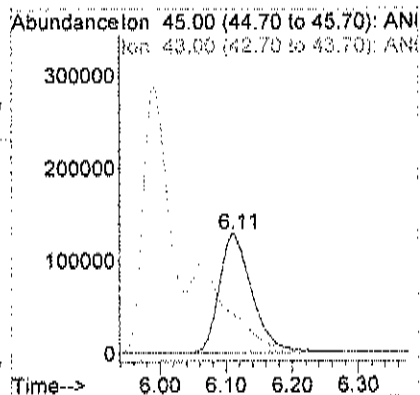
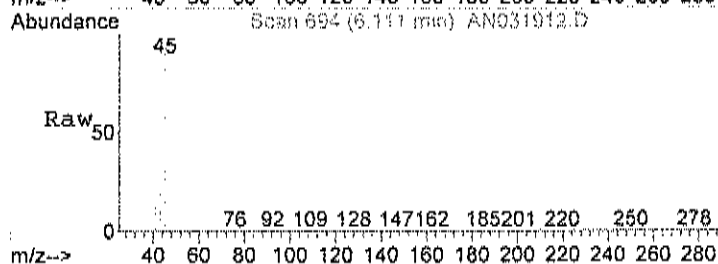
Tgt Ion	Ratio	Lower	Upper
58	100		
43	409.7	661.8	721.8#





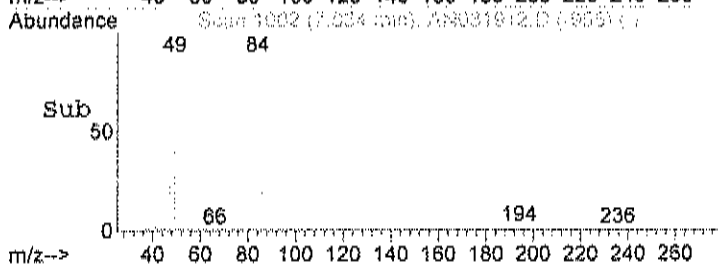
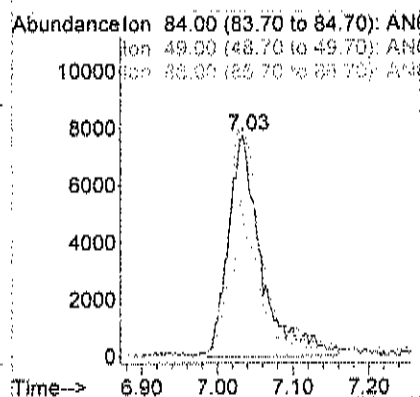
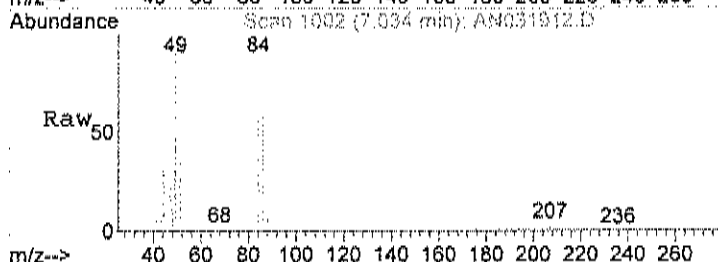
#17
Isopropyl alcohol
Concen: 8.24 ppb
RT: 6.11 min Scan# 694
Delta R.T. -0.04 min
Lab File: AN031912.D
Acq: 19 Mar 2016 5:46 pm

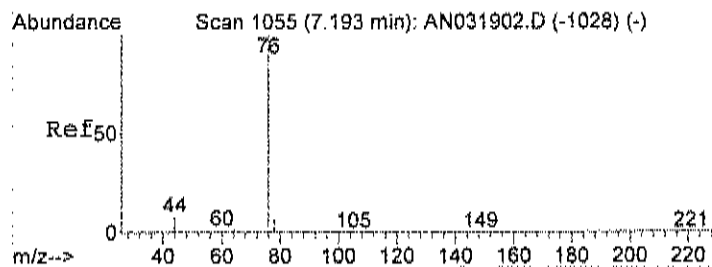
Tgt Ion: 45 Resp: 440124
Ion Ratio Lower Upper
45 100
43 0.0 8.9 48.9#



#21
Methylene chloride
Concen: 0.55 ppb
RT: 7.03 min Scan# 1002
Delta R.T. -0.01 min
Lab File: AN031912.D
Acq: 19 Mar 2016 5:46 pm

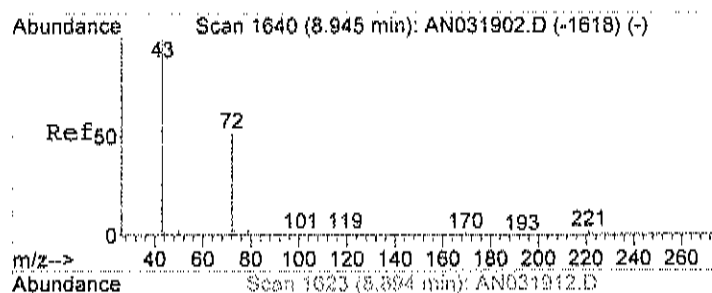
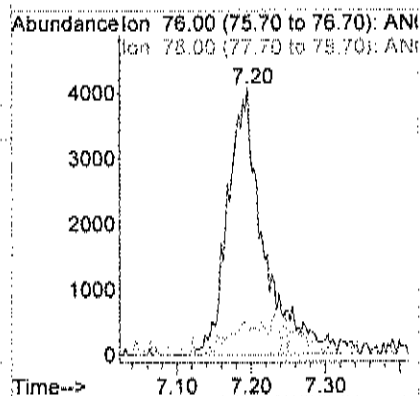
Tgt Ion: 84 Resp: 23480
Ion Ratio Lower Upper
84 100
49 111.5 87.8 127.8
86 64.8 43.1 83.1





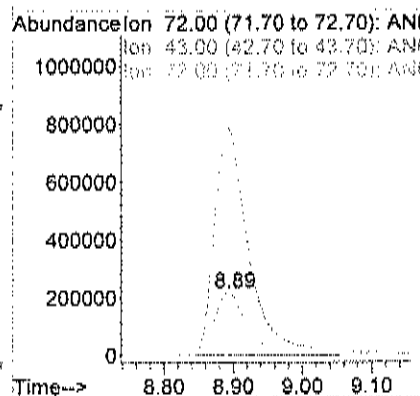
#23
Carbon disulfide
Concen: 0.11 ppb
RT: 7.20 min Scan# 1056
Delta R.T. -0.00 min
Lab File: AN031912.D
Acq: 19 Mar 2016 5:46 pm

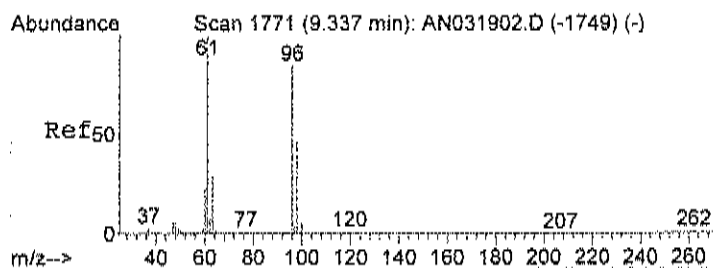
Tgt Ion:	76	Resp:	13587
Ion	Ratio	Lower	Upper
76	100		
78	14.4	0.0	30.3



#28
Methyl Ethyl Ketone
Concen: 41.52 ppb
RT: 8.89 min Scan# 1623
Delta R.T. -0.05 min
Lab File: AN031912.D
Acq: 19 Mar 2016 5:46 pm

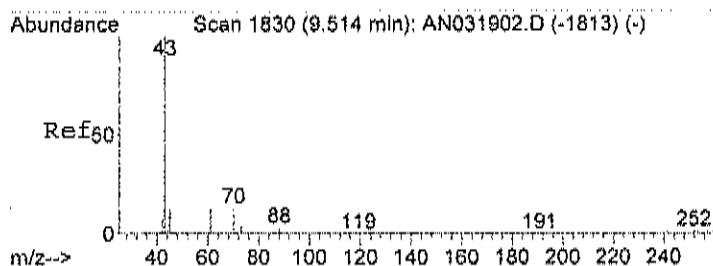
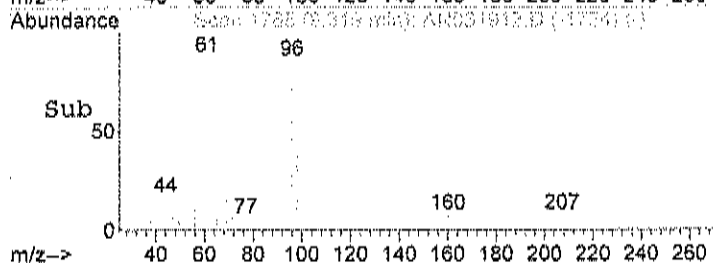
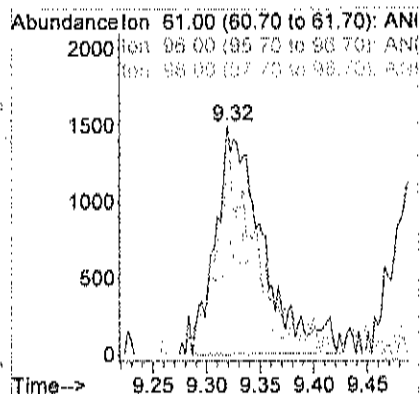
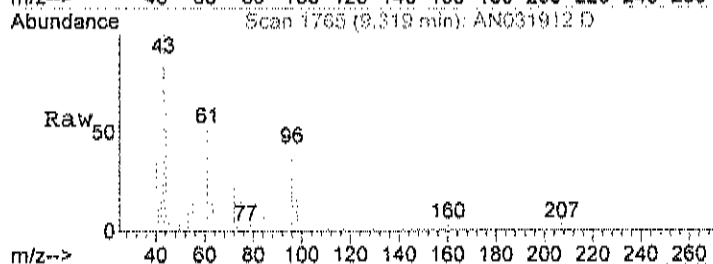
Tgt Ion:	72	Resp:	724534
Ion	Ratio	Lower	Upper
72	100		
43	0.0	0.0	20.0
72	100.0	80.0	120.0





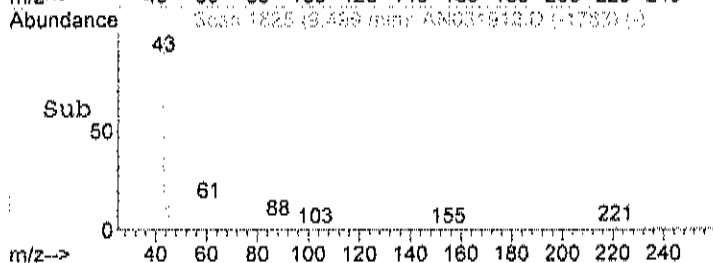
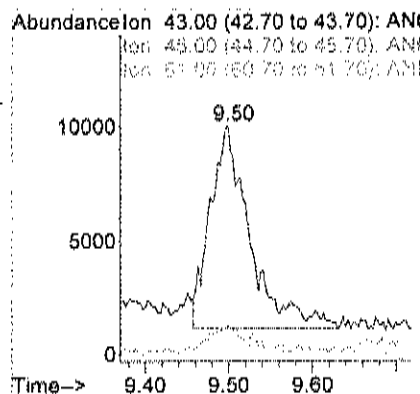
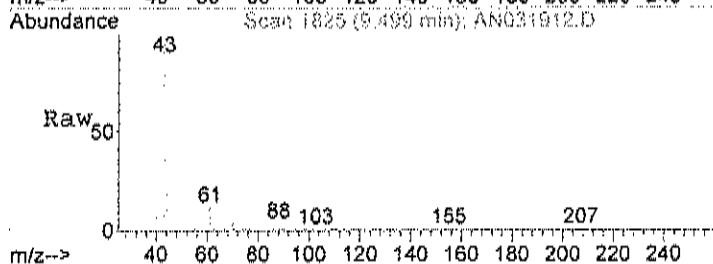
#29
cis-1,2-dichloroethene
Concen: 0.10 ppb
RT: 9.32 min Scan# 1765
Delta R.T. -0.03 min
Lab File: AN031912.D
Acq: 19 Mar 2016 5:46 pm

Tgt Ion	61	Resp	4556
Ion	Ratio	Lower	Upper
61	100		
96	80.0	51.2	91.2
98	53.7	23.7	63.7

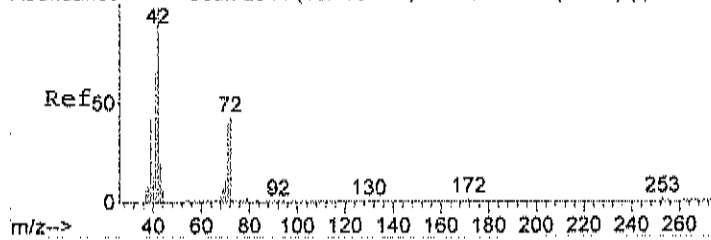


#31
Ethyl acetate
Concen: 0.44 ppb
RT: 9.50 min Scan# 1825
Delta R.T. -0.02 min
Lab File: AN031912.D
Acq: 19 Mar 2016 5:46 pm

Tgt Ion	43	Resp	29803
Ion	Ratio	Lower	Upper
43	100		
45	17.8	0.0	33.8
61	13.0	0.0	33.3



Abundance Scan 2044 (10.155 min): AN031902.D (-2028) (-)



#33

Tetrahydrofuran

Concen: 1.77 ppb

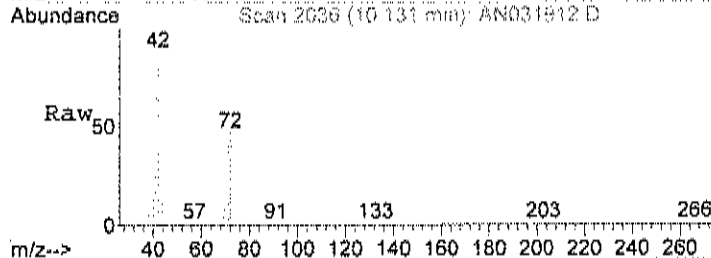
RT: 10.13 min Scan# 2036

Delta R.T. -0.02 min

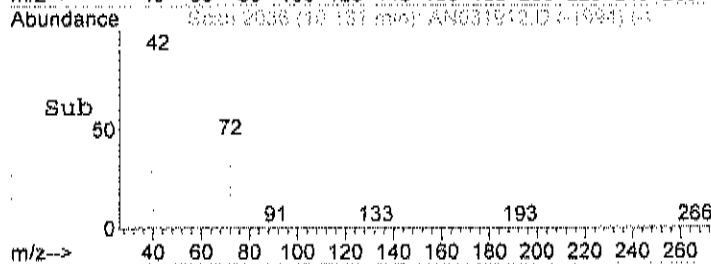
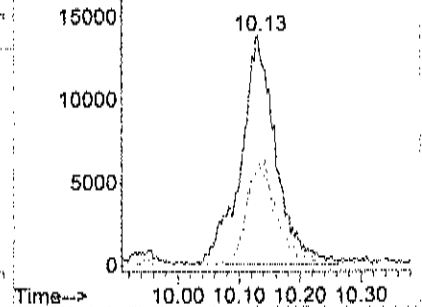
Lab File: AN031912.D

Acq: 19 Mar 2016 5:46 pm

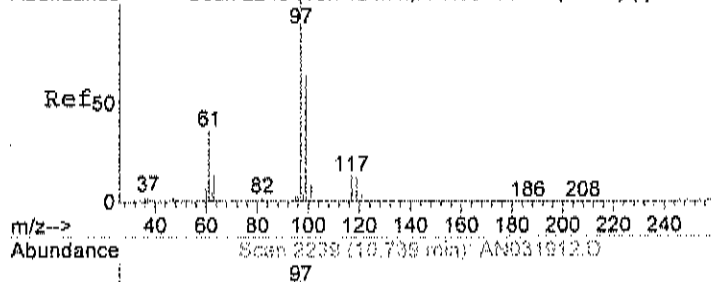
Tgt Ion: 42	Resp: 55454
Ion Ratio	Lower Upper
42	100
71	38.3 20.0 60.0
72	43.0 19.1 59.1



Abundance Ion 42.00 (41.70 to 42.70): ANI
 Ion 71.00 (70.70 to 71.70): ANI
 Ion 73.00 (72.70 to 73.70): ANI



Abundance Scan 2240 (10.742 min): AN031902.D (-2215) (-)



#36

1,1,1-trichloroethane

Concen: 0.24 ppb

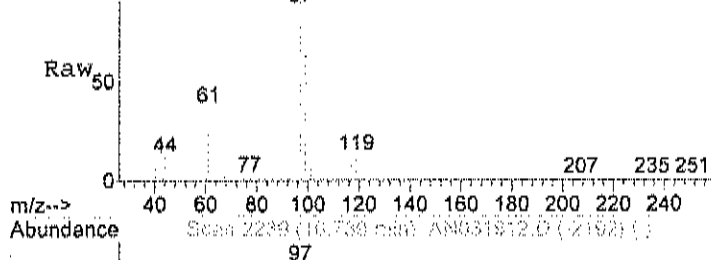
RT: 10.74 min Scan# 2239

Delta R.T. -0.01 min

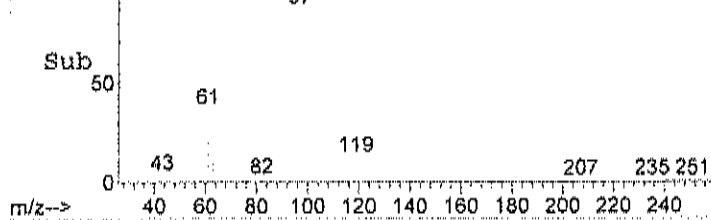
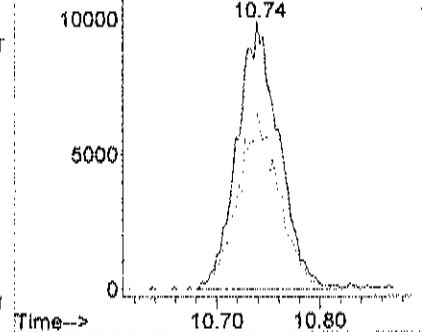
Lab File: AN031912.D

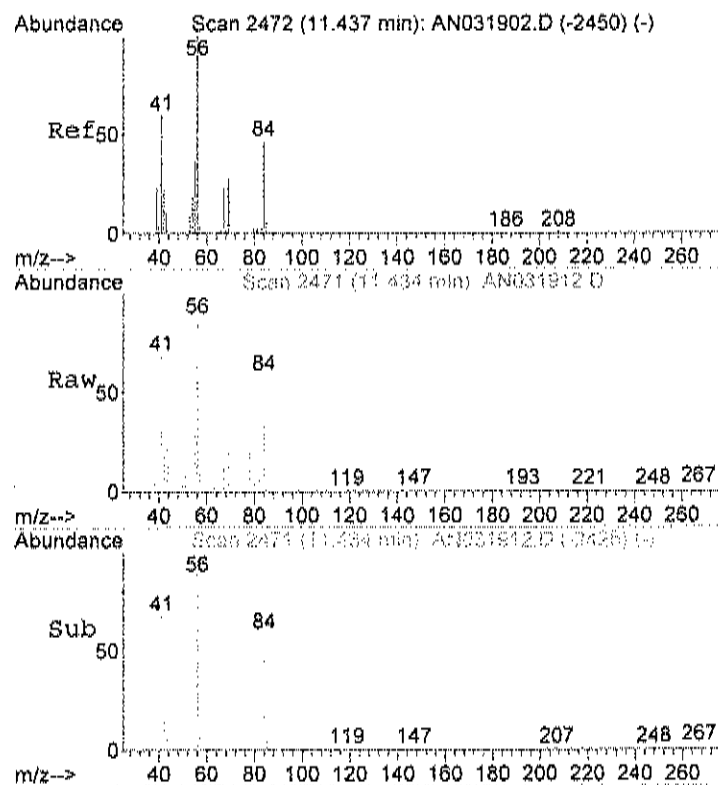
Acq: 19 Mar 2016 5:46 pm

Tgt Ion: 97	Resp: 27985
Ion Ratio	Lower Upper
97	100
99	63.7 45.4 85.4



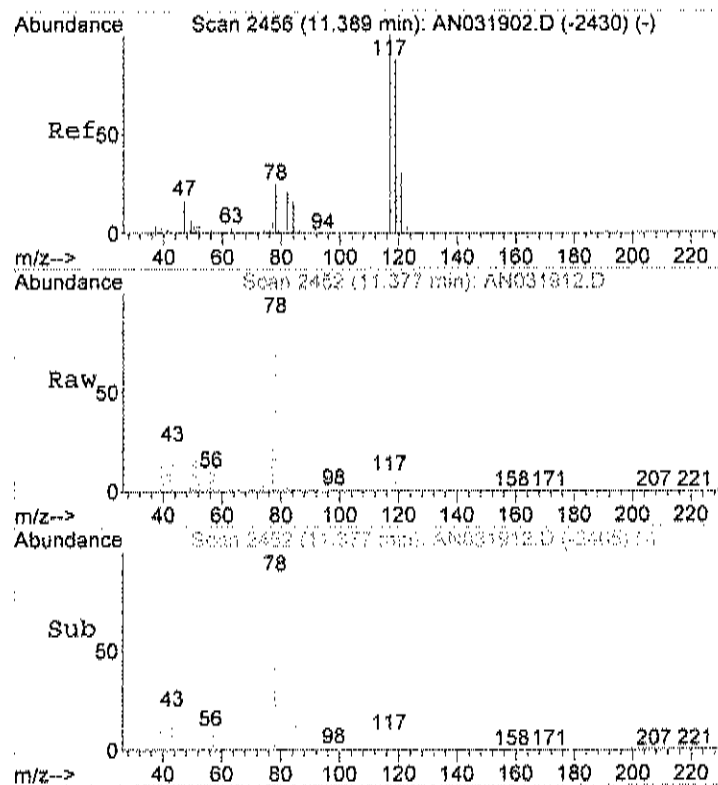
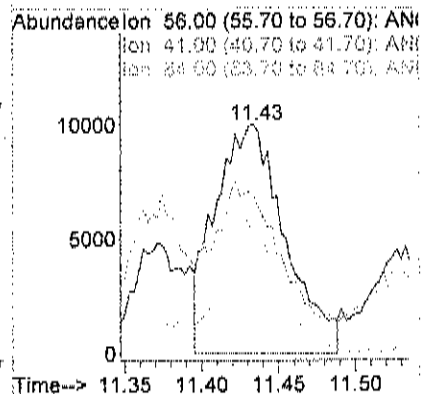
Abundance Ion 97.00 (96.70 to 97.70): ANI
 Ion 99.00 (98.70 to 99.70): ANI





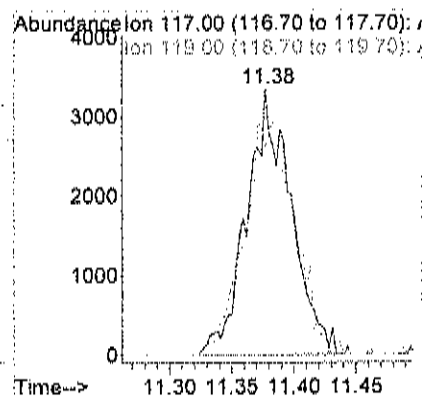
#37
Cyclohexane
Concen: 0.66 ppb m
RT: 11.43 min Scan# 2471
Delta R.T. -0.01 min
Lab File: AN031912.D
Acq: 19 Mar 2016 5:46 pm

Tgt Ion	56	Resp	31634
Ion	Ratio	Lower	Upper
56	100		
41	160.5	47.3	87.3#
84	61.1	88.1	128.1#

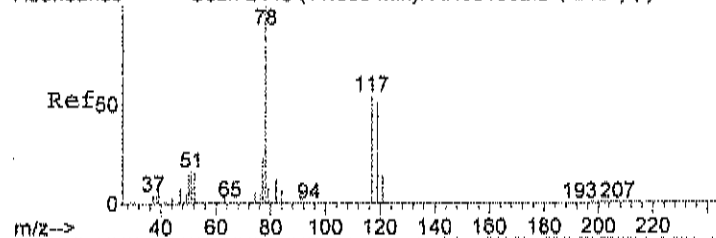


#38
Carbon tetrachloride
Concen: 0.06 ppb
RT: 11.38 min Scan# 2452
Delta R.T. -0.01 min
Lab File: AN031912.D
Acq: 19 Mar 2016 5:46 pm

Tgt Ion	117	Resp	8301
Ion	Ratio	Lower	Upper
117	100		
119	97.2	74.5	114.5



Abundance Scan 2445 (11.356 min): AN031902.D (-2424) (-)



#39

Benzene

Concen: 2.23 ppb

RT: 11.36 min Scan# 2445

Delta R.T. -0.01 min

Lab File: AN031912.D

Acq: 19 Mar 2016 5:46 pm

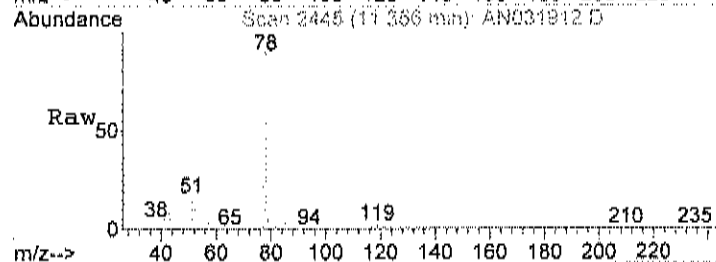
Tgt Ion: 78 Resp: 228666

Ion Ratio Lower Upper

78 100

77 24.5 6.0 46.0

51 18.1 2.1 42.1



Abundance Ion 78.00 (77.70 to 78.70): ANI

Ion 77.00 (76.70 to 77.70): ANI

Ion 51.00 (50.70 to 51.70): ANI

100000

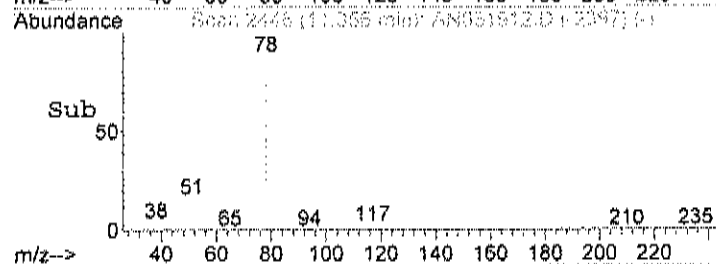
80000

60000

40000

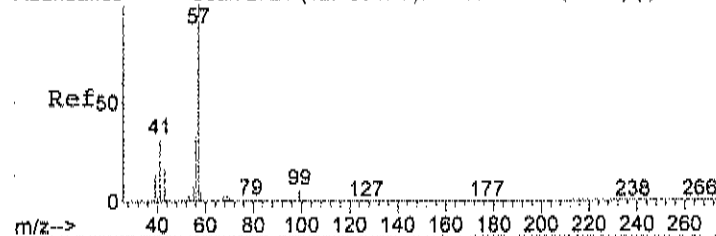
20000

0



Time--> 11.20 11.30 11.40 11.50

Abundance Scan 2721 (12.183 min): AN031902.D (-2700) (-)



#42

2,2,4-trimethylpentane

Concen: 0.29 ppb

RT: 12.18 min Scan# 2719

Delta R.T. -0.01 min

Lab File: AN031912.D

Acq: 19 Mar 2016 5:46 pm

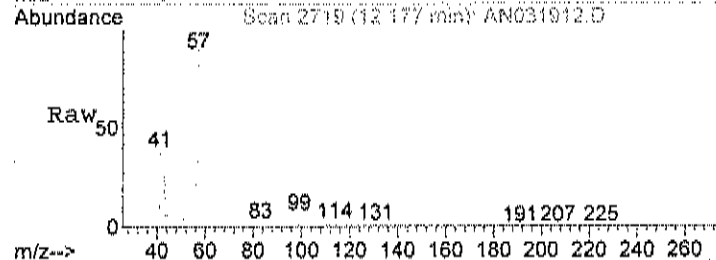
Tgt Ion: 57 Resp: 52750

Ion Ratio Lower Upper

57 100

41 51.3 14.1 54.1

56 47.8 11.4 51.4



Abundance Ion 57.00 (56.70 to 57.70): ANI

Ion 41.00 (40.70 to 41.70): ANI

Ion 56.00 (55.70 to 56.70): ANI

25000

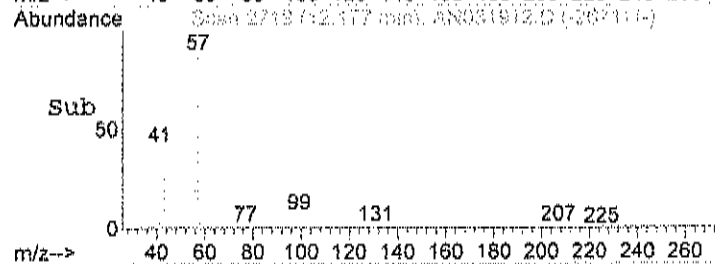
20000

15000

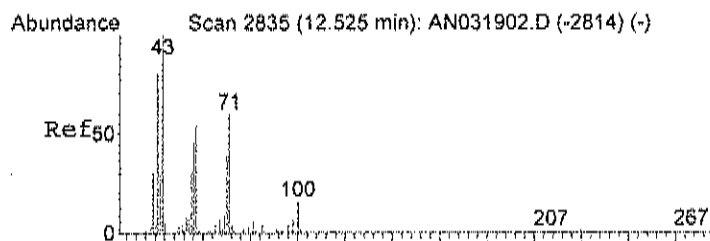
10000

5000

0

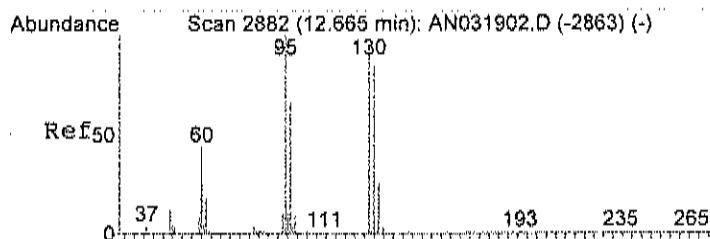
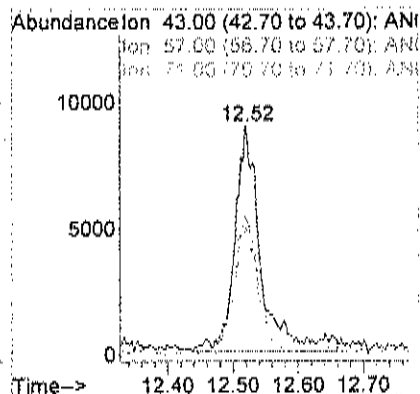


Time--> 12.10 12.20 12.30



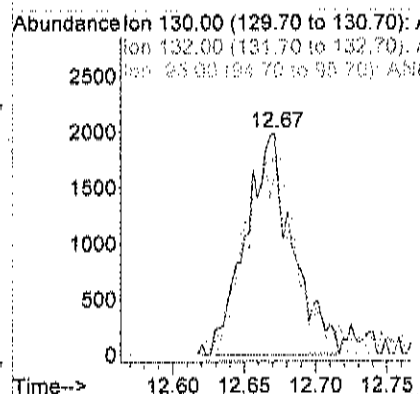
#43
Heptane
Concen: 0.60 ppb
RT: 12.52 min Scan# 2833
Delta R.T. -0.01 min
Lab File: AN031912.D
Acq: 19 Mar 2016 5:46 pm

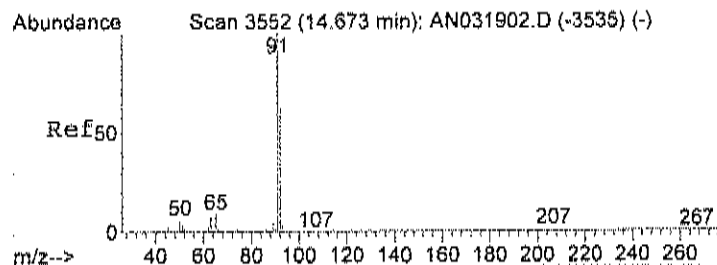
Tgt Ion	Ratio	Lower	Upper
43	100		
57	70.1	31.3	71.3
71	49.9	34.8	74.8



#44
Trichloroethene
Concen: 0.09 ppb
RT: 12.67 min Scan# 2884
Delta R.T. 0.00 min
Lab File: AN031912.D
Acq: 19 Mar 2016 5:46 pm

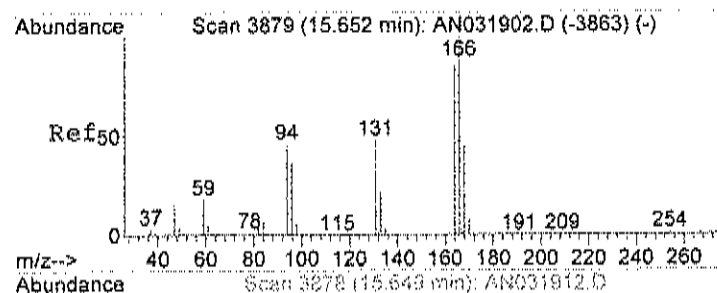
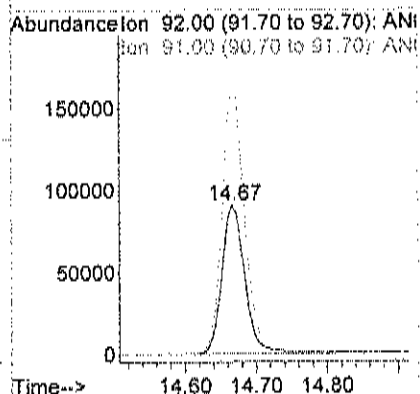
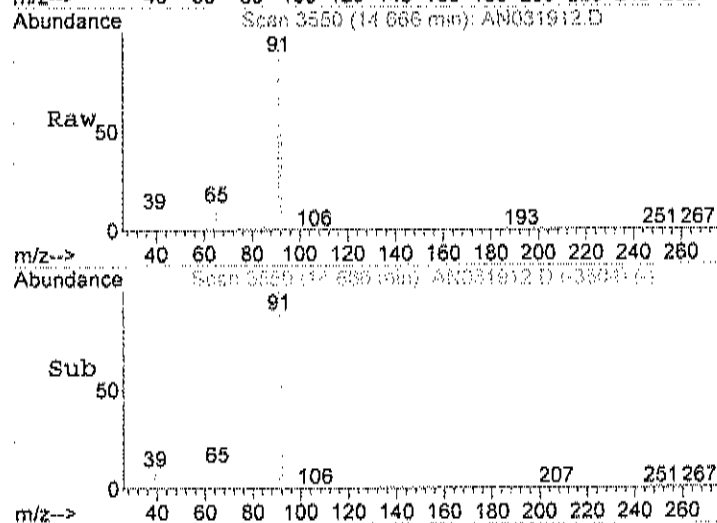
Tgt Ion	Ratio	Lower	Upper
130	100		
132	93.9	76.1	116.1
95	104.9	85.0	125.0





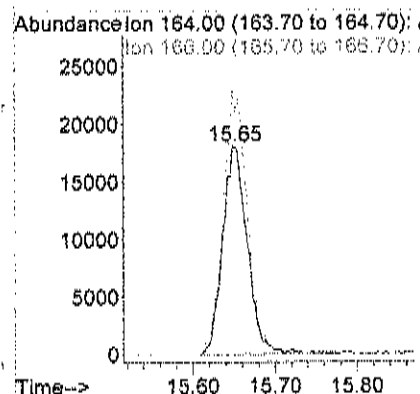
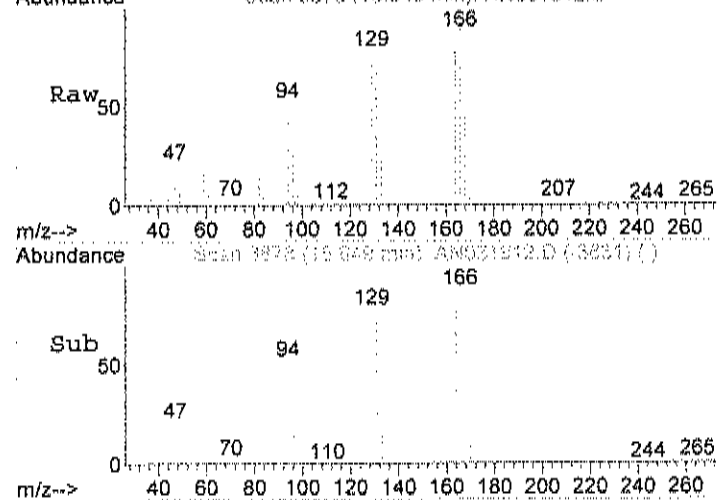
#51
Toluene
Concen: 4.20 ppb
RT: 14.67 min Scan# 3550
Delta R.T. -0.01 min
Lab File: AN031912.D
Acq: 19 Mar 2016 5:46 pm

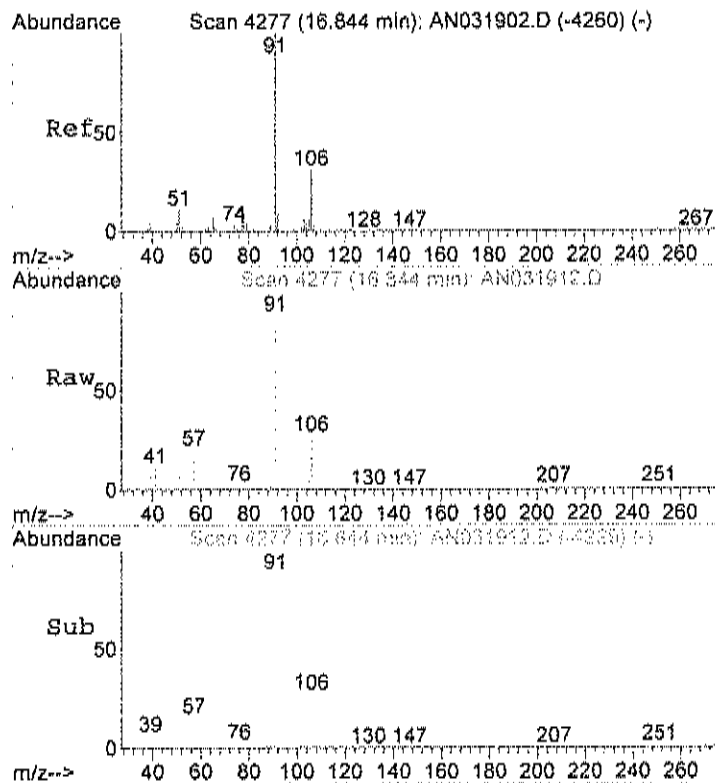
Tgt Ion: 92 Resp: 206070
Ion Ratio Lower Upper
92 100
91 177.0 152.5 192.5



#56
Tetrachloroethylene
Concen: 0.81 ppb
RT: 15.65 min Scan# 3878
Delta R.T. -0.01 min
Lab File: AN031912.D
Acq: 19 Mar 2016 5:46 pm

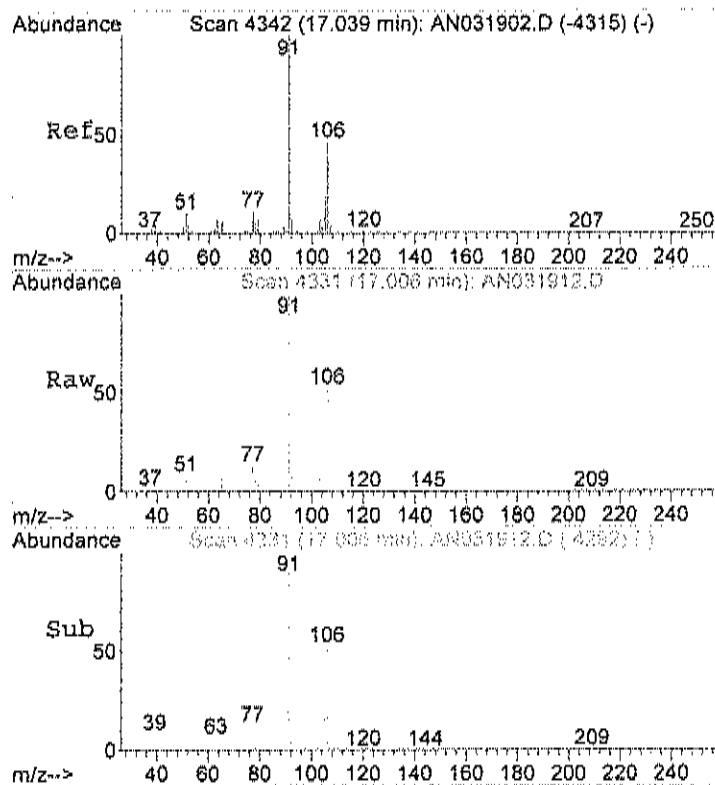
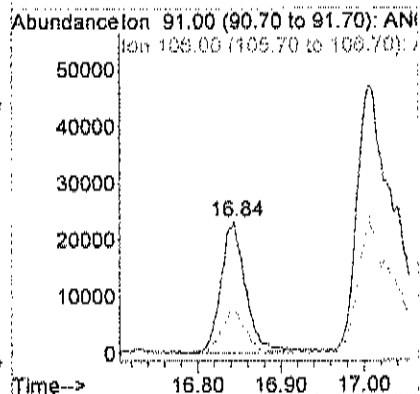
Tgt Ion: 164 Resp: 38131
Ion Ratio Lower Upper
164 100
166 125.8 108.6 148.6





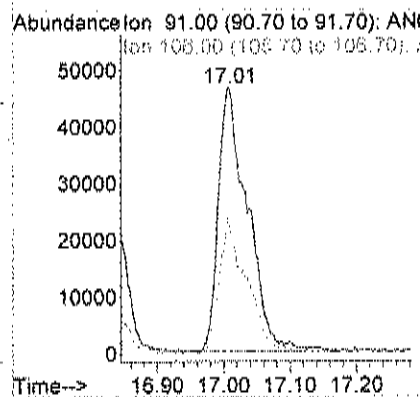
#59
Ethylbenzene
Concen: 0.58 ppb
RT: 16.84 min Scan# 4277
Delta R.T. -0.01 min
Lab File: AN031912.D
Acq: 19 Mar 2016 5:46 pm

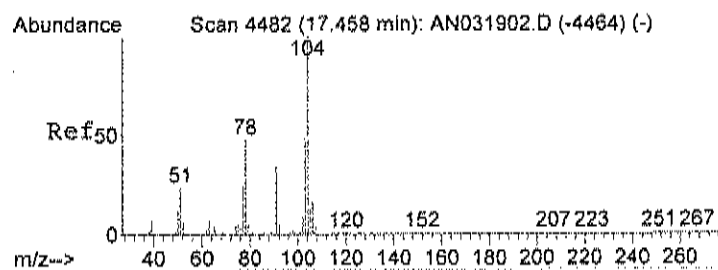
Tgt Ion: 91	Resp: 48686
Ion Ratio	Lower Upper
91	100
106	31.7 9.9 49.9



#60
m,p-xylene
Concen: 2.14 ppb
RT: 17.01 min Scan# 4331
Delta R.T. -0.03 min
Lab File: AN031912.D
Acq: 19 Mar 2016 5:46 pm

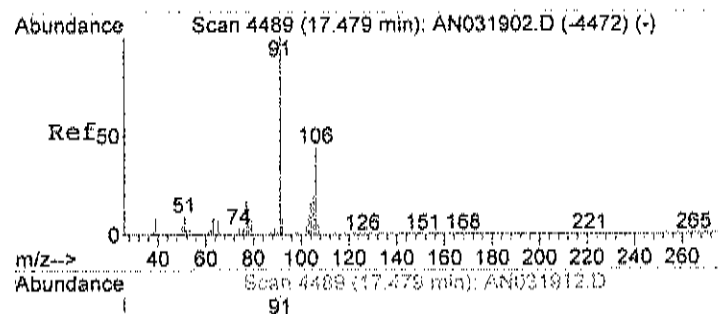
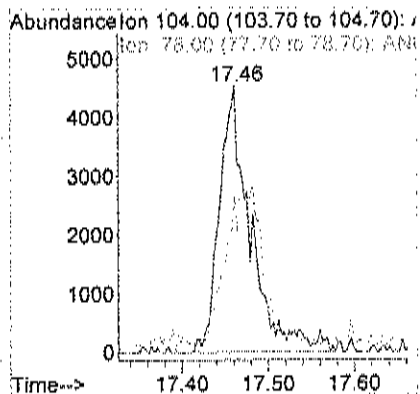
Tgt Ion: 91	Resp: 143233
Ion Ratio	Lower Upper
91	100
106	48.7 25.3 65.3





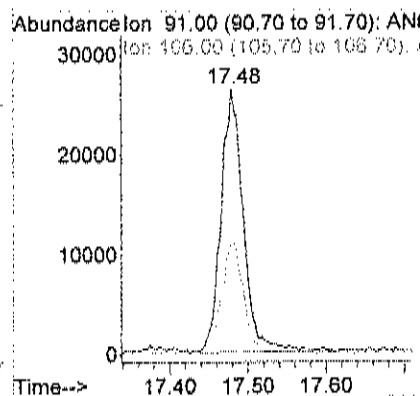
#62
Styrene
Concen: 0.24 ppb
RT: 17.46 min Scan# 4483
Delta R.T. 0.00 min
Lab File: AN031912.D
Acq: 19 Mar 2016 5:46 pm

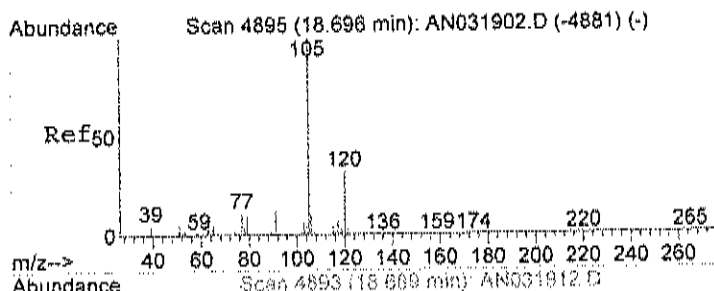
Tgt Ion: 104 Resp: 11355
Ion Ratio Lower Upper
104 100
78 80.0 44.4 84.4



#64
o-xylene
Concen: 0.65 ppb
RT: 17.48 min Scan# 4489
Delta R.T. -0.00 min
Lab File: AN031912.D
Acq: 19 Mar 2016 5:46 pm

Tgt Ion: 91 Resp: 51932
Ion Ratio Lower Upper
91 100
106 43.6 18.4 58.4

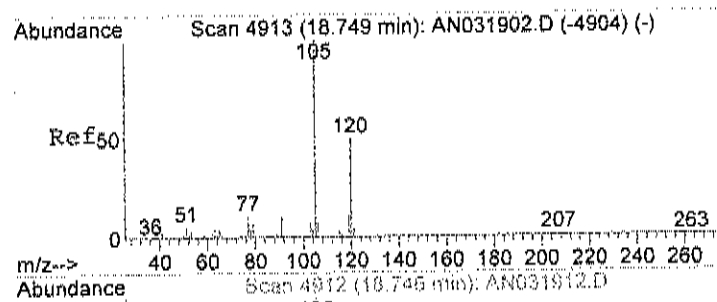
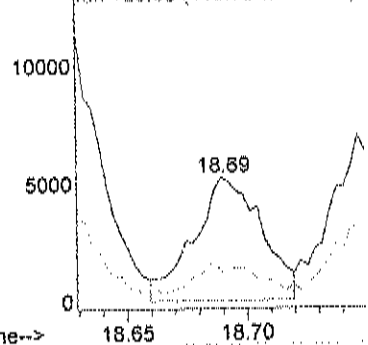




#70
4-ethyltoluene
Concen: 0.12 ppb m
RT: 18.69 min Scan# 4893
Delta R.T. -0.01 min
Lab File: AN031912.D
Acq: 19 Mar 2016 5:46 pm

Tgt Ion	105	120	Resp	10264
Ion Ratio	100	160.1	Lower	Upper
			0.0	20.0#

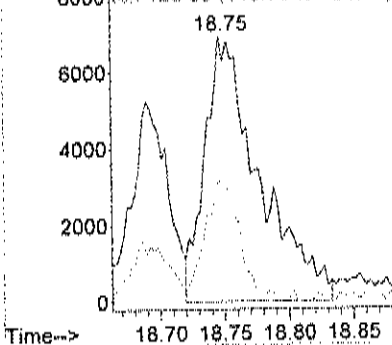
Abundance Ion 105.00 (104.70 to 105.70): /
Ion 120.00 (119.70 to 120.70): /

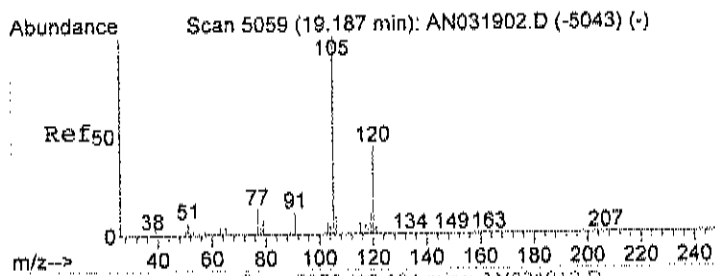


#71
1,3,5-trimethylbenzene
Concen: 0.20 ppb m
RT: 18.75 min Scan# 4912
Delta R.T. -0.01 min
Lab File: AN031912.D
Acq: 19 Mar 2016 5:46 pm

Tgt Ion	105	120	Resp	20223
Ion Ratio	100	76.8	Lower	Upper
			0.0	20.0#

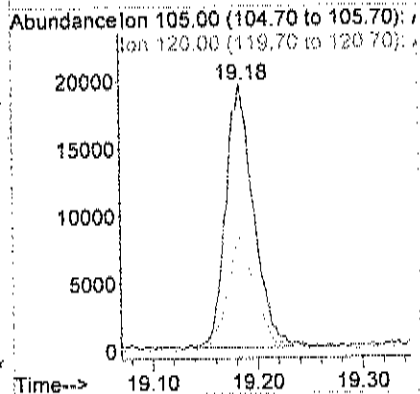
Abundance Ion 105.00 (104.70 to 105.70): /
Ion 120.00 (119.70 to 120.70): /





#72
1,2,4-trimethylbenzene
Concen: 0.41 ppb
RT: 19.18 min Scan# 5058
Delta R.T. -0.01 min
Lab File: AN031912.D
Acq: 19 Mar 2016 5:46 pm

Tgt Ion	105	Resp	36363
Ion Ratio	Lower	Upper	
105	100		
120	43.8	22.1	62.1



Data File : C:\HPCHEM\1\DATA\AN031922.D

Vial: 22

Acq On : 20 Mar 2016 12:09 am

Operator: RJP

Sample : C1603053-002A 10x

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 20 12:45:50 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.83	128	34033	1.00	ppb	0.02
35) 1,4-difluorobenzene	12.06	114	100861	1.00	ppb	0.00
50) Chlorobenzene-d5	16.56	117	66653	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.14	95	42369	0.99	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	99.00%

Target Compounds

					Qvalue
15) Acetone	6.05	58	26652	1.81	ppb # 16
17) Isopropyl alcohol	6.16	45	44413	0.93	ppb # 46
28) Methyl Ethyl Ketone	8.94	72	63470	4.05	ppb # 100
33) Tetrahydrofuran	10.18	42	4498	0.16	ppb 98
39) Benzene	11.38	78	19489	0.23	ppb 96
51) Toluene	14.68	92	15258	0.34	ppb 92
60) m&p-xylene	17.01	91	12411	0.20	ppb 97

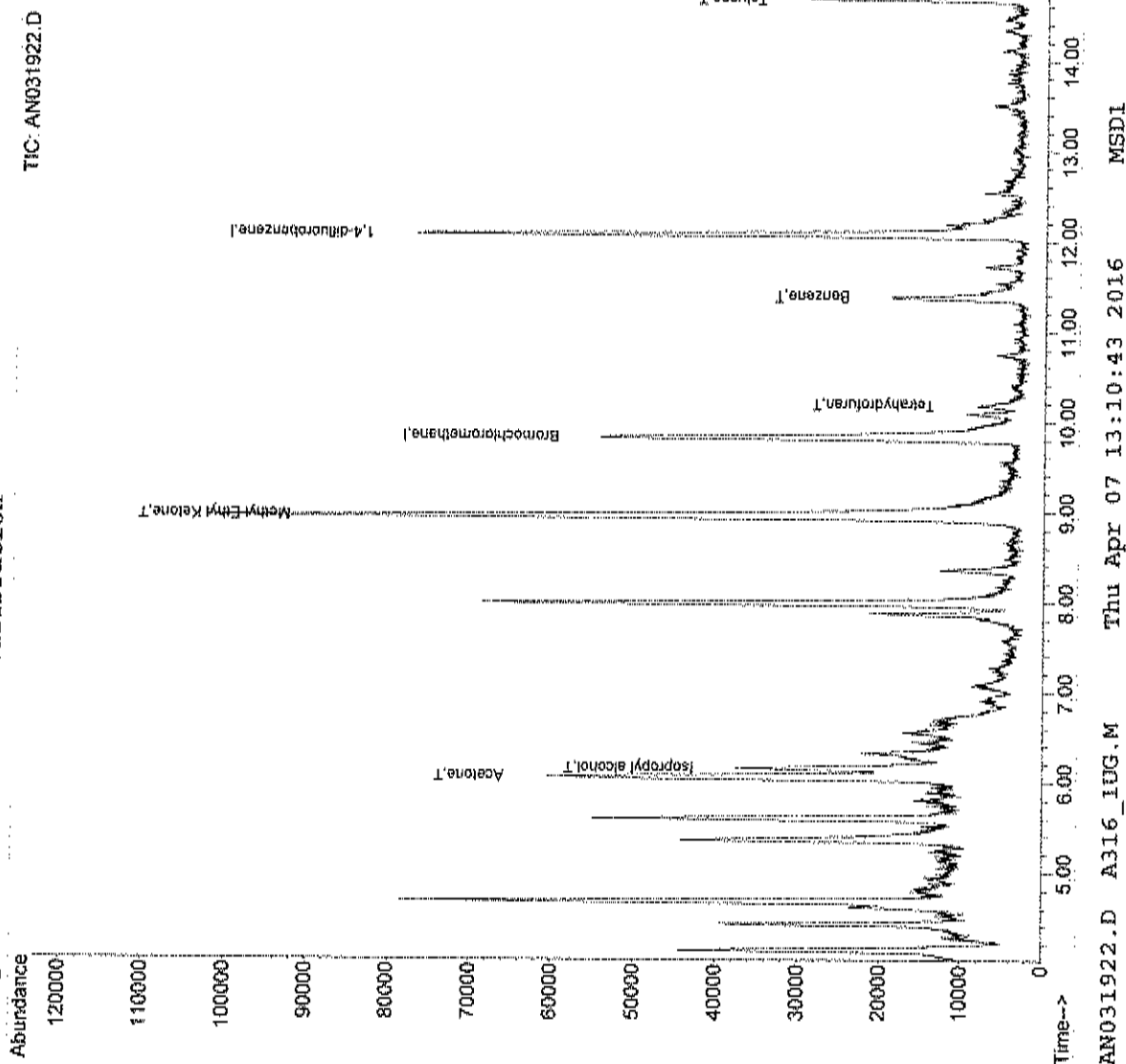
Quantitation Report (QT Reviewed)

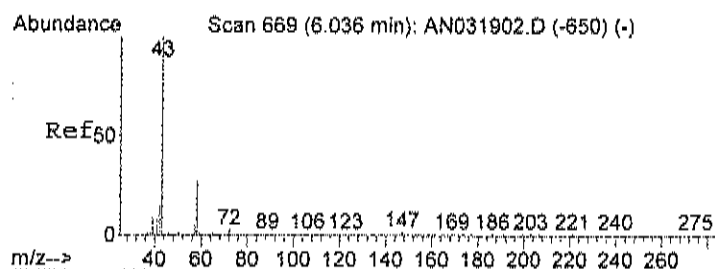
Data File : C:\HPCHEM\1\DATA\AN031922.D
Acq On : 20 Mar 2016 12:09 am
Sample : CL603053-002A 10X
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 24 16:33 2016

Vial: 22
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A316_1UG.RES

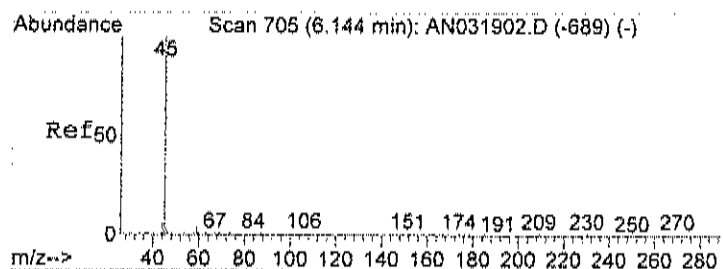
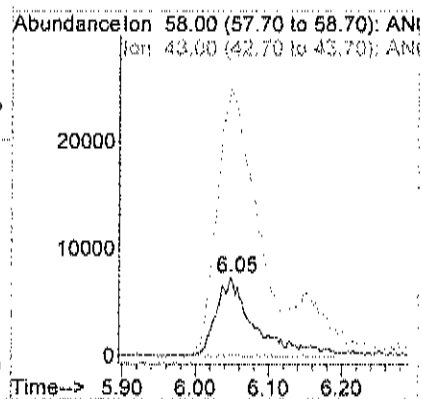
Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration





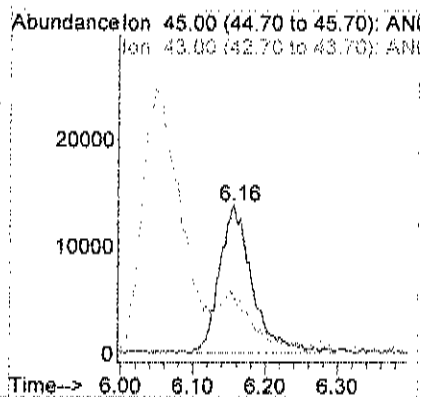
#15
Acetone
Concen: 1.81 ppb
RT: 6.05 min Scan# 673
Delta R.T. 0.01 min
Lab File: AN031922.D
Acq: 20 Mar 2016 12:09 am

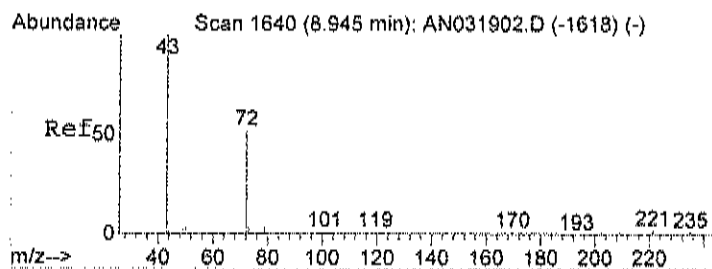
Tgt Ion: 58 Resp: 26652
Ion Ratio Lower Upper
58 100
43 402.6 661.8 721.8#



#17
Isopropyl alcohol
Concen: 0.93 ppb
RT: 6.16 min Scan# 709
Delta R.T. 0.01 min
Lab File: AN031922.D
Acq: 20 Mar 2016 12:09 am

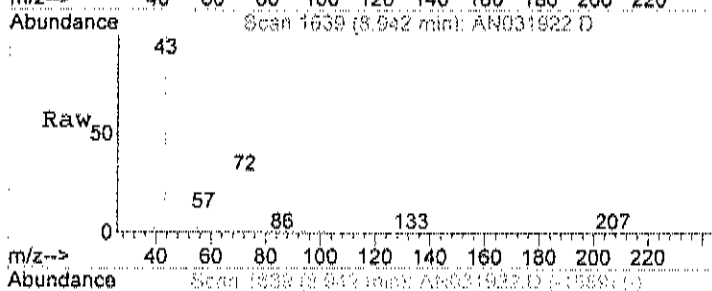
Tgt Ion: 45 Resp: 44413
Ion Ratio Lower Upper
45 100
43 0.0 8.9 48.9#



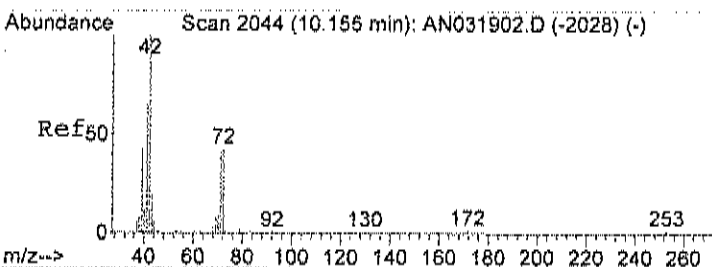
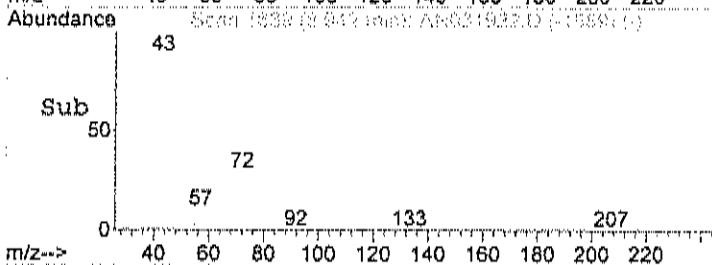
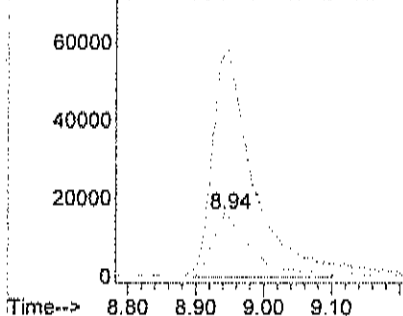


#28
Methyl Ethyl Ketone
Concen: 4.05 ppb
RT: 8.94 min Scan# 1639
Delta R.T. 0.00 min
Lab File: AN031922.D
Acq: 20 Mar 2016 12:09 am

Tgt Ion: 72 Resp: 63470
Ion Ratio Lower Upper
72 100
43 377.6 0.0 20.0#
72 100.0 80.0 120.0

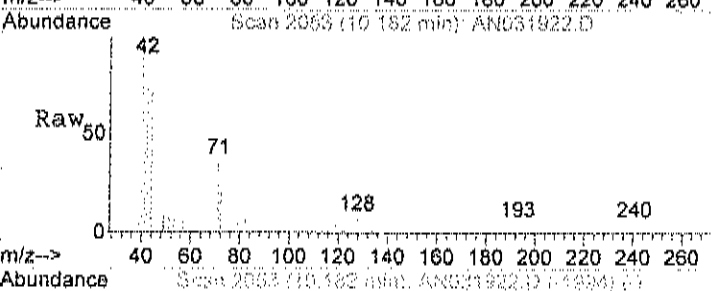


Abundance Ion 72.00 (71.70 to 72.70): ANI
80000 Ion 43.00 (42.70 to 43.70): ANI
Ion 72.03 (71.70 to 72.70): ANI

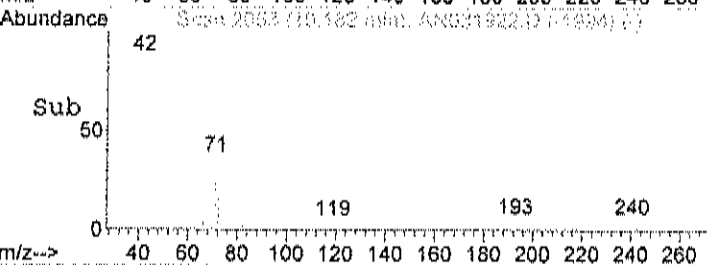
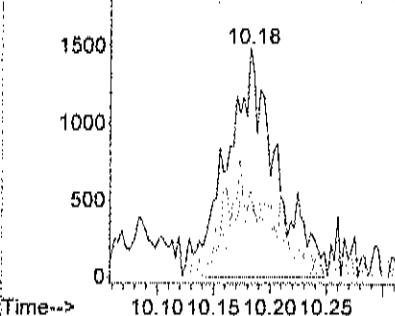


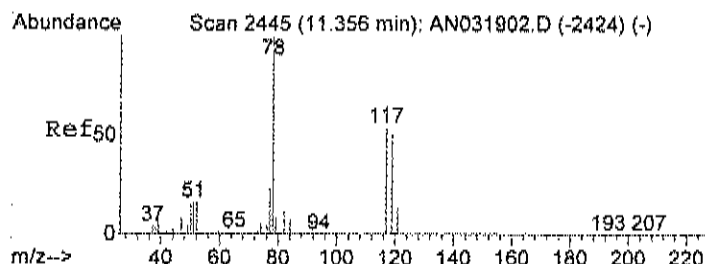
#33
Tetrahydrofuran
Concen: 0.16 ppb
RT: 10.18 min Scan# 2053
Delta R.T. 0.03 min
Lab File: AN031922.D
Acq: 20 Mar 2016 12:09 am

Tgt Ion: 42 Resp: 4498
Ion Ratio Lower Upper
42 100
71 42.6 20.0 60.0
72 39.1 19.1 59.1



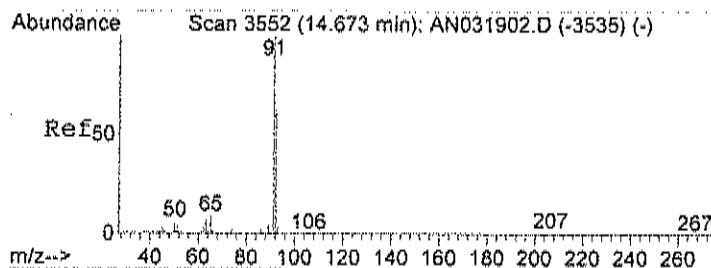
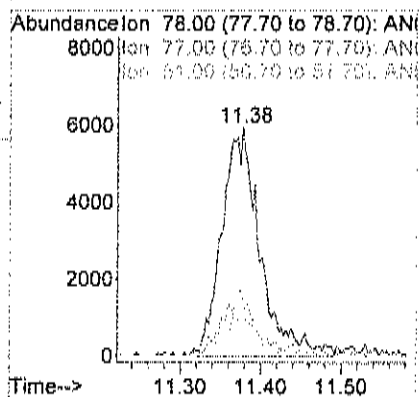
Abundance Ion 42.00 (41.70 to 42.70): ANI
2000 Ion 71.00 (70.70 to 71.70): ANI
Ion 72.00 (71.70 to 72.70): ANI





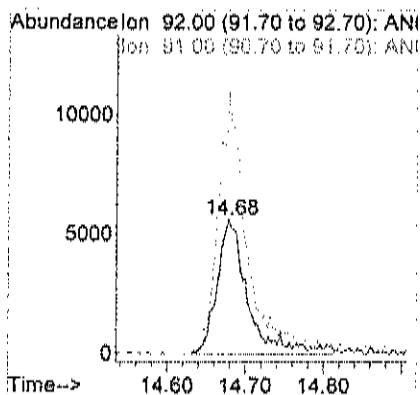
#39
Benzene
Concen: 0.23 ppb
RT: 11.38 min Scan# 2452
Delta R.T. 0.02 min
Lab File: AN031922.D
Acq: 20 Mar 2016 12:09 am

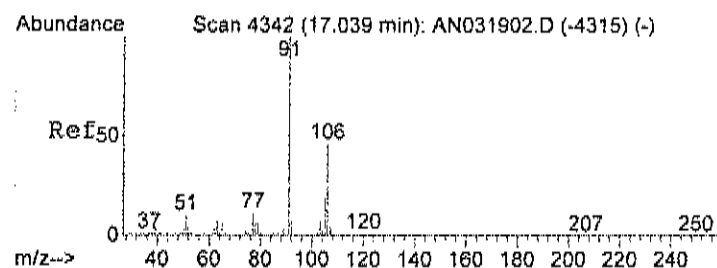
Tgt Ion	78	Resp	19489
Ion	Ratio	Lower	Upper
78	100		
77	26.5	6.0	46.0
51	18.7	2.1	42.1



#51
Toluene
Concen: 0.34 ppb
RT: 14.68 min Scan# 3554
Delta R.T. 0.00 min
Lab File: AN031922.D
Acq: 20 Mar 2016 12:09 am

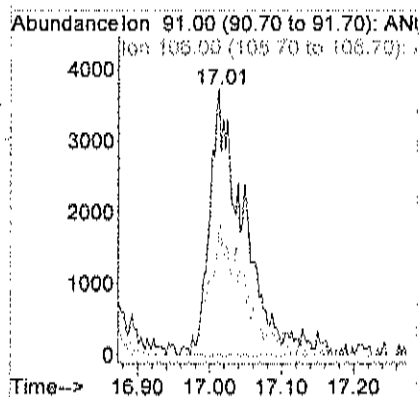
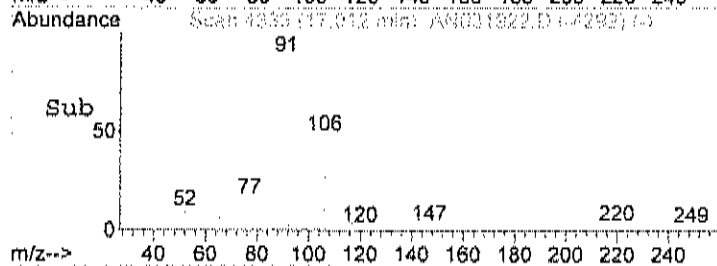
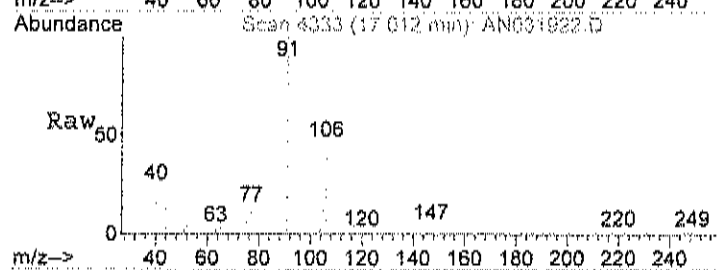
Tgt Ion	92	Resp	15258
Ion	Ratio	Lower	Upper
92	100		
91	183.0	152.5	192.5





#60
m&p-xylene
Concen: 0.20 ppb
RT: 17.01 min Scan# 4333
Delta R.T. -0.03 min
Lab File: AN031922.D
Acq: 20 Mar 2016 12:09 am

Tgt Ion: 91 Resp: 12411
Ion Ratio Lower Upper
91 100
106 47.2 25.3 65.3



Data File : C:\HPCHEM\1\DATA\AN031923.D

Vial: 23

Acq On : 20 Mar 2016 12:45 am

Operator: RJP

Sample : C1603053-002A 40x

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 20 12:45:51 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.83	128	33549	1.00	ppb	0.02
35) 1,4-difluorobenzene	12.08	114	103110	1.00	ppb	0.02
50) Chlorobenzene-d5	16.57	117	73489	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.14	95	45138	0.95	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	95.00%

Target Compounds

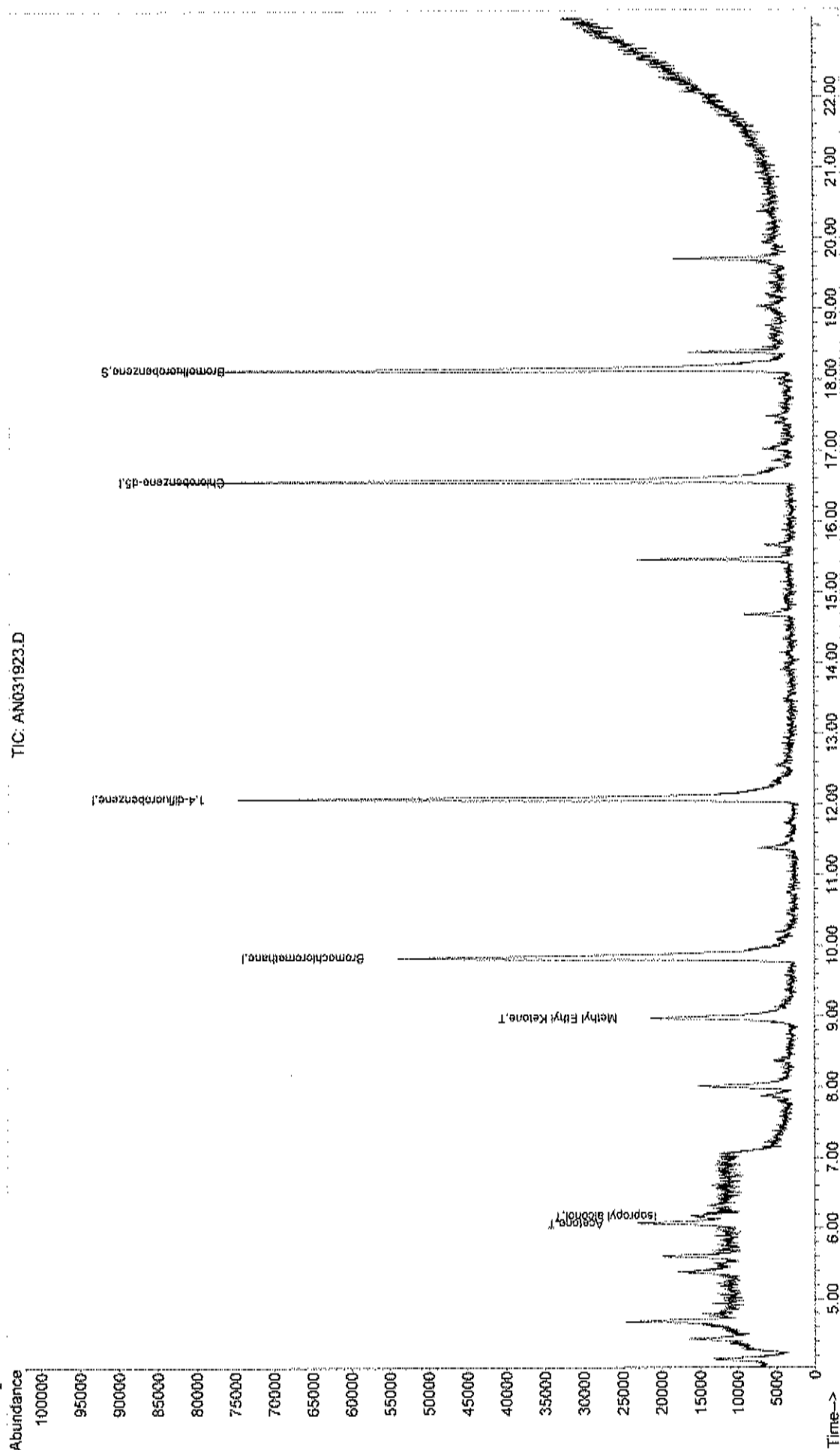
	R.T.	QIon	Response	Conc	Units	Qvalue
15) Acetone	6.07	58	5848	0.40	ppb	# 18
17) Isopropyl alcohol	6.17	45	9349	0.20	ppb	# 46
28) Methyl Ethyl Ketone	8.97	72	12184	0.79	ppb	# 100

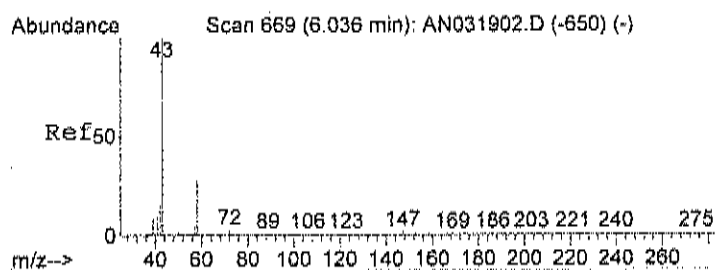
Data File : C:\HPCHEM\1\DATA\AN031923.D
Acq On : 20 Mar 2016 12:45 am
Sample : C1603053-002A 40x
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 24 16:38 2016

Vial: 23
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A316_1UG.RES

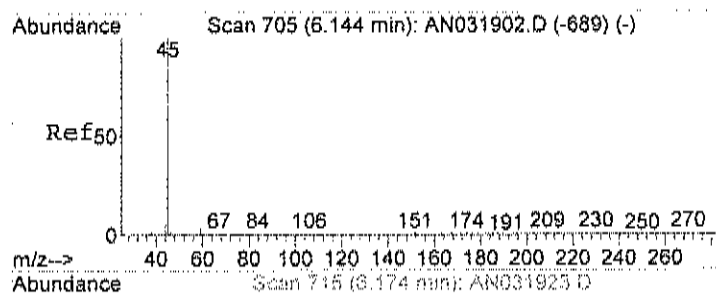
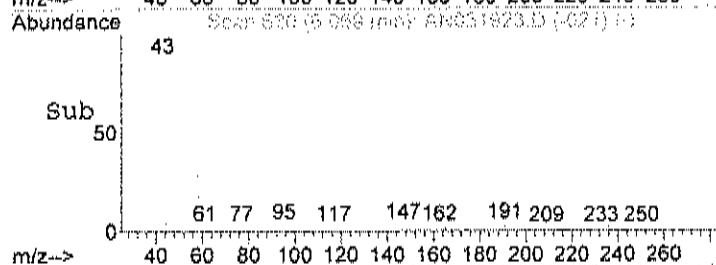
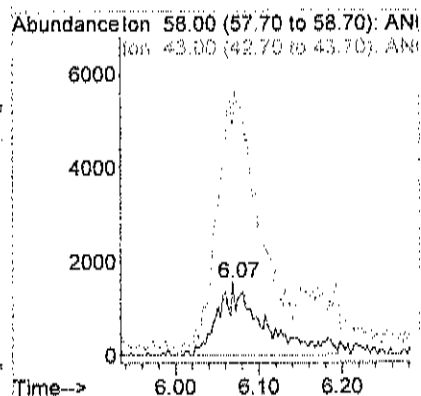
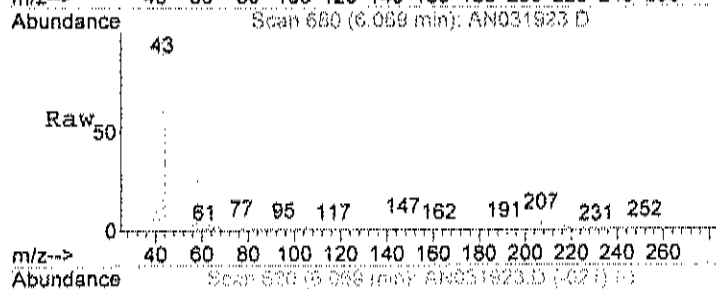
Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration





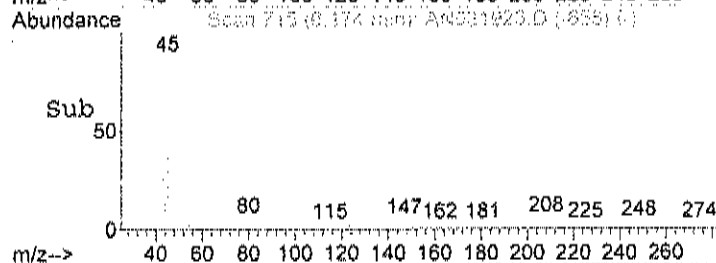
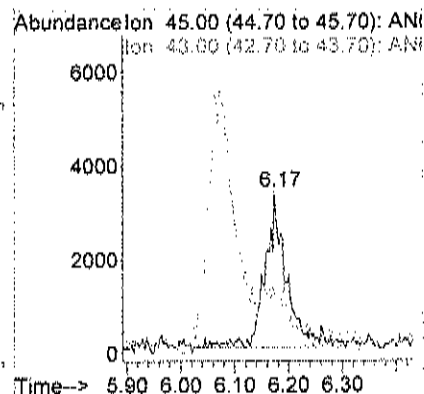
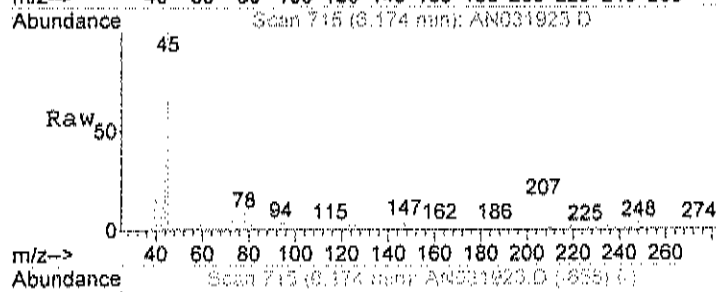
#15
Acetone
Concen: 0.40 ppb
RT: 6.07 min Scan# 680
Delta R.T. 0.03 min
Lab File: AN031923.D
Acq: 20 Mar 2016 12:45 am

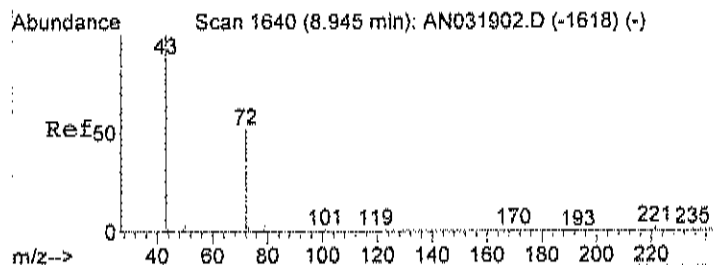
Tgt Ion: 58 Resp: 5848
Ion Ratio Lower Upper
58 100
43 407.9 661.8 721.8#



#17
Isopropyl alcohol
Concen: 0.20 ppb
RT: 6.17 min Scan# 715
Delta R.T. 0.03 min
Lab File: AN031923.D
Acq: 20 Mar 2016 12:45 am

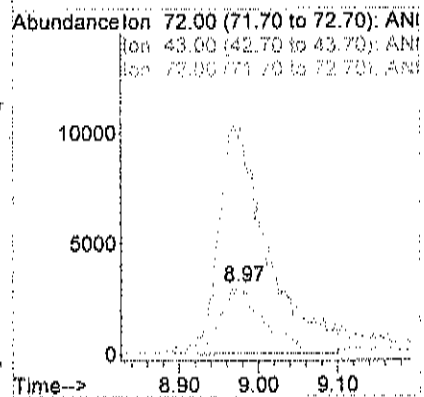
Tgt Ion: 45 Resp: 9349
Ion Ratio Lower Upper
45 100
43 0.0 8.9 48.9#





#28
Methyl Ethyl Ketone
Concen: 0.79 ppb
RT: 8.97 min Scan# 1650
Delta R.T. 0.03 min
Lab File: AN031923.D
Acq: 20 Mar 2016 12:45 am

Tgt Ion	72	Resp	12184
Ion	Ratio	Lower	Upper
72	100		
43	367.8	0.0	20.0#
72	100.0	80.0	120.0



Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-003A

Client Sample ID: Sub-slab #1
 Tag Number: 92.372
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		Analyst:		
Lab Vacuum In	-3			"Hg		3/18/2016
Lab Vacuum Out	-30			"Hg		3/18/2016
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,2,4-Trimethylbenzene	1.2	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,3,5-Trimethylbenzene	0.66	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,3-butadiene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
1,4-Dioxane	< 0.30	0.30		ppbV	1	3/19/2016 9:02:00 PM
2,2,4-trimethylpentane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
4-ethyltoluene	0.31	0.15		ppbV	1	3/19/2016 9:02:00 PM
Acetone	20	3.0		ppbV	10	3/20/2016 4:24:00 AM
Allyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Benzene	0.73	0.15		ppbV	1	3/19/2016 9:02:00 PM
Benzyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Bromodichloromethane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Bromoform	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Bromomethane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Carbon disulfide	0.20	0.15		ppbV	1	3/19/2016 9:02:00 PM
Carbon tetrachloride	0.050	0.15	J	ppbV	1	3/19/2016 9:02:00 PM
Chlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Chloroform	0.20	0.15		ppbV	1	3/19/2016 9:02:00 PM
Chloromethane	0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Cyclohexane	2.4	1.5		ppbV	10	3/20/2016 4:24:00 AM
Dibromochloromethane	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Ethyl acetate	0.75	0.25		ppbV	1	3/19/2016 9:02:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte, Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-003A

Client Sample ID: Sub-slab #1
 Tag Number: 92.372
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15				TO-15	Analyst: RJP	
Ethylbenzene	0.75	0.15		ppbV	1	3/19/2016 9:02:00 PM
Freon 11	0.22	0.15		ppbV	1	3/19/2016 9:02:00 PM
Freon 113	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Freon 114	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Freon 12	0.43	0.15		ppbV	1	3/19/2016 9:02:00 PM
Heptane	0.65	0.15		ppbV	1	3/19/2016 9:02:00 PM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Hexane	0.87	0.15		ppbV	1	3/19/2016 9:02:00 PM
Isopropyl alcohol	3.6	1.5		ppbV	10	3/20/2016 4:24:00 AM
m&p-Xylene	2.5	3.0	J	ppbV	10	3/20/2016 4:24:00 AM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	3/19/2016 9:02:00 PM
Methyl Ethyl Ketone	4.7	3.0		ppbV	10	3/20/2016 4:24:00 AM
Methyl Isobutyl Ketone	0.18	0.30	J	ppbV	1	3/19/2016 9:02:00 PM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Methylene chloride	4.9	1.5		ppbV	10	3/20/2016 4:24:00 AM
o-Xylene	1.0	0.15		ppbV	1	3/19/2016 9:02:00 PM
Propylene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Styrene	0.58	0.15		ppbV	1	3/19/2016 9:02:00 PM
Tetrachloroethylene	3.4	1.5		ppbV	10	3/20/2016 4:24:00 AM
Tetrahydrofuran	0.61	0.15		ppbV	1	3/19/2016 9:02:00 PM
Toluene	4.4	1.5		ppbV	10	3/20/2016 4:24:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Trichloroethene	0.23	0.15		ppbV	1	3/19/2016 9:02:00 PM
Vinyl acetate	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Vinyl Bromide	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Vinyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 9:02:00 PM
Surr: Bromofluorobenzene	107	70-130		%REC	1	3/19/2016 9:02:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte, Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-003A

Client Sample ID: Sub-slab #1
 Tag Number: 92.372
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/19/2016 9:02:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	3/19/2016 9:02:00 PM
1,1,2-Trichloroethane	< 0.82	0.82		ug/m3	1	3/19/2016 9:02:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/19/2016 9:02:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 9:02:00 PM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	3/19/2016 9:02:00 PM
1,2,4-Trimethylbenzene	5.7	0.74		ug/m3	1	3/19/2016 9:02:00 PM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	3/19/2016 9:02:00 PM
1,2-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 9:02:00 PM
1,2-Dichloroethane	< 0.61	0.61		ug/m3	1	3/19/2016 9:02:00 PM
1,2-Dichloropropane	< 0.69	0.69		ug/m3	1	3/19/2016 9:02:00 PM
1,3,5-Trimethylbenzene	3.2	0.74		ug/m3	1	3/19/2016 9:02:00 PM
1,3-butadiene	< 0.33	0.33		ug/m3	1	3/19/2016 9:02:00 PM
1,3-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 9:02:00 PM
1,4-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 9:02:00 PM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	3/19/2016 9:02:00 PM
2,2,4-trimethylpentane	< 0.70	0.70		ug/m3	1	3/19/2016 9:02:00 PM
4-ethyltoluene	1.5	0.74		ug/m3	1	3/19/2016 9:02:00 PM
Acetone	47	7.1		ug/m3	10	3/20/2016 4:24:00 AM
Allyl chloride	< 0.47	0.47		ug/m3	1	3/19/2016 9:02:00 PM
Benzene	2.3	0.48		ug/m3	1	3/19/2016 9:02:00 PM
Benzyl chloride	< 0.86	0.86		ug/m3	1	3/19/2016 9:02:00 PM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	3/19/2016 9:02:00 PM
Bromoform	< 1.6	1.6		ug/m3	1	3/19/2016 9:02:00 PM
Bromomethane	< 0.58	0.58		ug/m3	1	3/19/2016 9:02:00 PM
Carbon disulfide	0.62	0.47		ug/m3	1	3/19/2016 9:02:00 PM
Carbon tetrachloride	0.31	0.94	J	ug/m3	1	3/19/2016 9:02:00 PM
Chlorobenzene	< 0.69	0.69		ug/m3	1	3/19/2016 9:02:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/19/2016 9:02:00 PM
Chloroform	0.98	0.73		ug/m3	1	3/19/2016 9:02:00 PM
Chloromethane	0.31	0.31		ug/m3	1	3/19/2016 9:02:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 9:02:00 PM
cis-1,3-Dichloropropene	< 0.68	0.68		ug/m3	1	3/19/2016 9:02:00 PM
Cyclohexane	8.3	5.2		ug/m3	10	3/20/2016 4:24:00 AM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	3/19/2016 9:02:00 PM
Ethyl acetate	2.7	0.90		ug/m3	1	3/19/2016 9:02:00 PM
Ethylbenzene	3.3	0.65		ug/m3	1	3/19/2016 9:02:00 PM
Freon 11	1.2	0.84		ug/m3	1	3/19/2016 9:02:00 PM
Freon 113	< 1.1	1.1		ug/m3	1	3/19/2016 9:02:00 PM
Freon 114	< 1.0	1.0		ug/m3	1	3/19/2016 9:02:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-003A

Client Sample ID: Sub-slab #1
 Tag Number: 92.372
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
Freon 12	2.1	0.74		ug/m3	1	3/19/2016 9:02:00 PM
Heptane	2.7	0.61		ug/m3	1	3/19/2016 9:02:00 PM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	3/19/2016 9:02:00 PM
Hexane	3.1	0.53		ug/m3	1	3/19/2016 9:02:00 PM
Isopropyl alcohol	8.8	3.7		ug/m3	10	3/20/2016 4:24:00 AM
m&p-Xylene	11	13	J	ug/m3	10	3/20/2016 4:24:00 AM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	3/19/2016 9:02:00 PM
Methyl Ethyl Ketone	14	8.8		ug/m3	10	3/20/2016 4:24:00 AM
Methyl Isobutyl Ketone	0.74	1.2	J	ug/m3	1	3/19/2016 9:02:00 PM
Methyl tert-butyl ether	< 0.54	0.54		ug/m3	1	3/19/2016 9:02:00 PM
Methylene chloride	17	5.2		ug/m3	10	3/20/2016 4:24:00 AM
o-Xylene	4.6	0.65		ug/m3	1	3/19/2016 9:02:00 PM
Propylene	< 0.26	0.26		ug/m3	1	3/19/2016 9:02:00 PM
Styrene	2.5	0.64		ug/m3	1	3/19/2016 9:02:00 PM
Tetrachloroethylene	23	10		ug/m3	10	3/20/2016 4:24:00 AM
Tetrahydrofuran	1.8	0.44		ug/m3	1	3/19/2016 9:02:00 PM
Toluene	17	5.7		ug/m3	10	3/20/2016 4:24:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 9:02:00 PM
trans-1,3-Dichloropropene	< 0.68	0.68		ug/m3	1	3/19/2016 9:02:00 PM
Trichloroethene	1.2	0.81		ug/m3	1	3/19/2016 9:02:00 PM
Vinyl acetate	< 0.53	0.53		ug/m3	1	3/19/2016 9:02:00 PM
Vinyl Bromide	< 0.66	0.66		ug/m3	1	3/19/2016 9:02:00 PM
Vinyl chloride	< 0.38	0.38		ug/m3	1	3/19/2016 9:02:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Data File : C:\HPCHEM\1\DATA\AN031917.D

Vial: 17

Acq On : 19 Mar 2016 9:02 pm

Operator: RJP

Sample : C1603053-003A

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 20 12:45:45 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.78	128	44618	1.00	ppb	-0.02
35) 1,4-difluorobenzene	12.05	114	144163	1.00	ppb	0.00
50) Chlorobenzene-d5	16.55	117	89938	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.13	95	61947m	1.07	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	107.00%

Target Compounds

						Qvalue
3) Freon 12	4.18	85	81705	0.43	ppb	99
4) Chloromethane	4.39	50	7291	0.15	ppb	94
14) Freon 11	5.80	101	43800	0.22	ppb	100
15) Acetone	5.99	58	329233	17.09	ppb	# 1
17) Isopropyl alcohol	6.11	45	180207	2.87	ppb	# 46
21) Methylene chloride	7.04	84	217841	4.34	ppb	99
23) Carbon disulfide	7.19	76	30205	0.20	ppb	49
28) Methyl Ethyl Ketone	8.91	72	92765	4.51	ppb	# 100
30) Hexane	8.90	57	51077m	0.87	ppb	
31) Ethyl acetate	9.50	43	59419	0.75	ppb	95
32) Chloroform	9.94	83	26543	0.20	ppb	95
33) Tetrahydrofuran	10.14	42	22579	0.61	ppb	91
37) Cyclohexane	11.43	56	141946	2.54	ppb	# 69
38) Carbon tetrachloride	11.38	117	6843	0.05	ppb	94
39) Benzene	11.36	78	87250	0.73	ppb	93
43) Heptane	12.52	43	31477m	0.65	ppb	
44) Trichloroethene	12.67	130	14247	0.23	ppb	90
51) Toluene	14.67	92	341746	5.60	ppb	98
52) Methyl Isobutyl Ketone	13.82	43	19273	0.18	ppb	91
56) Tetrachloroethylene	15.65	164	203473	3.49	ppb	99
59) Ethylbenzene	16.84	91	78320	0.75	ppb	97
60) m&p-xylene	17.01	91	238073	2.86	ppb	97
62) Styrene	17.46	104	33504	0.58	ppb	100
64) o-xylene	17.48	91	105127	1.05	ppb	88
70) 4-ethyltoluene	18.69	105	33291m	0.31	ppb	
71) 1,3,5-trimethylbenzene	18.75	105	83628m	0.66	ppb	
72) 1,2,4-trimethylbenzene	19.18	105	127341	1.16	ppb	96

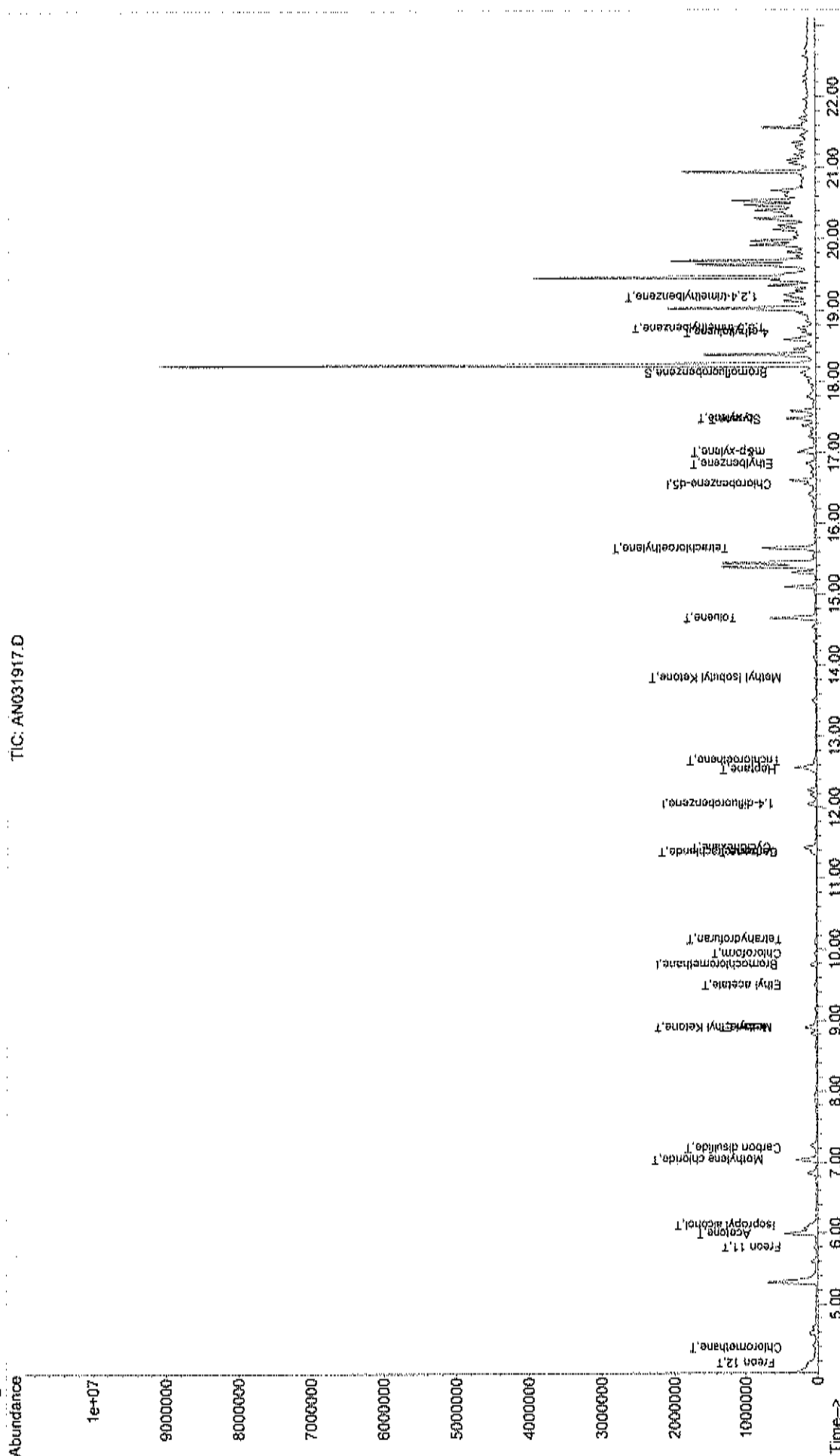
Quantitation Report (QT Reviewed)

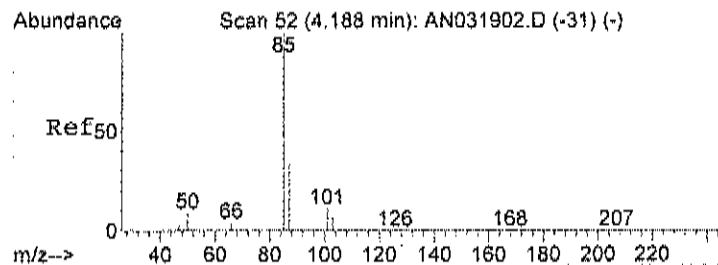
Data File : C:\HPCHEM\1\DATA\AN031917.D
Acq On : 19 Mar 2016 9:02 pm
Sample : C1603053-003A
Misc : A316_IUG
MS Integration Params: RTEINT.P
Quant Time: Mar 24 15:39 2016

Vial: 17
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A316_IUG.RES

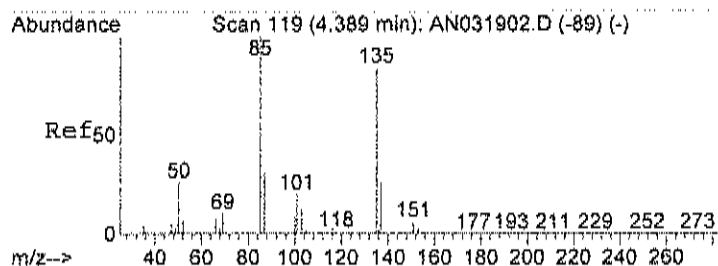
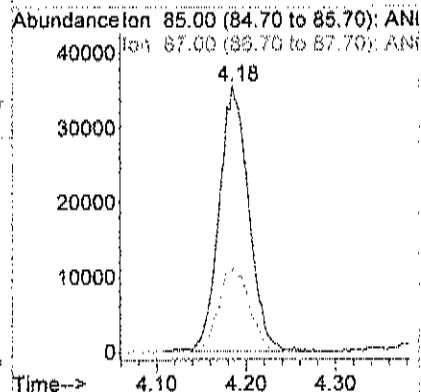
Method : C:\HPCHEM\1\METHODS\A316_IUG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration





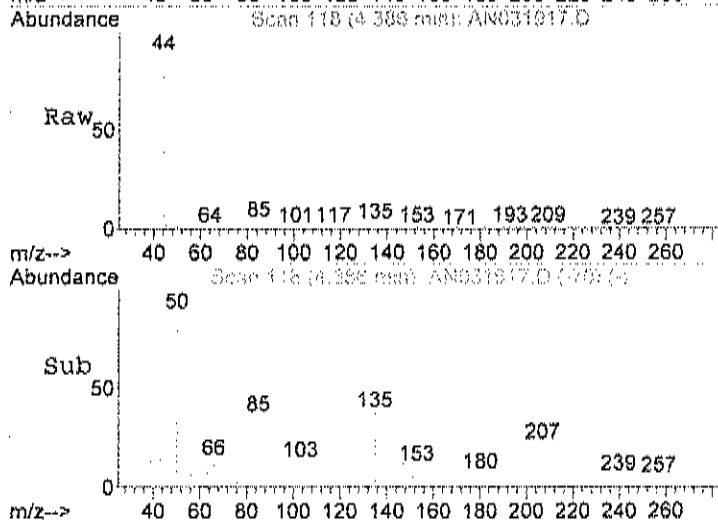
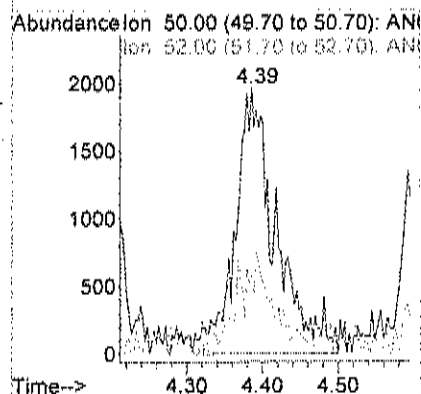
#3
Freon 12
Concen: 0.43 ppb
RT: 4.18 min Scan# 51
Delta R.T. -0.01 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

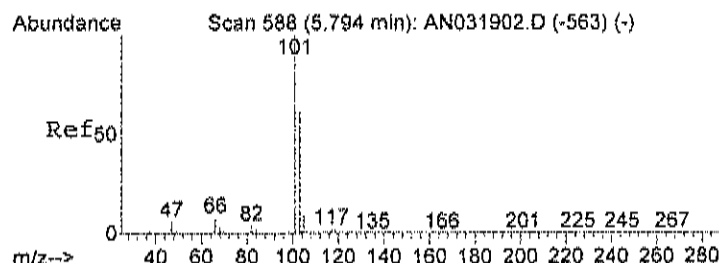
Tgt Ion	85	Resp	81705
Ion Ratio	100	Lower	Upper
87	33.0	12.5	52.5



#4
Chloromethane
Concen: 0.15 ppb
RT: 4.39 min Scan# 118
Delta R.T. -0.01 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

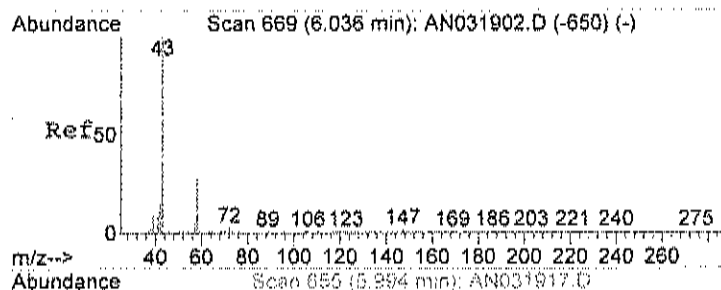
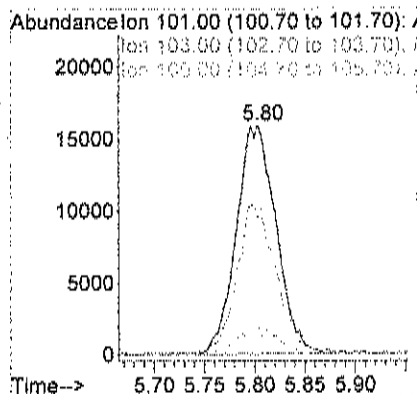
Tgt Ion	50	Resp	7291
Ion Ratio	100	Lower	Upper
52	32.3	9.2	49.2





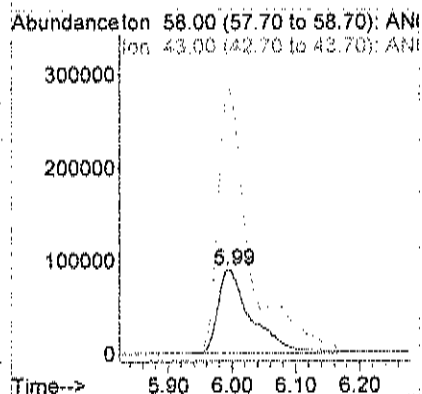
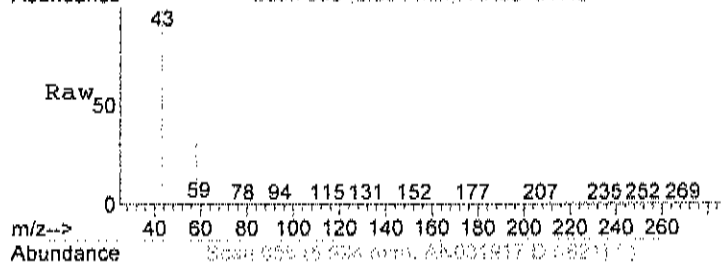
#14
Freon 11
Concen: 0.22 ppb
RT: 5.80 min Scan# 591
Delta R.T. 0.00 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

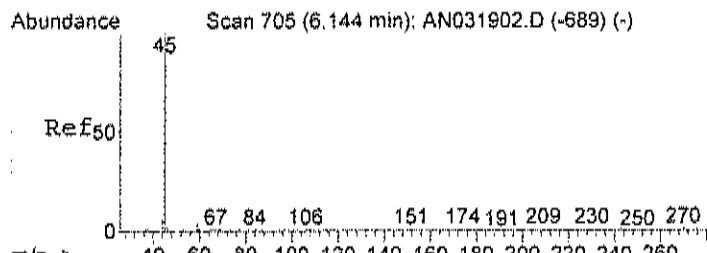
Tgt Ion	101	Resp	43800
Ion	Ratio	Lower	Upper
101	100		
103	64.3	44.6	84.6
105	11.9	0.0	31.6



#15
Acetone
Concen: 17.09 ppb
RT: 5.99 min Scan# 655
Delta R.T. -0.05 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

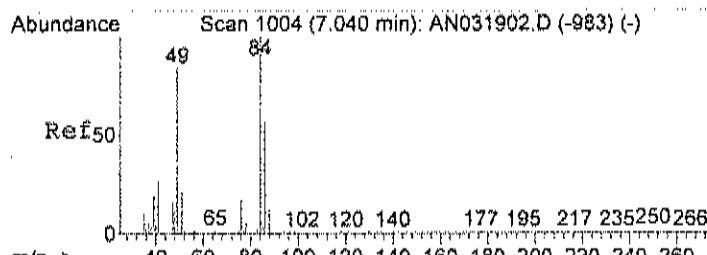
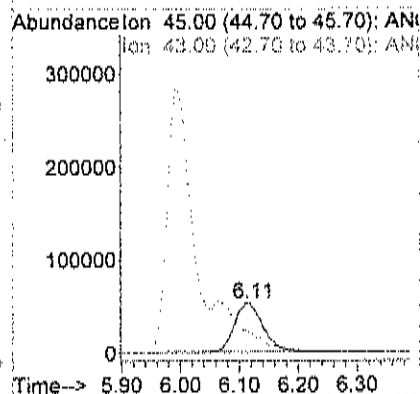
Tgt Ion	58	Resp	329233
Ion	Ratio	Lower	Upper
58	100		
43	302.7	661.8	721.8#





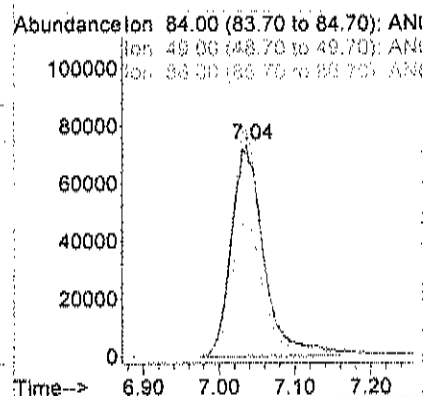
#17
Isopropyl alcohol
Concen: 2.87 ppb
RT: 6.11 min Scan# 695
Delta R.T. -0.03 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

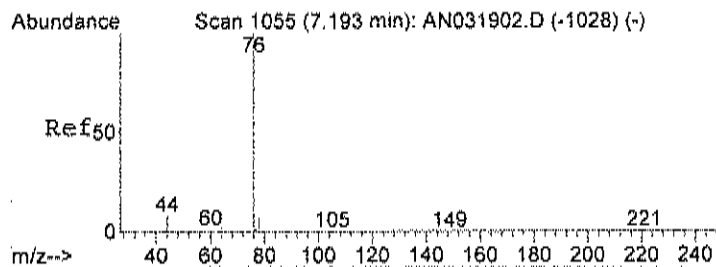
Tgt Ion: 45 Resp: 180207
Ion Ratio Lower Upper
45 100
43 0.0 8.9 48.9#



#21
Methylene chloride
Concen: 4.34 ppb
RT: 7.04 min Scan# 1003
Delta R.T. -0.01 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

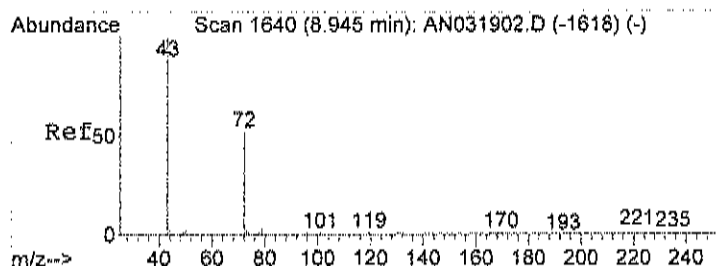
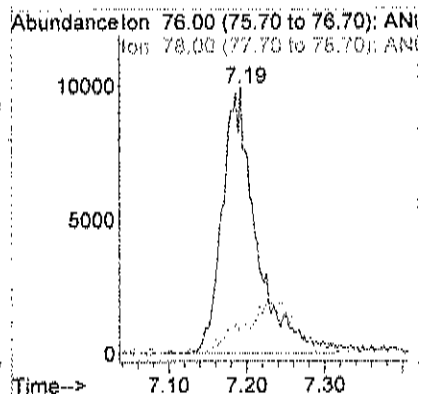
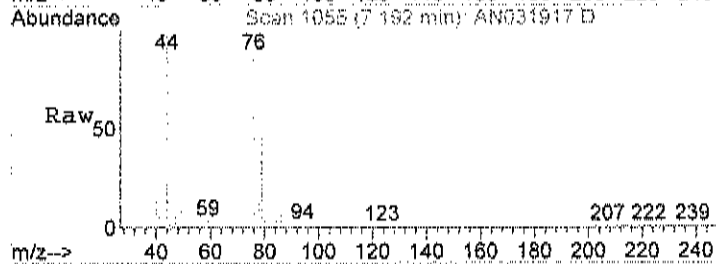
Tgt Ion: 84 Resp: 217841
Ion Ratio Lower Upper
84 100
49 107.4 87.8 127.8
86 65.5 43.1 83.1





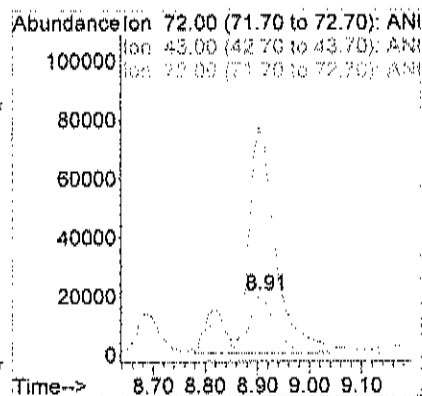
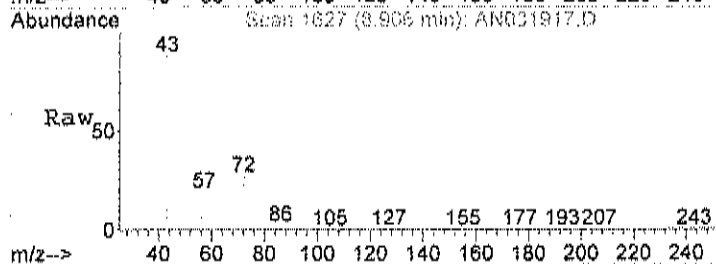
#23
Carbon disulfide
Concen: 0.20 ppb
RT: 7.19 min Scan# 1055
Delta R.T. -0.01 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

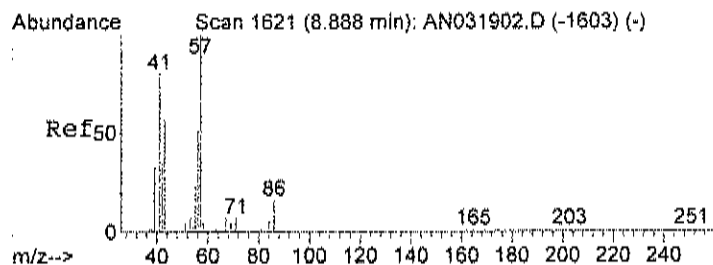
Tgt Ion	76	Resp	30205
Ion	Ratio	Lower	Upper
76	100		
78	29.3	0.0	30.3



#28
Methyl Ethyl Ketone
Concen: 4.51 ppb
RT: 8.91 min Scan# 1627
Delta R.T. -0.04 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

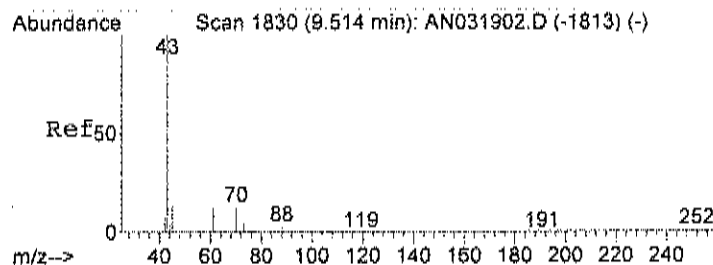
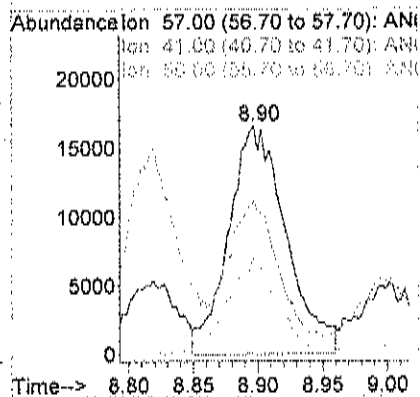
Tgt Ion	72	Resp	92765
Ion	Ratio	Lower	Upper
72	100		
43	0.0	0.0	20.0
72	100.0	80.0	120.0





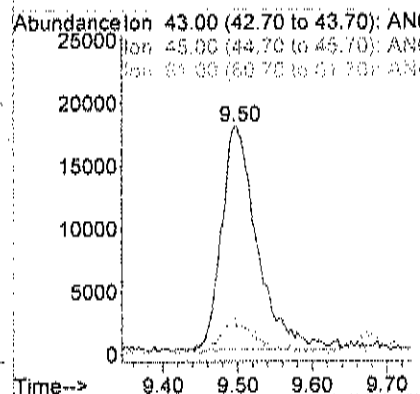
#30
Hexane
Concen: 0.87 ppb m
RT: 8.90 min Scan# 1624
Delta R.T. -0.00 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

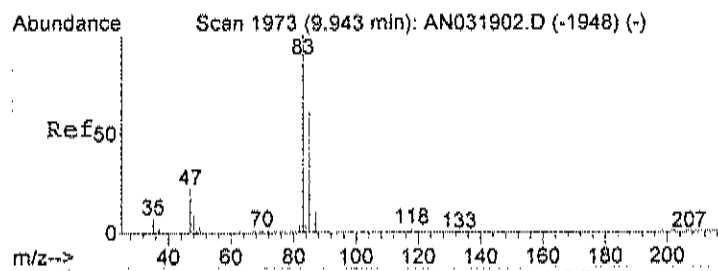
Tgt Ion: 57 Resp: 51077
Ion Ratio Lower Upper
57 100
41 0.0 66.6 106.6#
56 40.1 30.6 70.6



#31
Ethyl acetate
Concen: 0.75 ppb
RT: 9.50 min Scan# 1824
Delta R.T. -0.03 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

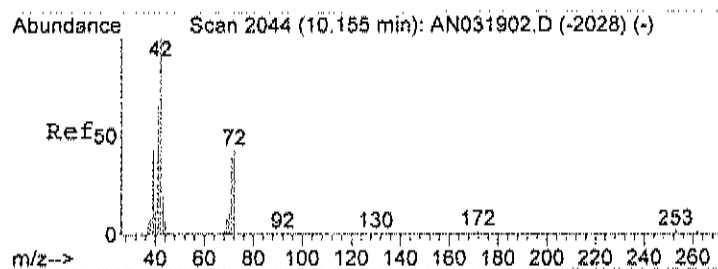
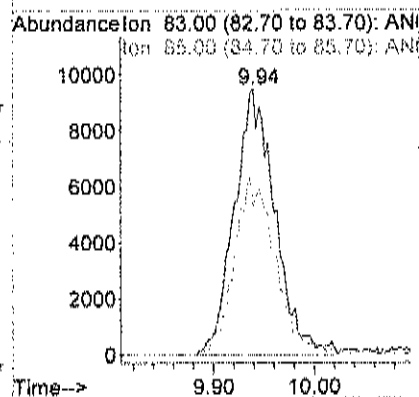
Tgt Ion: 43 Resp: 59419
Ion Ratio Lower Upper
43 100
45 15.0 0.0 33.8
61 15.7 0.0 33.3





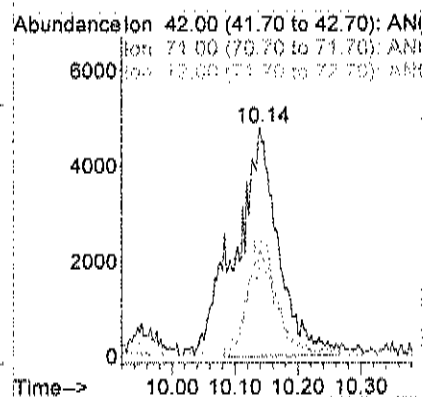
#32
Chloroform
Concen: 0.20 ppb
RT: 9.94 min Scan# 1972
Delta R.T. -0.00 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

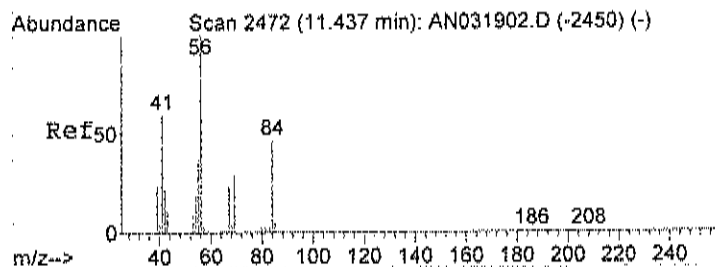
Tgt Ion: 83 Resp: 26543
Ion Ratio Lower Upper
83 100
85 67.7 43.9 83.9



#33
Tetrahydrofuran
Concen: 0.61 ppb
RT: 10.14 min Scan# 2039
Delta R.T. -0.01 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

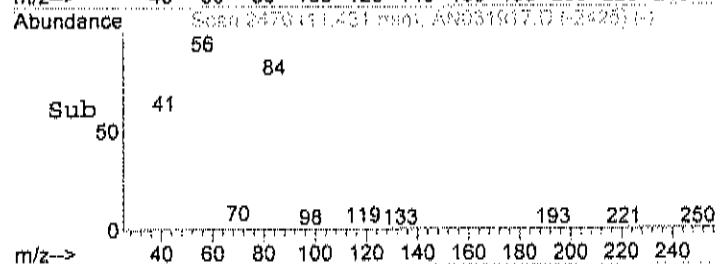
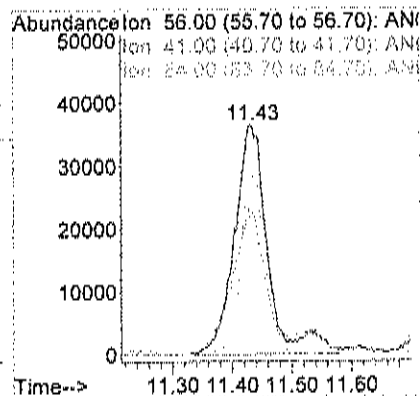
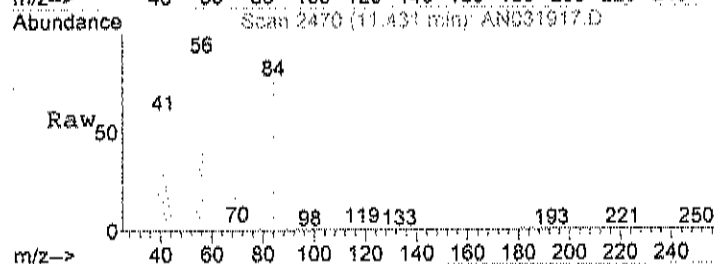
Tgt Ion: 42 Resp: 22579
Ion Ratio Lower Upper
42 100
71 32.0 20.0 60.0
72 36.7 19.1 59.1





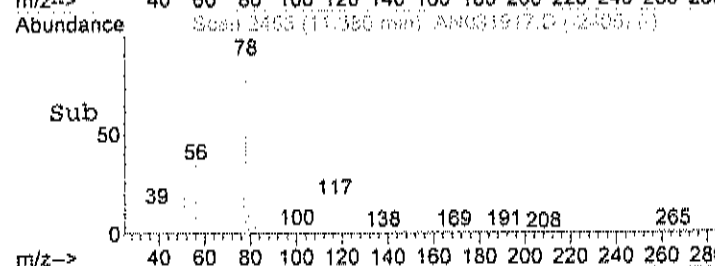
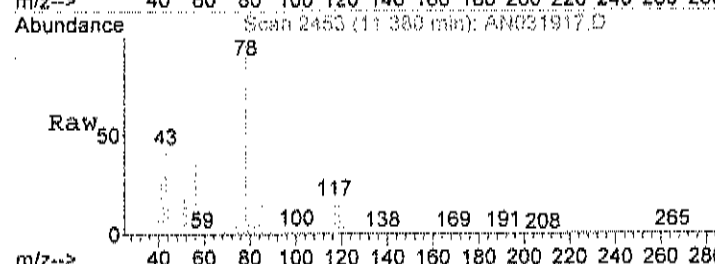
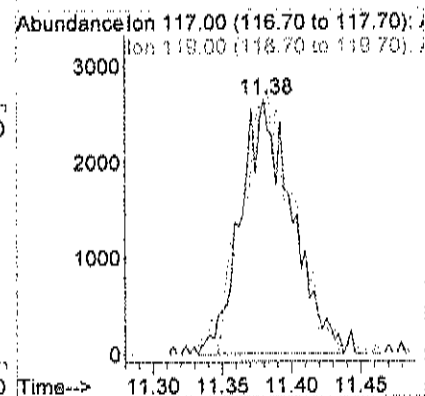
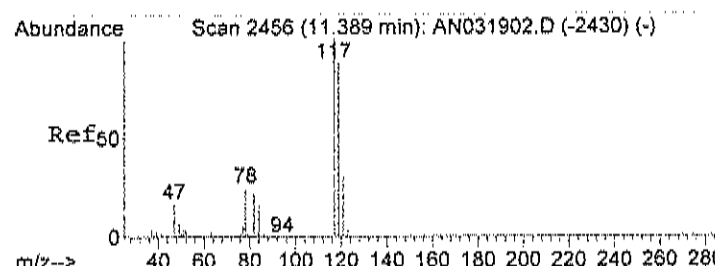
#37
Cyclohexane
Concen: 2.54 ppb
RT: 11.43 min Scan# 2470
Delta R.T. -0.01 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

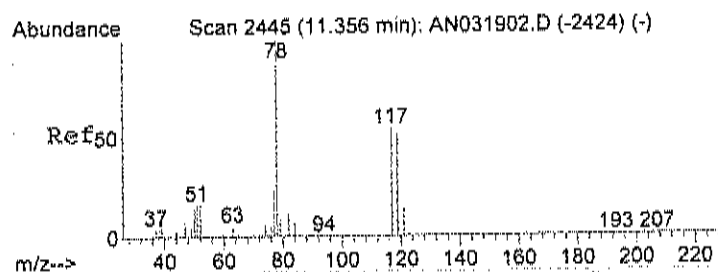
Tgt Ion	56	Resp	141946
Ion	Ratio	Lower	Upper
56	100		
41	70.1	47.3	87.3
84	57.2	88.1	128.1#



#38
Carbon tetrachloride
Concen: 0.05 ppb
RT: 11.38 min Scan# 2453
Delta R.T. -0.01 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

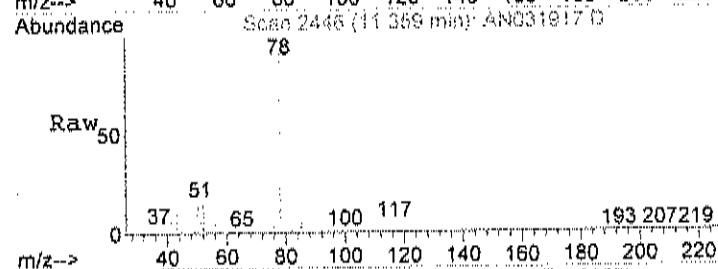
Tgt Ion	117	Resp	6843
Ion	Ratio	Lower	Upper
117	100		
119	100.0	74.5	114.5





#39
Benzene
Concen: 0.73 ppb
RT: 11.36 min Scan# 2446
Delta R.T. -0.00 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

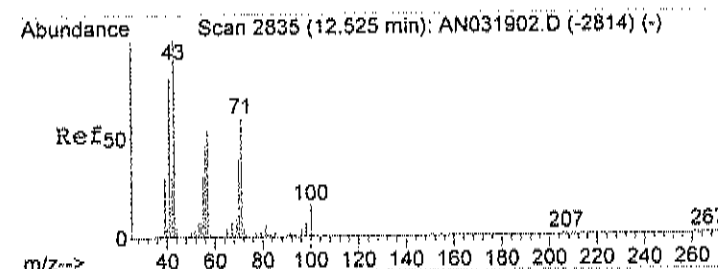
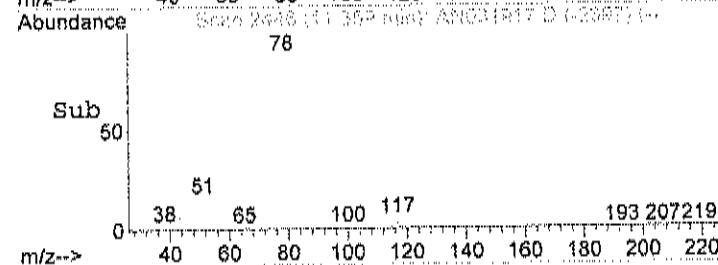
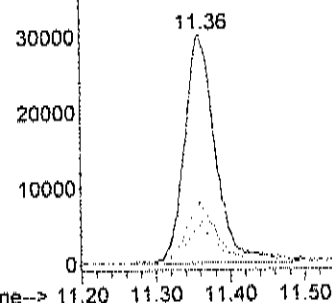
Tgt Ion	Ratio	Lower	Upper
78	100		
77	31.3	6.0	46.0
51	23.0	2.1	42.1



Abundance Ion 78.00 (77.70 to 78.70): ANI

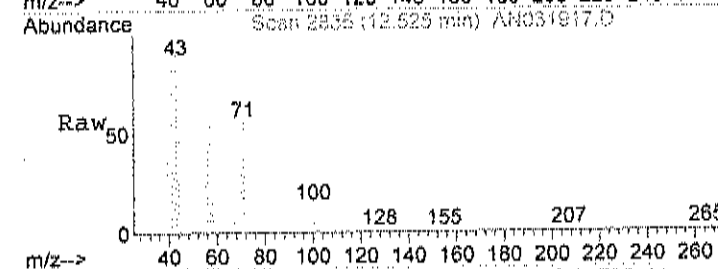
Ion 77.00 (76.70 to 77.70): ANI

Ion 51.00 (50.70 to 51.70): ANI



#43
Heptane
Concen: 0.65 ppb m
RT: 12.52 min Scan# 2835
Delta R.T. -0.01 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

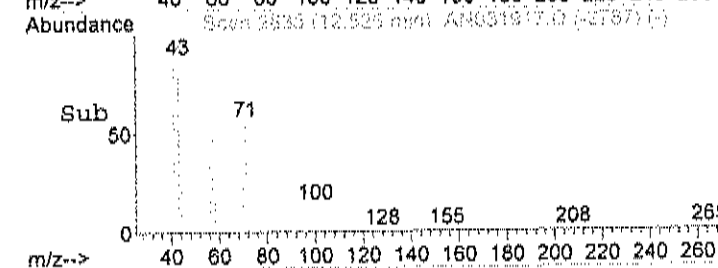
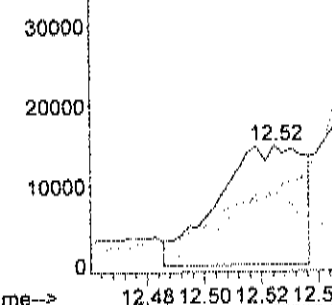
Tgt Ion	Ratio	Lower	Upper
43	100		
57	327.8	31.3	71.3#
71	84.5	34.8	74.8#

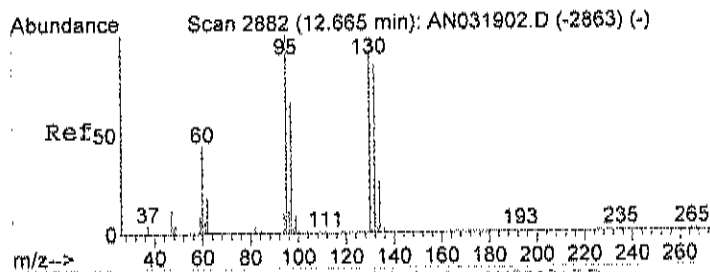


Abundance Ion 43.00 (42.70 to 43.70): ANI

Ion 57.00 (56.70 to 57.70): ANI

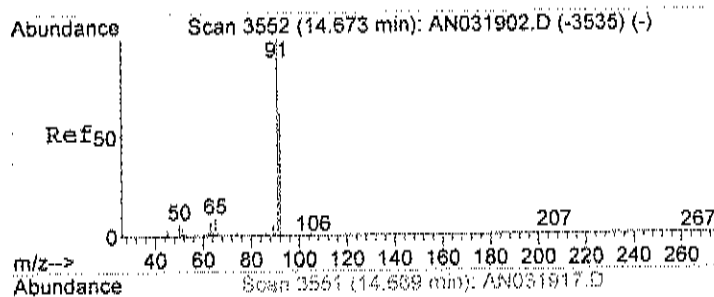
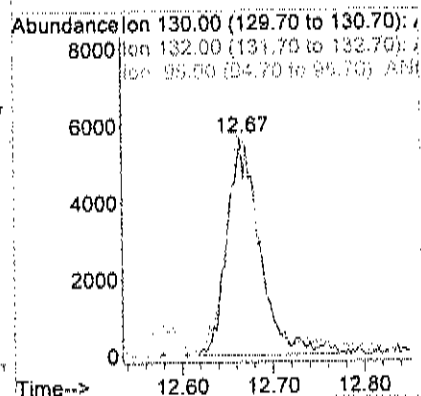
Ion 71.00 (70.70 to 71.70): ANI





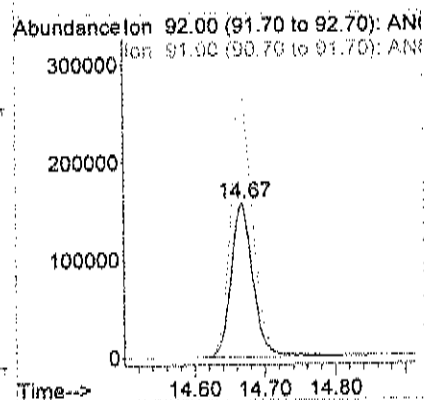
#44
Trichloroethene
Concen: 0.23 ppb
RT: 12.67 min Scan# 2882
Delta R.T. -0.01 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

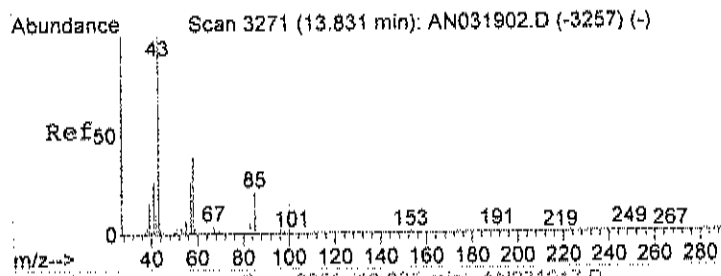
Tgt Ion: 130	Resp: 14247
Ion Ratio	Lower Upper
130	100
132	100.1 76.1 116.1
95	121.1 85.0 125.0



#51
Toluene
Concen: 5.60 ppb
RT: 14.67 min Scan# 3551
Delta R.T. -0.01 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

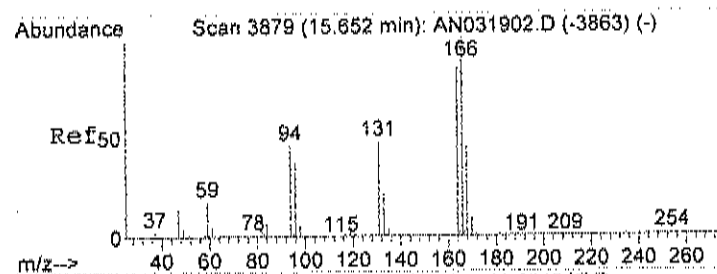
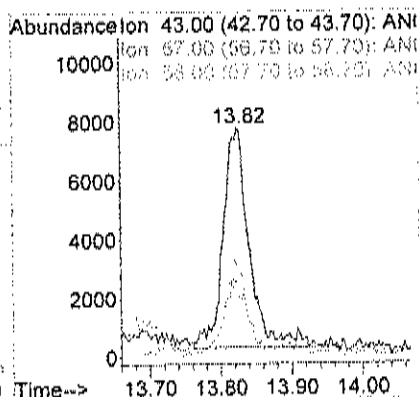
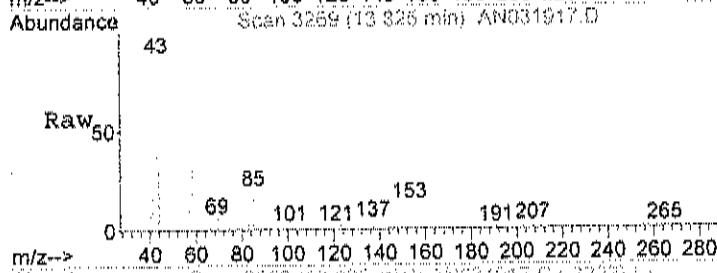
Tgt Ion: 92	Resp: 341746
Ion Ratio	Lower Upper
92	100
91	175.0 152.5 192.5





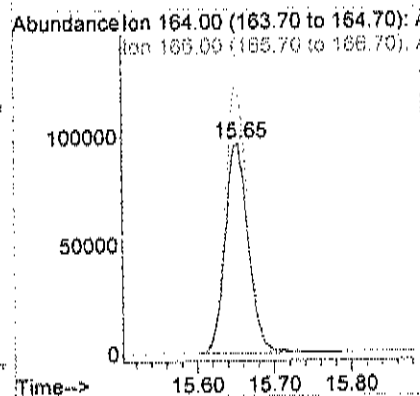
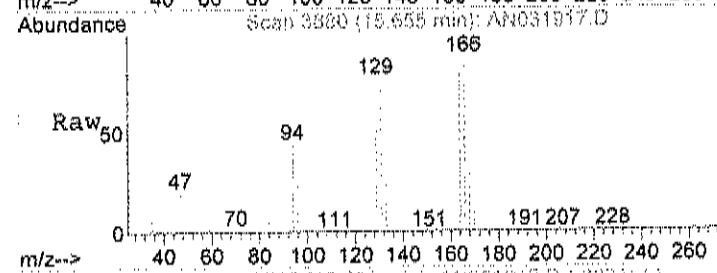
#52
Methyl Isobutyl Ketone
Concen: 0.18 ppb
RT: 13.82 min Scan# 3269
Delta R.T. -0.01 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

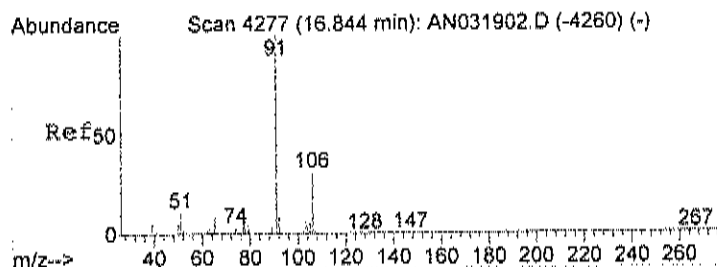
Tgt Ion	43	Resp	19273
Ion Ratio	Lower	Upper	
43	100		
57	34.2	6.1	46.1
58	38.8	16.5	56.5



#56
Tetrachloroethylene
Concen: 3.49 ppb
RT: 15.65 min Scan# 3880
Delta R.T. -0.00 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

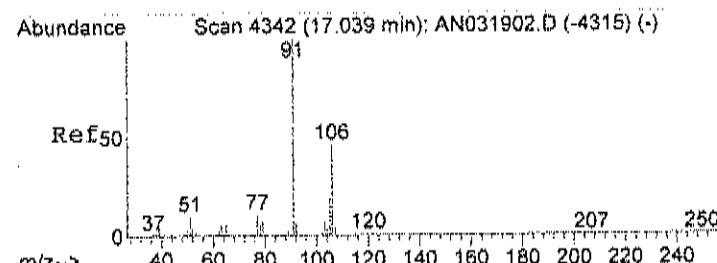
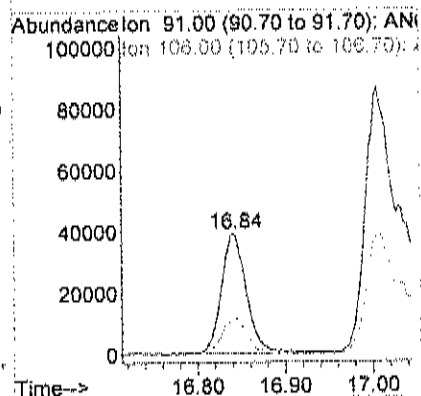
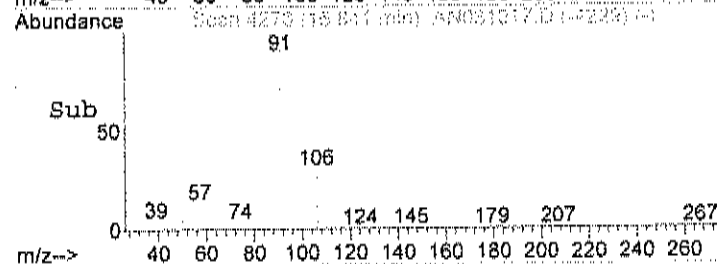
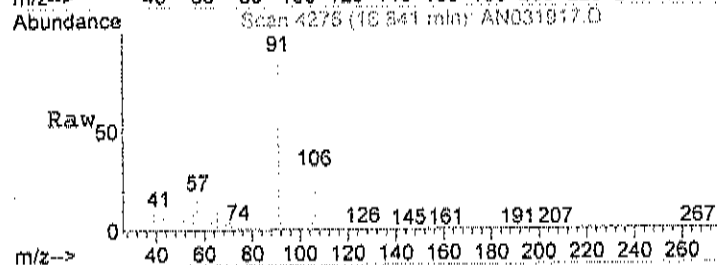
Tgt Ion	164	Resp	203473
Ion Ratio	Lower	Upper	
164	100		
166	127.2	108.6	148.6





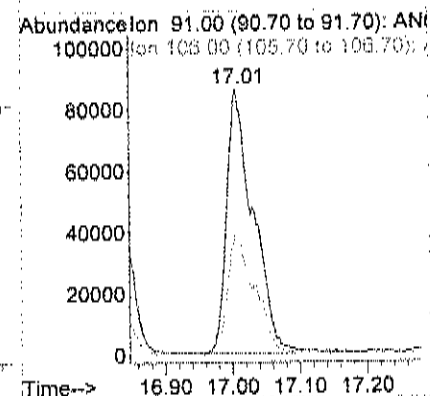
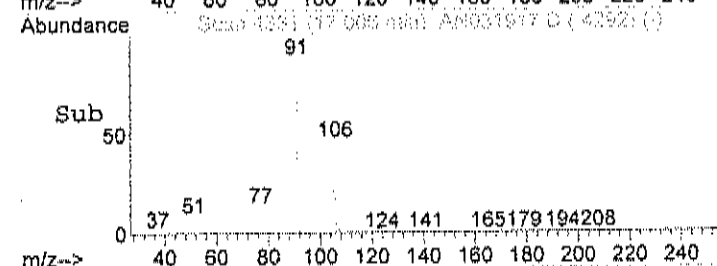
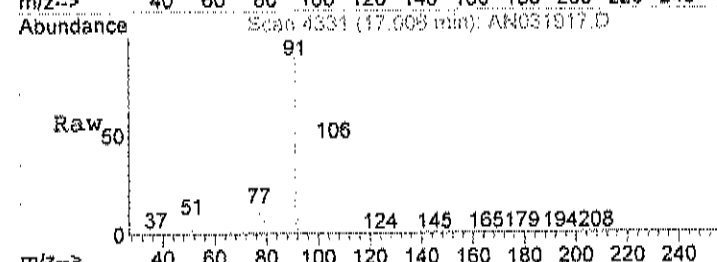
#59
Ethylbenzene
Concen: 0.75 ppb
RT: 16.84 min Scan# 4276
Delta R.T. -0.01 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

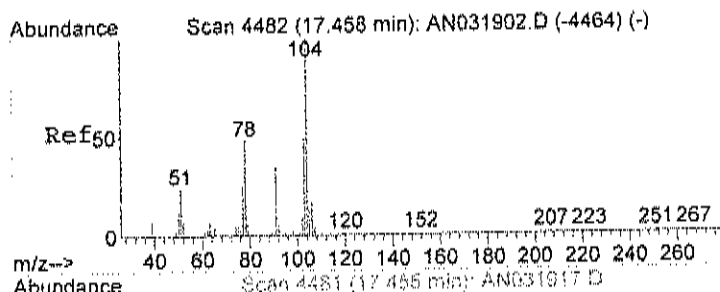
Tgt Ion: 91 Resp: 78320
Ion Ratio Lower Upper
91 100
106 31.3 9.9 49.9



#60
m&p-xylene
Concen: 2.86 ppb
RT: 17.01 min Scan# 4331
Delta R.T. -0.03 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

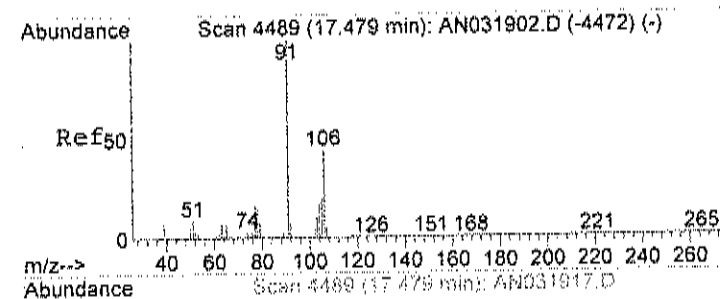
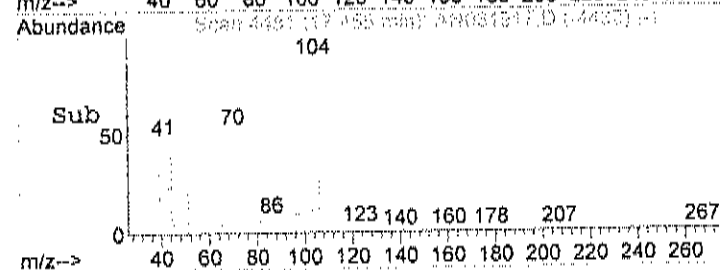
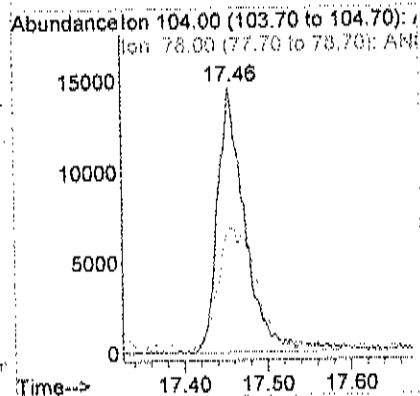
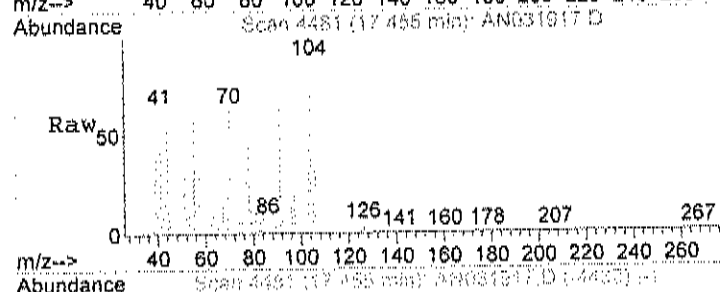
Tgt Ion: 91 Resp: 238073
Ion Ratio Lower Upper
91 100
106 47.5 25.3 65.3





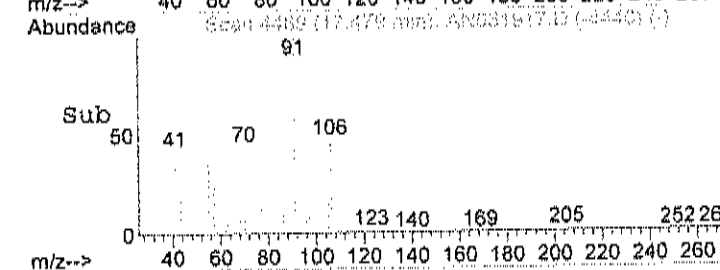
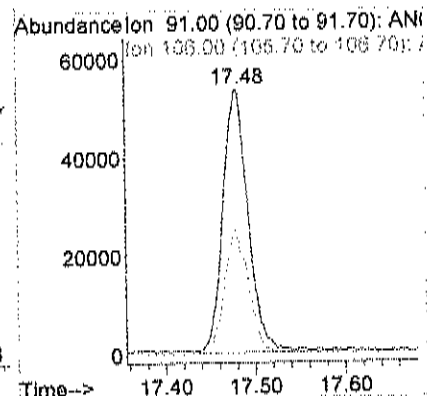
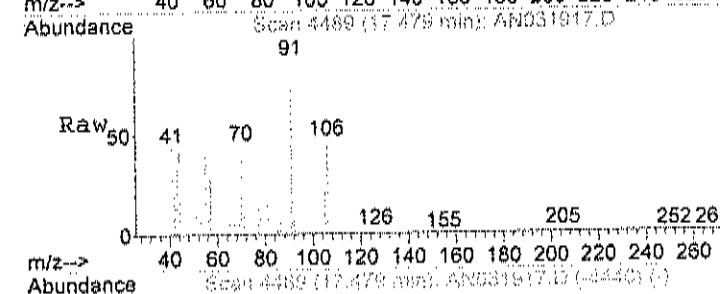
#62
Styrene
Concen: 0.58 ppb
RT: 17.46 min Scan# 4481
Delta R.T. -0.00 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

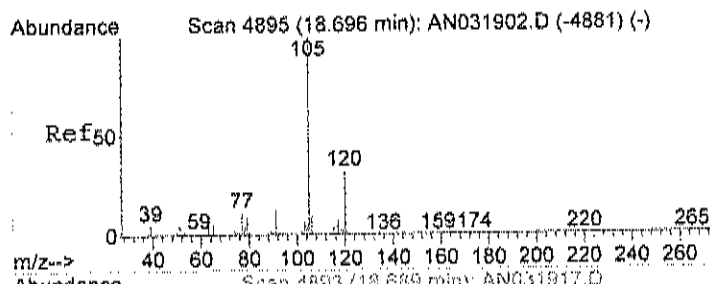
Tgt Ion	104	Resp	33504
Ion Ratio	100	Lower	Upper
104	100		
78	64.7	44.4	84.4



#64
o-xylene
Concen: 1.05 ppb
RT: 17.48 min Scan# 4489
Delta R.T. -0.00 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

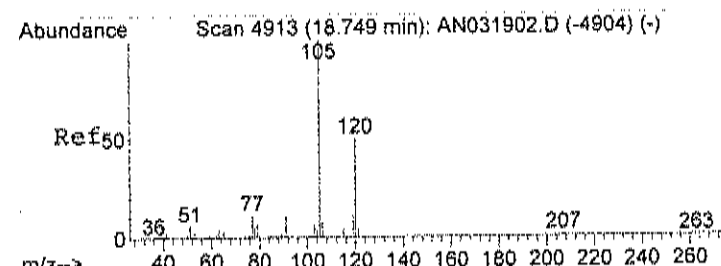
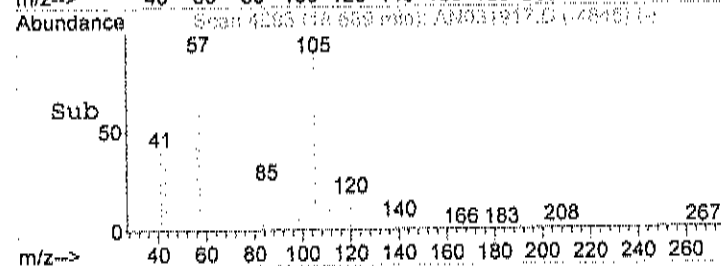
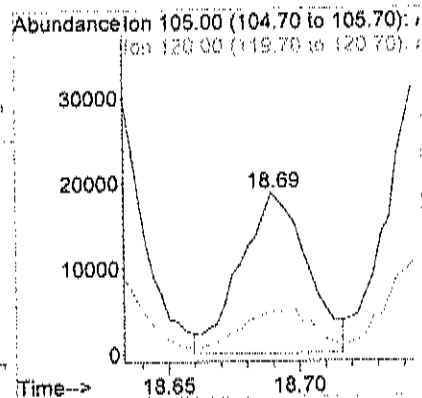
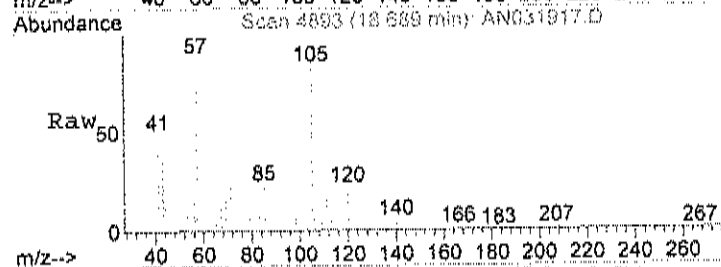
Tgt Ion	91	Resp	105127
Ion Ratio	100	Lower	Upper
91	100		
106	45.4	18.4	58.4





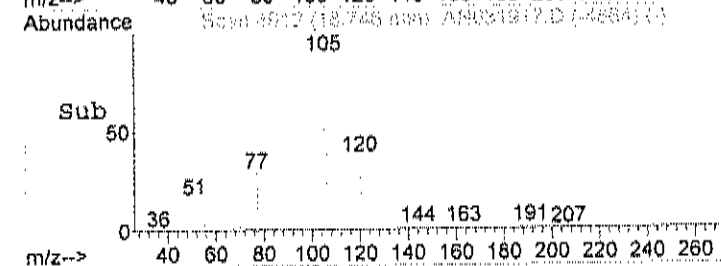
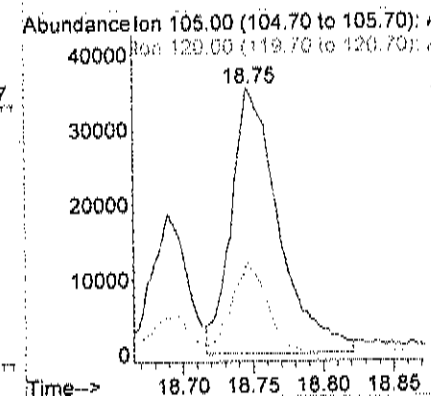
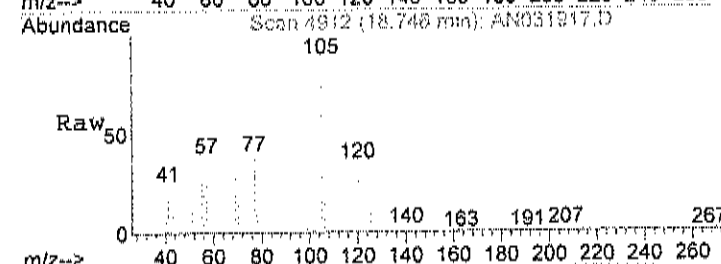
#70
4-ethyltoluene
Concen: 0.31 ppb m
RT: 18.69 min Scan# 4893
Delta R.T. -0.01 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

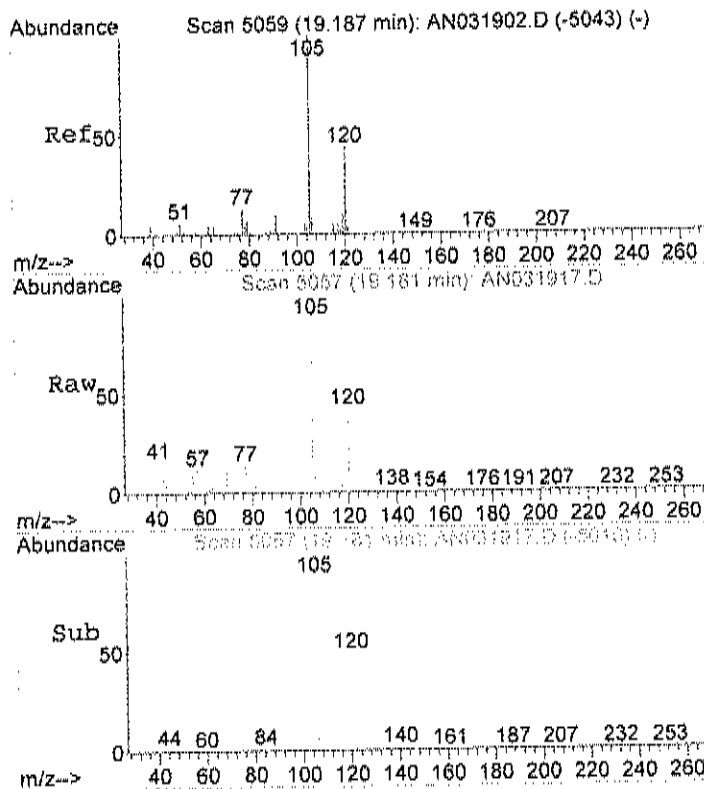
Tgt Ion	105	Resp	33291
Ion Ratio	Lower	Upper	
105	100		
120	0.0	0.0	20.0



#71
1,3,5-trimethylbenzene
Concen: 0.66 ppb m
RT: 18.75 min Scan# 4912
Delta R.T. -0.01 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

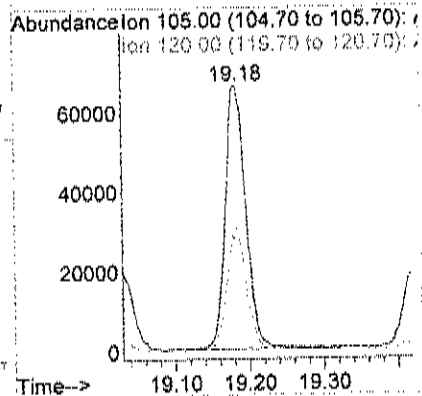
Tgt Ion	105	Resp	83628
Ion Ratio	Lower	Upper	
105	100		
120	0.0	0.0	20.0





#72
1,2,4-trimethylbenzene
Concen: 1.16 ppb
RT: 19.18 min Scan# 5057
Delta R.T. -0.01 min
Lab File: AN031917.D
Acq: 19 Mar 2016 9:02 pm

Tgt Ion	105	120	Resp	127341
Ion Ratio	Lower	Upper		
105	100			
120	44.8	22.1	62.1	



Data File : C:\HPCHEM\1\DATA\AN031929.D
 Acq On : 20 Mar 2016 4:24 am
 Sample : C1603053-003A 10X
 Misc : A316_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 20 12:45:58 2016

Vial: 29
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Thu Mar 17 10:24:27 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.82	128	31791	1.00	ppb	0.02
35) 1,4-difluorobenzene	12.07	114	94432	1.00	ppb	0.00
50) Chlorobenzene-d5	16.56	117	67050	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.14	95	46221	1.07	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	107.00%

Target Compounds

						Qvalue
15) Acetone	6.05	58	26948	1.96	ppb	# 1
17) Isopropyl alcohol	6.16	45	16089	0.36	ppb	# 46
21) Methylene chloride	7.06	84	17472	0.49	ppb	# 95
28) Methyl Ethyl Ketone	8.97	72	6908	0.47	ppb	# 100
37) Cyclohexane	11.45	56	8698	0.24	ppb	# 62
51) Toluene	14.68	92	19981	0.44	ppb	# 98
56) Tetrachloroethylene	15.65	164	14923	0.34	ppb	# 98
60) m&p-xylene	17.01	91	15784	0.25	ppb	# 96
72) 1,2,4-trimethylbenzene	19.19	105	13853	0.17	ppb	# 96

Data File : C:\HPCHEM\1\DATA\AN031929.D
Acq On : 20 Mar 2016 4:24 am
Sample : C1603053-003A 10x
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 24 16:44 2016

Vial: 29
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration

Abundance

TIC: AN031929.D

Time-->

0

500000

1000000

1500000

2000000

2500000

3000000

3500000

4000000

4500000

5000000

5500000

6000000

6500000

7000000

7500000

8000000

Acetone.T

Isopropyl alcohol.T

Methylene chloride.T

Methyl Ethyl Ketone.T

Bromochloromethane.T

Cyclohexane.T

1,4-difluorobenzene.T

Toluene.T

Tetrachloroethylene.T

Chlorobenzene-d5.T

m,p-xylene.T

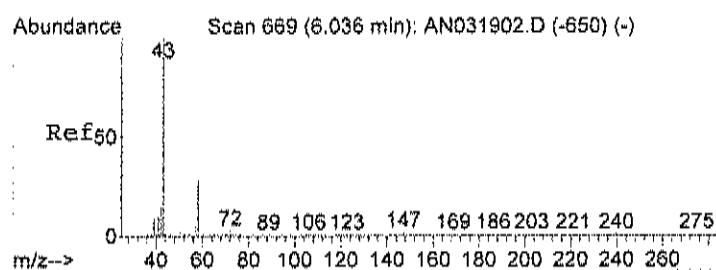
Bromofluorobenzene.T

1,2,4-trimethylbenzene.T

20.00

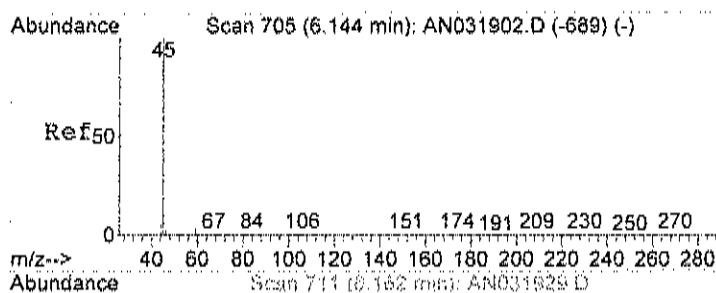
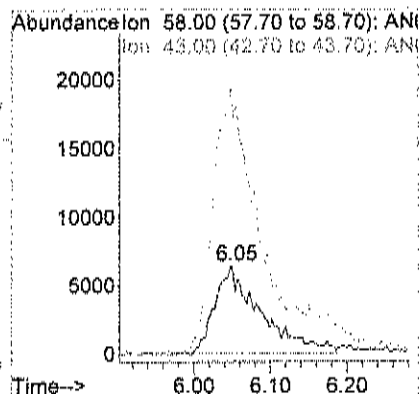
21.00

22.00



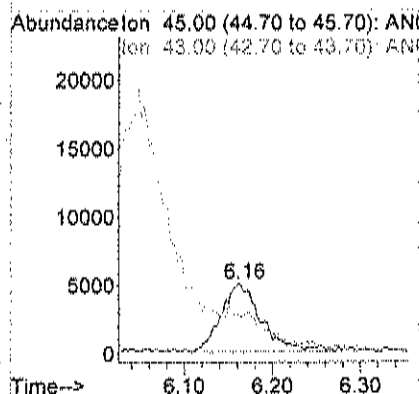
#15
Acetone
Concen: 1.96 ppb
RT: 6.05 min Scan# 673
Delta R.T. 0.01 min
Lab File: AN031929.D
Acq: 20 Mar 2016 4:24 am

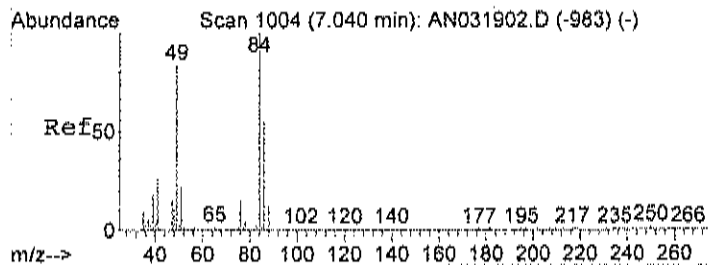
Tgt Ion: 58 Resp: 26948
Ion Ratio Lower Upper
58 100
43 299.7 661.8 721.8#



#17
Isopropyl alcohol
Concen: 0.36 ppb
RT: 6.16 min Scan# 711
Delta R.T. 0.02 min
Lab File: AN031929.D
Acq: 20 Mar 2016 4:24 am

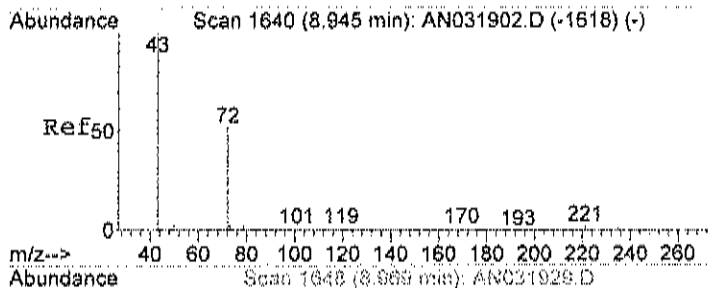
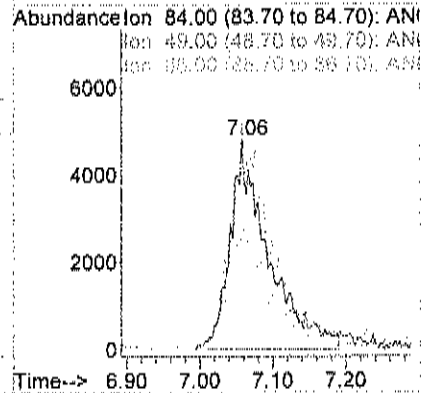
Tgt Ion: 45 Resp: 16089
Ion Ratio Lower Upper
45 100
43 0.0 8.9 48.9#





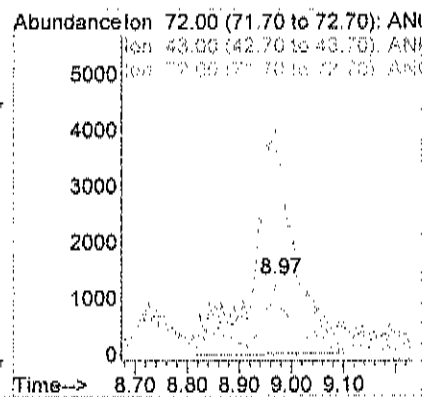
#21
Methylene chloride
Concen: 0.49 ppb
RT: 7.06 min Scan# 1010
Delta R.T. 0.02 min
Lab File: AN031929.D
Acq: 20 Mar 2016 4:24 am

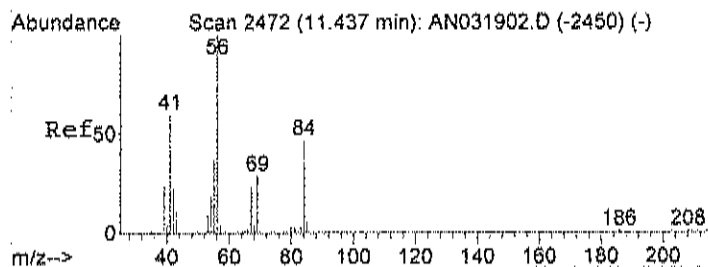
Tgt Ion	84	Resp	17472
Ion Ratio	Lower	Upper	
84	100		
49	114.6	87.8	127.8
86	65.0	43.1	83.1



#28
Methyl Ethyl Ketone
Concen: 0.47 ppb
RT: 8.97 min Scan# 1648
Delta R.T. 0.03 min
Lab File: AN031929.D
Acq: 20 Mar 2016 4:24 am

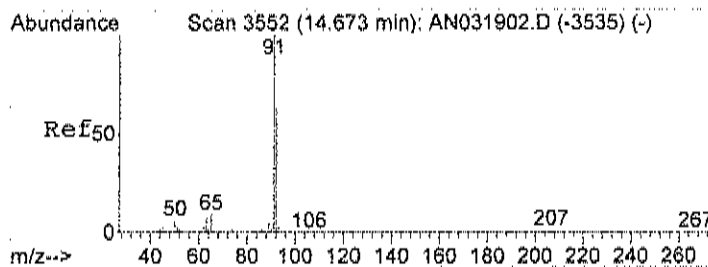
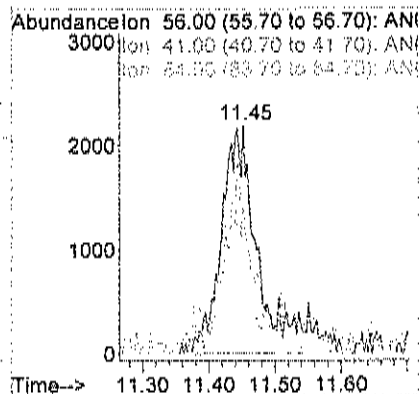
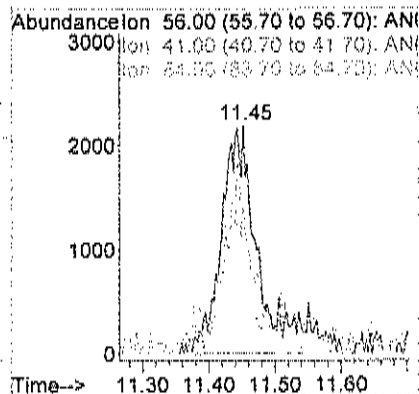
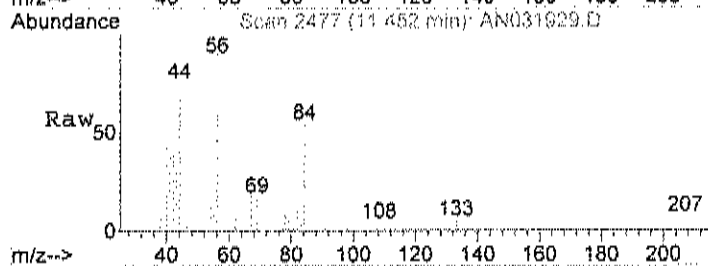
Tgt Ion	72	Resp	6908
Ion Ratio	Lower	Upper	
72	100		
43	0.0	0.0	20.0
72	100.0	80.0	120.0





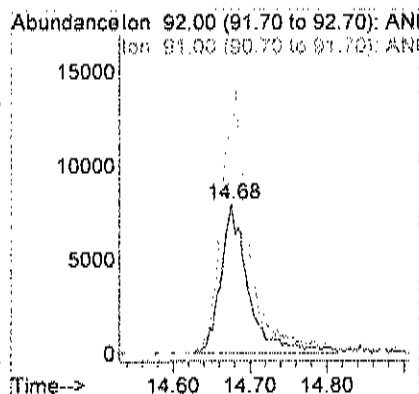
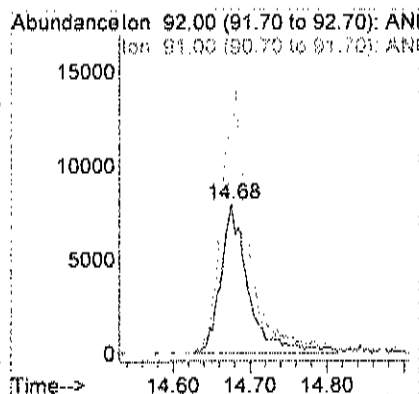
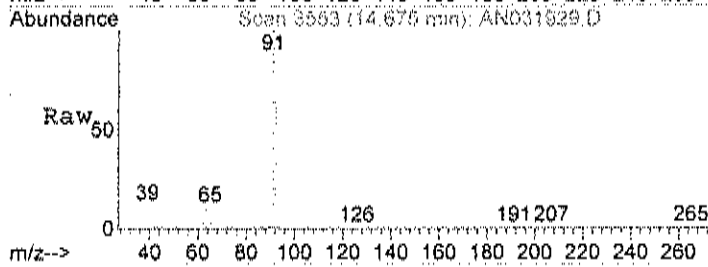
#37
Cyclohexane
Concen: 0.24 ppb
RT: 11.45 min Scan# 2477
Delta R.T. 0.01 min
Lab File: AN031929.D
Acq: 20 Mar 2016 4:24 am

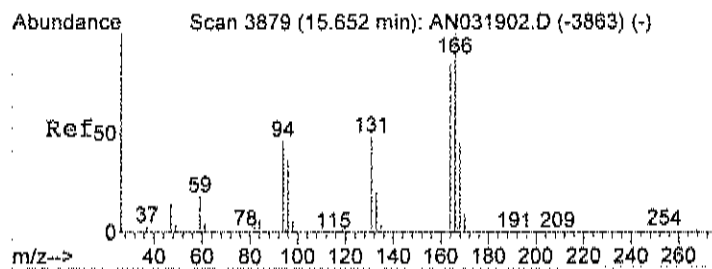
Tgt Ion	Resp	Ion Ratio	Lower	Upper
56	8698	100		
41		80.0	47.3	87.3
84		53.6	88.1	128.1#



#51
Toluene
Concen: 0.44 ppb
RT: 14.68 min Scan# 3553
Delta R.T. -0.00 min
Lab File: AN031929.D
Acq: 20 Mar 2016 4:24 am

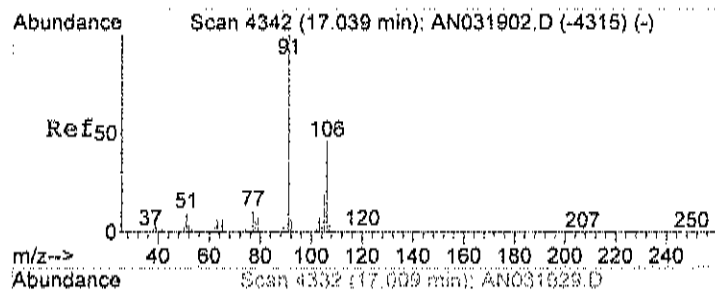
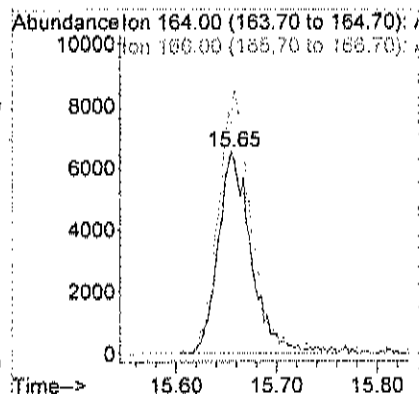
Tgt Ion	Resp	Ion Ratio	Lower	Upper
92	19981	100		
91		175.1	152.5	192.5





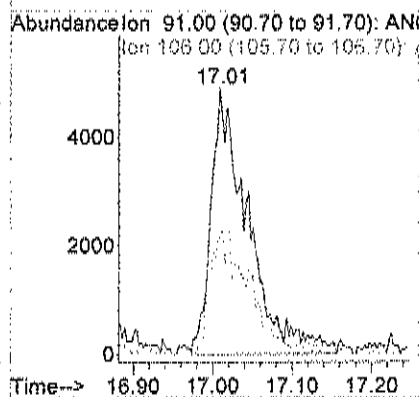
#56
Tetrachloroethylene
Concen: 0.34 ppb
RT: 15.65 min Scan# 3880
Delta R.T. -0.00 min
Lab File: AN031929.D
Acq: 20 Mar 2016 4:24 am

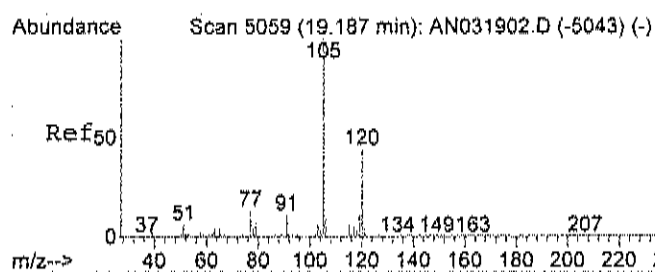
Tgt Ion: 164 Resp: 14923
Ion Ratio Lower Upper
164 100
166 130.7 108.6 148.6



#60
m&p-xylene
Concen: 0.25 ppb
RT: 17.01 min Scan# 4332
Delta R.T. -0.03 min
Lab File: AN031929.D
Acq: 20 Mar 2016 4:24 am

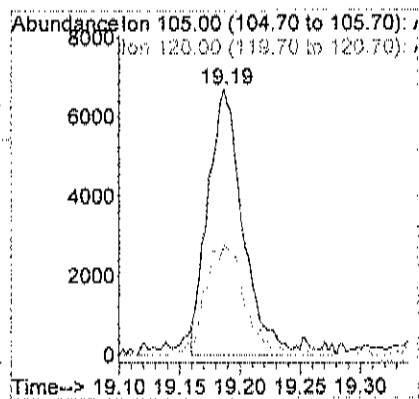
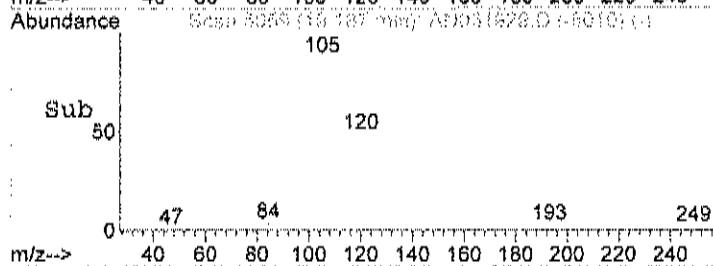
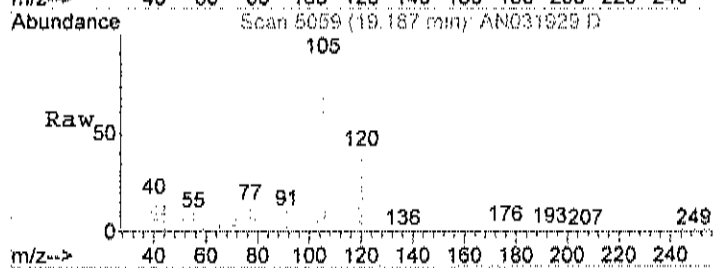
Tgt Ion: 91 Resp: 15784
Ion Ratio Lower Upper
91 100
106 47.8 25.3 65.3





#72
1,2,4-trimethylbenzene
Concen: 0.17 ppb
RT: 19.19 min Scan# 5059
Delta R.T. -0.00 min
Lab File: AN031929.D
Acq: 20 Mar 2016 4:24 am

Tgt Ion: 105 Resp: 13853
Ion Ratio Lower Upper
105 100
120 44.9 22.1 62.1



Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-004A

Client Sample ID: Indoor Air #2
 Tag Number: 471.304
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS			FLD		Analyst:	
Lab Vacuum In	-1			"Hg		3/18/2016
Lab Vacuum Out	-30			"Hg		3/18/2016
1UG/M3 BY METHOD TO15			TO-15		Analyst: RJP	
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,2,4-Trimethylbenzene	0.63	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,3,5-Trimethylbenzene	0.22	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,3-butadiene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
1,4-Dioxane	< 0.30	0.30		ppbV	1	3/19/2016 6:25:00 PM
2,2,4-trimethylpentane	0.34	0.15		ppbV	1	3/19/2016 6:25:00 PM
4-ethyltoluene	0.16	0.15		ppbV	1	3/19/2016 6:25:00 PM
Acetone	13	3.0		ppbV	10	3/20/2016 1:22:00 AM
Allyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Benzene	2.0	0.15		ppbV	1	3/19/2016 6:25:00 PM
Benzyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Bromodichloromethane	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Bromoform	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Bromomethane	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Carbon disulfide	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Carbon tetrachloride	0.070	0.15	J	ppbV	1	3/19/2016 6:25:00 PM
Chlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Chloroform	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Chloromethane	0.62	0.15		ppbV	1	3/19/2016 6:25:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Cyclohexane	0.52	0.15		ppbV	1	3/19/2016 6:25:00 PM
Dibromochloromethane	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Ethyl acetate	0.24	0.25	J	ppbV	1	3/19/2016 6:25:00 PM

Qualifiers:	**	Reporting Limit		Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank		E Value above quantitation range
	H	Holding times for preparation or analysis exceeded		J Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.		ND Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-004A

Client Sample ID: Indoor Air #2
 Tag Number: 471.304
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
Ethylbenzene	0.41	0.15		ppbV	1	3/19/2016 6:25:00 PM
Freon 11	0.22	0.15		ppbV	1	3/19/2016 6:25:00 PM
Freon 113	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Freon 114	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Freon 12	0.50	0.15		ppbV	1	3/19/2016 6:25:00 PM
Heptane	0.50	0.15		ppbV	1	3/19/2016 6:25:00 PM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Hexane	2.0	0.15		ppbV	1	3/19/2016 6:25:00 PM
Isopropyl alcohol	3.1	1.5		ppbV	10	3/20/2016 1:22:00 AM
m&p-Xylene	1.6	0.30		ppbV	1	3/19/2016 6:25:00 PM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	3/19/2016 6:25:00 PM
Methyl Ethyl Ketone	2.9	3.0	J	ppbV	10	3/20/2016 1:22:00 AM
Methyl Isobutyl Ketone	< 0.30	0.30		ppbV	1	3/19/2016 6:25:00 PM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Methylene chloride	0.27	0.15		ppbV	1	3/19/2016 6:25:00 PM
o-Xylene	0.49	0.15		ppbV	1	3/19/2016 6:25:00 PM
Propylene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Styrene	0.19	0.15		ppbV	1	3/19/2016 6:25:00 PM
Tetrachloroethylene	1.1	0.15		ppbV	1	3/19/2016 6:25:00 PM
Tetrahydrofuran	4.1	1.5		ppbV	10	3/20/2016 1:22:00 AM
Toluene	2.6	1.5		ppbV	10	3/20/2016 1:22:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Trichloroethene	0.090	0.15	J	ppbV	1	3/19/2016 6:25:00 PM
Vinyl acetate	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Vinyl Bromide	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Vinyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 6:25:00 PM
Surr: Bromofluorobenzene	109	70-130		%REC	1	3/19/2016 6:25:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-004A

Client Sample ID: Indoor Air #2
 Tag Number: 471.304
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15				TO-15	Analyst: RJP	
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/19/2016 6:25:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	3/19/2016 6:25:00 PM
1,1,2-Trichloroethane	< 0.82	0.82		ug/m3	1	3/19/2016 6:25:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/19/2016 6:25:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 6:25:00 PM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	3/19/2016 6:25:00 PM
1,2,4-Trimethylbenzene	3.1	0.74		ug/m3	1	3/19/2016 6:25:00 PM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	3/19/2016 6:25:00 PM
1,2-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 6:25:00 PM
1,2-Dichloroethane	< 0.61	0.61		ug/m3	1	3/19/2016 6:25:00 PM
1,2-Dichloropropane	< 0.69	0.69		ug/m3	1	3/19/2016 6:25:00 PM
1,3,5-Trimethylbenzene	1.1	0.74		ug/m3	1	3/19/2016 6:25:00 PM
1,3-butadiene	< 0.33	0.33		ug/m3	1	3/19/2016 6:25:00 PM
1,3-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 6:25:00 PM
1,4-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 6:25:00 PM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	3/19/2016 6:25:00 PM
2,2,4-trimethylpentane	1.6	0.70		ug/m3	1	3/19/2016 6:25:00 PM
4-ethyltoluene	0.79	0.74		ug/m3	1	3/19/2016 6:25:00 PM
Acetone	30	7.1		ug/m3	10	3/20/2016 1:22:00 AM
Allyl chloride	< 0.47	0.47		ug/m3	1	3/19/2016 6:25:00 PM
Benzene	6.5	0.48		ug/m3	1	3/19/2016 6:25:00 PM
Benzyl chloride	< 0.86	0.86		ug/m3	1	3/19/2016 6:25:00 PM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	3/19/2016 6:25:00 PM
Bromoform	< 1.6	1.6		ug/m3	1	3/19/2016 6:25:00 PM
Bromomethane	< 0.58	0.58		ug/m3	1	3/19/2016 6:25:00 PM
Carbon disulfide	< 0.47	0.47		ug/m3	1	3/19/2016 6:25:00 PM
Carbon tetrachloride	0.44	0.94	J	ug/m3	1	3/19/2016 6:25:00 PM
Chlorobenzene	< 0.69	0.69		ug/m3	1	3/19/2016 6:25:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/19/2016 6:25:00 PM
Chloroform	< 0.73	0.73		ug/m3	1	3/19/2016 6:25:00 PM
Chloromethane	1.3	0.31		ug/m3	1	3/19/2016 6:25:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 6:25:00 PM
cis-1,3-Dichloropropene	< 0.68	0.68		ug/m3	1	3/19/2016 6:25:00 PM
Cyclohexane	1.8	0.52		ug/m3	1	3/19/2016 6:25:00 PM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	3/19/2016 6:25:00 PM
Ethyl acetate	0.86	0.90	J	ug/m3	1	3/19/2016 6:25:00 PM
Ethylbenzene	1.8	0.65		ug/m3	1	3/19/2016 6:25:00 PM
Freon 11	1.2	0.84		ug/m3	1	3/19/2016 6:25:00 PM
Freon 113	< 1.1	1.1		ug/m3	1	3/19/2016 6:25:00 PM
Freon 114	< 1.0	1.0		ug/m3	1	3/19/2016 6:25:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-004A

Client Sample ID: Indoor Air #2
 Tag Number: 471.304
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15				TO-15	Analyst: RJP	
Freon 12	2.5	0.74		ug/m3	1	3/19/2016 6:25:00 PM
Heptane	2.0	0.61		ug/m3	1	3/19/2016 6:25:00 PM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	3/19/2016 6:25:00 PM
Hexane	7.1	0.53		ug/m3	1	3/19/2016 6:25:00 PM
Isopropyl alcohol	7.6	3.7		ug/m3	10	3/20/2016 1:22:00 AM
m&p-Xylene	6.7	1.3		ug/m3	1	3/19/2016 6:25:00 PM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	3/19/2016 6:25:00 PM
Methyl Ethyl Ketone	8.6	8.8	J	ug/m3	10	3/20/2016 1:22:00 AM
Methyl Isobutyl Ketone	< 1.2	1.2		ug/m3	1	3/19/2016 6:25:00 PM
Methyl tert-butyl ether	< 0.54	0.54		ug/m3	1	3/19/2016 6:25:00 PM
Methylene chloride	0.94	0.52		ug/m3	1	3/19/2016 6:25:00 PM
o-Xylene	2.1	0.65		ug/m3	1	3/19/2016 6:25:00 PM
Propylene	< 0.26	0.26		ug/m3	1	3/19/2016 6:25:00 PM
Styrene	0.81	0.64		ug/m3	1	3/19/2016 6:25:00 PM
Tetrachloroethylene	7.3	1.0		ug/m3	1	3/19/2016 6:25:00 PM
Tetrahydrofuran	12	4.4		ug/m3	10	3/20/2016 1:22:00 AM
Toluene	9.8	5.7		ug/m3	10	3/20/2016 1:22:00 AM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 6:25:00 PM
trans-1,3-Dichloropropene	< 0.68	0.68		ug/m3	1	3/19/2016 6:25:00 PM
Trichloroethene	0.48	0.81	J	ug/m3	1	3/19/2016 6:25:00 PM
Vinyl acetate	< 0.53	0.53		ug/m3	1	3/19/2016 6:25:00 PM
Vinyl Bromide	< 0.66	0.66		ug/m3	1	3/19/2016 6:25:00 PM
Vinyl chloride	< 0.38	0.38		ug/m3	1	3/19/2016 6:25:00 PM

Qualifiers: ** Reporting Limit
 B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 JN Non-routine analyte, Quantitation estimated.
 S Spike Recovery outside accepted recovery limits

- Results reported are not blank corrected
 E Value above quantitation range
 J Analyte detected at or below quantitation limits
 ND Not Detected at the Reporting Limit

Page 8 of 12

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031913.D

Vial: 13

Acq On : 19 Mar 2016 6:25 pm

Operator: RJP

Sample : C1603053-004A

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 20 12:45:41 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.80	128	36973	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.05	114	120238	1.00	ppb	0.00
50) Chlorobenzene-d5	16.56	117	70458	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.13	95	49390	1.09	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	109.00%

Target Compounds

						Qvalue
3) Freon 12	4.18	85	78335	0.50	ppb	99
4) Chloromethane	4.39	50	25583	0.62	ppb	96
14) Freon 11	5.80	101	36378	0.22	ppb	98
15) Acetone	6.01	58	198744	12.45	ppb	# 27
17) Isopropyl alcohol	6.14	45	143569	2.76	ppb	# 46
21) Methylene chloride	7.04	84	11328	0.27	ppb	95
28) Methyl Ethyl Ketone	8.93	72	49065	2.88	ppb	# 100
30) Hexane	8.90	57	97451	2.01	ppb	93
31) Ethyl acetate	9.52	43	15847	0.24	ppb	89
33) Tetrahydrofuran	10.14	42	143635	4.69	ppb	92
37) Cyclohexane	11.44	56	24366m (m)	0.52	ppb	
38) Carbon tetrachloride	11.38	117	8507	0.07	ppb	98
39) Benzene	11.36	78	201819	2.02	ppb	94
42) 2,2,4-trimethylpentane	12.18	57	58569	0.34	ppb	77
43) Heptane	12.52	43	20246	0.50	ppb	86
44) Trichloroethene	12.67	130	4485	0.09	ppb	94
51) Toluene	14.67	92	158737	3.32	ppb	97
56) Tetrachloroethylene	15.66	164	48788	1.07	ppb	97
59) Ethylbenzene	16.85	91	33455	0.41	ppb	97
60) m&p-xylene	17.01	91	101284	1.55	ppb	98
62) Styrene	17.46	104	8721	0.19	ppb	81
64) o-xylene	17.48	91	38053	0.49	ppb	82
70) 4-ethyltoluene	18.70	105	13714m (m)	0.16	ppb	
71) 1,3,5-trimethylbenzene	18.75	105	21767m (m)	0.22	ppb	
72) 1,2,4-trimethylbenzene	19.18	105	54183	0.63	ppb	95

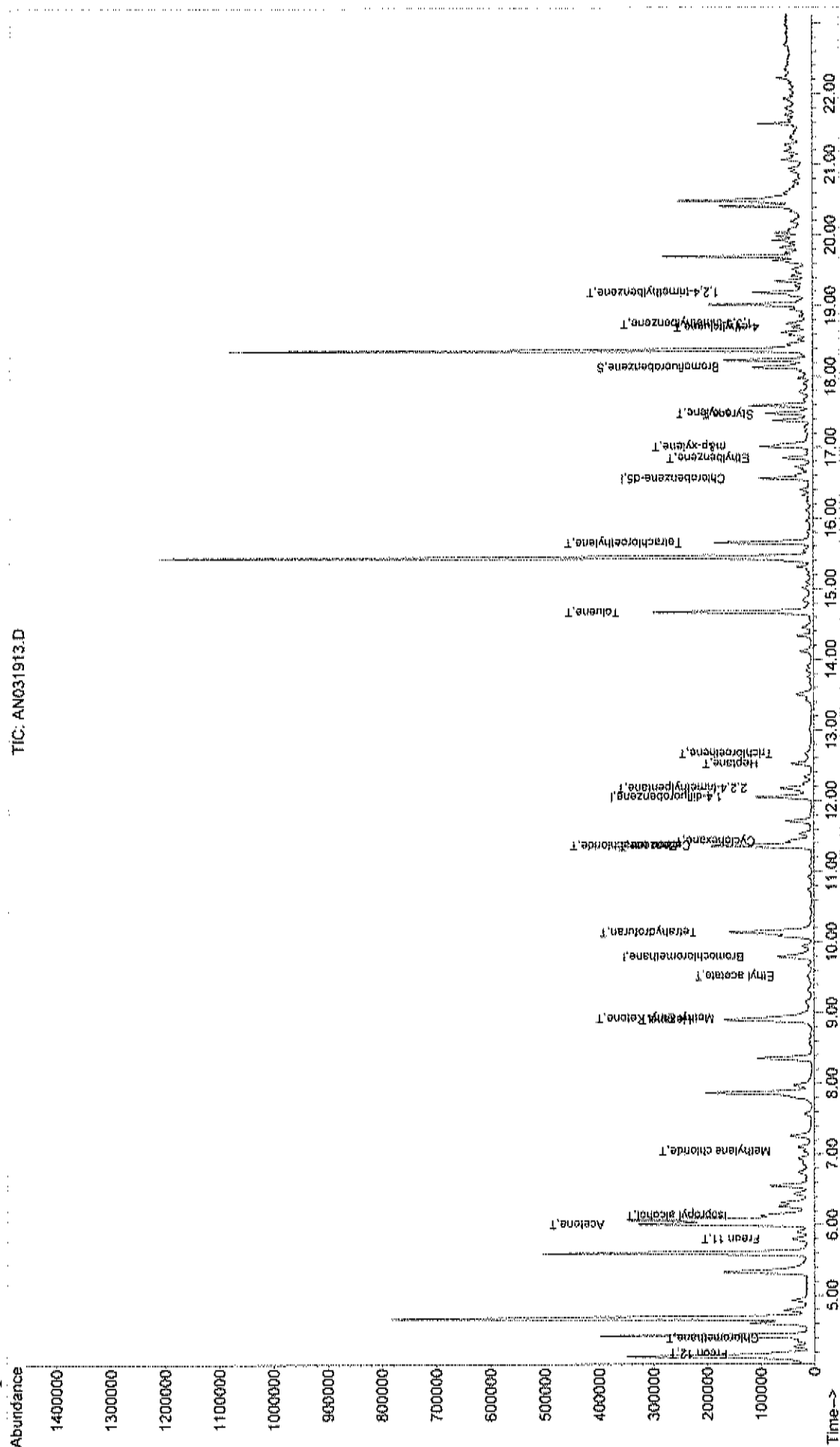
(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN031913.D A316_1UG.M Thu Apr 07 13:09:32 2016 MSD1

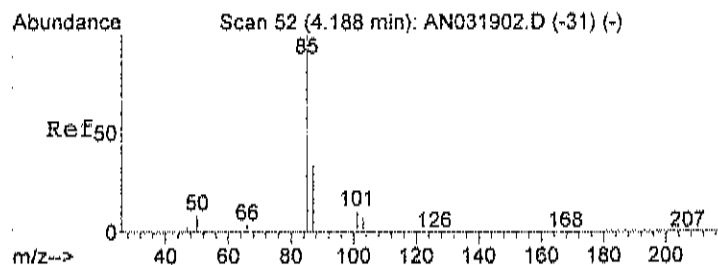
Data File : C:\HPCHEM\1\DATA\AN031913.D
Acq On : 19 Mar 2016 6:25 pm
Sample : C1603053-004A
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 24 15:53 2016

Vial: 13
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A316_1UG.RES

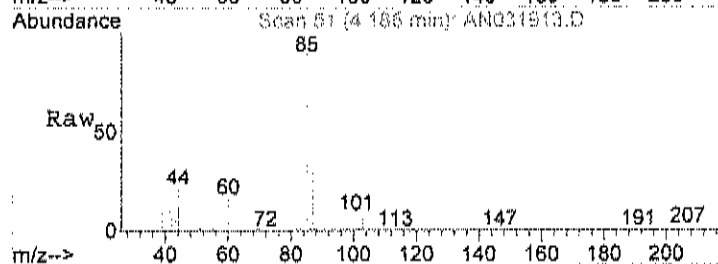
Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration





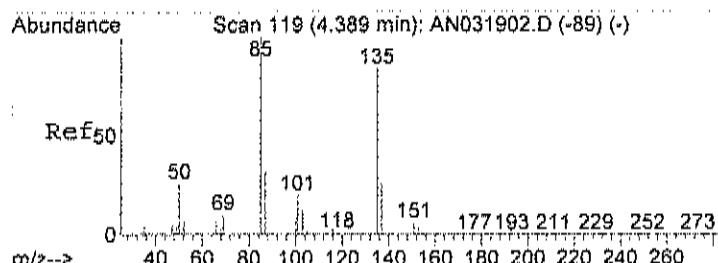
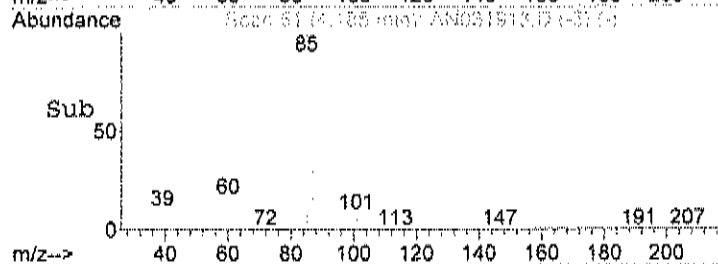
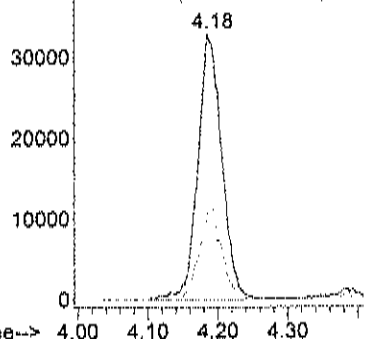
#3
Freon 12
Concen: 0.50 ppb
RT: 4.18 min Scan# 51
Delta R.T. -0.01 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

Tgt Ion	85	Resp	78335
Ion Ratio	100	Lower	Upper
87	31.9	12.5	52.5



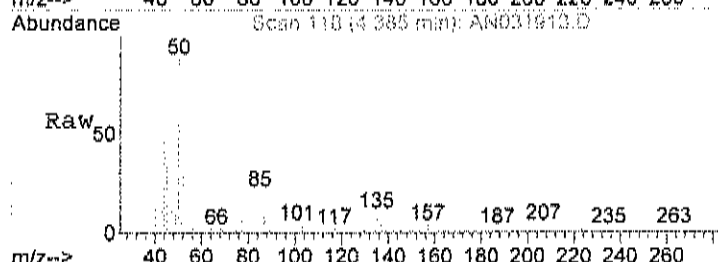
Abundance Ion 85.00 (84.70 to 85.70): ANI

Ion 87.00 (86.70 to 87.70): ANI



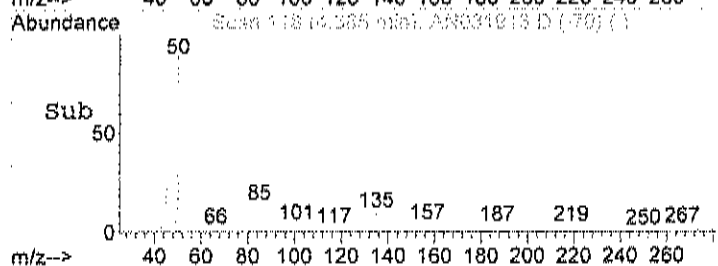
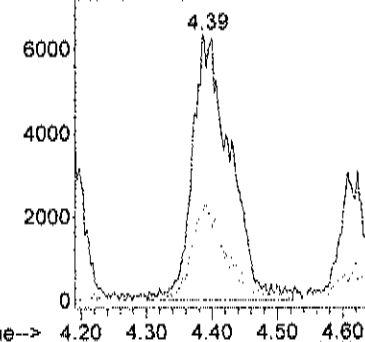
#4
Chloromethane
Concen: 0.62 ppb
RT: 4.39 min Scan# 118
Delta R.T. -0.01 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

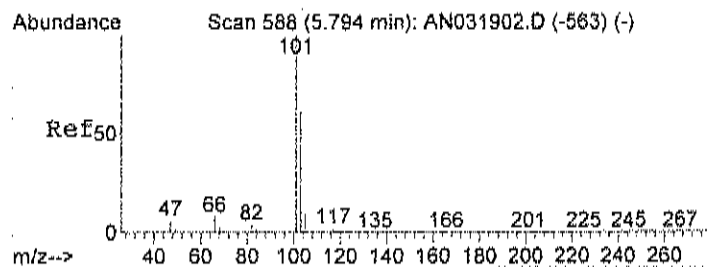
Tgt Ion	50	Resp	25583
Ion Ratio <td>100</td> <td>Lower</td> <td>Upper</td>	100	Lower	Upper
52	31.5	9.2	49.2



Abundance Ion 50.00 (49.70 to 50.70): ANI

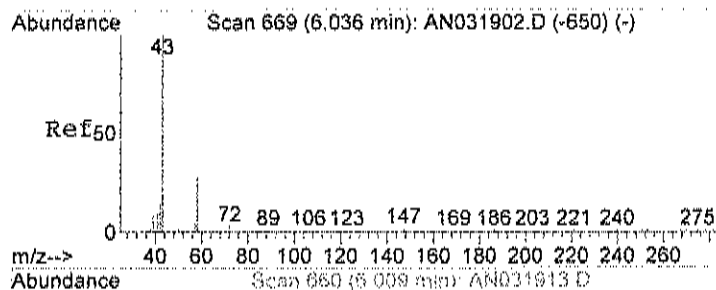
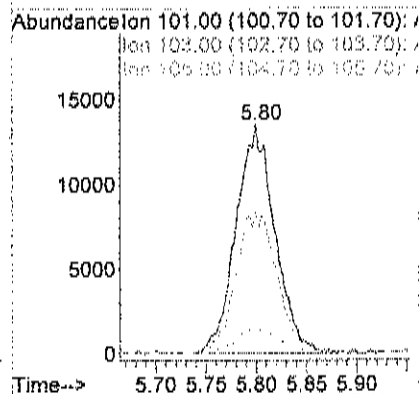
Ion 52.00 (51.70 to 52.70): ANI





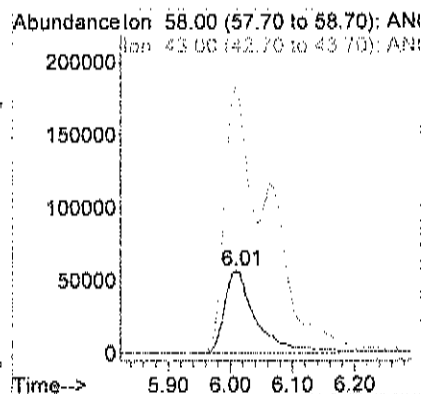
#14
Freon 11
Concen: 0.22 ppb
RT: 5.80 min Scan# 590
Delta R.T. 0.00 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

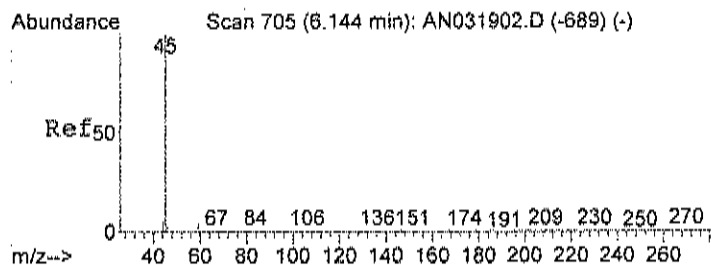
Tgt Ion	Ratio	Lower	Upper
101	100		
103	65.9	44.6	84.6
105	12.4	0.0	31.6



#15
Acetone
Concen: 12.45 ppb
RT: 6.01 min Scan# 660
Delta R.T. -0.03 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

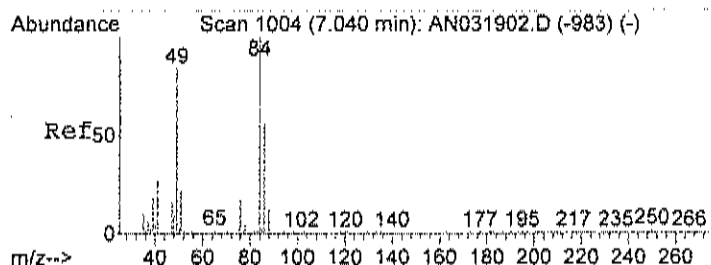
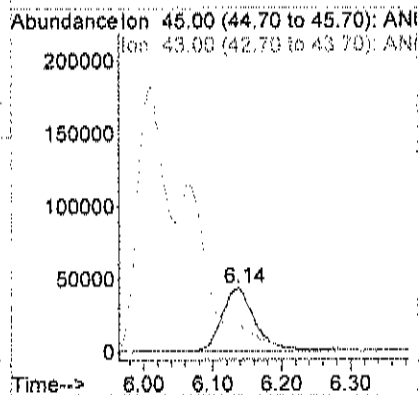
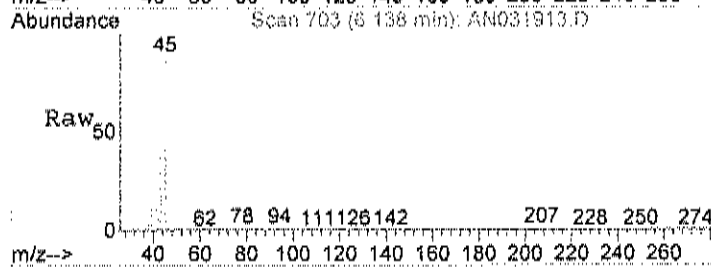
Tgt Ion	Ratio	Lower	Upper
58	100		
43	441.1	661.8	721.8





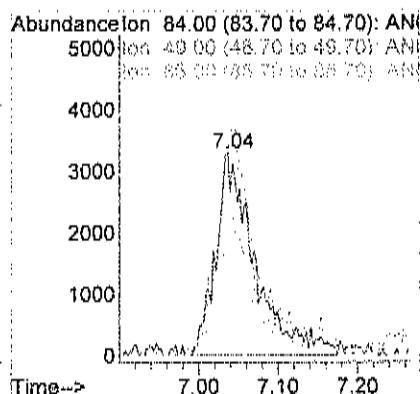
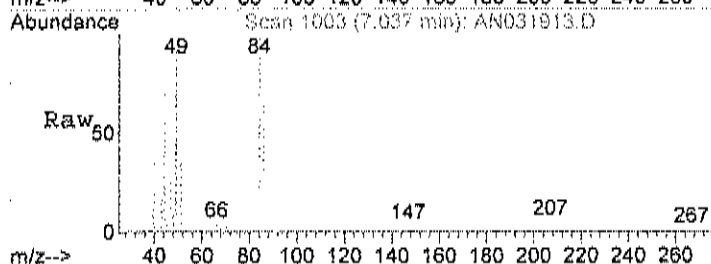
#17
Isopropyl alcohol
Concen: 2.76 ppb
RT: 6.14 min Scan# 703
Delta R.T. -0.01 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

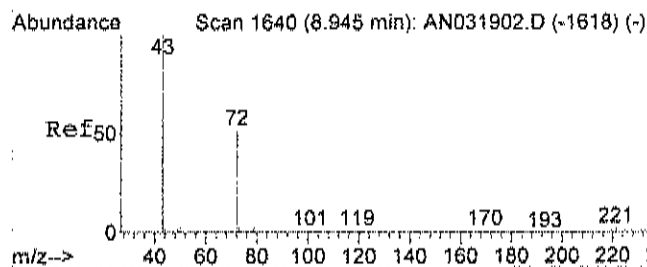
Tgt Ion: 45 Resp: 143569
Ion Ratio Lower Upper
45 100
43 0.0 8.9 48.9#



#21
Methylene chloride
Concen: 0.27 ppb
RT: 7.04 min Scan# 1003
Delta R.T. -0.01 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

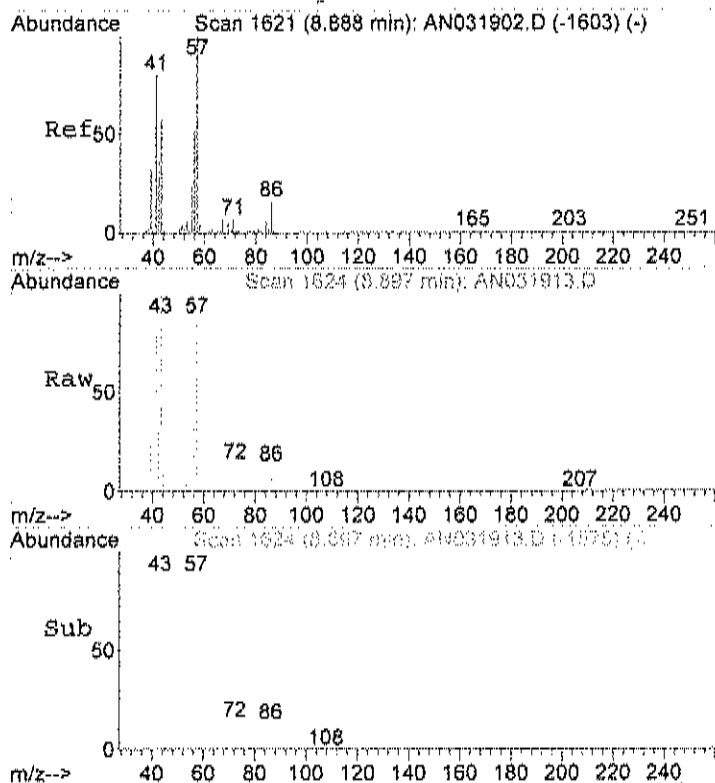
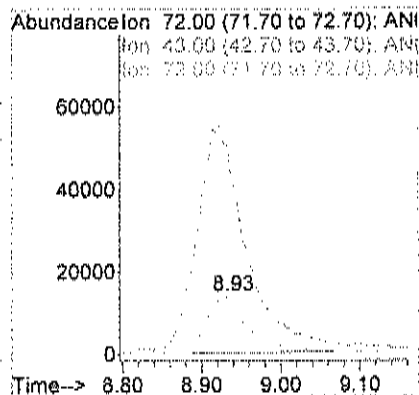
Tgt Ion: 84 Resp: 11328
Ion Ratio Lower Upper
84 100
49 115.3 87.8 127.8
86 64.1 43.1 83.1





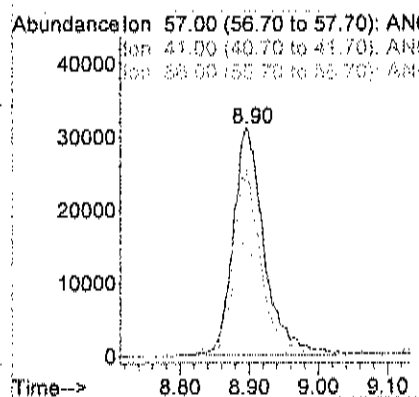
#28
Methyl Ethyl Ketone
Concen: 2.88 ppb
RT: 8.93 min Scan# 1636
Delta R.T. -0.01 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

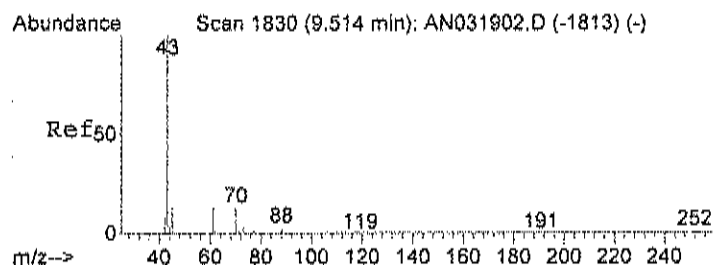
Tgt Ion	Ratio	Lower	Upper
72	100		
43	0.0	0.0	20.0
72	100.0	80.0	120.0



#30
Hexane
Concen: 2.01 ppb
RT: 8.90 min Scan# 1624
Delta R.T. -0.00 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

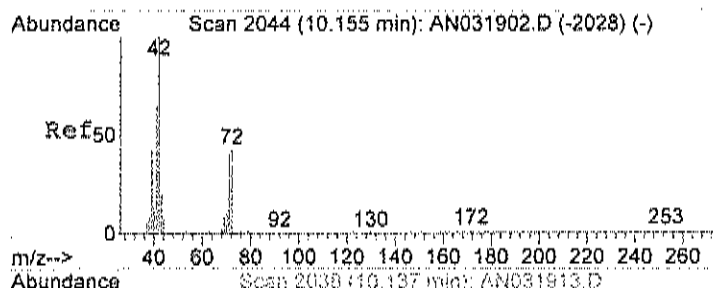
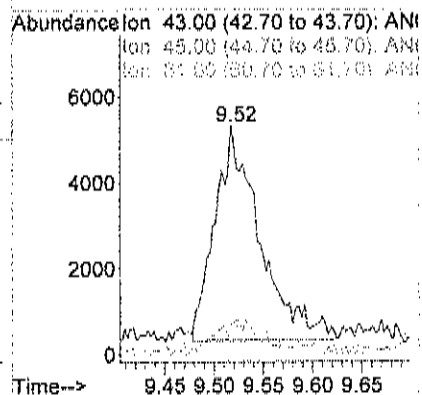
Tgt Ion	Ratio	Lower	Upper
57	100		
41	79.1	66.6	106.6
56	47.0	30.6	70.6





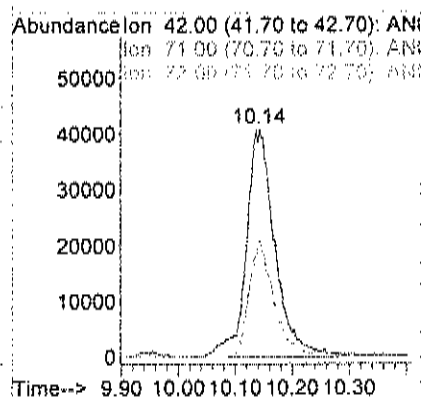
#31
Ethyl acetate
Concen: 0.24 ppb
RT: 9.52 min Scan# 1831
Delta R.T. -0.01 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

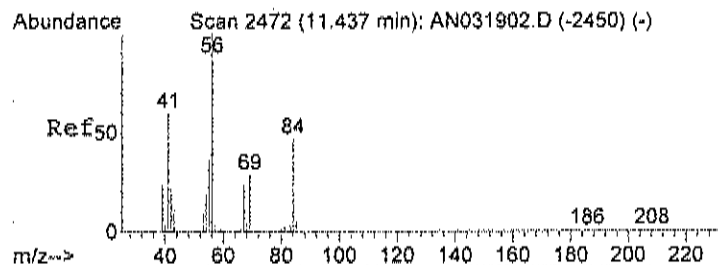
Tgt Ion	Ratio	Lower	Upper
43	100		
45	18.3	0.0	33.8
61	17.4	0.0	33.3



#33
Tetrahydrofuran
Concen: 4.69 ppb
RT: 10.14 min Scan# 2038
Delta R.T. -0.02 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

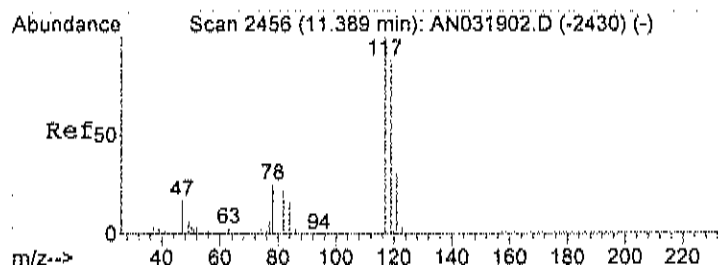
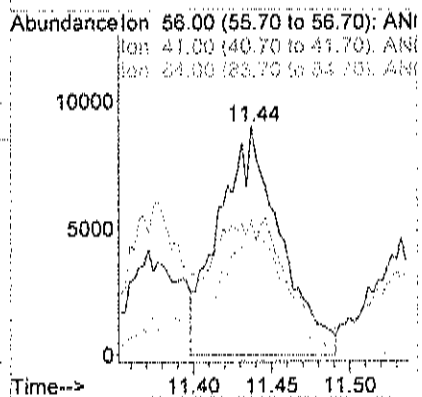
Tgt Ion	Ratio	Lower	Upper
42	100		
71	44.0	20.0	60.0
72	44.8	19.1	59.1





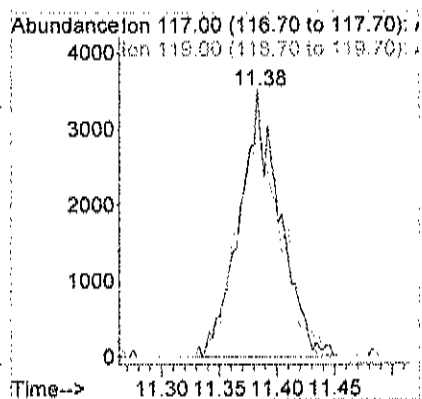
#37
Cyclohexane
Concen: 0.52 ppb m
RT: 11.44 min Scan# 2472
Delta R.T. -0.01 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

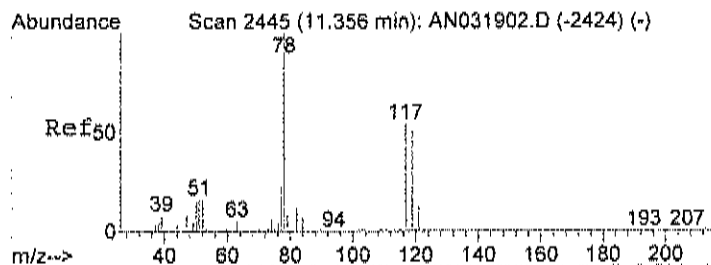
Tgt Ion: 56 Resp: 24366
Ion Ratio Lower Upper
56 100
41 0.0 47.3 87.3#
84 70.1 88.1 128.1#



#38
Carbon tetrachloride
Concen: 0.07 ppb
RT: 11.38 min Scan# 2454
Delta R.T. -0.00 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

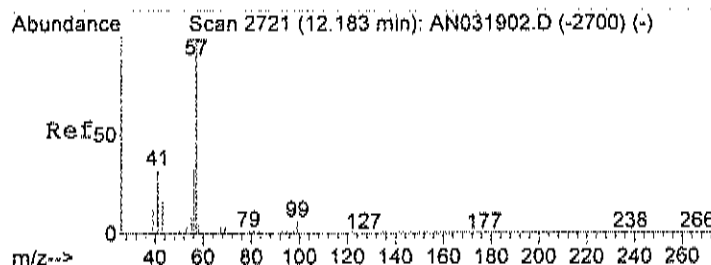
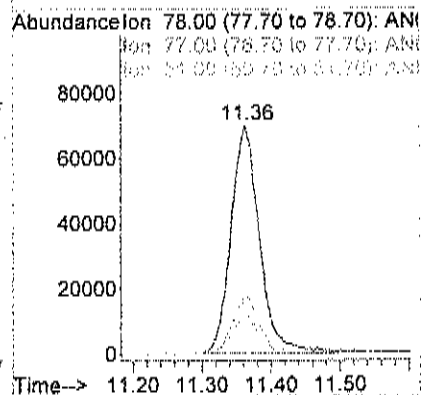
Tgt Ion: 117 Resp: 8507
Ion Ratio Lower Upper
117 100
119 96.4 74.5 114.5





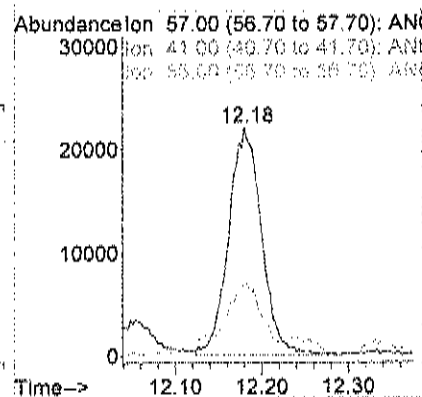
#39
Benzene
Concen: 2.02 ppb
RT: 11.36 min Scan# 2447
Delta R.T. 0.00 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

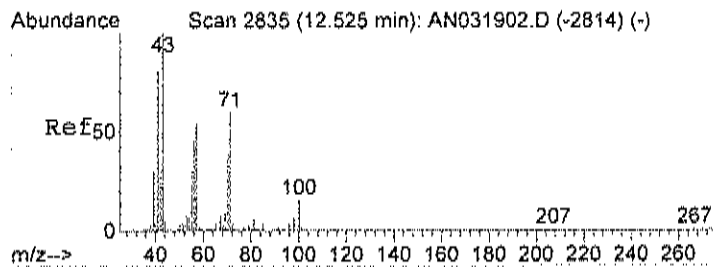
Tgt Ion	Ratio	Lower	Upper
78	100		
77	25.3	6.0	46.0
51	17.2	2.1	42.1



#42
2,2,4-trimethylpentane
Concen: 0.34 ppb
RT: 12.18 min Scan# 2720
Delta R.T. -0.00 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

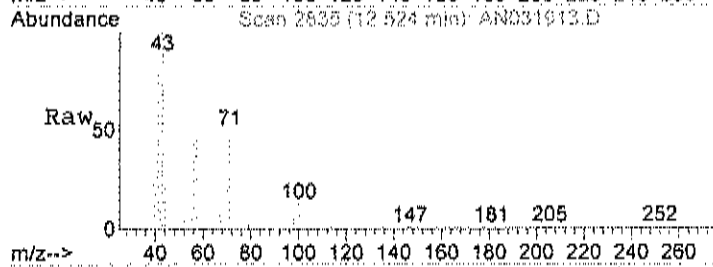
Tgt Ion	Ratio	Lower	Upper
57	100		
41	45.6	14.1	54.1
56	46.1	11.4	51.4





#43
Heptane
Concen: 0.50 ppb
RT: 12.52 min Scan# 2835
Delta R.T. -0.01 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

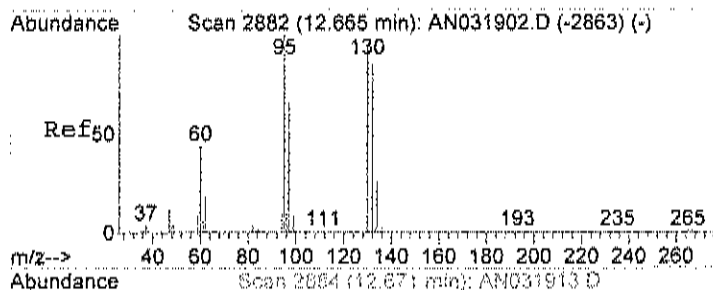
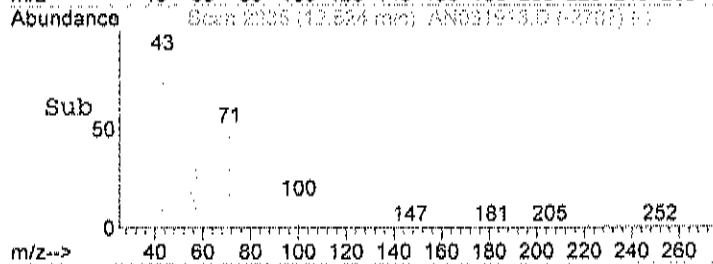
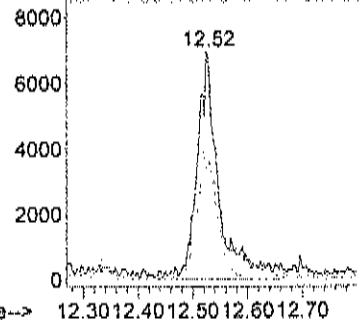
Tgt Ion	43	Resp	20246
Ion Ratio	Lower	Upper	
43	100		
57	63.6	31.3	71.3
71	47.1	34.8	74.8



Abundance Ion 43.00 (42.70 to 43.70): AN031913.D

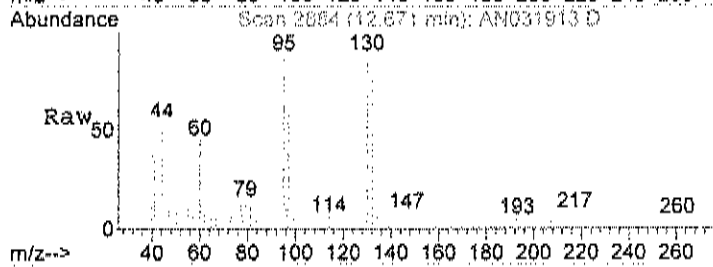
Ion 57.00 (56.70 to 57.70): AN031913.D

Ion 71.00 (70.70 to 71.70): AN031913.D



#44
Trichloroethene
Concen: 0.09 ppb
RT: 12.67 min Scan# 2884
Delta R.T. 0.00 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

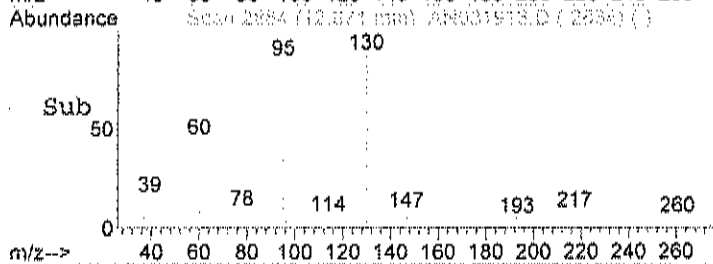
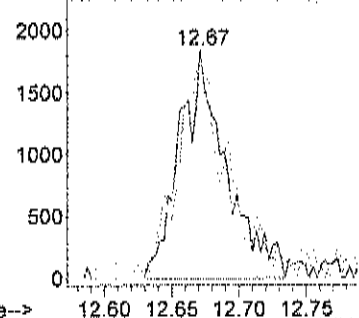
Tgt Ion	130	Resp	4485
Ion Ratio	Lower	Upper	
130	100		
132	99.4	76.1	116.1
95	97.1	85.0	125.0

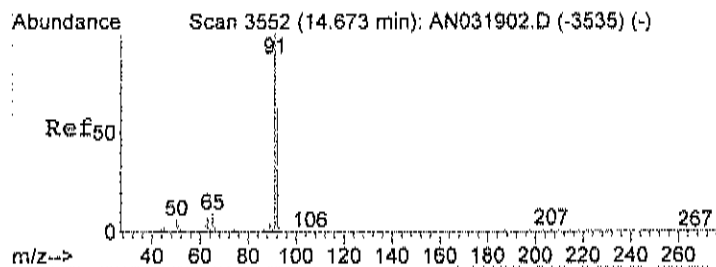


Abundance Ion 130.00 (129.70 to 130.70): AN031913.D

Ion 132.00 (131.70 to 132.70): AN031913.D

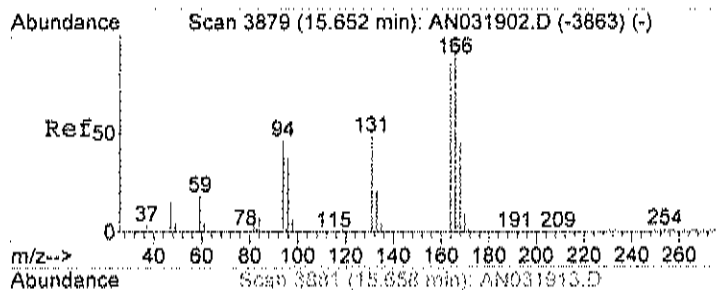
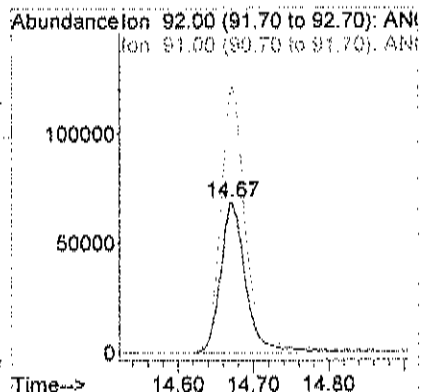
Ion 95.00 (94.70 to 95.70): AN031913.D





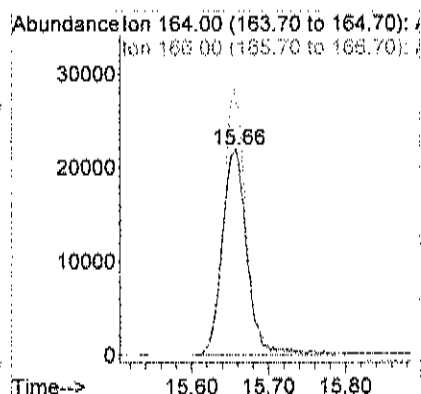
#51
Toluene
Concen: 3.32 ppb
RT: 14.67 min Scan# 3551
Delta R.T. -0.01 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

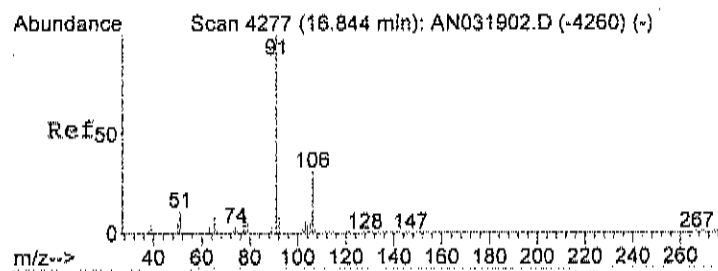
Tgt Ion:	92	Resp:	158737
Ion	Ratio	Lower	Upper
92	100		
91	177.2	152.5	192.5



#56
Tetrachloroethylene
Concen: 1.07 ppb
RT: 15.66 min Scan# 3881
Delta R.T. 0.00 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

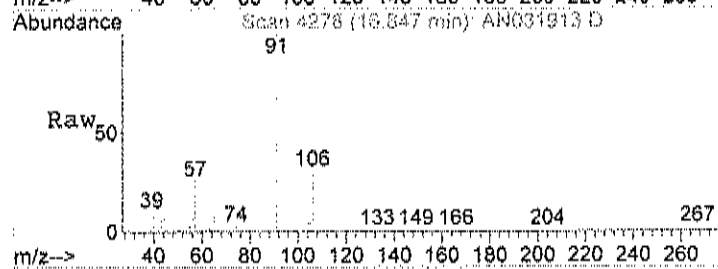
Tgt Ion:	164	Resp:	48788
Ion	Ratio	Lower	Upper
164	100		
166	124.8	108.6	148.6



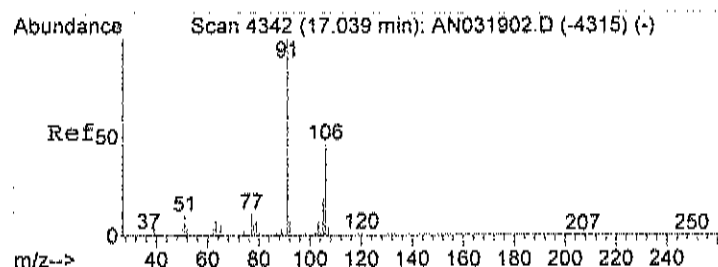
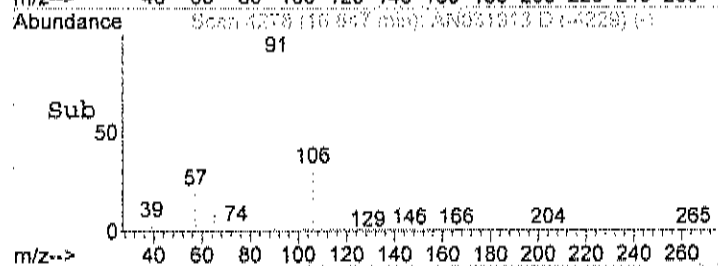
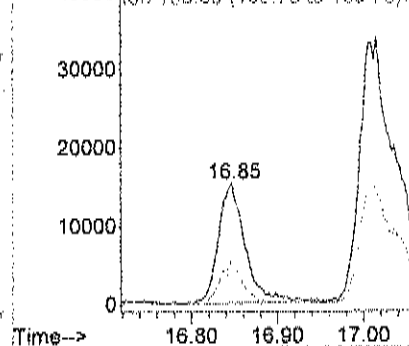


#59
Ethylbenzene
Concen: 0.41 ppb
RT: 16.85 min Scan# 4278
Delta R.T. -0.00 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

Tgt Ion: 91 Resp: 33455
Ion Ratio Lower Upper
91 100
106 31.8 9.9 49.9

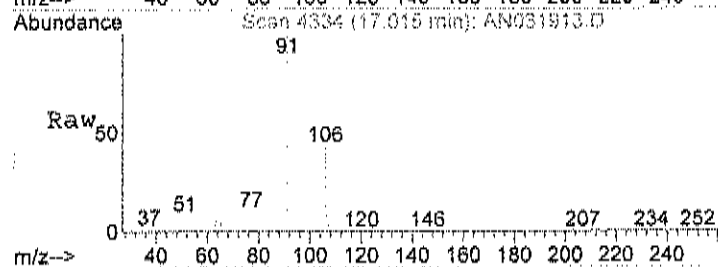


Abundance Ion 91.00 (90.70 to 91.70): ANI
Ion 106.00 (105.70 to 106.70):

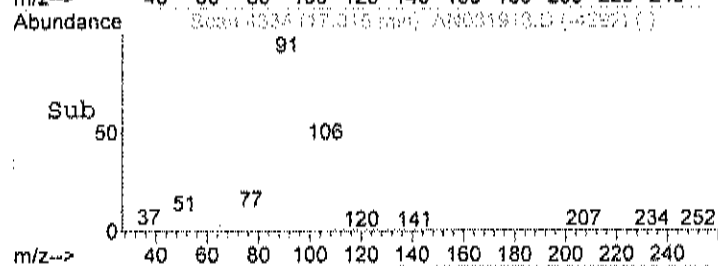
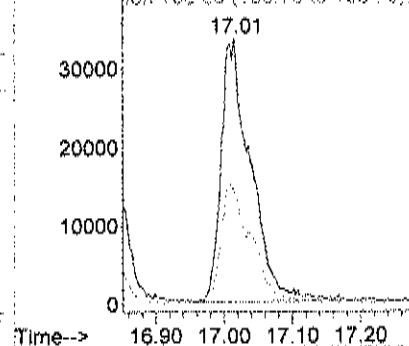


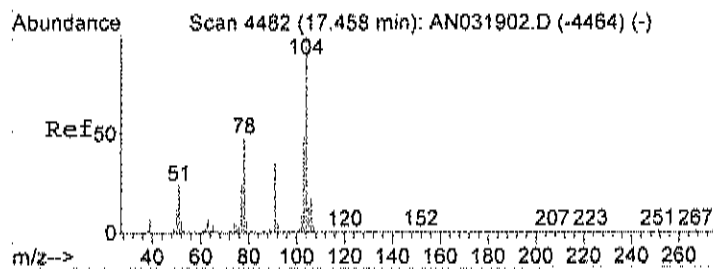
#60
m&p-xylene
Concen: 1.55 ppb
RT: 17.01 min Scan# 4334
Delta R.T. -0.02 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

Tgt Ion: 91 Resp: 101284
Ion Ratio Lower Upper
91 100
106 46.9 25.3 65.3



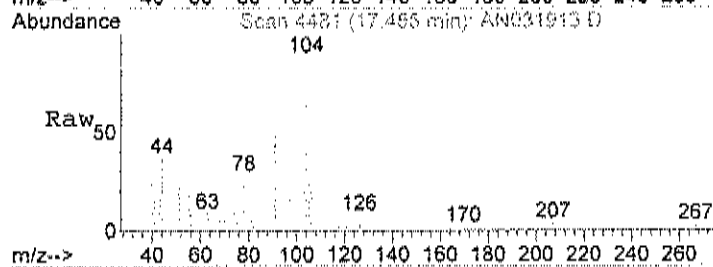
Abundance Ion 91.00 (90.70 to 91.70): ANI
Ion 106.00 (105.70 to 106.70):



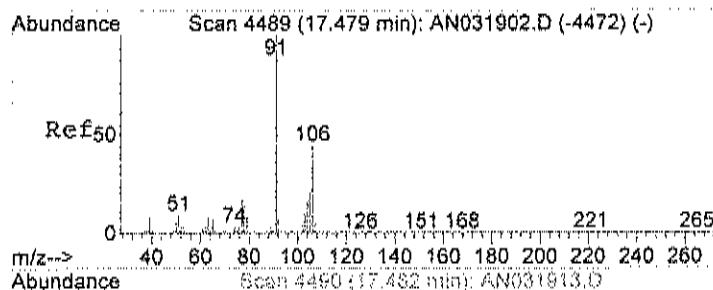
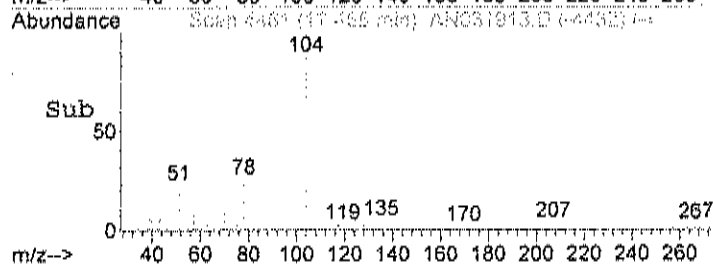
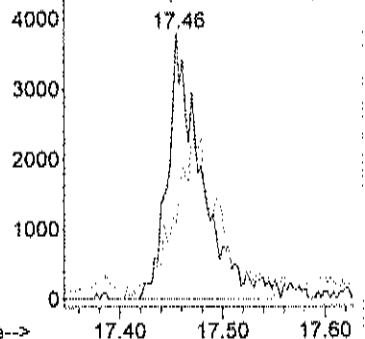


#62
Styrene
Concen: 0.19 ppb
RT: 17.46 min Scan# 4481
Delta R.T. -0.00 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

Tgt Ion	Ratio	Lower	Upper
104	100		
78	79.5	44.4	84.4

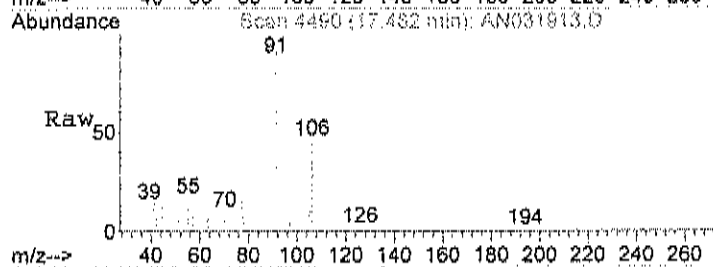


Abundance Ion 104.00 (103.70 to 104.70):

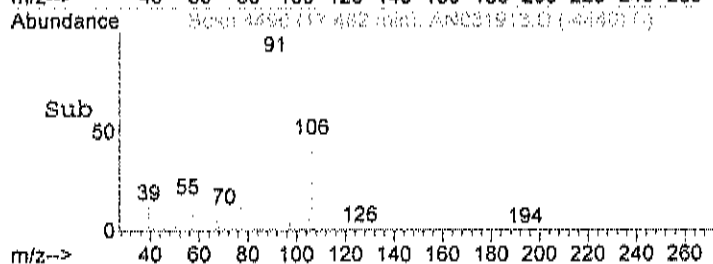
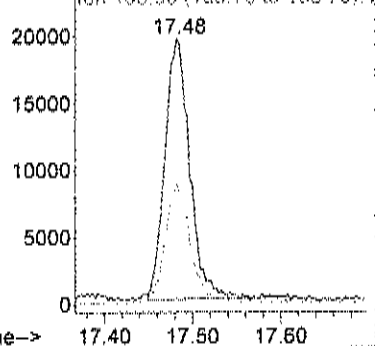


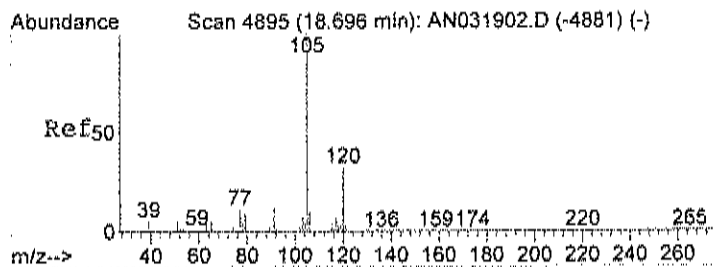
#64
o-xylene
Concen: 0.49 ppb
RT: 17.48 min Scan# 4490
Delta R.T. 0.00 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

Tgt Ion	Ratio	Lower	Upper
91	100		
106	49.3	18.4	58.4



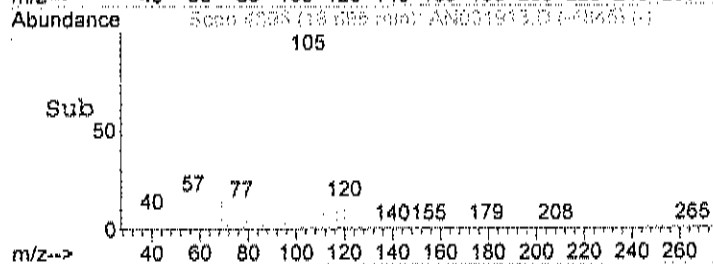
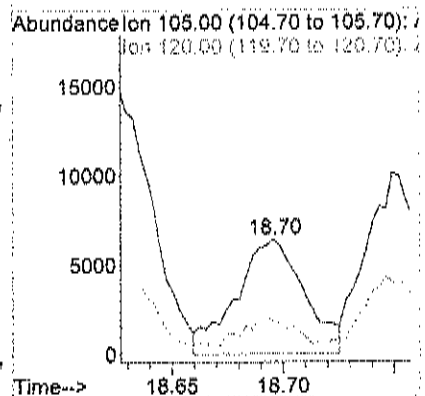
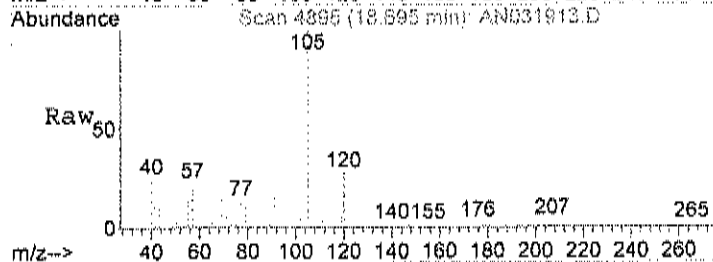
Abundance Ion 91.00 (90.70 to 91.70): AN





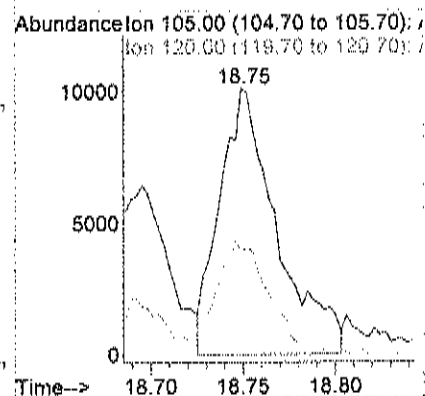
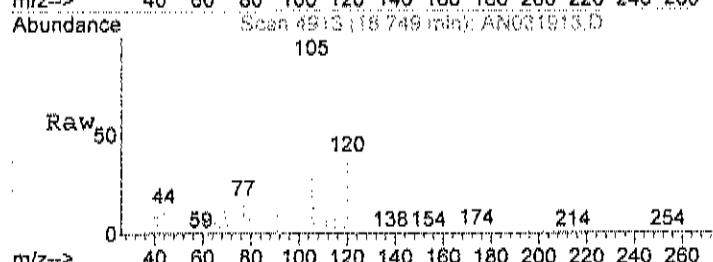
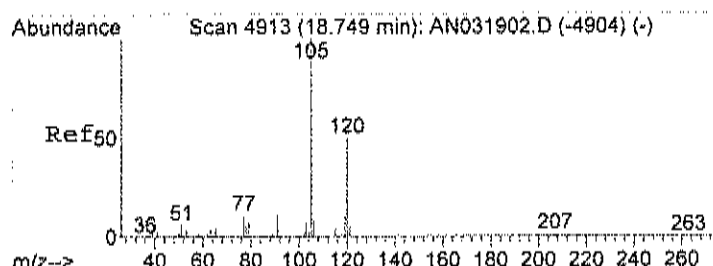
#70
4-ethyltoluene
Concen: 0.16 ppb m
RT: 18.70 min Scan# 4895
Delta R.T. 0.00 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

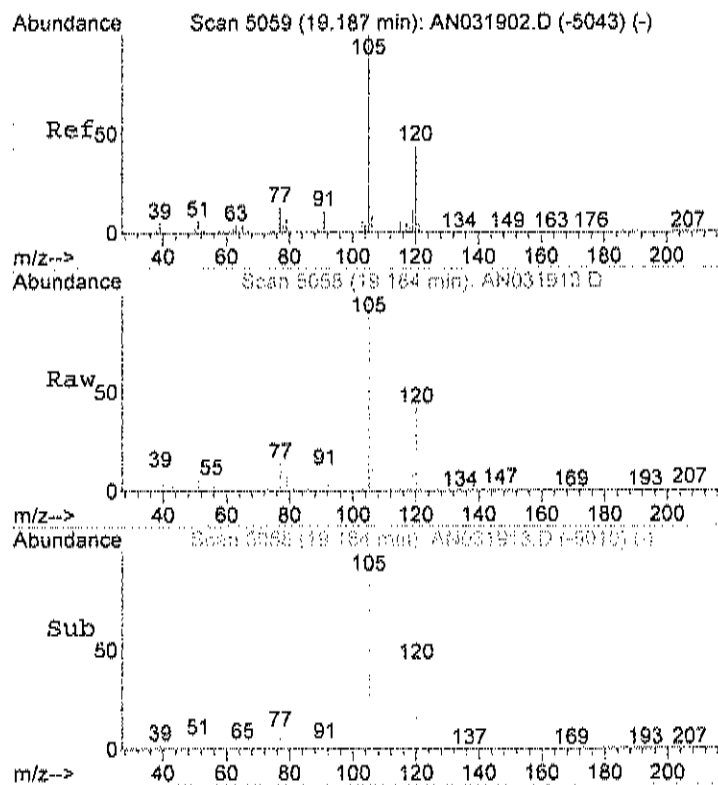
Tgt Ion:105 Resp: 13714
Ion Ratio Lower Upper
105 100
120 157.7 0.0 20.0#



#71
1,3,5-trimethylbenzene
Concen: 0.22 ppb m
RT: 18.75 min Scan# 4913
Delta R.T. -0.00 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

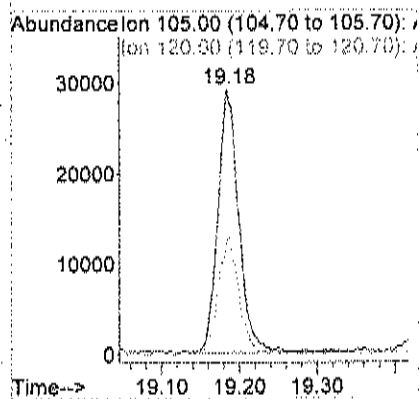
Tgt Ion:105 Resp: 21767
Ion Ratio Lower Upper
105 100
120 98.5 0.0 20.0#





#72
1,2,4-trimethylbenzene
Concen: 0.63 ppb
RT: 19.18 min Scan# 5058
Delta R.T. -0.01 min
Lab File: AN031913.D
Acq: 19 Mar 2016 6:25 pm

Tgt Ion:	105	Resp:	54183
Ion Ratio	Lower	Upper	
105	100		
120	45.5	22.1	62.1



Data File : C:\HPCHEM\1\DATA\AN031924.D

Vial: 24

Acq On : 20 Mar 2016 1:22 am

Operator: RJP

Sample : C1603053-004A 10x

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 20 12:45:52 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.83	128	32680	1.00	ppb	0.02
35) 1,4-difluorobenzene	12.07	114	99282	1.00	ppb	0.00
50) Chlorobenzene-d5	16.56	117	67489	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.14	95	41507	0.96	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	96.00%

Target Compounds

						Qvalue
15) Acetone	6.05	58	17897	1.27	ppb	# 22
17) Isopropyl alcohol	6.16	45	14165	0.31	ppb	# 46
28) Methyl Ethyl Ketone	8.98	72	4401	0.29	ppb	# 100
30) Hexane	8.90	57	7136	0.17	ppb	96
33) Tetrahydrofuran	10.19	42	11175	0.41	ppb	93
39) Benzene	11.37	78	15454	0.19	ppb	94
51) Toluene	14.68	92	12112	0.26	ppb	97
60) m&p-xylene	17.02	91	9918	0.16	ppb	99

(~) = qualifier out of range (m) = manual integration (+) = signals summed
 AN031924.D A316_1UG.M Thu Apr 07 13:10:55 2016 MSD1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031924.D
Acq On : 20 Mar 2016 1:22 am
Sample : C1603053-004A 10x
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 24 16:53 2016

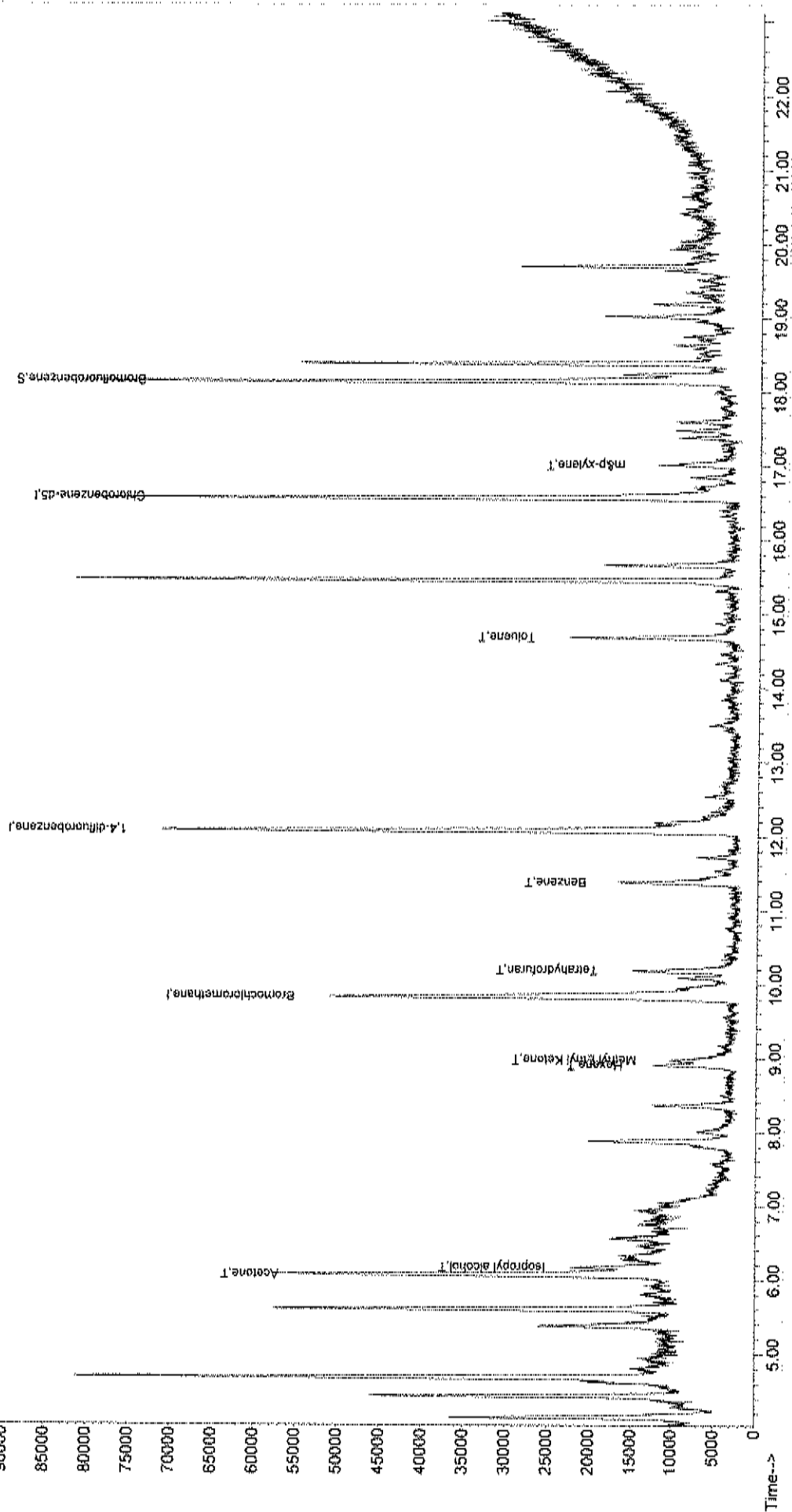
Vial: 24
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A316_1UG.RES

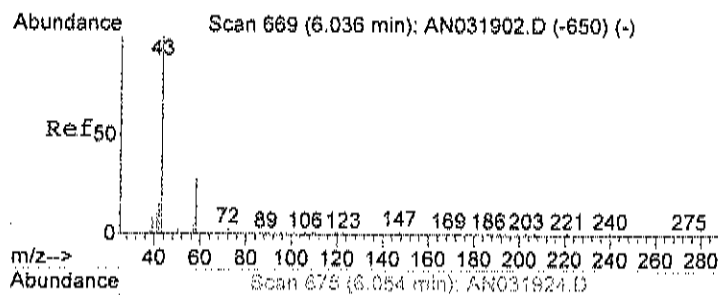
Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration

Abundance

TIC: AN031924.D

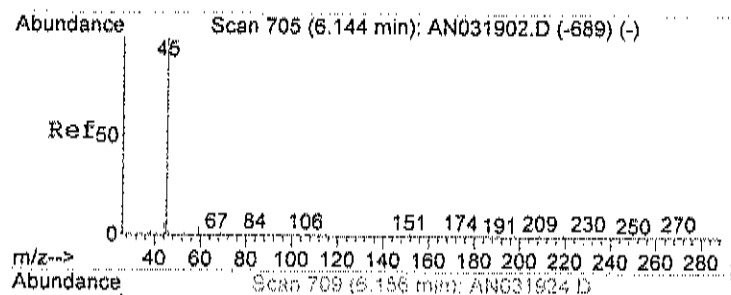
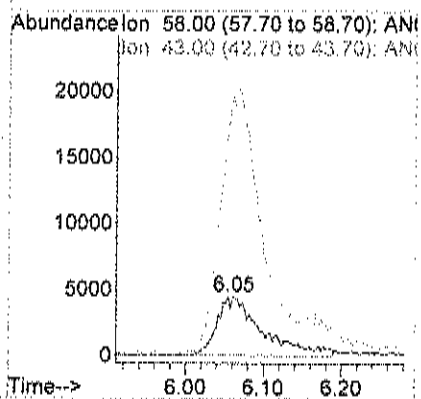


AN031924.D A316_1UG.M Thu Apr 07 13:10:56 2016 MSD1



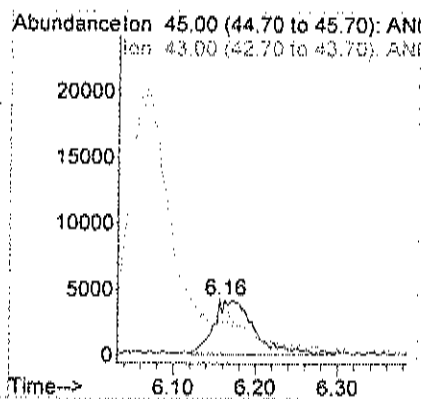
#15
Acetone
Concen: 1.27 ppb
RT: 6.05 min Scan# 675
Delta R.T. 0.01 min
Lab File: AN031924.D
Acq: 20 Mar 2016 1:22 am

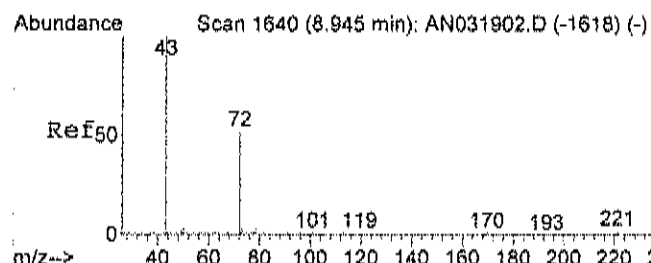
Tgt Ion	Ratio	Lower	Upper
58	100		
43	423.2	661.8	721.8#



#17
Isopropyl alcohol
Concen: 0.31 ppb
RT: 6.16 min Scan# 709
Delta R.T. 0.01 min
Lab File: AN031924.D
Acq: 20 Mar 2016 1:22 am

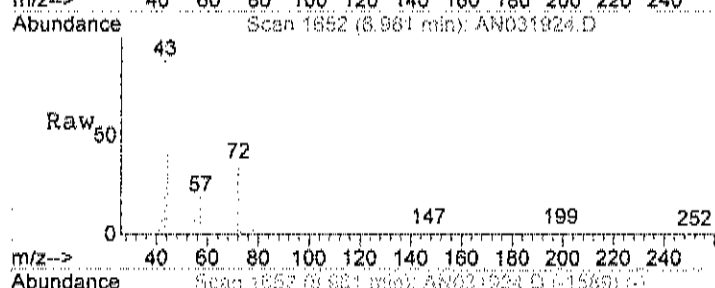
Tgt Ion	Ratio	Lower	Upper
45	100		
43	0.0	8.9	48.9#





#28
Methyl Ethyl Ketone
Concen: 0.29 ppb
RT: 8.98 min Scan# 1652
Delta R.T. 0.04 min
Lab File: AN031924.D
Acq: 20 Mar 2016 1:22 am

Tgt Ion	Ratio	Lower	Upper
72	100		
43	480.5	0.0	20.0#
72	100.0	80.0	120.0

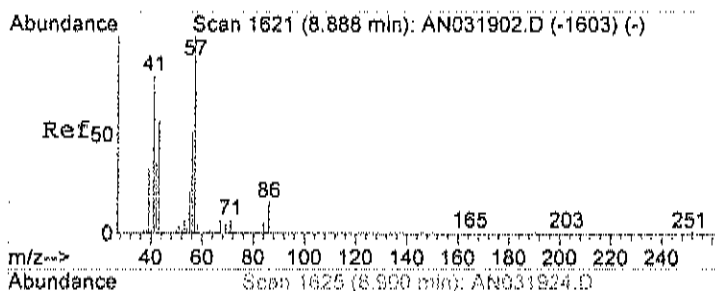
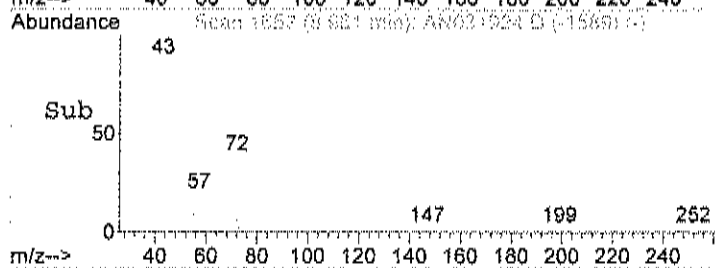
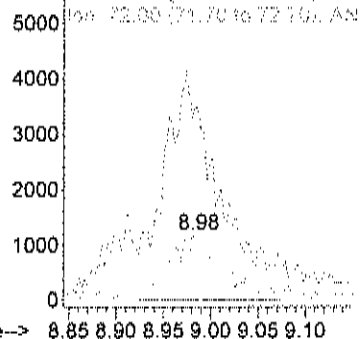


Abundance

Ion 72.00 (71.70 to 72.70): ANI

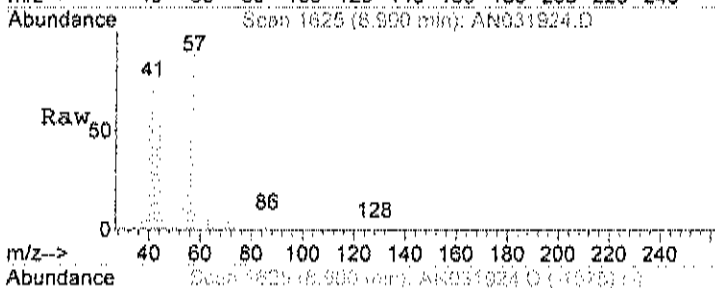
Ion 43.00 (42.70 to 43.70): ANI

Ion 72.00 (71.70 to 72.70): ANI



#30
Hexane
Concen: 0.17 ppb
RT: 8.90 min Scan# 1625
Delta R.T. 0.00 min
Lab File: AN031924.D
Acq: 20 Mar 2016 1:22 am

Tgt Ion	Ratio	Lower	Upper
57	100		
41	91.4	66.6	106.6
56	51.0	30.6	70.6

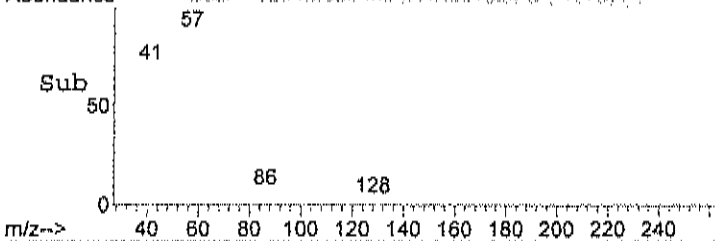
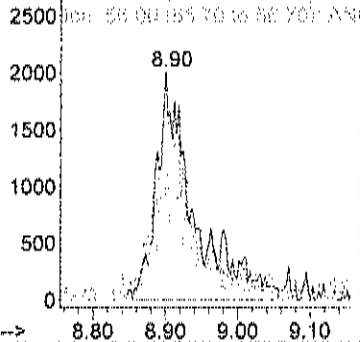


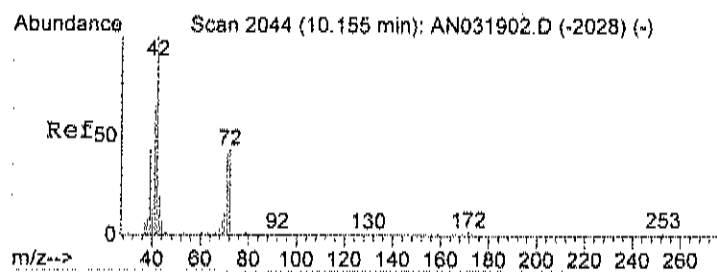
Abundance

Ion 57.00 (56.70 to 57.70): ANI

Ion 41.00 (40.70 to 41.70): ANI

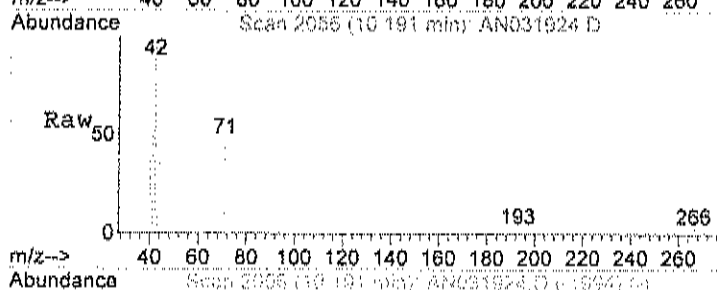
Ion 56.00 (55.70 to 56.70): ANI



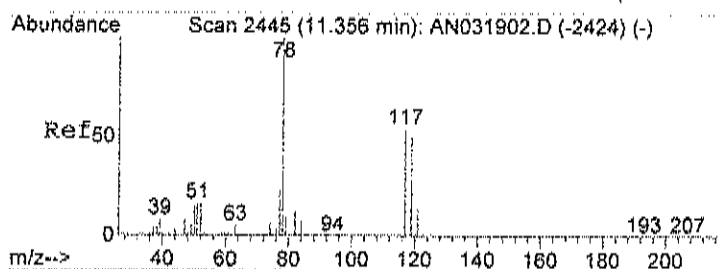
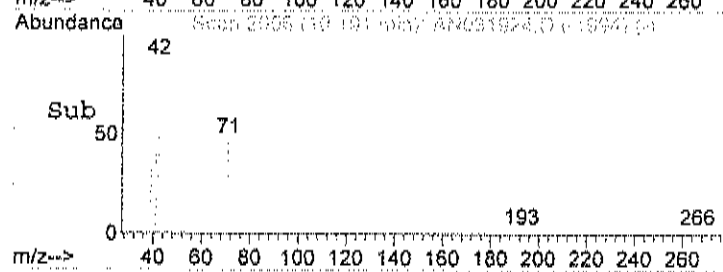
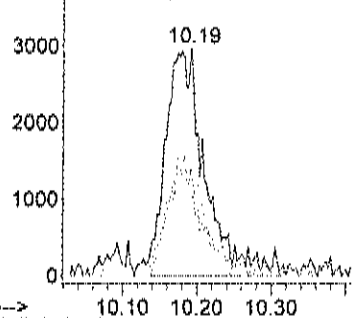


#33
Tetrahydrofuran
Concen: 0.41 ppb
RT: 10.19 min Scan# 2056
Delta R.T. 0.04 min
Lab File: AN031924.D
Acq: 20 Mar 2016 1:22 am

Tgt Ion: 42 Resp: 11175
Ion Ratio Lower Upper
42 100
71 42.4 20.0 60.0
72 45.3 19.1 59.1

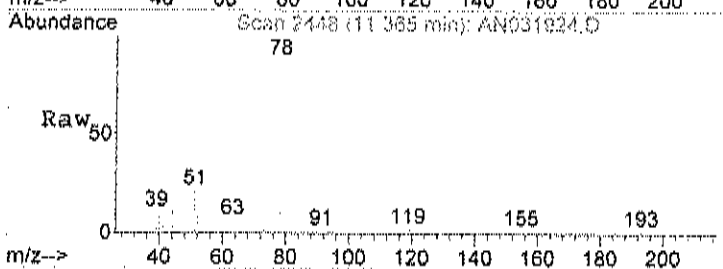


Abundance Ion 42.00 (41.70 to 42.70): ANI
Ion 71.00 (70.70 to 71.70): ANI
Ion 72.00 (71.70 to 72.70): ANI

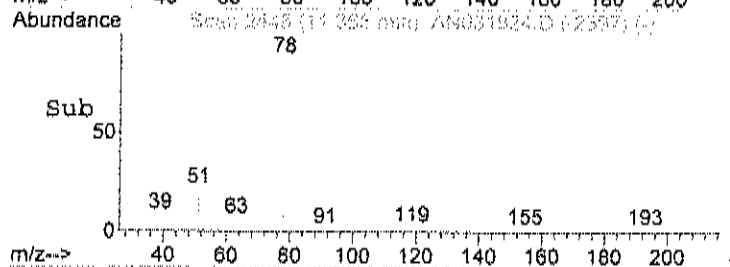
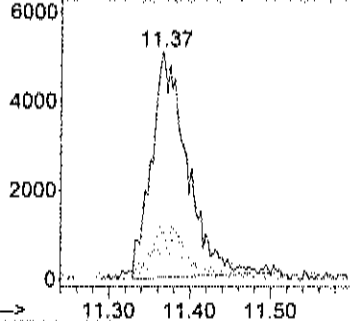


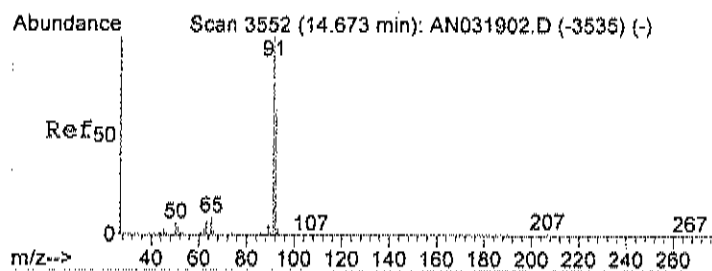
#39
Benzene
Concen: 0.19 ppb
RT: 11.37 min Scan# 2448
Delta R.T. 0.00 min
Lab File: AN031924.D
Acq: 20 Mar 2016 1:22 am

Tgt Ion: 78 Resp: 15454
Ion Ratio Lower Upper
78 100
77 23.0 6.0 46.0
51 19.0 2.1 42.1



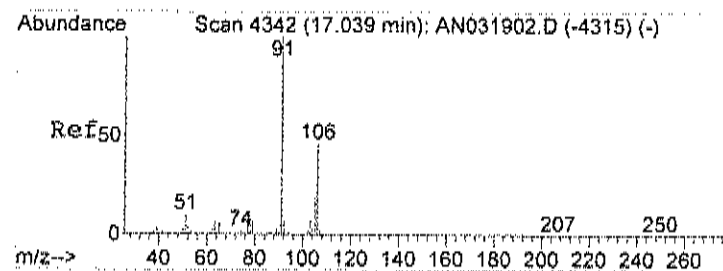
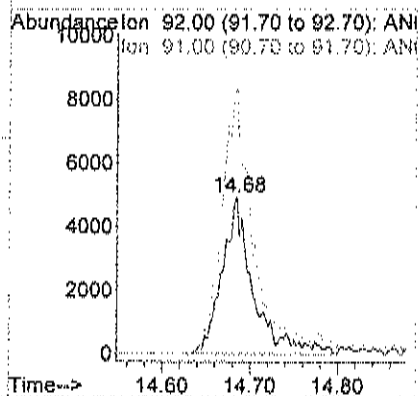
Abundance Ion 78.00 (77.70 to 78.70): ANI
Ion 77.00 (76.70 to 77.70): ANI
Ion 51.00 (50.70 to 51.70): ANI





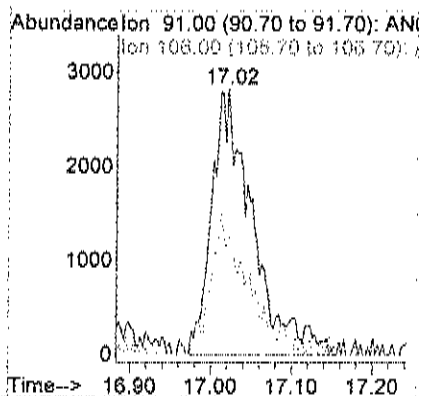
#51
Toluene
Concen: 0.26 ppb
RT: 14.68 min Scan# 3556
Delta R.T. 0.01 min
Lab File: AN031924.D
Acq: 20 Mar 2016 1:22 am

Tgt Ion: 92 Resp: 12112
Ion Ratio Lower Upper
92 100
91 176.0 152.5 192.5



#60
m&p-xylene
Concen: 0.16 ppb
RT: 17.02 min Scan# 4336
Delta R.T. -0.02 min
Lab File: AN031924.D
Acq: 20 Mar 2016 1:22 am

Tgt Ion: 91 Resp: 9918
Ion Ratio Lower Upper
91 100
106 46.1 25.3 65.3



Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se

Client Sample ID: Sub-slab #2

Lab Order: C1603053

Tag Number: 353.433

Project: Highland Plaza

Collection Date: 3/15/2016

Lab ID: C1603053-005A

Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		Analyst:		
Lab Vacuum In	-1			"Hg		3/18/2016
Lab Vacuum Out	-30			"Hg		3/18/2016
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,1-Dichloroethene	0.24	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,2,4-Trimethylbenzene	0.76	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,3,5-Trimethylbenzene	0.41	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,3-butadiene	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
1,4-Dioxane	< 0.30	0.30		ppbV	1	3/19/2016 9:41:00 PM
2,2,4-trimethylpentane	0.32	0.15		ppbV	1	3/19/2016 9:41:00 PM
4-ethyltoluene	0.23	0.15		ppbV	1	3/19/2016 9:41:00 PM
Acetone	20	12		ppbV	40	3/22/2016 8:31:00 PM
Allyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Benzene	1.9	0.15		ppbV	1	3/19/2016 9:41:00 PM
Benzyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Bromodichloromethane	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Bromoform	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Bromomethane	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Carbon disulfide	4.2	1.5		ppbV	10	3/20/2016 5:00:00 AM
Carbon tetrachloride	0.060	0.15	J	ppbV	1	3/19/2016 9:41:00 PM
Chlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Chloroform	1.6	0.15		ppbV	1	3/19/2016 9:41:00 PM
Chloromethane	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
cis-1,2-Dichloroethene	42	6.0		ppbV	40	3/22/2016 8:31:00 PM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Cyclohexane	13	1.5		ppbV	10	3/20/2016 5:00:00 AM
Dibromochloromethane	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Ethyl acetate	0.58	0.25		ppbV	1	3/19/2016 9:41:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

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Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-005A

Client Sample ID: Sub-slab #2
 Tag Number: 353.433
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
Ethylbenzene	0.65	0.15		ppbV	1	3/19/2016 9:41:00 PM
Freon 11	0.18	0.15		ppbV	1	3/19/2016 9:41:00 PM
Freon 113	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Freon 114	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Freon 12	0.43	0.15		ppbV	1	3/19/2016 9:41:00 PM
Heptane	5.3	1.5		ppbV	10	3/20/2016 5:00:00 AM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Hexane	6.8	1.5		ppbV	10	3/20/2016 5:00:00 AM
Isopropyl alcohol	3.6	1.5		ppbV	10	3/20/2016 5:00:00 AM
m&p-Xylene	2.3	0.30		ppbV	1	3/19/2016 9:41:00 PM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	3/19/2016 9:41:00 PM
Methyl Ethyl Ketone	3.2	3.0		ppbV	10	3/20/2016 5:00:00 AM
Methyl Isobutyl Ketone	0.60	0.30		ppbV	1	3/19/2016 9:41:00 PM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Methylene chloride	1.9	0.15		ppbV	1	3/19/2016 9:41:00 PM
o-Xylene	0.85	0.15		ppbV	1	3/19/2016 9:41:00 PM
Propylene	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Styrene	0.41	0.15		ppbV	1	3/19/2016 9:41:00 PM
Tetrachloroethylene	22	6.0		ppbV	40	3/22/2016 8:31:00 PM
Tetrahydrofuran	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Toluene	5.3	1.5		ppbV	10	3/20/2016 5:00:00 AM
trans-1,2-Dichloroethene	5.2	1.5		ppbV	10	3/20/2016 5:00:00 AM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Trichloroethene	20	6.0		ppbV	40	3/22/2016 8:31:00 PM
Vinyl acetate	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Vinyl Bromide	< 0.15	0.15		ppbV	1	3/19/2016 9:41:00 PM
Vinyl chloride	0.92	0.15		ppbV	1	3/19/2016 9:41:00 PM
Surr: Bromofluorobenzene	88.0	70-130		%REC	1	3/19/2016 9:41:00 PM

Qualifiers: ** Reporting Limit . Results reported are not blank corrected
 B Analyte detected in the associated Method Blank E Value above quantitation range
 H Holding times for preparation or analysis exceeded J Analyte detected at or below quantitation limits
 JN Non-routine analyte, Quantitation estimated. ND Not Detected at the Reporting Limit
 S Spike Recovery outside accepted recovery limits

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Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-005A

Client Sample ID: Sub-slab #2
 Tag Number: 353.433
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15			TO-15		Analyst: RJP	
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/19/2016 9:41:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	3/19/2016 9:41:00 PM
1,1,2-Trichloroethane	< 0.82	0.82		ug/m3	1	3/19/2016 9:41:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/19/2016 9:41:00 PM
1,1-Dichloroethene	0.95	0.59		ug/m3	1	3/19/2016 9:41:00 PM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	3/19/2016 9:41:00 PM
1,2,4-Trimethylbenzene	3.7	0.74		ug/m3	1	3/19/2016 9:41:00 PM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	3/19/2016 9:41:00 PM
1,2-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 9:41:00 PM
1,2-Dichloroethane	< 0.61	0.61		ug/m3	1	3/19/2016 9:41:00 PM
1,2-Dichloropropane	< 0.69	0.69		ug/m3	1	3/19/2016 9:41:00 PM
1,3,5-Trimethylbenzene	2.0	0.74		ug/m3	1	3/19/2016 9:41:00 PM
1,3-butadiene	< 0.33	0.33		ug/m3	1	3/19/2016 9:41:00 PM
1,3-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 9:41:00 PM
1,4-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 9:41:00 PM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	3/19/2016 9:41:00 PM
2,2,4-trimethylpentane	1.5	0.70		ug/m3	1	3/19/2016 9:41:00 PM
4-ethyltoluene	1.1	0.74		ug/m3	1	3/19/2016 9:41:00 PM
Acetone	48	28		ug/m3	40	3/22/2016 8:31:00 PM
Allyl chloride	< 0.47	0.47		ug/m3	1	3/19/2016 9:41:00 PM
Benzene	6.0	0.48		ug/m3	1	3/19/2016 9:41:00 PM
Benzyl chloride	< 0.86	0.86		ug/m3	1	3/19/2016 9:41:00 PM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	3/19/2016 9:41:00 PM
Bromoform	< 1.6	1.6		ug/m3	1	3/19/2016 9:41:00 PM
Bromomethane	< 0.58	0.58		ug/m3	1	3/19/2016 9:41:00 PM
Carbon disulfide	13	4.7		ug/m3	10	3/20/2016 5:00:00 AM
Carbon tetrachloride	0.38	0.94	J	ug/m3	1	3/19/2016 9:41:00 PM
Chlorobenzene	< 0.69	0.69		ug/m3	1	3/19/2016 9:41:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/19/2016 9:41:00 PM
Chloroform	7.8	0.73		ug/m3	1	3/19/2016 9:41:00 PM
Chloromethane	< 0.31	0.31		ug/m3	1	3/19/2016 9:41:00 PM
cis-1,2-Dichloroethene	170	24		ug/m3	40	3/22/2016 8:31:00 PM
cis-1,3-Dichloropropene	< 0.68	0.68		ug/m3	1	3/19/2016 9:41:00 PM
Cyclohexane	44	5.2		ug/m3	10	3/20/2016 5:00:00 AM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	3/19/2016 9:41:00 PM
Ethyl acetate	2.1	0.90		ug/m3	1	3/19/2016 9:41:00 PM
Ethylbenzene	2.8	0.65		ug/m3	1	3/19/2016 9:41:00 PM
Freon 11	1.0	0.84		ug/m3	1	3/19/2016 9:41:00 PM
Freon 113	< 1.1	1.1		ug/m3	1	3/19/2016 9:41:00 PM
Freon 114	< 1.0	1.0		ug/m3	1	3/19/2016 9:41:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

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Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-005A

Client Sample ID: Sub-slab #2
 Tag Number: 353.433
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15			TO-15		Analyst: RJP	
Freon 12	2.1	0.74		ug/m3	1	3/19/2016 9:41:00 PM
Heptane	22	6.1		ug/m3	10	3/20/2016 5:00:00 AM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	3/19/2016 9:41:00 PM
Hexane	24	5.3		ug/m3	10	3/20/2016 5:00:00 AM
Isopropyl alcohol	8.8	3.7		ug/m3	10	3/20/2016 5:00:00 AM
m&p-Xylene	10	1.3		ug/m3	1	3/19/2016 9:41:00 PM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	3/19/2016 9:41:00 PM
Methyl Ethyl Ketone	9.4	8.8		ug/m3	10	3/20/2016 5:00:00 AM
Methyl Isobutyl Ketone	2.5	1.2		ug/m3	1	3/19/2016 9:41:00 PM
Methyl tert-butyl ether	< 0.54	0.54		ug/m3	1	3/19/2016 9:41:00 PM
Methylene chloride	6.5	0.52		ug/m3	1	3/19/2016 9:41:00 PM
o-Xylene	3.7	0.65		ug/m3	1	3/19/2016 9:41:00 PM
Propylene	< 0.26	0.26		ug/m3	1	3/19/2016 9:41:00 PM
Styrene	1.7	0.64		ug/m3	1	3/19/2016 9:41:00 PM
Tetrachloroethylene	150	41		ug/m3	40	3/22/2016 8:31:00 PM
Tetrahydrofuran	< 0.44	0.44		ug/m3	1	3/19/2016 9:41:00 PM
Toluene	20	5.7		ug/m3	10	3/20/2016 5:00:00 AM
trans-1,2-Dichloroethene	21	5.9		ug/m3	10	3/20/2016 5:00:00 AM
trans-1,3-Dichloropropene	< 0.68	0.68		ug/m3	1	3/19/2016 9:41:00 PM
Trichloroethene	110	32		ug/m3	40	3/22/2016 8:31:00 PM
Vinyl acetate	< 0.53	0.53		ug/m3	1	3/19/2016 9:41:00 PM
Vinyl Bromide	< 0.66	0.66		ug/m3	1	3/19/2016 9:41:00 PM
Vinyl chloride	2.4	0.38		ug/m3	1	3/19/2016 9:41:00 PM

Qualifiers: ** Reporting Limit , Results reported are not blank corrected
 B Analyte detected in the associated Method Blank E Value above quantitation range
 H Holding times for preparation or analysis exceeded J Analyte detected at or below quantitation limits
 JN Non-routine analyte, Quantitation estimated. NID Not Detected at the Reporting Limit
 S Spike Recovery outside accepted recovery limits

Page 10 of 12

Data File : C:\HPCHEM\1\DATA\AN031918.D
 Acq On : 19 Mar 2016 9:41 pm
 Sample : C1603053-005A
 Misc : A316_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 20 12:45:46 2016

Vial: 18
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Thu Mar 17 10:24:27 2016
 Response via : Initial Calibration
 DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.78	128	47150	1.00	ppb	-0.02
35) 1,4-difluorobenzene	12.05	114	157151	1.00	ppb	0.00
50) Chlorobenzene-d5	16.55	117	88889	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.13	95	50116m	0.88	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	88.00%

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
3) Freon 12	4.19	85	87567	0.43	ppb	98
6) Vinyl Chloride	4.58	62	49005	0.92	ppb	91
14) Freon 11	5.79	101	37475	0.18	ppb	98
15) Acetone	5.99	58	452384	22.22	ppb	# 25
17) Isopropyl alcohol	6.12	45	182702	2.75	ppb	# 46
18) 1,1-dichloroethene	6.55	96	14538	0.24	ppb	# 88
21) Methylene chloride	7.02	84	99548	1.88	ppb	93
23) Carbon disulfide	7.18	76	617311	3.95	ppb	99
24) trans-1,2-dichloroethene	7.96	61	366526	5.11	ppb	83
28) Methyl Ethyl Ketone	8.91	72	65562m w)	3.02	ppb	
29) cis-1,2-dichloroethene	9.32	61	3555542	60.33	ppb	87
30) Hexane	8.89	57	507717	8.23	ppb	93
31) Ethyl acetate	9.50	43	49169	0.58	ppb	# 79
32) Chloroform	9.94	83	218615	1.59	ppb	92
37) Cyclohexane	11.43	56	781779	12.85	ppb	# 73
38) Carbon tetrachloride	11.39	117	9665	0.06	ppb	97
39) Benzene	11.36	78	245043	1.87	ppb	94
42) 2,2,4-trimethylpentane	12.18	57	72631m w)	0.32	ppb	
43) Heptane	12.52	43	301842	5.69	ppb	86
44) Trichloroethene	12.66	130	1425368	21.35	ppb	96
51) Toluene	14.67	92	395495	6.56	ppb	99
52) Methyl Isobutyl Ketone	13.83	43	64052	0.60	ppb	82
56) Tetrachloroethylene	15.65	164	1364614	23.68	ppb	99
59) Ethylbenzene	16.85	91	66959	0.65	ppb	95
60) m&p-xylene	17.01	91	188691	2.30	ppb	95
62) Styrene	17.46	104	23677	0.41	ppb	100
64) o-xylene	17.48	91	84131	0.85	ppb	85
70) 4-ethyltoluene	18.69	105	24111m w)	0.23	ppb	
71) 1,3,5-trimethylbenzene	18.75	105	52056m w)	0.41	ppb	
72) 1,2,4-trimethylbenzene	19.18	105	82213	0.76	ppb	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN031918.D A316_1UG.M Thu Apr 07 13:10:08 2016 MSD1

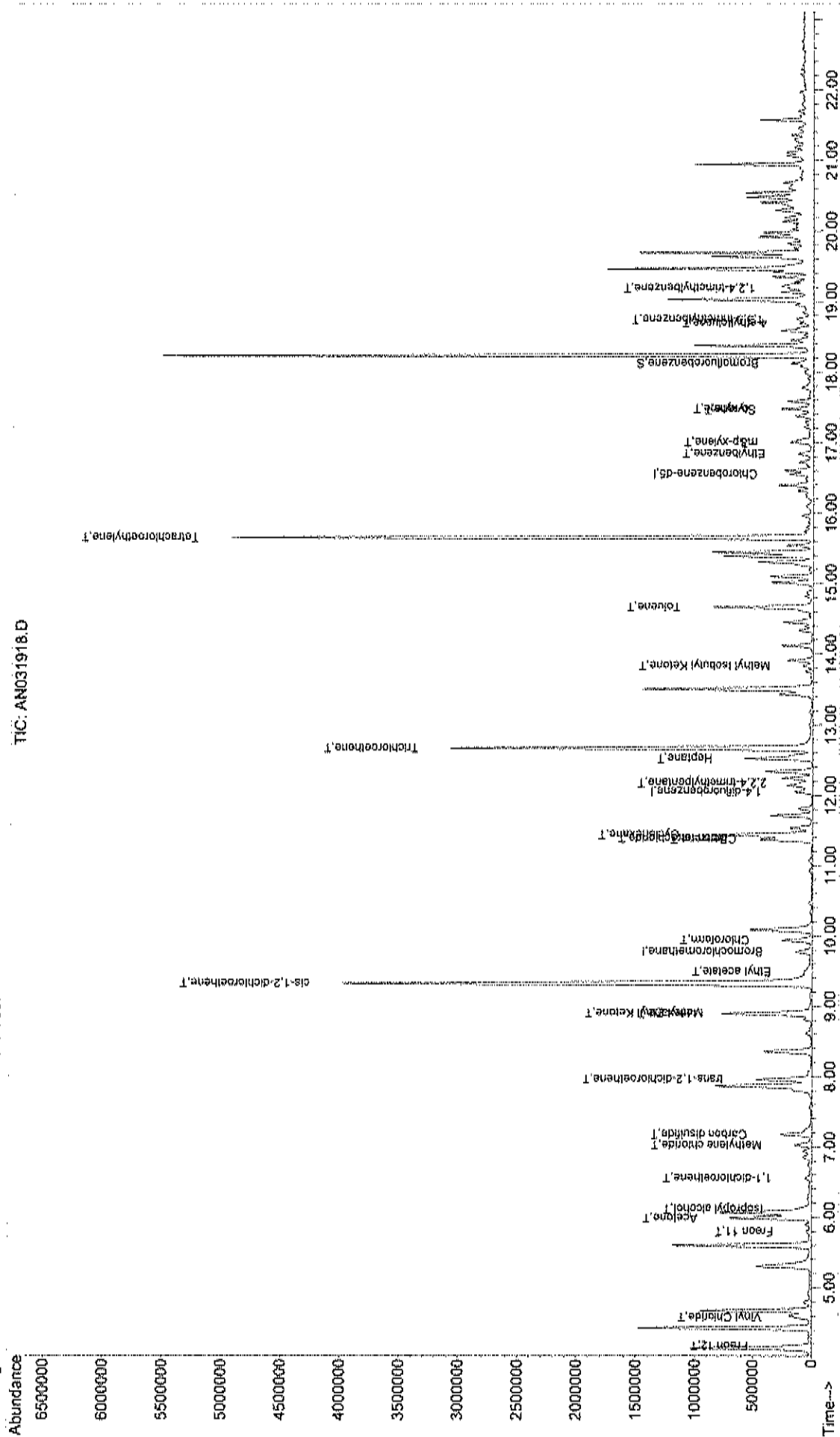
Quantitation Report (QT Reviewed)

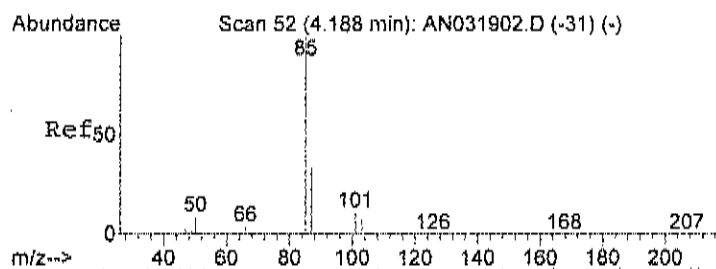
Data File : C:\HPCHEM\1\DATA\AN031918.D
Acq On : 19 Mar 2016 9:41 pm
Sample : C1603053-005A
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 24 16:09 2016

Vial: 18
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A316_1UG.RES

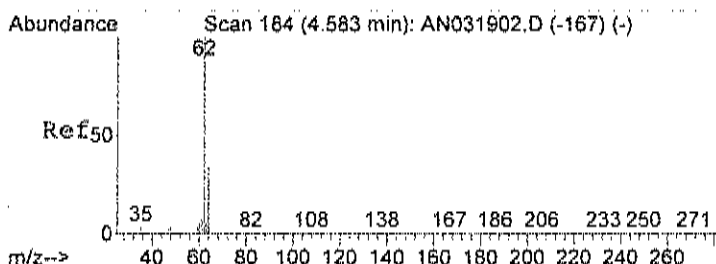
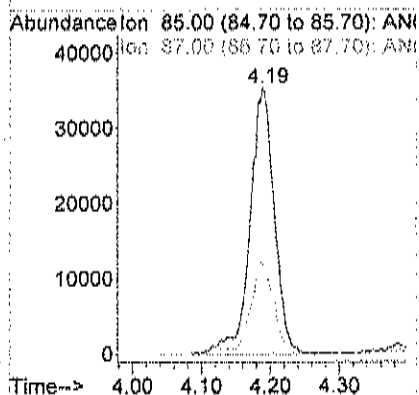
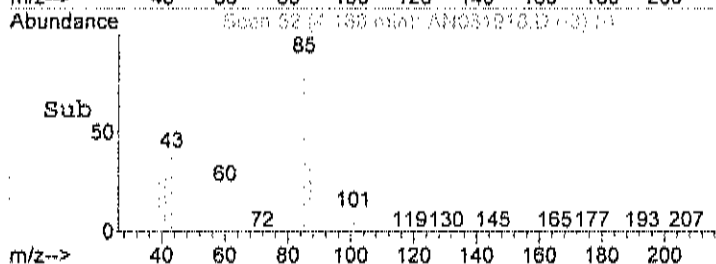
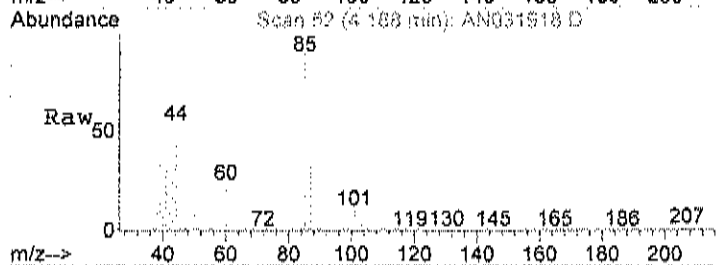
Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration





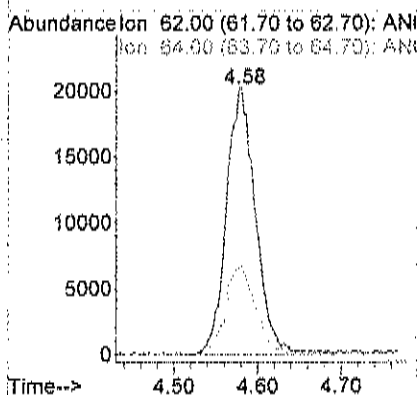
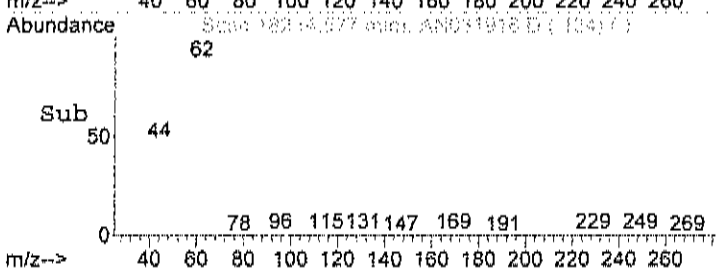
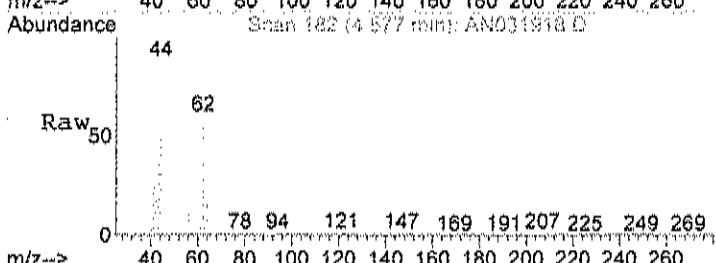
#3
Freon 12
Concen: 0.43 ppb
RT: 4.19 min Scan# 52
Delta R.T. -0.00 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

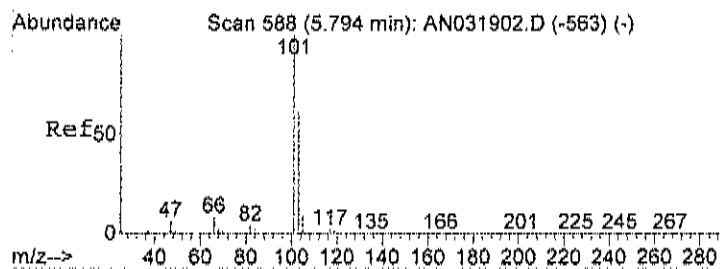
Tgt Ion: 85 Resp: 87567
Ion Ratio Lower Upper
85 100
87 33.6 12.5 52.5



#6
Vinyl Chloride
Concen: 0.92 ppb
RT: 4.58 min Scan# 182
Delta R.T. -0.01 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

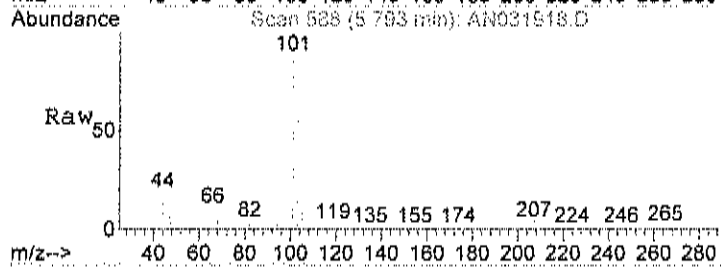
Tgt Ion: 62 Resp: 49005
Ion Ratio Lower Upper
62 100
64 34.2 9.9 69.9



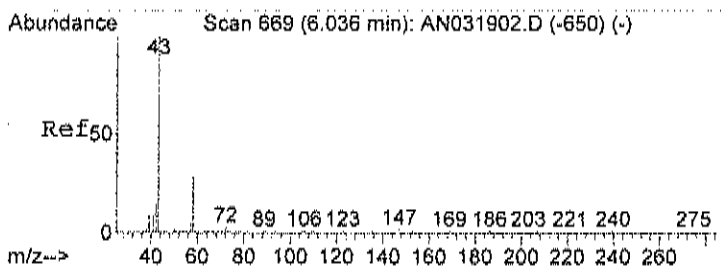
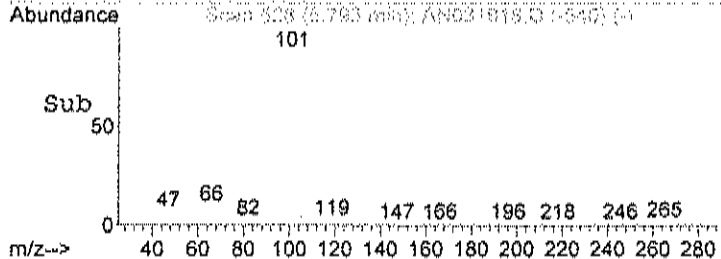
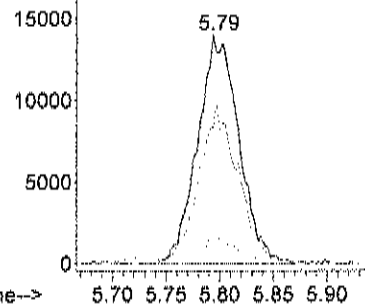


#14
Freon 11
Concen: 0.18 ppb
RT: 5.79 min Scan# 588
Delta R.T. -0.01 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

Tgt Ion: 101 Resp: 37475
Ion Ratio Lower Upper
101 100
103 66.0 44.6 84.6
105 12.5 0.0 31.6

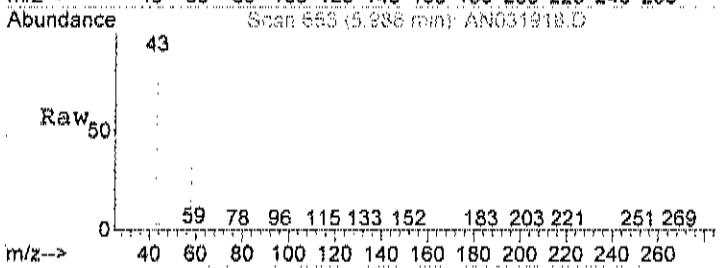


Abundance Ion 101.00 (100.70 to 101.70):
Ion 103.00 (102.70 to 103.70):
Ion 105.00 (104.70 to 105.70):

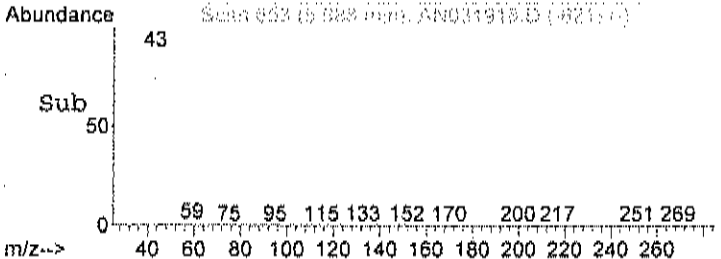
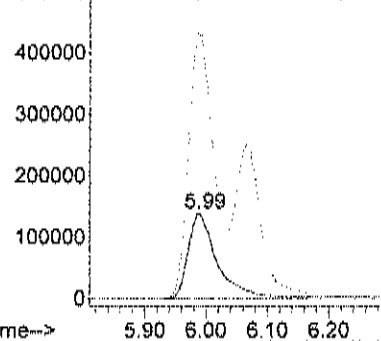


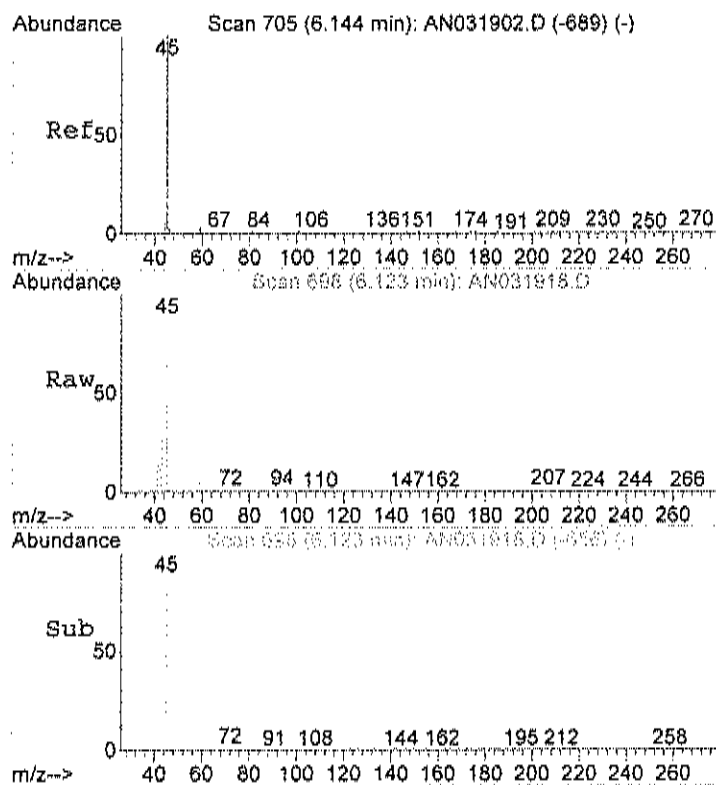
#15
Acetone
Concen: 22.22 ppb
RT: 5.99 min Scan# 653
Delta R.T. -0.05 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

Tgt Ion: 58 Resp: 452384
Ion Ratio Lower Upper
58 100
43 434.8 661.8 721.8#



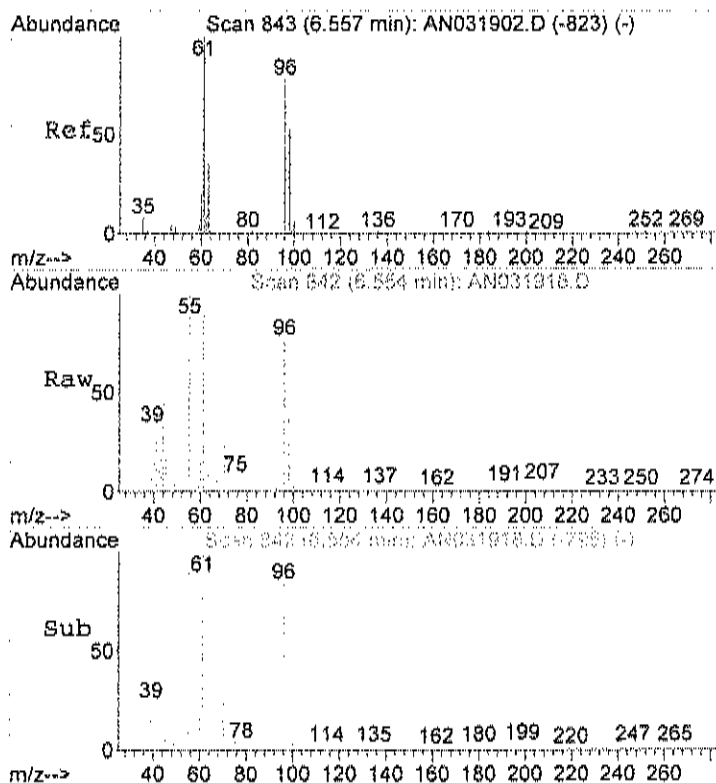
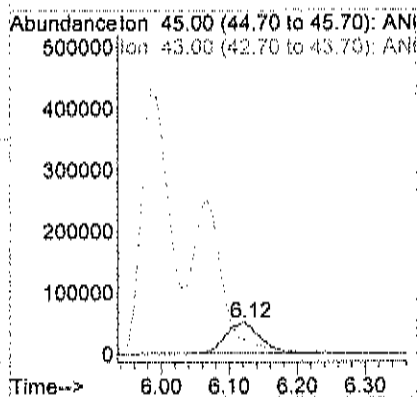
Abundance Ion 58.00 (57.70 to 58.70): ANI
Ion 43.00 (42.70 to 43.70): ANI





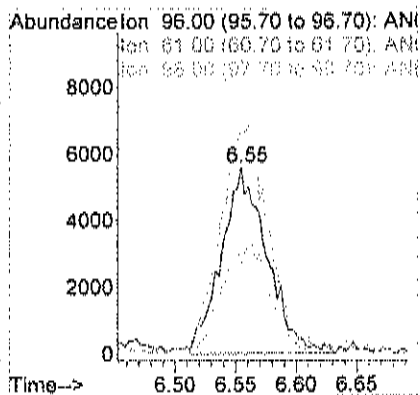
#17
Isopropyl alcohol
Concen: 2.75 ppb
RT: 6.12 min Scan# 698
Delta R.T. -0.02 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

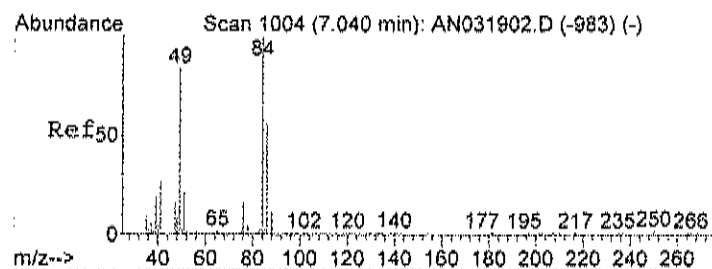
Tgt Ion: 45 Resp: 182702
Ion Ratio Lower Upper
45 100
43 0.0 8.9 48.9#



#18
1,1-dichloroethene
Concen: 0.24 ppb
RT: 6.55 min Scan# 842
Delta R.T. -0.01 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

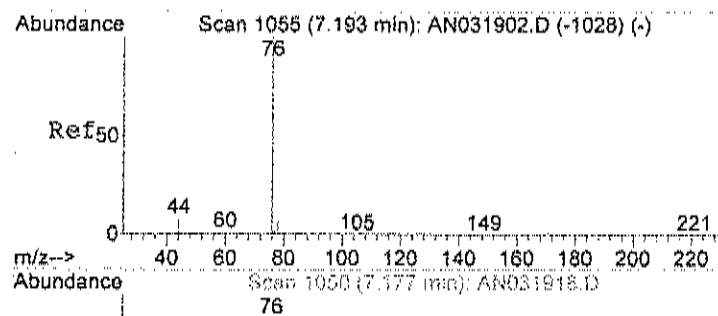
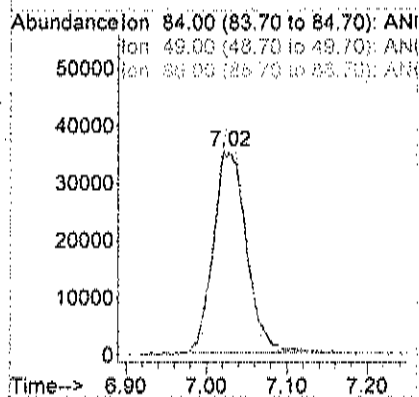
Tgt Ion: 96 Resp: 14538
Ion Ratio Lower Upper
96 100
61 135.1 137.2 177.2#
98 62.8 43.7 83.7





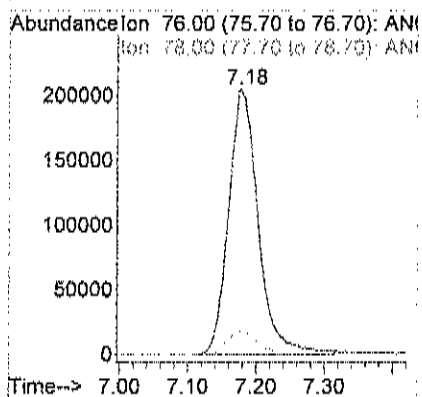
#21
Methylene chloride
Concen: 1.88 ppb
RT: 7.02 min Scan# 998
Delta R.T. -0.02 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

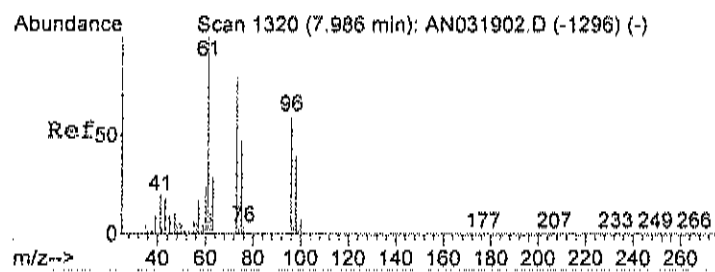
Tgt Ion: 84 Resp: 99548
Ion Ratio Lower Upper
84 100
49 115.4 87.8 127.8
86 68.4 43.1 83.1



#23
Carbon disulfide
Concen: 3.95 ppb
RT: 7.18 min Scan# 1050
Delta R.T. -0.02 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

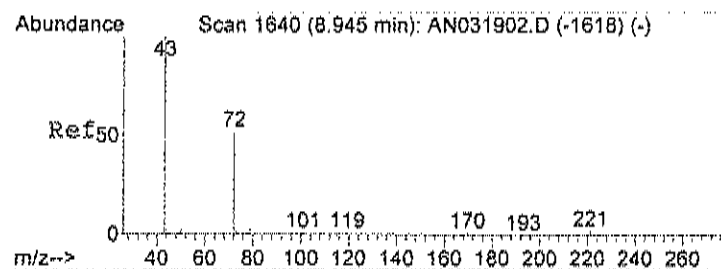
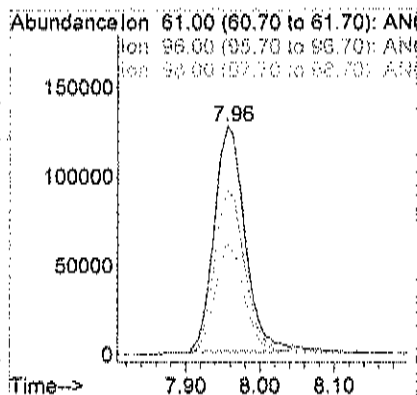
Tgt Ion: 76 Resp: 617311
Ion Ratio Lower Upper
76 100
78 9.9 0.0 30.3





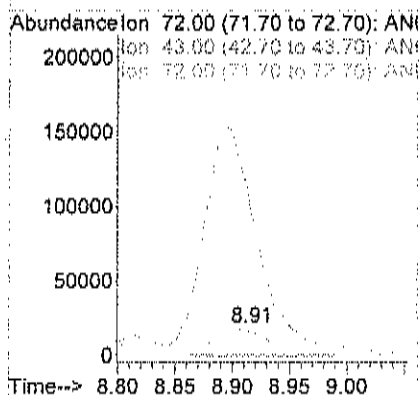
#24
trans-1,2-dichloroethene
Concen: 5.11 ppb
RT: 7.96 min Scan# 1310
Delta R.T. -0.03 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

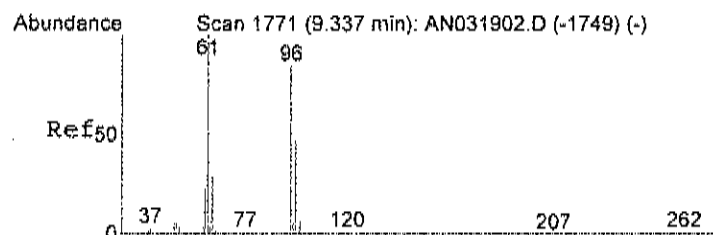
Tgt Ion:	61	Resp:	366526
Ion	Ratio	Lower	Upper
61	100		
96	76.2	42.3	82.3
98	49.9	19.9	59.9



#28
Methyl Ethyl Ketone
Concen: 3.02 ppb m
RT: 8.91 min Scan# 1629
Delta R.T. -0.03 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

Tgt Ion:	72	Resp:	65562
Ion	Ratio	Lower	Upper
72	100		
43	0.0	0.0	20.0
72	137.2	80.0	120.0#

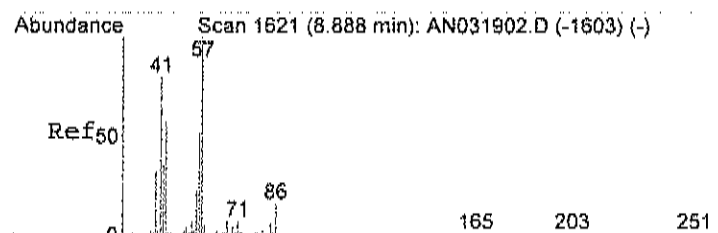
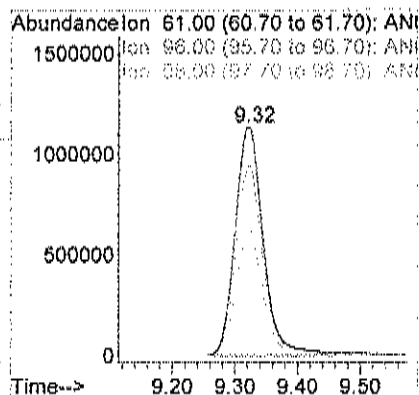




#29
cis-1,2-dichloroethene
Concen: 60.33 ppb
RT: 9.32 min Scan# 1766
Delta R.T. -0.02 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

Tgt Ion: 61 Resp: 3555542

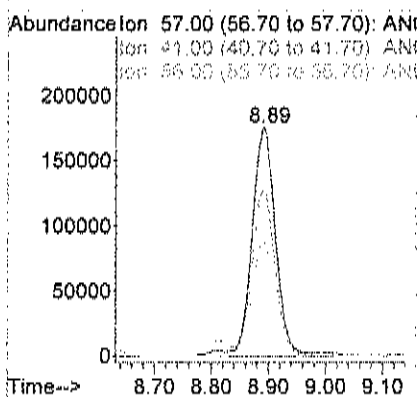
Ion	Ratio	Lower	Upper
61	100		
96	81.6	51.2	91.2
98	53.3	23.7	63.7

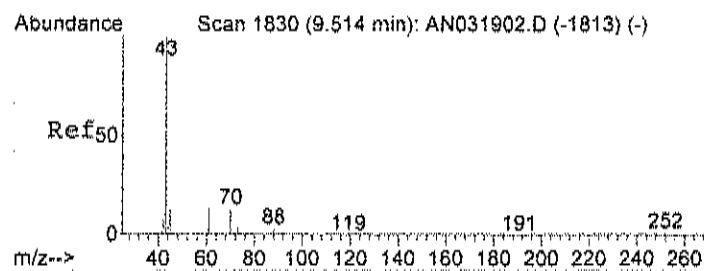


#30
Hexane
Concen: 8.23 ppb
RT: 8.89 min Scan# 1622
Delta R.T. -0.01 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

Tgt Ion: 57 Resp: 507717

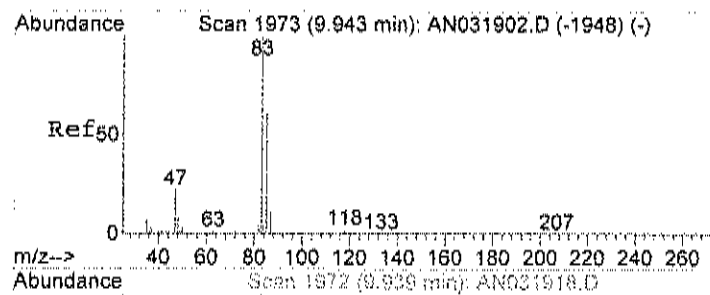
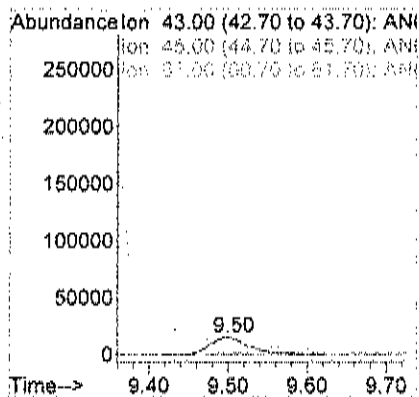
Ion	Ratio	Lower	Upper
57	100		
41	78.4	66.6	106.6
56	47.9	30.6	70.6





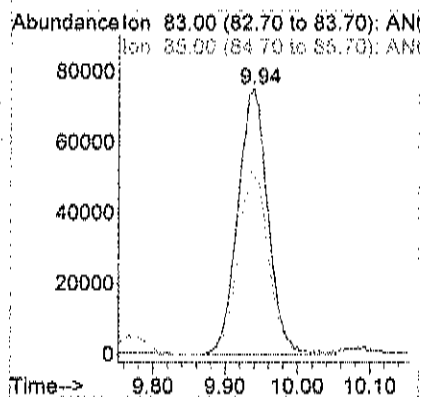
#31
Ethyl acetate
Concen: 0.58 ppb
RT: 9.50 min Scan# 1825
Delta R.T. -0.02 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

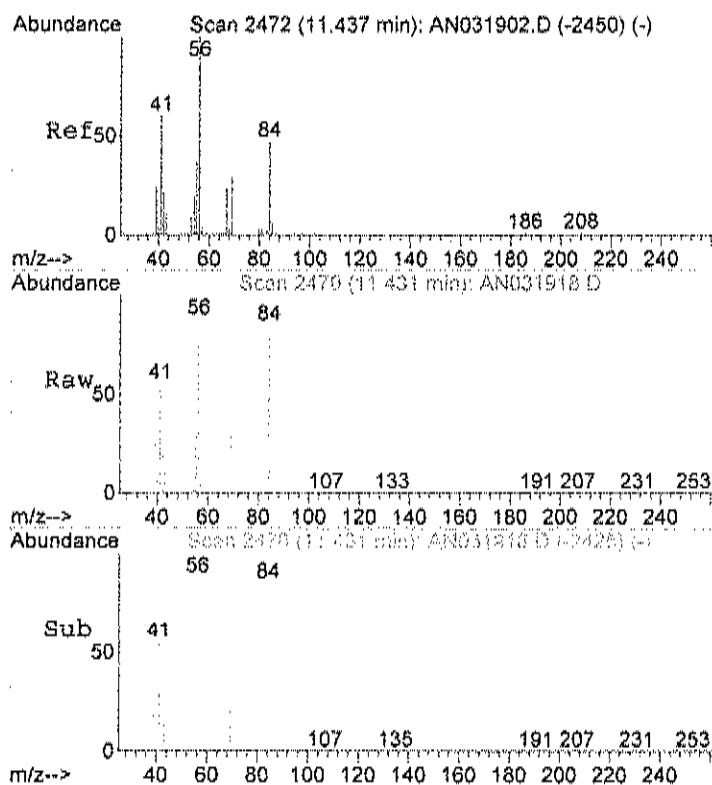
Tgt Ion:	43	Resp:	49169
Ion	Ratio	Lower	Upper
43	100		
45	17.9	0.0	33.8
61	0.0	0.0	33.3



#32
Chloroform
Concen: 1.59 ppb
RT: 9.94 min Scan# 1972
Delta R.T. -0.00 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

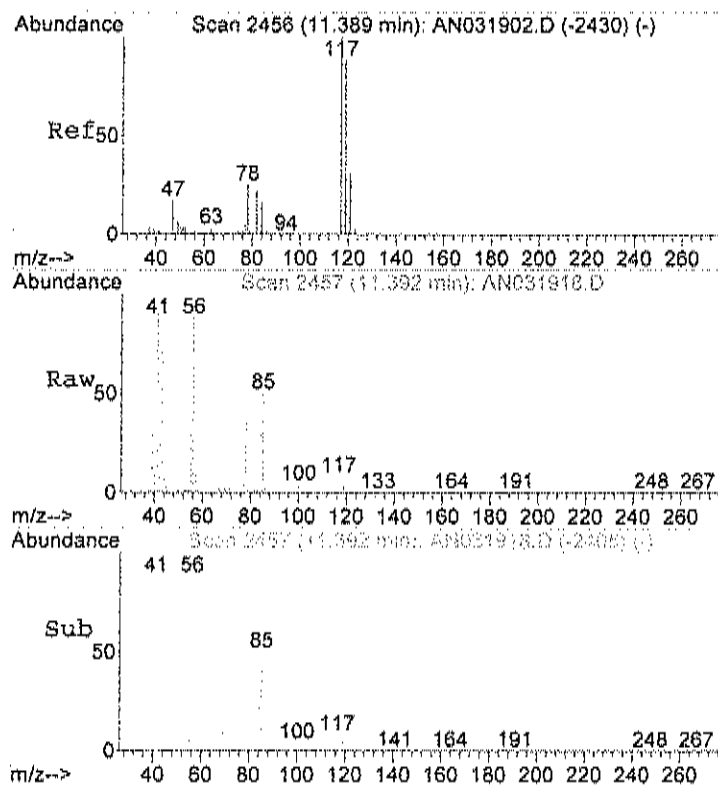
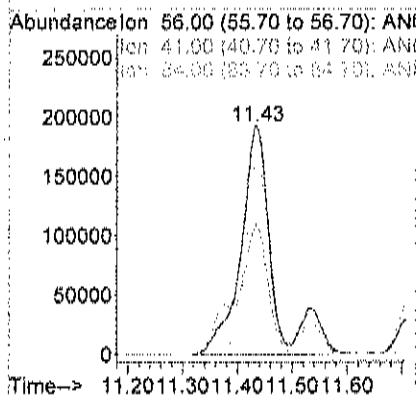
Tgt Ion:	83	Resp:	218615
Ion	Ratio	Lower	Upper
83	100		
85	69.8	43.9	83.9





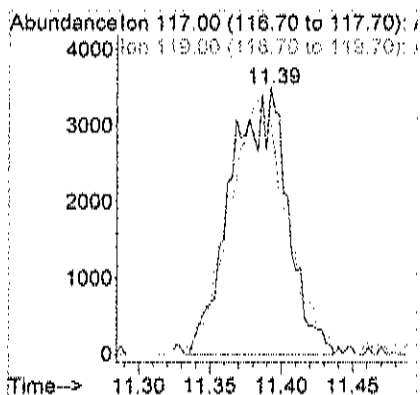
#37
Cyclohexane
Concen: 12.85 ppb
RT: 11.43 min Scan# 2470
Delta R.T. -0.01 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

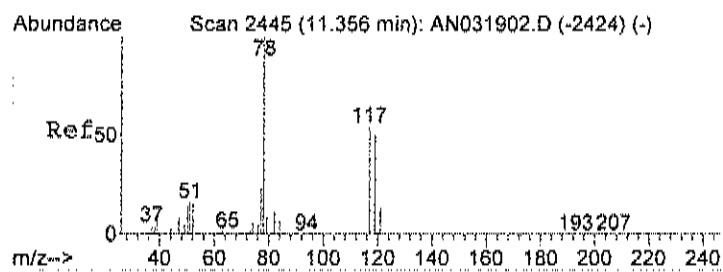
Tgt Ion: 56 Resp: 781779
Ion Ratio Lower Upper
56 100
41 67.5 47.3 87.3
84 63.1 88.1 128.1#



#38
Carbon tetrachloride
Concen: 0.06 ppb
RT: 11.39 min Scan# 2457
Delta R.T. 0.01 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

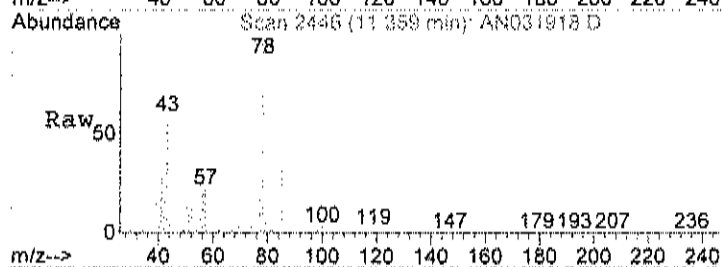
Tgt Ion: 117 Resp: 9665
Ion Ratio Lower Upper
117 100
119 97.2 74.5 114.5





#39
Benzene
Concen: 1.87 ppb
RT: 11.36 min Scan# 2446
Delta R.T. -0.00 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

Tgt Ion	Ratio	Lower	Upper
78	100		
77	26.9	6.0	46.0
51	27.3	2.1	42.1

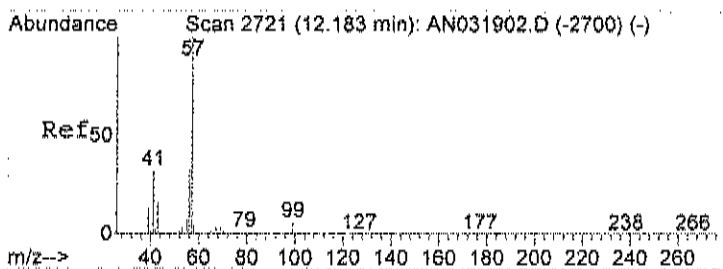
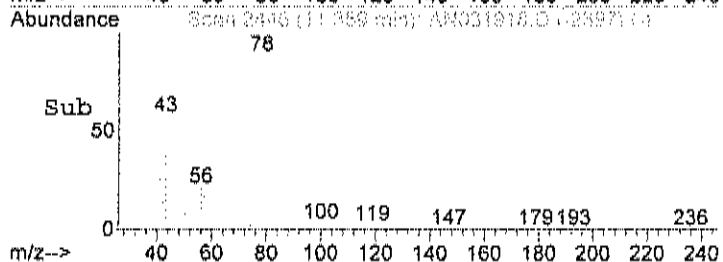
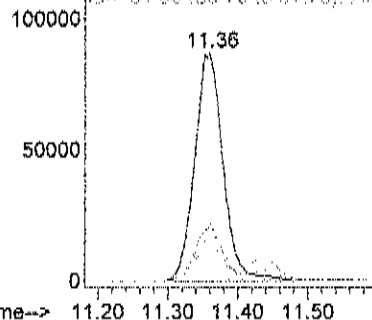


Abundance

Ion 78.00 (77.70 to 78.70): AN031918.D

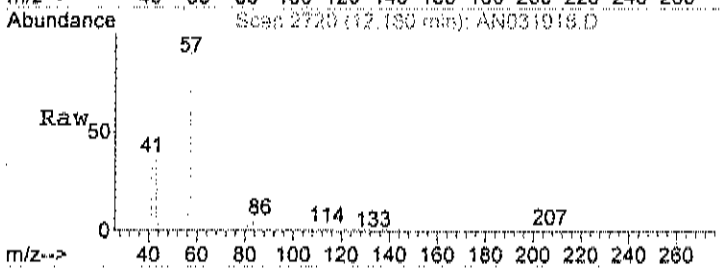
Ion 77.00 (76.70 to 77.70): AN031918.D

Ion 51.00 (50.70 to 51.70): AN031918.D



#42
2,2,4-trimethylpentane
Concen: 0.32 ppb m
RT: 12.18 min Scan# 2720
Delta R.T. -0.00 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

Tgt Ion	Ratio	Lower	Upper
57	100		
41	0.0	14.1	54.1#
56	0.0	11.4	51.4#

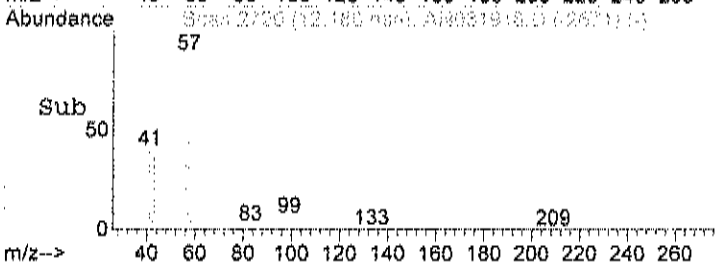
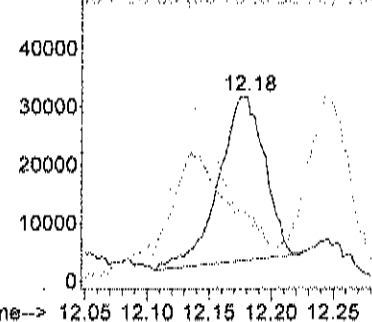


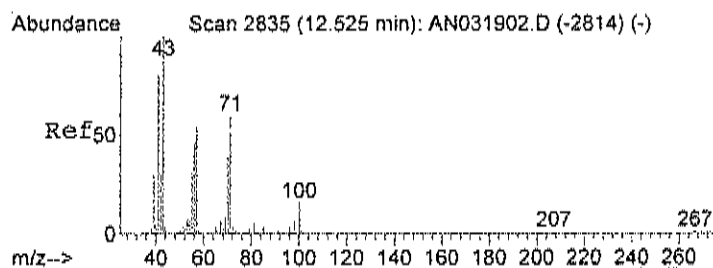
Abundance

Ion 57.00 (56.70 to 57.70): AN031918.D

Ion 41.00 (40.70 to 41.70): AN031918.D

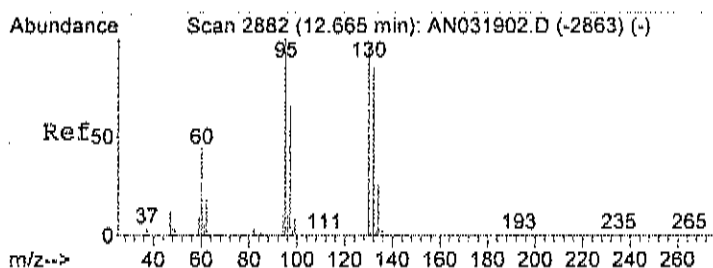
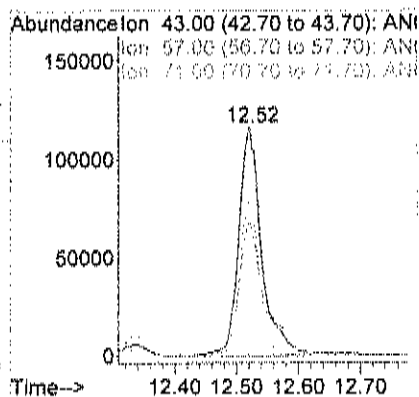
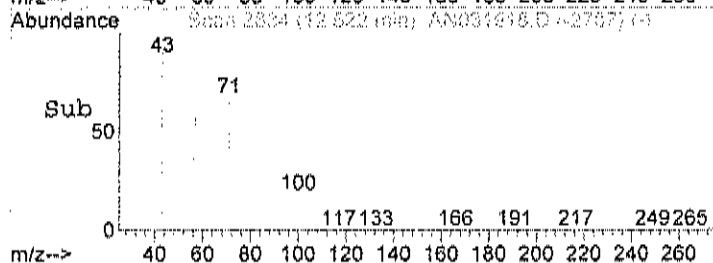
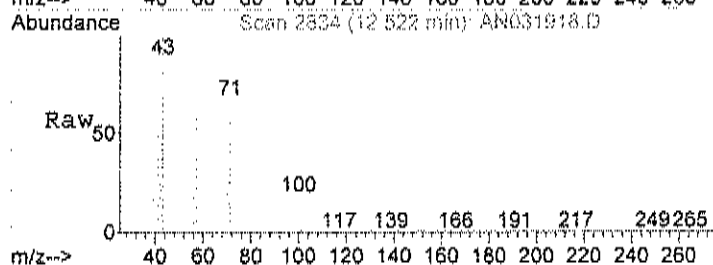
Ion 56.00 (55.70 to 56.70): AN031918.D





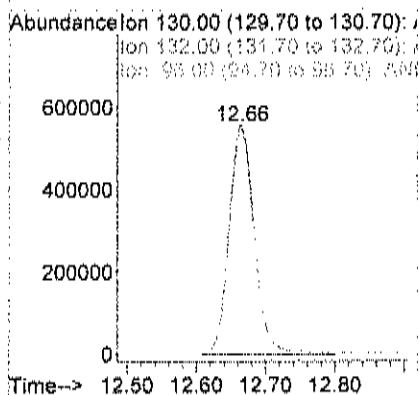
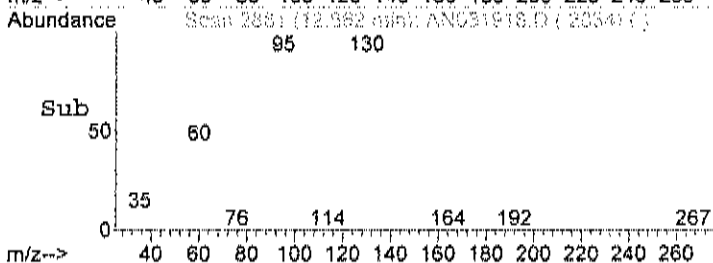
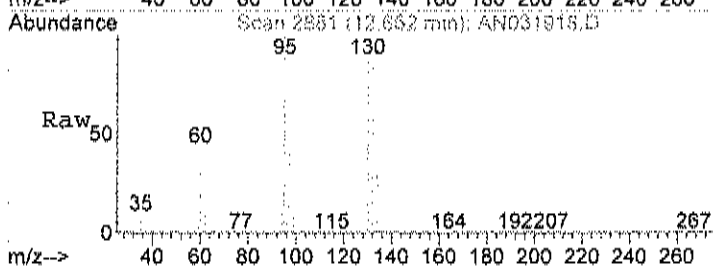
#43
Heptane
Concen: 5.69 ppb
RT: 12.52 min Scan# 2834
Delta R.T. -0.01 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

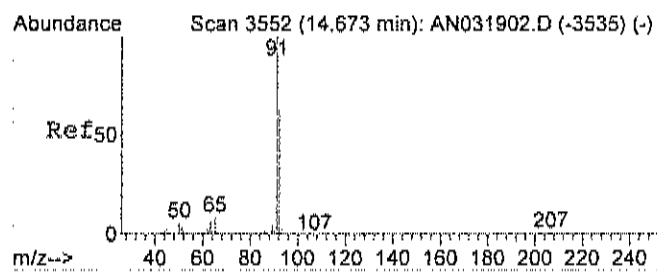
Tgt Ion: 43 Resp: 301842
Ion Ratio Lower Upper
43 100
57 66.7 31.3 71.3
71 59.5 34.8 74.8



#44
Trichloroethene
Concen: 21.35 ppb
RT: 12.66 min Scan# 2881
Delta R.T. -0.01 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

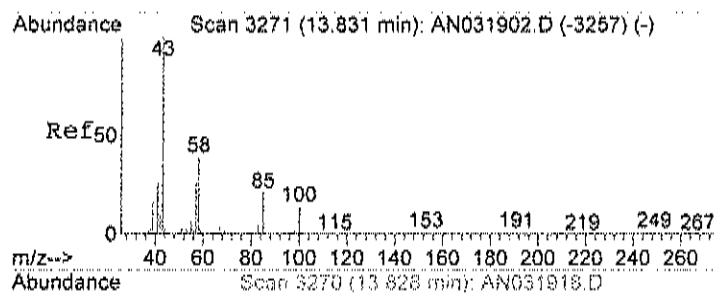
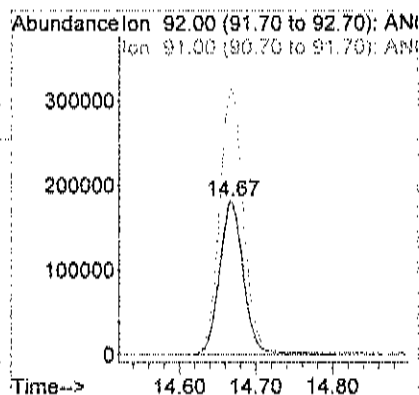
Tgt Ion: 130 Resp: 1425368
Ion Ratio Lower Upper
130 100
132 97.2 76.1 116.1
95 99.0 85.0 125.0





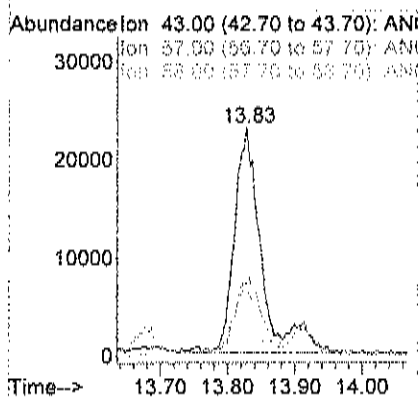
#51
Toluene
Concen: 6.56 ppb
RT: 14.67 min Scan# 3550
Delta R.T. -0.01 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

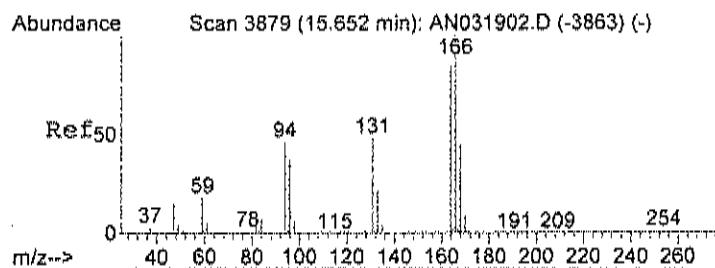
Tgt Ion: 92 Resp: 395495
Ion Ratio Lower Upper
92 100
91 174.2 152.5 192.5



#52
Methyl Isobutyl Ketone
Concen: 0.60 ppb
RT: 13.83 min Scan# 3270
Delta R.T. -0.01 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

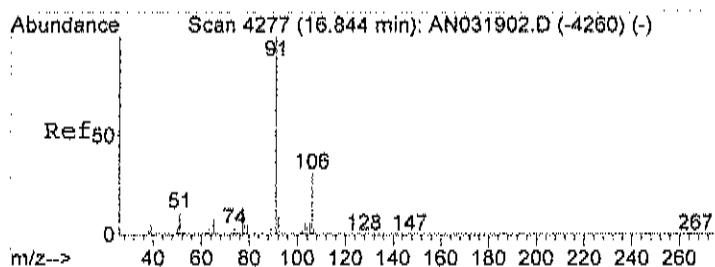
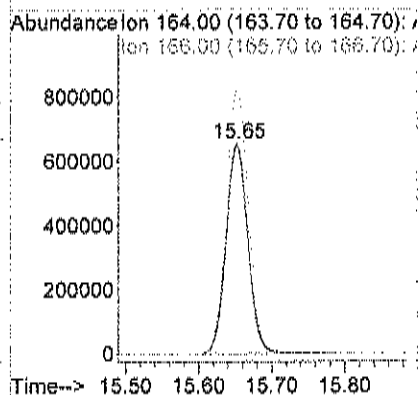
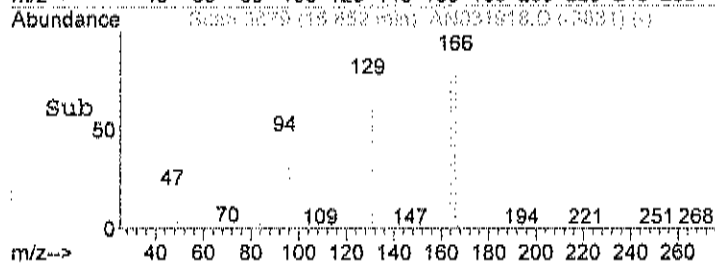
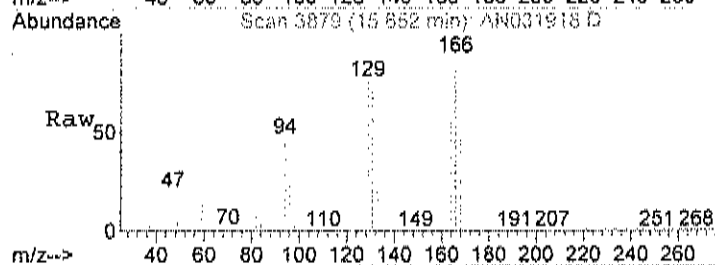
Tgt Ion: 43 Resp: 64052
Ion Ratio Lower Upper
43 100
57 39.8 6.1 46.1
58 29.3 16.5 56.5





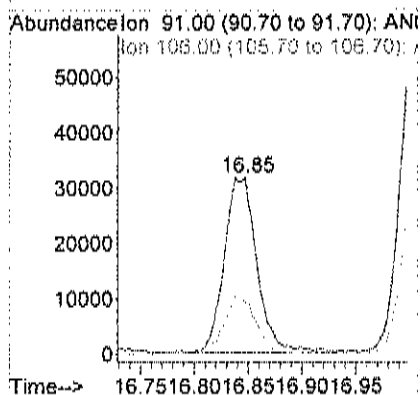
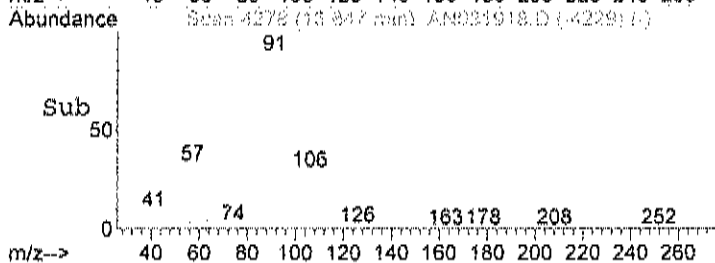
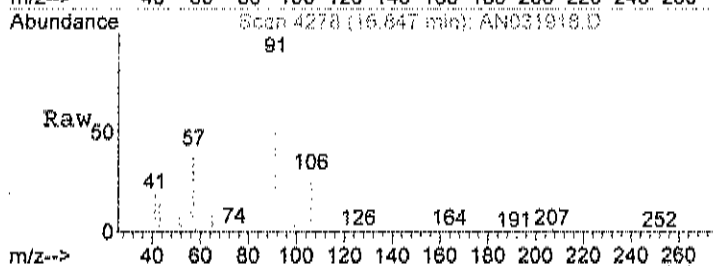
#56
Tetrachloroethylene
Concen: 23.68 ppb
RT: 15.65 min Scan# 3879
Delta R.T. -0.01 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

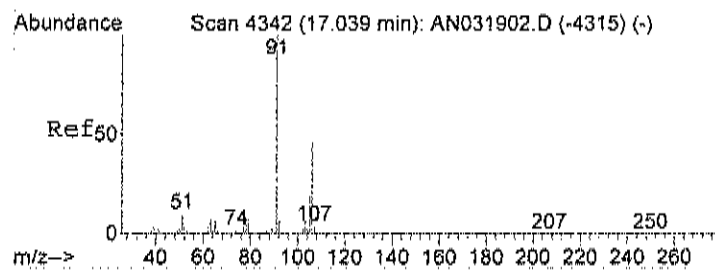
Tgt Ion: 164 Resp: 1364614
Ion Ratio Lower Upper
164 100
166 127.5 108.6 148.6



#59
Ethylbenzene
Concen: 0.65 ppb
RT: 16.85 min Scan# 4278
Delta R.T. -0.00 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

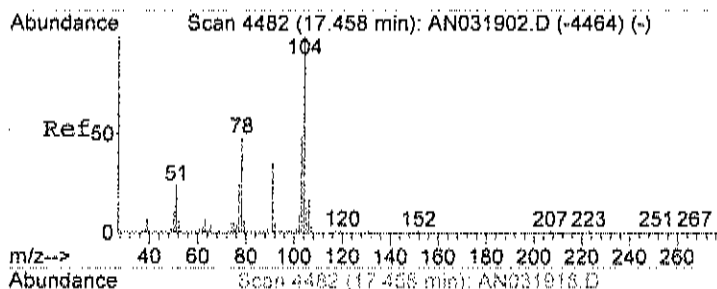
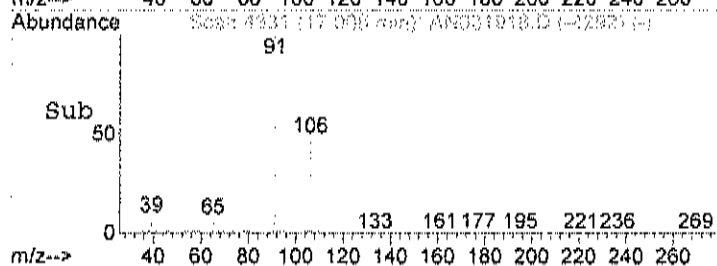
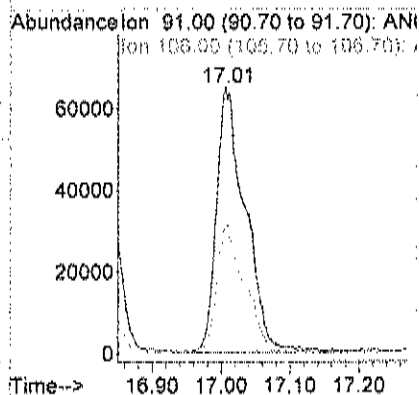
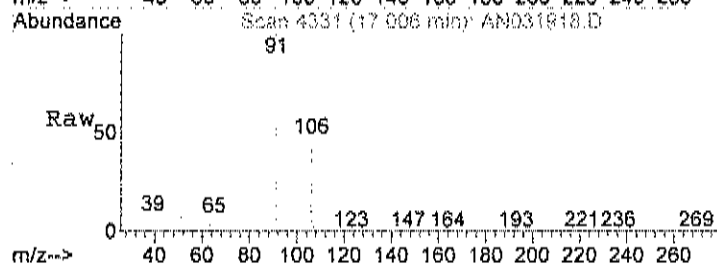
Tgt Ion: 91 Resp: 66959
Ion Ratio Lower Upper
91 100
106 32.6 9.9 49.9





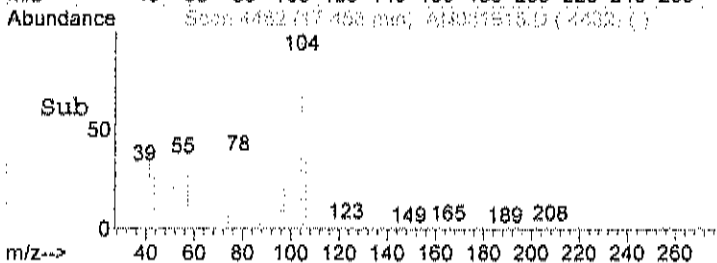
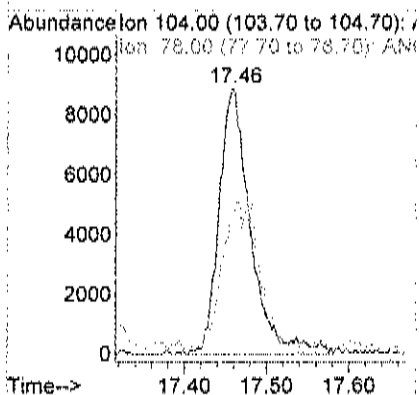
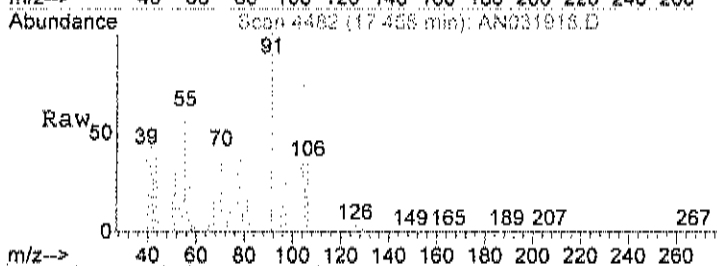
#60
m&p-xylene
Concen: 2.30 ppb
RT: 17.01 min Scan# 4331
Delta R.T. -0.03 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

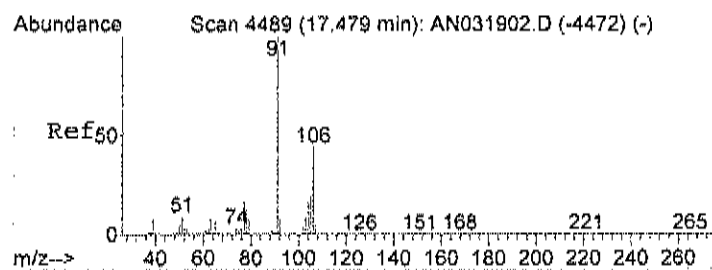
Tgt Ion: 91 Resp: 188691
Ion Ratio Lower Upper
91 100
106 48.8 25.3 65.3



#62
Styrene
Concen: 0.41 ppb
RT: 17.46 min Scan# 4482
Delta R.T. 0.00 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

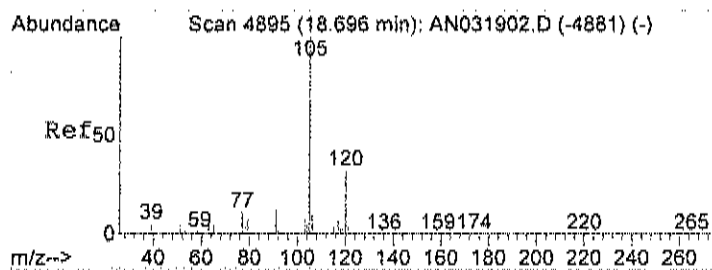
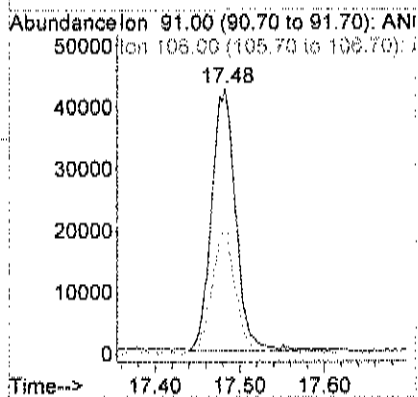
Tgt Ion: 104 Resp: 23677
Ion Ratio Lower Upper
104 100
78 64.7 44.4 84.4





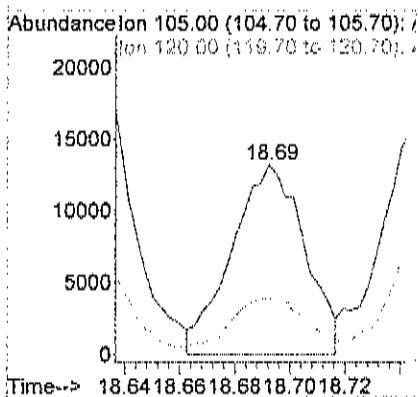
#64
o-xylene
Concen: 0.85 ppb
RT: 17.48 min Scan# 4490
Delta R.T. 0.00 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

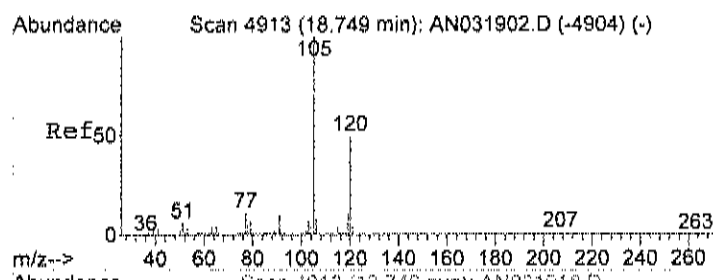
Tgt Ion: 91 Resp: 84131
Ion Ratio Lower Upper
91 100
106 47.6 18.4 58.4



#70
4-ethyltoluene
Concen: 0.23 ppb m
RT: 18.69 min Scan# 4894
Delta R.T. -0.00 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

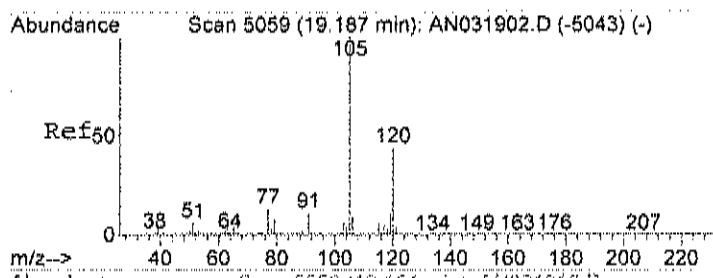
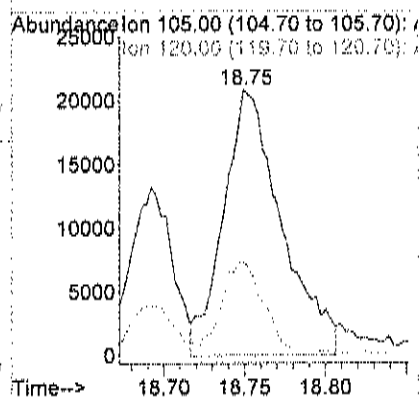
Tgt Ion: 105 Resp: 24111
Ion Ratio Lower Upper
105 100
120 156.9 0.0 20.0#





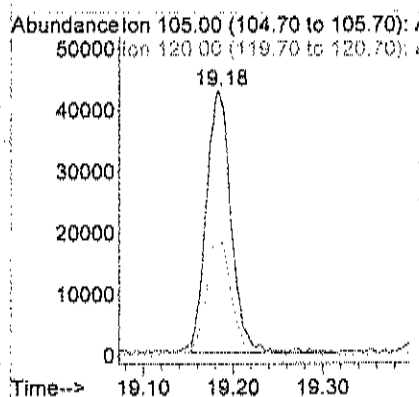
#71
1,3,5-trimethylbenzene
Concen: 0.41 ppb m
RT: 18.75 min Scan# 4913
Delta R.T. -0.00 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

Tgt Ion:105 Resp: 52056
Ion Ratio Lower Upper
105 100
120 72.5 0.0 20.0#



#72
1,2,4-trimethylbenzene
Concen: 0.76 ppb
RT: 19.18 min Scan# 5058
Delta R.T. -0.01 min
Lab File: AN031918.D
Acq: 19 Mar 2016 9:41 pm

Tgt Ion:105 Resp: 82213
Ion Ratio Lower Upper
105 100
120 44.8 22.1 62.1



Data File : C:\HPCHEM\1\DATA\AN031930.D

Vial: 30

Acq On : 20 Mar 2016 5:00 am

Operator: RJP

Sample : C1603053-005A 10x

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 20 12:45:59 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.80	128	33135	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.05	114	100727	1.00	ppb	0.00
50) Chlorobenzene-d5	16.56	117	67270	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.14	95	45189	1.04	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	104.00%

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
6) Vinyl Chloride	4.59	62	4582	0.12	ppb	91
15) Acetone	6.04	58	36799	2.57	ppb	# 27
17) Isopropyl alcohol	6.16	45	16953	0.36	ppb	# 46
21) Methylene chloride	7.05	84	8780	0.24	ppb	99
23) Carbon disulfide	7.20	76	46219	0.42	ppb	98
24) trans-1,2-dichloroethene	7.97	61	26046	0.52	ppb	89
28) Methyl Ethyl Ketone	8.96	72	4933	0.32	ppb	# 100
29) cis-1,2-dichloroethene	9.34	61	247452	5.97	ppb	91
30) Hexane	8.90	57	29439	0.68	ppb	93
32) Chloroform	9.94	83	17435	0.18	ppb	94
37) Cyclohexane	11.43	56	49453	1.27	ppb	# 69
39) Benzene	11.36	78	19003	0.23	ppb	# 64
43) Heptane	12.52	43	17985	0.53	ppb	88
44) Trichloroethene	12.67	130	94884	2.22	ppb	98
51) Toluene	14.67	92	24325	0.53	ppb	98
56) Tetrachloroethylene	15.65	164	100443	2.30	ppb	99
60) m&p-xylene	17.00	91	14128	0.23	ppb	97
72) 1,2,4-trimethylbenzene	19.19	105	9612	0.12	ppb	93

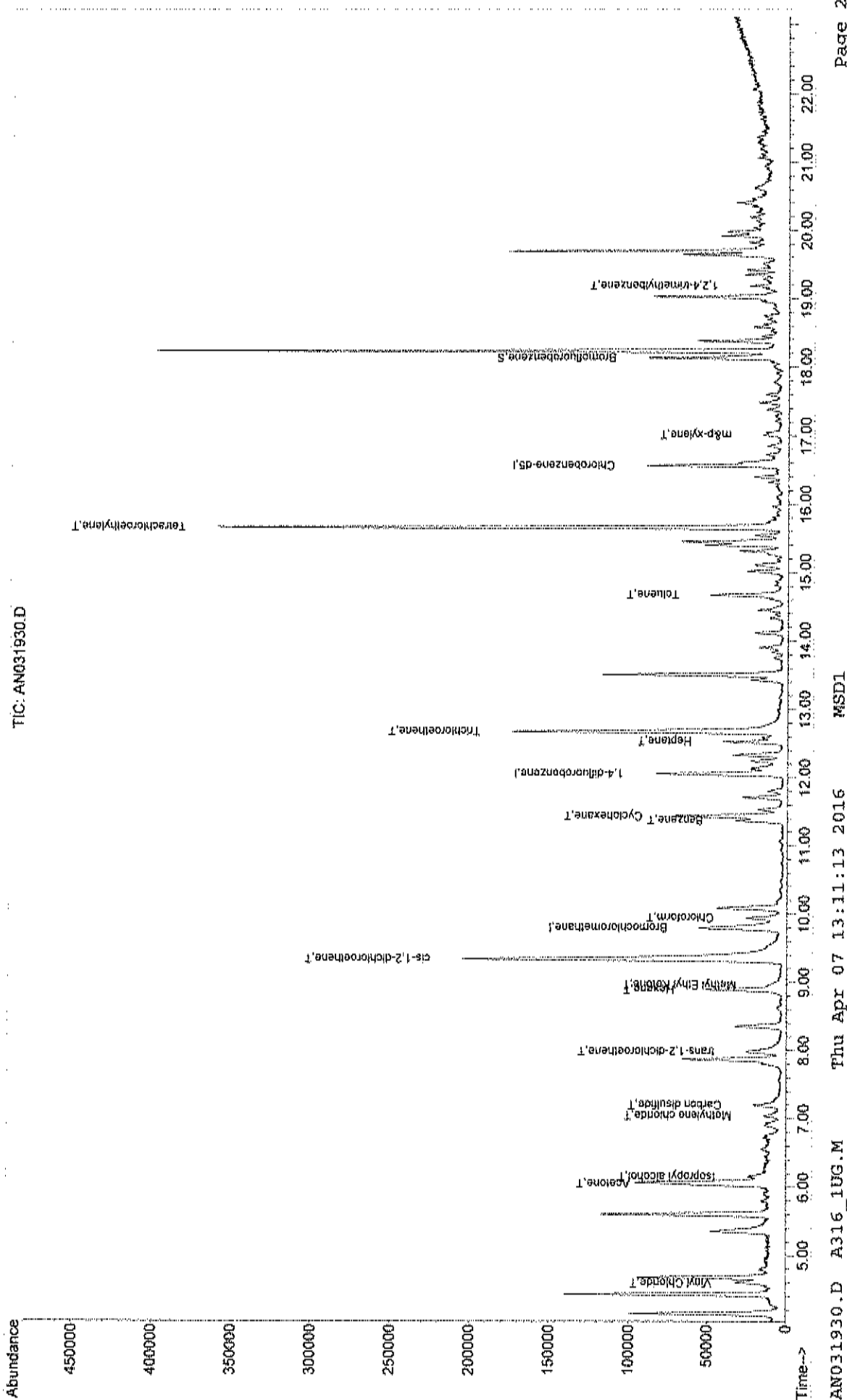
Quantitation Report (QT Reviewed)

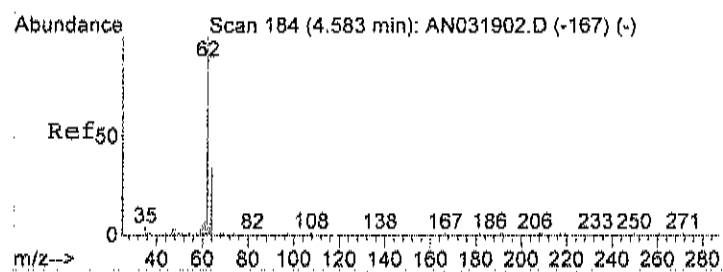
Data File : C:\HPCHEM\1\DATA\AN031930.D
Acq On : 20 Mar 2016 5:00 am
Sample : C1603053-005A 10x
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 24 17:05 2016

Vial: 30
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A316_1UG.RES

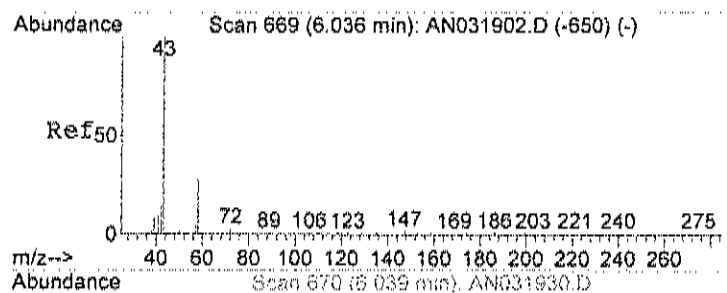
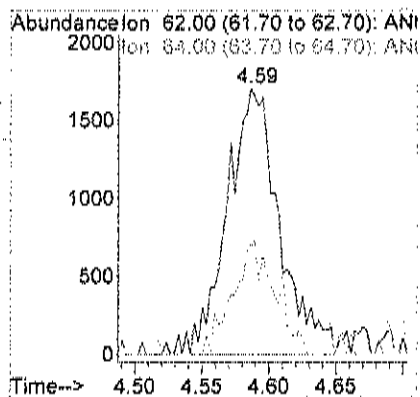
Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration





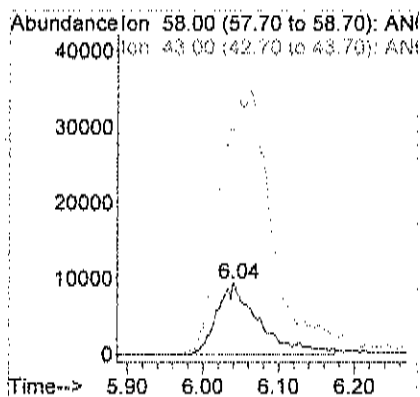
#6
Vinyl Chloride
Concen: 0.12 ppb
RT: 4.59 min Scan# 185
Delta R.T. 0.00 min
Lab File: AN031930.D
Acq: 20 Mar 2016 5:00 am

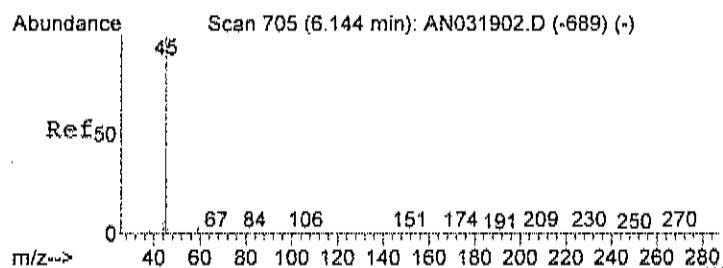
Tgt Ion: 62 Resp: 4582
Ion Ratio Lower Upper
62 100
64 34.6 9.9 69.9



#15
Acetone
Concen: 2.57 ppb
RT: 6.04 min Scan# 670
Delta R.T. -0.00 min
Lab File: AN031930.D
Acq: 20 Mar 2016 5:00 am

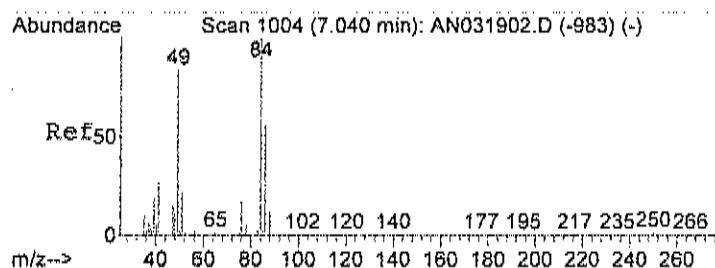
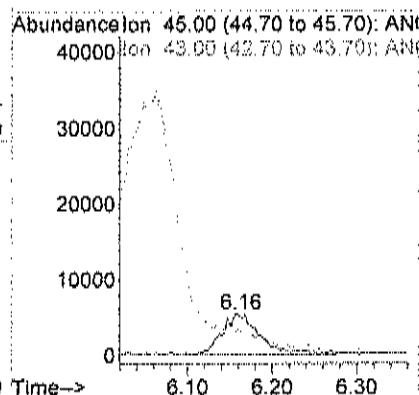
Tgt Ion: 58 Resp: 36799
Ion Ratio Lower Upper
58 100
43 440.0 661.8 721.8#





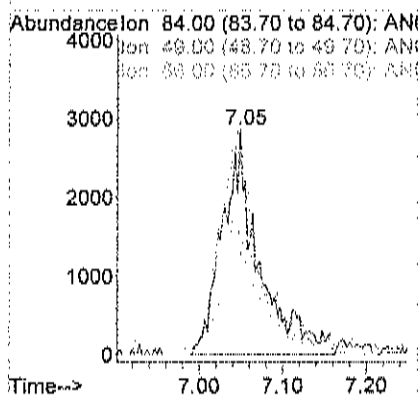
#17
Isopropyl alcohol
Concen: 0.36 ppb
RT: 6.16 min Scan# 709
Delta R.T. 0.01 min
Lab File: AN031930.D
Acq: 20 Mar 2016 5:00 am

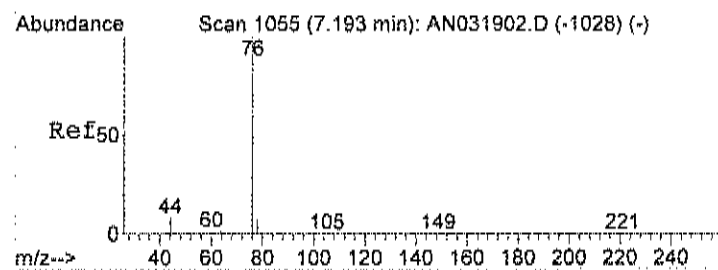
Tgt Ion:	45	Resp:	16953
Ion	Ratio	Lower	Upper
45	100		
43	0.0	8.9	48.9#



#21
Methylene chloride
Concen: 0.24 ppb
RT: 7.05 min Scan# 1007
Delta R.T. 0.01 min
Lab File: AN031930.D
Acq: 20 Mar 2016 5:00 am

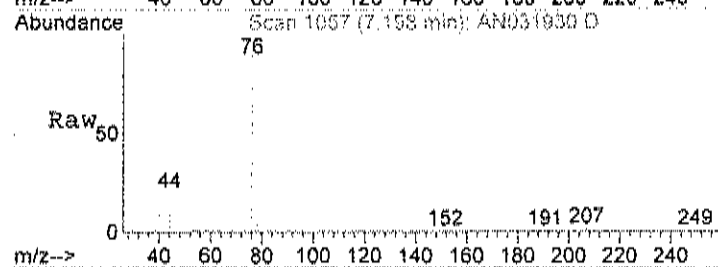
Tgt Ion:	84	Resp:	8780
Ion	Ratio	Lower	Upper
84	100		
49	108.8	87.8	127.8
86	62.6	43.1	83.1



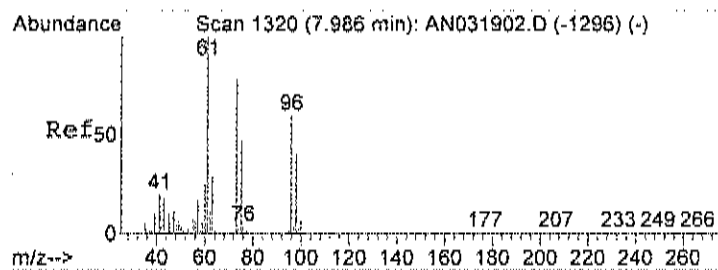
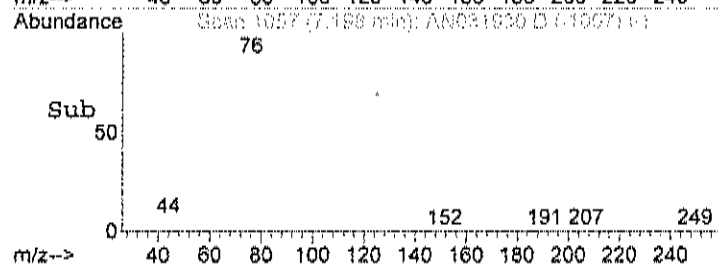
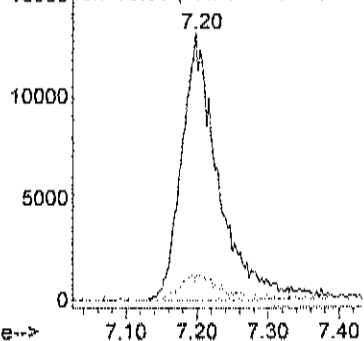


#23
Carbon disulfide
Concen: 0.42 ppb
RT: 7.20 min Scan# 1057
Delta R.T. 0.00 min
Lab File: AN031930.D
Acq: 20 Mar 2016 5:00 am

Tgt Ion: 76 Resp: 46219
Ion Ratio Lower Upper
76 100
78 11.0 0.0 30.3

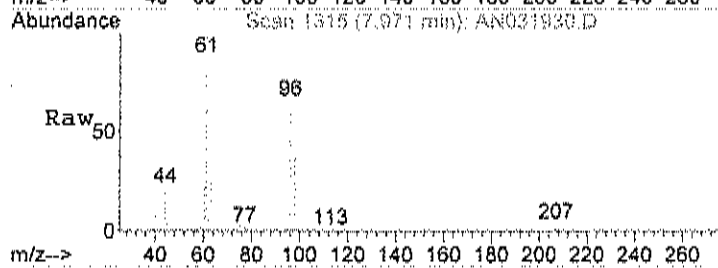


Abundance Ion 76.00 (75.70 to 76.70): ANI
Ion 78.00 (77.70 to 78.70): ANI

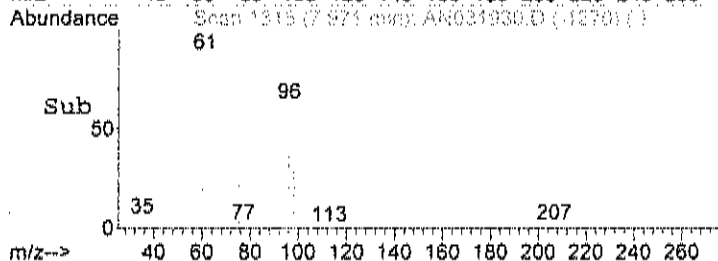
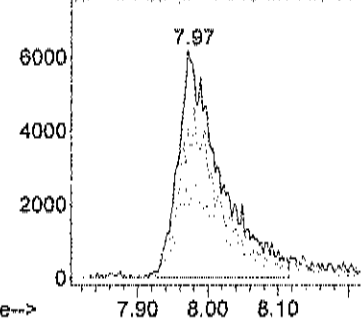


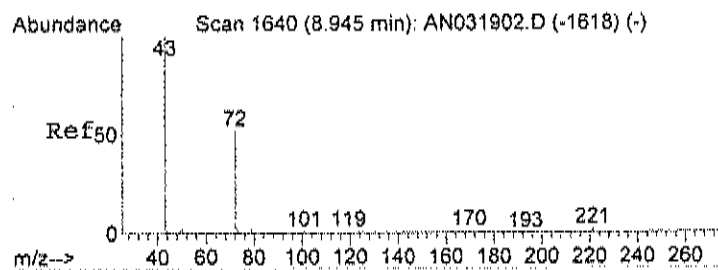
#24
trans-1,2-dichloroethene
Concen: 0.52 ppb
RT: 7.97 min Scan# 1315
Delta R.T. -0.01 min
Lab File: AN031930.D
Acq: 20 Mar 2016 5:00 am

Tgt Ion: 61 Resp: 26046
Ion Ratio Lower Upper
61 100
96 70.9 42.3 82.3
98 46.0 19.9 59.9



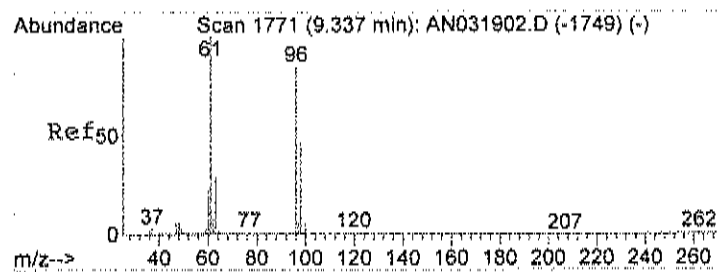
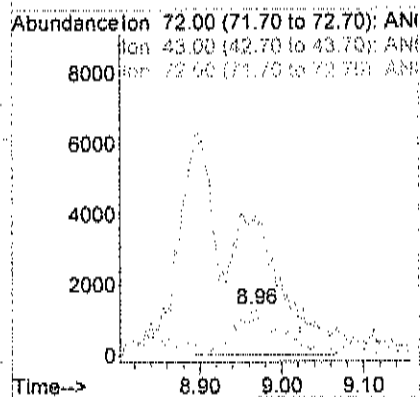
Abundance Ion 61.00 (60.70 to 61.70): ANI
Ion 96.00 (95.70 to 96.70): ANI
Ion 98.00 (97.70 to 98.70): ANI





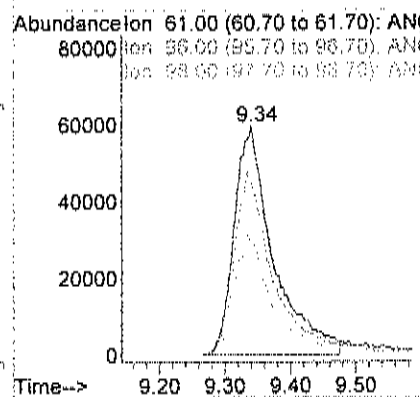
#28
Methyl Ethyl Ketone
Concen: 0.32 ppb
RT: 8.96 min Scan# 1646
Delta R.T. 0.02 min
Lab File: AN031930.D
Acq: 20 Mar 2016 5:00 am

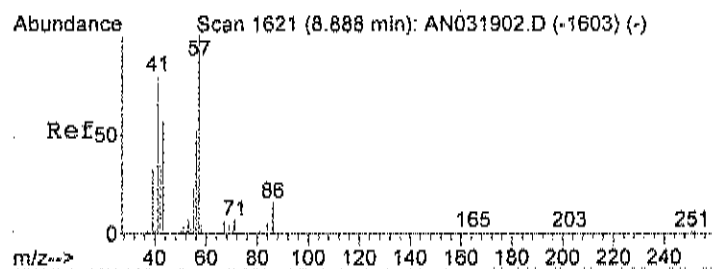
Tgt Ion	Ratio	Lower	Upper
72	100		
43	0.0	0.0	20.0
72	100.0	80.0	120.0



#29
cis-1,2-dichloroethene
Concen: 5.97 ppb
RT: 9.34 min Scan# 1772
Delta R.T. -0.01 min
Lab File: AN031930.D
Acq: 20 Mar 2016 5:00 am

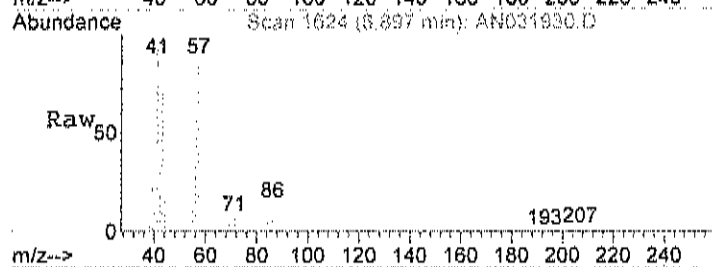
Tgt Ion	Ratio	Lower	Upper
61	100		
96	77.7	51.2	91.2
98	50.8	23.7	63.7



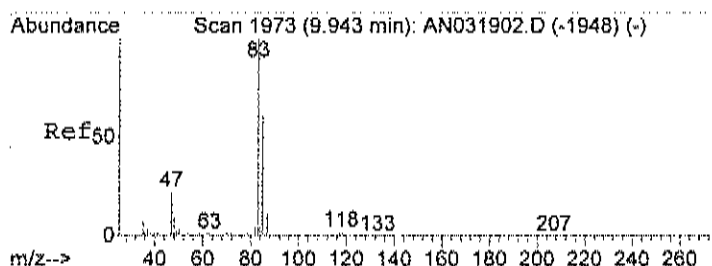
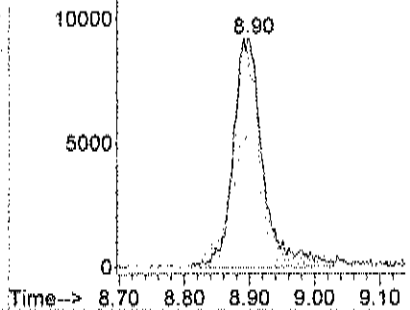


#30
Hexane
Concen: 0.68 ppb
RT: 8.90 min Scan# 1624
Delta R.T. -0.00 min
Lab File: AN031930.D
Acq: 20 Mar 2016 5:00 am

Tgt Ion: 57 Resp: 29439
Ion Ratio Lower Upper
57 100
41 92.7 66.6 106.6
56 56.7 30.6 70.6

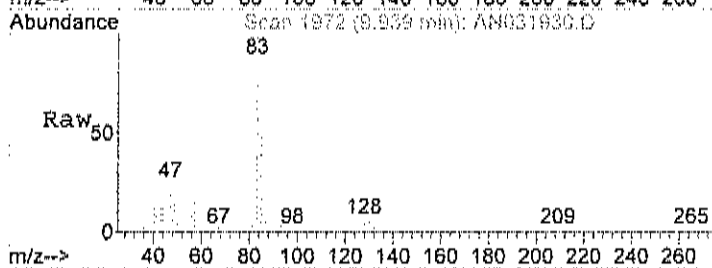


Abundance Ion 57.00 (56.70 to 57.70): ANI
Ion 41.00 (40.70 to 41.70): ANI
Ion 56.00 (55.70 to 56.70): ANI

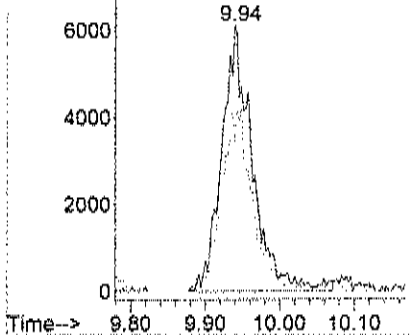


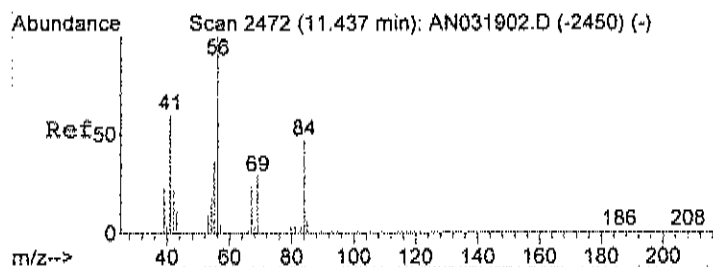
#32
Chloroform
Concen: 0.18 ppb
RT: 9.94 min Scan# 1972
Delta R.T. -0.00 min
Lab File: AN031930.D
Acq: 20 Mar 2016 5:00 am

Tgt Ion: 83 Resp: 17435
Ion Ratio Lower Upper
83 100
85 68.4 43.9 83.9



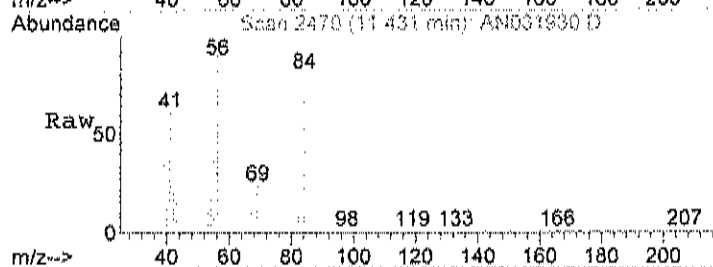
Abundance Ion 83.00 (82.70 to 83.70): ANI
Ion 85.00 (84.70 to 85.70): ANI



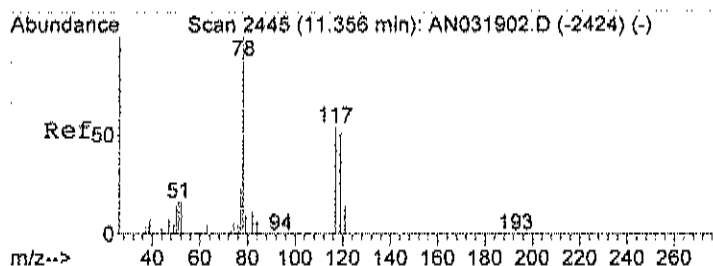
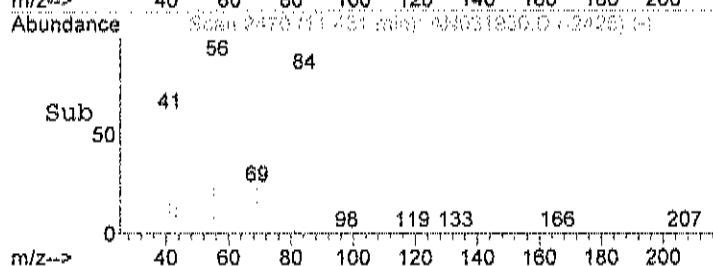
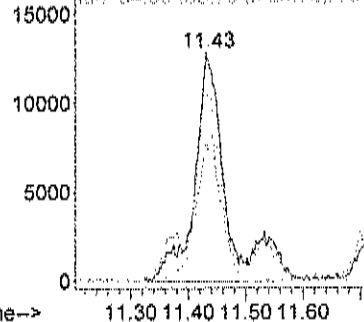


#37
Cyclohexane
Concen: 1.27 ppb
RT: 11.43 min Scan# 2470
Delta R.T. -0.01 min
Lab File: AN031930.D
Acq: 20 Mar 2016 5:00 am

Tgt Ion: 56 Resp: 49453
Ion Ratio Lower Upper
56 100
41 76.8 47.3 87.3
84 62.8 88.1 128.1#

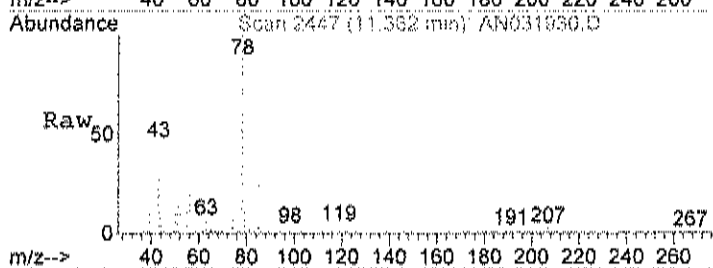


Abundance Ion 56.00 (55.70 to 56.70): ANI
Ion 41.00 (40.70 to 41.70): ANI
Ion 84.00 (83.70 to 84.70): ANI

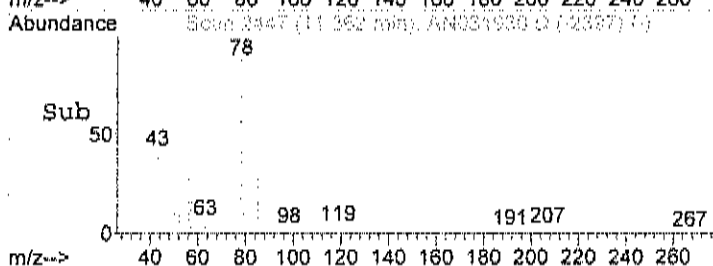
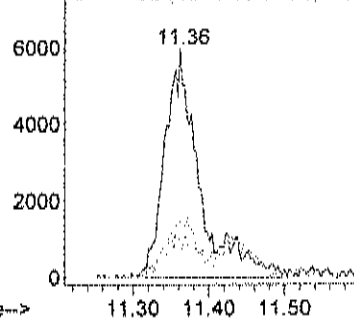


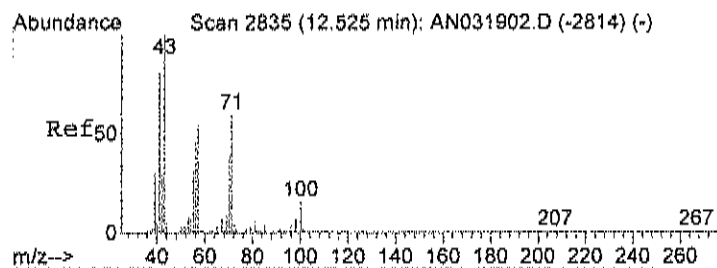
#39
Benzene
Concen: 0.23 ppb
RT: 11.36 min Scan# 2447
Delta R.T. 0.00 min
Lab File: AN031930.D
Acq: 20 Mar 2016 5:00 am

Tgt Ion: 78 Resp: 19003
Ion Ratio Lower Upper
78 100
77 39.8 6.0 46.0
51 0.0 2.1 42.1#



Abundance Ion 78.00 (77.70 to 78.70): ANI
Ion 77.00 (76.70 to 77.70): ANI
Ion 51.00 (50.70 to 51.70): ANI





#43
Heptane
Concen: 0.53 ppb
RT: 12.52 min Scan# 2834
Delta R.T. -0.01 min
Lab File: AN031930.D
Acq: 20 Mar 2016 5:00 am

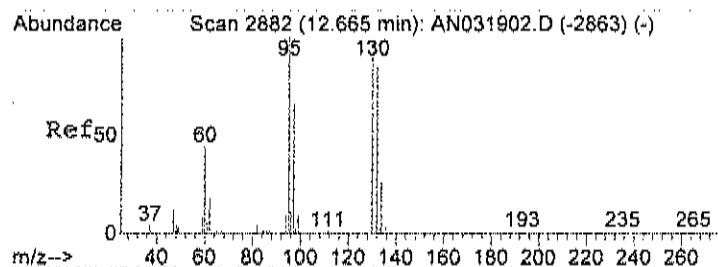
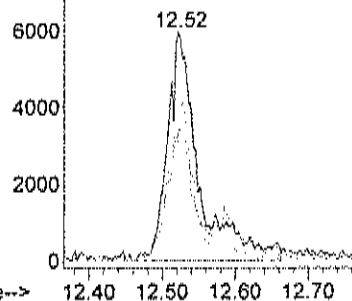
Tgt Ion	Resp		
Ion	Ratio	Lower	Upper
43	100		
57	68.6	31.3	71.3
71	55.0	34.8	74.8

Abundance

Ion 43.00 (42.70 to 43.70): AN

Ion 57.00 (56.70 to 57.70): AN

Ion 71.00 (70.70 to 71.70): AN



#44
Trichloroethene
Concen: 2.22 ppb
RT: 12.67 min Scan# 2882
Delta R.T. -0.01 min
Lab File: AN031930.D
Acq: 20 Mar 2016 5:00 am

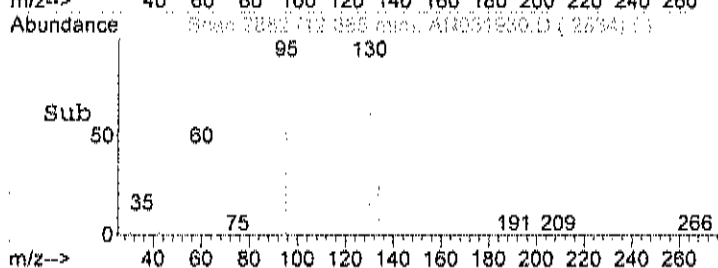
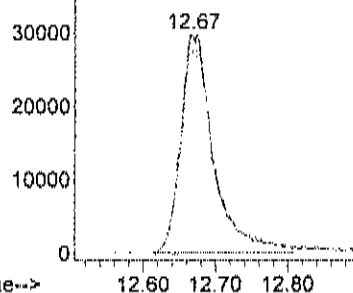
Tgt Ion	Resp		
Ion	Ratio	Lower	Upper
130	100		
132	96.9	76.1	116.1
95	102.0	85.0	125.0

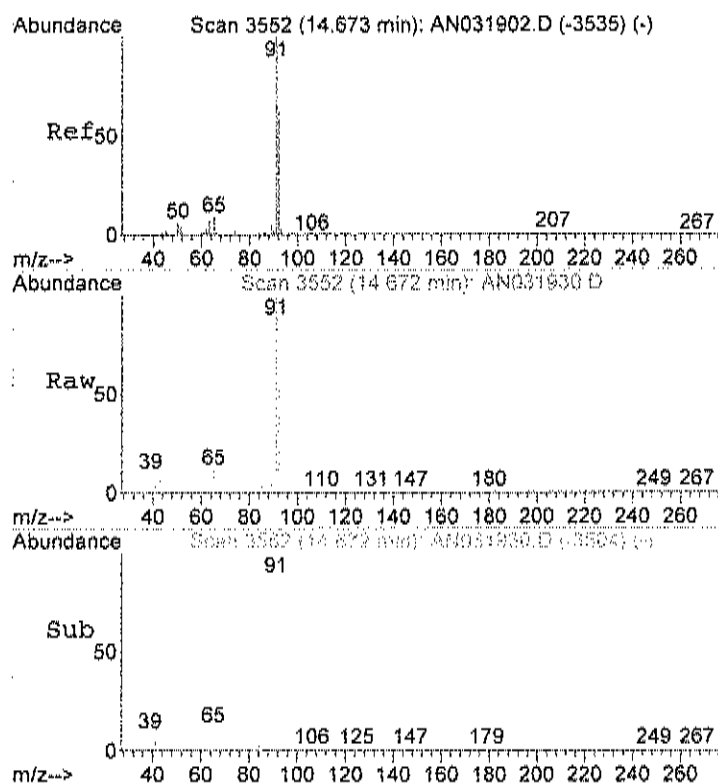
Abundance

Ion 130.00 (129.70 to 130.70): /

Ion 132.00 (131.70 to 132.70): /

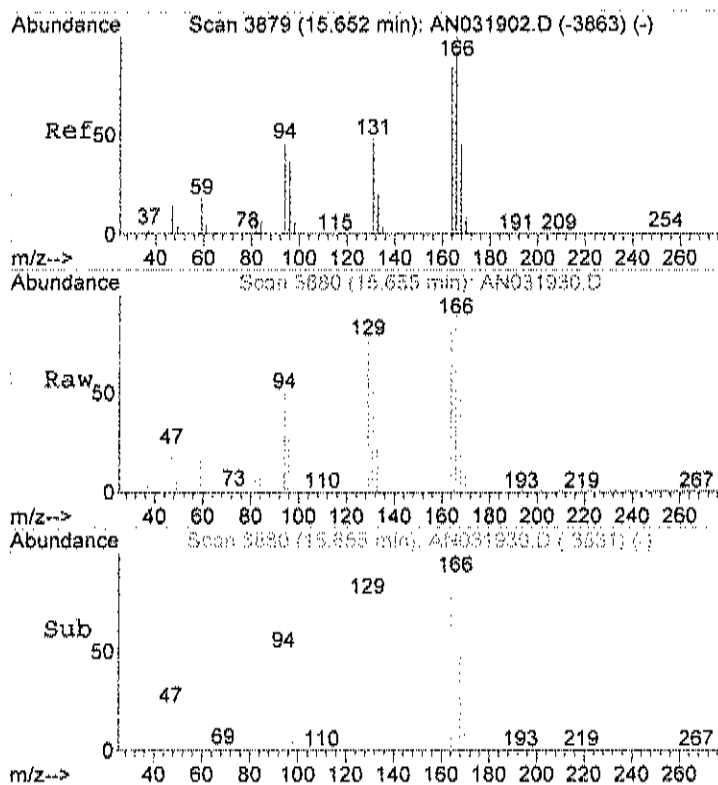
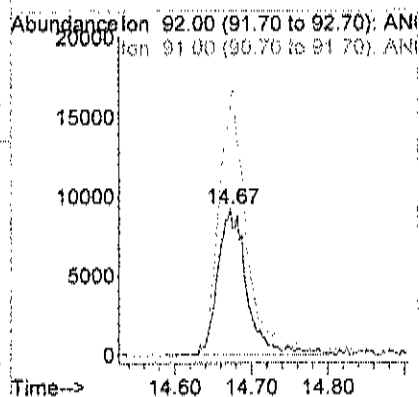
Ion 95.00 (94.70 to 95.70): AN





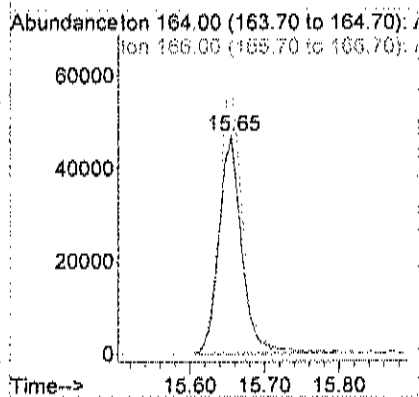
#51
Toluene
Concen: 0.53 ppb
RT: 14.67 min Scan# 3552
Delta R.T. -0.01 min
Lab File: AN031930.D
Acq: 20 Mar 2016 5:00 am

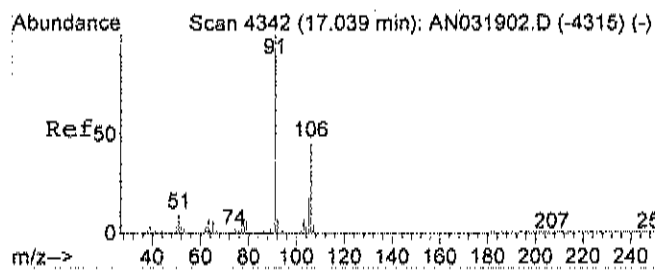
Tgt Ion: 92 Resp: 24325
Ion Ratio Lower Upper
92 100
91 175.0 152.5 192.5



#56
Tetrachloroethylene
Concen: 2.30 ppb
RT: 15.65 min Scan# 3880
Delta R.T. -0.00 min
Lab File: AN031930.D
Acq: 20 Mar 2016 5:00 am

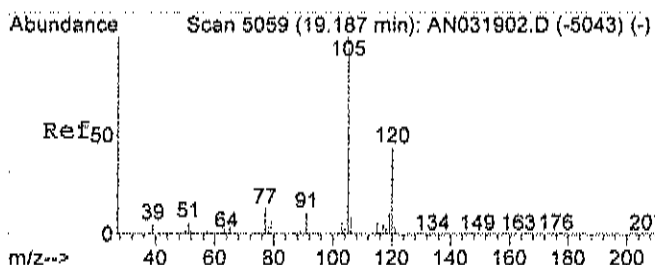
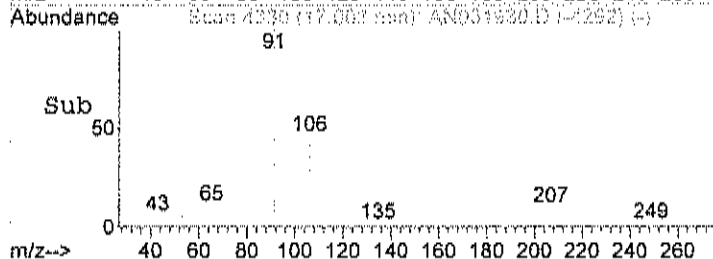
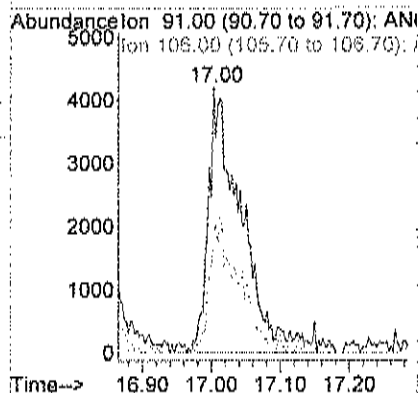
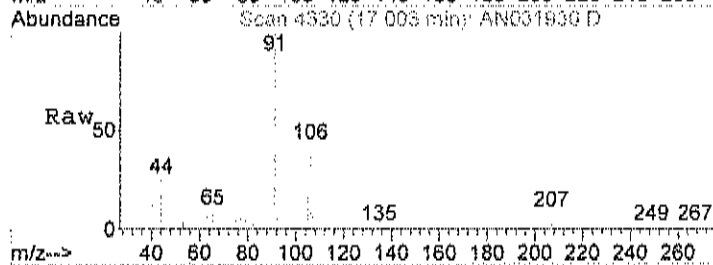
Tgt Ion: 164 Resp: 100443
Ion Ratio Lower Upper
164 100
166 127.6 108.6 148.6





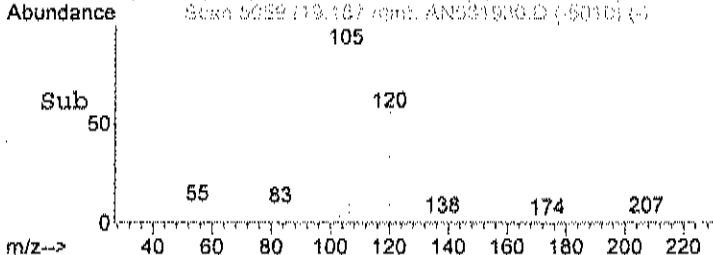
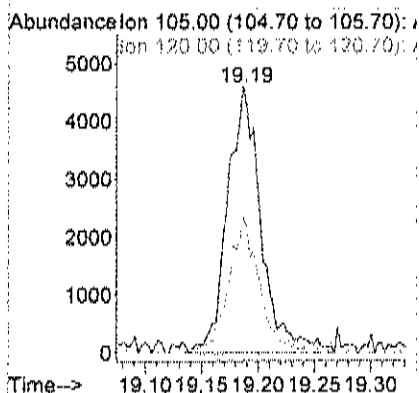
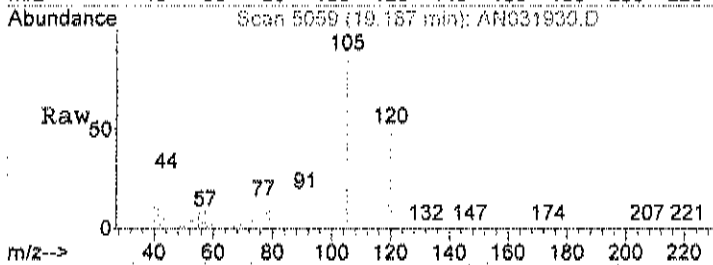
#60
m&p-xylene
Concen: 0.23 ppb
RT: 17.00 min Scan# 4330
Delta R.T. -0.04 min
Lab File: AN031930.D
Acq: 20 Mar 2016 5:00 am

Tgt Ion: 91 Resp: 14128
Ion Ratio Lower Upper
91 100
106 43.5 25.3 65.3



#72
1,2,4-trimethylbenzene
Concen: 0.12 ppb
RT: 19.19 min Scan# 5059
Delta R.T. -0.00 min
Lab File: AN031930.D
Acq: 20 Mar 2016 5:00 am

Tgt Ion: 105 Resp: 9612
Ion Ratio Lower Upper
105 100
120 46.5 22.1 62.1



Data File : C:\HPCHEM\1\DATA\AN032214.D

Vial: 36

Acq On : 22 Mar 2016 8:31 pm

Operator: RJP

Sample : C1603053-005A 40X

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 23 14:15:27 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.82	128	36183	1.00	ppb	0.01
35) 1,4-difluorobenzene	12.06	114	98847	1.00	ppb	0.00
50) Chlorobenzene-d5	16.57	117	74833	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.13	95	46544	0.97	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	97.00%

Target Compounds

						Qvalue
15) Acetone	6.06	58	7923	0.51	ppb	# 21
29) cis-1,2-dichloroethene	9.36	61	47431	1.05	ppb	86
37) Cyclohexane	11.43	56	9488	0.25	ppb	# 64
44) Trichloroethene	12.68	130	20532	0.49	ppb	95
56) Tetrachloroethylene	15.66	164	26220	0.54	ppb	98

Quantitation Report (QT Reviewed)

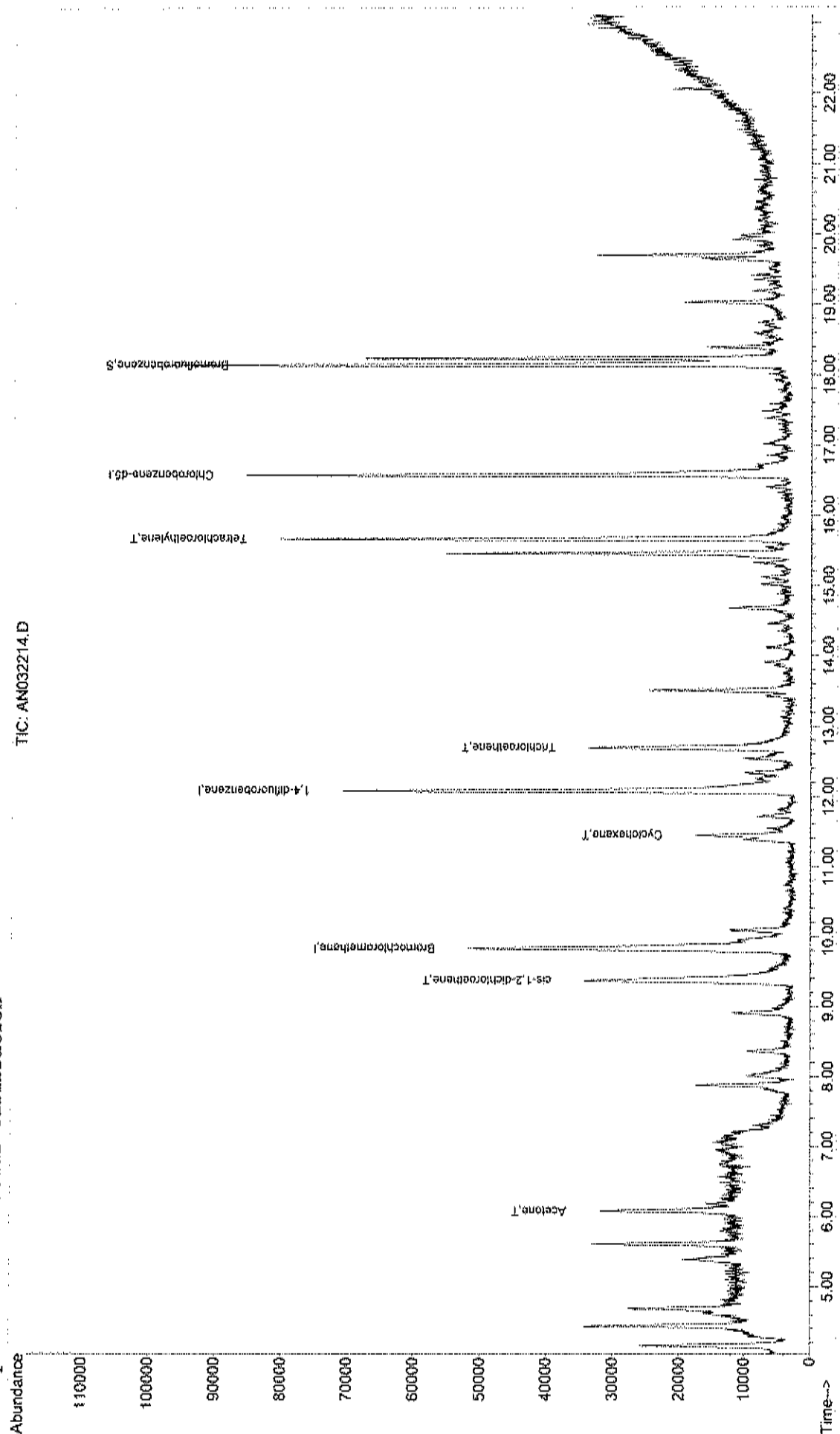
Data File : C:\HPCHEM\1\DATA\AN032214.D
Acq On : 22 Mar 2016 8:31 pm
Sample : C1603053-005A 40X
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 24 17:11 2016

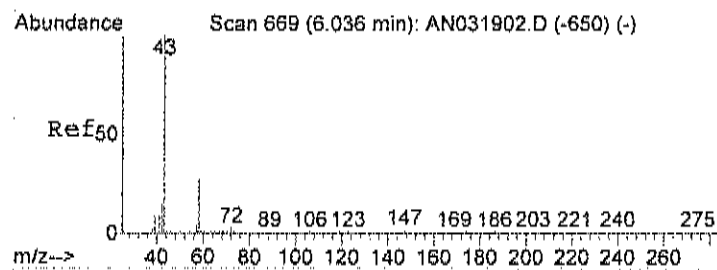
Vial: 36
Operator: RJP
Inst : MSD #1
Multiplx: 1.00

Quant Results File: A316_1UG.REB

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration

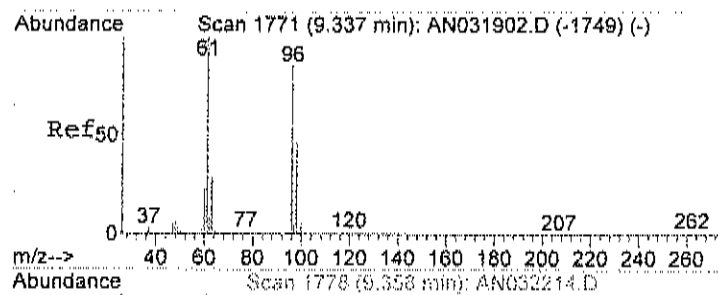
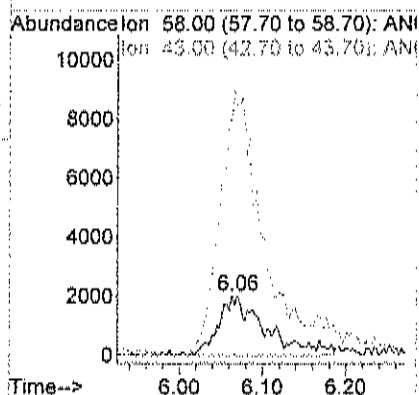
TIC: AN032214.D





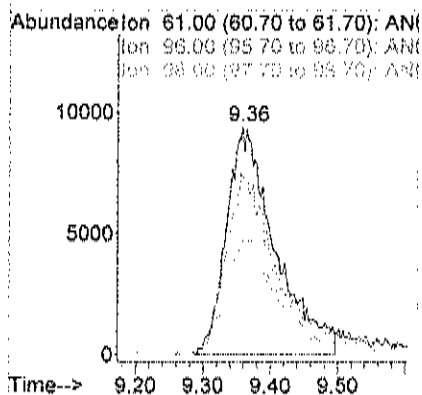
#15
Acetone
Concen: 0.51 ppb
RT: 6.06 min Scan# 678
Delta R.T. 0.02 min
Lab File: AN032214.D
Acq: 22 Mar 2016 8:31 pm

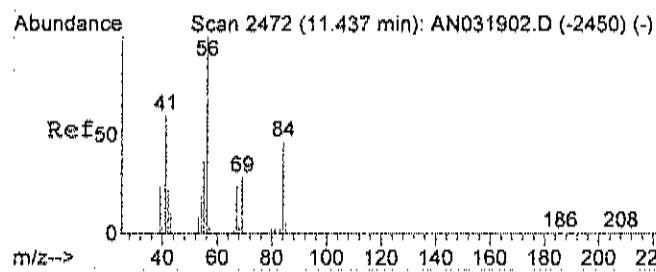
Tgt Ion: 58 Resp: 7923
Ion Ratio Lower Upper
58 100
43 421.4 661.8 721.8#



#29
cis-1,2-dichloroethene
Concen: 1.05 ppb
RT: 9.36 min Scan# 1778
Delta R.T. 0.01 min
Lab File: AN032214.D
Acq: 22 Mar 2016 8:31 pm

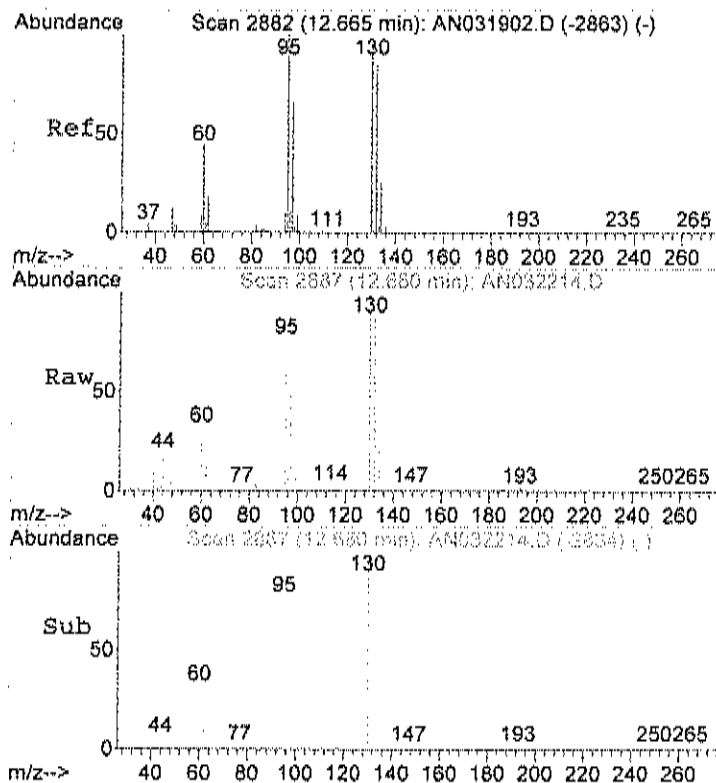
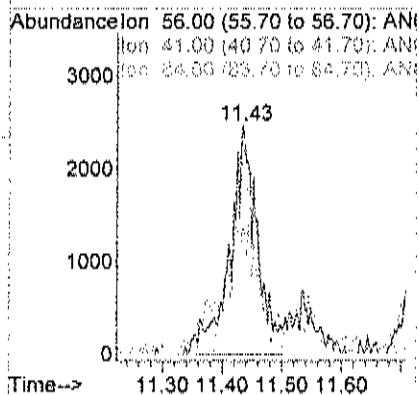
Tgt Ion: 61 Resp: 47431
Ion Ratio Lower Upper
61 100
96 82.1 51.2 91.2
98 53.8 23.7 63.7





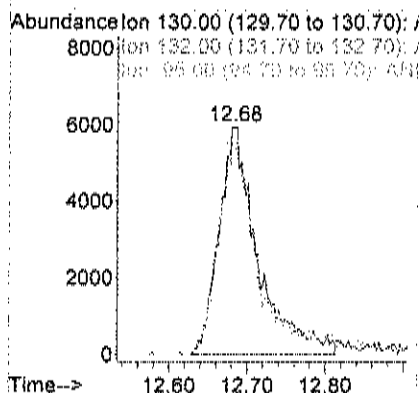
#37
Cyclohexane
Concen: 0.25 ppb
RT: 11.43 min Scan# 2471
Delta R.T. -0.01 min
Lab File: AN032214.D
Acq: 22 Mar 2016 8:31 pm

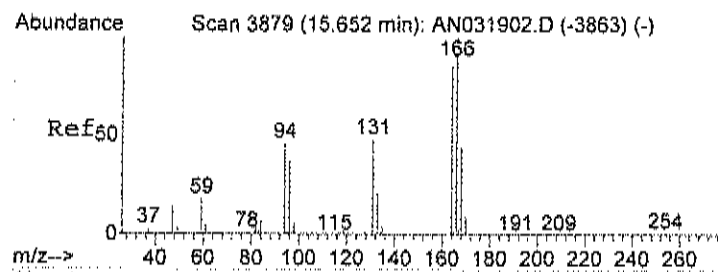
Tgt Ion	Resp		
Ion	Ratio	Lower	Upper
56	100		
41	82.1	47.3	87.3
84	59.8	88.1	128.1#



#44
Trichloroethene
Concen: 0.49 ppb
RT: 12.68 min Scan# 2887
Delta R.T. 0.01 min
Lab File: AN032214.D
Acq: 22 Mar 2016 8:31 pm

Tgt Ion	Resp		
Ion	Ratio	Lower	Upper
130	100		
132	96.0	76.1	116.1
95	96.2	85.0	125.0





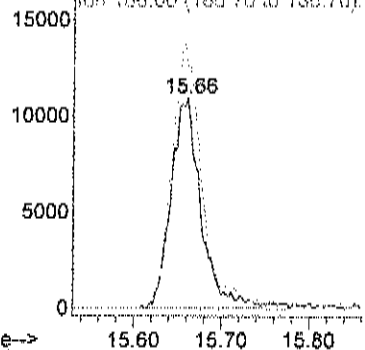
#56
Tetrachloroethylene
Concen: 0.54 ppb
RT: 15.66 min Scan# 3882
Delta R.T. 0.00 min
Lab File: AN032214.D
Acq: 22 Mar 2016 8:31 pm

Tgt Ion	164	Resp	26220
Ion Ratio	Lower	Upper	
164	100		
166	125.7	108.6	148.6

Abundance

Ion 164.00 (163.70 to 164.70):

Ion 166.00 (165.70 to 166.70):



Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
Lab Order: C1603053
Project: Highland Plaza
Lab ID: C1603053-006A

Client Sample ID: MS-MSD Indoor Air #2
Tag Number: 216.255
Collection Date: 3/15/2016
Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS		FLD		Analyst:		
Lab Vacuum In	-5			"Hg		3/18/2016
Lab Vacuum Out	-30			"Hg		3/18/2016
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,2,4-Trimethylbenzene	0.67	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,3,5-Trimethylbenzene	0.22	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,3-butadiene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
1,4-Dioxane	< 0.30	0.30		ppbV	1	3/19/2016 3:04:00 PM
2,2,4-trimethylpentane	0.30	0.15		ppbV	1	3/19/2016 3:04:00 PM
4-ethyltoluene	0.18	0.15		ppbV	1	3/19/2016 3:04:00 PM
Acetone	11	3.0		ppbV	10	3/19/2016 10:56:00 PM
Allyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Benzene	2.2	0.15		ppbV	1	3/19/2016 3:04:00 PM
Benzyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Bromodichloromethane	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Bromoform	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Bromomethane	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Carbon disulfide	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Carbon tetrachloride	0.070	0.15	J	ppbV	1	3/19/2016 3:04:00 PM
Chlorobenzene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Chloroethane	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Chloroform	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Chloromethane	0.62	0.15		ppbV	1	3/19/2016 3:04:00 PM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Cyclohexane	0.44	0.15		ppbV	1	3/19/2016 3:04:00 PM
Dibromochloromethane	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Ethyl acetate	0.27	0.25		ppbV	1	3/19/2016 3:04:00 PM

Qualifiers:	** Reporting Limit	Results reported are not blank corrected
B	Analyte detected in the associated Method Blank	E Value above quantitation range
H	Holding times for preparation or analysis exceeded	J Analyte detected at or below quantitation limits
JN	Non-routine analyte. Quantitation estimated.	ND Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits	

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-006A

Client Sample ID: MS-MSD Indoor Air #2
 Tag Number: 216.255
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15		TO-15		Analyst: RJP		
Ethylbenzene	0.47	0.15		ppbV	1	3/19/2016 3:04:00 PM
Freon 11	0.22	0.15		ppbV	1	3/19/2016 3:04:00 PM
Freon 113	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Freon 114	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Freon 12	0.48	0.15		ppbV	1	3/19/2016 3:04:00 PM
Heptane	0.45	0.15		ppbV	1	3/19/2016 3:04:00 PM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Hexane	1.9	0.15		ppbV	1	3/19/2016 3:04:00 PM
Isopropyl alcohol	2.3	1.5		ppbV	10	3/19/2016 10:56:00 PM
m&p-Xylene	1.7	0.30		ppbV	1	3/19/2016 3:04:00 PM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	3/19/2016 3:04:00 PM
Methyl Ethyl Ketone	2.2	3.0	J	ppbV	10	3/19/2016 10:56:00 PM
Methyl Isobutyl Ketone	< 0.30	0.30		ppbV	1	3/19/2016 3:04:00 PM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Methylene chloride	0.32	0.15		ppbV	1	3/19/2016 3:04:00 PM
o-Xylene	0.58	0.15		ppbV	1	3/19/2016 3:04:00 PM
Propylene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Styrene	0.22	0.15		ppbV	1	3/19/2016 3:04:00 PM
Tetrachloroethylene	0.93	0.15		ppbV	1	3/19/2016 3:04:00 PM
Tetrahydrofuran	2.9	1.5		ppbV	10	3/19/2016 10:56:00 PM
Toluene	1.9	1.5		ppbV	10	3/19/2016 10:56:00 PM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Trichloroethene	0.080	0.15	J	ppbV	1	3/19/2016 3:04:00 PM
Vinyl acetate	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Vinyl Bromide	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Vinyl chloride	< 0.15	0.15		ppbV	1	3/19/2016 3:04:00 PM
Surr: Bromofluorobenzene	113	70-130		%REC	1	3/19/2016 3:04:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte, Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-006A

Client Sample ID: MS-MSD Indoor Air #2
 Tag Number: 216.255
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15			TO-15		Analyst: RJP	
1,1,1-Trichloroethane	< 0.82	0.82		ug/m3	1	3/19/2016 3:04:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	3/19/2016 3:04:00 PM
1,1,2-Trichloroethane	< 0.82	0.82		ug/m3	1	3/19/2016 3:04:00 PM
1,1-Dichloroethane	< 0.61	0.61		ug/m3	1	3/19/2016 3:04:00 PM
1,1-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 3:04:00 PM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	3/19/2016 3:04:00 PM
1,2,4-Trimethylbenzene	3.3	0.74		ug/m3	1	3/19/2016 3:04:00 PM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	3/19/2016 3:04:00 PM
1,2-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 3:04:00 PM
1,2-Dichloroethane	< 0.61	0.61		ug/m3	1	3/19/2016 3:04:00 PM
1,2-Dichloropropane	< 0.69	0.69		ug/m3	1	3/19/2016 3:04:00 PM
1,3,5-Trimethylbenzene	1.1	0.74		ug/m3	1	3/19/2016 3:04:00 PM
1,3-butadiene	< 0.33	0.33		ug/m3	1	3/19/2016 3:04:00 PM
1,3-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 3:04:00 PM
1,4-Dichlorobenzene	< 0.90	0.90		ug/m3	1	3/19/2016 3:04:00 PM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	3/19/2016 3:04:00 PM
2,2,4-trimethylpentane	1.4	0.70		ug/m3	1	3/19/2016 3:04:00 PM
4-ethyltoluene	0.88	0.74		ug/m3	1	3/19/2016 3:04:00 PM
Acetone	25	7.1		ug/m3	10	3/19/2016 10:56:00 PM
Allyl chloride	< 0.47	0.47		ug/m3	1	3/19/2016 3:04:00 PM
Benzene	7.0	0.48		ug/m3	1	3/19/2016 3:04:00 PM
Benzyl chloride	< 0.86	0.86		ug/m3	1	3/19/2016 3:04:00 PM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	3/19/2016 3:04:00 PM
Bromoform	< 1.6	1.6		ug/m3	1	3/19/2016 3:04:00 PM
Bromomethane	< 0.58	0.58		ug/m3	1	3/19/2016 3:04:00 PM
Carbon disulfide	< 0.47	0.47		ug/m3	1	3/19/2016 3:04:00 PM
Carbon tetrachloride	0.44	0.94	J	ug/m3	1	3/19/2016 3:04:00 PM
Chlorobenzene	< 0.69	0.69		ug/m3	1	3/19/2016 3:04:00 PM
Chloroethane	< 0.40	0.40		ug/m3	1	3/19/2016 3:04:00 PM
Chloroform	< 0.73	0.73		ug/m3	1	3/19/2016 3:04:00 PM
Chloromethane	1.3	0.31		ug/m3	1	3/19/2016 3:04:00 PM
cis-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 3:04:00 PM
cis-1,3-Dichloropropene	< 0.68	0.68		ug/m3	1	3/19/2016 3:04:00 PM
Cyclohexane	1.5	0.52		ug/m3	1	3/19/2016 3:04:00 PM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	3/19/2016 3:04:00 PM
Ethyl acetate	0.97	0.90		ug/m3	1	3/19/2016 3:04:00 PM
Ethylbenzene	2.0	0.65		ug/m3	1	3/19/2016 3:04:00 PM
Freon 11	1.2	0.84		ug/m3	1	3/19/2016 3:04:00 PM
Freon 113	< 1.1	1.1		ug/m3	1	3/19/2016 3:04:00 PM
Freon 114	< 1.0	1.0		ug/m3	1	3/19/2016 3:04:00 PM

Qualifiers:	**	Reporting Limit	.	Results reported are not blank corrected
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected at or below quantitation limits
	JN	Non-routine analyte. Quantitation estimated.	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		

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Centek Laboratories, LLC

Date: 07-Apr-16

CLIENT: Environmental & Geologic Management Se
 Lab Order: C1603053
 Project: Highland Plaza
 Lab ID: C1603053-006A

Client Sample ID: MS-MSD Indoor Air #2
 Tag Number: 216.255
 Collection Date: 3/15/2016
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
1UG/M3 BY METHOD TO15				TO-15		Analyst: RJP
Freon 12	2.4	0.74		ug/m3	1	3/19/2016 3:04:00 PM
Heptane	1.8	0.61		ug/m3	1	3/19/2016 3:04:00 PM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	3/19/2016 3:04:00 PM
Hexane	6.8	0.53		ug/m3	1	3/19/2016 3:04:00 PM
Isopropyl alcohol	5.7	3.7		ug/m3	10	3/19/2016 10:56:00 PM
m&p-Xylene	7.3	1.3		ug/m3	1	3/19/2016 3:04:00 PM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	3/19/2016 3:04:00 PM
Methyl Ethyl Ketone	6.5	8.8	J	ug/m3	10	3/19/2016 10:56:00 PM
Methyl Isobutyl Ketone	< 1.2	1.2		ug/m3	1	3/19/2016 3:04:00 PM
Methyl tert-butyl ether	< 0.54	0.54		ug/m3	1	3/19/2016 3:04:00 PM
Methylene chloride	1.1	0.52		ug/m3	1	3/19/2016 3:04:00 PM
o-Xylene	2.5	0.65		ug/m3	1	3/19/2016 3:04:00 PM
Propylene	< 0.26	0.26		ug/m3	1	3/19/2016 3:04:00 PM
Styrene	0.94	0.64		ug/m3	1	3/19/2016 3:04:00 PM
Tetrachloroethylene	6.3	1.0		ug/m3	1	3/19/2016 3:04:00 PM
Tetrahydrofuran	8.5	4.4		ug/m3	10	3/19/2016 10:56:00 PM
Toluene	7.2	5.7		ug/m3	10	3/19/2016 10:56:00 PM
trans-1,2-Dichloroethene	< 0.59	0.59		ug/m3	1	3/19/2016 3:04:00 PM
trans-1,3-Dichloropropene	< 0.68	0.68		ug/m3	1	3/19/2016 3:04:00 PM
Trichloroethene	0.43	0.81	J	ug/m3	1	3/19/2016 3:04:00 PM
Vinyl acetate	< 0.53	0.53		ug/m3	1	3/19/2016 3:04:00 PM
Vinyl Bromide	< 0.66	0.66		ug/m3	1	3/19/2016 3:04:00 PM
Vinyl chloride	< 0.38	0.38		ug/m3	1	3/19/2016 3:04:00 PM

Qualifiers: ** Reporting Limit . Results reported are not blank corrected
 B Analyte detected in the associated Method Blank E Value above quantitation range
 H Holding times for preparation or analysis exceeded J Analyte detected at or below quantitation limits
 JN Non-routine analyte. Quantitation estimated. ND Not Detected at the Reporting Limit
 S Spike Recovery outside accepted recovery limits

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Data File : C:\HPCHEM\1\DATA\AN031908.D

Vial: 8

Acq On : 19 Mar 2016 3:04 pm

Operator: RJP

Sample : C1603053-006A

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 20 12:45:36 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.79	128	35701	1.00	ppb	-0.01
35) 1,4-difluorobenzene	12.05	114	111392	1.00	ppb	0.00
50) Chlorobenzene-d5	16.55	117	72199	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.13	95	52421	1.13	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	113.00%

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
3) Freon 12	4.18	85	72862	0.48	ppb	99
4) Chloromethane	4.38	50	24926	0.62	ppb	99
14) Freon 11	5.79	101	35089	0.22	ppb	100
15) Acetone	6.00	58	200951	13.04	ppb	# 27
17) Isopropyl alcohol	6.13	45	149525	2.97	ppb	# 46
21) Methylene chloride	7.04	84	12655	0.32	ppb	90
28) Methyl Ethyl Ketone	8.92	72	55157	3.35	ppb	# 100
30) Hexane	8.89	57	90064	1.93	ppb	98
31) Ethyl acetate	9.51	43	16962	0.27	ppb	99
33) Tetrahydrofuran	10.13	42	130547	4.42	ppb	91
37) Cyclohexane	11.43	56	19145m	0.44	ppb	
38) Carbon tetrachloride	11.38	117	8663	0.07	ppb	98
39) Benzene	11.36	78	202806	2.19	ppb	94
42) 2,2,4-trimethylpentane	12.18	57	49174	0.30	ppb	72
43) Heptane	12.52	43	16804	0.45	ppb	86
44) Trichloroethene	12.67	130	3955	0.08	ppb	99
51) Toluene	14.67	92	156350	3.19	ppb	96
56) Tetrachloroethylene	15.65	164	43549	0.93	ppb	100
59) Ethylbenzene	16.84	91	39359	0.47	ppb	98
60) m&p-xylene	17.01	91	111362	1.67	ppb	95
62) Styrene	17.46	104	10089	0.22	ppb	93
64) o-xylene	17.48	91	46433	0.58	ppb	90
70) 4-ethyltoluene	18.70	105	15578m	0.18	ppb	
71) 1,3,5-trimethylbenzene	18.75	105	22724m	0.22	ppb	
72) 1,2,4-trimethylbenzene	19.18	105	58872	0.67	ppb	95

Quantitation Report (QT Reviewed)

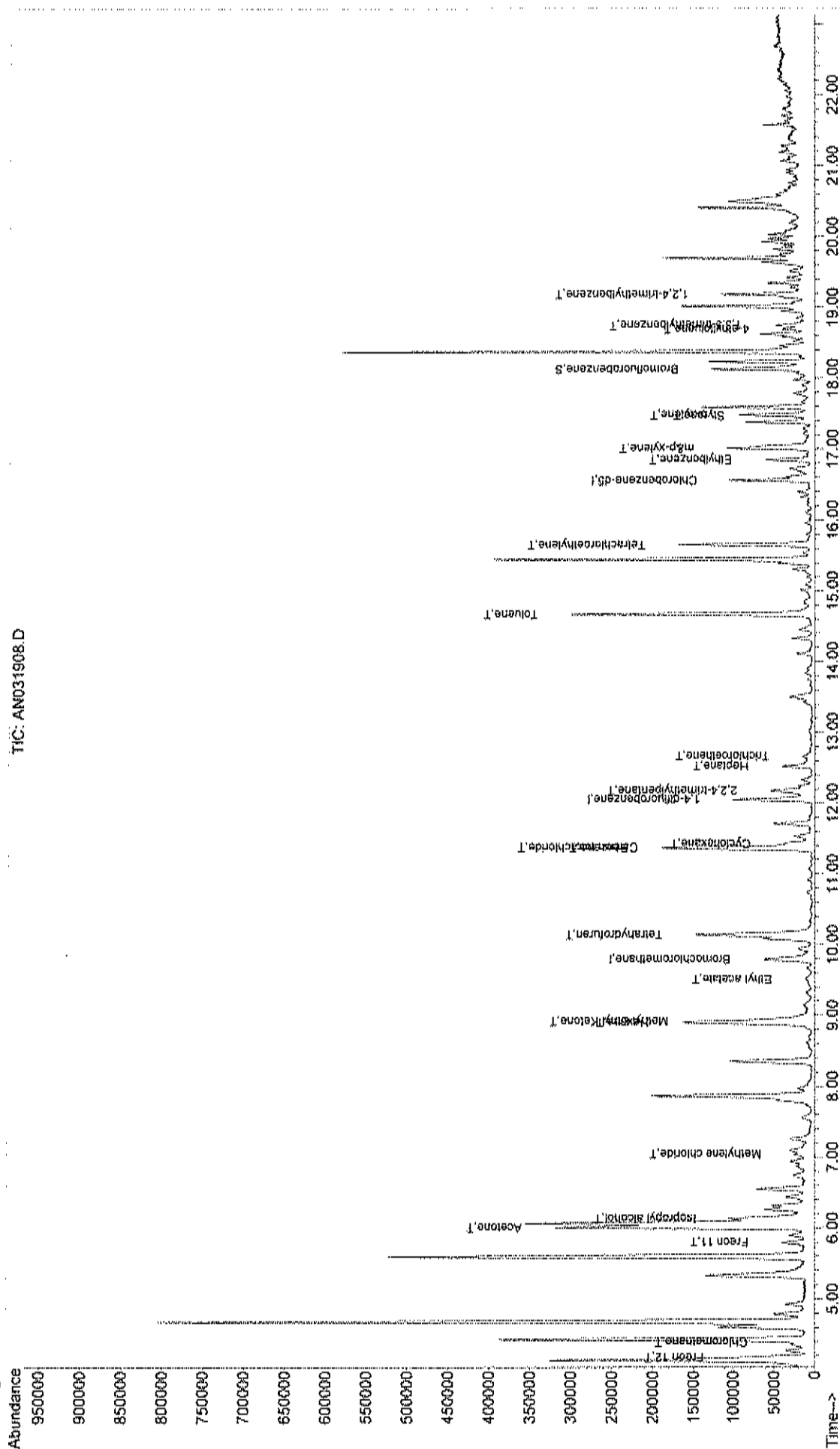
Data File : C:\HPCHEM\1\DATA\AN031908.D
Acq On : 19 Mar 2016 3:04 pm
Sample : C1603053-006A
Misc : A316 1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 24 16:15 2016

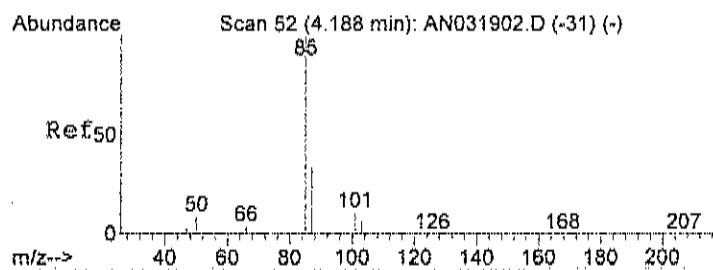
Vial: 8

Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A316 1UG.RBS

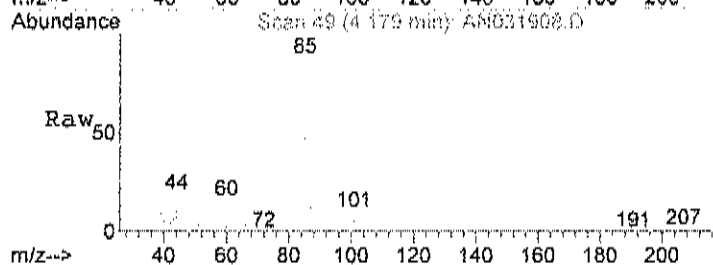
Method : C:\HPCHEM\1\METHODS\A316 1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration



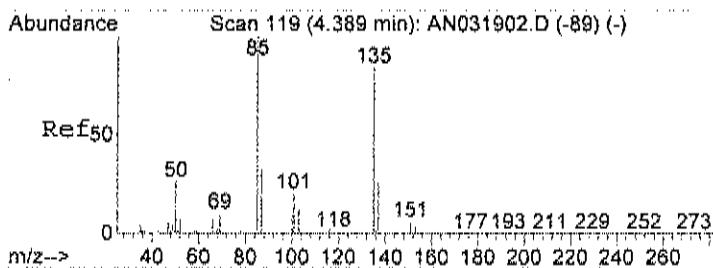
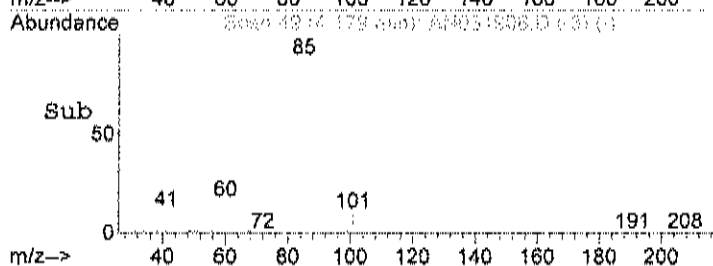
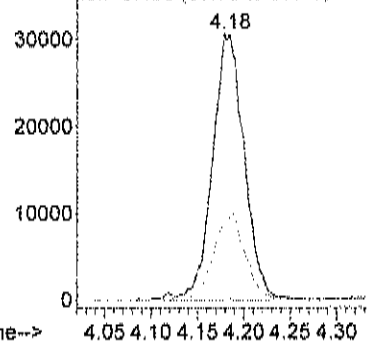


#3
Freon 12
Concen: 0.48 ppb
RT: 4.18 min Scan# 49
Delta R.T. -0.01 min
Lab File: AN031908.D
Acq: 19 Mar 2016 3:04 pm

Tgt Ion: 85 Resp: 72862
Ion Ratio Lower Upper
85 100
87 32.2 12.5 52.5

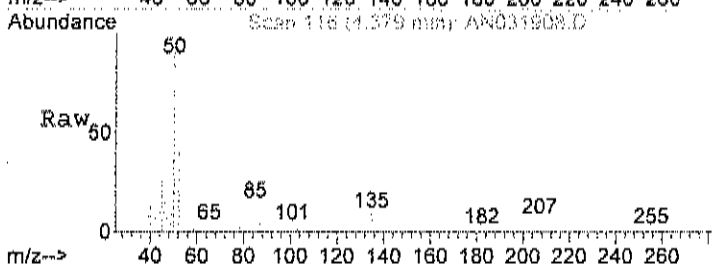


Abundance Ion 85.00 (84.70 to 85.70): AN031902.D

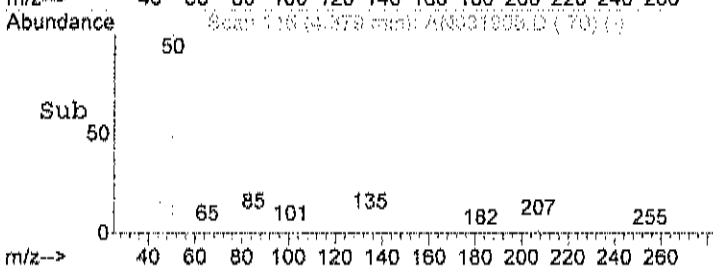
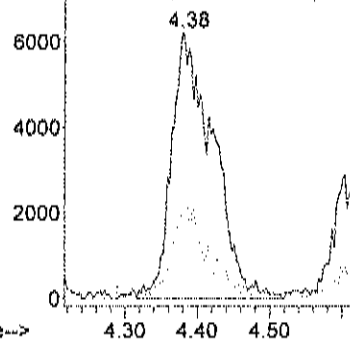


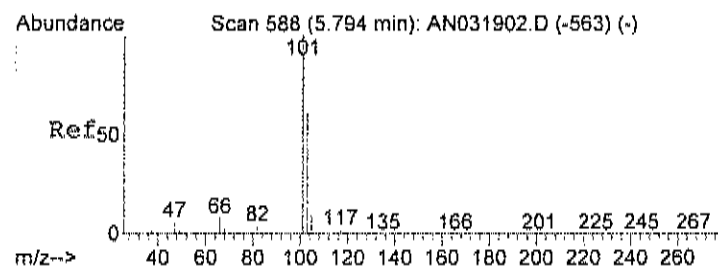
#4
Chloromethane
Concen: 0.62 ppb
RT: 4.38 min Scan# 116
Delta R.T. -0.01 min
Lab File: AN031908.D
Acq: 19 Mar 2016 3:04 pm

Tgt Ion: 50 Resp: 24926
Ion Ratio Lower Upper
50 100
52 29.9 9.2 49.2



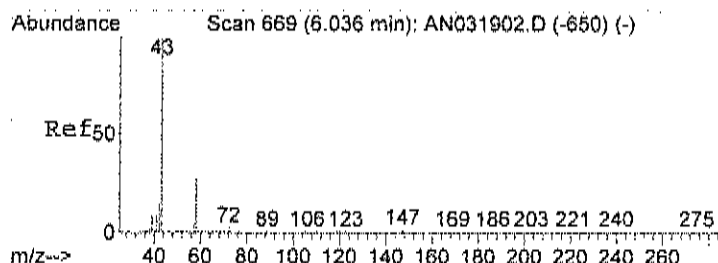
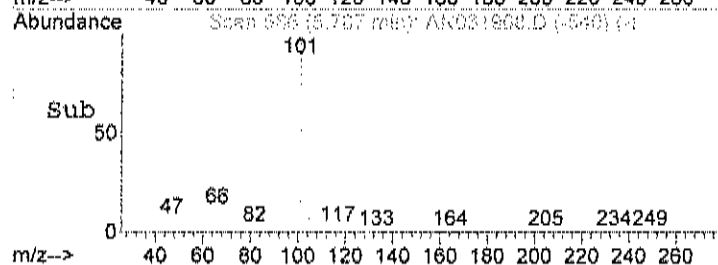
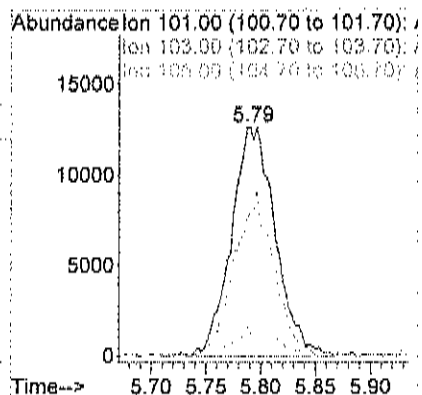
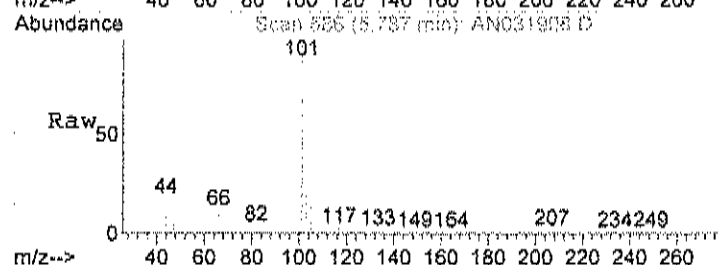
Abundance Ion 50.00 (49.70 to 50.70): AN031902.D





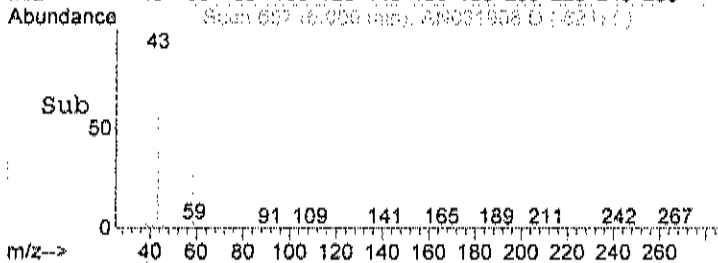
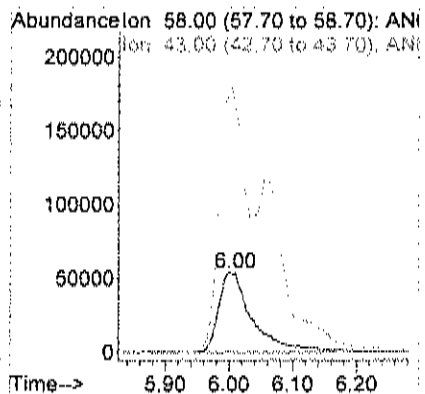
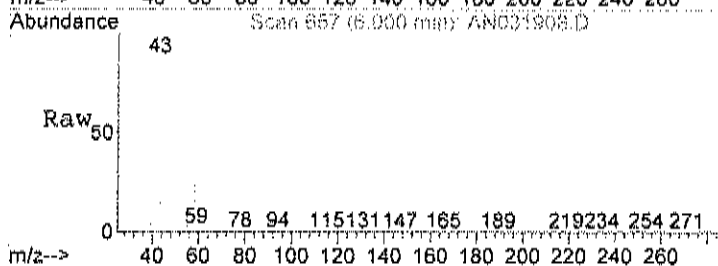
#14
Freon 11
Concen: 0.22 ppb
RT: 5.79 min Scan# 586
Delta R.T. -0.01 min
Lab File: AN031908.D
Acq: 19 Mar 2016 3:04 pm

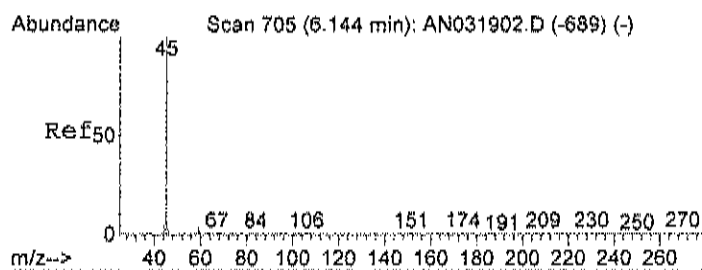
Tgt Ion: 101 Resp: 35089
Ion Ratio Lower Upper
101 100
103 64.6 44.6 84.6
105 11.8 0.0 31.6



#15
Acetone
Concen: 13.04 ppb
RT: 6.00 min Scan# 657
Delta R.T. -0.04 min
Lab File: AN031908.D
Acq: 19 Mar 2016 3:04 pm

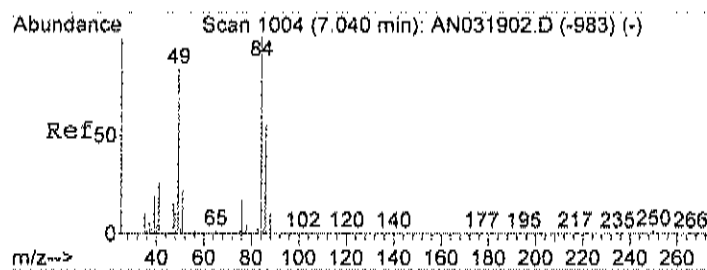
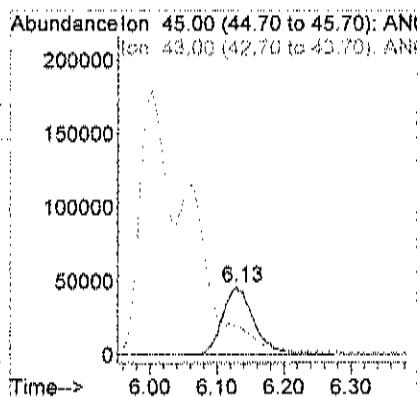
Tgt Ion: 58 Resp: 200951
Ion Ratio Lower Upper
58 100
43 439.8 661.8 721.8#





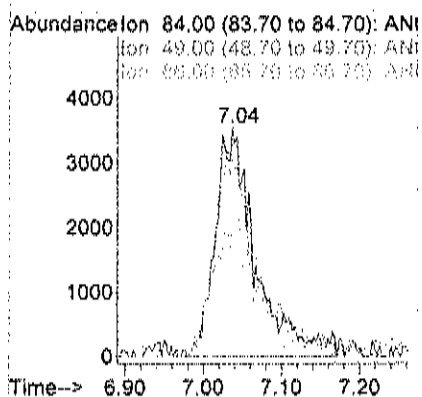
#17
Isopropyl alcohol
Concen: 2.97 ppb
RT: 6.13 min Scan# 700
Delta R.T. -0.02 min
Lab File: AN031908.D
Acq: 19 Mar 2016 3:04 pm

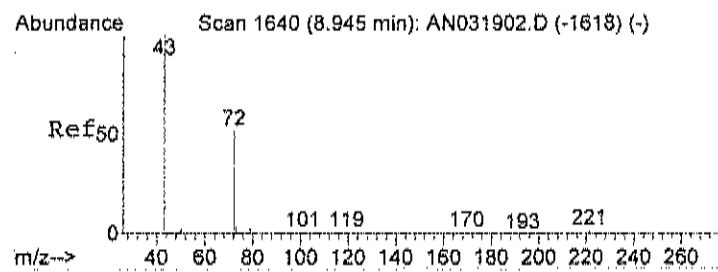
Tgt Ion: 45 Resp: 149525
Ion Ratio Lower Upper
45 100
43 0.0 8.9 48.9#



#21
Methylene chloride
Concen: 0.32 ppb
RT: 7.04 min Scan# 1003
Delta R.T. -0.01 min
Lab File: AN031908.D
Acq: 19 Mar 2016 3:04 pm

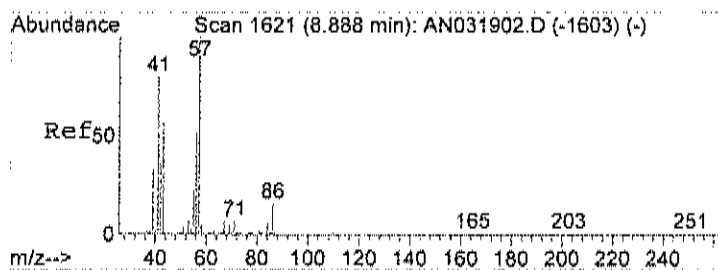
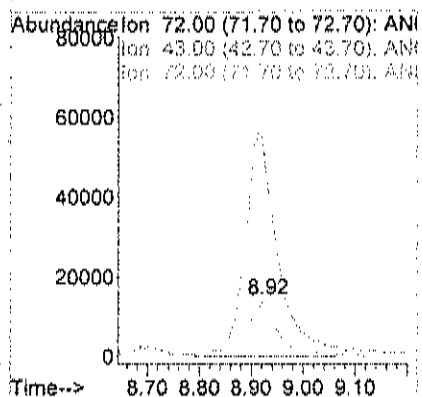
Tgt Ion: 84 Resp: 12655
Ion Ratio Lower Upper
84 100
49 93.0 87.8 127.8
86 66.3 43.1 83.1





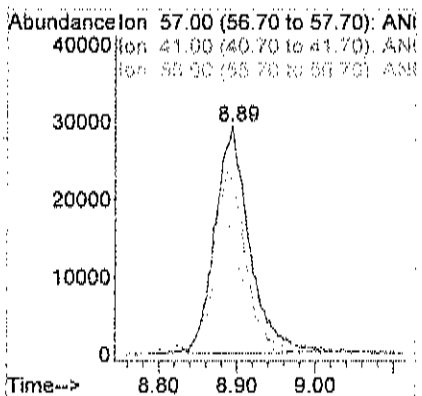
#28
Methyl Ethyl Ketone
Concen: 3.35 ppb
RT: 8.92 min Scan# 1632
Delta R.T. -0.02 min
Lab File: AN031908.D
Acq: 19 Mar 2016 3:04 pm

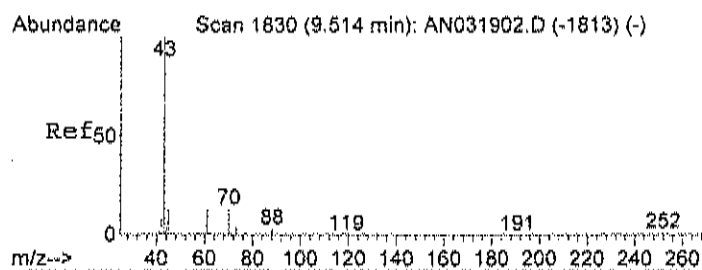
Tgt Ion	Ratio	Lower	Upper
72	100		
43	0.0	0.0	20.0
72	100.0	80.0	120.0



#30
Hexane
Concen: 1.93 ppb
RT: 8.89 min Scan# 1623
Delta R.T. -0.01 min
Lab File: AN031908.D
Acq: 19 Mar 2016 3:04 pm

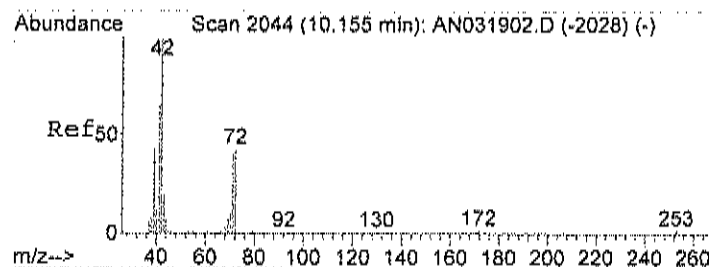
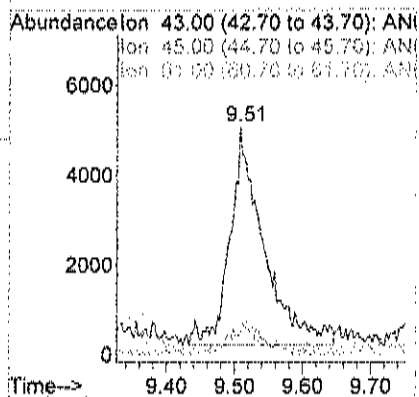
Tgt Ion	Ratio	Lower	Upper
57	100		
41	84.5	66.6	106.6
56	50.4	30.6	70.6





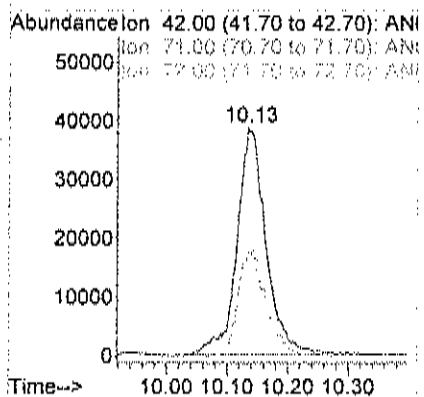
#31
Ethyl acetate
Concen: 0.27 ppb
RT: 9.51 min Scan# 1828
Delta R.T. -0.01 min
Lab File: AN031908.D
Acq: 19 Mar 2016 3:04 pm

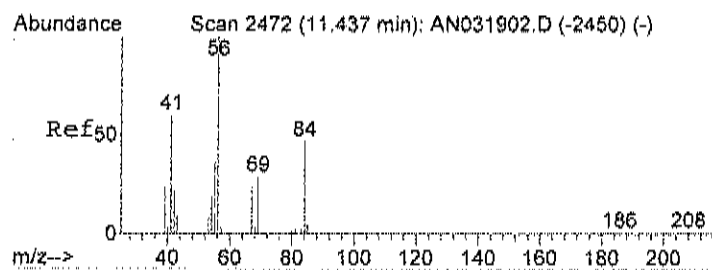
Tgt Ion	43	Resp	16962
Ion	Ratio	Lower	Upper
43	100		
45	14.6	0.0	33.8
61	13.2	0.0	33.3



#33
Tetrahydrofuran
Concen: 4.42 ppb
RT: 10.13 min Scan# 2037
Delta R.T. -0.02 min
Lab File: AN031908.D
Acq: 19 Mar 2016 3:04 pm

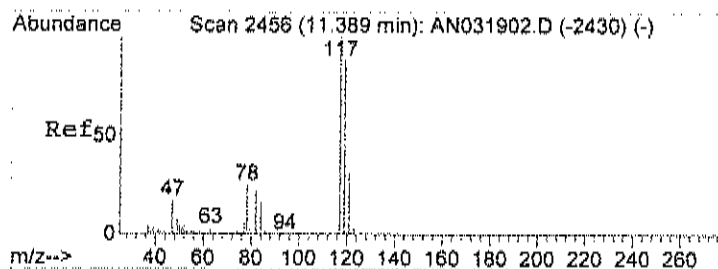
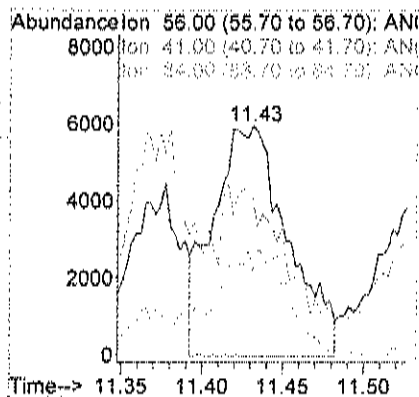
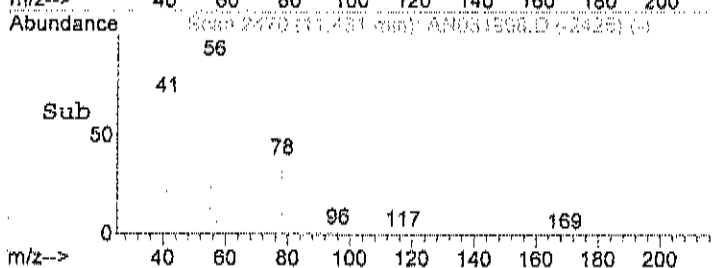
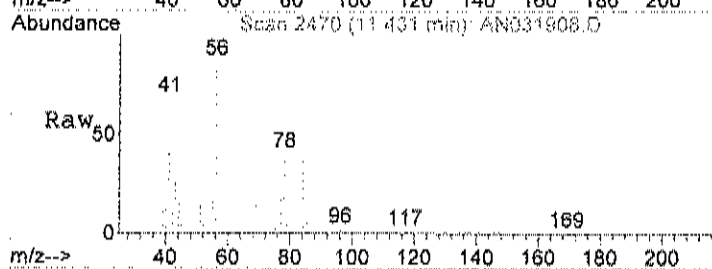
Tgt Ion	42	Resp	130547
Ion	Ratio	Lower	Upper
42	100		
71	44.2	20.0	60.0
72	45.9	19.1	59.1





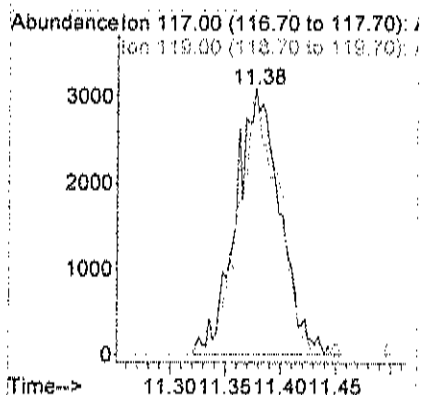
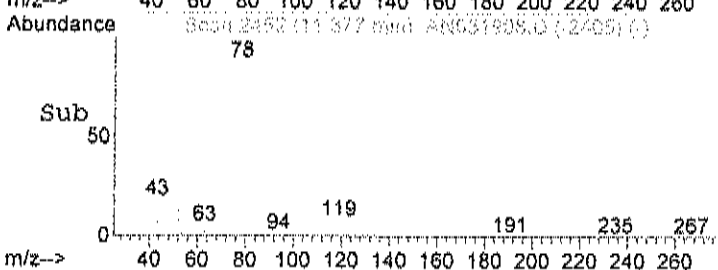
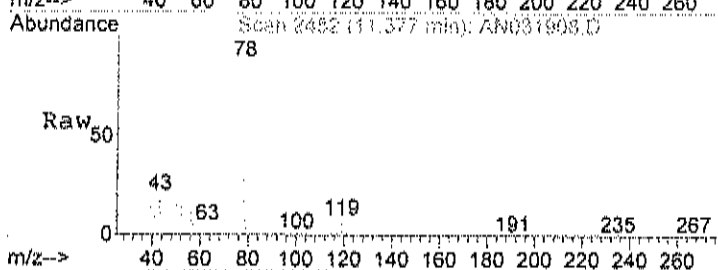
#37
Cyclohexane
Concen: 0.44 ppb m
RT: 11.43 min Scan# 2470
Delta R.T. -0.01 min
Lab File: AN031908.D
Acq: 19 Mar 2016 3:04 pm

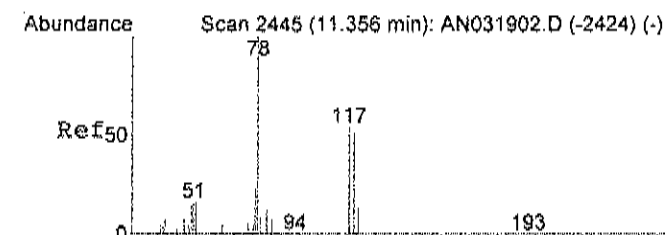
Tgt Ion: 56 Resp: 19145
Ion Ratio Lower Upper
56 100
41 0.0 47.3 87.3#
84 58.0 88.1 128.1#



#38
Carbon tetrachloride
Concen: 0.07 ppb
RT: 11.38 min Scan# 2452
Delta R.T. -0.01 min
Lab File: AN031908.D
Acq: 19 Mar 2016 3:04 pm

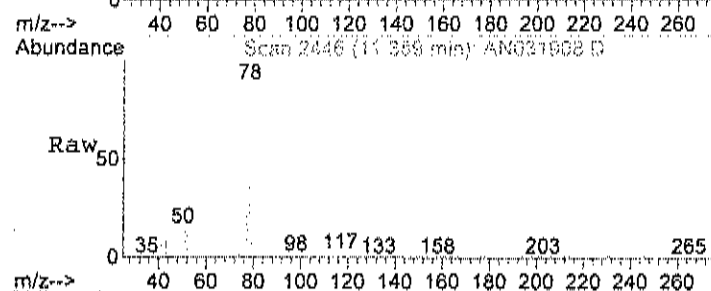
Tgt Ion: 117 Resp: 8663
Ion Ratio Lower Upper
117 100
119 92.2 74.5 114.5





#39
Benzene
Concen: 2.19 ppb
RT: 11.36 min Scan# 2446
Delta R.T. -0.00 min
Lab File: AN031908.D
Acq: 19 Mar 2016 3:04 pm

Tgt Ion	Ratio	Lower	Upper
78	100		
77	24.1	6.0	46.0
51	17.5	2.1	42.1

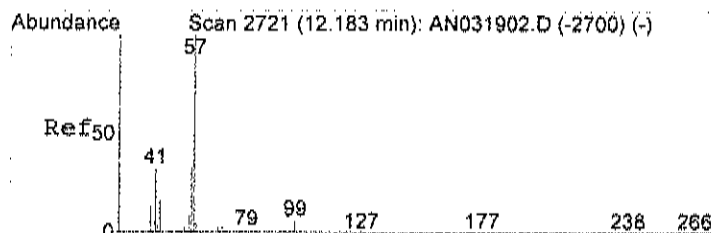
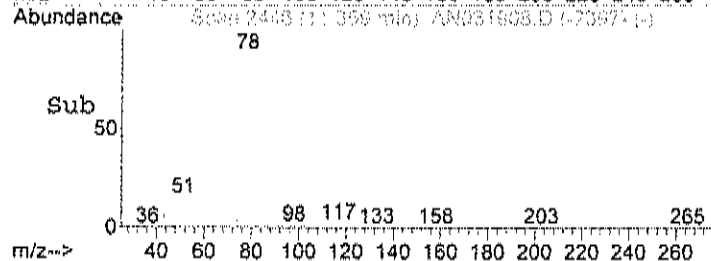
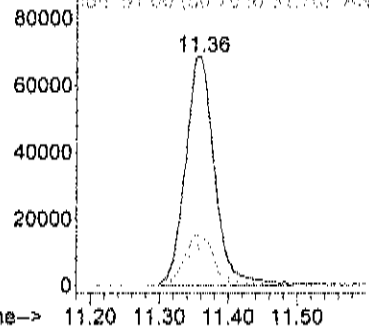


Abundance

Ion 78.00 (77.70 to 78.70): ANI

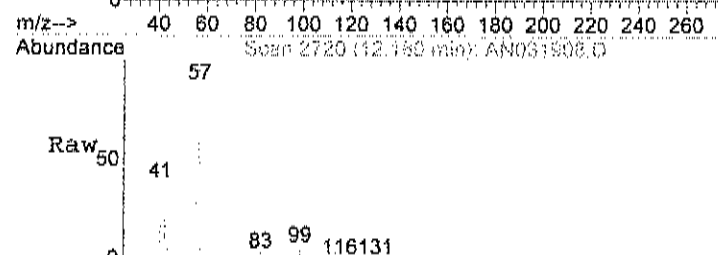
Ion 77.00 (76.70 to 77.70): ANI

Ion 51.00 (50.70 to 51.70): ANI



#42
2,2,4-trimethylpentane
Concen: 0.30 ppb
RT: 12.18 min Scan# 2720
Delta R.T. -0.00 min
Lab File: AN031908.D
Acq: 19 Mar 2016 3:04 pm

Tgt Ion	Ratio	Lower	Upper
57	100		
41	49.9	14.1	54.1
56	47.6	11.4	51.4

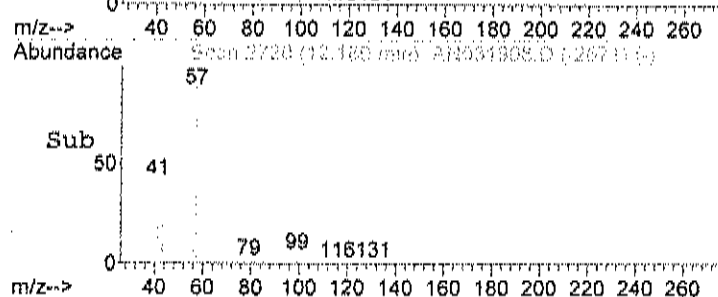
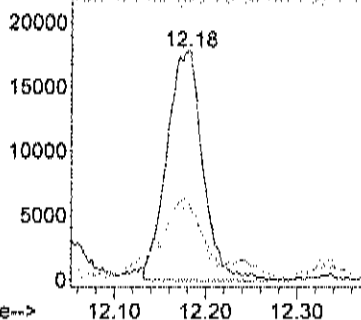


Abundance

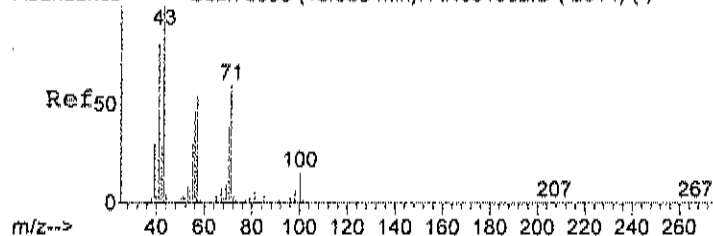
Ion 57.00 (56.70 to 57.70): ANI

Ion 41.00 (40.70 to 41.70): ANI

Ion 56.00 (55.70 to 56.70): ANI



Abundance Scan 2835 (12.525 min): AN031902.D (-2814) (-)



#43

Heptane

Concen: 0.45 ppb

RT: 12.52 min Scan# 2834

Delta R.T. -0.01 min

Lab File: AN031908.D

Acq: 19 Mar 2016 3:04 pm

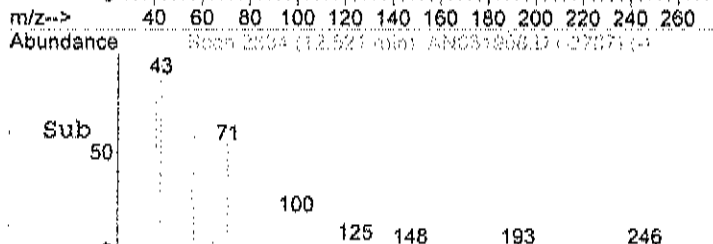
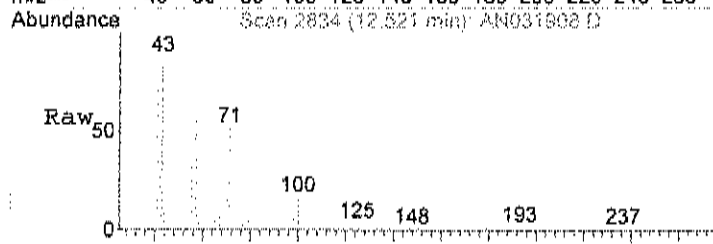
Tgt Ion: 43 Resp: 16804

Ion Ratio Lower Upper

43 100

57 71.3 31.3 71.3

71 55.2 34.8 74.8



Abundance Ion 43.00 (42.70 to 43.70): AN031908.D (-2814) (-)

Ion 57.00 (56.70 to 57.70): AN031908.D (-2814) (-)

Ion 71.00 (70.70 to 71.70): AN031908.D (-2814) (-)

Time-->

12.40 12.50 12.60 12.70

12.52

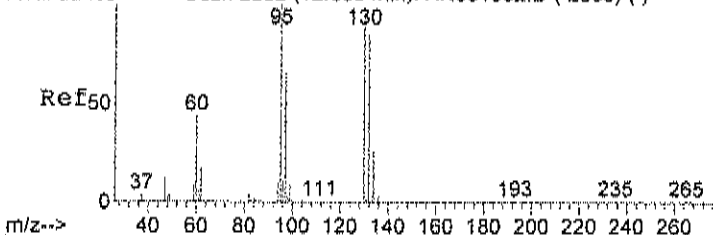
6000

4000

2000

0

Abundance Scan 2882 (12.665 min): AN031902.D (-2863) (-)



#44

Trichloroethene

Concen: 0.08 ppb

RT: 12.67 min Scan# 2885

Delta R.T. 0.00 min

Lab File: AN031908.D

Acq: 19 Mar 2016 3:04 pm

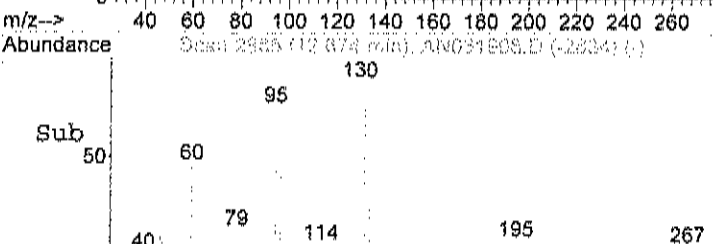
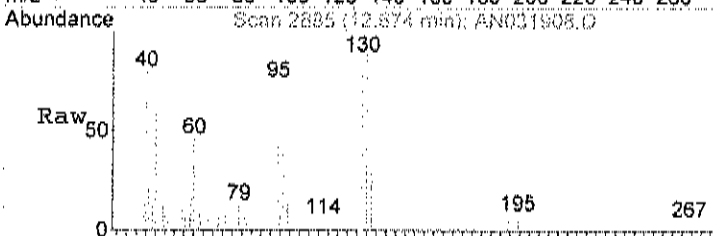
Tgt Ion: 130 Resp: 3955

Ion Ratio Lower Upper

130 100

132 96.6 76.1 116.1

95 106.7 85.0 125.0



Abundance Ion 130.00 (129.70 to 130.70): AN031908.D (-2863) (-)

Ion 132.00 (131.70 to 132.70): AN031908.D (-2863) (-)

Ion 95.00 (94.70 to 95.70): AN031908.D (-2863) (-)

Time-->

12.60 12.65 12.70 12.75

12.67

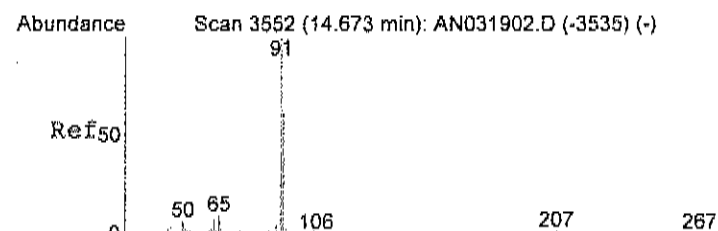
2000

1500

1000

500

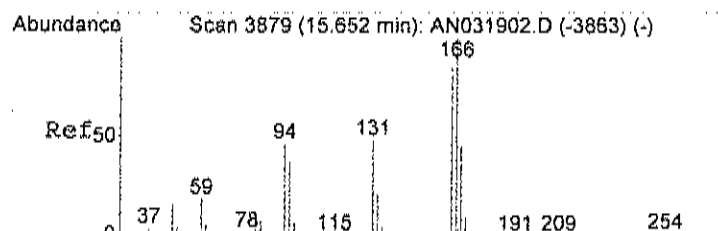
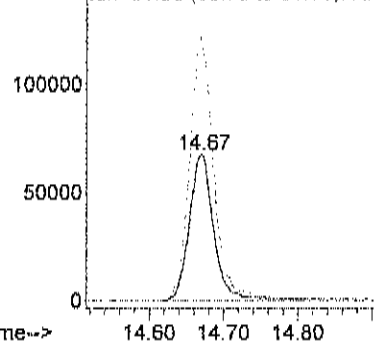
0



#51
Toluene
Concen: 3.19 ppb
RT: 14.67 min Scan# 3551
Delta R.T. -0.01 min
Lab File: AN031908.D
Acq: 19 Mar 2016 3:04 pm

Tgt Ion: 92 Resp: 156350
Ion Ratio Lower Upper
92 100
91 177.6 152.5 192.5

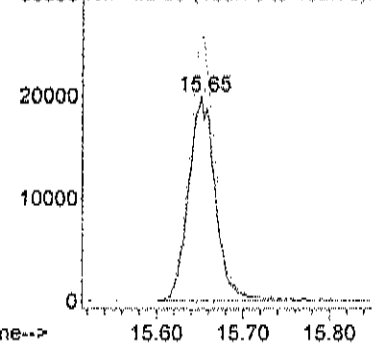
Abundance Ion 92.00 (91.70 to 92.70): AN031908.D
Ion 91.00 (90.70 to 91.70): AN031908.D

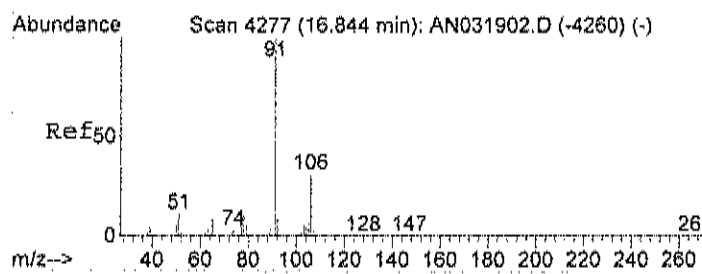


#56
Tetrachloroethylene
Concen: 0.93 ppb
RT: 15.65 min Scan# 3879
Delta R.T. -0.01 min
Lab File: AN031908.D
Acq: 19 Mar 2016 3:04 pm

Tgt Ion: 164 Resp: 43549
Ion Ratio Lower Upper
164 100
166 128.0 108.6 148.6

Abundance Ion 164.00 (163.70 to 164.70): AN031908.D
Ion 166.00 (165.70 to 166.70): AN031908.D





#59

Ethylbenzene

Concen: 0.47 ppb

RT: 16.84 min Scan# 4276

Delta R.T. -0.01 min

Lab File: AN031908.D

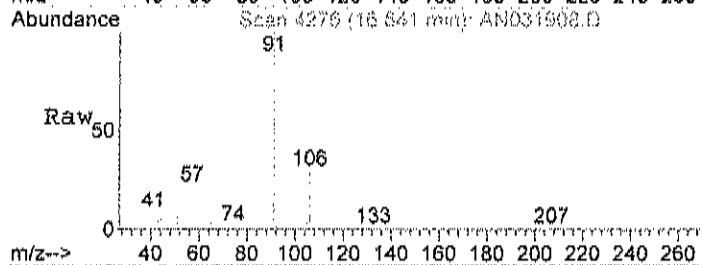
Acq: 19 Mar 2016 3:04 pm

Tgt Ion: 91 Resp: 39359

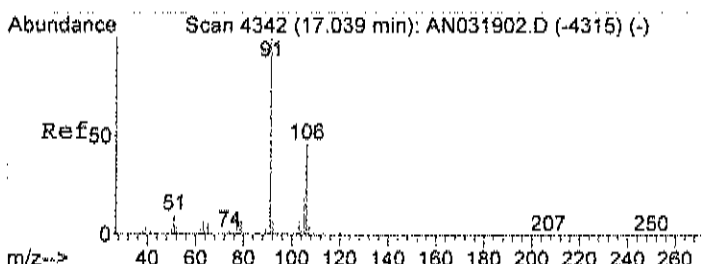
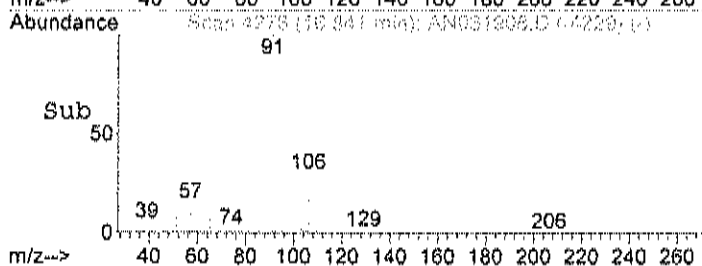
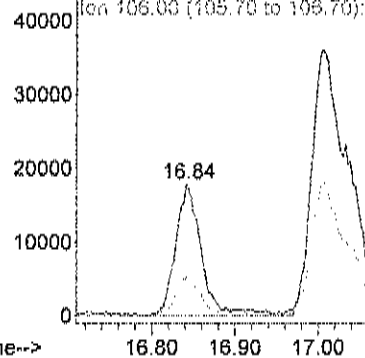
Ion Ratio Lower Upper

91 100

106 28.8 9.9 49.9



Abundance Ion 91.00 (90.70 to 91.70): ANI
Ion 106.00 (105.70 to 106.70):



#60

m&p-xylene

Concen: 1.67 ppb

RT: 17.01 min Scan# 4331

Delta R.T. -0.03 min

Lab File: AN031908.D

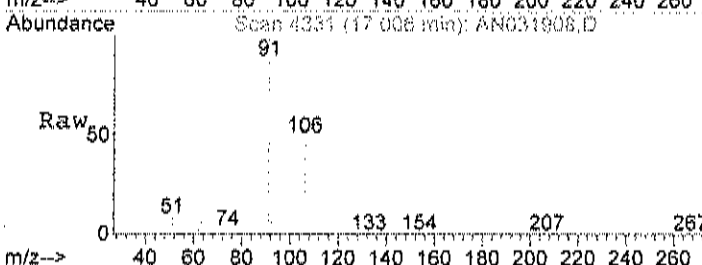
Acq: 19 Mar 2016 3:04 pm

Tgt Ion: 91 Resp: 111362

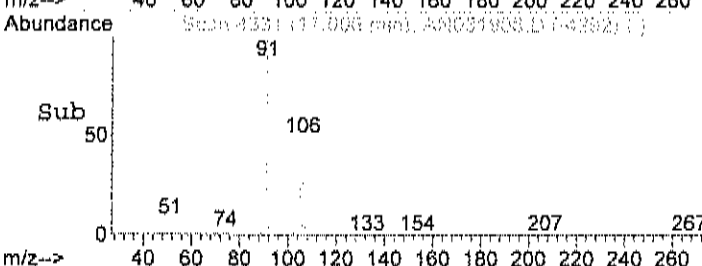
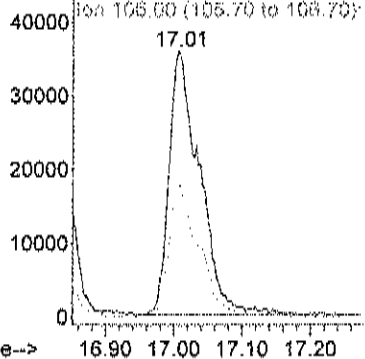
Ion Ratio Lower Upper

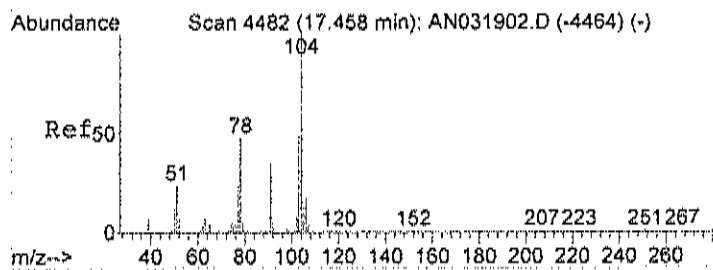
91 100

106 48.3 25.3 65.3



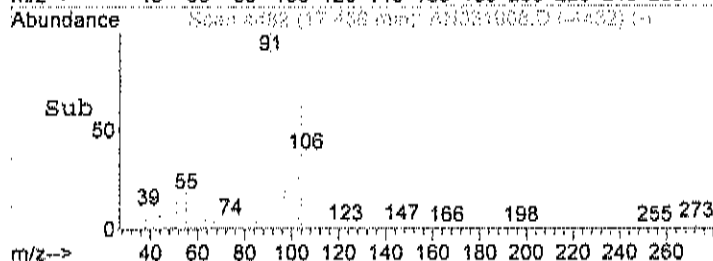
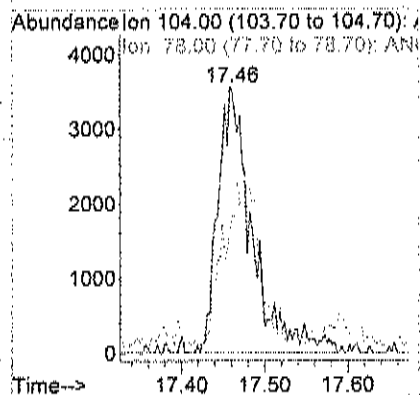
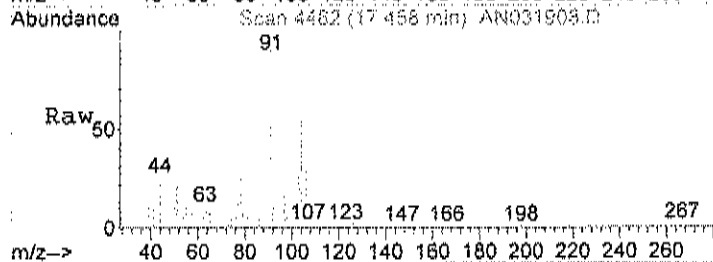
Abundance Ion 91.00 (90.70 to 91.70): ANI
Ion 106.00 (105.70 to 106.70):





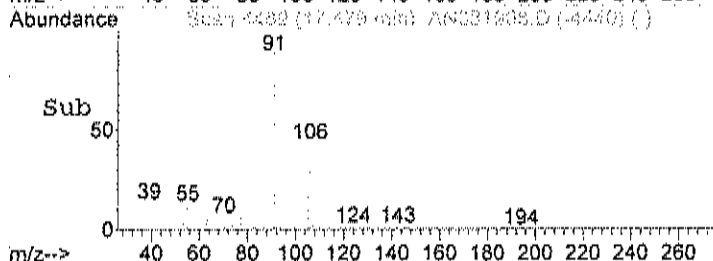
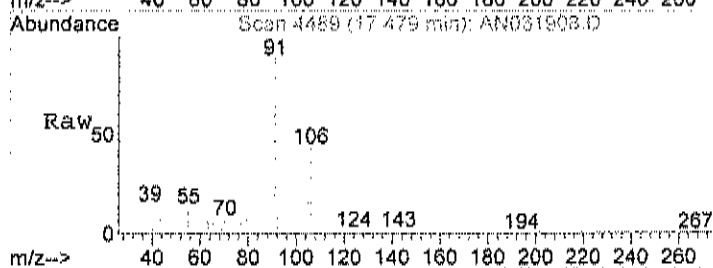
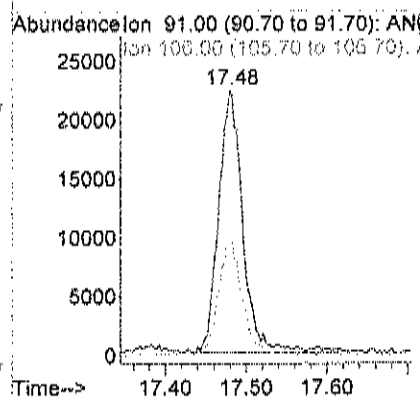
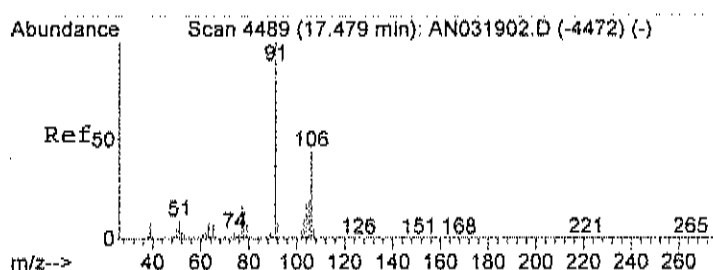
#62
Styrene
Concen: 0.22 ppb
RT: 17.46 min Scan# 4482
Delta R.T. 0.00 min
Lab File: AN031908.D
Acq: 19 Mar 2016 3:04 pm

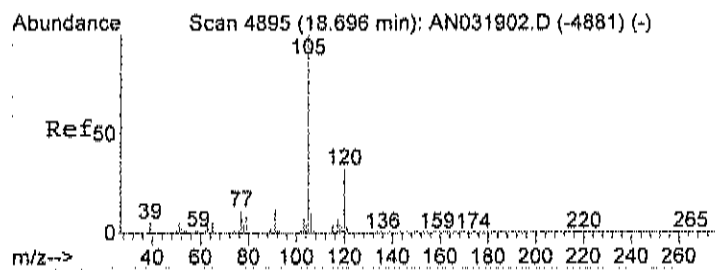
Tgt Ion: 104 Resp: 10089
Ion Ratio Lower Upper
104 100
78 69.7 44.4 84.4



#64
o-xylene
Concen: 0.58 ppb
RT: 17.48 min Scan# 4489
Delta R.T. -0.00 min
Lab File: AN031908.D
Acq: 19 Mar 2016 3:04 pm

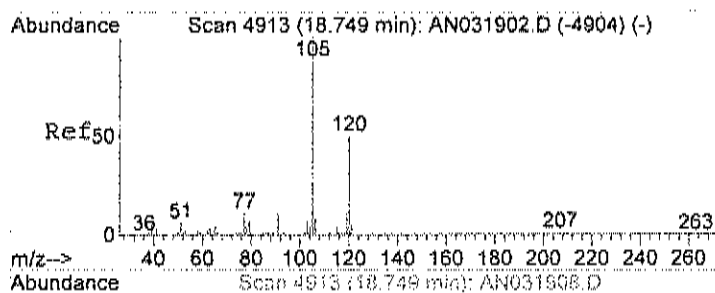
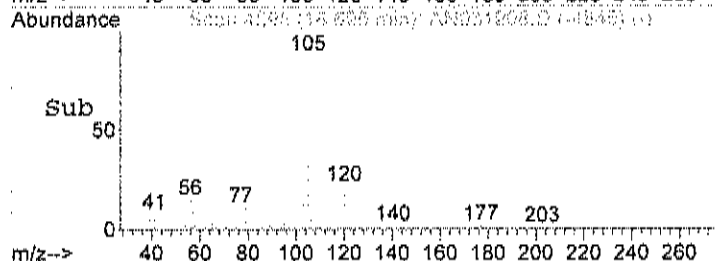
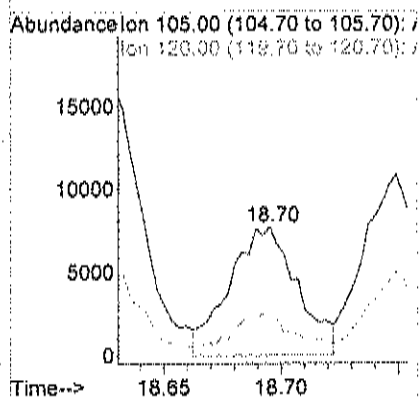
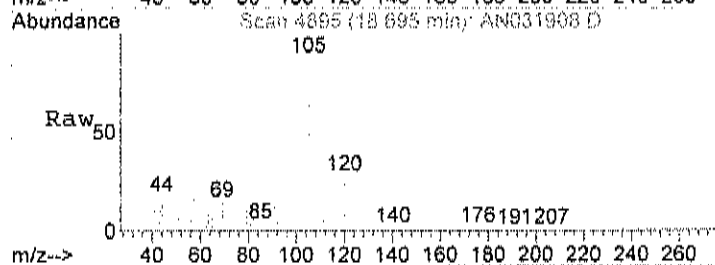
Tgt Ion: 91 Resp: 46433
Ion Ratio Lower Upper
91 100
106 44.2 18.4 58.4





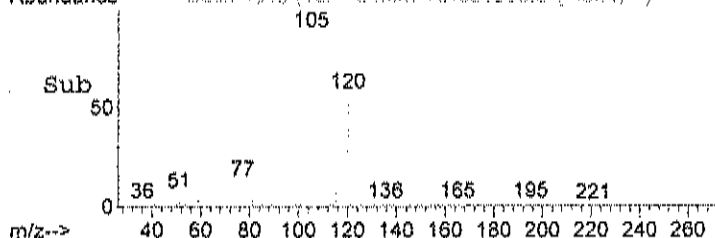
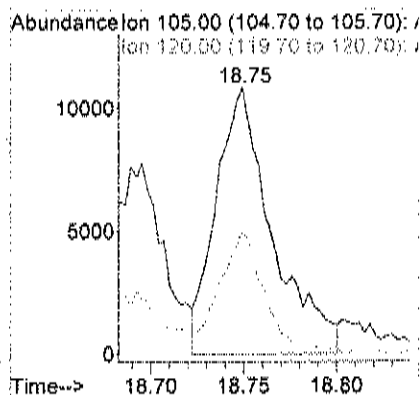
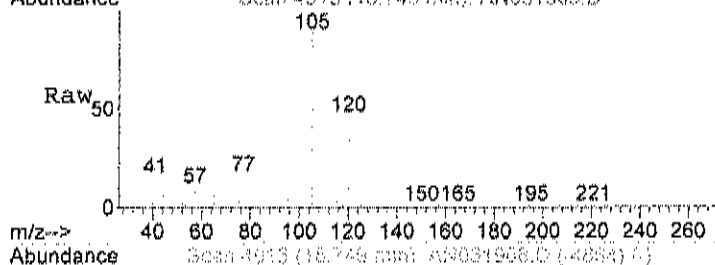
#70
4-ethyltoluene
Concen: 0.18 ppb m
RT: 18.70 min Scan# 4895
Delta R.T. -0.00 min
Lab File: AN031908.D
Acq: 19 Mar 2016 3:04 pm

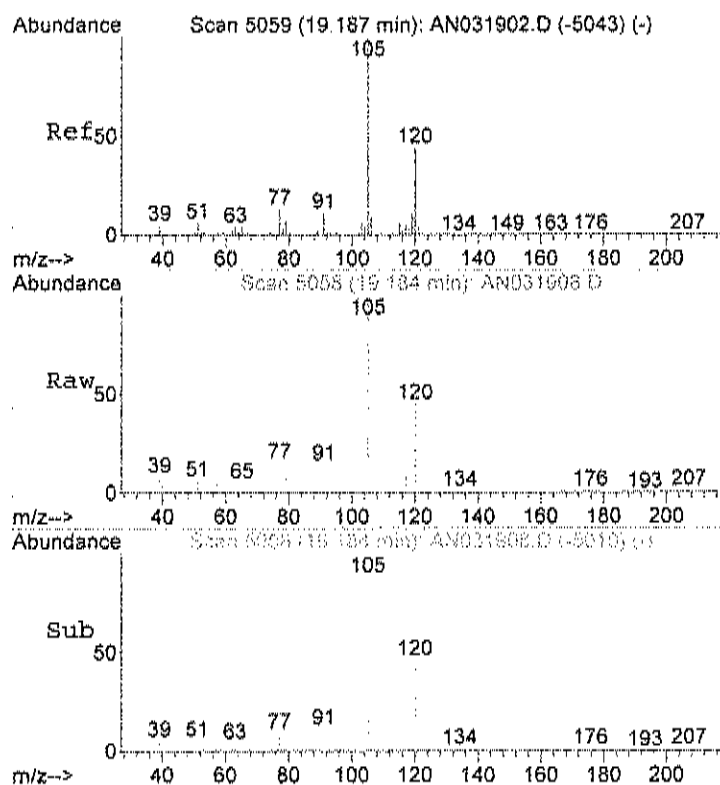
Tgt Ion:105 Resp: 15578
Ion Ratio Lower Upper
105 100
120 158.3 0.0 20.0#



#71
1,3,5-trimethylbenzene
Concen: 0.22 ppb m
RT: 18.75 min Scan# 4913
Delta R.T. -0.00 min
Lab File: AN031908.D
Acq: 19 Mar 2016 3:04 pm

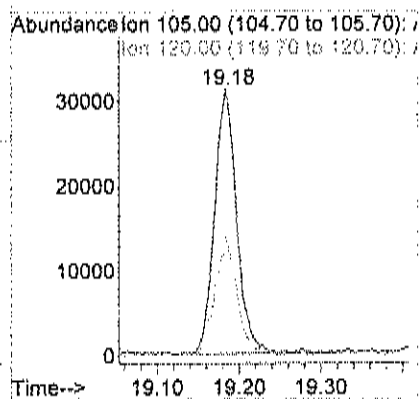
Tgt Ion:105 Resp: 22724
Ion Ratio Lower Upper
105 100
120 105.9 0.0 20.0#





#72
1,2,4-trimethylbenzene
Concen: 0.67 ppb
RT: 19.18 min Scan# 5058
Delta R.T. -0.01 min
Lab File: AN031908.D
Acq: 19 Mar 2016 3:04 pm

Tgt Ion:	105	Resp:	58872
Ion Ratio	Lower	Upper	
105	100		
120	45.0	22.1	62.1



Data File : C:\HPCHEM\1\DATA\AN031920.D

Vial: 20

Acq On : 19 Mar 2016 10:56 pm

Operator: RJP

Sample : C1603053-006A 10x

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 20 12:45:48 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.82	128	37569	1.00	ppb	0.02
35) 1,4-difluorobenzene	12.07	114	119280	1.00	ppb	0.00
50) Chlorobenzene-d5	16.57	117	85952	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.14	95	53798	0.97	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	97.00%

Target Compounds

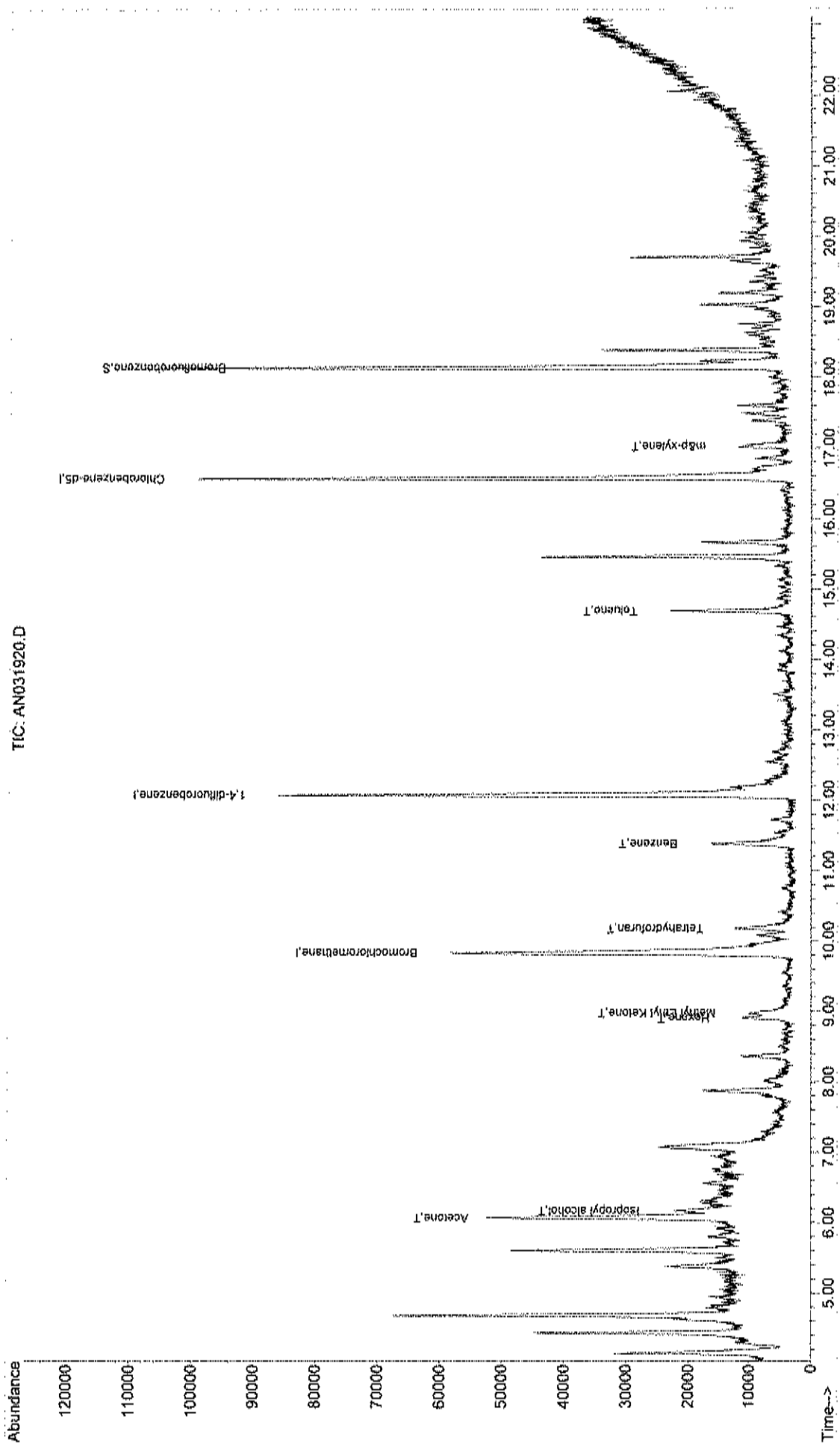
						Qvalue
15) Acetone	6.06	58	17321	1.07	ppb	# 19
17) Isopropyl alcohol	6.17	45	12058	0.23	ppb	# 46
28) Methyl Ethyl Ketone	8.98	72	3866	0.22	ppb	# 100
30) Hexane	8.90	57	6248	0.13	ppb	93
33) Tetrahydrofuran	10.17	42	9111	0.29	ppb	94
39) Benzene	11.37	78	14193	0.14	ppb	94
51) Toluene	14.68	92	11363	0.19	ppb	93
60) m&p-xylene	17.02	91	9951	0.13	ppb	98

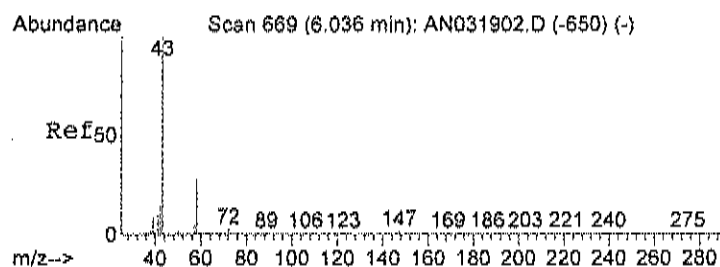
Data File : C:\HPCHEM\1\DATA\AN031920.D
Acq On : 19 Mar 2016 10:56 pm
Sample : C1603053-006A 10x
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 24 17:02 2016

Vial: 20
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A316_1UG.RES

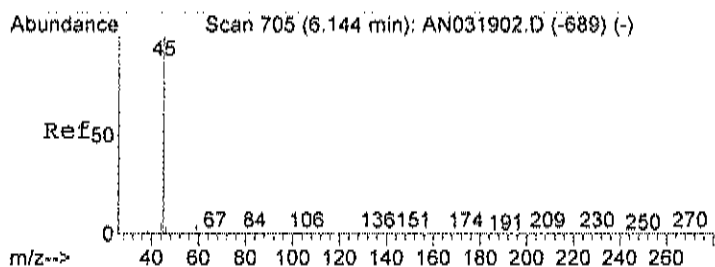
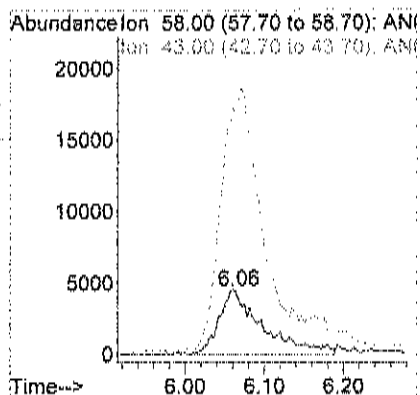
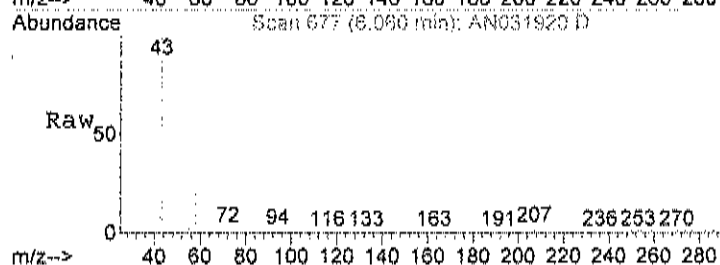
Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration





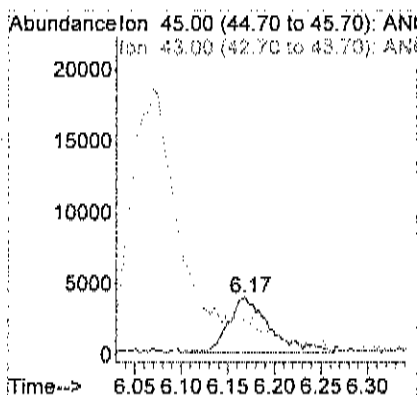
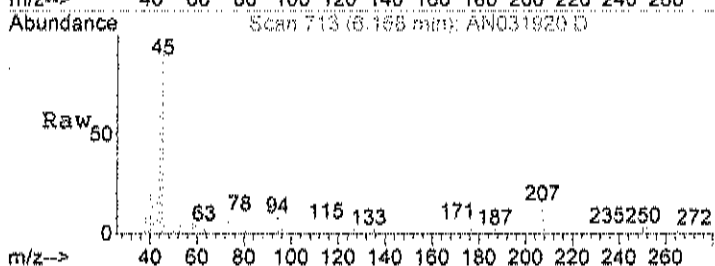
#15
Acetone
Concen: 1.07 ppb
RT: 6.06 min Scan# 677
Delta R.T. 0.02 min
Lab File: AN031920.D
Acq: 19 Mar 2016 10:56 pm

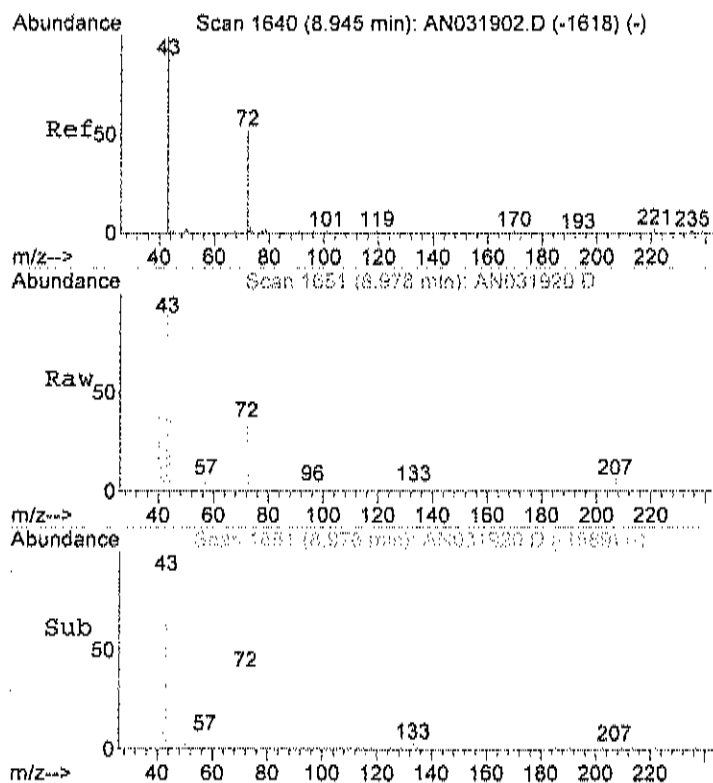
Tgt Ion: 58 Resp: 17321
Ion Ratio Lower Upper
58 100
43 413.0 661.8 721.8#



#17
Isopropyl alcohol
Concen: 0.23 ppb
RT: 6.17 min Scan# 713
Delta R.T. 0.02 min
Lab File: AN031920.D
Acq: 19 Mar 2016 10:56 pm

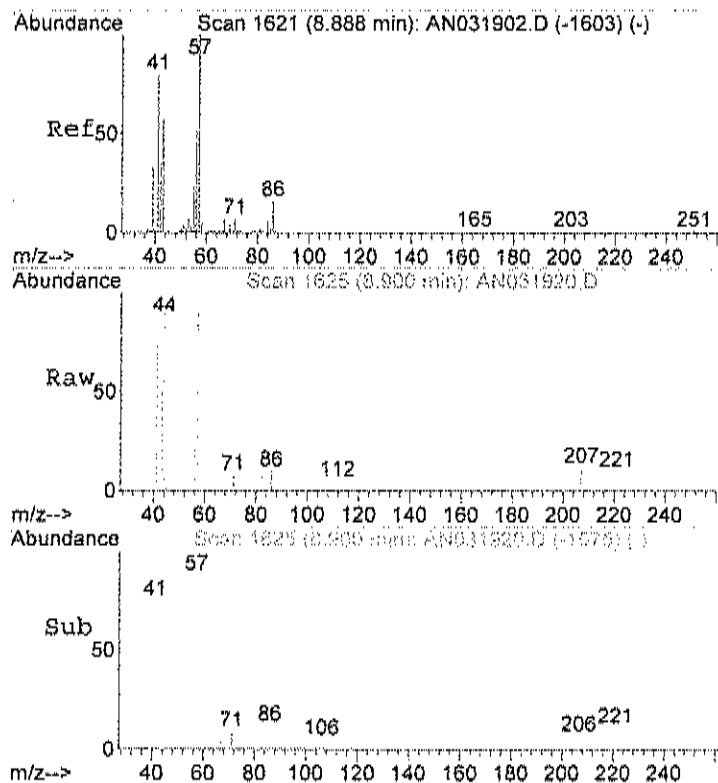
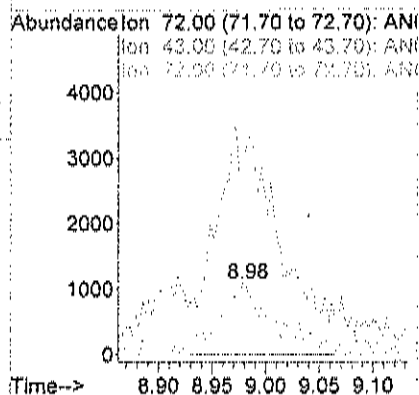
Tgt Ion: 45 Resp: 12058
Ion Ratio Lower Upper
45 100
43 0.0 8.9 48.9#





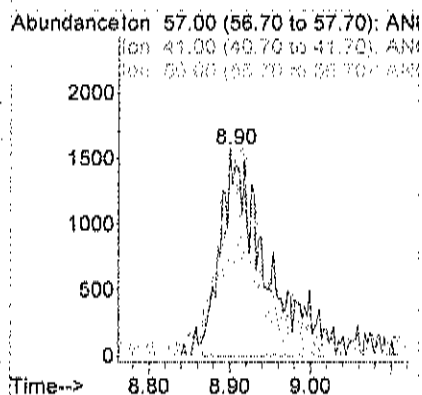
#28
Methyl Ethyl Ketone
Concen: 0.22 ppb
RT: 8.98 min Scan# 1651
Delta R.T. 0.04 min
Lab File: AN031920.D
Acq: 19 Mar 2016 10:56 pm

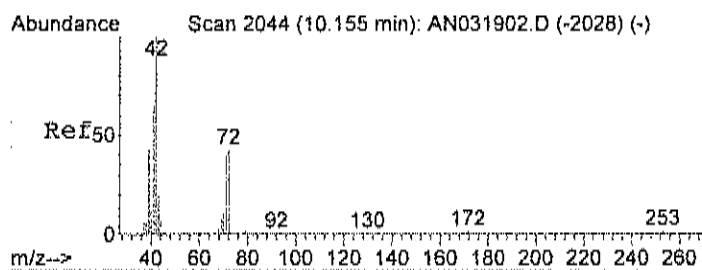
Tgt Ion: 72 Resp: 3866
Ion Ratio Lower Upper
72 100
43 487.4 0.0 20.0#
72 100.0 80.0 120.0



#30
Hexane
Concen: 0.13 ppb
RT: 8.90 min Scan# 1625
Delta R.T. 0.00 min
Lab File: AN031920.D
Acq: 19 Mar 2016 10:56 pm

Tgt Ion: 57 Resp: 6248
Ion Ratio Lower Upper
57 100
41 96.5 66.6 106.6
56 49.8 30.6 70.6

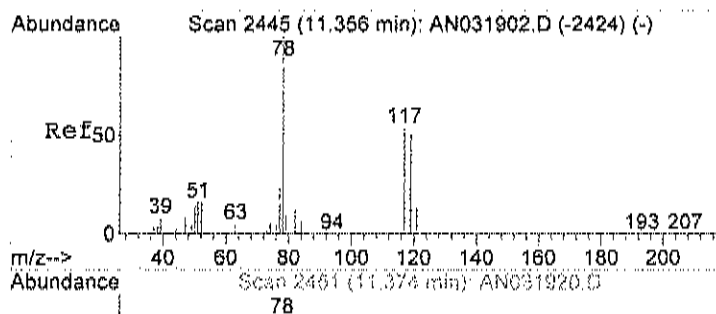
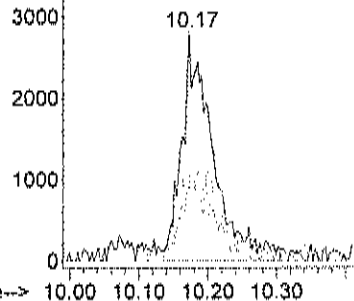




#33
Tetrahydrofuran
Concen: 0.29 ppb
RT: 10.17 min Scan# 2050
Delta R.T. 0.02 min
Lab File: AN031920.D
Acq: 19 Mar 2016 10:56 pm

Tgt Ion: 42 Resp: 9111
Ion Ratio Lower Upper
42 100
71 39.9 20.0 60.0
72 46.0 19.1 59.1

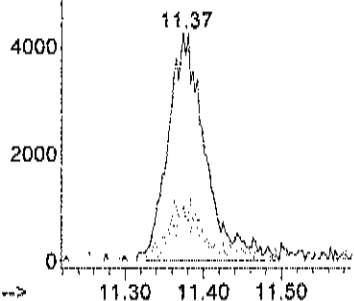
Abundance Ion 42.00 (41.70 to 42.70): ANI
Ion 71.00 (70.70 to 71.70): ANI
Ion 72.00 (71.70 to 72.70): ANI

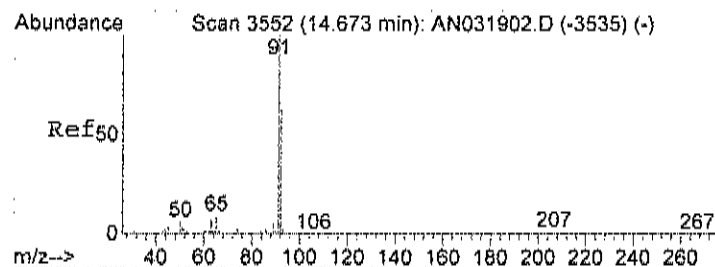


#39
Benzene
Concen: 0.14 ppb
RT: 11.37 min Scan# 2451
Delta R.T. 0.01 min
Lab File: AN031920.D
Acq: 19 Mar 2016 10:56 pm

Tgt Ion: 78 Resp: 14193
Ion Ratio Lower Upper
78 100
77 25.7 6.0 46.0
51 16.2 2.1 42.1

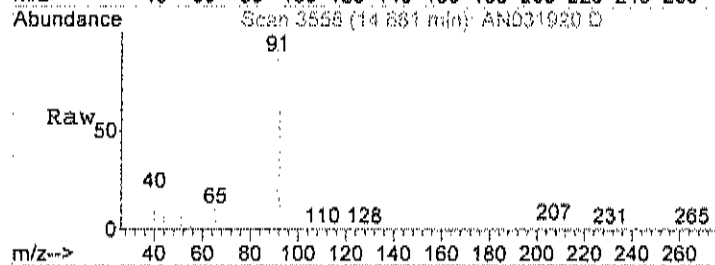
Abundance Ion 78.00 (77.70 to 78.70): ANI
Ion 77.00 (76.70 to 77.70): ANI
Ion 51.00 (50.70 to 51.70): ANI



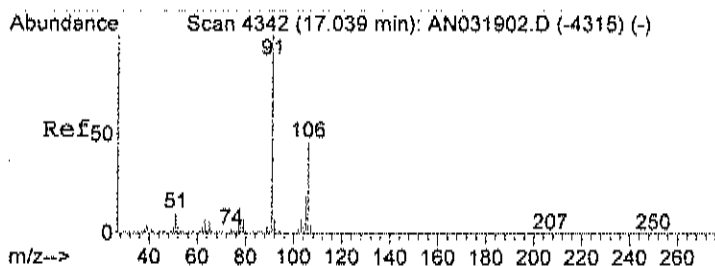
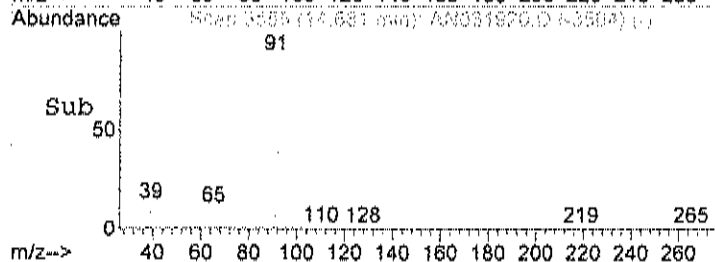
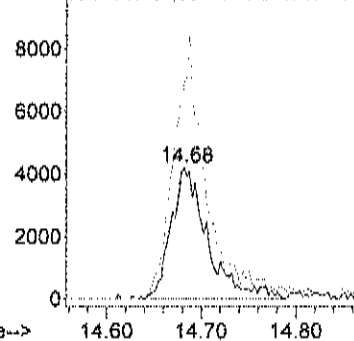


#51
Toluene
Concen: 0.19 ppb
RT: 14.68 min Scan# 3555
Delta R.T. 0.00 min
Lab File: AN031920.D
Acq: 19 Mar 2016 10:56 pm

Tgt Ion: 92 Resp: 11363
Ion Ratio Lower Upper
92 100
91 181.8 152.5 192.5

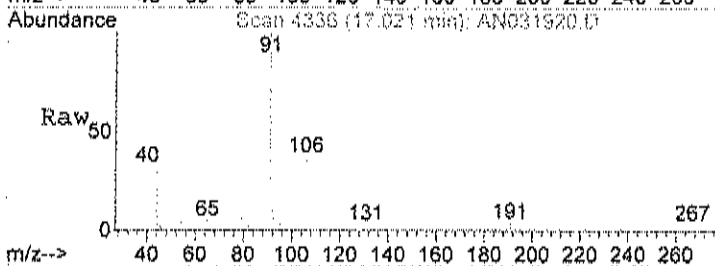


Abundance Ion 92.00 (91.70 to 92.70): ANI
Ion 91.00 (90.70 to 91.70): ANI

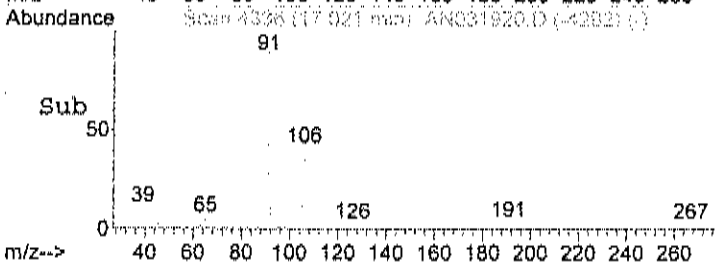
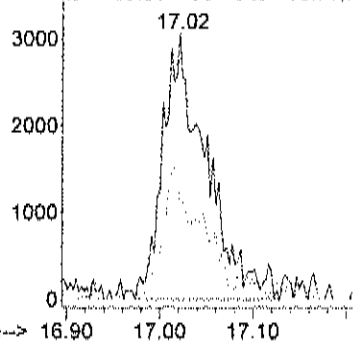


#60
m&p-xylene
Concen: 0.13 ppb
RT: 17.02 min Scan# 4336
Delta R.T. -0.02 min
Lab File: AN031920.D
Acq: 19 Mar 2016 10:56 pm

Tgt Ion: 91 Resp: 9951
Ion Ratio Lower Upper
91 100
106 46.5 25.3 65.3



Abundance Ion 91.00 (90.70 to 91.70): ANI
Ion 106.00 (105.70 to 106.70): ANI



GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

STANDARDS DATA

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

INITIAL CALIBRATION

Response Factor Report MSD #1

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Thu Mar 17 10:24:27 2016
 Response via : Initial Calibration

Calibration Files

0.04 =AN031612.D 0.10 =AN031611.D 0.15 =AN031610.D
 0.30 =AN031609.D 0.50 =AN031608.D 0.75 =AN031607.D

Compound	0.04	0.10	0.15	0.30	0.50	0.75	Avg	%RSD
1) I Bromochloromethane	-----ISTD-----							
2) T Propylene			1.131	0.916	0.800	0.787	0.810	18.47
3) T Freon 12			5.132	4.678	4.218	4.223	4.271	10.16
4) T Chloromethane			1.503	1.264	1.102	1.101	1.118	16.44
5) T Freon 114			4.240	3.932	3.598	3.582	3.598	9.49
6) T Vinyl Chloride	1.719	1.251	1.297	1.175	1.025	1.010	1.125	22.21
7) T Butane			1.907	1.462	1.217	1.136	1.285	21.70
8) T 1,3-butadiene			0.944	1.260	0.745	0.776	0.847	21.16
9) T Bromomethane			1.732	1.419	1.456	1.223	1.320	15.58
10) T Chloroethane			0.548	0.498	0.458	0.443	0.459	9.89
11) T Ethanol			0.466	0.454	0.339	0.316	0.341	22.51
12) T Acrolein			0.385	0.346	0.276	0.273	0.290	16.78
13) T Vinyl Bromide			1.654	1.410	1.249	1.246	1.298	12.66
14) T Freon 11			5.356	4.760	4.368	4.251	4.393	10.46
15) T Acetone			0.580	0.446	0.467	0.385	0.432	15.55
16) T Pentane			1.399	1.121	0.953	0.938	0.986	19.28
17) T Isopropyl alcoh			1.936	1.738	1.419	1.309	1.409	19.82
18) T 1,1-dichloroeth			1.544	1.424	1.271	1.223	1.283	10.49
19) T Freon 113			3.697	3.334	3.051	3.060	3.094	9.58
20) t t-Butyl alcohol			2.795	2.640	2.350	2.175	2.248	14.34
21) T Methylene chlor			1.287	1.198	1.152	1.112	1.124	7.74
22) T Allyl chloride			1.371	1.068	0.996	0.948	0.998	16.47
23) T Carbon disulfid			4.365	3.573	3.215	3.276	3.316	14.26
24) T trans-1,2-dichl			1.785	1.581	1.489	1.479	1.522	8.00
25) T methyl tert-but			3.237	3.087	2.752	2.784	2.881	6.44
26) T 1,1-dichloroeth			2.501	2.236	2.143	2.145	2.155	7.74
27) T Vinyl acetate			2.311	1.977	1.623	1.860	1.869	11.34
28) T Methyl Ethyl Ke			0.536	0.469	0.440	0.428	0.461	7.54
29) T cis-1,2-dichlor			1.213	1.318	1.253	1.234	1.250	3.55
30) T Hexane			1.377	1.268	1.247	1.266	1.308	3.87
31) T Ethyl acetate			2.162	1.967	1.682	1.682	1.784	10.28
32) T Chloroform			3.438	3.077	2.917	2.874	2.918	8.58
33) T Tetrahydrofuran			0.985	0.870	0.782	0.811	0.828	8.85
34) T 1,2-dichloroeth			1.826	1.794	1.645	1.604	1.641	7.17
35) I 1,4-difluorobenzene	-----ISTD-----							
36) T 1,1,1-trichloro			1.073	1.013	0.947	0.901	0.939	7.43
37) T Cyclohexane			0.412	0.377	0.375	0.379	0.387	3.38
38) T Carbon tetrachl	1.514	1.229	1.098	1.027	0.964	0.926	1.048	18.29
39) T Benzene			0.968	0.850	0.818	0.806	0.832	6.91
40) T Methyl methacry			0.347	0.270	0.242	0.278	0.271	12.09
41) T 1,4-dioxane			0.218	0.242	0.234	0.211	0.213	9.01
42) T 2,2,4-trimethyl			1.598	1.466	1.390	1.406	1.453	4.74
43) T Heptane			0.333	0.316	0.312	0.326	0.338	5.49
44) T Trichloroethene	0.593	0.476	0.419	0.397	0.392	0.393	0.425	15.21
45) T 1,2-dichloropro			0.331	0.323	0.307	0.291	0.300	6.07
46) T Bromodichlorome			0.858	0.765	0.731	0.702	0.734	7.46
47) T cis-1,3-dichlor			0.445	0.416	0.389	0.378	0.400	5.47
48) T trans-1,3-dichl			0.427	0.366	0.357	0.345	0.359	8.05
49) T 1,1,2-trichloro			0.395	0.345	0.323	0.317	0.329	8.71
50) I Chlorobenzene-d5	-----ISTD-----							
51) T Toluene			0.656	0.657	0.623	0.664	0.679	5.43

Response Factor Report MSD #1

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Thu Mar 17 10:24:27 2016
 Response via : Initial Calibration

Calibration Files

0.04 =AN031612.D 0.10 =AN031611.D 0.15 =AN031610.D
 0.30 =AN031609.D 0.50 =AN031608.D 0.75 =AN031607.D

Compound		0.04	0.10	0.15	0.30	0.50	0.75	Avg	%RSD
52) T	Methyl Isobutyl			1.257	1.227	1.174	1.227	1.201	5.80
53) T	Dibromochlorome			0.954	0.844	0.859	0.850	0.857	4.94
54) T	Methyl Butyl Ke			1.113	1.133	0.978	1.026	1.068	7.36
55) T	1,2-dibromoetha			1.023	0.886	0.837	0.798	0.845	9.38
56) T	Tetrachloroethy	0.981	0.712	0.625	0.622	0.586	0.599	0.648	19.03
57) T	Chlorobenzene			0.989	0.894	0.875	0.855	0.891	4.61
58) T	1,1,1,2-tetrach			0.688	0.700	0.664	0.649	0.666	3.94
59) T	Ethylbenzene			1.179	1.069	1.076	1.097	1.165	6.41
60) T	m&p-xylene			0.862	0.818	0.830	0.822	0.925	11.55
61) T	Nonane			0.537	0.452	0.455	0.474	0.552	16.56
62) T	Styrene			0.616	0.546	0.553	0.568	0.644	13.48
63) T	Bromoform			0.471	0.450	0.440	0.442	0.463	4.51
64) T	o-xylene			1.102	0.918	1.093	1.016	1.109	9.78
65) T	Cumene			1.528	1.180	1.102	1.083	1.299	13.89
66) S	Bromofluorobenz	0.602	0.608	0.592	0.601	0.592	0.614	0.643	9.58
67) T	1,1,2,2-tetrach			1.606	1.289	1.081	1.068	1.140	18.58
68) T	Propylbenzene			1.653	1.450	1.274	1.157	1.379	13.20
69) T	2-Chlorotoluene			1.115	0.938	0.930	0.834	1.004	10.36
70) T	4-ethyltoluene			1.437	1.277	1.046	1.000	1.183	12.64
71) T	1,3,5-trimethyl			1.760	1.512	1.301	1.240	1.416	11.59
72) T	1,2,4-trimethyl			1.647	1.374	1.172	1.119	1.224	15.92
73) T	1,3-dichloroben			0.958	0.839	0.718	0.663	0.778	11.85
74) T	benzyl chloride			1.256	1.055	1.074	1.101	1.110	8.22
75) T	1,4-dichloroben			0.854	0.804	0.638	0.633	0.733	11.05
76) T	1,2,3-trimethyl			1.944	1.737	1.429	1.376	1.510	14.35
77) T	1,2-dichloroben			1.394	1.099	0.940	0.846	0.954	21.55
78) T	1,2,4-trichloro			0.693	0.719	0.677	0.622	0.720	10.92
79) T	Naphthalene			1.699	1.607	1.503	1.407	1.494	11.86
80) T	Hexachloro-1,3-			1.959	1.831	1.660	1.766	1.754	7.91

Data File : C:\HPCHEM\1\DATA\AN031603.D

Vial: 2

Acq On : 16 Mar 2016 6:50 pm

Operator: RJP

Sample : A1UG_2.0

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 17 08:19:00 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 08:17:56 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.79	128	39696	1.00	ppb	-0.01
35) 1,4-difluorobenzene	12.05	114	119341	1.00	ppb	0.00
50) Chlorobenzene-d5	16.56	117	65204	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.13	95	48331	1.15	ppb	0.00
Spiked Amount	1.000	Range	70 ~ 130	Recovery	=	115.00%

Target Compounds

						Qvalue
2) Propylene	4.14	41	52720	1.77	ppb	# 100
3) Freon 12	4.19	85	300982	1.82	ppb	100
4) Chloromethane	4.39	50	75653	1.85	ppb	90
5) Freon 114	4.39	85	252561	1.79	ppb	99
6) Vinyl Chloride	4.58	62	71454	1.80	ppb	89
7) Butane	4.68	43	84007	1.71	ppb	95
8) 1,3-butadiene	4.69	39	60171	1.98	ppb	88
9) Bromomethane	5.03	94	88794	1.75	ppb	93
10) Chloroethane	5.20	64	31848	1.90	ppb	# 85
11) Ethanol	5.34	45	22162	1.89	ppb	# 66
12) Acrolein	5.93	56	19963m ¹¹	1.92	ppb	
13) Vinyl Bromide	5.54	106	90315	1.77	ppb	96
14) Freon 11	5.80	101	311834	1.84	ppb	99
15) Acetone	6.02	58	31506	2.05	ppb	# 82
16) Pentane	6.06	42	64025	1.75	ppb	99
17) Isopropyl alcohol	6.13	45	95378	1.89	ppb	# 46
18) 1,1-dichloroethene	6.56	96	90887	1.81	ppb	89
19) Freon 113	6.75	101	218149	1.79	ppb	96
20) t-Butyl alcohol	6.87	59	153022	1.79	ppb	# 73
21) Methylene chloride	7.04	84	81781	1.83	ppb	92
22) Allyl chloride	7.00	41	75821	2.00	ppb	88
23) Carbon disulfide	7.19	76	229469	1.81	ppb	97
24) trans-1,2-dichloroethene	7.97	61	109677	1.86	ppb	90
25) methyl tert-butyl ether	8.01	73	217092	1.92	ppb	96
26) 1,1-dichloroethane	8.39	63	155890	1.83	ppb	99
27) Vinyl acetate	8.41	43	139082	1.80	ppb	99
28) Methyl Ethyl Ketone	8.92	72	35109	1.95	ppb	# 100
29) cis-1,2-dichloroethene	9.33	61	95640	1.86	ppb	93
30) Hexane	8.90	57	103745	1.97	ppb	96
31) Ethyl acetate	9.51	43	132681	1.93	ppb	96
32) Chloroform	9.94	83	209422	1.84	ppb	98
33) Tetrahydrofuran	10.15	42	59093	1.80	ppb	85
34) 1,2-dichloroethane	11.07	62	118759	1.86	ppb	87
36) 1,1,1-trichloroethane	10.75	97	211952	1.92	ppb	100
37) Cyclohexane	11.44	56	95560	2.08	ppb	90
38) Carbon tetrachloride	11.39	117	221613	1.95	ppb	97
39) Benzene	11.36	78	193181	1.98	ppb	98
40) Methyl methacrylate	12.91	41	62212	1.99	ppb	# 80
41) 1,4-dioxane	12.99	88	48143	1.87	ppb	97
42) 2,2,4-trimethylpentane	12.18	57	351781	2.00	ppb	98
43) Heptane	12.53	43	86114	2.04	ppb	88
44) Trichloroethene	12.67	130	95479	2.05	ppb	99
45) 1,2-dichloropropane	12.79	63	67226	1.91	ppb	98

(#)=qualifier out of range (m)=manual integration

AN031603.D A316_1UG.M

Thu Apr 07 13:05:28 2016

MSD1

Page 1

Data File : C:\HPCHEM\1\DATA\AN031603.D

Vial: 2

Acq On : 16 Mar 2016 6:50 pm

Operator: RJP

Sample : A1UG_2.0

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 17 08:19:00 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

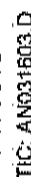
Last Update : Thu Mar 17 08:17:56 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D

DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.11	83	168164	1.95	ppb	99
47) cis-1,3-dichloropropene	13.89	75	96193	2.09	ppb	100
48) trans-1,3-dichloropropene	14.62	75	81400	1.94	ppb	92
49) 1,1,2-trichloroethane	14.93	97	73046	1.93	ppb	98
51) Toluene	14.67	92	95859	2.10	ppb	98
52) Methyl Isobutyl Ketone	13.82	43	161205	1.95	ppb	98
53) Dibromochloromethane	15.60	129	111719m	1.98	ppb	
54) Methyl Butyl Ketone	15.11	43	145361	1.95	ppb	97
55) 1,2-dibromoethane	15.85	107	103573	1.91	ppb	97
56) Tetrachloroethylene	15.66	164	77730	1.98	ppb	98
57) Chlorobenzene	16.61	112	114609	2.01	ppb	89
58) 1,1,1,2-tetrachloroethane	16.71	131	83929	1.85	ppb	98
59) Ethylbenzene	16.85	91	163580	2.13	ppb	98
60) m&p-xylene	17.04	91	279419	4.64	ppb	97
61) Nonane	17.38	43	90950	2.59	ppb	98
62) Styrene	17.46	104	100790	2.36	ppb	89
63) Bromoform	17.58	173	63866	2.18	ppb	97
64) o-xylene	17.48	91	162873	2.39	ppb	95
65) Cumene	18.01	105	197775	2.53	ppb	99
67) 1,1,2,2-tetrachloroethane	17.92	83	129149	1.85	ppb	99
68) Propylbenzene	18.53	91	209599m	2.74	ppb	
69) 2-Chlorotoluene	18.58	91	145425m	2.28	ppb	
70) 4-ethyltoluene	18.70	105	165888m	2.44	ppb	
71) 1,3,5-trimethylbenzene	18.75	105	184877m	2.18	ppb	
72) 1,2,4-trimethylbenzene	19.19	105	147804	2.03	ppb	98
73) 1,3-dichlorobenzene	19.49	146	99804	2.01	ppb	98
74) benzyl chloride	19.56	91	137885	2.04	ppb	97
75) 1,4-dichlorobenzene	19.61	146	97347	2.06	ppb	98
76) 1,2,3-trimethylbenzene	19.65	105	180121	1.88	ppb	98
77) 1,2-dichlorobenzene	19.93	146	104274	1.75	ppb	97
78) 1,2,4-trichlorobenzene	21.78	180	115972	2.52	ppb	96
79) Naphthalene	21.98	128	221487m	2.55	ppb	
80) Hexachloro-1,3-butadiene	22.06	225	218825	1.78	ppb	95

TIC: AN031503.D



Data File : C:\HPCHEM\1\DATA\AN031604.D

Vial: 3

Acq On : 16 Mar 2016 7:30 pm

Operator: RJP

Sample : A1UG_1.50

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 17 08:18:42 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 08:17:56 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.80	128	37388	1.00	ppb	-0.01
35) 1,4-difluorobenzene	12.06	114	125097	1.00	ppb	0.00
50) Chlorobenzene-d5	16.56	117	71425	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.13	95	48889	1.06	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	106.00%

Target Compounds

						Qvalue
2) Propylene	4.13	41	41028	1.46	ppb	# 100
3) Freon 12	4.19	85	229102	1.47	ppb	99
4) Chloromethane	4.39	50	56920	1.48	ppb	93
5) Freon 114	4.39	85	192137	1.45	ppb	100
6) Vinyl Chloride	4.58	62	53313	1.42	ppb	92
7) Butane	4.68	43	62790	1.36	ppb	97
8) 1,3-butadiene	4.69	39	42193	1.48	ppb	82
9) Bromomethane	5.03	94	66997	1.40	ppb	93
10) Chloroethane	5.20	64	24605	1.56	ppb	88
11) Ethanol	5.35	45	15188	1.37	ppb	# 66
12) Acrolein	5.94	56	14959m	1.53	ppb	
13) Vinyl Bromide	5.54	106	68982	1.43	ppb	98
14) Freon 11	5.80	101	235962	1.48	ppb	99
15) Acetone	6.03	58	22358m	1.54	ppb	
16) Pentane	6.07	42	50174	1.45	ppb	88
17) Isopropyl alcohol	6.14	45	68376	1.44	ppb	# 46
18) 1,1-dichloroethene	6.56	96	68884	1.45	ppb	# 89
19) Freon 113	6.75	101	165966	1.44	ppb	97
20) t-Butyl alcohol	6.88	59	113330	1.41	ppb	# 75
21) Methylene chloride	7.04	84	58969m	1.40	ppb	
22) Allyl chloride	7.01	41	49125m	1.38	ppb	
23) Carbon disulfide	7.19	76	165861	1.39	ppb	99
24) trans-1,2-dichloroethene	7.97	61	85565	1.54	ppb	91
25) methyl tert-butyl ether	8.02	73	162235	1.52	ppb	95
26) 1,1-dichloroethane	8.39	63	120712	1.50	ppb	98
27) Vinyl acetate	8.41	43	105982	1.46	ppb	97
28) Methyl Ethyl Ketone	8.92	72	26847	1.58	ppb	# 100
29) cis-1,2-dichloroethene	9.34	61	72635	1.50	ppb	92
30) Hexane	8.90	57	77717	1.57	ppb	97
31) Ethyl acetate	9.52	43	98475	1.52	ppb	# 82
32) Chloroform	9.94	83	161422	1.50	ppb	99
33) Tetrahydrofuran	10.15	42	46658	1.51	ppb	91
34) 1,2-dichloroethane	11.08	62	92764	1.54	ppb	89
36) 1,1,1-trichloroethane	10.75	97	164249	1.42	ppb	98
37) Cyclohexane	11.44	56	70836	1.47	ppb	87
38) Carbon tetrachloride	11.38	117	171139	1.44	ppb	97
39) Benzene	11.37	78	149554	1.46	ppb	99
40) Methyl methacrylate	12.91	41	47301	1.45	ppb	# 83
41) 1,4-dioxane	12.99	88	34749	1.29	ppb	97
42) 2,2,4-trimethylpentane	12.18	57	259886	1.41	ppb	98
43) Heptane	12.53	43	66410	1.50	ppb	89
44) Trichloroethene	12.68	130	73890	1.51	ppb	98
45) 1,2-dichloropropane	12.79	63	53981	1.46	ppb	99

(#)= qualifier out of range (m) = manual integration

AN031604.D A316_1UG.M

Thu Apr 07 13:05:32 2016

MSD1

Page 1

Data File : C:\HPCHEM\1\DATA\AN031604.D

Vial: 3

Acq On : 16 Mar 2016 7:30 pm

Operator: RJP

Sample : A1UG_1.50

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 17 08:18:42 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 08:17:56 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D

DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.11	83	131443	1.45	ppb	98
47) cis-1,3-dichloropropene	13.89	75	73577	1.52	ppb	98
48) trans-1,3-dichloropropene	14.63	75	63904	1.46	ppb	93
49) 1,1,2-trichloroethane	14.93	97	60215	1.52	ppb	99
51) Toluene	14.67	92	76620	1.53	ppb	96
52) Methyl Isobutyl Ketone	13.83	43	112630	1.24	ppb	97
53) Dibromochloromethane	15.60	129	89145m	1.44	ppb	
54) Methyl Butyl Ketone	15.11	43	100523	1.23	ppb	96
55) 1,2-dibromoethane	15.85	107	84426	1.42	ppb	98
56) Tetrachloroethylene	15.65	164	62278	1.45	ppb	98
57) Chlorobenzene	16.61	112	93584	1.50	ppb	91
58) 1,1,1,2-tetrachloroethane	16.70	131	67746	1.37	ppb	98
59) Ethylbenzene	16.85	91	131064	1.56	ppb	97
60) m&p-xylene	17.04	91	219605	3.33	ppb	97
61) Nonane	17.38	43	67119	1.74	ppb	99
62) Styrene	17.46	104	75304	1.61	ppb	91
63) Bromoform	17.59	173	49198	1.53	ppb	100
64) o-xylene	17.48	91	129975	1.74	ppb	95
65) Cumene	18.02	105	143847	1.68	ppb	99
67) 1,1,2,2-tetrachloroethane	17.92	83	102893	1.35	ppb	99
68) Propylbenzene	18.54	91	146044m	1.74	ppb	
69) 2-Chlorotoluene	18.58	91	109401m	1.57	ppb	
70) 4-ethyltoluene	18.70	105	121465m	1.63	ppb	
71) 1,3,5-trimethylbenzene	18.75	105	142483m	1.53	ppb	
72) 1,2,4-trimethylbenzene	19.19	105	113063	1.42	ppb	95
73) 1,3-dichlorobenzene	19.48	146	75726	1.39	ppb	98
74) benzyl chloride	19.56	91	105994	1.43	ppb	97
75) 1,4-dichlorobenzene	19.62	146	71922	1.39	ppb	99
76) 1,2,3-trimethylbenzene	19.65	105	141118	1.34	ppb	97
77) 1,2-dichlorobenzene	19.93	146	81574	1.25	ppb	98
78) 1,2,4-trichlorobenzene	21.79	180	77042	1.53	ppb	96
79) Naphthalene	21.98	128	162805	1.71	ppb	98
80) Hexachloro-1,3-butadiene	22.06	225	164815	1.22	ppb	95

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN031604.D A316_1UG.M Thu Apr 07 13:05:33 2016 MSD1

Data File : C:\HPCHEM\1\DATA\AN031604.D
Acq On : 16 Mar 2016 7:30 pm
Sample : AUG 1.50
Misc : A316_IUG
MMS Integration Params: RTEINT.P
Quant Time: Mar 17 9:53 2016

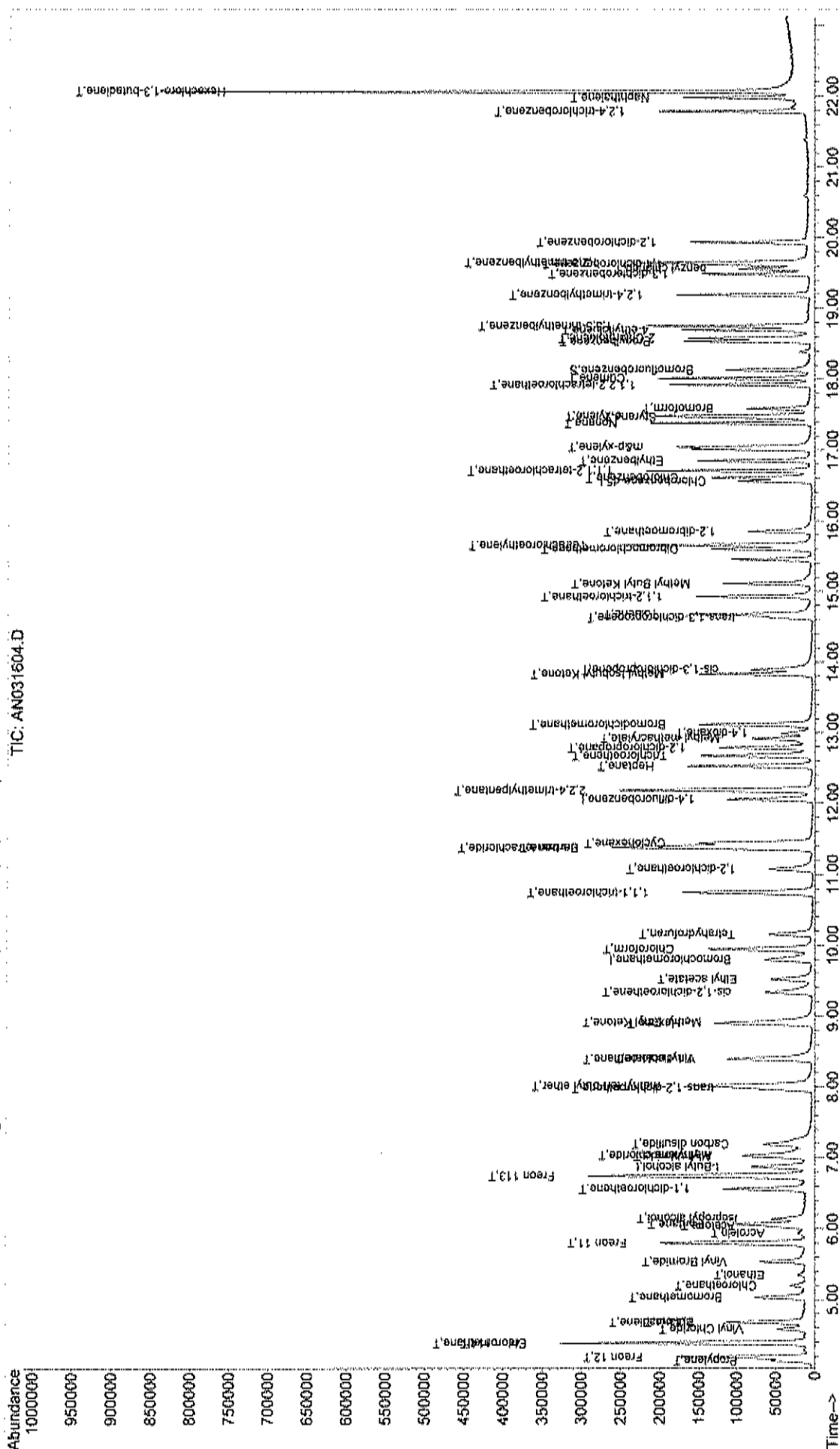
Vial: 3
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A316 IUG.RES

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Method      : C:\HPCHEM\1\METHODS\A316_IUG.M (RTE Integrator)
Title       : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Mar 17 10:24:27 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D

```



AN031604.D	A316 IUG.M	Thu Apr 07 13:05:34 2016	MSD1

Data File : C:\HPCHEM\1\DATA\AN031605.D

Vial: 4

Acq On : 16 Mar 2016 8:10 pm

Operator: RJP

Sample : A1UG_1.25

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 17 08:18:24 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 08:17:56 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.80	128	38435	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.06	114	118006	1.00	ppb	0.00
50) Chlorobenzene-d5	16.56	117	66689	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.13	95	50183	1.17	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	117.00%

Target Compounds

						Qvalue
2) Propylene	4.14	41	34125	1.18	ppb	# 100
3) Freon 12	4.19	85	188632	1.18	ppb	99
4) Chloromethane	4.39	50	46990	1.19	ppb	94
5) Freon 114	4.39	85	159182	1.17	ppb	99
6) Vinyl Chloride	4.58	62	44524	1.16	ppb	93
7) Butane	4.68	43	55448	1.16	ppb	94
8) 1,3-butadiene	4.69	39	36591	1.24	ppb	84
9) Bromomethane	5.04	94	55311	1.13	ppb	91
10) Chloroethane	5.20	64	20643	1.27	ppb	# 85
11) Ethanol	5.36	45	13696	1.20	ppb	# 74
12) Acrolein	5.94	56	12410m	1.24	ppb	
13) Vinyl Bromide	5.54	106	56822	1.15	ppb	95
14) Freon 11	5.80	101	194667	1.19	ppb	99
15) Acetone	6.03	58	18687m	1.25	ppb	
16) Pentane	6.07	42	41343m	1.16	ppb	
17) Isopropyl alcohol	6.15	45	57073	1.17	ppb	# 46
18) 1,1-dichloroethene	6.56	96	56328	1.16	ppb	89
19) Freon 113	6.75	101	137846	1.17	ppb	96
20) t-Butyl alcohol	6.88	59	93562	1.13	ppb	93
21) Methylene chloride	7.04	84	50280m	1.16	ppb	
22) Allyl chloride	7.01	41	41687m	1.14	ppb	
23) Carbon disulfide	7.20	76	148023	1.20	ppb	97
24) trans-1,2-dichloroethene	7.97	61	68887	1.21	ppb	94
25) methyl tert-butyl ether	8.03	73	131518	1.20	ppb	94
26) 1,1-dichloroethane	8.39	63	95089	1.15	ppb	97
27) Vinyl acetate	8.41	43	89018m	1.19	ppb	
28) Methyl Ethyl Ketone	8.94	72	21142	1.21	ppb	# 100
29) cis-1,2-dichloroethene	9.34	61	57658	1.16	ppb	90
30) Hexane	8.89	57	62689	1.23	ppb	97
31) Ethyl acetate	9.52	43	78814	1.18	ppb	95
32) Chloroform	9.94	83	128907	1.17	ppb	98
33) Tetrahydrofuran	10.15	42	37821	1.19	ppb	89
34) 1,2-dichloroethane	11.07	62	73032	1.18	ppb	89
36) 1,1,1-trichloroethane	10.75	97	131367	1.20	ppb	99
37) Cyclohexane	11.44	56	57547	1.27	ppb	90
38) Carbon tetrachloride	11.39	117	137163	1.22	ppb	99
39) Benzene	11.37	78	116970	1.21	ppb	99
40) Methyl methacrylate	12.92	41	37863	1.23	ppb	# 83
41) 1,4-dioxane	13.00	88	28574	1.12	ppb	100
42) 2,2,4-trimethylpentane	12.19	57	211404	1.21	ppb	98
43) Heptane	12.53	43	50947	1.22	ppb	92
44) Trichloroethene	12.67	130	57922	1.26	ppb	99
45) 1,2-dichloropropane	12.78	63	41974	1.20	ppb	100

(#)=qualifier out of range (m)=manual integration

AN031605.D A316_1UG.M

Thu Apr 07 13:05:36 2016

MSD1

Page 1

Data File : C:\HPCHEM\1\DATA\AN031605.D

Vial: 4

Acq On : 16 Mar 2016 8:10 pm

Operator: RJP

Sample : A1UG_1.25

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 17 08:18:24 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 08:17:56 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D

DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.11	83	102348	1.20	ppb	99
47) cis-1,3-dichloropropene	13.90	75	57578	1.26	ppb	99
48) trans-1,3-dichloropropene	14.63	75	51108	1.23	ppb	92
49) 1,1,2-trichloroethane	14.93	97	46126	1.24	ppb	95
51) Toluene	14.68	92	56126	1.20	ppb	96
52) Methyl Isobutyl Ketone	13.83	43	97491m	1.15	ppb	
53) Dibromochloromethane	15.60	129	67490m	1.17	ppb	
54) Methyl Butyl Ketone	15.11	43	90049m	1.18	ppb	
55) 1,2-dibromoethane	15.85	107	66367	1.20	ppb	97
56) Tetrachloroethylene	15.66	164	47939	1.19	ppb	100
57) Chlorobenzene	16.61	112	73949	1.27	ppb	85
58) 1,1,1,2-tetrachloroethane	16.71	131	54587	1.18	ppb	95
59) Ethylbenzene	16.85	91	103191	1.32	ppb	98
60) m&p-xylene	17.04	91	173419	2.81	ppb	97
61) Nonane	17.38	43	52439	1.46	ppb	98
62) Styrene	17.46	104	61068	1.40	ppb	92
63) Bromoform	17.58	173	41297	1.38	ppb	99
64) o-xylene	17.48	91	99047m	1.42	ppb	
65) Cumene	18.01	105	119471	1.49	ppb	98
67) 1,1,2,2-tetrachloroethane	17.92	83	87757	1.23	ppb	98
68) Propylbenzene	18.54	91	112193m	1.43	ppb	
69) 2-Chlorotoluene	18.58	91	92322m	1.42	ppb	
70) 4-ethyltoluene	18.70	105	103814m	1.50	ppb	
71) 1,3,5-trimethylbenzene	18.75	105	120410m	1.39	ppb	
72) 1,2,4-trimethylbenzene	19.19	105	96928	1.30	ppb	96
73) 1,3-dichlorobenzene	19.49	146	67647	1.33	ppb	99
74) benzyl chloride	19.56	91	93016	1.34	ppb	94
75) 1,4-dichlorobenzene	19.62	146	65798	1.36	ppb	95
76) 1,2,3-trimethylbenzene	19.65	105	117860	1.20	ppb	95
77) 1,2-dichlorobenzene	19.93	146	72700	1.20	ppb	96
78) 1,2,4-trichlorobenzene	21.78	180	62909	1.34	ppb	96
79) Naphthalene	21.98	128	100472m	1.13	ppb	
80) Hexachloro-1,3-butadiene	22.06	225	141195	1.12	ppb	95

MANUSCRIPT REPORT (NOT REVIEWED)

Data File : C:\HPCHEM\1\DATA\AN031605.D
Acq On : 16 Mar 2016 8:10 pm
Sample : A1UG 1.25
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 17 9:55 2016

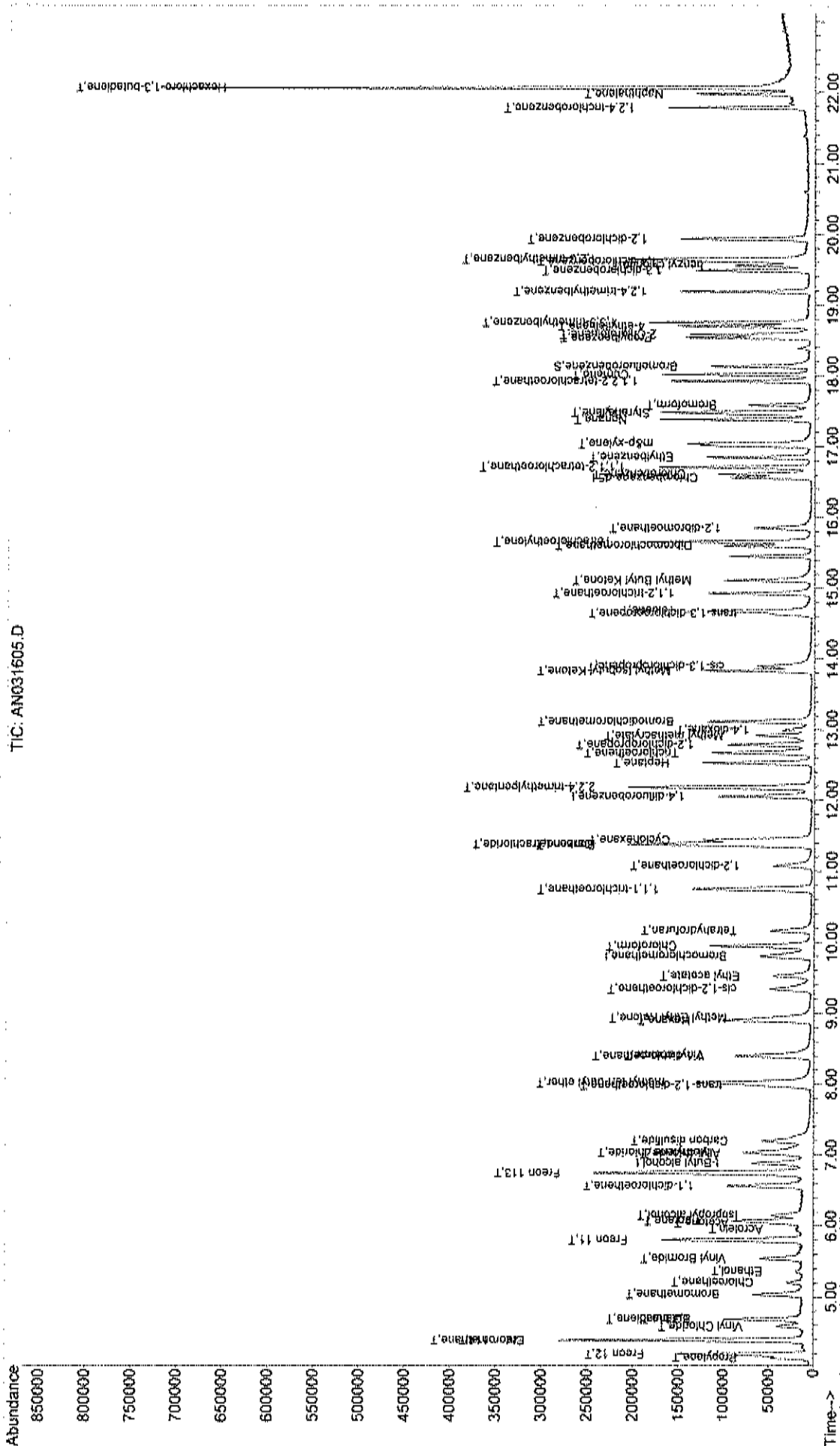
Vial: 4
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A316 1UG.RES

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Method      : C:\HPCHEM\1\METHODS\A316_1UG.M {RTE Integrator)
Title       : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Mar 17 10:24:27 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.

```

Abundance



AN031605.D A316 IUG.M Thu Apr 07 13:05:38 2016

MSD1

Data File : C:\HPCHEM\1\DATA\AN031606.D

Vial: 5

Acq On : 16 Mar 2016 8:49 pm

Operator: RJP

Sample : A1UG_1.0

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 17 08:18:03 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 08:17:56 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.81	128	36682	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.06	114	112843	1.00	ppb	0.00
50) Chlorobenzene-d5	16.56	117	61333	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.14	95	39738	1.01	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	101.00%

Target Compounds

						Qvalue
2) Propylene	4.14	41	27277	0.99	ppb	# 100
3) Freon 12	4.19	85	151027	0.99	ppb	99
4) Chloromethane	4.39	50	37602	1.00	ppb	94
5) Freon 114	4.39	85	128823	0.99	ppb	100
6) Vinyl Chloride	4.58	62	36447	0.99	ppb	88
7) Butane	4.68	43	44989	0.99	ppb	96
8) 1,3-butadiene	4.69	39	28499	1.02	ppb	81
9) Bromomethane	5.03	94	46282	0.99	ppb	95
10) Chloroethane	5.21	64	16583	1.07	ppb	100
11) Ethanol	5.36	45	11746	1.08	ppb	# 74
12) Acrolein	5.95	56	9571m	1.00	ppb	
13) Vinyl Bromide	5.54	106	46664	0.99	ppb	96
14) Freon 11	5.80	101	154925	0.99	ppb	98
15) Acetone	6.04	58	14328m	1.01	ppb	
16) Pentane	6.07	42	33653	0.99	ppb	94
17) Isopropyl alcohol	6.15	45	46253	0.99	ppb	# 46
18) 1,1-dichloroethene	6.56	96	46032	0.99	ppb	# 88
19) Freon 113	6.74	101	111420	0.99	ppb	96
20) t-Butyl alcohol	6.88	59	78078	0.99	ppb	# 77
21) Methylene chloride	7.04	84	40970	0.99	ppb	97
22) Allyl chloride	7.02	41	33103m	0.95	ppb	
23) Carbon disulfide	7.20	76	116250	0.99	ppb	96
24) trans-1,2-dichloroethene	7.99	61	54958	1.01	ppb	94
25) methyl tert-butyl ether	8.03	73	103598	0.99	ppb	93
26) 1,1-dichloroethane	8.40	63	77856	0.99	ppb	99
27) Vinyl acetate	8.43	43	61972	0.87	ppb	96
28) Methyl Ethyl Ketone	8.94	72	16500	0.99	ppb	# 100
29) cis-1,2-dichloroethene	9.35	61	46977	0.99	ppb	92
30) Hexane	8.90	57	48164	0.99	ppb	94
31) Ethyl acetate	9.52	43	62899	0.99	ppb	94
32) Chloroform	9.94	83	104226	0.99	ppb	98
33) Tetrahydrofuran	10.15	42	29839	0.99	ppb	89
34) 1,2-dichloroethane	11.09	62	58404	0.99	ppb	89
36) 1,1,1-trichloroethane	10.75	97	104507	1.00	ppb	97
37) Cyclohexane	11.45	56	43452	1.00	ppb	89
38) Carbon tetrachloride	11.39	117	107492	1.00	ppb	98
39) Benzene	11.36	78	91969	1.00	ppb	98
40) Methyl methacrylate	12.91	41	29340	0.99	ppb	# 83
41) 1,4-dioxane	13.00	88	24261	1.00	ppb	100
42) 2,2,4-trimethylpentane	12.18	57	166364	1.00	ppb	99
43) Heptane	12.53	43	39883	1.00	ppb	93
44) Trichloroethene	12.67	130	44026	1.00	ppb	97
45) 1,2-dichloropropane	12.79	63	33334	1.00	ppb	99

(#)=qualifier out of range (m)=manual integration

AN031606.D A316_1UG.M

Thu Apr 07 13:05:40 2016

MSD1

Page 1

Data File : C:\HPCHEM\1\DATA\AN031606.D

Vial: 5

Acq On : 16 Mar 2016 8:49 pm

Operator: RJP

Sample : A1UG_1.0

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 17 08:18:03 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 08:17:56 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D

DataAcq Meth : 1UG_RUN

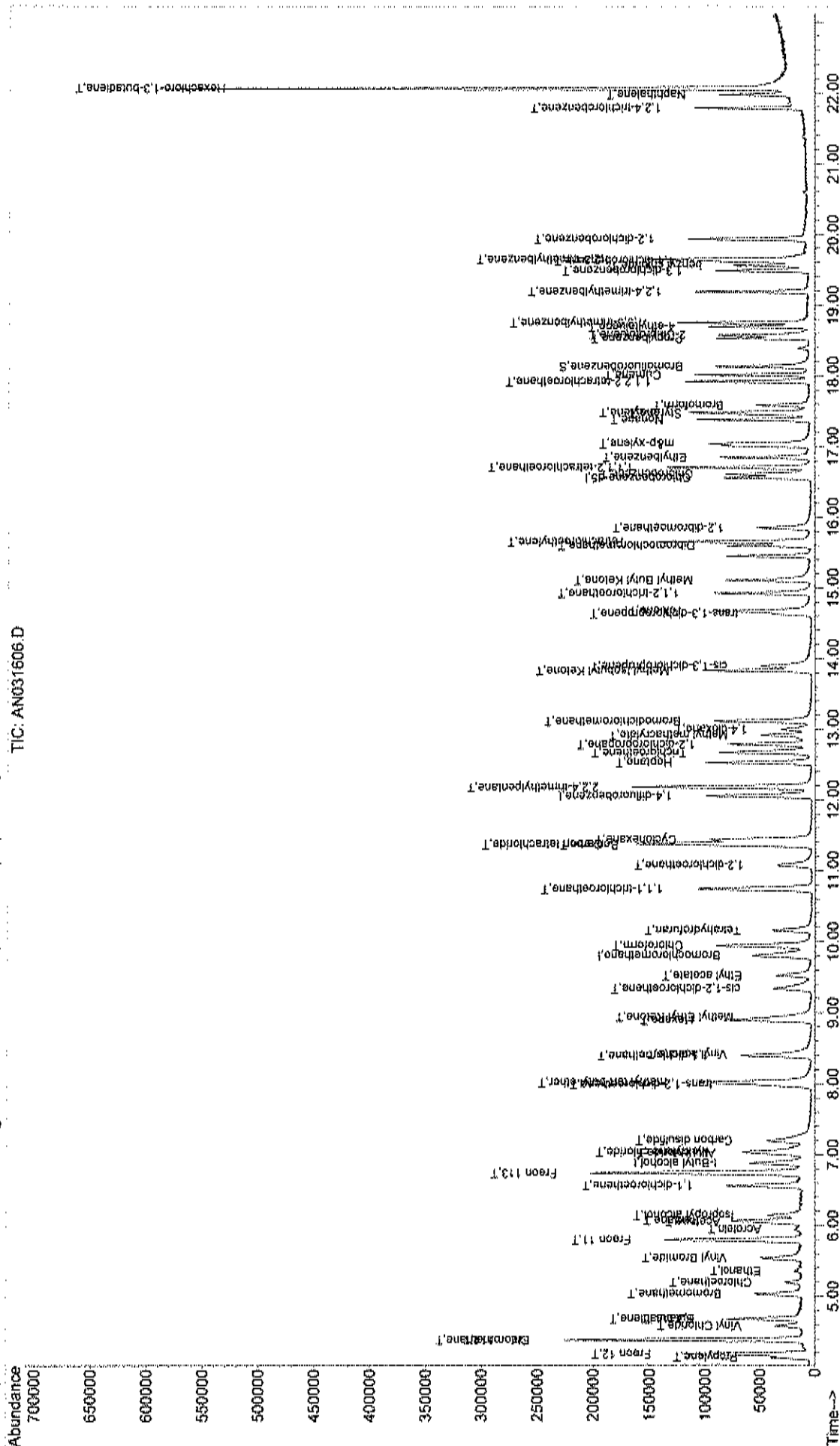
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.12	83	81385	1.00	ppb	99
47) cis-1,3-dichloropropene	13.90	75	43288	0.99	ppb	98
48) trans-1,3-dichloropropene	14.63	75	39100	0.99	ppb	92
49) 1,1,2-trichloroethane	14.93	97	35639	1.00	ppb	97
51) Toluene	14.68	92	43216	1.01	ppb	99
52) Methyl Isobutyl Ketone	13.83	43	77557	1.00	ppb	97
53) Dibromochloromethane	15.60	129	52061m	0.98	ppb	
54) Methyl Butyl Ketone	15.11	43	70973	1.01	ppb	97
55) 1,2-dibromoethane	15.86	107	51366	1.01	ppb	95
56) Tetrachloroethylene	15.66	164	37193	1.01	ppb	98
57) Chlorobenzene	16.61	112	53911	1.01	ppb	89
58) 1,1,1,2-tetrachloroethane	16.70	131	42883	1.01	ppb	95
59) Ethylbenzene	16.85	91	72637	1.01	ppb	98
60) m&p-xylene	17.04	91	114219	2.02	ppb	94
61) Nonane	17.38	43	33317	1.01	ppb	98
62) Styrene	17.46	104	40542	1.01	ppb	90
63) Bromoform	17.58	173	27823	1.01	ppb	99
64) o-xylene	17.48	91	66836	1.04	ppb	91
65) Cumene	18.02	105	74125	1.01	ppb	99
67) 1,1,2,2-tetrachloroethane	17.92	83	65967	1.01	ppb	99
68) Propylbenzene	18.53	91	72561m	1.01	ppb	
69) 2-Chlorotoluene	18.58	91	59363m	0.99	ppb	
70) 4-ethyltoluene	18.70	105	64669m	1.01	ppb	
71) 1,3,5-trimethylbenzene	18.75	105	81111m	1.01	ppb	
72) 1,2,4-trimethylbenzene	19.19	105	68998	1.01	ppb	98
73) 1,3-dichlorobenzene	19.48	146	46992	1.01	ppb	99
74) benzyl chloride	19.56	91	75652	1.19	ppb	97
75) 1,4-dichlorobenzene	19.61	146	44723	1.01	ppb	98
76) 1,2,3-trimethylbenzene	19.65	105	90793	1.01	ppb	96
77) 1,2-dichlorobenzene	19.93	146	56239	1.01	ppb	97
78) 1,2,4-trichlorobenzene	21.78	180	42066	0.97	ppb	95
79) Naphthalene	21.98	128	80682	0.99	ppb	97
80) Hexachloro-1,3-butadiene	22.06	225	116697	1.01	ppb	95

Data File : C:\HPCHEM\1\DATA\AN031606.D
Acq On : 16 Mar 2016 8:49 pm
Sample : A1UG_1.0
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 17 10:12 2016

Vial: 5
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Mar 17 10:24:27 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D

TIC: AN031606.D



Data File : C:\HPCHEM\1\DATA\AN031607.D

Vial: 6

Acq On : 16 Mar 2016 9:27 pm

Operator: RJP

Sample : A1UG_0.75

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 17 08:19:18 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 08:17:56 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.81	128	36429	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.06	114	115405	1.00	ppb	0.00
50) Chlorobenzene-d5	16.56	117	64493	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.13	95	39593	0.95	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	95.00%

Target Compounds

						Qvalue
2) Propylene	4.13	41	21494	0.78	ppb	# 100
3) Freon 12	4.19	85	115393	0.76	ppb	100
4) Chloromethane	4.39	50	30086	0.80	ppb	92
5) Freon 114	4.39	85	97880	0.76	ppb	98
6) Vinyl Chloride	4.58	62	27592	0.76	ppb	91
7) Butane	4.68	43	31050	0.69	ppb	96
8) 1,3-butadiene	4.69	39	21193	0.76	ppb	81
9) Bromomethane	5.04	94	33415	0.72	ppb	90
10) Chloroethane	5.21	64	12103	0.79	ppb	100
11) Ethanol	5.36	45	8634	0.80	ppb	# 72
12) Acrolein	5.97	56	7453m	0.78	ppb	
13) Vinyl Bromide	5.55	106	34036	0.73	ppb	96
14) Freon 11	5.81	101	116153	0.75	ppb	98
15) Acetone	6.05	58	10532m	0.75	ppb	
16) Pentane	6.07	42	25618	0.76	ppb	95
17) Isopropyl alcohol	6.16	45	35764	0.77	ppb	# 46
18) 1,1-dichloroethene	6.57	96	33426	0.72	ppb	89
19) Freon 113	6.74	101	83596	0.75	ppb	97
20) t-Butyl alcohol	6.90	59	59423	0.76	ppb	# 75
21) Methylene chloride	7.04	84	30390	0.74	ppb	89
22) Allyl chloride	7.02	41	25889	0.75	ppb	86
23) Carbon disulfide	7.20	76	89515	0.77	ppb	99
24) trans-1,2-dichloroethene	8.00	61	40410	0.75	ppb	91
25) methyl tert-butyl ether	8.03	73	76069	0.73	ppb	93
26) 1,1-dichloroethane	8.39	63	58606	0.75	ppb	100
27) Vinyl acetate	8.43	43	50830m	0.72	ppb	
28) Methyl Ethyl Ketone	8.95	72	11701	0.71	ppb	# 100
29) cis-1,2-dichloroethene	9.34	61	33727	0.72	ppb	91
30) Hexane	8.90	57	34580	0.72	ppb	97
31) Ethyl acetate	9.53	43	45964	0.73	ppb	# 81
32) Chloroform	9.95	83	78527	0.75	ppb	98
33) Tetrahydrofuran	10.17	42	22163	0.74	ppb	92
34) 1,2-dichloroethane	11.09	62	43826	0.75	ppb	90
36) 1,1,1-trichloroethane	10.75	97	77993	0.73	ppb	98
37) Cyclohexane	11.44	56	32831	0.74	ppb	90
38) Carbon tetrachloride	11.39	117	80127	0.73	ppb	97
39) Benzene	11.37	78	69790	0.74	ppb	98
40) Methyl methacrylate	12.92	41	24037m	0.80	ppb	
41) 1,4-dioxane	13.00	88	18280	0.74	ppb	99
42) 2,2,4-trimethylpentane	12.18	57	121655	0.71	ppb	99
43) Heptane	12.53	43	28219	0.69	ppb	91
44) Trichloroethene	12.68	130	34027	0.75	ppb	99
45) 1,2-dichloropropane	12.79	63	25201	0.74	ppb	98

(#)=qualifier out of range (m)=manual integration

AN031607.D A316_1UG.M

Thu Apr 07 13:05:44 2016

MSD1

Page 1

Data File : C:\HPCHEM\1\DATA\AN031607.D

Vial: 6

Acq On : 16 Mar 2016 9:27 pm

Operator: RJP

Sample : A1UG_0.75

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 17 08:19:18 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 08:17:56 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D

DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.12	83	60775	0.73	ppb	100
47) cis-1,3-dichloropropene	13.90	75	32684	0.73	ppb	96
48) trans-1,3-dichloropropene	14.63	75	29863	0.74	ppb	90
49) 1,1,2-trichloroethane	14.93	97	27436	0.75	ppb	96
51) Toluene	14.68	92	32126	0.71	ppb	98
52) Methyl Isobutyl Ketone	13.83	43	59370	0.73	ppb	99
53) Dibromochloromethane	15.60	129	41112m	0.74	ppb	
54) Methyl Butyl Ketone	15.11	43	49642	0.67	ppb	96
55) 1,2-dibromoethane	15.85	107	38588	0.72	ppb	96
56) Tetrachloroethylene	15.65	164	28969	0.75	ppb	97
57) Chlorobenzene	16.61	112	41332	0.73	ppb	90
58) 1,1,1,2-tetrachloroethane	16.71	131	31396	0.70	ppb	95
59) Ethylbenzene	16.85	91	53041	0.70	ppb	99
60) m&p-xylene	17.04	91	79500	1.33	ppb	92
61) Nonane	17.38	43	22932	0.66	ppb	95
62) Styrene	17.46	104	27462	0.65	ppb	91
63) Bromoform	17.58	173	21394	0.74	ppb	99
64) o-xylene	17.49	91	49158	0.73	ppb	95
65) Cumene	18.02	105	52361	0.68	ppb	100
67) 1,1,2,2-tetrachloroethane	17.92	83	51665	0.75	ppb	98
68) Propylbenzene	18.54	91	55960m	0.74	ppb	
69) 2-Chlorotoluene	18.58	91	40331m	0.64	ppb	
70) 4-ethyltoluene	18.70	105	48368m	0.72	ppb	
71) 1,3,5-trimethylbenzene	18.75	105	59988m	0.71	ppb	
72) 1,2,4-trimethylbenzene	19.19	105	54115	0.75	ppb	96
73) 1,3-dichlorobenzene	19.48	146	32066	0.65	ppb	97
74) benzyl chloride	19.56	91	53237	0.80	ppb	96
75) 1,4-dichlorobenzene	19.62	146	30624	0.66	ppb	97
76) 1,2,3-trimethylbenzene	19.65	105	66564	0.70	ppb	96
77) 1,2-dichlorobenzene	19.93	146	40900	0.70	ppb	97
78) 1,2,4-trichlorobenzene	21.78	180	30081m	0.66	ppb	
79) Naphthalene	21.98	128	68066m	0.79	ppb	
80) Hexachloro-1,3-butadiene	22.06	225	85443	0.70	ppb	95

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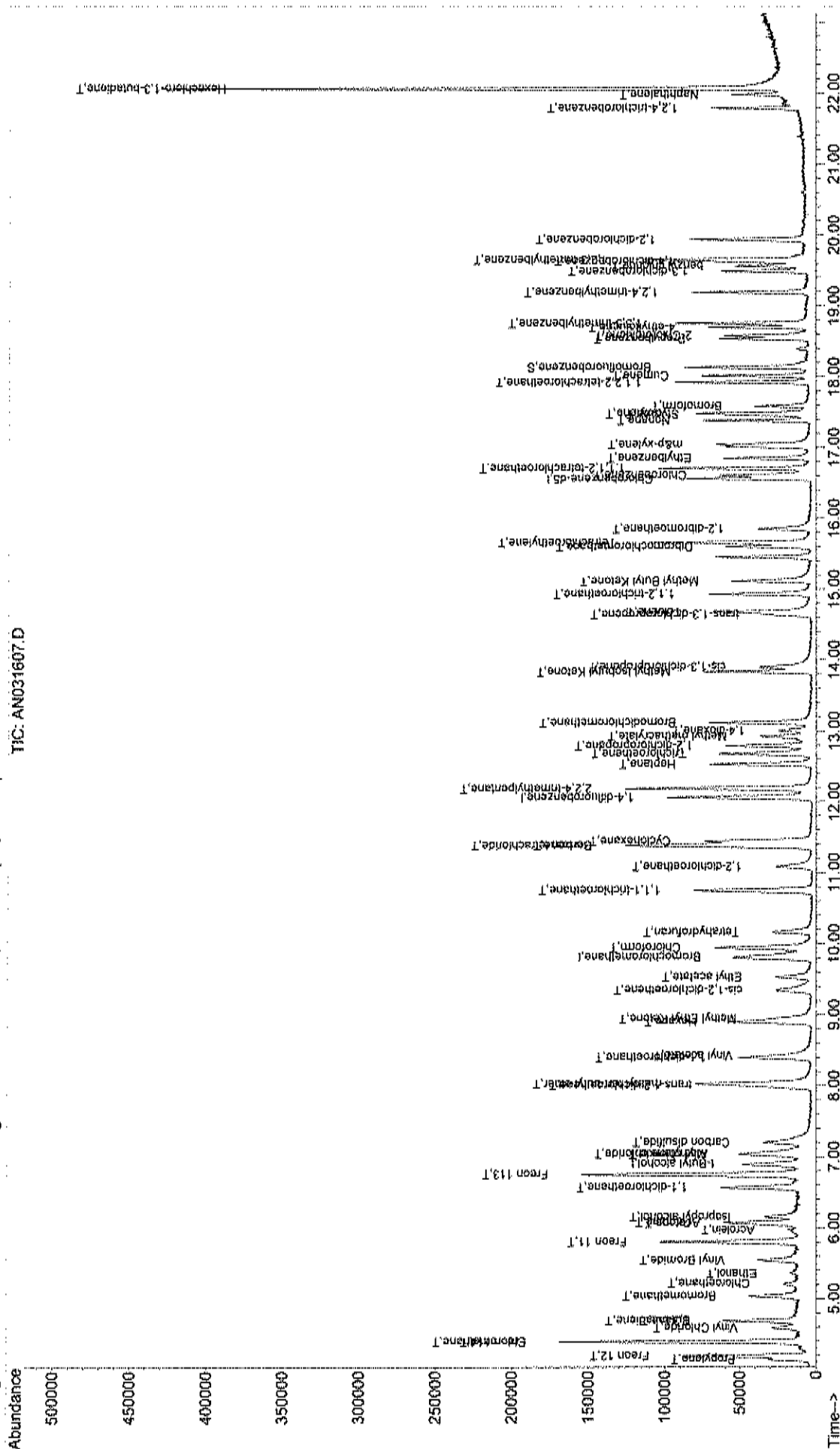
Data File : C:\HPCHEM\1\DATA\AN031607.D
Acq On : 16 Mar 2016 9:27 pm
Sample : ALUG 0.75
Misc : A316_LUG
MS Integration Params: RTEINT.P
Quant Time: Mar 17 10:14 2016

Vial: 6
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A316 1UG.NES

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Method      : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title       : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Mar 17 10:24:27 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D

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2AN031607.D	A316 1UG.M	Thu Apr 07 13:05:46 2016	MSD1

Data File : C:\HPCHEM\1\DATA\AN031608.D

Vial: 7

Acq On : 16 Mar 2016 10:05 pm

Operator: RJP

Sample : A1UG_0.50

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 17 08:19:39 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 08:17:56 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.82	128	36080	1.00	ppb	0.01
35) 1,4-difluorobenzene	12.06	114	113070	1.00	ppb	0.00
50) Chlorobenzene-d5	16.56	117	67747	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.14	95	40075	0.92	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	92.00%

Target Compounds

						Qvalue
2) Propylene	4.14	41	14424	0.53	ppb	# 100
3) Freon 12	4.19	85	76085	0.51	ppb	100
4) Chloromethane	4.39	50	19879	0.53	ppb	98
5) Freon 114	4.39	85	64906	0.51	ppb	98
6) Vinyl Chloride	4.59	62	18499	0.51	ppb	92
7) Butane	4.68	43	21962	0.49	ppb	94
8) 1,3-butadiene	4.69	39	13445	0.49	ppb	69
9) Bromomethane	5.04	94	26274	0.57	ppb	97
10) Chloroethane	5.20	64	8256	0.54	ppb	# 86
11) Ethanol	5.37	45	6117	0.57	ppb	98
12) Acrolein	5.97	56	4983m	0.53	ppb	
13) Vinyl Bromide	5.55	106	22539	0.49	ppb	93
14) Freon 11	5.81	101	78802	0.51	ppb	98
15) Acetone	6.06	58	8424	0.60	ppb	# 75
16) Pentane	6.08	42	17198	0.52	ppb	97
17) Isopropyl alcohol	6.16	45	25607	0.56	ppb	# 46
18) 1,1-dichloroethene	6.56	96	22928	0.50	ppb	89
19) Freon 113	6.75	101	55038	0.50	ppb	95
20) t-Butyl alcohol	6.90	59	42395	0.55	ppb	# 73
21) Methylene chloride	7.05	84	20786	0.51	ppb	96
22) Allyl chloride	7.02	41	17969m	0.52	ppb	
23) Carbon disulfide	7.21	76	57993	0.50	ppb	97
24) trans-1,2-dichloroethene	8.02	61	26856	0.50	ppb	89
25) methyl tert-butyl ether	8.03	73	49652	0.48	ppb	91
26) 1,1-dichloroethane	8.41	63	38652	0.50	ppb	100
27) Vinyl acetate	8.44	43	29273	0.42	ppb	94
28) Methyl Ethyl Ketone	8.96	72	7938	0.48	ppb	# 100
29) cis-1,2-dichloroethene	9.36	61	22605	0.48	ppb	95
30) Hexane	8.91	57	22491	0.47	ppb	97
31) Ethyl acetate	9.54	43	30351	0.48	ppb	86
32) Chloroform	9.95	83	52618	0.51	ppb	100
33) Tetrahydrofuran	10.18	42	14113	0.47	ppb	93
34) 1,2-dichloroethane	11.10	62	29673	0.51	ppb	89
36) 1,1,1-trichloroethane	10.75	97	53522	0.51	ppb	99
37) Cyclohexane	11.44	56	21201	0.49	ppb	90
38) Carbon tetrachloride	11.39	117	54492	0.51	ppb	98
39) Benzene	11.37	78	46262	0.50	ppb	100
40) Methyl methacrylate	12.92	41	13663	0.46	ppb	# 73
41) 1,4-dioxane	13.01	88	13214	0.54	ppb	98
42) 2,2,4-trimethylpentane	12.18	57	78609	0.47	ppb	98
43) Heptane	12.53	43	17641	0.44	ppb	89
44) Trichloroethene	12.67	130	22183	0.50	ppb	99
45) 1,2-dichloropropane	12.79	63	17338	0.52	ppb	96

(#)= qualifier out of range (m)= manual integration

AN031608.D A316_1UG.M

Thu Apr 07 13:05:48 2016

MSD1

Page 1

Data File : C:\HPCHEM\1\DATA\AN031608.D

Vial: 7

Acq On : 16 Mar 2016 10:05 pm

Operator: RJP

Sample : A1UG_0.50

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 17 08:19:39 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 08:17:56 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D

DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.12	83	41322	0.51	ppb	98
47) cis-1,3-dichloropropene	13.90	75	22010	0.50	ppb	96
48) trans-1,3-dichloropropene	14.64	75	20160	0.51	ppb	93
49) 1,1,2-trichloroethane	14.94	97	18287	0.51	ppb	93
51) Toluene	14.68	92	21106	0.45	ppb	97
52) Methyl Isobutyl Ketone	13.84	43	39767	0.46	ppb	98
53) Dibromochloromethane	15.60	129	29081m	0.50	ppb	
54) Methyl Butyl Ketone	15.12	43	33116m	0.43	ppb	
55) 1,2-dibromoethane	15.85	107	28353	0.50	ppb	97
56) Tetrachloroethylene	15.66	164	19835	0.49	ppb	99
57) Chlorobenzene	16.61	112	29636	0.50	ppb	92
58) 1,1,1,2-tetrachloroethane	16.71	131	22498	0.48	ppb	92
59) Ethylbenzene	16.85	91	36463	0.46	ppb	98
60) m&p-xylene	17.05	91	56232	0.90	ppb	95
61) Nonane	17.38	43	15420	0.42	ppb	94
62) Styrene	17.47	104	18736	0.42	ppb	90
63) Bromoform	17.59	173	14908	0.49	ppb	99
64) o-xylene	17.49	91	37022	0.52	ppb	96
65) Cumene	18.02	105	37321	0.46	ppb	99
67) 1,1,2,2-tetrachloroethane	17.92	83	36610	0.51	ppb	97
68) Propylbenzene	18.53	91	43158m	0.54	ppb	
69) 2-Chlorotoluene	18.58	91	31517m	0.48	ppb	
70) 4-ethyltoluene	18.70	105	35420m	0.50	ppb	
71) 1,3,5-trimethylbenzene	18.75	105	44058m	0.50	ppb	
72) 1,2,4-trimethylbenzene	19.19	105	39698	0.52	ppb	96
73) 1,3-dichlorobenzene	19.49	146	24308	0.47	ppb	97
74) benzyl chloride	19.56	91	36368	0.52	ppb	95
75) 1,4-dichlorobenzene	19.63	146	21600	0.44	ppb	92
76) 1,2,3-trimethylbenzene	19.65	105	48394	0.49	ppb	97
77) 1,2-dichlorobenzene	19.94	146	31844	0.52	ppb	95
78) 1,2,4-trichlorobenzene	21.78	180	22916m	0.48	ppb	
79) Naphthalene	21.98	128	50904m	0.56	ppb	
80) Hexachloro-1,3-butadiene	22.06	225	56244	0.44	ppb	96

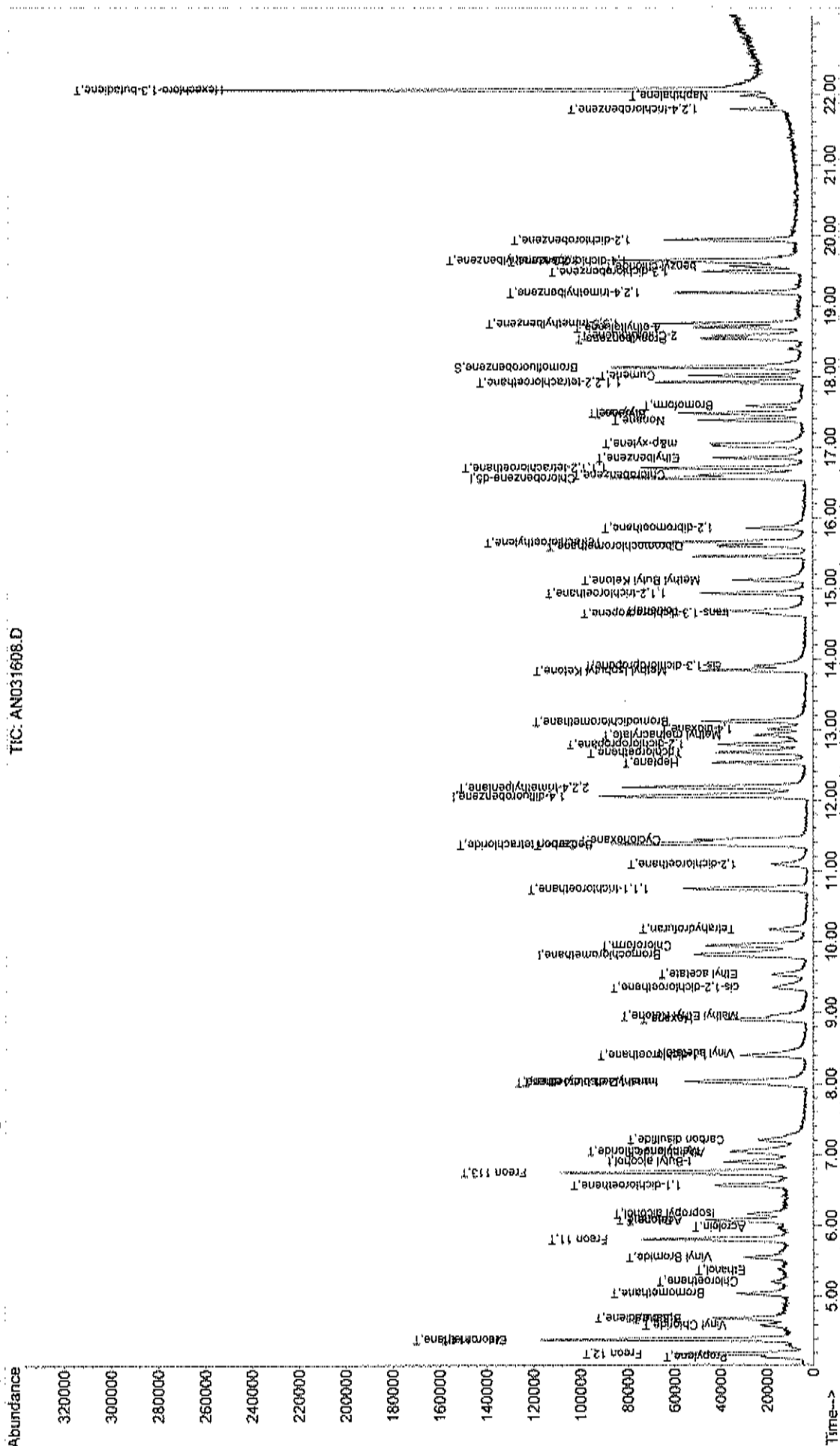
(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN031608.D A316_1UG.M Thu Apr 07 13:05:49 2016 MSD1

120484

Vial: 7
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A316 IUG.RES

```
..M (RTE Integrator)
oint calibration
EM\1\DATA\AN031606.D
```

TIC: AN031608.D



AN031608.D	A316 1UG.M	Thu Apr 07 13:05:50 2016	MSD1

Data File : C:\HPCHEM\1\DATA\AN031609.D

Vial: 8

Acq On : 16 Mar 2016 10:42 pm

Operator: RJP

Sample : A1UG_0.30

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 17 08:19:57 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 08:17:56 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.83	128	34240	1.00	ppb	0.02
35) 1,4-difluorobenzene	12.07	114	107427	1.00	ppb	0.01
50) Chlorobenzene-d5	16.57	117	63070	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.14	95	37922	0.93	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	93.00%

Target Compounds

						Qvalue
2) Propylene	4.14	41	9410	0.37	ppb	# 100
3) Freon 12	4.19	85	48050	0.34	ppb	99
4) Chloromethane	4.40	50	12982	0.37	ppb	94
5) Freon 114	4.39	85	40390	0.33	ppb	98
6) Vinyl Chloride	4.59	62	12065	0.35	ppb	84
7) Butane	4.69	43	15019	0.35	ppb	90
8) 1,3-butadiene	4.69	39	12946	0.49	ppb	87
9) Bromomethane	5.04	94	14575	0.33	ppb	90
10) Chloroethane	5.21	64	5112	0.35	ppb	96
11) Ethanol	5.39	45	4660	0.46	ppb	96
12) Acrolein	5.98	56	3558m	0.40	ppb	
13) Vinyl Bromide	5.55	106	14483	0.33	ppb	94
14) Freon 11	5.80	101	48893	0.33	ppb	98
15) Acetone	6.05	58	4586m	0.35	ppb	
16) Pentane	6.08	42	11517	0.36	ppb	97
17) Isopropyl alcohol	6.16	45	17857	0.41	ppb	# 46
18) 1,1-dichloroethene	6.56	96	14624	0.34	ppb	# 86
19) Freon 113	6.76	101	34250	0.33	ppb	99
20) t-Butyl alcohol	6.91	59	27113	0.37	ppb	# 72
21) Methylene chloride	7.07	84	12304	0.32	ppb	86
22) Allyl chloride	7.03	41	10973m	0.34	ppb	
23) Carbon disulfide	7.21	76	36706	0.34	ppb	97
24) trans-1,2-dichloroethene	8.01	61	16238	0.32	ppb	89
25) methyl tert-butyl ether	8.03	73	31713	0.32	ppb	93
26) 1,1-dichloroethane	8.40	63	22970	0.31	ppb	94
27) Vinyl acetate	8.44	43	20303m	0.31	ppb	
28) Methyl Ethyl Ketone	8.97	72	4817	0.31	ppb	# 100
29) cis-1,2-dichloroethene	9.38	61	13539	0.31	ppb	91
30) Hexane	8.90	57	13020	0.29	ppb	96
31) Ethyl acetate	9.54	43	20202	0.34	ppb	89
32) Chloroform	9.95	83	31612	0.32	ppb	98
33) Tetrahydrofuran	10.18	42	8932	0.32	ppb	93
34) 1,2-dichloroethane	11.10	62	18425	0.33	ppb	87
36) 1,1,1-trichloroethane	10.75	97	32638	0.33	ppb	98
37) Cyclohexane	11.44	56	12156	0.29	ppb	89
38) Carbon tetrachloride	11.39	117	33109	0.32	ppb	98
39) Benzene	11.37	78	27379	0.31	ppb	96
40) Methyl methacrylate	12.93	41	8689	0.31	ppb	# 84
41) 1,4-dioxane	13.03	88	7797	0.34	ppb	95
42) 2,2,4-trimethylpentane	12.19	57	47254	0.30	ppb	99
43) Heptane	12.54	43	10173	0.27	ppb	92
44) Trichloroethene	12.69	130	12806	0.31	ppb	97
45) 1,2-dichloropropane	12.79	63	10394	0.33	ppb	95

(#)= qualifier out of range (m) = manual integration

AN031609.D A316_1UG.M

Thu Apr 07 13:05:52 2016

MSD1

Page 1

Data File : C:\HPCHEM\1\DATA\AN031609.D

Vial: 8

Acq On : 16 Mar 2016 10:42 pm

Operator: RJP

Sample : A1UG_0.30

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 17 08:19:57 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 08:17:56 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D

DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.13	83	24639	0.32	ppb	100
47) cis-1,3-dichloropropene	13.91	75	13399	0.32	ppb	98
48) trans-1,3-dichloropropene	14.64	75	11780	0.31	ppb	93
49) 1,1,2-trichloroethane	14.93	97	11103	0.33	ppb	99
51) Toluene	14.68	92	12431	0.28	ppb	95
52) Methyl Isobutyl Ketone	13.84	43	23225	0.29	ppb	96
53) Dibromochloromethane	15.61	129	15960m	0.29	ppb	
54) Methyl Butyl Ketone	15.12	43	21434m	0.30	ppb	
55) 1,2-dibromoethane	15.86	107	16758	0.32	ppb	94
56) Tetrachloroethylene	15.66	164	11766	0.31	ppb	100
57) Chlorobenzene	16.61	112	16920	0.31	ppb	83
58) 1,1,1,2-tetrachloroethane	16.70	131	13253	0.30	ppb	# 85
59) Ethylbenzene	16.86	91	20219	0.27	ppb	97
60) m&p-xylene	17.02	91	30952	0.53	ppb	97
61) Nonane	17.38	43	8544	0.25	ppb	99
62) Styrene	17.47	104	10322	0.25	ppb	97
63) Bromoform	17.58	173	8523	0.30	ppb	95
64) o-xylene	17.49	91	17375	0.26	ppb	95
65) Cumene	18.02	105	22320	0.29	ppb	96
67) 1,1,2,2-tetrachloroethane	17.92	83	24384	0.36	ppb	98
68) Propylbenzene	18.54	91	27429m	0.37	ppb	
69) 2-Chlorotoluene	18.58	91	17751m	0.29	ppb	
70) 4-ethyltoluene	18.70	105	24157m	0.37	ppb	
71) 1,3,5-trimethylbenzene	18.76	105	28602m	0.35	ppb	
72) 1,2,4-trimethylbenzene	19.19	105	25992	0.37	ppb	94
73) 1,3-dichlorobenzene	19.49	146	15874	0.33	ppb	99
74) benzyl chloride	19.56	91	19958	0.31	ppb	92
75) 1,4-dichlorobenzene	19.62	146	15212	0.33	ppb	96
76) 1,2,3-trimethylbenzene	19.65	105	32866	0.35	ppb	98
77) 1,2-dichlorobenzene	19.94	146	20801	0.36	ppb	96
78) 1,2,4-trichlorobenzene	21.79	180	13610m	0.31	ppb	
79) Naphthalene	22.14	128	30401m	0.36	ppb	
80) Hexachloro-1,3-butadiene	22.06	225	34640	0.29	ppb	93

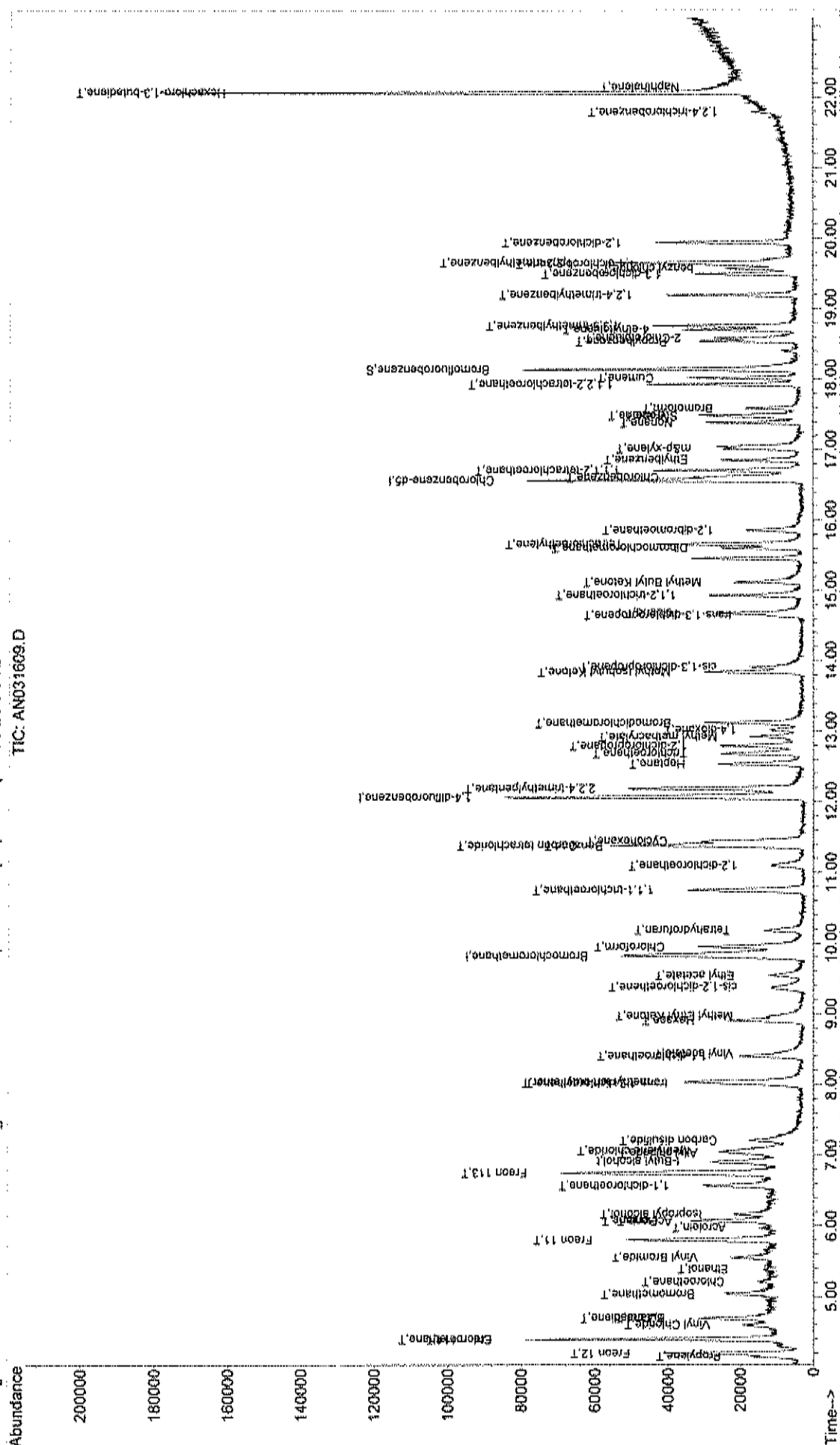
(#) = qualifier out of range (m) = manual integration (+) = signals summed
AN031609.D A316_1UG.M Thu Apr 07 13:05:53 2016 MSD1

QUALIFICATION REPORT

Data File : C:\HPCHEM\1\DATA\AN031609.D
Acq On : 16 Mar 2016 10:42 pm
Sample : A1UG 0.30
Misc : A316_LUG
MS Integration Params: RTEINT.P
Quant Time: Mar 17 10:17 2016

Vial: 8
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A316 1UG.RES

```
Method      : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title       : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Mar 17 10:24:27 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D
```



AN031609.D	A316	1UG.M	Thu Apr 07 13:05:54	2016	MSD1

Data File : C:\HPCHEM\1\DATA\AN031610.D

Vial: 9

Acq On : 16 Mar 2016 11:18 pm

Operator: RJP

Sample : A1UG_0.15

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 17 08:20:22 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 08:17:56 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.83	128	33400	1.00	ppb	0.02
35) 1,4-difluorobenzene	12.07	114	103197	1.00	ppb	0.01
50) Chlorobenzene-d5	16.57	117	62434	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.14	95	36945	0.92	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	92.00%

Target Compounds

						Qvalue
2) Propylene	4.15	41	5667	0.23	ppb	# 100
3) Freon 12	4.19	85	25710	0.18	ppb	100
4) Chloromethane	4.40	50	7532	0.22	ppb	94
5) Freon 114	4.39	85	21243	0.18	ppb	98
6) Vinyl Chloride	4.59	62	6499	0.19	ppb	85
7) Butane	4.68	43	9555	0.23	ppb	# 84
8) 1,3-butadiene	4.70	39	4728m	0.19	ppb	
9) Bromomethane	5.04	94	8678	0.20	ppb	99
10) Chloroethane	5.22	64	2747	0.19	ppb	# 73
11) Ethanol	5.40	45	2336m	0.24	ppb	
12) Acrolein	5.97	56	1928m	0.22	ppb	
13) Vinyl Bromide	5.55	106	8288	0.19	ppb	97
14) Freon 11	5.81	101	26836	0.19	ppb	100
15) Acetone	6.06	58	2908m	0.22	ppb	
16) Pentane	6.08	42	7007	0.23	ppb	# 74
17) Isopropyl alcohol	6.18	45	9697m	0.23	ppb	
18) 1,1-dichloroethene	6.56	96	7737	0.18	ppb	# 87
19) Freon 113	6.75	101	18520	0.18	ppb	96
20) t-Butyl alcohol	6.91	59	14003	0.19	ppb	# 72
21) Methylene chloride	7.06	84	6447	0.17	ppb	84
22) Allyl chloride	7.06	41	6867m	0.22	ppb	
23) Carbon disulfide	7.21	76	21871	0.20	ppb	100
24) trans-1,2-dichloroethene	8.02	61	8942	0.18	ppb	92
25) methyl tert-butyl ether	8.04	73	16217	0.17	ppb	90
26) 1,1-dichloroethane	8.40	63	12529	0.17	ppb	97
27) Vinyl acetate	8.46	43	11579m	0.18	ppb	
28) Methyl Ethyl Ketone	8.98	72	2686	0.18	ppb	# 100
29) cis-1,2-dichloroethene	9.38	61	6078	0.14	ppb	76
30) Hexane	8.91	57	6897	0.16	ppb	97
31) Ethyl acetate	9.55	43	10831	0.19	ppb	92
32) Chloroform	9.95	83	17226	0.18	ppb	96
33) Tetrahydrofuran	10.20	42	4934	0.18	ppb	98
34) 1,2-dichloroethane	11.10	62	9147	0.17	ppb	87
36) 1,1,1-trichloroethane	10.75	97	16611	0.17	ppb	99
37) Cyclohexane	11.45	56	6376	0.16	ppb	88
38) Carbon tetrachloride	11.39	117	16991	0.17	ppb	97
39) Benzene	11.37	78	14982	0.18	ppb	98
40) Methyl methacrylate	12.94	41	5374	0.20	ppb	97
41) 1,4-dioxane	13.03	88	3369	0.15	ppb	91
42) 2,2,4-trimethylpentane	12.19	57	24737	0.16	ppb	98
43) Heptane	12.54	43	5155	0.14	ppb	94
44) Trichloroethene	12.70	130	6486	0.16	ppb	94
45) 1,2-dichloropropane	12.80	63	5119	0.17	ppb	95

(#) = qualifier out of range (m) = manual integration

AN031610.D A316_1UG.M

Thu Apr 07 13:05:56 2016

MSD1

Page 1

Data File : C:\HPCHEM\1\DATA\AN031610.D

Vial: 9

Acq On : 16 Mar 2016 11:18 pm

Operator: RJP

Sample : A1UG_0.15

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 17 08:20:22 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 08:17:56 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D

DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.12	83	13275	0.18	ppb	97
47) cis-1,3-dichloropropene	13.91	75	6893	0.17	ppb	96
48) trans-1,3-dichloropropene	14.64	75	6609	0.18	ppb	94
49) 1,1,2-trichloroethane	14.94	97	6109	0.19	ppb	96
51) Toluene	14.68	92	6141	0.14	ppb	89
52) Methyl Isobutyl Ketone	13.85	43	11770	0.15	ppb	98
53) Dibromochloromethane	15.60	129	8932m	0.17	ppb	
54) Methyl Butyl Ketone	15.14	43	10426m	0.15	ppb	
55) 1,2-dibromoethane	15.86	107	9583	0.18	ppb	95
56) Tetrachloroethylene	15.66	164	5857	0.16	ppb	94
57) Chlorobenzene	16.61	112	9263	0.17	ppb	95
58) 1,1,1,2-tetrachloroethane	16.71	131	6442	0.15	ppb	# 68
59) Ethylbenzene	16.85	91	11039	0.15	ppb	97
60) m&p-xylene	17.04	91	16137	0.28	ppb	94
61) Nonane	17.38	43	5031	0.15	ppb	88
62) Styrene	17.46	104	5771	0.14	ppb	87
63) Bromoform	17.58	173	4415	0.16	ppb	96
64) o-xylene	17.48	91	10324	0.16	ppb	100
65) Cumene	18.01	105	14312	0.19	ppb	98
67) 1,1,2,2-tetrachloroethane	17.92	83	15040	0.23	ppb	100
68) Propylbenzene	18.54	91	15476m	0.21	ppb	
69) 2-Chlorotoluene	18.58	91	10441m	0.17	ppb	
70) 4-ethyltoluene	18.70	105	13458m	0.21	ppb	
71) 1,3,5-trimethylbenzene	18.75	105	16481m	0.20	ppb	
72) 1,2,4-trimethylbenzene	19.19	105	15427	0.22	ppb	97
73) 1,3-dichlorobenzene	19.49	146	8974	0.19	ppb	98
74) benzyl chloride	19.56	91	11759	0.18	ppb	94
75) 1,4-dichlorobenzene	19.62	146	7999	0.18	ppb	92
76) 1,2,3-trimethylbenzene	19.65	105	18207m	0.20	ppb	
77) 1,2-dichlorobenzene	19.94	146	13054	0.23	ppb	92
78) 1,2,4-trichlorobenzene	22.06	180	6492m	0.15	ppb	
79) Naphthalene	22.21	128	15909m	0.19	ppb	
80) Hexachloro-1,3-butadiene	22.06	225	18343	0.16	ppb	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN031610.D A316_1UG.M Thu Apr 07 13:05:57 2016 MSD1

Data File : C:\HPCHEM\1\DATA\AN031611.D

Vial: 10

Acq On : 16 Mar 2016 11:55 pm

Operator: RJP

Sample : A1UG_0.10

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 17 08:20:37 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 08:17:56 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.84	128	36456m ^(#)	1.00	ppb	0.03
35) 1,4-difluorobenzene	12.08	114	101173	1.00	ppb	0.02
50) Chlorobenzene-d5	16.57	117	65714	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.14	95	39949	0.95	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	95.00%

Target Compounds

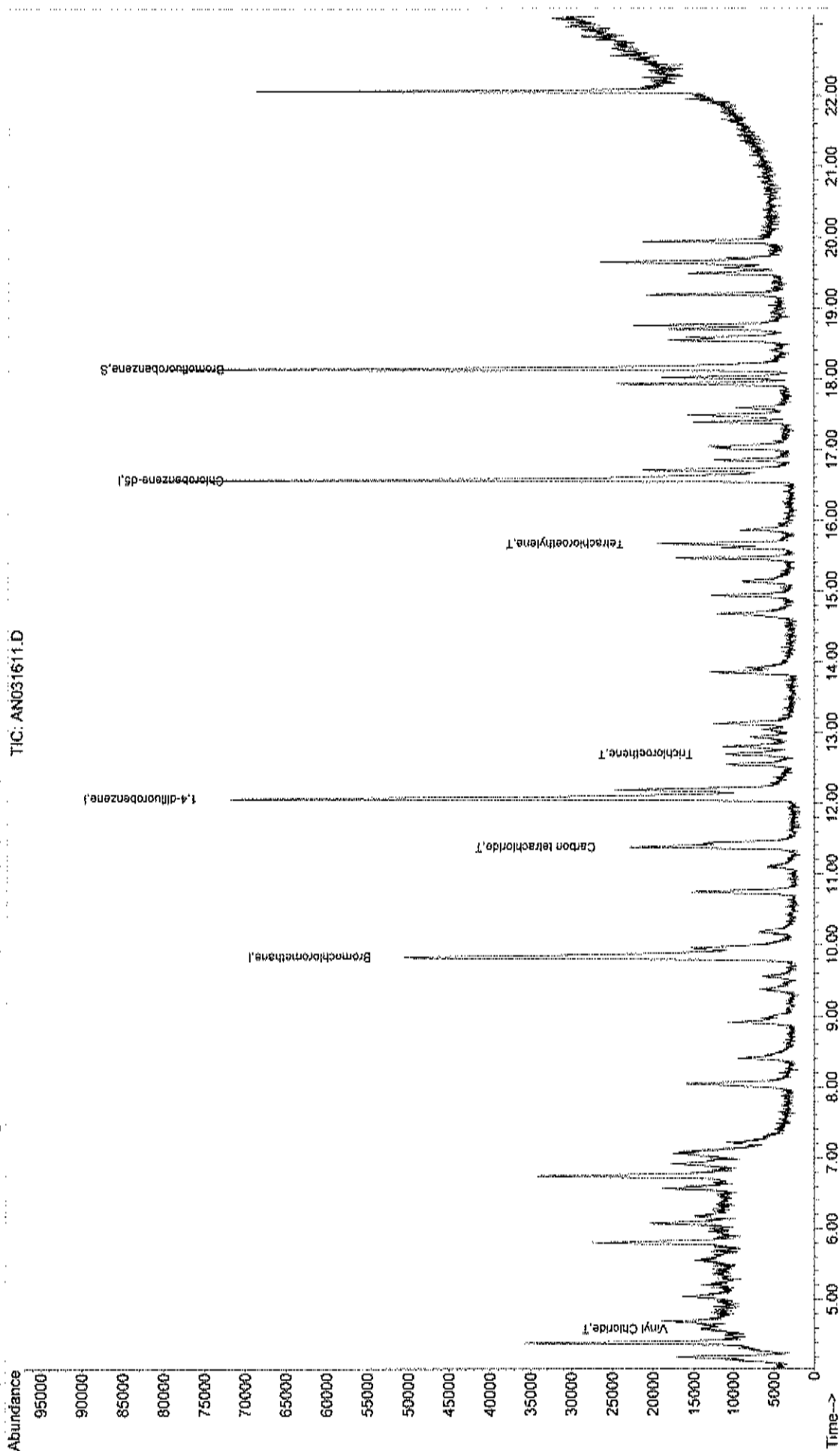
	R.T.	QIon	Response	Conc	Units	Qvalue
6) Vinyl Chloride	4.59	62	4562	0.12	ppb	86
38) Carbon tetrachloride	11.38	117	12433	0.13	ppb	99
44) Trichloroethene	12.70	130	4819	0.12	ppb	97
56) Tetrachloroethylene	15.66	164	4679m ^(#)	0.12	ppb	

Data File : C:\HPCHEM\1\DATA\AN031611.D
Acq On : 16 Mar 2016 11:55 pm
Sample : A1UG.0.10
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 17 10:19 2016

Vial: 10
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Mar 17 10:24:27 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D



Data File : C:\HPCHEM\1\DATA\AN031612.D

Vial: 11

Acq On : 17 Mar 2016 12:31 am

Operator: RJP

Sample : A1UG_0.04

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 17 08:20:59 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 08:17:56 2016

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.83	128	35586m / ⁹	1.00	ppb	0.02
35) 1,4-difluorobenzene	12.07	114	102709	1.00	ppb	0.02
50) Chlorobenzene-d5	16.57	117	61413	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.14	95	36946	0.94	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	94.00%

Target Compounds

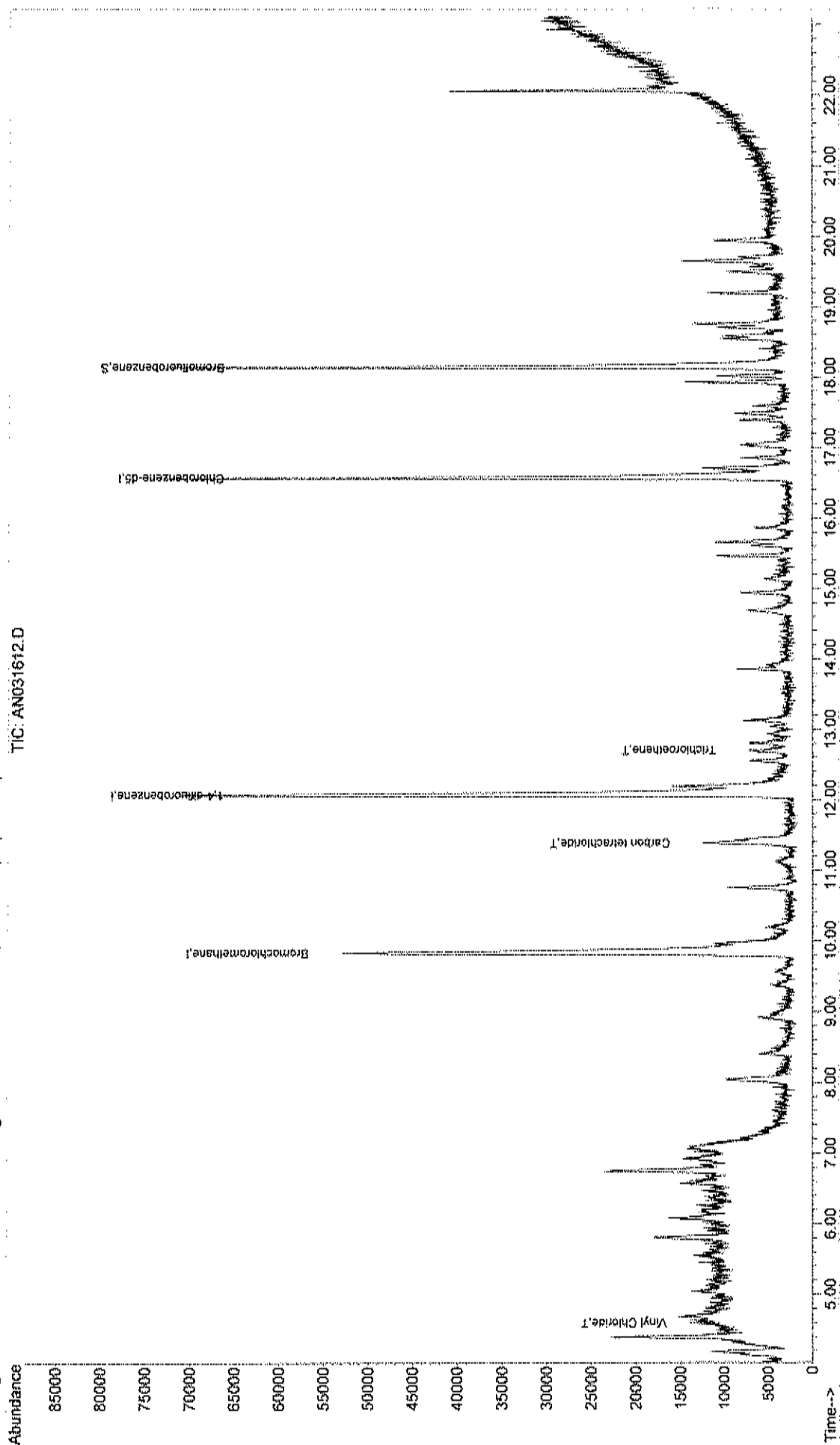
						Qvalue
6) Vinyl Chloride	4.59	62	2447	0.07	ppb	93
38) Carbon tetrachloride	11.38	117	6221	0.06	ppb	98
44) Trichloroethene	12.69	130	2436	0.06	ppb	96

Data File : C:\HPCHEM\1\DATA\AN031612.D
Acq On : 17 Mar 2016 12:31 am
Sample : A1UG_0.04
Misc : A316_1UG
MS Integration Params: RTRINT.P
Quant Time: Mar 17 10:21 2016

Vial: 11
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Mar 17 10:24:27 2016
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AN031606.D



GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

CALIBRATION VERIFICATION

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AN031902.D

Vial: 2

Acq On : 19 Mar 2016 11:03 am

Operator: RJP

Sample : A1UG_1.0

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Apr 07 13:07:26 2016

Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min

Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	100	0.00
2 T	Propylene	0.810	0.722	10.9	97	0.00
3 T	Freon 12	4.271	4.202	1.6	102	0.00
4 T	Chloromethane	1.118	1.089	2.6	106	0.00
5 T	Freon 114	3.598	3.572	0.7	101	0.00
6 T	Vinyl Chloride	1.125	0.989	12.1	99	0.00
7 T	Butane	1.285	1.101	14.3	89	0.00
8 T	1,3-butadiene	0.847	0.890	-5.1	114	0.00
9 T	Bromomethane	1.320	1.289	2.3	102	0.00
10 T	Chloroethane	0.459	0.465	-1.3	103	0.00
11 T	Ethanol	0.341	0.371	-8.8	116	0.00
12 T	Acrolein	0.290	0.318	-9.7	121	0.00
13 T	Vinyl Bromide	1.298	1.266	2.5	99	0.00
14 T	Freon 11	4.393	4.309	1.9	102	0.00
15 T	Acetone	0.432	0.483	-11.8	123	0.00
16 T	Pentane	0.986	0.913	7.4	99	0.00
17 T	Isopropyl alcohol	1.409	1.200	14.8	95	0.00
18 T	1,1-dichloroethene	1.283	1.230	4.1	98	0.00
19 T	Freon 113	3.094	3.074	0.6	101	0.00
20 T	t-Butyl alcohol	2.248	1.720	23.5	80	0.00
21 T	Methylene chloride	1.124	1.090	3.0	97	0.00
22 T	Allyl chloride	0.998	0.758	24.0	84	0.00
23 T	Carbon disulfide	3.316	3.205	3.3	101	0.00
24 T	trans-1,2-dichloroethene	1.522	1.494	1.8	99	0.00
25 T	methyl tert-butyl ether	2.881	2.764	4.1	97	0.00
26 T	1,1-dichloroethane	2.155	2.063	4.3	97	0.00
27 T	Vinyl acetate	1.869	1.562	16.4	92	0.00
28 T	Methyl Ethyl Ketone	0.461	0.421	8.7	93	0.00
29 T	cis-1,2-dichloroethene	1.250	1.228	1.8	96	0.00
30 T	Hexane	1.308	1.299	0.7	99	0.00
31 T	Ethyl acetate	1.784	1.606	10.0	93	0.00
32 T	Chloroform	2.918	2.780	4.7	97	0.00
33 T	Tetrahydrofuran	0.828	0.724	12.6	89	0.00
34 T	1,2-dichloroethane	1.641	1.529	6.8	96	0.00
35 I	1,4-difluorobenzene	1.000	1.000	0.0	93	0.00
36 T	1,1,1-trichloroethane	0.939	0.988	-5.2	100	0.00
37 T	Cyclohexane	0.387	0.411	-6.2	100	0.00
38 T	Carbon tetrachloride	1.048	1.034	1.3	101	0.00
39 T	Benzene	0.832	0.841	-1.1	96	0.00
40 T	Methyl methacrylate	0.271	0.251	7.4	90	0.00
41 T	1,4-dioxane	0.213	0.148	30.5#	64	0.00
42 T	2,2,4-trimethylpentane	1.453	1.570	-8.1	99	0.00
43 T	Heptane	0.338	0.341	-0.9	90	0.00
44 T	Trichloroethene	0.425	0.426	-0.2	102	0.00
45 T	1,2-dichloropropane	0.300	0.302	-0.7	96	0.00
46 T	Bromodichloromethane	0.734	0.735	-0.1	95	0.00
47 T	cis-1,3-dichloropropene	0.400	0.406	-1.5	99	0.00
48 T	trans-1,3-dichloropropene	0.359	0.375	-4.5	101	0.00
49 T	1,1,2-trichloroethane	0.329	0.336	-2.1	99	0.00

(#)= Out of Range

AN031902.D A316_1UG.M

Thu Apr 07 13:19:12 2016

MSD1

Page 1

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AN031902.D

Vial: 2

Acq On : 19 Mar 2016 11:03 am

Operator: RJP

Sample : A1UG_1.0

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Apr 07 13:07:26 2016

Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min

Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
51 T	Toluene	0.679	0.698	-2.8	94	0.00
52 T	Methyl Isobutyl Ketone	1.201	0.937	22.0	70	0.00
53 T	Dibromochloromethane	0.857	0.834	2.7	93	0.00
54 T	Methyl Butyl Ketone	1.068	0.923	13.6	76	0.00
55 T	1,2-dibromoethane	0.845	0.894	-5.8	102	0.00
56 T	Tetrachloroethylene	0.648	0.632	2.5	99	0.00
57 T	Chlorobenzene	0.891	0.897	-0.7	97	0.00
58 T	1,1,1,2-tetrachloroethane	0.666	0.707	-6.2	96	0.00
59 T	Ethylbenzene	1.165	1.118	4.0	90	0.00
60 T	m&p-xylene	0.925	0.905	2.2	92	0.00
61 T	Nonane	0.552	0.553	-0.2	97	0.00
62 T	Styrene	0.644	0.673	-4.5	97	0.00
63 T	Bromoform	0.463	0.449	3.0	94	0.00
64 T	o-xylene	1.109	1.036	6.6	90	0.00
65 T	Cumene	1.299	1.258	3.2	99	0.00
66 S	Bromofluorobenzene	0.643	0.684	-6.4	100	0.00
67 T	1,1,2,2-tetrachloroethane	1.140	1.217	-6.8	108	0.00
68 T	Propylbenzene	1.379	1.326	3.8	107	0.00
69 T	2-Chlorotoluene	1.004	0.977	2.7	96	0.00
70 T	4-ethyltoluene	1.183	1.159	2.0	105	0.00
71 T	1,3,5-trimethylbenzene	1.416	1.467	-3.6	105	0.00
72 T	1,2,4-trimethylbenzene	1.224	1.277	-4.3	108	0.00
73 T	1,3-dichlorobenzene	0.778	0.871	-12.0	108	0.00
74 T	benzyl chloride	1.110	1.192	-7.4	92	0.00
75 T	1,4-dichlorobenzene	0.733	0.871	-18.8	114	0.00
76 T	1,2,3-trimethylbenzene	1.510	1.668	-10.5	107	0.00
77 T	1,2-dichlorobenzene	0.954	1.082	-13.4	112	0.00
78 T	1,2,4-trichlorobenzene	0.720	0.707	1.8	98	0.00
79 T	Naphthalene	1.494	1.116	25.3	81	0.00
80 T	Hexachloro-1,3-butadiene	1.754	1.874	-6.8	94	0.00

Data File : C:\HPCHEM\1\DATA\AN031902.D

Vial: 2

Acq On : 19 Mar 2016 11:03 am

Operator: RJP

Sample : A1UG_1.0

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 19 12:39:32 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.81	128	36534	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.05	114	105385	1.00	ppb	0.00
50) Chlorobenzene-d5	16.56	117	58346	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.13	95	39884	1.06	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	106.00%

Target Compounds

						Qvalue
2) Propylene	4.13	41	26363	0.89	ppb	# 100
3) Freon 12	4.19	85	153510	0.98	ppb	98
4) Chloromethane	4.39	50	39768	0.97	ppb	94
5) Freon 114	4.38	85	130499	0.99	ppb	99
6) Vinyl Chloride	4.58	62	36116	0.88	ppb	91
7) Butane	4.68	43	40206	0.86	ppb	98
8) 1,3-butadiene	4.69	39	32522	1.05	ppb	94
9) Bromomethane	5.04	94	47096	0.98	ppb	99
10) Chloroethane	5.20	64	17000	1.01	ppb	96
11) Ethanol	5.36	45	13568	1.09	ppb	# 72
12) Acrolein	5.94	56	11611	1.10	ppb	# 5
13) Vinyl Bromide	5.54	106	46241	0.98	ppb	98
14) Freon 11	5.79	101	157434	0.98	ppb	99
15) Acetone	6.04	58	17642	1.12	ppb	# 68
16) Pentane	6.07	42	33353	0.93	ppb	99
17) Isopropyl alcohol	6.14	45	43849	0.85	ppb	# 46
18) 1,1-dichloroethene	6.56	96	44930	0.96	ppb	90
19) Freon 113	6.74	101	112309	0.99	ppb	96
20) t-Butyl alcohol	6.88	59	62835	0.77	ppb	# 77
21) Methylene chloride	7.04	84	39818	0.97	ppb	95
22) Allyl chloride	7.02	41	27701	0.76	ppb	# 60
23) Carbon disulfide	7.19	76	117103	0.97	ppb	96
24) trans-1,2-dichloroethene	7.99	61	54565	0.98	ppb	90
25) methyl tert-butyl ether	8.02	73	100998	0.96	ppb	92
26) 1,1-dichloroethane	8.39	63	75357	0.96	ppb	97
27) Vinyl acetate	8.41	43	57071	0.84	ppb	93
28) Methyl Ethyl Ketone	8.94	72	15398	0.92	ppb	# 100
29) cis-1,2-dichloroethene	9.34	61	44882	0.98	ppb	91
30) Hexane	8.89	57	47456	0.99	ppb	95
31) Ethyl acetate	9.51	43	58679	0.90	ppb	95
32) Chloroform	9.94	83	101557	0.95	ppb	98
33) Tetrahydrofuran	10.16	42	26450	0.87	ppb	86
34) 1,2-dichloroethane	11.07	62	55847	0.93	ppb	89
36) 1,1,1-trichloroethane	10.74	97	104156	1.05	ppb	99
37) Cyclohexane	11.44	56	43332	1.06	ppb	90
38) Carbon tetrachloride	11.39	117	108989	0.99	ppb	98
39) Benzene	11.36	78	88617	1.01	ppb	97
40) Methyl methacrylate	12.92	41	26429	0.93	ppb	# 79
41) 1,4-dioxane	13.00	88	15585	0.70	ppb	100
42) 2,2,4-trimethylpentane	12.18	57	165489	1.08	ppb	98
43) Heptane	12.52	43	35903	1.01	ppb	92
44) Trichloroethene	12.67	130	44899	1.00	ppb	98
45) 1,2-dichloropropane	12.79	63	31868	1.01	ppb	97

(#)=qualifier out of range (m)=manual integration

AN031902.D A316_1UG.M

Thu Apr 07 13:19:16 2016

MSD1

Page 1

Data File : C:\HPCHEM\1\DATA\AN031902.D

Vial: 2

Acq On : 19 Mar 2016 11:03 am

Operator: RJP

Sample : A1UG_1.0

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 19 12:39:32 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.11	83	77474	1.00	ppb	99
47) cis-1,3-dichloropropene	13.89	75	42790	1.02	ppb	97
48) trans-1,3-dichloropropene	14.63	75	39528	1.05	ppb	92
49) 1,1,2-trichloroethane	14.92	97	35376	1.02	ppb	100
51) Toluene	14.67	92	40716	1.03	ppb	97
52) Methyl Isobutyl Ketone	13.83	43	54669	0.78	ppb	97
53) Dibromochloromethane	15.60	129	48635m	0.97	ppb	
54) Methyl Butyl Ketone	15.11	43	53831	0.86	ppb	94
55) 1,2-dibromoethane	15.84	107	52145	1.06	ppb	95
56) Tetrachloroethylene	15.65	164	36855	0.97	ppb	99
57) Chlorobenzene	16.60	112	52349	1.01	ppb	87
58) 1,1,1,2-tetrachloroethane	16.70	131	41275	1.06	ppb	97
59) Ethylbenzene	16.84	91	65248	0.96	ppb	95
60) m&p-xylene	17.04	91	105591	1.96	ppb	95
61) Nonane	17.38	43	32256	1.00	ppb	96
62) Styrene	17.46	104	39258	1.04	ppb	93
63) Bromoform	17.59	173	26195	0.97	ppb	98
64) o-xylene	17.48	91	60474m	0.93	ppb	
65) Cumene	18.01	105	73412	0.97	ppb	97
67) 1,1,2,2-tetrachloroethane	17.92	83	71026	1.07	ppb	98
68) Propylbenzene	18.53	91	77366m	0.96	ppb	
69) 2-Chlorotoluene	18.58	91	56993m	0.97	ppb	
70) 4-ethyltoluene	18.70	105	67640m	0.98	ppb	
71) 1,3,5-trimethylbenzene	18.75	105	85570m	1.04	ppb	
72) 1,2,4-trimethylbenzene	19.19	105	74520	1.04	ppb	95
73) 1,3-dichlorobenzene	19.49	146	50825	1.12	ppb	97
74) benzyl chloride	19.56	91	69567m	1.07	ppb	
75) 1,4-dichlorobenzene	19.62	146	50804	1.19	ppb	96
76) 1,2,3-trimethylbenzene	19.65	105	97314	1.10	ppb	98
77) 1,2-dichlorobenzene	19.93	146	63141	1.13	ppb	95
78) 1,2,4-trichlorobenzene	21.78	180	41257	0.98	ppb	92
79) Naphthalene	21.97	128	65098	0.75	ppb	94
80) Hexachloro-1,3-butadiene	22.06	225	109366	1.07	ppb	95

Quantitation Report (QT Reviewed)

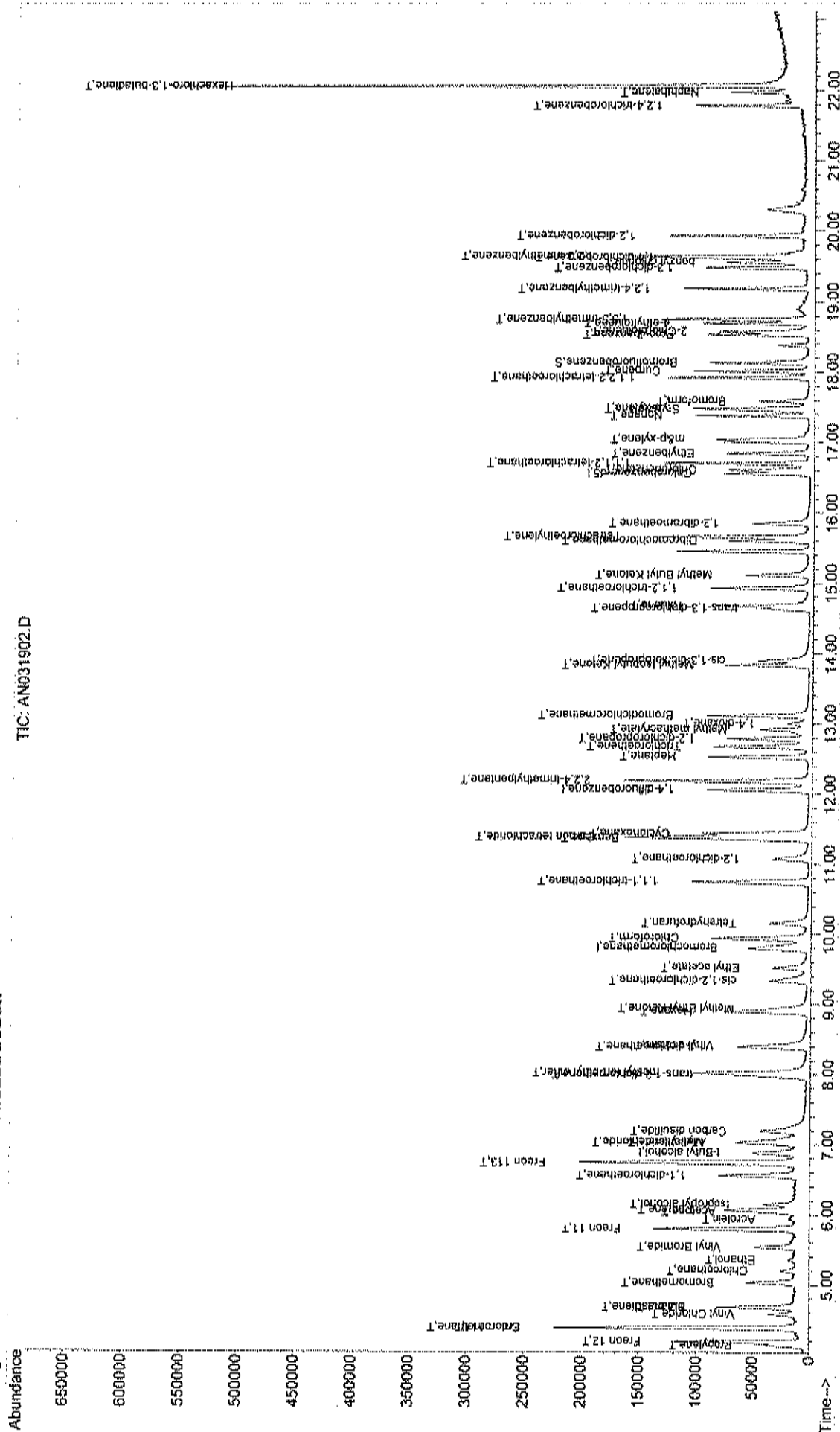
Data File : C:\HPCHEM\1\DATA\AN031902.D
 Acq On : 19 Mar 2016 11:03 am
 Sample : A1UG_1.0
 Misc : A316_1UG
 MS Integration Params: RTEINT.P
 Quant Time: Mar 25 10:28 2016

Vial: 2
 Operator: RJP
 Inst : MSD #1
 Multiplr: 1.00

Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
 Title : TO-15 VOA Standards for 5 point calibration
 Last Update : Thu Apr 07 13:07:26 2016
 Response via : Initial Calibration

TIC: AN031902.D



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AN032206.D

Vial: 6

Acq On : 22 Mar 2016 2:52 pm

Operator: RJP

Sample : ALUG_1.0

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Apr 07 13:07:26 2016

Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min

Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	116	-0.02
2 T	Propylene	0.810	0.697	14.0	109	0.00
3 T	Freon 12	4.271	3.738	12.5	106	0.00
4 T	Chloromethane	1.118	0.915	18.2	104	0.00
5 T	Freon 114	3.598	3.180	11.6	105	0.00
6 T	Vinyl Chloride	1.125	0.830	26.2	97	-0.01
7 T	Butane	1.285	0.964	25.0	92	0.00
8 T	1,3-butadiene	0.847	0.607	28.3	91	0.00
9 T	Bromomethane	1.320	1.186	10.2	109	-0.02
10 T	Chloroethane	0.459	0.377	17.9	97	0.00
11 T	Ethanol	0.341	0.263	22.9	96	0.00
12 T	Acrolein	0.290	0.250	13.8	111	0.00
13 T	Vinyl Bromide	1.298	1.187	8.6	109	0.00
14 T	Freon 11	4.393	3.738	14.9	103	0.00
15 T	Acetone	0.432	0.355	17.8	106	0.00
16 T	Pentane	0.986	0.726	26.4	92	-0.01
17 T	Isopropyl alcohol	1.409	0.985	30.1#	91	0.00
18 T	1,1-dichloroethene	1.283	1.135	11.5	105	-0.01
19 T	Freon 113	3.094	2.790	9.8	107	0.00
20 T	t-Butyl alcohol	2.248	1.471	34.6#	80	-0.01
21 T	Methylene chloride	1.124	1.136	-1.1	118	0.00
22 T	Allyl chloride	0.998	0.826	17.2	107	0.00
23 T	Carbon disulfide	3.316	3.119	5.9	115	0.00
24 T	trans-1,2-dichloroethene	1.522	1.353	11.1	105	-0.02
25 T	methyl tert-butyl ether	2.881	2.510	12.9	103	0.00
26 T	1,1-dichloroethane	2.155	1.906	11.6	105	0.00
27 T	Vinyl acetate	1.869	1.541	17.5	106	0.00
28 T	Methyl Ethyl Ketone	0.461	0.404	12.4	105	-0.02
29 T	cis-1,2-dichloroethene	1.250	1.122	10.2	102	0.00
30 T	Hexane	1.308	1.184	9.5	105	0.00
31 T	Ethyl acetate	1.784	1.481	17.0	101	0.00
32 T	Chloroform	2.918	2.525	13.5	104	0.00
33 T	Tetrahydrofuran	0.828	0.732	11.6	105	0.00
34 T	1,2-dichloroethane	1.641	1.299	20.8	95	0.00
35 I	1,4-difluorobenzene	1.000	1.000	0.0	102	0.00
36 T	1,1,1-trichloroethane	0.939	0.917	2.3	101	0.00
37 T	Cyclohexane	0.387	0.409	-5.7	109	-0.01
38 T	Carbon tetrachloride	1.048	0.969	7.5	104	-0.02
39 T	Benzene	0.832	0.871	-4.7	109	0.00
40 T	Methyl methacrylate	0.271	0.248	8.5	98	-0.01
41 T	1,4-dioxane	0.213	0.189	11.3	90	0.00
42 T	2,2,4-trimethylpentane	1.453	1.571	-8.1	109	0.00
43 T	Heptane	0.338	0.322	4.7	93	0.00
44 T	Trichloroethene	0.425	0.460	-8.2	121	0.00
45 T	1,2-dichloropropane	0.300	0.302	-0.7	105	0.00
46 T	Bromodichloromethane	0.734	0.705	4.0	100	0.00
47 T	cis-1,3-dichloropropene	0.400	0.429	-7.2	114	0.00
48 T	trans-1,3-dichloropropene	0.359	0.389	-8.4	115	0.00
49 T	1,1,2-trichloroethane	0.329	0.357	-8.5	116	0.00

(#)= Out of Range

AN032206.D A316_1UG.M

Thu Apr 07 13:21:52 2016

MSD1

Page 1

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AN032206.D

Vial: 6

Acq On : 22 Mar 2016 2:52 pm

Operator: RJP

Sample : A1UG_1.0

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Apr 07 13:07:26 2016

Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min

Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
51 T	Toluene	0.679	0.638	6.0	104	0.00
52 T	Methyl Isobutyl Ketone	1.201	0.900	25.1	82	0.00
53 T	Dibromochloromethane	0.857	0.759	11.4	103	0.00
54 T	Methyl Butyl Ketone	1.068	0.878	17.8	87	-0.01
55 T	1,2-dibromoethane	0.845	0.930	-10.1	128	0.00
56 T	Tetrachloroethylene	0.648	0.672	-3.7	128	0.00
57 T	Chlorobenzene	0.891	0.951	-6.7	125	0.00
58 T	1,1,1,2-tetrachloroethane	0.666	0.692	-3.9	114	0.00
59 T	Ethylbenzene	1.165	1.154	0.9	112	0.00
60 T	m&p-xylene	0.925	0.905	2.2	112	0.00
61 T	Nonane	0.552	0.542	1.8	115	0.00
62 T	Styrene	0.644	0.714	-10.9	124	0.00
63 T	Bromoform	0.463	0.472	-1.9	120	0.00
64 T	o-xylene	1.109	1.023	7.8	108	0.00
65 T	Cumene	1.299	1.328	-2.2	126	0.00
66 S	Bromofluorobenzene	0.643	0.701	-9.0	125	0.00
67 T	1,1,2,2-tetrachloroethane	1.140	1.261	-10.6	135	0.00
68 T	Propylbenzene	1.379	1.473	-6.8	143	0.00
69 T	2-Chlorotoluene	1.004	0.940	6.4	112	0.00
70 T	4-ethyltoluene	1.183	1.214	-2.6	133	0.00
71 T	1,3,5-trimethylbenzene	1.416	1.535	-8.4	134	0.00
72 T	1,2,4-trimethylbenzene	1.224	1.288	-5.2	132	0.00
73 T	1,3-dichlorobenzene	0.778	1.004	-29.0	151#	0.00
74 T	benzyl chloride	1.110	1.011	8.9	94	0.00
75 T	1,4-dichlorobenzene	0.733	0.954	-30.2#	151#	0.00
76 T	1,2,3-trimethylbenzene	1.510	1.661	-10.0	129	0.00
77 T	1,2-dichlorobenzene	0.954	1.172	-22.9	147	0.00
78 T	1,2,4-trichlorobenzene	0.720	0.604	16.1	101	0.00
79 T	Naphthalene	1.494	1.082	27.6	95	0.00
80 T	Hexachloro-1,3-butadiene	1.754	2.169	-23.7	131	0.00

~-----
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

AN032206.D A316_1UG.M

Thu Apr 07 13:21:52 2016

MSD1

Page 2

Data File : C:\HPCHEM\1\DATA\AN032206.D

Vial: 6

Acq On : 22 Mar 2016 2:52 pm

Operator: RJP

Sample : A1UG_1.0

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 22 15:17:11 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.79	128	42720	1.00	ppb	-0.02
35) 1,4-difluorobenzene	12.05	114	115502	1.00	ppb	0.00
50) Chlorobenzene-d5	16.55	117	70604	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.12	95	49520	1.09	ppb	-0.01
Spiked Amount	1.000	Range	70 ~ 130	Recovery	=	109.00%

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.13	41	29796	0.86	ppb	# 100
3) Freon 12	4.18	85	159672	0.88	ppb	99
4) Chloromethane	4.38	50	39091	0.82	ppb	97
5) Freon 114	4.38	85	135839	0.88	ppb	89
6) Vinyl Chloride	4.57	62	35448	0.74	ppb	89
7) Butane	4.67	43	41175	0.75	ppb	97
8) 1,3-butadiene	4.68	39	25922	0.72	ppb	73
9) Bromomethane	5.02	94	50665	0.90	ppb	94
10) Chloroethane	5.19	64	16088	0.82	ppb	99
11) Ethanol	5.35	45	11240	0.77	ppb	# 66
12) Acrolein	5.94	56	10667	0.86	ppb	# 5
13) Vinyl Bromide	5.53	106	50703	0.91	ppb	93
14) Freon 11	5.79	101	159687	0.85	ppb	99
15) Acetone	6.03	58	15175	0.82	ppb	# 65
16) Pentane	6.06	42	30997	0.74	ppb	88
17) Isopropyl alcohol	6.13	45	42087(mw)	0.70	ppb	
18) 1,1-dichloroethene	6.55	96	48486	0.88	ppb	# 78
19) Freon 113	6.73	101	119196	0.90	ppb	# 85
20) t-Butyl alcohol	6.87	59	62831(mw)	0.65	ppb	
21) Methylene chloride	7.03	84	48527	1.01	ppb	99
22) Allyl chloride	7.01	41	35281	0.83	ppb	77
23) Carbon disulfide	7.18	76	133238	0.94	ppb	99
24) trans-1,2-dichloroethene	7.97	61	57783	0.89	ppb	84
25) methyl tert-butyl ether	8.01	73	107213	0.87	ppb	92
26) 1,1-dichloroethane	8.38	63	81427	0.88	ppb	97
27) Vinyl acetate	8.41	43	65819	0.82	ppb	94
28) Methyl Ethyl Ketone	8.93	72	17265	0.88	ppb	# 100
29) cis-1,2-dichloroethene	9.33	61	47952	0.90	ppb	85
30) Hexane	8.89	57	50584	0.91	ppb	94
31) Ethyl acetate	9.51	43	63283	0.83	ppb	92
32) Chloroform	9.93	83	107874	0.87	ppb	99
33) Tetrahydrofuran	10.15	42	31252	0.88	ppb	91
34) 1,2-dichloroethane	11.07	62	55499	0.79	ppb	89
36) 1,1,1-trichloroethane	10.73	97	105932	0.98	ppb	100
37) Cyclohexane	11.43	56	47240	1.06	ppb	88
38) Carbon tetrachloride	11.37	117	111869	0.92	ppb	97
39) Benzene	11.36	78	100622	1.05	ppb	97
40) Methyl methacrylate	12.91	41	28686	0.92	ppb	# 75
41) 1,4-dioxane	13.00	88	21777	0.89	ppb	99
42) 2,2,4-trimethylpentane	12.17	57	181420	1.08	ppb	96
43) Heptane	12.52	43	37246	0.96	ppb	86
44) Trichloroethene	12.67	130	53141	1.08	ppb	94
45) 1,2-dichloropropane	12.78	63	34888	1.01	ppb	98

(#)=qualifier out of range (m)=manual integration

AN032206.D A316_1UG.M

Thu Apr 07 13:21:57 2016

MSD1

Page 1

Data File : C:\HPCHEM\1\DATA\AN032206.D

Vial: 6

Acq On : 22 Mar 2016 2:52 pm

Operator: RJP

Sample : A1UG_1.0

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 22 15:17:11 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.10	83	81436	0.96	ppb	99
47) cis-1,3-dichloropropene	13.89	75	49525	1.07	ppb	98
48) trans-1,3-dichloropropene	14.62	75	44953	1.09	ppb	94
49) 1,1,2-trichloroethane	14.92	97	41279	1.09	ppb	97
51) Toluene	14.67	92	45046	0.94	ppb	95
52) Methyl Isobutyl Ketone	13.82	43	63541	0.75	ppb	97
53) Dibromochloromethane	15.59	129	53586m (M)	0.89	ppb	
54) Methyl Butyl Ketone	15.10	43	61974	0.82	ppb	94
55) 1,2-dibromoethane	15.85	107	65632	1.10	ppb	96
56) Tetrachloroethylene	15.65	164	47426	1.04	ppb	99
57) Chlorobenzene	16.60	112	67162	1.07	ppb	86
58) 1,1,1,2-tetrachloroethane	16.70	131	48880	1.04	ppb	95
59) Ethylbenzene	16.84	91	81452	0.99	ppb	95
60) m&p-xylene	17.03	91	127831	1.96	ppb	92
61) Nonane	17.37	43	38299	0.98	ppb	98
62) Styrene	17.45	104	50442	1.11	ppb	82
63) Bromoform	17.58	173	33355	1.02	ppb	98
64) o-xylene	17.47	91	72222m (M)	0.92	ppb	
65) Cumene	18.01	105	93744	1.02	ppb	97
67) 1,1,2,2-tetrachloroethane	17.92	83	89022	1.11	ppb	98
68) Propylbenzene	18.53	91	103973m (M)	1.07	ppb	
69) 2-Chlorotoluene	18.57	91	66388m (M)	0.94	ppb	
70) 4-ethyltoluene	18.69	105	85735m (M)	1.03	ppb	
71) 1,3,5-trimethylbenzene	18.74	105	108407m (M)	1.08	ppb	
72) 1,2,4-trimethylbenzene	19.18	105	90937	1.05	ppb	96
73) 1,3-dichlorobenzene	19.48	146	70888	1.29	ppb	96
74) benzyl chloride	19.56	91	71375m (M)	0.91	ppb	
75) 1,4-dichlorobenzene	19.61	146	67368	1.30	ppb	96
76) 1,2,3-trimethylbenzene	19.64	105	117295	1.10	ppb	95
77) 1,2-dichlorobenzene	19.92	146	82729	1.23	ppb	94
78) 1,2,4-trichlorobenzene	21.78	180	42659	0.84	ppb	93
79) Naphthalene	21.97	128	76426m (M)	0.72	ppb	
80) Hexachloro-1,3-butadiene	22.06	225	153138	1.24	ppb	97

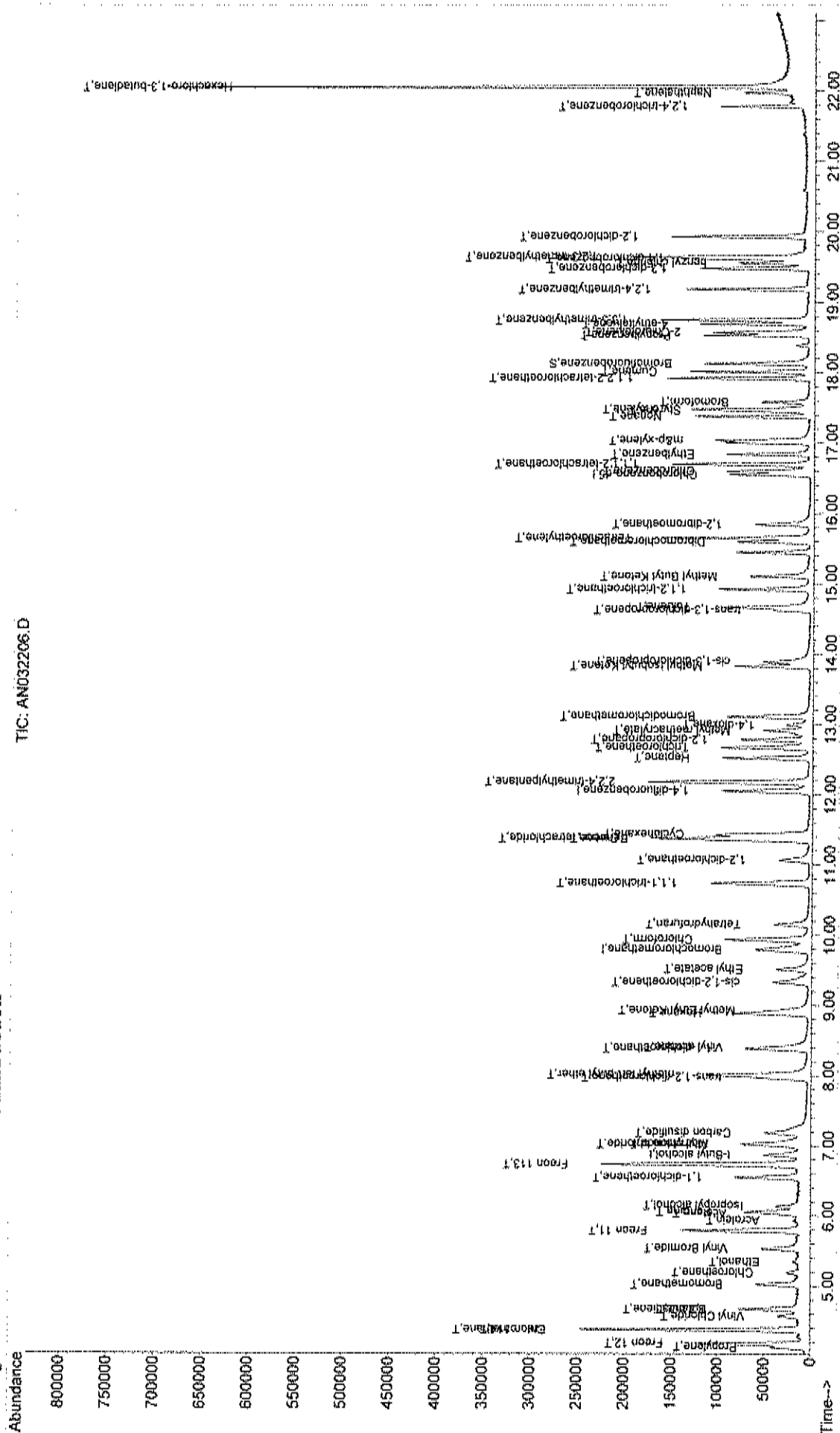
(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN032206.D A316_1UG.M Thu Apr 07 13:21:57 2016 MSD1

Quantitation Report {QF Reviewed}

Data File : C:\HPCHEM\1\DATA\AN032206.D
Acq On : 22 Mar 2016 2:52 pm
Sample : AUG 1.0
Misc : A316_LUG
MMS Integration Params: RTEINT.P
Quant Time: Mar 25 10:51 2016

Vial: 6
Operator: RJP
Inst : MSD #1
Multiplr: 1.00
Quant Results File: A316 IUG.RES

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Method      : C:\HPCHEM\1\METHODS\A316_1UG.M (PTE Integrator)
Title       : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration
```



AN032206.D A316 1UG.M Thu Apr 07 13:21:58 2016 MSD1

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

RAW DATA

BFB

Data File : C:\HPCHEM\1\DATA\AN031601.D

Vial: 1

Acq On : 16 Mar 2016 5:26 pm

Operator: RJP

Sample : BFB1UG

Inst : MSD #1

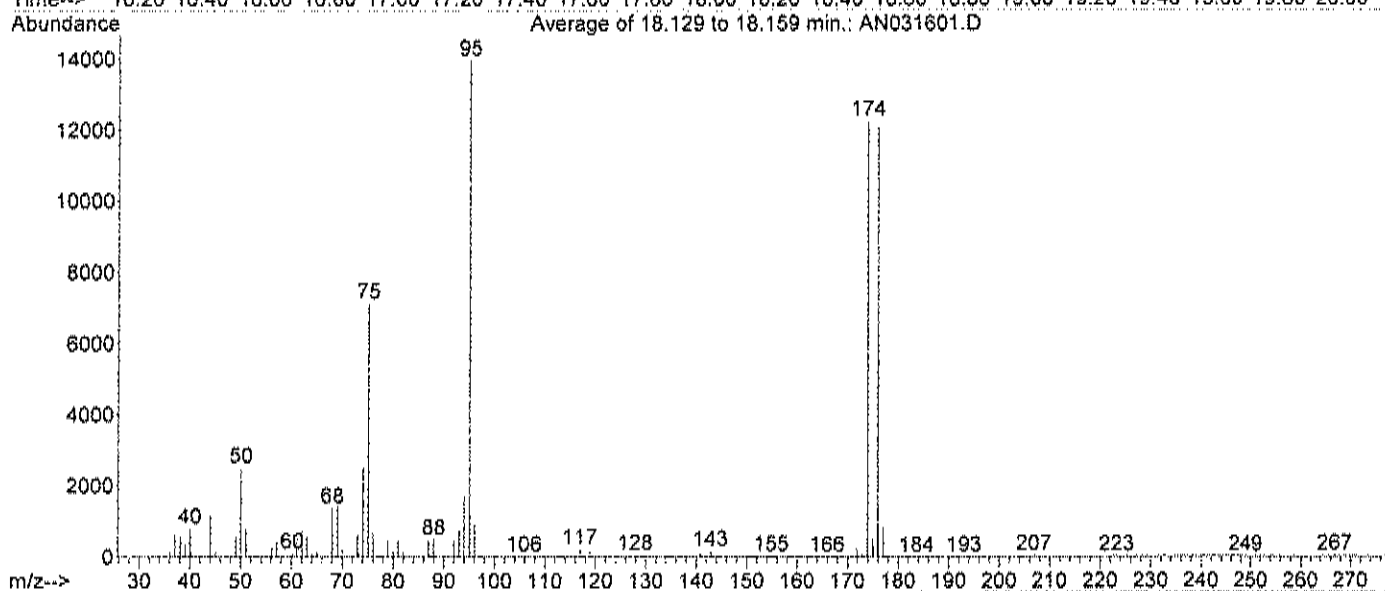
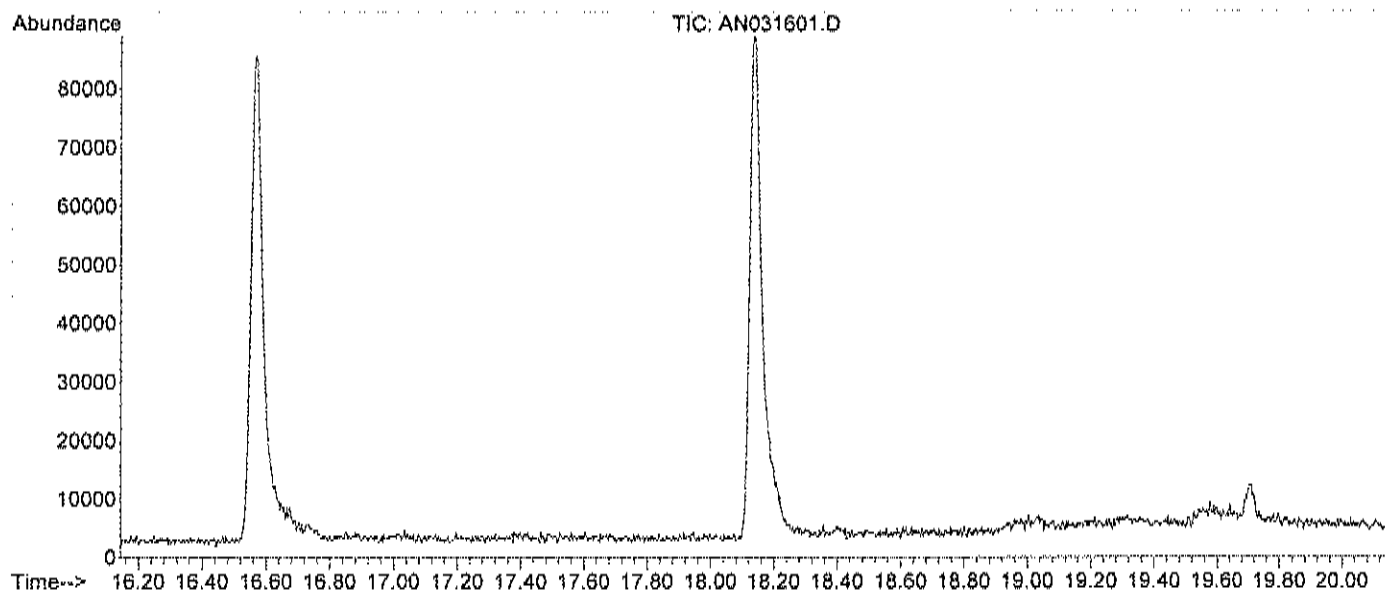
Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration



Spectrum Information: Average of 18.129 to 18.159 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.0	2513	PASS
75	95	30	66	51.1	7135	PASS
95	95	100	100	100.0	13975	PASS
96	95	5	9	6.7	936	PASS
173	174	0.00	2	0.6	79	PASS
174	95	50	120	87.9	12278	PASS
175	174	4	9	4.1	498	PASS
176	174	95	101	98.5	12090	PASS
177	176	5	9	6.9	829	PASS

BFB

Data File : C:\HPCHEM\1\DATA\AN031901.D

Vial: 1

Acq On : 19 Mar 2016 10:24 am

Operator: RJP

Sample : BFB1UG

Inst : MSD #1

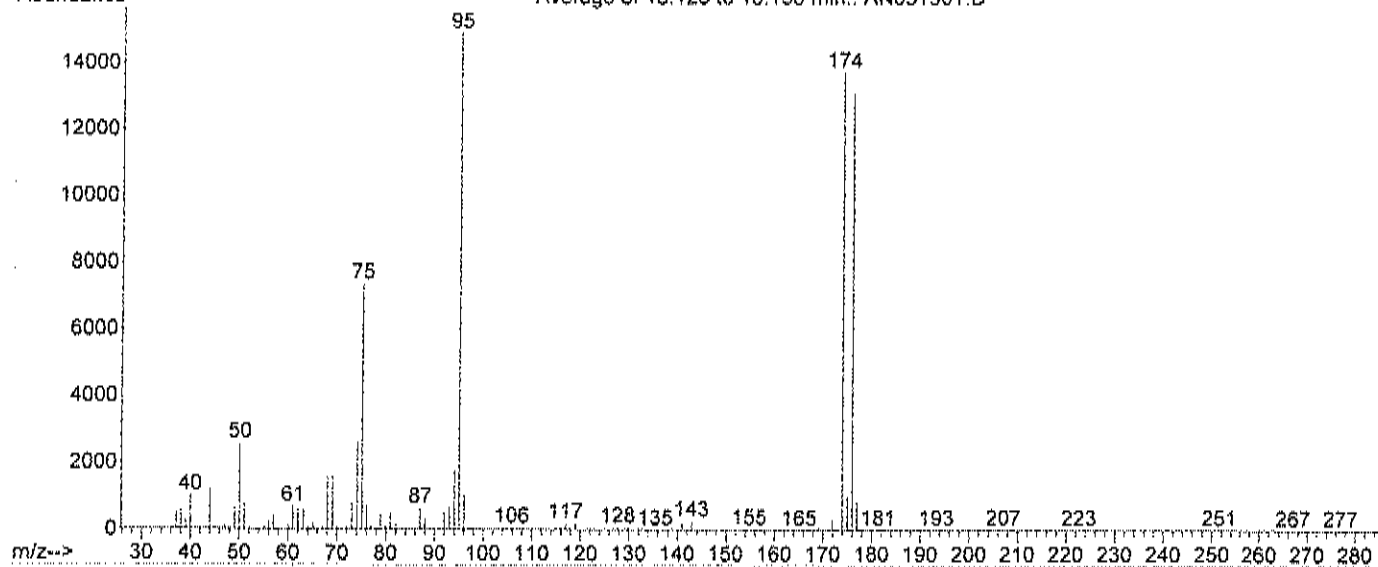
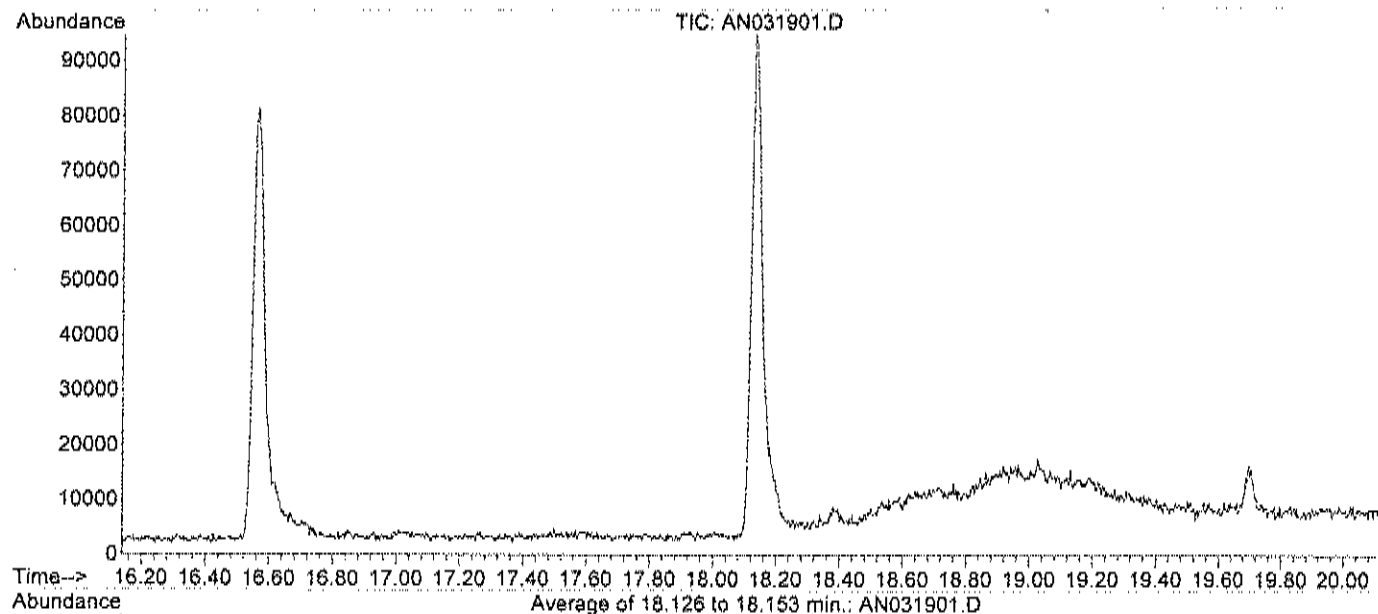
Misc : A316_1UG

Multiplx: 1.00

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration



Spectrum Information: Average of 18.126 to 18.153 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.3	2573	PASS
75	95	30	66	49.3	7358	PASS
95	95	100	100	100.0	14911	PASS
96	95	5	9	6.8	1019	PASS
173	174	0.00	2	0.2	25	PASS
174	95	50	120	92.3	13756	PASS
175	174	4	9	7.5	1027	PASS
176	174	95	101	95.4	13121	PASS
177	176	5	9	6.6	860	PASS

BFB

Data File : C:\HPCHEM\1\DATA\AN032202.D

Vial: 2

Acq On : 22 Mar 2016 11:42 am

Operator: RJP

Sample : BFB1UG

Inst : MSD #1

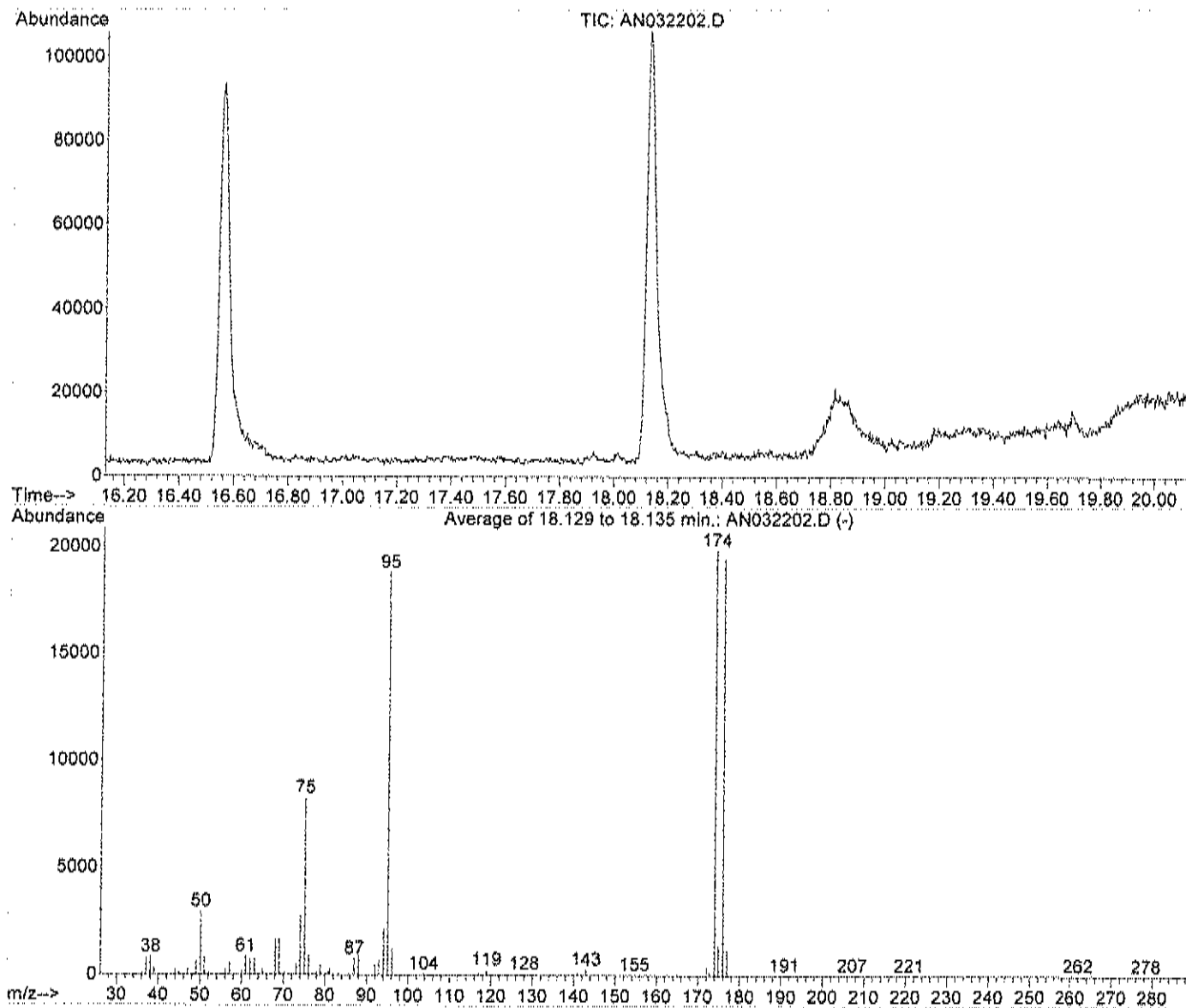
Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration



Spectrum Information: Average of 18.129 to 18.135 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	15.8	2971	PASS
75	95	30	66	43.9	8283	PASS
95	95	100	100	100.0	18856	PASS
96	95	5	9	6.7	1260	PASS
173	174	0.00	2	0.7	141	PASS
174	95	50	120	105.5	19890	PASS
175	174	4	9	7.2	1433	PASS
176	174	95	101	98.0	19488	PASS
177	176	5	9	6.4	1251	PASS

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

RAW QC DATA

Date: 07-Apr-16

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	AMB1UG-031916	Sample Type: MBLK	TestCode: 1ugM3_TO15	Units: ppbv	Prep Date:	RunNo: 10790					
Client ID:	ZZZZZ	Batch ID: R10790	TestNo: TO-15		Analysis Date: 3/19/2016	SeqNo: 126779					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	< 0.15	0.15									
1,1,2,2-Tetrachloroethane	< 0.15	0.15									
1,1,2-Trichloroethane	< 0.15	0.15									
1,1-Dichloroethane	< 0.15	0.15									
1,1-Dichloroethene	< 0.15	0.15									
1,2,4-Trichlorobenzene	< 0.15	0.15									
1,2,4-Trimethylbenzene	< 0.15	0.15									
1,2-Dibromoethane	< 0.15	0.15									
1,2-Dichlorobenzene	< 0.15	0.15									
1,2-Dichloroethane	< 0.15	0.15									
1,2-Dichloropropane	< 0.15	0.15									
1,3,5-Trimethylbenzene	< 0.15	0.15									
1,3-butadiene	< 0.15	0.15									
1,3-Dichlorobenzene	< 0.15	0.15									
1,4-Dichlorobenzene	< 0.15	0.15									
1,4-Dioxane	< 0.30	0.30									
2,2,4-trimethylpentane	< 0.15	0.15									
4-ethyltoluene	< 0.15	0.15									
Acetone	< 0.30	0.30									
Allyl chloride	< 0.15	0.15									
Benzene	< 0.15	0.15									
Benzyl chloride	< 0.15	0.15									
Bromodichloromethane	< 0.15	0.15									
Bromoform	< 0.15	0.15									
Bromomethane	< 0.15	0.15									

Qualifiers: J Results reported are not blank corrected
S Analyte detected at or below quantitation limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se

Work Order: C1603053

Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	AMBIUG-031916	Sample Type: MBLK	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10790					
Client ID: ZZZZZ		Batch ID: R10790	TestNo: TO-15		Analysis Date: 3/19/2016	SeqNo: 126779					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon disulfide	< 0.15	0.15									
Carbon tetrachloride	< 0.15	0.15									
Chlorobenzene	< 0.15	0.15									
Chloroethane	< 0.15	0.15									
Chloroform	< 0.15	0.15									
Chloromethane	< 0.15	0.15									
cis-1,2-Dichloroethene	< 0.15	0.15									
cis-1,3-Dichloropropene	< 0.15	0.15									
Cyclohexane	< 0.15	0.15									
Dibromochloromethane	< 0.15	0.15									
Ethyl acetate	< 0.25	0.25									
Ethylbenzene	< 0.15	0.15									
Freon 11	< 0.15	0.15									
Freon 113	< 0.15	0.15									
Freon 114	< 0.15	0.15									
Freon 12	< 0.15	0.15									
Heptane	< 0.15	0.15									
Hexachloro-1,3-butadiene	< 0.15	0.15									
Hexane	< 0.15	0.15									
Isopropyl alcohol	< 0.15	0.15									
m&p-Xylene	< 0.30	0.30									
Methyl Butyl Ketone	< 0.30	0.30									
Methyl Ethyl Ketone	< 0.30	0.30									
Methyl Isobutyl Ketone	< 0.30	0.30									
Methyl tert-butyl ether	< 0.15	0.15									
Methylene chloride	< 0.15	0.15									
o-Xylene	< 0.15	0.15									
Propylene	< 0.15	0.15									
Styrene	< 0.15	0.15									
Tetrachloroethylene	< 0.15	0.15									
Tetrahydrofuran	< 0.15	0.15									

Qualifiers: J Results reported are not blank corrected E Value above quantitation range H Holding times for preparation or analysis exceeded
S Analyte detected at or below quantitation limits ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	AMB1UG-031916	SampType:	MBLK	TestCode:	1ugM3_TO15	Units:	ppbv	Prep Date:	RunNo:	10790			
Client ID:	ZZZZZ	Batch ID:	R10790	TestNo:	TO-15			Analysis Date:	SeqNo:	126779			
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Toluene	< 0.15	0.15											
trans-1,2-Dichloroethene	< 0.15	0.15											
trans-1,3-Dichloropropene	< 0.15	0.15											
Trichloroethene	< 0.15	0.15											
Vinyl acetate	< 0.15	0.15											
Vinyl Bromide	< 0.15	0.15											
Vinyl chloride	< 0.15	0.15											
Surr: Bromofluorobenzene	1.000	0	1	0	100	70	130						

Sample ID	AMB1UG-032216	SampType:	MBLK	TestCode:	1ugM3_TO15	Units:	ppbV	Prep Date:	RunNo:	10791			
Client ID:	ZZZZZ	Batch ID:	R10791	TestNo:	TO-15			Analysis Date:	SeqNo:	126820			
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1-Trichloroethane	< 0.15	0.15											
1,1,2,2-Tetrachloroethane	< 0.15	0.15											
1,1,2-Trichloroethane	< 0.15	0.15											
1,1-Dichloroethane	< 0.15	0.15											
1,1-Dichloroethene	< 0.15	0.15											
1,2,4-Trichlorobenzene	< 0.15	0.15											
1,2,4-Trimethylbenzene	< 0.15	0.15											
1,2-Dibromoethane	< 0.15	0.15											
1,2-Dichlorobenzene	< 0.15	0.15											
1,2-Dichloroethane	< 0.15	0.15											
1,2-Dichloropropene	< 0.15	0.15											
1,3,5-Trimethylbenzene	< 0.15	0.15											
1,3-butadiene	< 0.15	0.15											
1,3-Dichlorobenzene	< 0.15	0.15											
1,4-Dichlorobenzene	< 0.15	0.15											
1,4-Dioxane	< 0.30	0.30											
2,2,4-trimethylpentane	< 0.15	0.15											

Qualifiers:		Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	NID	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	
S	Spike Recovery outside accepted recovery limits					

CLIENT: Environmental & Geologic Management Se

Work Order: C1603053

Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	AMB1UG-032216	SampleType: MBLK	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10791					
Client ID: ZZZZZ		Batch ID: R10791	TestNo: TO-15		Analysis Date: 3/22/2016	SeqNo: 126820					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-ethyltoluene	< 0.15	0.15									
Acetone	< 0.30	0.30									
Allyl chloride	< 0.15	0.15									
Benzene	< 0.15	0.15									
Benzyl chloride	< 0.15	0.15									
Bromodichloromethane	< 0.15	0.15									
Bromoform	< 0.15	0.15									
Bromomethane	< 0.15	0.15									
Carbon disulfide	< 0.15	0.15									
Carbon tetrachloride	< 0.15	0.15									
Chlorobenzene	< 0.15	0.15									
Chloroethane	< 0.15	0.15									
Chloroform	< 0.15	0.15									
Chloromethane	< 0.15	0.15									
cis-1,2-Dichloroethene	< 0.15	0.15									
cis-1,3-Dichloropropene	< 0.15	0.15									
Cyclohexane	< 0.15	0.15									
Dibromochloromethane	< 0.15	0.15									
Ethyl acetate	< 0.25	0.25									
Ethylbenzene	< 0.15	0.15									
Freon 11	< 0.15	0.15									
Freon 113	< 0.15	0.15									
Freon 114	< 0.15	0.15									
Freon 12	< 0.15	0.15									
Heptane	< 0.15	0.15									
Hexachloro-1,3-butadiene	< 0.15	0.15									
Hexane	< 0.15	0.15									
isopropyl alcohol	< 0.15	0.15									
m&p-Xylene	< 0.30	0.30									
Methyl Butyl Ketone	< 0.30	0.30									
Methyl Ethyl Ketone	< 0.30	0.30									

Qualifiers:	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	AMB1UG-032216	SampType: MBLK	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10791					
Client ID: ZZZZ		Batch ID: R10791	TestNo: TO-15		Analysis Date: 3/22/2016	SeqNo: 126820					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl Isobutyl Ketone	< 0.30	0.30									
Methyl tert-butyl ether	< 0.15	0.15									
Methylene chloride	< 0.15	0.15									
o-Xylene	< 0.15	0.15									
Propylene	< 0.15	0.15									
Styrene	< 0.15	0.15									
Tetrachloroethylene	< 0.15	0.15									
Tetrahydrofuran	< 0.15	0.15									
Toluene	< 0.15	0.15									
trans-1,2-Dichloroethene	< 0.15	0.15									
trans-1,3-Dichloropropene	< 0.15	0.15									
Trichloroethene	< 0.15	0.15									
Vinyl acetate	< 0.15	0.15									
Vinyl Bromide	< 0.15	0.15									
Vinyl chloride	< 0.15	0.15									
Surr: Bromofluorobenzene	0.9600	0	1	0	98.0	70	130				

Qualifiers:

.	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

Data File : C:\HPCHEM\1\DATA\AN031904.D

Vial: 4

Acq On : 19 Mar 2016 12:18 pm

Operator: RJP

Sample : AMB1UG-031916

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 20 12:45:32 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.83	128	34117	1.00	ppb	0.02
35) 1,4-difluorobenzene	12.08	114	103853	1.00	ppb	0.02
50) Chlorobenzene-d5	16.57	117	71175	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.14	95	45844	1.00	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	100.00%

Target Compounds

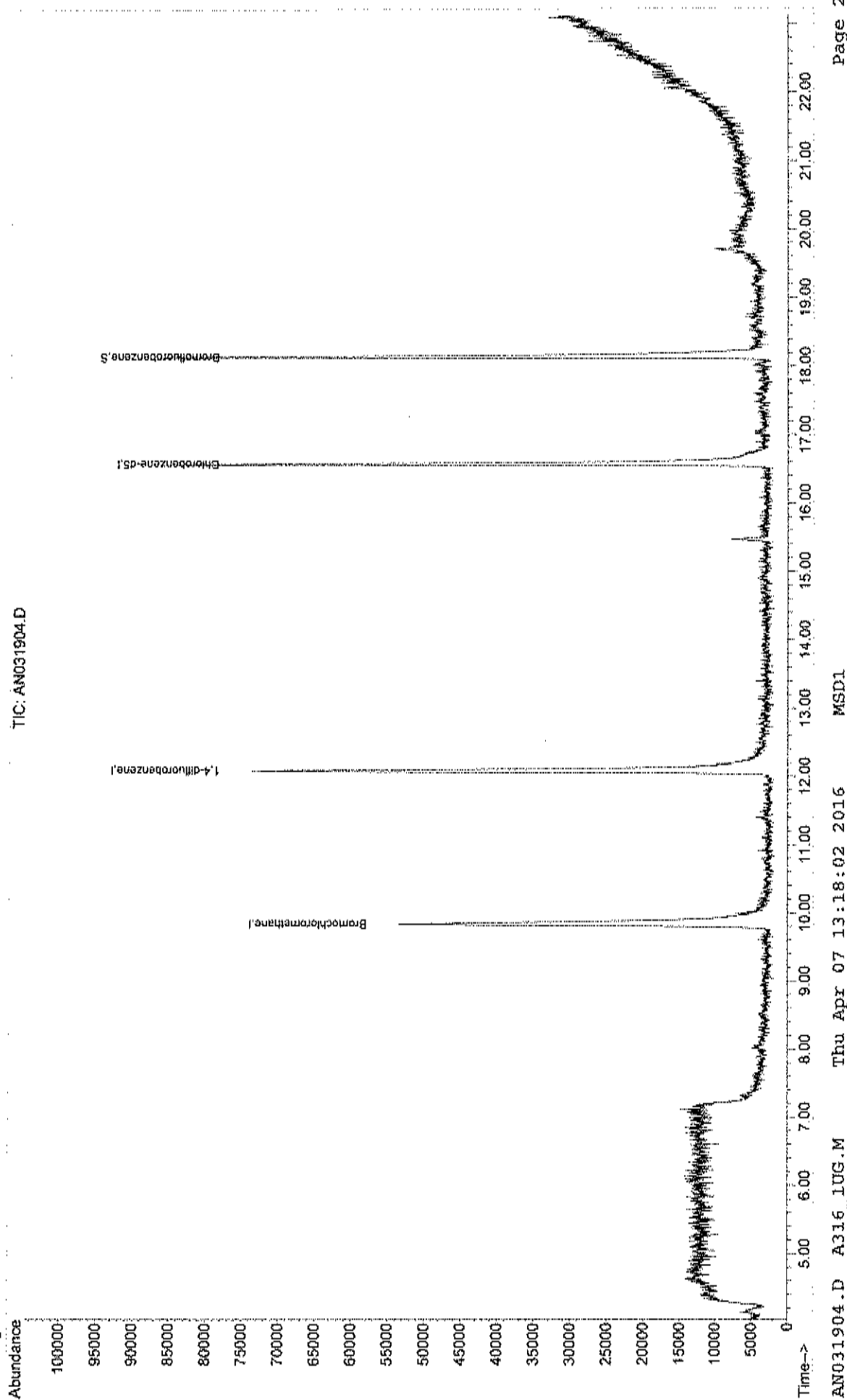
Qvalue

Data File : C:\HPCHEM\1\DATA\AN031904.D
Acq On : 19 Mar 2016 12:18 pm
Sample : AMB1UG-031916
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 20 12:45 2016

Vial: 4
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration



Data File : C:\HPCHEM\1\DATA\AN032208.D

Vial: 8

Acq On : 22 Mar 2016 4:29 pm

Operator: RJP

Sample : AMB1UG-032216

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 22 16:53:00 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.82	128	40595	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.07	114	112561	1.00	ppb	0.00
50) Chlorobenzene-d5	16.56	117	85892	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.13	95	53890	0.98	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	98.00%

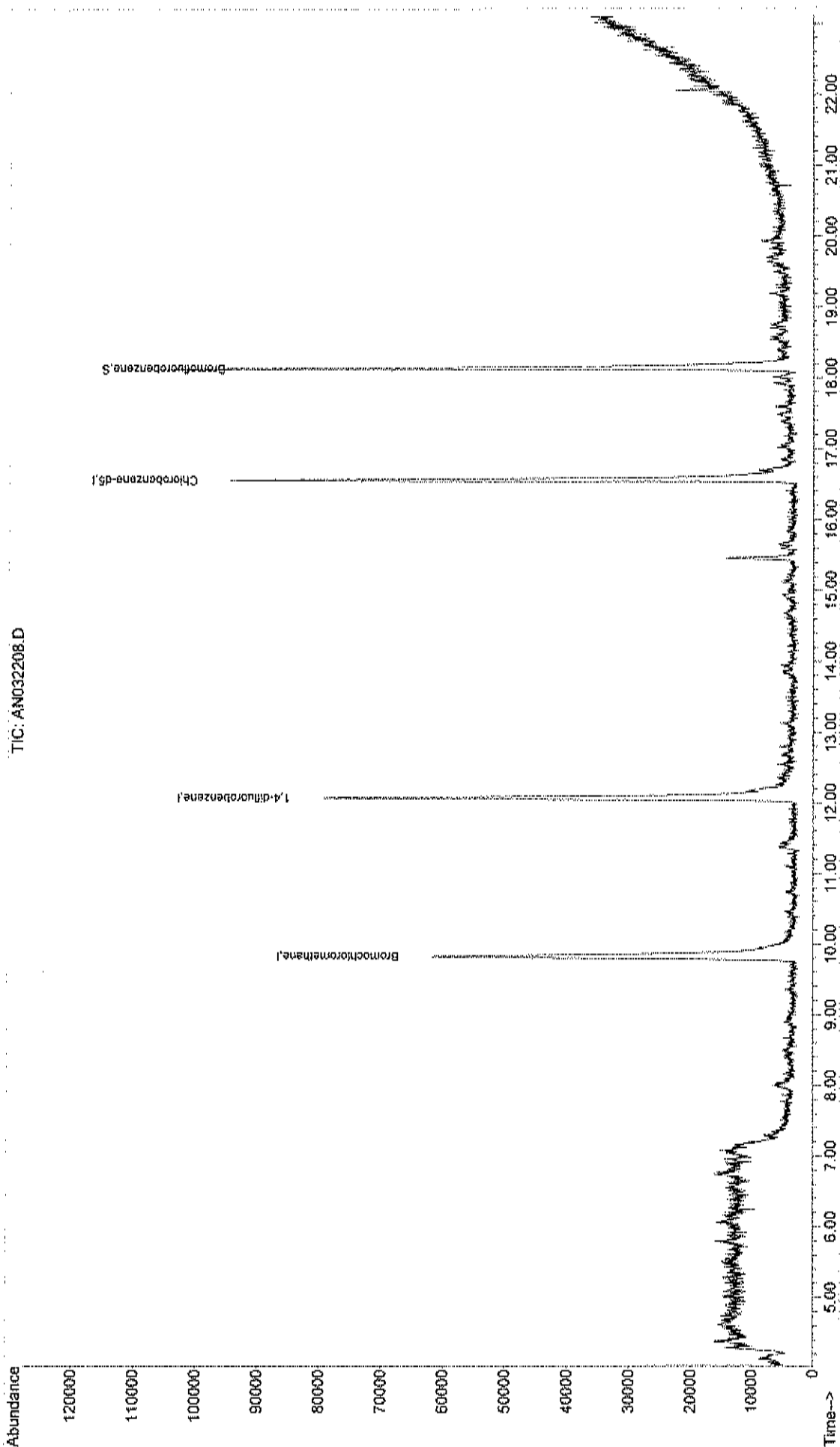
Target Compounds

Qvalue

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN032208.D
Acq On : 22 Mar 2016 4:29 pm
Sample : AMB1UG-032216
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 22 16:53 2016
Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration

Quant Results File: A316_1UG.RES



Date: 07-Apr-16

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: Environmental & Geologic Management Se
 Work Order: C1603053
 Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	ALCS1UG-031916	Sample Type: LCS	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10790						
Client ID: ZZZZZ	Batch ID: R10790	TestNo: TO-15	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result											
1,1,1-Trichloroethane	0.8400	0.15	1	0	84.0	70	130					
1,1,2,2-Tetrachloroethane	0.8100	0.15	1	0	81.0	70	130					
1,1,2-Trichloroethane	0.8500	0.15	1	0	85.0	70	130					
1,1-Dichloroethane	0.8600	0.15	1	0	86.0	70	130					
1,1-Dichloroethene	0.8500	0.15	1	0	85.0	70	130					
1,2,4-Trichlorobenzene	0.7100	0.15	1	0	71.0	70	130					
1,2,4-Trimethylbenzene	0.7900	0.15	1	0	79.0	70	130					
1,2-Dibromoethane	0.8500	0.15	1	0	85.0	70	130					
1,2-Dichlorobenzene	0.7600	0.15	1	0	76.0	70	130					
1,2-Dichloroethane	0.8200	0.15	1	0	82.0	70	130					
1,2-Dichloropropane	0.8400	0.15	1	0	84.0	70	130					
1,3,5-Trimethylbenzene	0.8400	0.15	1	0	84.0	70	130					
1,3-butadiene	0.8700	0.15	1	0	87.0	70	130					
1,3-Dichlorobenzene	0.8400	0.15	1	0	84.0	70	130					
1,4-Dichlorobenzene	0.8400	0.15	1	0	84.0	70	130					
1,4-Dioxane	1.140	0.30	1	0	114	70	130					
2,2,4-trimethylpentane	0.8900	0.15	1	0	89.0	70	130					
4-ethyltoluene	0.8300	0.15	1	0	83.0	70	130					
Acetone	1.020	0.30	1	0	102	70	130					
Allyl chloride	0.6200	0.15	1	0	62.0	70	130					S
Benzene	0.8500	0.15	1	0	85.0	70	130					
Benzyl chloride	0.7400	0.15	1	0	74.0	70	130					
Bromodichloromethane	0.9200	0.15	1	0	92.0	70	130					
Bromoform	1.380	0.15	1	0	138	70	130					S
Bromomethane	0.8700	0.15	1	0	87.0	70	130					

Qualifiers: } Results reported are not blank corrected
 } Analyte detected at or below quantitation limits
 S Spike Recovery outside accepted recovery limits

E Value above quantitation range
 MD Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
 Work Order: C1603053
 Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	ALCS1UG-031916	SampleType: LCS	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10790					
Client ID: ZZZZZ		Batch ID: R10790	TestNo: TO-15		Analysis Date: 3/19/2016	SeqNo: 126780					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon disulfide	0.8300	0.15	1	0	83.0	70	130				
Carbon tetrachloride	0.8400	0.15	1	0	84.0	70	130				
Chlorobenzene	0.8300	0.15	1	0	83.0	70	130				
Chloroethane	0.9400	0.15	1	0	94.0	70	130				
Chloroform	0.8300	0.15	1	0	83.0	70	130				
Chloromethane	0.8800	0.15	1	0	88.0	70	130				
cis-1,2-Dichloroethene	0.8500	0.15	1	0	85.0	70	130				
cis-1,3-Dichloropropene	0.8700	0.15	1	0	87.0	70	130				
Cyclohexane	0.8500	0.15	1	0	85.0	70	130				
Dibromochloromethane	0.9100	0.15	1	0	91.0	70	130				
Ethyl acetate	0.8600	0.25	1	0	86.0	70	130				
Ethylbenzene	0.8200	0.15	1	0	82.0	70	130				
Freon 11	0.9100	0.15	1	0	91.0	70	130				
Freon 113	0.8700	0.15	1	0	87.0	70	130				
Freon 114	0.8400	0.15	1	0	84.0	70	130				
Freon 12	0.8900	0.15	1	0	89.0	70	130				
Heptane	0.8300	0.15	1	0	83.0	70	130				
Hexachloro-1,3-butadiene	0.7900	0.15	1	0	79.0	70	130				
Hexane	0.8300	0.15	1	0	83.0	70	130				
Isopropyl alcohol	0.8800	0.15	1	0	88.0	70	130				
m&p-Xylene	1.620	0.30	2	0	81.0	70	130				
Methyl Butyl Ketone	1.060	0.30	1	0	106	70	130				
Methyl Ethyl Ketone	0.9000	0.30	1	0	90.0	70	130				
Methyl Isobutyl Ketone	1.180	0.30	1	0	118	70	130				
Methyl tert-butyl ether	0.8400	0.15	1	0	84.0	70	130				
Methylene chloride	0.8300	0.15	1	0	83.0	70	130				
o-Xylene	0.7700	0.15	1	0	77.0	70	130				
Propylene	0.8500	0.15	1	0	85.0	70	130				
Styrene	0.8500	0.15	1	0	85.0	70	130				
Tetrachloroethylene	0.7700	0.15	1	0	77.0	70	130				
Tetrahydrofuran	0.8000	0.15	1	0	80.0	70	130				

Qualifiers: J Results reported are not blank corrected E Value above quantitation range H Holding times for preparation or analysis exceeded
 S Analyte detected at or below quantitation limits ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits
 Spike Recovery outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	ALCS1UG-031916	Sample Type:	LCS	TestCode:	1ugM3_TO15	Units:	ppbv	Prep Date:	RunNo:	10790	
Client ID:	ZZZZ	Batch ID:	R10790	TestNo:	TO-15			Analysis Date:	SeqNo:	126780	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	0.8400	0.15	1	0	84.0	70	130				
trans-1,2-Dichloroethene	0.8400	0.15	1	0	84.0	70	130				
trans-1,3-Dichloropropene	0.9100	0.15	1	0	91.0	70	130				
Trichloroethene	0.8200	0.15	1	0	82.0	70	130				
Vinyl acetate	0.7000	0.15	1	0	70.0	70	130				
Vinyl Bromide	0.8700	0.15	1	0	87.0	70	130				
Vinyl chloride	0.7500	0.15	1	0	75.0	70	130				
Surr: Bromofluorobenzene	1.040	0	1	0	104	70	130				

Sample ID	ALCS1UG-032216	SampType: LCS	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10791					
Client ID: ZZZZ		Batch ID: R10791	TestNo: TO-15		Analysis Date: 3/22/2016	SeqNo: 126821					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.8100	0.15	1	0	81.0	70	130				
1,1,2,2-Tetrachloroethane	0.8500	0.15	1	0	85.0	70	130				
1,1,2-Trichloroethane	0.9500	0.15	1	0	95.0	70	130				
1,1-Dichloroethane	0.7900	0.15	1	0	79.0	70	130				
1,1-Dichloroethene	0.7700	0.15	1	0	77.0	70	130				
1,2,4-Trichlorobenzene	0.8500	0.15	1	0	85.0	70	130				
1,2,4-Trimethylbenzene	0.8000	0.15	1	0	80.0	70	130				
1,2-Dibromoethane	0.9400	0.15	1	0	94.0	70	130				
1,2-Dichlorobenzene	1.050	0.15	1	0	105	70	130				
1,2-Dichloroethane	0.7100	0.15	1	0	71.0	70	130				
1,2-Dichloropropane	0.8600	0.15	1	0	86.0	70	130				
1,3,5-Trimethylbenzene	0.8400	0.15	1	0	84.0	70	130				
1,3-butadiene	0.7200	0.15	1	0	72.0	70	130				
1,3-Dichlorobenzene	1.080	0.15	1	0	108	70	130				
1,4-Dichlorobenzene	1.100	0.15	1	0	110	70	130				
1,4-Dioxane	1.040	0.30	1	0	104	70	130				
2,2,4-trimethylpentane	0.9500	0.15	1	0	95.0	70	130				

Qualifiers: J Results reported are not blank corrected
S Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
 Work Order: C1603053
 Project: Highland Plaza

TestCode: IugM3_TO15

Sample ID	ALCS1UG-032216	Sample Type: LCS	TestCode: 1ugM3_TO15	Units: ppbv	Prep Date:	RunNo: 10791					
Client ID: ZZZZZ		Batch ID: R10791	TestNo: TO-15		Analysis Date: 3/22/2016	SeqNo: 126821					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-ethyltoluene	0.8600	0.15	1	0	86.0	70	130				
Acetone	0.9300	0.30	1	0	93.0	70	130				
Allyl chloride	0.7800	0.15	1	0	78.0	70	130				
Benzene	0.9200	0.15	1	0	92.0	70	130				
Benzyl chloride	0.7800	0.15	1	0	78.0	70	130				
Bromodichloromethane	0.9000	0.15	1	0	90.0	70	130				
Bromoform	1.540	0.15	1	0	154	70	130				S
Bromomethane	0.8400	0.15	1	0	84.0	70	130				
Carbon disulfide	0.8200	0.15	1	0	82.0	70	130				
Carbon tetrachloride	0.8100	0.15	1	0	81.0	70	130				
Chlorobenzene	0.8500	0.15	1	0	85.0	70	130				
Chloroethane	0.7600	0.15	1	0	76.0	70	130				
Chloroform	0.7500	0.15	1	0	75.0	70	130				
Chloromethane	0.7400	0.15	1	0	74.0	70	130				
cis-1,2-Dichloroethene	0.7800	0.15	1	0	78.0	70	130				
cis-1,3-Dichloropropene	0.9100	0.15	1	0	91.0	70	130				
Cyclohexane	0.9300	0.15	1	0	93.0	70	130				
Dibromochloromethane	0.9000	0.15	1	0	90.0	70	130				
Ethyl acetate	0.7700	0.25	1	0	77.0	70	130				
Ethylbenzene	0.7600	0.15	1	0	76.0	70	130				
Freon 11	0.8300	0.15	1	0	83.0	70	130				
Freon 113	0.8200	0.15	1	0	82.0	70	130				
Freon 114	0.7900	0.15	1	0	79.0	70	130				
Freon 12	0.8100	0.15	1	0	81.0	70	130				
Heptane	0.8200	0.15	1	0	82.0	70	130				
Hexachloro-1,3-butadiene	1.070	0.15	1	0	107	70	130				
Hexane	0.7700	0.15	1	0	77.0	70	130				
Isopropyl alcohol	0.6700	0.15	1	0	67.0	70	130				S
m&p-Xylene	1.490	0.30	2	0	74.5	70	130				
Methyl Butyl Ketone	1.390	0.30	1	0	139	70	130				S
Methyl Ethyl Ketone	0.8500	0.30	1	0	85.0	70	130				

Qualifiers: J Results reported are not blank corrected
 S Analyte detected at or below quantitation limits
 S Spike Recovery outside accepted recovery limits
 H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	ALCS1UG-032216	SampleType: LCS	TestCode: 1ugM3_TO15		Units: ppbV	Prep Date:		RunNo: 10791			
Client ID: ZZZZZ		Batch ID: R10791	TestNo: TO-15			Analysis Date: 3/22/2016		SeqNo: 126821			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl Isobutyl Ketone	1.160	0.30	1	0	116	70	130				
Methyl tert-butyl ether	0.8100	0.15	1	0	81.0	70	130				
Methylene chloride	0.9900	0.15	1	0	99.0	70	130				
o-Xylene	0.7000	0.15	1	0	70.0	70	130				
Propylene	0.7900	0.15	1	0	79.0	70	130				
Styrene	0.8000	0.15	1	0	80.0	70	130				
Tetrachloroethylene	0.8500	0.15	1	0	85.0	70	130				
Tetrahydrofuran	0.7300	0.15	1	0	73.0	70	130				
Toluene	0.7700	0.15	1	0	77.0	70	130				
trans-1,2-Dichloroethene	0.7600	0.15	1	0	76.0	70	130				
trans-1,3-Dichloropropene	0.9500	0.15	1	0	95.0	70	130				
Trichloroethene	0.9300	0.15	1	0	93.0	70	130				
Vinyl acetate	0.7000	0.15	1	0	70.0	70	130				
Vinyl Bromide	0.8500	0.15	1	0	85.0	70	130				
Vinyl chloride	0.7000	0.15	1	0	70.0	70	130				
Surr: Bromofluorobenzene	1.020	0	1	0	102	70	130				

Qualifiers: J Results reported are not blank corrected E Value above quantitation range EI Holding times for preparation or analysis exceeded
S Analyte detected at or below quantitation limits ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

Data File : C:\HPCHEM\1\DATA\AN031903.D

Vial: 3

Acq On : 19 Mar 2016 11:42 am

Operator: RJP

Sample : ALCS1UG-031916

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 20 12:45:31 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.80	128	36285	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.05	114	110067	1.00	ppb	0.00
50) Chlorobenzene-d5	16.56	117	63580	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.13	95	42574	1.04	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	104.00%

Target Compounds

						Qvalue
2) Propylene	4.13	41	25001	0.85	ppb	# 100
3) Freon 12	4.19	85	138121	0.89	ppb	99
4) Chloromethane	4.38	50	35660	0.88	ppb	94
5) Freon 114	4.39	85	110319	0.84	ppb	96
6) Vinyl Chloride	4.58	62	30798	0.75	ppb	94
7) Butane	4.67	43	41364	0.89	ppb	98
8) 1,3-butadiene	4.68	39	26856	0.87	ppb	86
9) Bromomethane	5.03	94	41768	0.87	ppb	92
10) Chloroethane	5.20	64	15714	0.94	ppb	89
11) Ethanol	5.36	45	12335	1.00	ppb	# 69
12) Acrolein	5.96	56	8855	0.84	ppb	# 5
13) Vinyl Bromide	5.54	106	40952	0.87	ppb	96
14) Freon 11	5.79	101	144862	0.91	ppb	99
15) Acetone	6.04	58	15947	1.02	ppb	# 61
16) Pentane	6.07	42	30156	0.84	ppb	98
17) Isopropyl alcohol	6.15	45	44867	0.88	ppb	# 46
18) 1,1-dichloroethene	6.55	96	39661	0.85	ppb	# 85
19) Freon 113	6.74	101	98181	0.87	ppb	96
20) t-Butyl alcohol	6.87	59	70897	0.87	ppb	# 76
21) Methylene chloride	7.04	84	33869	0.83	ppb	93
22) Allyl chloride	7.01	41	22384	0.62	ppb	# 51
23) Carbon disulfide	7.19	76	99900	0.83	ppb	97
24) trans-1,2-dichloroethene	7.98	61	46484	0.84	ppb	96
25) methyl tert-butyl ether	8.02	73	88178	0.84	ppb	94
26) 1,1-dichloroethane	8.39	63	67479	0.86	ppb	99
27) Vinyl acetate	8.42	43	47800m	0.70	ppb	
28) Methyl Ethyl Ketone	8.93	72	14964	0.90	ppb	# 100
29) cis-1,2-dichloroethene	9.33	61	38326	0.85	ppb	89
30) Hexane	8.89	57	39205	0.83	ppb	97
31) Ethyl acetate	9.53	43	55928	0.86	ppb	94
32) Chloroform	9.94	83	87468	0.83	ppb	99
33) Tetrahydrofuran	10.16	42	24084	0.80	ppb	92
34) 1,2-dichloroethane	11.07	62	48691	0.82	ppb	89
36) 1,1,1-trichloroethane	10.74	97	86491	0.84	ppb	98
37) Cyclohexane	11.43	56	36311	0.85	ppb	89
38) Carbon tetrachloride	11.38	117	96522	0.84	ppb	97
39) Benzene	11.36	78	78206	0.85	ppb	98
40) Methyl methacrylate	12.91	41	24186	0.81	ppb	# 72
41) 1,4-dioxane	12.99	88	26599	1.14	ppb	98
42) 2,2,4-trimethylpentane	12.18	57	142512	0.89	ppb	98
43) Heptane	12.52	43	30853	0.83	ppb	95
44) Trichloroethene	12.67	130	38277	0.82	ppb	98
45) 1,2-dichloropropane	12.79	63	27814	0.84	ppb	98

(#)=qualifier out of range (m)=manual integration

AN031903.D A316_1UG.M

Thu Apr 07 13:17:57 2016

MSD1

Page 1

Data File : C:\HPCHEM\1\DATA\AN031903.D

Vial: 3

Acq On : 19 Mar 2016 11:42 am

Operator: RJP

Sample : ALCS1UG-031916

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 20 12:45:31 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.11	83	74224	0.92	ppb	100
47) cis-1,3-dichloropropene	13.89	75	38373	0.87	ppb	97
48) trans-1,3-dichloropropene	14.63	75	35755	0.91	ppb	94
49) 1,1,2-trichloroethane	14.92	97	30785	0.85	ppb	97
51) Toluene	14.67	92	36043	0.84	ppb	100
52) Methyl Isobutyl Ketone	13.83	43	89960	1.18	ppb	97
53) Dibromochloromethane	15.60	129	49339m	0.91	ppb	
54) Methyl Butyl Ketone	15.10	43	71873	1.06	ppb	98
55) 1,2-dibromoethane	15.85	107	45854	0.85	ppb	97
56) Tetrachloroethylene	15.65	164	31660	0.77	ppb	100
57) Chlorobenzene	16.60	112	46887	0.83	ppb	88
58) 1,1,1,2-tetrachloroethane	16.70	131	36056	0.85	ppb	95
59) Ethylbenzene	16.84	91	60408	0.82	ppb	98
60) m&p-xylene	17.03	91	95100	1.62	ppb	94
61) Nonane	17.37	43	29137	0.83	ppb	98
62) Styrene	17.46	104	34804	0.85	ppb	89
63) Bromoform	17.58	173	40728	1.38	ppb	98
64) o-xylene	17.48	91	54086m	0.77	ppb	
65) Cumene	18.01	105	63853	0.77	ppb	98
67) 1,1,2,2-tetrachloroethane	17.92	83	58475	0.81	ppb	98
68) Propylbenzene	18.53	91	72059m	0.82	ppb	
69) 2-Chlorotoluene	18.58	91	51456m	0.81	ppb	
70) 4-ethyltoluene	18.69	105	62371m	0.83	ppb	
71) 1,3,5-trimethylbenzene	18.75	105	75179m	0.84	ppb	
72) 1,2,4-trimethylbenzene	19.19	105	61401	0.79	ppb	98
73) 1,3-dichlorobenzene	19.48	146	41635	0.84	ppb	97
74) benzyl chloride	19.55	91	51942m	0.74	ppb	
75) 1,4-dichlorobenzene	19.62	146	39146	0.84	ppb	98
76) 1,2,3-trimethylbenzene	19.65	105	72450	0.75	ppb	95
77) 1,2-dichlorobenzene	19.93	146	46083	0.76	ppb	98
78) 1,2,4-trichlorobenzene	21.78	180	32305	0.71	ppb	96
79) Naphthalene	21.97	128	80643	0.85	ppb	93
80) Hexachloro-1,3-butadiene	22.06	225	88454	0.79	ppb	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN031903.D A316_1UG.M Thu Apr 07 13:17:58 2016 MSD1

Data File : C:\HPCHEM\1\DATA\AN031903.D
Acq On : 19 Mar 2016 11:42 am
Sample : ALCS1UG-031916
Misc : A316_1UG
MMS Integration Params: RTEINT.F
Quant Time: Mar 25 10:23 2016

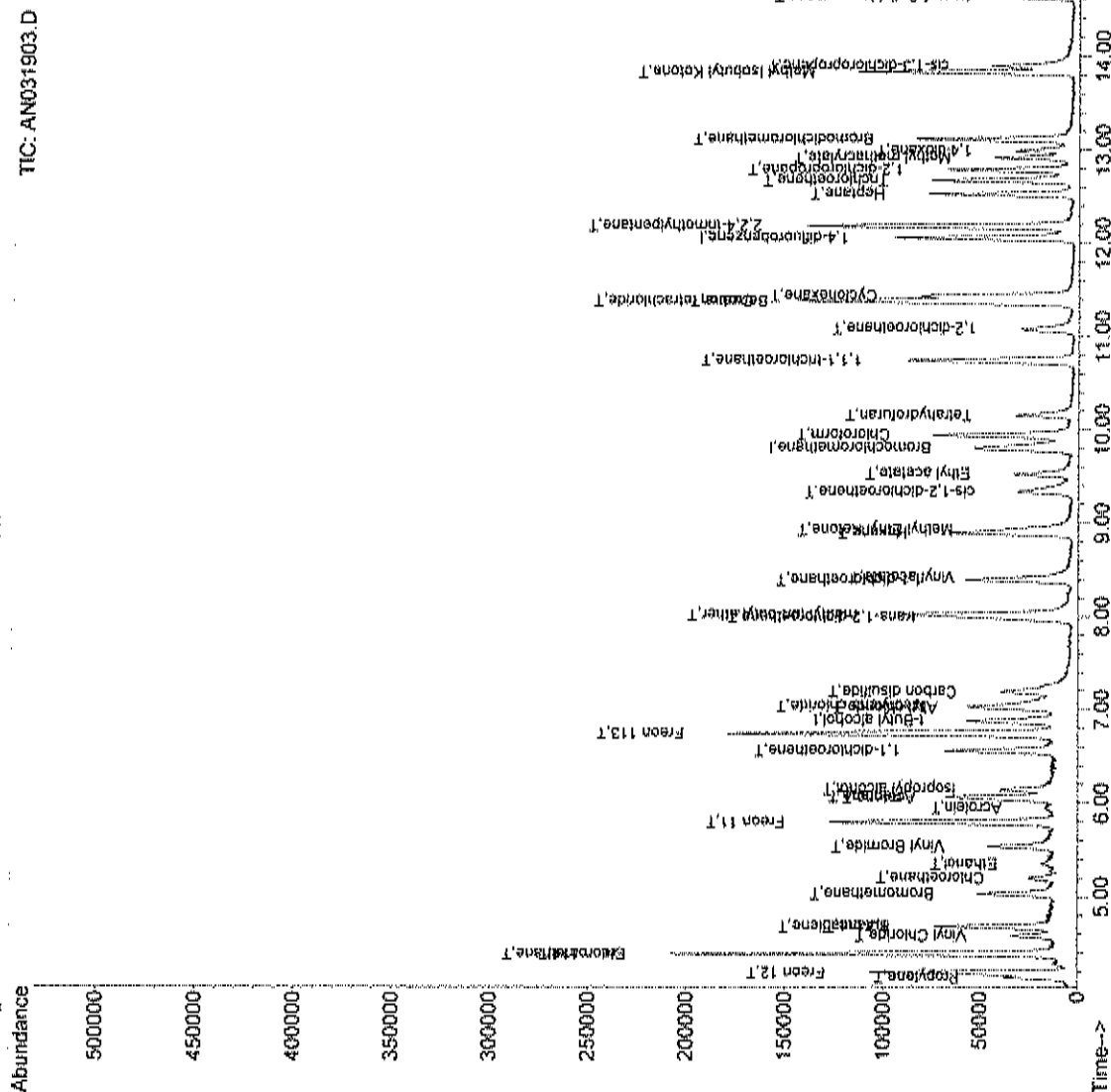
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A316 1UG.RES

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Method      : C:\HPCHEM\1\METHODS\A316_IUG.M (PTE Integrator)
Title       : TO-15 VOC Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration

```



Data File : C:\HPCHEM\1\DATA\AN032207.D

Vial: 7

Acq On : 22 Mar 2016 3:41 pm

Operator: RJP

Sample : ALCS1UG-032216

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 22 16:05:45 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.79	128	40588	1.00	ppb	-0.02
35) 1,4-difluorobenzene	12.05	114	111197	1.00	ppb	0.00
50) Chlorobenzene-d5	16.55	117	68665	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.13	95	44918	1.02	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	102.00%

Target Compounds

						Qvalue
2) Propylene	4.13	41	25872	0.79	ppb	# 100
3) Freon 12	4.18	85	139986	0.81	ppb	99
4) Chloromethane	4.38	50	33638	0.74	ppb	99
5) Freon 114	4.38	85	114752	0.79	ppb	85
6) Vinyl Chloride	4.57	62	31869m	0.70	ppb	
7) Butane	4.67	43	39105	0.75	ppb	92
8) 1,3-butadiene	4.68	39	24581	0.72	ppb	83
9) Bromomethane	5.03	94	44920	0.84	ppb	92
10) Chloroethane	5.19	64	14158	0.76	ppb	90
11) Ethanol	5.34	45	11350	0.82	ppb	# 72
12) Acrolein	5.94	56	7736	0.66	ppb	# 5
13) Vinyl Bromide	5.53	106	45026	0.85	ppb	96
14) Freon 11	5.79	101	147123	0.83	ppb	99
15) Acetone	6.03	58	16294	0.93	ppb	# 55
16) Pentane	6.06	42	23812	0.59	ppb	74
17) Isopropyl alcohol	6.13	45	38124	0.67	ppb	# 46
18) 1,1-dichloroethene	6.55	96	39970	0.77	ppb	# 79
19) Freon 113	6.74	101	102843	0.82	ppb	86
20) t-Butyl alcohol	6.87	59	67403	0.74	ppb	# 76
21) Methylene chloride	7.03	84	45365	0.99	ppb	98
22) Allyl chloride	7.01	41	31489	0.78	ppb	80
23) Carbon disulfide	7.19	76	109851	0.82	ppb	93
24) trans-1,2-dichloroethene	7.97	61	46770	0.76	ppb	84
25) methyl tert-butyl ether	8.01	73	94406	0.81	ppb	94
26) 1,1-dichloroethane	8.39	63	69003	0.79	ppb	98
27) Vinyl acetate	8.41	43	53197m	0.70	ppb	
28) Methyl Ethyl Ketone	8.93	72	15856	0.85	ppb	# 100
29) cis-1,2-dichloroethene	9.34	61	39717	0.78	ppb	84
30) Hexane	8.89	57	41152	0.77	ppb	94
31) Ethyl acetate	9.51	43	55578	0.77	ppb	85
32) Chloroform	9.93	83	88686	0.75	ppb	96
33) Tetrahydrofuran	10.14	42	24506	0.73	ppb	88
34) 1,2-dichloroethane	11.07	62	47038m	0.71	ppb	
36) 1,1,1-trichloroethane	10.74	97	84705	0.81	ppb	99
37) Cyclohexane	11.42	56	40097	0.93	ppb	92
38) Carbon tetrachloride	11.38	117	94980	0.81	ppb	96
39) Benzene	11.36	78	84671	0.92	ppb	95
40) Methyl methacrylate	12.91	41	26322	0.87	ppb	# 76
41) 1,4-dioxane	12.99	88	24654	1.04	ppb	98
42) 2,2,4-trimethylpentane	12.17	57	153519	0.95	ppb	96
43) Heptane	12.52	43	30831	0.82	ppb	93
44) Trichloroethene	12.67	130	43749	0.93	ppb	96
45) 1,2-dichloropropane	12.78	63	28728	0.86	ppb	98

(#)= qualifier out of range (m) = manual integration

AN032207.D A316_1UG.M

Thu Apr 07 13:18:17 2016

MSD1

Page 1

Data File : C:\HPCHEM\1\DATA\AN032207.D

Vial: 7

Acq On : 22 Mar 2016 3:41 pm

Operator: RJP

Sample : ALCS1UG-032216

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 22 16:05:45 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.11	83	73234	0.90	ppb	99
47) cis-1,3-dichloropropene	13.89	75	40570	0.91	ppb	98
48) trans-1,3-dichloropropene	14.63	75	38070	0.95	ppb	93
49) 1,1,2-trichloroethane	14.92	97	34803	0.95	ppb	98
51) Toluene	14.67	92	35993	0.77	ppb	97
52) Methyl Isobutyl Ketone	13.82	43	95617	1.16	ppb	96
53) Dibromochloromethane	15.59	129	53035m	0.90	ppb	
54) Methyl Butyl Ketone	15.10	43	101537	1.39	ppb	96
55) 1,2-dibromoethane	15.84	107	54253	0.94	ppb	95
56) Tetrachloroethylene	15.65	164	38007	0.85	ppb	97
57) Chlorobenzene	16.60	112	52212	0.85	ppb	84
58) 1,1,1,2-tetrachloroethane	16.69	131	40037	0.87	ppb	94
59) Ethylbenzene	16.84	91	60765	0.76	ppb	96
60) m&p-xylene	17.04	91	94569	1.49	ppb	93
61) Nonane	17.37	43	29223	0.77	ppb	99
62) Styrene	17.45	104	35473	0.80	ppb	88
63) Bromoform	17.58	173	48997	1.54	ppb	99
64) o-xylene	17.48	91	53176m	0.70	ppb	
65) Cumene	18.01	105	69604	0.78	ppb	99
67) 1,1,2,2-tetrachloroethane	17.91	83	66406	0.85	ppb	99
68) Propylbenzene	18.53	91	72300m	0.76	ppb	
69) 2-Chlorotoluene	18.57	91	55856m	0.81	ppb	
70) 4-ethyltoluene	18.69	105	69949m	0.86	ppb	
71) 1,3,5-trimethylbenzene	18.75	105	81343m	0.84	ppb	
72) 1,2,4-trimethylbenzene	19.18	105	67566	0.80	ppb	89
73) 1,3-dichlorobenzene	19.48	146	57948	1.08	ppb	96
74) benzyl chloride	19.55	91	59690m	0.78	ppb	
75) 1,4-dichlorobenzene	19.61	146	55160	1.10	ppb	95
76) 1,2,3-trimethylbenzene	19.65	105	86481	0.83	ppb	90
77) 1,2-dichlorobenzene	19.93	146	68581	1.05	ppb	96
78) 1,2,4-trichlorobenzene	21.78	180	41835	0.85	ppb	97
79) Naphthalene	21.97	128	89404	0.87	ppb	97
80) Hexachloro-1,3-butadiene	22.06	225	128701	1.07	ppb	96

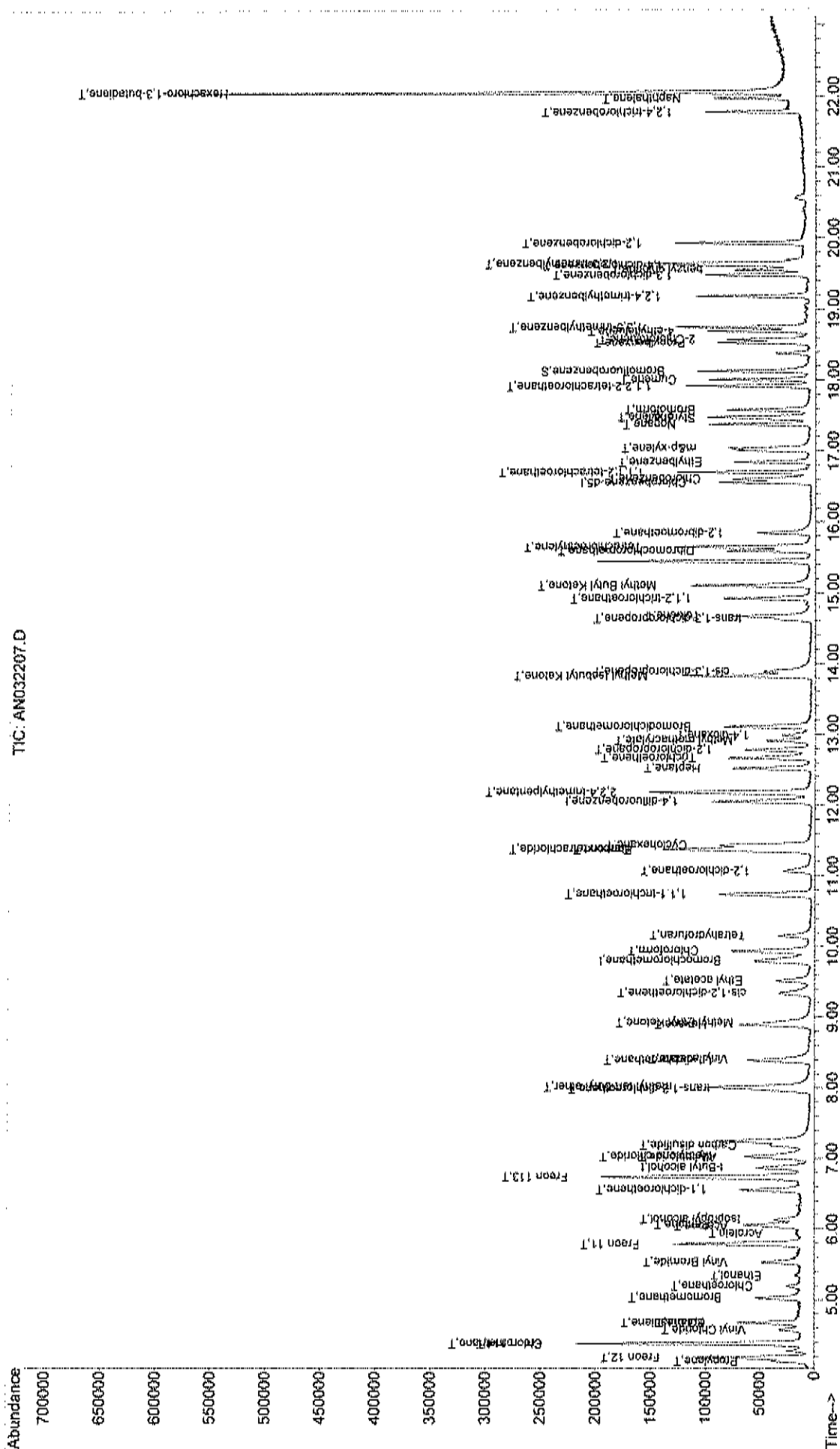
Data File : C:\HPCHEM\1\DATA\AN032207.D
Acq On : 22 Mar 2016 3:41 pm
Sample : ALICSIUG-032216
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 25 10:35 2016

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Method      : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title       : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration

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TTC: AM032207.D



AN032207.D	A316 1UG.M	Thu Apr 07 13:18:18 2016	MSDI



CENTEK LABORATORIES, LLC

Date: 07-Apr-16

Centek Laboratories, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	ALCS1UGD-031916	Samp Type:	LCS D	Test Code:	1ugM3_TO15	Units:	ppbV	Prep Date:	RunNo:	10790	
Client ID:	ZZZZZ	Batch ID:	R10790	TestNo:	TO-15			Analysis Date:	SeqNo:	126781	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.8900	0.15	1	0	89.0	70	130	0.84	5.78	30	
1,1,2,2-Tetrachloroethane	0.9500	0.15	1	0	95.0	70	130	0.81	15.9	30	
1,1,2-Trichloroethane	0.9100	0.15	1	0	91.0	70	130	0.85	6.82	30	
1,1-Dichloroethane	0.9400	0.15	1	0	94.0	70	130	0.86	8.89	30	
1,1-Dichloroethene	0.8300	0.15	1	0	83.0	70	130	0.85	2.38	30	
1,2,4-Trichlorobenzene	0.8700	0.15	1	0	87.0	70	130	0.71	20.3	30	
1,2,4-Trimethylbenzene	1.040	0.15	1	0	104	70	130	0.79	27.3	30	
1,2-Dibromoethane	0.9800	0.15	1	0	98.0	70	130	0.85	14.2	30	
1,2-Dichlorobenzene	1.020	0.15	1	0	102	70	130	0.76	29.2	30	
1,2-Dichloroethane	0.8800	0.15	1	0	88.0	70	130	0.82	7.06	30	
1,2-Dichloropropane	0.9000	0.15	1	0	90.0	70	130	0.84	6.90	30	
1,3,5-Trimethylbenzene	1.040	0.15	1	0	104	70	130	0.84	21.3	30	
1,3-butadiene	0.9100	0.15	1	0	91.0	70	130	0.87	4.49	30	
1,3-Dichlorobenzene	1.050	0.15	1	0	105	70	130	0.84	22.2	30	
1,4-Dichlorobenzene	1.040	0.15	1	0	104	70	130	0.84	21.3	30	
1,4-Dioxane	0.9000	0.30	1	0	90.0	70	130	1.14	23.5	30	
2,2,4-trimethylpentane	1.020	0.15	1	0	102	70	130	0.89	13.6	30	
4-ethyltoluene	1.030	0.15	1	0	103	70	130	0.83	21.5	30	
Acetone	0.9200	0.30	1	0	92.0	70	130	1.02	10.3	30	
Allyl chloride	0.9800	0.15	1	0	98.0	70	130	0.62	45.0	30	R
Benzene	0.9600	0.15	1	0	96.0	70	130	0.85	12.2	30	
Benzyl chloride	0.8300	0.15	1	0	83.0	70	130	0.74	11.5	30	
Bromodichloromethane	0.8600	0.15	1	0	86.0	70	130	0.92	6.74	30	
Bromoform	0.7800	0.15	1	0	78.0	70	130	1.38	55.6	30	R
Bromomethane	0.8800	0.15	1	0	88.0	70	130	0.87	1.14	30	

Qualifiers: J Results reported are not blank corrected
S Analyte detected at or below quantitation limits
Spike Recovery outside accepted recovery limits

E Value above quantitation range
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	ALCS1UGD-031916	Sample Type	LCSD	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10790					
Client ID: ZZZZZ	Batch ID: R10790	TestNo: TO-15	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result											
Carbon disulfide	0.9500	0.15	1	0	0	95.0	70	130	0.83	13.5	30	
Carbon tetrachloride	0.8100	0.15	1	0	0	81.0	70	130	0.84	3.64	30	
Chlorobenzene	1.010	0.15	1	0	0	101	70	130	0.83	19.6	30	
Chloroethane	0.9000	0.15	1	0	0	90.0	70	130	0.94	4.35	30	
Chloroform	0.9100	0.15	1	0	0	91.0	70	130	0.83	9.20	30	
Chloromethane	0.8800	0.15	1	0	0	88.0	70	130	0.88	0	30	
cis-1,2-Dichloroethene	1.010	0.15	1	0	0	101	70	130	0.85	17.2	30	
cis-1,3-Dichloropropene	0.9300	0.15	1	0	0	93.0	70	130	0.87	6.67	30	
Cyclohexane	1.030	0.15	1	0	0	103	70	130	0.85	19.1	30	
Dibromochloromethane	0.8200	0.15	1	0	0	82.0	70	130	0.91	10.4	30	
Ethyl acetate	0.9400	0.25	1	0	0	94.0	70	130	0.86	8.89	30	
Ethylbenzene	1.010	0.15	1	0	0	101	70	130	0.82	20.8	30	
Freon 11	0.8400	0.15	1	0	0	84.0	70	130	0.91	8.00	30	
Freon 113	0.8700	0.15	1	0	0	87.0	70	130	0.87	0	30	
Freon 114	0.8900	0.15	1	0	0	89.0	70	130	0.84	5.78	30	
Freon 12	0.9200	0.15	1	0	0	92.0	70	130	0.89	3.31	30	
Heptane	0.9600	0.15	1	0	0	96.0	70	130	0.83	14.5	30	
Hexachloro-1,3-butadiene	0.9900	0.15	1	0	0	99.0	70	130	0.79	22.5	30	
Hexane	1.050	0.15	1	0	0	105	70	130	0.83	23.4	30	
Isopropyl alcohol	0.8700	0.15	1	0	0	87.0	70	130	0.88	1.14	30	
m&p-Xylene	2.000	0.30	2	0	0	100	70	130	1.62	21.0	30	
Methyl Butyl Ketone	0.7600	0.30	1	0	0	76.0	70	130	1.06	33.0	30	R
Methyl Ethyl Ketone	0.9900	0.30	1	0	0	99.0	70	130	0.9	9.52	30	
Methyl Isobutyl Ketone	0.8800	0.30	1	0	0	88.0	70	130	1.18	29.1	30	
Methyl tert-butyl ether	1.050	0.15	1	0	0	105	70	130	0.84	22.2	30	
Methylene chloride	0.9900	0.15	1	0	0	99.0	70	130	0.83	17.6	30	
o-Xylene	0.9000	0.15	1	0	0	90.0	70	130	0.77	15.6	30	
Propylene	0.9000	0.15	1	0	0	90.0	70	130	0.85	5.71	30	
Styrene	1.050	0.15	1	0	0	105	70	130	0.85	21.1	30	
Tetrachloroethylene	0.9300	0.15	1	0	0	93.0	70	130	0.77	18.8	30	
Tetrahydrofuran	1.020	0.15	1	0	0	102	70	130	0.8	24.2	30	

Qualifiers: J Results reported are not blank corrected
 S Analyte detected at or below quantitation limits
 R Analyte detected at or below quantitation limits
 H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID		ALCS1UGD-031916		SampType: LCSD		TestCode: 1ugM3_TO15		Units: ppbV		Prep Date:		RunNo: 10790	
Client ID: ZZZZ		Batch ID: R10790		TestNo: TO-15		Analysis Date: 3/19/2016		SeqNo: 126781					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Toluene	1.020	0.15	1	0	102	70	130	0.84	19.4	30			
trans-1,2-Dichloroethene	0.9800	0.15	1	0	98.0	70	130	0.84	15.4	30			
trans-1,3-Dichloropropene	0.9800	0.15	1	0	98.0	70	130	0.91	7.41	30			
Trichloroethene	0.9500	0.15	1	0	95.0	70	130	0.82	14.7	30			
Vinyl acetate	0.9400	0.15	1	0	94.0	70	130	0.7	29.3	30			
Vinyl Bromide	0.9100	0.15	1	0	91.0	70	130	0.87	4.49	30			
Vinyl chloride	0.8200	0.15	1	0	82.0	70	130	0.75	8.92	30			
Surr: Bromofluorobenzene	1.080	0	1	0	108	70	130	0	0	30			

Sample ID	ALCS1UGD-032216	Sample Type:	LCSD	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10791				
Client ID:	ZZZZ	Batch ID:	R10791	TestNo: TO-15		Analysis Date: 3/23/2016	SeqNo: 126822				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.9000	0.15	1	0	90.0	70	130	0.81	10.5	30	
1,1,2,2-Tetrachloroethane	0.9700	0.15	1	0	97.0	70	130	0.85	13.2	30	
1,1,2-Trichloroethane	1.070	0.15	1	0	107	70	130	0.95	11.9	30	
1,1-Dichloroethane	0.8600	0.15	1	0	86.0	70	130	0.79	8.48	30	
1,1-Dichloroethene	0.9100	0.15	1	0	91.0	70	130	0.77	16.7	30	
1,2,4-Trichlorobenzene	0.4000	0.15	1	0	40.0	70	130	0.85	72.0	30	SR
1,2,4-Trimethylbenzene	0.8600	0.15	1	0	86.0	70	130	0.8	7.23	30	
1,2-Dibromoethane	0.9400	0.15	1	0	94.0	70	130	0.94	0	30	
1,2-Dichlorobenzene	1.020	0.15	1	0	102	70	130	1.05	2.90	30	
1,2-Dichloroethane	0.7300	0.15	1	0	73.0	70	130	0.71	2.78	30	
1,2-Dichloropropane	0.9400	0.15	1	0	94.0	70	130	0.86	8.89	30	
1,3,5-Trimethylbenzene	0.9700	0.15	1	0	97.0	70	130	0.84	14.4	30	
1,3-butadiene	0.8300	0.15	1	0	83.0	70	130	0.72	14.2	30	
1,3-Dichlorobenzene	1.140	0.15	1	0	114	70	130	1.08	5.41	30	
1,4-Dichlorobenzene	1.180	0.15	1	0	118	70	130	1.1	7.02	30	
1,4-Dioxane	1.000	0.30	1	0	100	70	130	1.04	3.92	30	
2,2,4-trimethylpentane	1.040	0.15	1	0	104	70	130	0.95	9.05	30	

Qualifiers: J Results reported are not blank corrected E Value above quantitation range H Holding times for preparation or analysis exceeded
S Analyte detected at or below quantitation limits ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	ALCS1UGD-032216	SampType: LCSD	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10791					
Client ID: ZZZZZ		Batch ID: R10791	TestNo: TO-15		Analysis Date: 3/23/2016	SeqNo: 126822					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-ethyltoluene	1.020	0.15	1	0	102	70	130	0.86	17.0	30	
Acetone	0.9000	0.30	1	0	90.0	70	130	0.93	3.28	30	
Allyl chloride	0.8000	0.15	1	0	80.0	70	130	0.78	2.53	30	
Benzene	0.9200	0.15	1	0	92.0	70	130	0.92	0	30	
Benzyl chloride	0.7000	0.15	1	0	70.0	70	130	0.78	10.8	30	
Bromodichloromethane	1.000	0.15	1	0	100	70	130	0.9	10.5	30	
Bromoform	1.860	0.15	1	0	186	70	130	1.54	18.8	30	S
Bromomethane	0.9600	0.15	1	0	96.0	70	130	0.84	13.3	30	
Carbon disulfide	0.8900	0.15	1	0	89.0	70	130	0.82	8.19	30	
Carbon tetrachloride	0.9400	0.15	1	0	94.0	70	130	0.81	14.9	30	
Chlorobenzene	0.9100	0.15	1	0	91.0	70	130	0.85	6.82	30	
Chloroethane	0.8700	0.15	1	0	87.0	70	130	0.76	13.5	30	
Chloroform	0.8100	0.15	1	0	81.0	70	130	0.75	7.69	30	
Chloromethane	0.8400	0.15	1	0	84.0	70	130	0.74	12.7	30	
cis-1,2-Dichloroethene	0.8200	0.15	1	0	82.0	70	130	0.78	5.00	30	
cis-1,3-Dichloropropane	1.040	0.15	1	0	104	70	130	0.91	13.3	30	
Cyclohexane	0.9700	0.15	1	0	97.0	70	130	0.93	4.21	30	
Dibromochloromethane	0.9400	0.15	1	0	94.0	70	130	0.9	4.35	30	
Ethyl acetate	0.8600	0.25	1	0	86.0	70	130	0.77	11.0	30	
Ethylbenzene	0.8200	0.15	1	0	82.0	70	130	0.76	7.59	30	
Freon 11	0.9400	0.15	1	0	94.0	70	130	0.83	12.4	30	
Freon 113	1.020	0.15	1	0	102	70	130	0.82	21.7	30	
Freon 114	0.9400	0.15	1	0	94.0	70	130	0.79	17.3	30	
Freon 12	0.9400	0.15	1	0	94.0	70	130	0.81	14.9	30	
Heptane	0.8200	0.15	1	0	82.0	70	130	0.82	0	30	
Hexachloro-1,3-butadiene	0.9500	0.15	1	0	95.0	70	130	1.07	11.9	30	
Hexane	0.7500	0.15	1	0	75.0	70	130	0.77	2.63	30	
Isopropyl alcohol	0.7500	0.15	1	0	75.0	70	130	0.67	11.3	30	
m&p-Xylene	1.720	0.30	2	0	86.0	70	130	1.49	14.3	30	
Methyl Butyl Ketone	0.7100	0.30	1	0	71.0	70	130	1.39	64.8	30	R
Methyl Ethyl Ketone	0.8900	0.30	1	0	89.0	70	130	0.85	4.60	30	

Qualifiers: J Results reported are not blank corrected
 S Analyte detected at or below quantitation limits
 R Analyte detected at or below quantitation limits
 H RPD outside accepted recovery limits
 E Value above quantitation range
 ND Not Detected at the Reporting Limit
 RPD outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	ALCS1UGD-032216	Sample Type: LCSD	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10791					
Client ID: ZZZZZ		Batch ID: R10791	TestNo: TO-15		Analysis Date: 3/23/2016	SeqNo: 126822					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl Isobutyl Ketone	0.8000	0.30	1	0	80.0	70	130	1.16	36.7	30	R
Methyl tert-butyl ether	0.7900	0.15	1	0	79.0	70	130	0.81	2.50	30	
Methylene chloride	0.9900	0.15	1	0	99.0	70	130	0.99	0	30	
o-Xylene	0.8700	0.15	1	0	87.0	70	130	0.7	21.7	30	
Propylene	0.8700	0.15	1	0	87.0	70	130	0.79	9.64	30	
Styrene	1.000	0.15	1	0	100	70	130	0.8	22.2	30	
Tetrachloroethylene	0.8300	0.15	1	0	83.0	70	130	0.85	2.38	30	
Tetrahydrofuran	0.7400	0.15	1	0	74.0	70	130	0.73	1.36	30	
Toluene	0.7000	0.15	1	0	70.0	70	130	0.77	9.52	30	
trans-1,2-Dichloroethene	0.8100	0.15	1	0	81.0	70	130	0.76	6.37	30	
trans-1,3-Dichloropropene	1.040	0.15	1	0	104	70	130	0.95	9.05	30	
Trichloroethene	1.010	0.15	1	0	101	70	130	0.93	8.25	30	
Vinyl acetate	0.6100	0.15	1	0	61.0	70	130	0.7	13.7	30	S
Vinyl Bromide	0.9500	0.15	1	0	95.0	70	130	0.85	11.1	30	
Vinyl chloride	0.7600	0.15	1	0	76.0	70	130	0.7	8.22	30	
Surr: Bromofluorobenzene	1.150	0	1	0	115	70	130	0	0	30	

Qualifiers:

-	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

Data File : C:\HPCHEM\1\DATA\AN031919.D

Vial: 19

Acq On : 19 Mar 2016 10:19 pm

Operator: RJP

Sample : ALCS1UGD-031916

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 20 12:45:47 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.80	128	44229	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.05	114	140457	1.00	ppb	0.00
50) Chlorobenzene-d5	16.56	117	79639	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.13	95	55377	1.08	ppb	0.00
Spiked Amount	1.000	Range	70 ~ 130	Recovery	=	108.00%

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	4.13	41	32101	0.90	ppb	# 100
3) Freon 12	4.19	85	174248	0.92	ppb	100
4) Chloromethane	4.39	50	43469	0.88	ppb	94
5) Freon 114	4.39	85	141279	0.89	ppb	98
6) Vinyl Chloride	4.58	62	40832	0.82	ppb	92
7) Butane	4.68	43	45956	0.81	ppb	90
8) 1,3-butadiene	4.68	39	34097	0.91	ppb	86
9) Bromomethane	5.03	94	51397	0.88	ppb	94
10) Chloroethane	5.19	64	18341	0.90	ppb	98
11) Ethanol	5.37	45	13023	0.86	ppb	# 66
12) Acrolein	5.94	56	12666	0.99	ppb	90
13) Vinyl Bromide	5.54	106	51978	0.91	ppb	96
14) Freon 11	5.80	101	162765	0.84	ppb	100
15) Acetone	6.05	58	17504	0.92	ppb	# 66
16) Pentane	6.07	42	33645	0.77	ppb	94
17) Isopropyl alcohol	6.15	45	54047	0.87	ppb	# 46
18) 1,1-dichloroethene	6.56	96	47084	0.83	ppb	90
19) Freon 113	6.74	101	118860	0.87	ppb	95
20) t-Butyl alcohol	6.89	59	103166	1.04	ppb	# 74
21) Methylene chloride	7.03	84	49319	0.99	ppb	94
22) Allyl chloride	7.02	41	43088	0.98	ppb	81
23) Carbon disulfide	7.19	76	138730	0.95	ppb	97
24) trans-1,2-dichloroethene	7.98	61	66034	0.98	ppb	88
25) methyl tert-butyl ether	8.02	73	134197	1.05	ppb	99
26) 1,1-dichloroethane	8.40	63	89788	0.94	ppb	98
27) Vinyl acetate	8.42	43	77682	0.94	ppb	94
28) Methyl Ethyl Ketone	8.94	72	20121	0.99	ppb	# 100
29) cis-1,2-dichloroethene	9.34	61	56110	1.01	ppb	88
30) Hexane	8.89	57	60870	1.05	ppb	93
31) Ethyl acetate	9.52	43	74327	0.94	ppb	93
32) Chloroform	9.94	83	116891	0.91	ppb	97
33) Tetrahydrofuran	10.15	42	37177	1.02	ppb	87
34) 1,2-dichloroethane	11.07	62	63752	0.88	ppb	88
36) 1,1,1-trichloroethane	10.75	97	117462	0.89	ppb	99
37) Cyclohexane	11.43	56	55895	1.03	ppb	90
38) Carbon tetrachloride	11.38	117	118550	0.81	ppb	97
39) Benzene	11.36	78	111738	0.96	ppb	98
40) Methyl methacrylate	12.91	41	34536	0.91	ppb	# 77
41) 1,4-dioxane	13.00	88	26998	0.90	ppb	99
42) 2,2,4-trimethylpentane	12.18	57	208336	1.02	ppb	96
43) Heptane	12.52	43	45436	0.96	ppb	86
44) Trichloroethene	12.67	130	56869	0.95	ppb	96
45) 1,2-dichloropropane	12.79	63	38080	0.90	ppb	100

(#)=qualifier out of range (m)=manual integration

AN031919.D A316_1UG.M

Thu Apr 07 13:18:12 2016

MSD1

Page 1

Data File : C:\HPCHEM\1\DATA\AN031919.D

Vial: 19

Acq On : 19 Mar 2016 10:19 pm

Operator: RJP

Sample : ALCS1UGD-031916

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 20 12:45:47 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

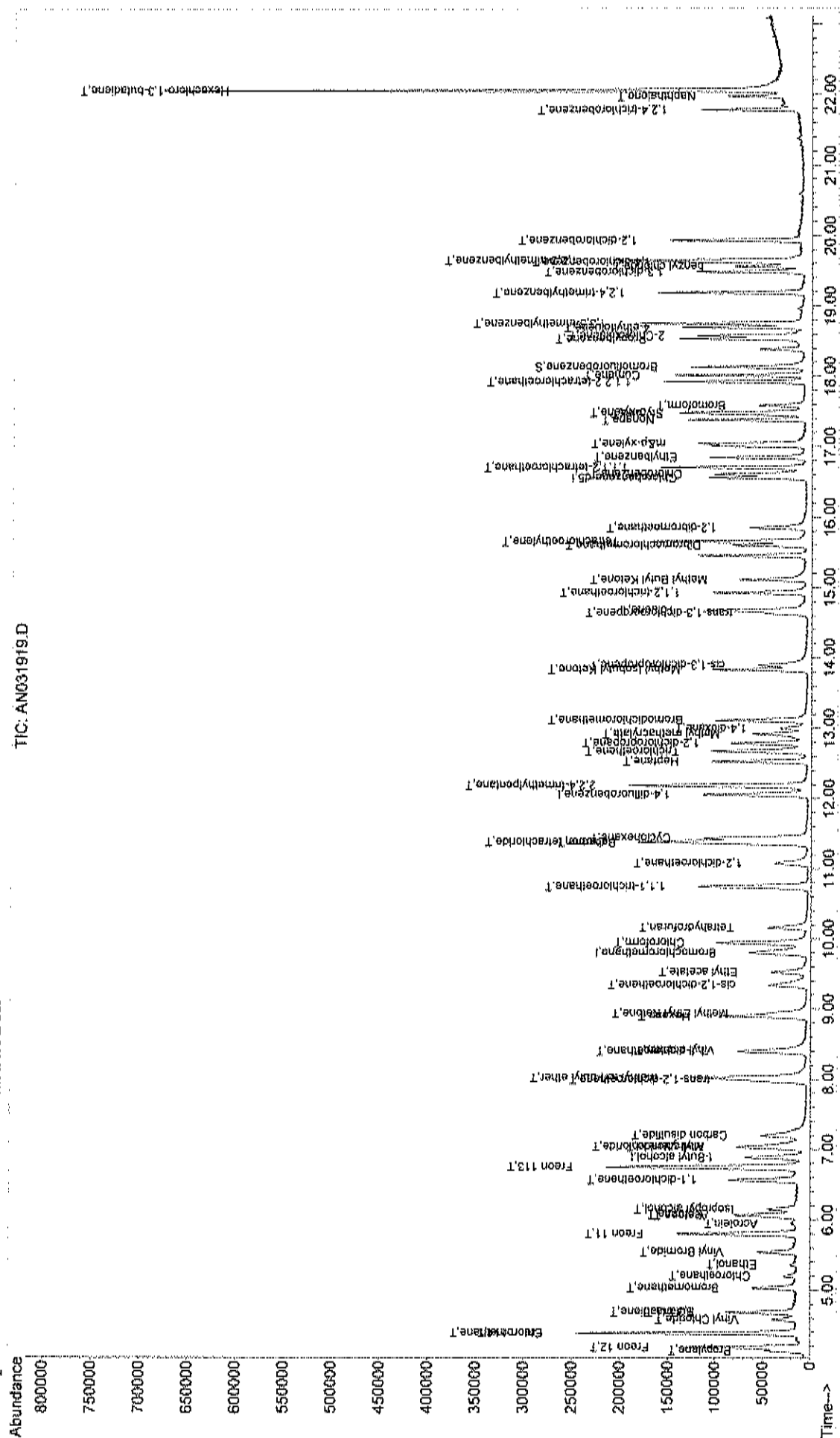
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.11	83	89012	0.86	ppb	98
47) cis-1,3-dichloropropene	13.90	75	51987	0.93	ppb	98
48) trans-1,3-dichloropropene	14.63	75	49249	0.98	ppb	91
49) 1,1,2-trichloroethane	14.93	97	42283	0.91	ppb	98
51) Toluene	14.68	92	55227	1.02	ppb	100
52) Methyl Isobutyl Ketone	13.83	43	84329	0.88	ppb	97
53) Dibromochloromethane	15.59	129	55754m	0.82	ppb	
54) Methyl Butyl Ketone	15.11	43	65009	0.76	ppb	99
55) 1,2-dibromoethane	15.85	107	66238	0.98	ppb	97
56) Tetrachloroethylene	15.65	164	48018	0.93	ppb	98
57) Chlorobenzene	16.60	112	71542	1.01	ppb	87
58) 1,1,1,2-tetrachloroethane	16.70	131	48741	0.92	ppb	95
59) Ethylbenzene	16.85	91	93571	1.01	ppb	96
60) m&p-xylene	17.04	91	147108	2.00	ppb	95
61) Nonane	17.38	43	43581	0.99	ppb	97
62) Styrene	17.46	104	53884	1.05	ppb	88
63) Bromoform	17.58	173	28846	0.78	ppb	96
64) o-xylene	17.48	91	79305m	0.90	ppb	
65) Cumene	18.01	105	105360	1.02	ppb	98
67) 1,1,2,2-tetrachloroethane	17.92	83	86186	0.95	ppb	98
68) Propylbenzene	18.53	91	119061m	1.08	ppb	
69) 2-Chlorotoluene	18.57	91	76291m	0.95	ppb	
70) 4-ethyltoluene	18.69	105	97446m	1.03	ppb	
71) 1,3,5-trimethylbenzene	18.75	105	116970m	1.04	ppb	
72) 1,2,4-trimethylbenzene	19.18	105	101449	1.04	ppb	94
73) 1,3-dichlorobenzene	19.48	146	65095m	1.05	ppb	
74) benzyl chloride	19.56	91	73314m	0.83	ppb	
75) 1,4-dichlorobenzene	19.61	146	60991	1.04	ppb	94
76) 1,2,3-trimethylbenzene	19.64	105	129006	1.07	ppb	97
77) 1,2-dichlorobenzene	19.93	146	77495	1.02	ppb	96
78) 1,2,4-trichlorobenzene	21.78	180	49748	0.87	ppb	95
79) Naphthalene	21.97	128	85232	0.72	ppb	98
80) Hexachloro-1,3-butadiene	22.06	225	138830	0.99	ppb	97

Data File : C:\HPCHEM\1\DATA\AN031919.D
Acq On : 19 Mar 2016 10:19 pm
Sample : ALCS1UGD-031916
Misc : A316 1UG
MMS Integration Params: RTEINT.P
Quant Time: Mar 25 10:26 2016

Vial: 19
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A316 1UG.RES

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Method      : C:\HPCHEM\1\METHODS\A316_IUG.M (RTE Integrator)
Title       : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration
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Data File : C:\HPCHEM\1\DATA\AN032233.D

Vial: 33

Acq On : 23 Mar 2016 8:21 am

Operator: RJP

Sample : ALCS1UGD-032216

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 25 10:35:37 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.81	128	32659	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.05	114	85540	1.00	ppb	0.00
50) Chlorobenzene-d5	16.55	117	59654	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.13	95	44276	1.15	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	115.00%

Target Compounds

						Qvalue
2) Propylene	4.14	41	23068	0.87	ppb	# 100
3) Freon 12	4.19	85	130750	0.94	ppb	99
4) Chloromethane	4.39	50	30793	0.84	ppb	93
5) Freon 114	4.39	85	110147	0.94	ppb	86
6) Vinyl Chloride	4.58	62	28020	0.76	ppb	92
7) Butane	4.67	43	34267	0.82	ppb	94
8) 1,3-butadiene	4.68	39	23054	0.83	ppb	90
9) Bromomethane	5.03	94	41571	0.96	ppb	94
10) Chloroethane	5.21	64	13072	0.87	ppb	89
11) Ethanol	5.35	45	10994	0.99	ppb	# 71
12) Acrolein	5.95	56	7805	0.82	ppb	# 5
13) Vinyl Bromide	5.54	106	40450	0.95	ppb	95
14) Freon 11	5.80	101	135441	0.94	ppb	98
15) Acetone	6.04	58	12697	0.90	ppb	# 63
16) Pentane	6.07	42	23443	0.73	ppb	99
17) Isopropyl alcohol	6.15	45	34508	0.75	ppb	# 46
18) 1,1-dichloroethene	6.56	96	38027	0.91	ppb	94
19) Freon 113	6.74	101	103332	1.02	ppb	98
20) t-Butyl alcohol	6.89	59	52191	0.71	ppb	# 76
21) Methylene chloride	7.04	84	36464	0.99	ppb	98
22) Allyl chloride	7.02	41	26109	0.80	ppb	76
23) Carbon disulfide	7.20	76	96732	0.89	ppb	93
24) trans-1,2-dichloroethene	7.99	61	40015	0.81	ppb	83
25) methyl tert-butyl ether	8.02	73	74162	0.79	ppb	89
26) 1,1-dichloroethane	8.39	63	60648	0.86	ppb	100
27) Vinyl acetate	8.42	43	37328	0.61	ppb	95
28) Methyl Ethyl Ketone	8.94	72	13325	0.89	ppb	# 100
29) cis-1,2-dichloroethene	9.33	61	33338	0.82	ppb	82
30) Hexane	8.89	57	32018	0.75	ppb	95
31) Ethyl acetate	9.52	43	50147	0.86	ppb	91
32) Chloroform	9.94	83	76773	0.81	ppb	98
33) Tetrahydrofuran	10.17	42	20137	0.74	ppb	89
34) 1,2-dichloroethane	11.08	62	39023	0.73	ppb	92
36) 1,1,1-trichloroethane	10.74	97	72618	0.90	ppb	99
37) Cyclohexane	11.43	56	32254	0.97	ppb	90
38) Carbon tetrachloride	11.38	117	84268	0.94	ppb	98
39) Benzene	11.36	78	65568	0.92	ppb	92
40) Methyl methacrylate	12.92	41	21626	0.93	ppb	# 78
41) 1,4-dioxane	13.00	88	18132	1.00	ppb	93
42) 2,2,4-trimethylpentane	12.19	57	129427	1.04	ppb	97
43) Heptane	12.53	43	23614	0.82	ppb	89
44) Trichloroethene	12.67	130	36802	1.01	ppb	94
45) 1,2-dichloropropane	12.78	63	24180	0.94	ppb	96

(#)= qualifier out of range (m)= manual integration

AN032233.D A316_1UG.M

Thu Apr 07 13:18:23 2016

MSD1

Page 1

Data File : C:\HPCHEM\1\DATA\AN032233.D

Vial: 33

Acq On : 23 Mar 2016 8:21 am

Operator: RJP

Sample : ALCS1UGD-032216

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 25 10:35:37 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.11	83	62582	1.00	ppb	99
47) cis-1,3-dichloropropene	13.89	75	35535	1.04	ppb	95
48) trans-1,3-dichloropropene	14.62	75	31821	1.04	ppb	91
49) 1,1,2-trichloroethane	14.92	97	30093	1.07	ppb	96
51) Toluene	14.67	92	28519m	0.70	ppb	
52) Methyl Isobutyl Ketone	13.83	43	57610	0.80	ppb	96
53) Dibromochloromethane	15.60	129	47788m	0.94	ppb	
54) Methyl Butyl Ketone	15.11	43	44930	0.71	ppb	98
55) 1,2-dibromoethane	15.85	107	47594	0.94	ppb	95
56) Tetrachloroethylene	15.65	164	32263	0.83	ppb	99
57) Chlorobenzene	16.60	112	48586	0.91	ppb	88
58) 1,1,1,2-tetrachloroethane	16.70	131	36980	0.93	ppb	96
59) Ethylbenzene	16.84	91	57334	0.82	ppb	93
60) m&p-xylene	17.04	91	95120	1.72	ppb	94
61) Nonane	17.38	43	30800	0.94	ppb	95
62) Styrene	17.46	104	38226	1.00	ppb	84
63) Bromoform	17.58	173	51468	1.86	ppb	100
64) o-xylene	17.48	91	57627m	0.87	ppb	
65) Cumene	18.01	105	69787	0.90	ppb	97
67) 1,1,2,2-tetrachloroethane	17.92	83	66242	0.97	ppb	98
68) Propylbenzene	18.53	91	89005m	1.08	ppb	
69) 2-Chlorotoluene	18.58	91	55191m	0.92	ppb	
70) 4-ethyltoluene	18.69	105	72179m	1.02	ppb	
71) 1,3,5-trimethylbenzene	18.75	105	82254m	0.97	ppb	
72) 1,2,4-trimethylbenzene	19.18	105	62840	0.86	ppb	92
73) 1,3-dichlorobenzene	19.48	146	52772	1.14	ppb	95
74) benzyl chloride	19.56	91	46490m	0.70	ppb	
75) 1,4-dichlorobenzene	19.62	146	51418	1.18	ppb	95
76) 1,2,3-trimethylbenzene	19.65	105	76338	0.85	ppb	92
77) 1,2-dichlorobenzene	19.93	146	57895	1.02	ppb	95
78) 1,2,4-trichlorobenzene	21.78	180	17150	0.40	ppb	93
79) Naphthalene	21.98	128	18019m	0.20	ppb	
80) Hexachloro-1,3-butadiene	22.06	225	99760	0.95	ppb	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN032233.D A316_1UG.M Thu Apr 07 13:18:24 2016 MSD1

CENTEK LABORATORIES, LLC

ANALYTICAL QC SUMMARY REPORT

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: IugM3 TO15

Sample ID	C1603053-005A MS	MS	SampType:	MS	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10790					
Client ID:	MS-MSD Indoor Air	Batch ID: R10790	TestNo: TO-15	POI	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result												
1,1,1-Trichloroethane	1.000			0.15	1	0	100	70	130				
1,1,2,2-Tetrachloroethane	0.8700			0.15	1	0	87.0	70	130				
1,1,2-Trichloroethane	1.040			0.15	1	0	104	70	130				
1,1-Dichloroethane	0.9600			0.15	1	0	96.0	70	130				
1,1-Dichloroethane	0.9400			0.15	1	0	94.0	70	130				
1,2,4-Trichlorobenzene	1.350			0.15	1	0	135	70	130				S
1,2,4-Trimethylbenzene	1.540			0.15	1	0.67	87.0	70	130				
1,2-Dibromoethane	0.9300			0.15	1	0	93.0	70	130				
1,2-Dichlorobenzene	0.9600			0.15	1	0	96.0	70	130				
1,2-Dichloroethane	0.9200			0.15	1	0	92.0	70	130				
1,2-Dichloropropane	0.9200			0.15	1	0	92.0	70	130				
1,3,5-Trimethylbenzene	1.160			0.15	1	0.22	94.0	70	130				S
1,3-butadiene	7.120			0.15	1	0	712	70	130				
1,3-Dichlorobenzene	1.050			0.15	1	0	105	70	130				
1,4-Dichlorobenzene	1.100			0.15	1	0	110	70	130				
1,4-Dioxane	0.8400			0.30	1	0	84.0	70	130				
2,2,4-trimethylpentane	1.360			0.15	1	0.3	106	70	130				
4-ethyltoluene	1.070			0.15	1	0.18	89.0	70	130				
Acetone	13.55			0.30	1	13.04	51.0	70	130				S
Allyl chloride	0.9200			0.15	1	0	92.0	70	130				
Benzene	3.110			0.15	1	2.19	92.0	70	130				
Benzyl chloride	0.8600			0.15	1	0	86.0	70	130				
Bromodichloromethane	0.9100			0.15	1	0	91.0	70	130				
Bromoform	0.7400			0.15	1	0	74.0	70	130				
Bromomethane	0.9400			0.15	1	0	94.0	70	130				

Qualifiers:	E	H
Results reported are not blank corrected	Value above quantitation range	Holding times for preparation or analysis exceeded
Analyte detected at or below quantitation limits	Not Detected at the Reporting Limit	RPD outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID C1603053-006A MS		SampType: MS	TestCode: 1ugM3_TO15		Units: ppbv	Prep Date:		RunNo: 10790			
Client ID: MS-MSD Indoor Air		Batch ID: R10790	TestNo: TO-15			Analysis Date: 3/19/2016		SeqNo: 126792			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon disulfide	0.9700	0.15	1	0	97.0	70	130				
Carbon tetrachloride	0.9200	0.15	1	0.07	85.0	70	130				
Chlorobenzene	0.9400	0.15	1	0	94.0	70	130				
Chloroethane	0.9300	0.15	1	0	93.0	70	130				
Chloroform	0.9500	0.15	1	0	95.0	70	130				
Chloromethane	1.510	0.15	1	0.62	89.0	70	130				
cis-1,2-Dichloroethene	1.070	0.15	1	0	107	70	130				
cis-1,3-Dichloropropene	0.9700	0.15	1	0	97.0	70	130				
Cyclohexane	2.060	0.15	1	0.44	162	70	130				
Dibromochloromethane	0.8500	0.15	1	0	85.0	70	130				S
Ethyl acetate	1.130	0.25	1	0.27	86.0	70	130				
Ethylbenzene	1.340	0.15	1	0.47	87.0	70	130				
Freon 11	1.130	0.15	1	0.22	91.0	70	130				
Freon 113	1.070	0.15	1	0	107	70	130				
Freon 114	0.9600	0.15	1	0	96.0	70	130				
Freon 12	1.350	0.15	1	0.48	87.0	70	130				
Heptane	1.450	0.15	1	0.45	100	70	130				
Hexachloro-1,3-butadiene	1.070	0.15	1	0	107	70	130				
Hexane	3.060	0.15	1	1.93	113	70	130				
Isopropyl alcohol	3.710	0.15	1	2.97	74.0	70	130				
m&p-Xylene	3.480	0.30	2	1.57	90.5	70	130				
Methyl Butyl Ketone	1.070	0.30	1	0	107	70	130				
Methyl Ethyl Ketone	3.840	0.30	1	3.35	49.0	70	130				
Methyl Isobutyl Ketone	0.9900	0.30	1	0	99.0	70	130				
Methyl tert-butyl ether	0.9600	0.15	1	0	96.0	70	130				
Methylene chloride	1.370	0.15	1	0.32	105	70	130				
o-Xylene	1.380	0.15	1	0.58	80.0	70	130				
Propylene	7.240	0.15	1	0	724	70	130				
Styrene	1.130	0.15	1	0.22	91.0	70	130				
Tetrachloroethylene	1.920	0.15	1	0.93	99.0	70	130				
Tetrahydrofuran	5.220	0.15	1	4.42	80.0	70	130				S

Qualifiers: J Results reported are not blank corrected
S Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID C1603053-006A MS		SampType: MS	TestCode: 1ugM3_TO15		Units: ppbV	Prep Date:		RunNo: 10790			
Client ID: MS-MSD Indoor Air		Batch ID: R10790	TestNo: TO-15		Analysis Date: 3/19/2016		SeqNo: 126792				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	4.750	0.15	1	3.19	156	70	130				S
trans-1,2-Dichloroethene	1.100	0.15	1	0	110	70	130				
trans-1,3-Dichloropropene	1.020	0.15	1	0	102	70	130				
Trichloroethene	1.040	0.15	1	0.08	96.0	70	130				
Vinyl acetate	1.190	0.15	1	0	119	70	130				
Vinyl Bromide	0.9500	0.15	1	0	95.0	70	130				
Vinyl chloride	0.8600	0.15	1	0	86.0	70	130				
Surr: Bromofluorobenzene	1.140	0	1	0	114	70	130				

Sample ID	C1603053-006A MS	SampType: MSD	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10790					
Client ID:	MS-MSD Indoor Air	Batch ID: R10790	TestNo: TO-15	Analysis Date: 3/19/2016		SeqNo: 126793					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	1.000	0.15	1	0	100	70	130	1	0	30	
1,1,1,2,2-Tetrachloroethane	0.9600	0.15	1	0	96.0	70	130	0.87	9.84	30	
1,1,2-Trichloroethane	1.030	0.15	1	0	103	70	130	1.04	0.966	30	
1,1-Dichloroethane	0.9700	0.15	1	0	97.0	70	130	0.96	1.04	30	
1,1-Dichloroethene	0.9600	0.15	1	0	96.0	70	130	0.94	2.11	30	
1,2,4-Trichlorobenzene	1.500	0.15	1	0	150	70	130	1.35	10.5	30	S
1,2,4-Trimethylbenzene	1.710	0.15	1	0.67	104	70	130	1.54	10.5	30	
1,2-Dibromoethane	0.9800	0.15	1	0	98.0	70	130	0.93	5.24	30	
1,2-Dichlorobenzene	1.060	0.15	1	0	106	70	130	0.96	9.90	30	
1,2-Dichloroethane	0.9200	0.15	1	0	92.0	70	130	0.92	0	30	
1,2-Dichloropropane	0.9200	0.15	1	0	92.0	70	130	0.92	0	30	
1,3,5-Trimethylbenzene	1.210	0.15	1	0.22	99.0	70	130	1.16	4.22	30	
1,3-butadiene	6.870	0.15	1	0	687	70	130	7.12	3.57	30	S
1,3-Dichlorobenzene	1.120	0.15	1	0	112	70	130	1.05	6.45	30	
1,4-Dichlorobenzene	1.120	0.15	1	0	112	70	130	1.1	1.80	30	
1,4-Dioxane	1.040	0.30	1	0	104	70	130	0.84	21.3	30	
2,2,4-Trimethylpentane	1.360	0.15	1	0.3	106	70	130	1.36	0	30	

Qualifiers:

J	Results reported are not blank corrected	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
S	Analyte detected at or below quantitation limits	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits				

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	C1603053-006A MS	Samp Type: MSD	TestCode: 1ugM3_TO15	Units: ppbv	Prep Date:	RunNo: 10790					
Client ID:	MS-MSD Indoor Air	Batch ID: R10790	TestNo: TO-15	Analysis Date: 3/19/2016	SeqNo: 126793						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-ethyltoluene	1.100	0.15	1	0.18	92.0	70	130	1.07	2.76	30	
Acetone	13.31	0.30	1	13.04	27.0	70	130	13.55	1.79	30	S
Allyl chloride	1.030	0.15	1	0	103	70	130	0.92	11.3	30	
Benzene	3.090	0.15	1	2.19	90.0	70	130	3.11	0.645	30	
Benzyl chloride	0.9000	0.15	1	0	90.0	70	130	0.86	4.55	30	
Bromodichloromethane	0.8900	0.15	1	0	89.0	70	130	0.91	2.22	30	
Bromoform	0.7500	0.15	1	0	75.0	70	130	0.74	1.34	30	
Bromomethane	0.9600	0.15	1	0	96.0	70	130	0.94	2.11	30	
Carbon disulfide	1.000	0.15	1	0	100	70	130	0.97	3.05	30	
Carbon tetrachloride	0.9300	0.15	1	0.07	86.0	70	130	0.92	1.08	30	
Chlorobenzene	0.9900	0.15	1	0	99.0	70	130	0.94	5.18	30	
Chloroethane	0.9500	0.15	1	0	95.0	70	130	0.93	2.13	30	
Chloroform	0.9600	0.15	1	0	96.0	70	130	0.95	1.05	30	
Chloromethane	1.440	0.15	1	0.62	82.0	70	130	1.51	4.75	30	
cis-1,2-Dichloroethene	1.110	0.15	1	0	111	70	130	1.07	3.67	30	
cis-1,3-Dichloropropene	0.9800	0.15	1	0	98.0	70	130	0.97	1.03	30	
Cyclohexane	2.010	0.15	1	0.44	157	70	130	2.06	2.46	30	S
Dibromochloromethane	0.8500	0.15	1	0	85.0	70	130	0.85	0	30	
Ethyl acetate	1.090	0.25	1	0.27	82.0	70	130	1.13	3.60	30	
Ethylbenzene	1.360	0.15	1	0.47	89.0	70	130	1.34	1.48	30	
Freon 11	1.120	0.15	1	0.22	90.0	70	130	1.13	0.889	30	
Freon 113	1.030	0.15	1	0	103	70	130	1.07	3.81	30	
Freon 114	0.9500	0.15	1	0	95.0	70	130	0.96	1.05	30	
Freon 12	1.360	0.15	1	0.48	88.0	70	130	1.35	0.738	30	
Heptane	1.290	0.15	1	0.45	84.0	70	130	1.45	11.7	30	
Hexachloro-1,3-butadiene	1.200	0.15	1	0	120	70	130	1.07	11.5	30	
Hexane	3.090	0.15	1	1.93	116	70	130	3.06	0.976	30	
Isopropyl alcohol	3.770	0.15	1	2.97	80.0	70	130	3.71	1.60	30	
m&p-Xylene	3.500	0.30	2	1.67	91.5	70	130	3.48	0.573	30	
Methyl Butyl Ketone	1.080	0.30	1	0	108	70	130	1.07	0.930	30	
Methyl Ethyl Ketone	3.660	0.30	1	3.35	31.0	70	130	3.84	4.80	30	S

Qualifiers:
J Results reported are not blank corrected
S Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

CLIENT: Environmental & Geologic Management Se
Work Order: C1603053
Project: Highland Plaza

TestCode: 1ugM3_TO15

Sample ID	C1603053-006A MS	SampType: MSD	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 10790					
Client ID:	MS-MSD Indoor Air	Batch ID: R10790	TestNo: TO-15		Analysis Date: 3/19/2016	SeqNo: 126793					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl Isobutyl Ketone	1.180	0.30	1	0	118	70	130	0.99	17.5	30	
Methyl tert-butyl ether	0.9800	0.15	1	0	98.0	70	130	0.96	2.06	30	
Methylene chloride	1.500	0.15	1	0.32	118	70	130	1.37	9.06	30	
o-Xylene	1.380	0.15	1	0.58	80.0	70	130	1.38	0	30	
Propylene	7.400	0.15	1	0	740	70	130	7.24	2.19	30	S
Styrene	1.140	0.15	1	0.22	92.0	70	130	1.13	0.881	30	
Tetrachloroethylene	1.960	0.15	1	0.93	103	70	130	1.92	2.06	30	
Tetrahydrofuran	5.230	0.15	1	4.42	81.0	70	130	5.22	0.191	30	
Toluene	4.820	0.15	1	3.19	163	70	130	4.75	1.46	30	S
trans-1,2-Dichloroethene	1.120	0.15	1	0	112	70	130	1.1	1.80	30	
trans-1,3-Dichloropropene	1.040	0.15	1	0	104	70	130	1.02	1.94	30	
Trichloroethene	1.040	0.15	1	0.08	96.0	70	130	1.04	0	30	
Vinyl acetate	1.250	0.15	1	0	125	70	130	1.19	4.92	30	
Vinyl Bromide	0.9700	0.15	1	0	97.0	70	130	0.95	2.08	30	
Vinyl chloride	0.8600	0.15	1	0	86.0	70	130	0.86	0	30	
Surr: Bromofluorobenzene	1.040	0	1	0	104	70	130	0	0	30	

Qualifiers: - Results reported are not blank corrected
J Analyte detected at or below quantitation limits
S Spike Recovery outside accepted recovery limits
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

Data File : C:\HPCHEM\1\DATA\AN031909.D

Vial: 9

Acq On : 19 Mar 2016 3:46 pm

Operator: RJP

Sample : C1603053-006A MS

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 20 12:45:37 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.78	128	37594	1.00	ppb	-0.02
35) 1,4-difluorobenzene	12.05	114	113213	1.00	ppb	0.00
50) Chlorobenzene-d5	16.55	117	63330	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.12	95	46404	1.14	ppb	-0.01
Spiked Amount	1.000	Range	70 - 130	Recovery	=	114.00%

Target Compounds

					Qvalue	
2) Propylene	4.13	41	220641	7.24	ppb	# 100
3) Freon 12	4.18	85	216594	1.35	ppb	99
4) Chloromethane	4.38	50	63440	1.51	ppb	94
5) Freon 114	4.38	85	130443	0.96	ppb	100
6) Vinyl Chloride	4.58	62	36478	0.86	ppb	91
7) Butane	4.68	43	933954	19.33	ppb	91
8) 1,3-butadiene	4.68	39	226716m	7.12	ppb	
9) Bromomethane	5.02	94	46626	0.94	ppb	93
10) Chloroethane	5.20	64	16101	0.93	ppb	99
11) Ethanol	5.32	45	275153	21.45	ppb	# 61
12) Acrolein	6.06	56	26123	2.40	ppb	# 1
13) Vinyl Bromide	5.53	106	46467	0.95	ppb	96
14) Freon 11	5.79	101	185983	1.13	ppb	100
15) Acetone	6.00	58	219938	13.55	ppb	# 29
16) Pentane	6.06	42	242410	6.54	ppb	# 1
17) Isopropyl alcohol	6.12	45	196361	3.71	ppb	# 46
18) 1,1-dichloroethene	6.55	96	45406	0.94	ppb	# 88
19) Freon 113	6.74	101	124823	1.07	ppb	95
20) t-Butyl alcohol	6.87	59	84577	1.00	ppb	# 48
21) Methylene chloride	7.03	84	57893	1.37	ppb	92
22) Allyl chloride	7.01	41	34544	0.92	ppb	82
23) Carbon disulfide	7.19	76	121123	0.97	ppb	95
24) trans-1,2-dichloroethene	7.96	61	62976	1.10	ppb	96
25) methyl tert-butyl ether	8.00	73	103454	0.96	ppb	92
26) 1,1-dichloroethane	8.39	63	77962	0.96	ppb	97
27) Vinyl acetate	8.38	43	83949	1.19	ppb	94
28) Methyl Ethyl Ketone	8.91	72	66419	3.84	ppb	# 100
29) cis-1,2-dichloroethene	9.32	61	50344	1.07	ppb	89
30) Hexane	8.89	57	150677	3.06	ppb	93
31) Ethyl acetate	9.50	43	75538	1.13	ppb	96
32) Chloroform	9.93	83	104302	0.95	ppb	97
33) Tetrahydrofuran	10.13	42	162610	5.22	ppb	91
34) 1,2-dichloroethane	11.06	62	57073	0.92	ppb	90
36) 1,1,1-trichloroethane	10.74	97	106301	1.00	ppb	99
37) Cyclohexane	11.43	56	90089	2.06	ppb	# 76
38) Carbon tetrachloride	11.37	117	109263	0.92	ppb	98
39) Benzene	11.36	78	293330	3.11	ppb	96
40) Methyl methacrylate	12.90	41	27572	0.90	ppb	# 90
41) 1,4-dioxane	12.99	88	20192	0.84	ppb	95
42) 2,2,4-trimethylpentane	12.18	57	224346	1.36	ppb	94
43) Heptane	12.52	43	55469	1.45	ppb	86
44) Trichloroethene	12.66	130	50126	1.04	ppb	98
45) 1,2-dichloropropane	12.78	63	31410	0.92	ppb	99

(#)=qualifier out of range (m)=manual integration

AN031909.D A316_1UG.M

Thu Apr 07 13:18:04 2016

MSD1

Page 1

Data File : C:\HPCHEM\1\DATA\AN031909.D

Vial: 9

Acq On : 19 Mar 2016 3:46 pm

Operator: RJP

Sample : C1603053-006A MS

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 20 12:45:37 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.11	83	75270	0.91	ppb	100
47) cis-1,3-dichloropropene	13.88	75	43661	0.97	ppb	95
48) trans-1,3-dichloropropene	14.63	75	41490	1.02	ppb	76
49) 1,1,2-trichloroethane	14.92	97	38611	1.04	ppb	93
51) Toluene	14.67	92	203922	4.75	ppb	98
52) Methyl Isobutyl Ketone	13.82	43	74936	0.99	ppb	99
53) Dibromochloromethane	15.59	129	45859m	0.85	ppb	
54) Methyl Butyl Ketone	15.10	43	72012	1.07	ppb	97
55) 1,2-dibromoethane	15.84	107	49861	0.93	ppb	95
56) Tetrachloroethylene	15.65	164	78773	1.92	ppb	99
57) Chlorobenzene	16.60	112	53069	0.94	ppb	90
58) 1,1,1,2-tetrachloroethane	16.70	131	38800	0.92	ppb	94
59) Ethylbenzene	16.84	91	98779	1.34	ppb	96
60) m&p-xylene	17.00	91	203798	3.48	ppb	95
61) Nonane	17.37	43	61790	1.77	ppb	95
62) Styrene	17.46	104	46061	1.13	ppb	95
63) Bromoform	17.58	173	21756	0.74	ppb	99
64) o-xylene	17.48	91	97111m	1.38	ppb	
65) Cumene	18.01	105	82507	1.00	ppb	99
67) 1,1,2,2-tetrachloroethane	17.92	83	62873	0.87	ppb	96
68) Propylbenzene	18.53	91	98310m	1.13	ppb	
69) 2-Chlorotoluene	18.57	91	59570m	0.94	ppb	
70) 4-ethyltoluene	18.69	105	80123m	1.07	ppb	
71) 1,3,5-trimethylbenzene	18.75	105	103967m	1.16	ppb	
72) 1,2,4-trimethylbenzene	19.18	105	119290	1.54	ppb	94
73) 1,3-dichlorobenzene	19.48	146	51960	1.05	ppb	91
74) benzyl chloride	19.55	91	60321m	0.86	ppb	
75) 1,4-dichlorobenzene	19.61	146	51150	1.10	ppb	99
76) 1,2,3-trimethylbenzene	19.64	105	101023	1.06	ppb	96
77) 1,2-dichlorobenzene	19.93	146	58238	0.96	ppb	99
78) 1,2,4-trichlorobenzene	21.78	180	61765	1.35	ppb	96
79) Naphthalene	21.97	128	139418	1.47	ppb	99
80) Hexachloro-1,3-butadiene	22.06	225	119116	1.07	ppb	96

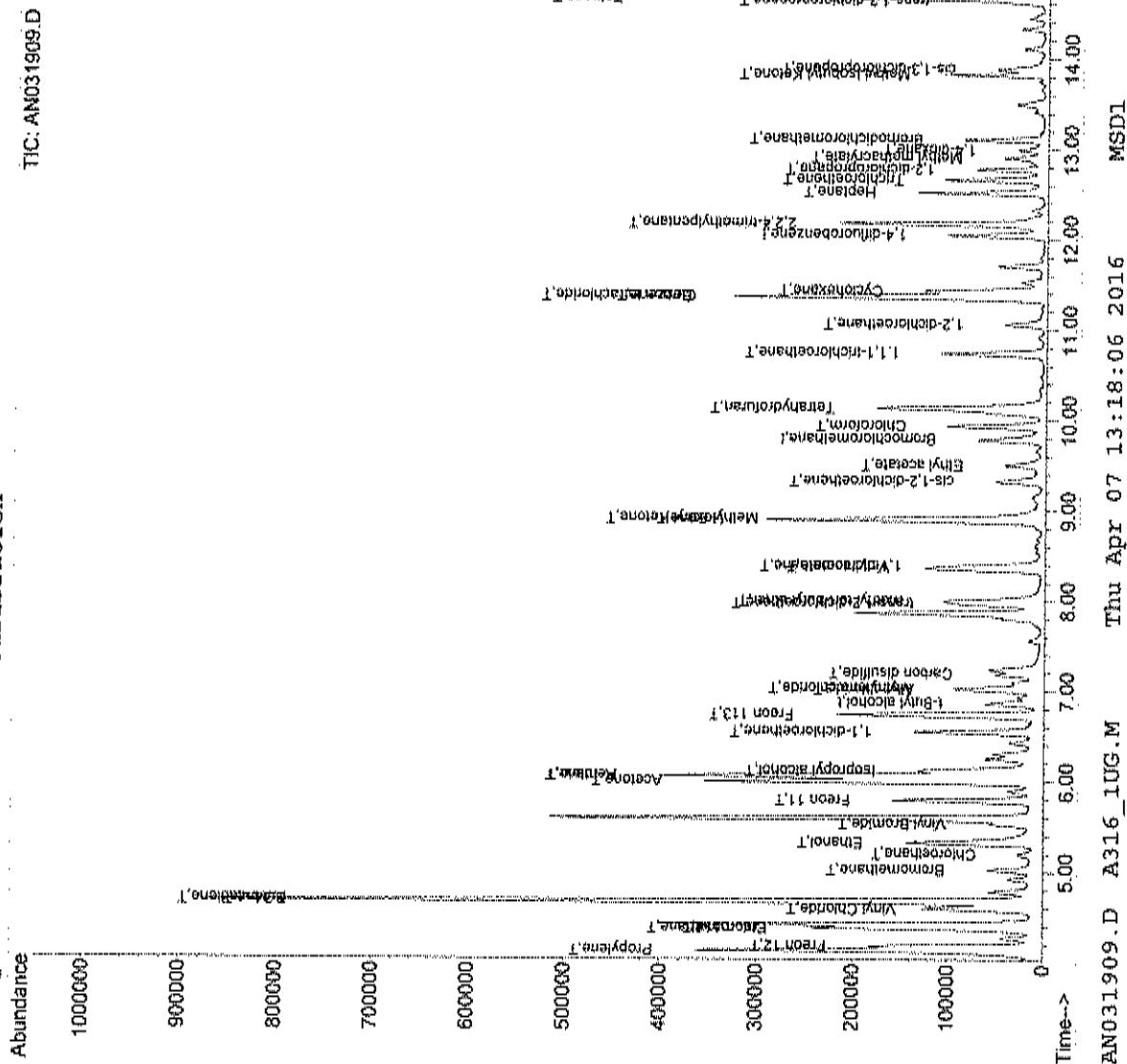
(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN031909.D A316_1UG.M Thu Apr 07 13:18:05 2016 MSD1

Data File : C:\HPCHEM\1\DATA\AN031909.D
Acq On : 19 Mar 2016 3:46 pm
Sample : C1603053-006A.MS
Misc : A316_1UG
MMS Integration Params: RTEINT.P
Quant Time: Mar 24 17:25 2016

Operator: RJP
Inst : MSD #1
Multiplier: 1.00

Quant Results File: A316 1UG.RES

```
Method      : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title       : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration
```



Data File : C:\HPCHEM\1\DATA\AN031910.D

Vial: 10

Acq On : 19 Mar 2016 4:29 pm

Operator: RJP

Sample : C1603053-006A MSD

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 20 12:45:38 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.78	128	38268	1.00	ppb	-0.02
35) 1,4-difluorobenzene	12.05	114	115653	1.00	ppb	-0.01
50) Chlorobenzene-d5	16.55	117	62286	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.12	95	41561	1.04	ppb	-0.01
Spiked Amount	1.000	Range	70 - 130	Recovery	=	104.00%

Target Compounds

						Qvalue
2) Propylene	4.13	41	229537	7.40	ppb	# 100
3) Freon 12	4.18	85	221644	1.36	ppb	100
4) Chloromethane	4.39	50	61476	1.44	ppb	97
5) Freon 114	4.38	85	131007	0.95	ppb	99
6) Vinyl Chloride	4.57	62	37128	0.86	ppb	93
7) Butane	4.67	43	936608	19.04	ppb	# 91
8) 1,3-butadiene	4.68	39	222525m	6.87	ppb	
9) Bromomethane	5.02	94	48533	0.96	ppb	95
10) Chloroethane	5.20	64	16594	0.95	ppb	98
11) Ethanol	5.32	45	283034	21.67	ppb	# 60
12) Acrolein	6.05	56	26762	2.41	ppb	# 1
13) Vinyl Bromide	5.53	106	48026	0.97	ppb	98
14) Freon 11	5.79	101	188416	1.12	ppb	100
15) Acetone	5.99	58	219966	13.31	ppb	# 30
16) Pentane	6.06	42	241326	6.39	ppb	# 1
17) Isopropyl alcohol	6.12	45	203120	3.77	ppb	# 46
18) 1,1-dichloroethene	6.56	96	47153	0.96	ppb	# 87
19) Freon 113	6.73	101	121865	1.03	ppb	97
20) t-Butyl alcohol	6.86	59	99423	1.16	ppb	# 54
21) Methylene chloride	7.03	84	64402	1.50	ppb	93
22) Allyl chloride	7.01	41	39225	1.03	ppb	86
23) Carbon disulfide	7.19	76	127089	1.00	ppb	93
24) trans-1,2-dichloroethene	7.96	61	65210	1.12	ppb	95
25) methyl tert-butyl ether	8.00	73	108068	0.98	ppb	94
26) 1,1-dichloroethane	8.38	63	79836	0.97	ppb	98
27) Vinyl acetate	8.38	43	89582	1.25	ppb	94
28) Methyl Ethyl Ketone	8.91	72	64490	3.66	ppb	# 100
29) cis-1,2-dichloroethene	9.32	61	52884	1.11	ppb	90
30) Hexane	8.89	57	154531	3.09	ppb	93
31) Ethyl acetate	9.50	43	74122	1.09	ppb	92
32) Chloroform	9.93	83	106978	0.96	ppb	96
33) Tetrahydrofuran	10.13	42	165618	5.23	ppb	91
34) 1,2-dichloroethane	11.06	62	57753	0.92	ppb	90
36) 1,1,1-trichloroethane	10.73	97	109007	1.00	ppb	99
37) Cyclohexane	11.43	56	89940	2.01	ppb	# 77
38) Carbon tetrachloride	11.37	117	112649	0.93	ppb	98
39) Benzene	11.35	78	297590	3.09	ppb	95
40) Methyl methacrylate	12.90	41	28834	0.92	ppb	# 84
41) 1,4-dioxane	12.99	88	25607	1.04	ppb	100
42) 2,2,4-trimethylpentane	12.17	57	227937	1.36	ppb	96
43) Heptane	12.52	43	50232	1.29	ppb	80
44) Trichloroethene	12.66	130	51319	1.04	ppb	97
45) 1,2-dichloropropane	12.78	63	32054	0.92	ppb	97

(#) = qualifier out of range (m) = manual integration

AN031910.D A316_1UG.M

Thu Apr 07 13:18:08 2016

MSD1

Page 1

Data File : C:\HPCHEM\1\DATA\AN031910.D

Vial: 10

Acq On : 19 Mar 2016 4:29 pm

Operator: RJP

Sample : C1603053-006A MSD

Inst : MSD #1

Misc : A316_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 20 12:45:38 2016

Quant Results File: A316_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Mar 17 10:24:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Bromodichloromethane	13.11	83	75643	0.89	ppb	100
47) cis-1,3-dichloropropene	13.88	75	45123	0.98	ppb	96
48) trans-1,3-dichloropropene	14.62	75	43041	1.04	ppb	76
49) 1,1,2-trichloroethane	14.92	97	39396	1.03	ppb	93
51) Toluene	14.66	92	203661	4.82	ppb	97
52) Methyl Isobutyl Ketone	13.82	43	88095	1.18	ppb	98
53) Dibromochloromethane	15.59	129	45262m	0.85	ppb	
54) Methyl Butyl Ketone	15.10	43	71630	1.08	ppb	97
55) 1,2-dibromoethane	15.84	107	51434	0.98	ppb	96
56) Tetrachloroethylene	15.65	164	79169	1.96	ppb	100
57) Chlorobenzene	16.60	112	54904	0.99	ppb	90
58) 1,1,1,2-tetrachloroethane	16.69	131	37883	0.91	ppb	96
59) Ethylbenzene	16.84	91	98953	1.36	ppb	99
60) m&p-xylene	17.00	91	201542	3.50	ppb	94
61) Nonane	17.37	43	59173	1.72	ppb	98
62) Styrene	17.45	104	45605	1.14	ppb	99
63) Bromoform	17.58	173	21734	0.75	ppb	100
64) o-xylene	17.47	91	95359m	1.38	ppb	
65) Cumene	18.01	105	81475	1.01	ppb	99
67) 1,1,2,2-tetrachloroethane	17.91	83	68532	0.96	ppb	98
68) Propylbenzene	18.53	91	90514m	1.05	ppb	
69) 2-Chlorotoluene	18.57	91	60770m	0.97	ppb	
70) 4-ethyltoluene	18.69	105	80977m	1.10	ppb	
71) 1,3,5-trimethylbenzene	18.75	105	106675m	1.21	ppb	
72) 1,2,4-trimethylbenzene	19.18	105	130628	1.71	ppb	96
73) 1,3-dichlorobenzene	19.48	146	54178	1.12	ppb	97
74) benzyl chloride	19.55	91	62137m	0.90	ppb	
75) 1,4-dichlorobenzene	19.61	146	51255	1.12	ppb	98
76) 1,2,3-trimethylbenzene	19.64	105	122600	1.30	ppb	97
77) 1,2-dichlorobenzene	19.92	146	63201	1.06	ppb	98
78) 1,2,4-trichlorobenzene	21.78	180	67416	1.50	ppb	93
79) Naphthalene	21.97	128	159612	1.71	ppb	99
80) Hexachloro-1,3-butadiene	22.06	225	131446	1.20	ppb	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 AN031910.D A316_1UG.M Thu Apr 07 13:18:09 2016 MSD1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN031910.D
Acq On : 19 Mar 2016 4:29 pm
Sample : C1603053-006A MSD
Misc : A316_1UG
MS Integration Params: RTEINT.P
Quant Time: Mar 24 17:29 2016

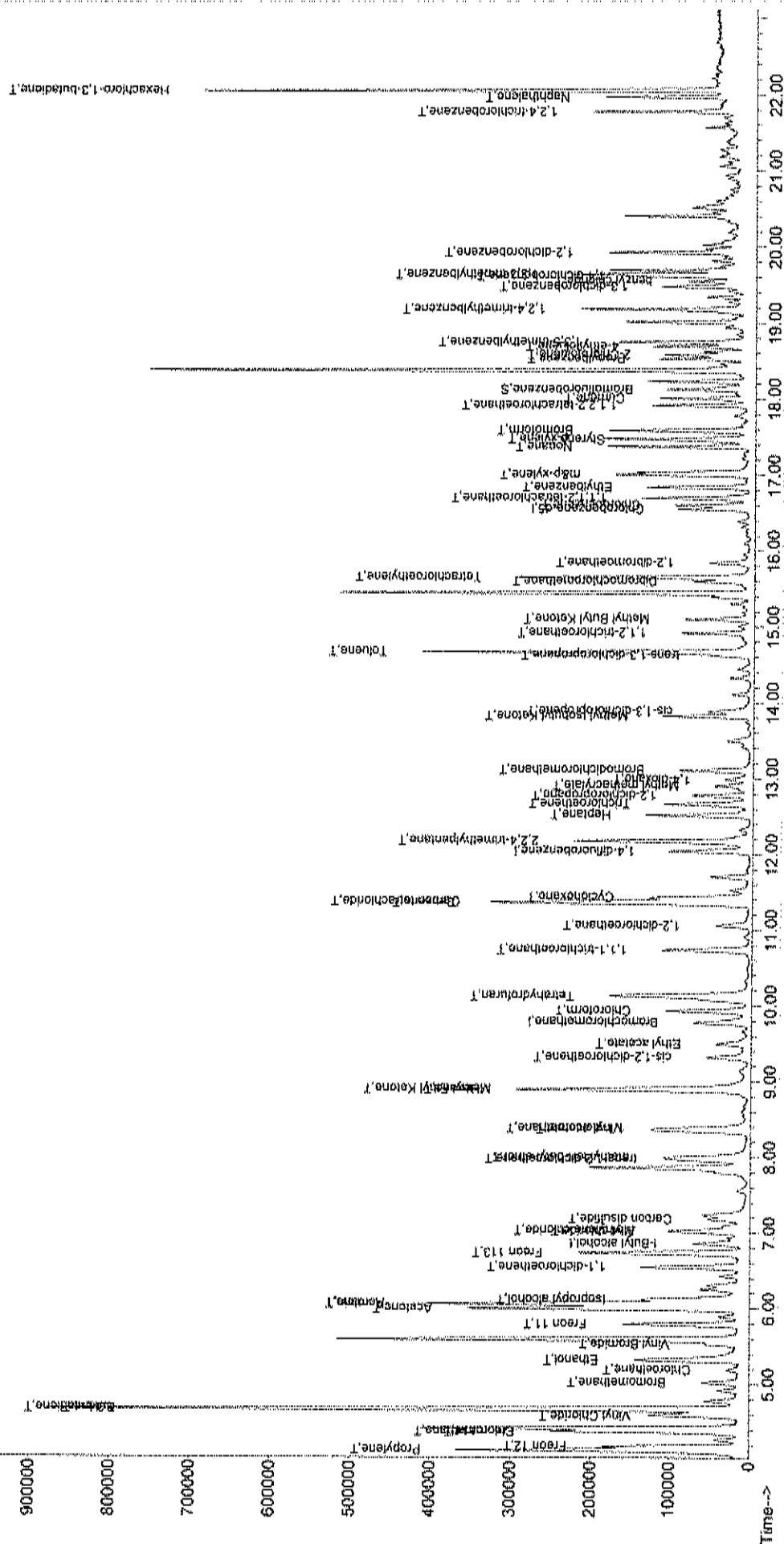
Vial: 10
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A316_1UG.RES

Method : C:\HPCHEM\1\METHODS\A316_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Apr 07 13:07:26 2016
Response via : Initial Calibration

Abundance

TIC: AN031910.D



AN031910.D A316_1UG.M Thu Apr 07 13:18:10 2016 MSD1

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

INJECTION LOG

Injection Log

Instrument # 1
 Internal Standard Stock # A1317
 Standard Stock # A1312
 LCS Stock # A1313
 Method Ref: EPA TO-15 / Jan. 1999

Directory: C:\HPCHEM\1\DATA

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
131	16	An031416.d	1.	C1603037-005A	A307_1UG	14 Mar 2016 20:35
132	17	An031417.d	1.	C1603037-007A	A307_1UG	14 Mar 2016 21:14
133	18	An031418.d	1.	C1603037-009A	A307_1UG	14 Mar 2016 21:53
134	19	An031419.d	1.	C1603037-011A	A307_1UG	14 Mar 2016 22:32
135	20	An031420.d	1.	ALCS1UGD-031416	A307_1UG	14 Mar 2016 23:11
136	21	An031421.d	1.	C1603040-001A	A307_1UG	14 Mar 2016 23:50
137	22	An031422.d	1.	C1603040-002A	A307_1UG	15 Mar 2016 00:29
138	23	An031423.d	1.	C1603040-003A	A307_1UG	15 Mar 2016 01:08
139	24	An031424.d	1.	C1603040-004A	A307_1UG	15 Mar 2016 01:46
140	25	An031425.d	1.	C1603040-005A	A307_1UG	15 Mar 2016 02:25
141	26	An031426.d	1.	C1603037-001A	A307_1UG	15 Mar 2016 03:04
142	27	An031427.d	1.	C1603037-004A	A307_1UG	15 Mar 2016 03:43
143	28	An031428.d	1.	C1603037-006A	A307_1UG	15 Mar 2016 04:23
144	29	An031429.d	1.	C1603037-008A	A307_1UG	15 Mar 2016 05:02
145	30	An031430.d	1.	C1603037-010A	A307_1UG	15 Mar 2016 05:41
146		An031431.d	1.	No MS or GC data present		
147	1	An031501.d	1.	BFB1UG	A307_1UG	15 Mar 2016 10:04
148	2	An031502.d	1.	A1UG_1.0	A307_1UG	15 Mar 2016 12:03
149	3	An031503.d	1.	ALCS1UG-031516	A307_1UG	15 Mar 2016 12:42
150	4	An031504.d	1.	AMB1UG-031516	A307_1UG	15 Mar 2016 13:18
151	5	An031505.d	1.	C1603037-001A 10X	A307_1UG	15 Mar 2016 14:31
152	6	An031506.d	1.	C1603037-004A 10X	A307_1UG	15 Mar 2016 15:07
153	7	An031507.d	1.	C1603037	A307_1UG-002A 10X	15 Mar 2016 15:44
154	8	An031508.d	1.	C1603037	A307_1UG-002A 5X	15 Mar 2016 16:20
155	9	An031509.d	1.	C1603037-005A 5X	A307_1UG	15 Mar 2016 16:56
156	10	An031510.d	1.	C1603037-007A 10X	A307_1UG	15 Mar 2016 17:33
157	11	An031511.d	1.	C1603037-002A 5X	A307_1UG	15 Mar 2016 18:09
158	12	An031512.d	1.	C1603037-003A 5X	A307_1UG	15 Mar 2016 18:46
159	13	An031513.d	1.	C1603040-001A 10X	A307_1UG	15 Mar 2016 19:22
160	14	An031514.d	1.	C1603040-002A 10X	A307_1UG	15 Mar 2016 19:59
161	15	An031515.d	1.	C1603040-003A 10X	A307_1UG	15 Mar 2016 20:35
162	16	An031516.d	1.	C1603040-004A 10X	A307_1UG	15 Mar 2016 21:12
163	17	An031517.d	1.	C1603040-005A 10X	A307_1UG	15 Mar 2016 21:48
164	18	An031518.d	1.	C1603037	A307_1UG-001A 27X	15 Mar 2016 22:27
165	19	An031519.d	1.	C1603037-001A 270X	A307_1UG	15 Mar 2016 23:03
166	20	An031520.d	1.	C1603037-004A 81X	A307_1UG	15 Mar 2016 23:42
167	21	An031521.d	1.	C1603037-004A 810X	A307_1UG	16 Mar 2016 00:19
168	22	An031522.d	1.	C1603037-006A 9X	A307_1UG	16 Mar 2016 00:57
169	23	An031523.d	1.	C1603037-006A 90X	A307_1UG	16 Mar 2016 01:34
170	24	An031524.d	1.	C1603037-008A 10X	A307_1UG	16 Mar 2016 02:10
171	25	An031525.d	1.	C1603037-010A 10X	A307_1UG	16 Mar 2016 02:47
172	26	An031526.d	1.	ALCS1UGD-031516	A307_1UG	16 Mar 2016 03:25
173	41	An031527.d	1.	WAC031516A	A307_1UG	16 Mar 2016 04:03
174	42	An031528.d	1.	WAC031516B	A307_1UG	16 Mar 2016 04:40
175	43	An031529.d	1.	WAC031516C N	A307_1UG	16 Mar 2016 05:18
176	44	An031530.d	1.	WAC031516D	A307_1UG	16 Mar 2016 05:55
177	45	An031531.d	1.	WAC031516E	A307_1UG	16 Mar 2016 06:33
178	46	An031532.d	1.	WAC031516F	A307_1UG	16 Mar 2016 07:10
179	47	An031533.d	1.	WAC031516G	A307_1UG	16 Mar 2016 07:48
180	48	An031534.d	1.		A307_1UG	16 Mar 2016 16:41
181	1	An031601.d	1.	BFB1UG	A316_1UG	16 Mar 2016 17:26
182	1	An031602.d	1.	A1UG	A316_1UG	16 Mar 2016 18:08
183	2	An031603.d	1.	A1UG_2.0	A316_1UG	16 Mar 2016 18:50
184	3	An031604.d	1.	A1UG_1.50	A316_1UG	16 Mar 2016 19:30
185	4	An031605.d	1.	A1UG_1.25	A316_1UG	16 Mar 2016 20:10

Injection Log

Instrument # 1
 Internal Standard Stock # A1311
 Standard Stock # A1312
 LCS Stock # A1313
 Method Ref: EPA 821-B / Jan. 1999

Directory: C:\HPCHEM\1\DATA

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
386	5	An031606.d	1.	A1UG_1.0	A316_1UG	16 Mar 2016 20:49
387	6	An031607.d	1.	A1UG_0.75	A316_1UG	16 Mar 2016 21:27
388	7	An031608.d	1.	A1UG_0.50	A316_1UG	16 Mar 2016 22:05
389	8	An031609.d	1.	A1UG_0.30	A316_1UG	16 Mar 2016 22:42
390	9	An031610.d	1.	A1UG_0.15	A316_1UG	16 Mar 2016 23:18
391	10	An031611.d	1.	A1UG_0.10	A316_1UG	16 Mar 2016 23:55
392	11	An031612.d	1.	A1UG_0.04	A316_1UG	17 Mar 2016 00:31
393	12	An031613.d	1.		A316_1UG	17 Mar 2016 08:38
194	1	An031701.d	1.	BFB1UG	A316_1UG	17 Mar 2016 10:46
195	2	An031702.d	1.	A1UG	A316_1UG	17 Mar 2016 11:25
196	3	An031703.d	1.	ALCS1UG-031716	A316_1UG	17 Mar 2016 12:32
197	4	An031704.d	1.	AMB1UG-031716	A316_1UG	17 Mar 2016 13:52
198	1	An031705.d	1.	WAC031716A	A316_1UG	17 Mar 2016 14:44
199	2	An031706.d	1.	WAC031716B	A316_1UG	17 Mar 2016 15:21
00	1	An031707.d	1.	WAC031716C	A316_1UG	17 Mar 2016 16:00
01	2	An031708.d	1.	WAC031716D	A316_1UG	17 Mar 2016 16:37
02	3	An031709.d	1.	WAC031716E	A316_1UG	17 Mar 2016 17:15
03	4	An031710.d	1.	WAC031716F	A316_1UG	17 Mar 2016 17:52
04	5	An031711.d	1.	WAC031716G	A316_1UG	17 Mar 2016 18:29
05	6	An031712.d	1.	WAC031716H	A316_1UG	17 Mar 2016 19:07
06	7	An031713.d	1.	WAC031716I	A316_1UG	17 Mar 2016 19:44
07	8	An031714.d	1.	WAC031716J	A316_1UG	17 Mar 2016 20:22
08	9	An031715.d	1.	WAC031716K	A316_1UG	17 Mar 2016 20:59
09	10	An031716.d	1.	WAC031716L	A316_1UG	17 Mar 2016 21:37
10	11	An031717.d	1.	C1603048-001A 10X	A316_1UG	17 Mar 2016 22:13
11	12	An031718.d	1.	C1603048-002A 10X	A316_1UG	17 Mar 2016 22:50
12	13	An031719.d	1.	C1603050-001A	A316_1UG	17 Mar 2016 23:29
13	14	An031720.d	1.	C1603050-002A	A316_1UG	18 Mar 2016 00:08
14	15	An031721.d	1.	C1603050-003A	A316_1UG	18 Mar 2016 00:47
15	16	An031722.d	1.	C1603050-001A 10X	A316_1UG	18 Mar 2016 01:23
16	17	An031723.d	1.	C1603050-002A 10X	A316_1UG	18 Mar 2016 02:00
17	18	An031724.d	1.	C1603050-003A 10X	A316_1UG	18 Mar 2016 02:37
18	19	An031725.d	1.	C1603048-001A	A316_1UG	18 Mar 2016 03:15
19	20	An031726.d	1.	C1603048-002A	A316_1UG	18 Mar 2016 03:54
20	21	An031727.d	1.	C1603048-001A 10x	A316_1UG	18 Mar 2016 09:32
21	22	An031728.d	1.		A316_1UG	18 Mar 2016 10:08
22	1	An031901.d	1.	BFB1UG	A316_1UG	19 Mar 2016 10:24
23	2	An031902.d	1.	A1UG	A316_1UG	19 Mar 2016 11:03
24	3	An031903.d	1.	ALCS1UG-031916	A316_1UG	19 Mar 2016 11:42
25	4	An031904.d	1.	AMB1UG-031916	A316_1UG	19 Mar 2016 12:18
26	5	An031905.d	1.	C1603051-001A 10X	A316_1UG	19 Mar 2016 12:57
27	6	An031906.d	1.	C1603051-001A	A316_1UG	19 Mar 2016 13:49
28	7	An031907.d	1.	C1603051-001A 40X	A316_1UG	19 Mar 2016 14:25
29	8	An031908.d	1.	C1603053-006A	A316_1UG	19 Mar 2016 15:04
30	9	An031909.d	1.	C1603053-006A MS	A316_1UG	19 Mar 2016 15:46
31	10	An031910.d	1.	C1603053-006A MSD	A316_1UG	19 Mar 2016 16:29
32	11	An031911.d	1.	C1603053-001A	A316_1UG	19 Mar 2016 17:08
33	12	An031912.d	1.	C1603053-002A	A316_1UG	19 Mar 2016 17:46
34	13	An031913.d	1.	C1603053-004A	A316_1UG	19 Mar 2016 18:25
35	14	An031914.d	1.	C1603052-003A	A316_1UG	19 Mar 2016 19:05
36	15	An031915.d	1.	C1603052-001A	A316_1UG	19 Mar 2016 19:44
37	16	An031916.d	1.	C1603052-002A	A316_1UG	19 Mar 2016 20:23
38	17	An031917.d	1.	C1603053-003A	A316_1UG	19 Mar 2016 21:02
39	18	An031918.d	1.	C1603053-005A	A316_1UG	19 Mar 2016 21:41
40	19	An031919.d	1.	ALCS1UGD-031916	A316_1UG	19 Mar 2016 22:19

Injection Log

Internal Standard Stock # A1317
 Standard Stock # A1312
 LCS Stock # A1313
 Method Ref: EPA TO-15 / Jan. 1999

Directory: C:\HPCHEM\1\DATA

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
141	20	An031920.d	1.	C1603053-006A 10x	A316_1UG	19 Mar 2016 22:56
142	21	An031921.d	1.	C1603053-001A 10x	A316_1UG	19 Mar 2016 23:32
143	22	An031922.d	1.	C1603053-002A 10x	A316_1UG	20 Mar 2016 00:09
144	23	An031923.d	1.	C1603053-002A 40x	A316_1UG	20 Mar 2016 00:45
145	24	An031924.d	1.	C1603053-004A 10x	A316_1UG	20 Mar 2016 01:22
146	25	An031925.d	1.	C1603052-003A 10x	A316_1UG	20 Mar 2016 01:58
147	26	An031926.d	1.	C1603052-001A 10x	A316_1UG	20 Mar 2016 02:35
148	27	An031927.d	1.	C1603052-001A 40x	A316_1UG	20 Mar 2016 03:11
149	28	An031928.d	1.	C1603052-002A 10x	A316_1UG	20 Mar 2016 03:48
150	29	An031929.d	1.	C1603053-003A 10x	A316_1UG	20 Mar 2016 04:24
151	30	An031930.d	1.	C1603053-005A 10x	A316_1UG	20 Mar 2016 05:00
152	31	An031931.d	1.	C1603053-005A 20X	A316_1UG	20 Mar 2016 10:05
153	1	An032201.d	1.	BFB1UG	A316_1UG	22 Mar 2016 10:38
154	2	An032202.d	1.	BFB1UG	A316_1UG	22 Mar 2016 11:42
155	3	An032203.d	1.	A1UG_2.0	A316_1UG	22 Mar 2016 12:30
156	4	An032204.d	1.	A1UG_1.0	A316_1UG	22 Mar 2016 13:09
157	5	An032205.d	1.	A1UG_1.0	A316_1UG	22 Mar 2016 14:07
158	6	An032206.d	1.	A1UG_1.0	A316_1UG	22 Mar 2016 14:52
159	7	An032207.d	1.	ALCS1UG-032216	A316_1UG	22 Mar 2016 15:41
160	8	An032208.d	1.	AMB1UG-032216	A316_1UG	22 Mar 2016 16:29
161	31	An032209.d	1.	WAC032216A	A316_1UG QC Can	22 Mar 2016 17:20
162	32	An032210.d	1.	WAC032216B	A316_1UG QC Can	22 Mar 2016 17:58
163	33	An032211.d	1.	WAC032216C	A316_1UG QC Can	22 Mar 2016 18:37
164	34	An032212.d	1.	WAC032216D	A316_1UG QC Can	22 Mar 2016 19:16
165	35	An032213.d	1.	WAC032216E	A316_1UG QC Can	22 Mar 2016 19:55
166	36	An032214.d	1.	C1603053-005A 40X	A316_1UG	22 Mar 2016 20:31
167	37	An032215.d	1.	C1603054-001A	A316_1UG	22 Mar 2016 21:10
168	37	An032216.d	1.	C1603054-001A 10X	A316_1UG	22 Mar 2016 21:46
169	38	An032217.d	1.	C1603054-002A	A316_1UG	22 Mar 2016 22:25
170	38	An032218.d	1.	C1603054-002A 10X	A316_1UG	22 Mar 2016 23:01
171	39	An032219.d	1.	C1603054-003A	A316_1UG	22 Mar 2016 23:40
172	39	An032220.d	1.	C1603054-003A 10X	A316_1UG	23 Mar 2016 00:17
173	30	An032221.d	1.	C1603054-004A	A316_1UG	23 Mar 2016 00:56
174	30	An032222.d	1.	C1603054-004A 10X	A316_1UG	23 Mar 2016 01:32
175	31	An032223.d	1.	C1603054-005A	A316_1UG	23 Mar 2016 02:11
176	31	An032224.d	1.	C1603054-005A 10X	A316_1UG	23 Mar 2016 02:47
177	32	An032225.d	1.	C1603054-006A	A316_1UG	23 Mar 2016 03:26
178	32	An032226.d	1.	C1603054-006A 10X	A316_1UG	23 Mar 2016 04:03
179	37	An032227.d	1.	C1603054-001A 40X	A316_1UG	23 Mar 2016 04:39
180	38	An032228.d	1.	C1603054-002A 40X	A316_1UG	23 Mar 2016 05:15
181	39	An032229.d	1.	C1603054-003A 40X	A316_1UG	23 Mar 2016 05:52
182	30	An032230.d	1.	C1603054-004A 40X	A316_1UG	23 Mar 2016 06:28
183	31	An032231.d	1.	C1603054-005A 40X	A316_1UG	23 Mar 2016 07:05
184	32	An032232.d	1.	C1603054-006A 40X	A316_1UG	23 Mar 2016 07:42
185	33	An032233.d	1.	ALCS1UGD-032216	A316_1UG	23 Mar 2016 08:21
186	1	An032401.d	1.	BFB1UG	A316_1UG	24 Mar 2016 09:32
187	2	An032402.d	1.	BFB1UG	A316_1UG	24 Mar 2016 10:11
188		An032403.d	1.	No MS or GC data present		

GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

STANDARDS LOG

GC/MS Calibration Standards Logbook

Centek Laboratories, LLC

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Final Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A-1201	1/15/16	1/23/16	TO15 APH	A1188	1 ppm	1.5	30	50	no	
A-1202	↓	↓	TO15106 APH	A1201	500ppb	0.9	45	1	↓	
A-1203	1/15/16	1/15/17	TO15 MIX	-	1 ppm	LINDE TO15 MIX		1 ppm	no	
A-1204	1/18/16	1/18/17	LCS TO15	11	AC534	STD IS NOW LCS		1 ppm	Z.L.	
A-1205	1/18/16	1/25/16	TO15 IS	A1174	1 ppm	1.5	30	50 ppb	no	
A-1206	↓	↓	LCS	A1204	↓	↓	↓	↓	↓	
A-1207	↓	↓	STD	A1203	↓	↓	↓	↓	↓	
A-1208	↓	↓	TO15 FORM	A0974	11.5 ppm	0.20	45	↓	↓	
A-1209	↓	↓	↓	~~A1204~~ A1205	1000/500ppb	3.0	30	↓	↓	
A-1210	↓	↓	↓	A0276	1 ppm	1.5	↓	↓	↓	
A-1211	↓	↓	↓	A0265	10 ppm	↓	↓	500 ppb	↓	
A-1212	↓	↓	TO15 4PCH	9519	1 ppm	1.5	30	50 ppb	↓	
A-1213	↓	↓	↓	A1212	500ppb	3.0	↓	5 ppb	↓	
A-1214	↓	↓	TO15106 IS	A1205	↓	0.9	45	1 ppb	↓	
A-1215	↓	↓	↓	A1207	↓	↓	↓	↓	↓	
A-1216	↓	↓	↓	A1206	↓	↓	↓	↓	↓	
A-1217	1/25/16	2/1/16	TO15 IS	A1174	1 ppm	1.5	30	50 ppb	W.D.	
A-1218	↓	↓	↓	A1203	↓	↓	↓	↓	↓	
A-1219	↓	↓	↓	A1204	↓	↓	↓	↓	↓	
A-1220	↓	↓	↓	9519	↓	↓	↓	↓	↓	
A-1221	↓	↓	↓	4PCH5	50 ppb	3.0	30	5	↓	

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Centek Laboratories, LLC

GC/MS Calibration Standards Logbook

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Final Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A-1285	2/24/16	3/7/16	TO15 H ₂ S	A0269	10 ppm	1.5	30	500	WD	
A-1286			TO15 146 IS	A1277	50 ppb	0.9	45	1		
A-1287			STD	A1278						
A-1288			LCS	A1279						
A-1289	3/1/16	3/1/17	TO15 IS	FF-4969	LINDE		2100 psig	1 ppm	WD	
A-1290	3/7/16	3/14/16	TO15 IS	A1289	1 ppm	1.5	30	50	WD	
A-1291			STD	A1203						
A-1292			LCS	A1204						
A-1293			4PCH	9519						
A-1294			4PCH	A1293	50 ppb	3.0	30	5		
A-1295			FORM	A0974	11.5 ppm	0.20	45	50		
A-1296			SLUX	A1088	500 ppb	3.0	30	50		
A-1297			SLUX	A1089	1 ppm	1.5	30	50		
A-1298			H ₂ S	A0269	10 ppm	1.5	30	500		
A-1299			TO15 146 IS	A1290	50 ppb	0.9	45	1		
A-1300			STD	A1291						
A-1301			LCS	A1292						
A-1302	3/14/16	3/24/16	TO15 IS	A1289	1 ppm	1.5	30	50	WD	
A-1303			STD	A1203						
A-1304			LCS	A1204						
A-1305			4PCH	9519						

GC/MS Calibration Standards Logbook

Centek Laboratories, LLC

Std #	Date Prep	Date Exp	Description	Stock #	Stock Conc	Initial Vol (psig)	Final Vol (psia)	Final Conc (ppb)	Prep by	Chkd by
A-1306	3/14/16	3/21/16	TO15	A1305	50 ppb	3.0	30	5	WD	
A-1307			Form	A0974	11.5 ppm	0.20	45	50		
A-1308			510X	~~A1088~~ A1089	500 ppb	3.0	30	50		
A-1309			Sulf	A0270	1 ppm	1.5	30	50		
A-1310			H2S	A0269	10 ppm	1.5	30	500		
A-1311			TO15 146	A1302	50 ppb	0.9	45	1		
A-1312			57D	A1303	↓	↓	↓	↓		
A-1313			LCS	A1304	↓	↓	↓	↓		
A-1314	3/21/16	3/28/16	TO15	A1289	1 ppm	1.5	30	50	WD	
A-1315			57D	A1203	↓	↓	↓	↓		
A-1316			LCS	A1204	↓	↓	↓	↓		
A-1317			4PCH	9519	↓	↓	↓	↓		
A-1318			4PCH	A1317	50 ppb	3.0	30	5		
A-1319			Form	A0974	11.5 ppm	0.20	45	50		
A-1320			510X	~~A1088~~ A1089	500 ppb	3.0	30	50		
A-1321			Sulf	A0270	1 ppm	1.5	30	50		
A-1322			H2S	A0269	10 ppm	1.5	30	500		
A-1323			TO15 146	A1314	50 ppb	0.9	45	1		
A-1324			57D	A1315	↓	↓	↓	↓		
A-1325			LCS	A1316	↓	↓	↓	↓		
A-1326	3/28/16	4/4/16	TO15	A1289	1 ppm	1.5	30	50	WD	

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GC/MS VOLATILES-WHOLE AIR

METHOD TO-15

CANISTER CLEANING LOG

QC Canister Cleaning Logbook

Centek Laboratories, LLC

Instrument: Entech 3100

Canister Number	QC Can Number	Number of Cycles	Date	QC Batch Number	Detection Limits	Leak Test 24hr (psig strip)
360	245	30	12-15-15	WAC121515A	1g/m ³ ± 0.25	+ 30
555						+
92						+
1185						+
245						+
161	170			WAC121515B		+
223						+
1184						+
158						+
170						+
96	171			WAC121515C		+
326						+
353						+
1191						+
171						+
1209	1196			WAC121515D		+
482						+
216						+
1323						+
1196						+
487	1203			WAC121515E		+
484						+
210						+
1319						+
1203						+

[illegible]

Cleaned by: RSF

Form C151

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Centek Laboratories, LLC

QC Canister Cleaning Logbook

Instrument: Entech 3100

Canister Number	QC Can Number	Number of Cycles	Date	QC Batch Number	Detection Limits	Leak Test 24hr (psig str/slp)
422	202	20	3/4/16	WAC030416A	1ug/m ³ ±0.25	+ 30 + 32
558	↓	↓	↓	↓	↓	↓
236	↓	↓	↓	↓	↓	↓
288	↓	↓	↓	↓	↓	↓
202	↓	↓	↓	↓	↓	↓
553	189	↓	↓	WAC030416B	↓	↓
1192	↓	↓	↓	↓	↓	↓
275	↓	↓	↓	↓	↓	↓
354	↓	↓	↓	↓	↓	↓
189	↓	↓	↓	↓	↓	↓
357	162	↓	↓	WAC030416C	↓	↓
359	↓	↓	↓	↓	↓	↓
471	↓	↓	↓	↓	↓	↓
92	↓	↓	↓	↓	↓	↓
162	↓	↓	↓	↓	↓	↓
568	207	↓	↓	WAC030416D	↓	↓
88	↓	↓	↓	↓	↓	↓
1318	↓	↓	↓	↓	↓	↓
234	↓	↓	↓	↓	↓	↓
207	↓	↓	↓	↓	↓	↓
221	241	↓	↓	WAC030416E	↓	↓
347	↓	↓	↓	↓	↓	↓
201	↓	↓	↓	↓	↓	↓
358	↓	↓	↓	↓	↓	↓
241	↓	↓	↓	↓	↓	↓

Cleaned by

RTP

Form C151

Data File : C:\HPCHEM\1\DATA2\2015DEC\AM121509.D

Vial: 9

Acq On : 15 Dec 2015 3:27 pm

Operator: RJP

Sample : WAC121515D

Inst : MSD #1

Misc : AD11_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Dec 15 19:53:44 2015

Quant Results File: AD11_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\AD11_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Sat Dec 12 10:13:36 2015

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	10.06	128	26931	1.00	ppb	0.04
35) 1,4-difluorobenzene	12.28	114	134683	1.00	ppb	0.01
50) Chlorobenzene-d5	16.75	117	115879	1.00	ppb	0.01

System Monitoring Compounds

66) Bromofluorobenzene	18.31	95	90235	0.96	ppb	0.01
Spiked Amount	1.000	Range	70 - 130	Recovery	=	96.00%

Target Compounds

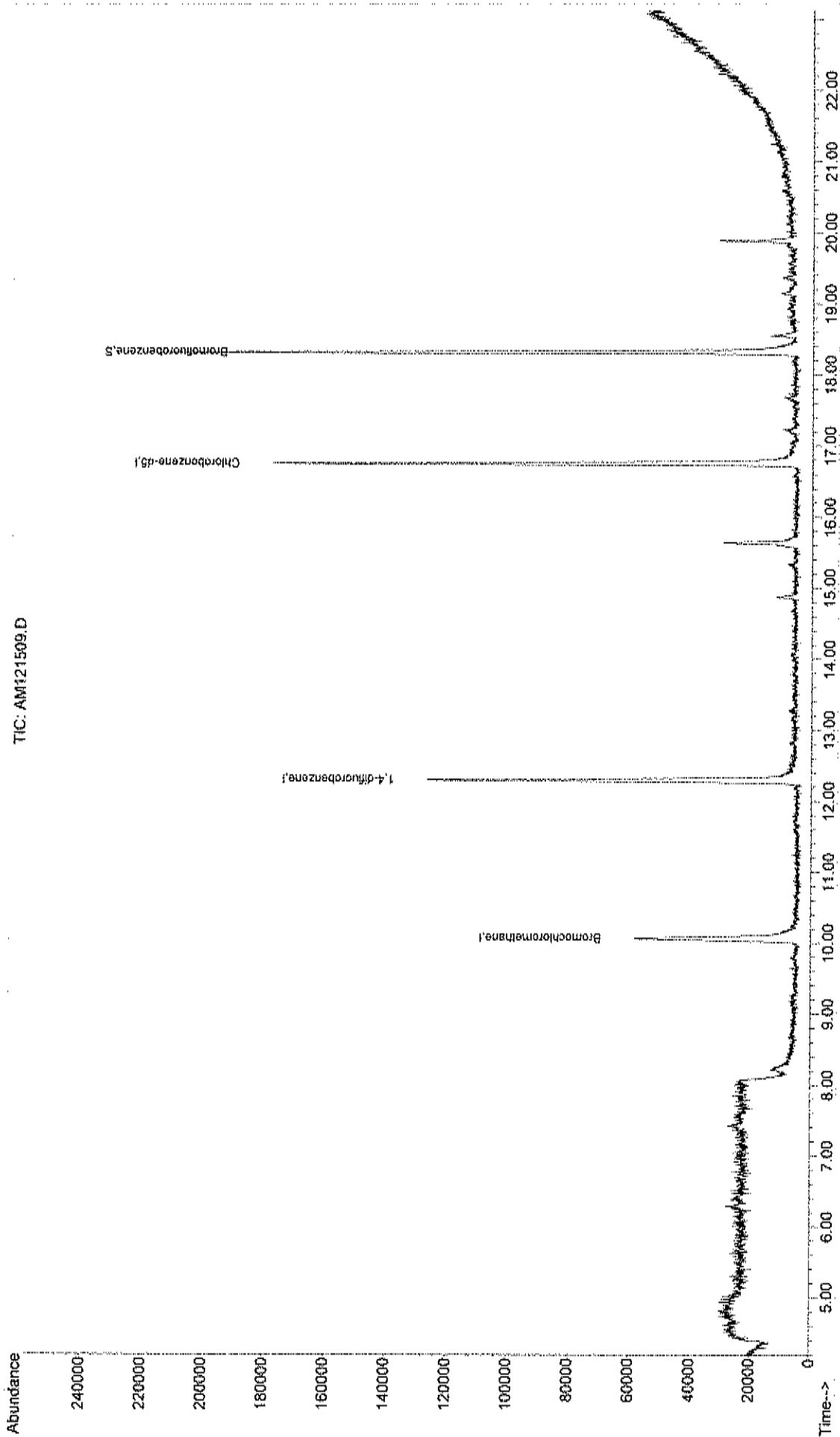
Qvalue

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2\2015DEC\AM121509.D Vial: 9
Acq On : 15 Dec 2015 3:27 pm Operator: RJP
Sample : WAC121515D Inst : MSD #1
Misc : AD11_1UG Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 16 10:43 2015 Quant Results File: AD11_1UG.RES

Method : C:\HPCHEM\1\METHODS\A204_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Mar 03 09:50:16 2016
Response via : Initial Calibration

Abundance



Data File : C:\HPCHEM\1\DATA2\AN022416.D

Vial: 8

Acq On : 24 Feb 2016 8:19 pm

Operator: RJP

Sample : WAC022416L

Inst : MSD #1

Misc : A204_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Feb 25 06:58:12 2016

Quant Results File: A204_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A204_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Thu Feb 11 11:13:02 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.86	128	29659	1.00	ppb	0.00
35) 1,4-difluorobenzene	12.11	114	93243	1.00	ppb	0.02
50) Chlorobenzene-d5	16.59	117	86590	1.00	ppb	0.00

System Monitoring Compounds

66) Bromofluorobenzene	18.17	95	40506	0.69	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	69.00%#

Target Compounds

11) Ethanol	5.41	45	3160	0.42	ppb	Qvalue # 65

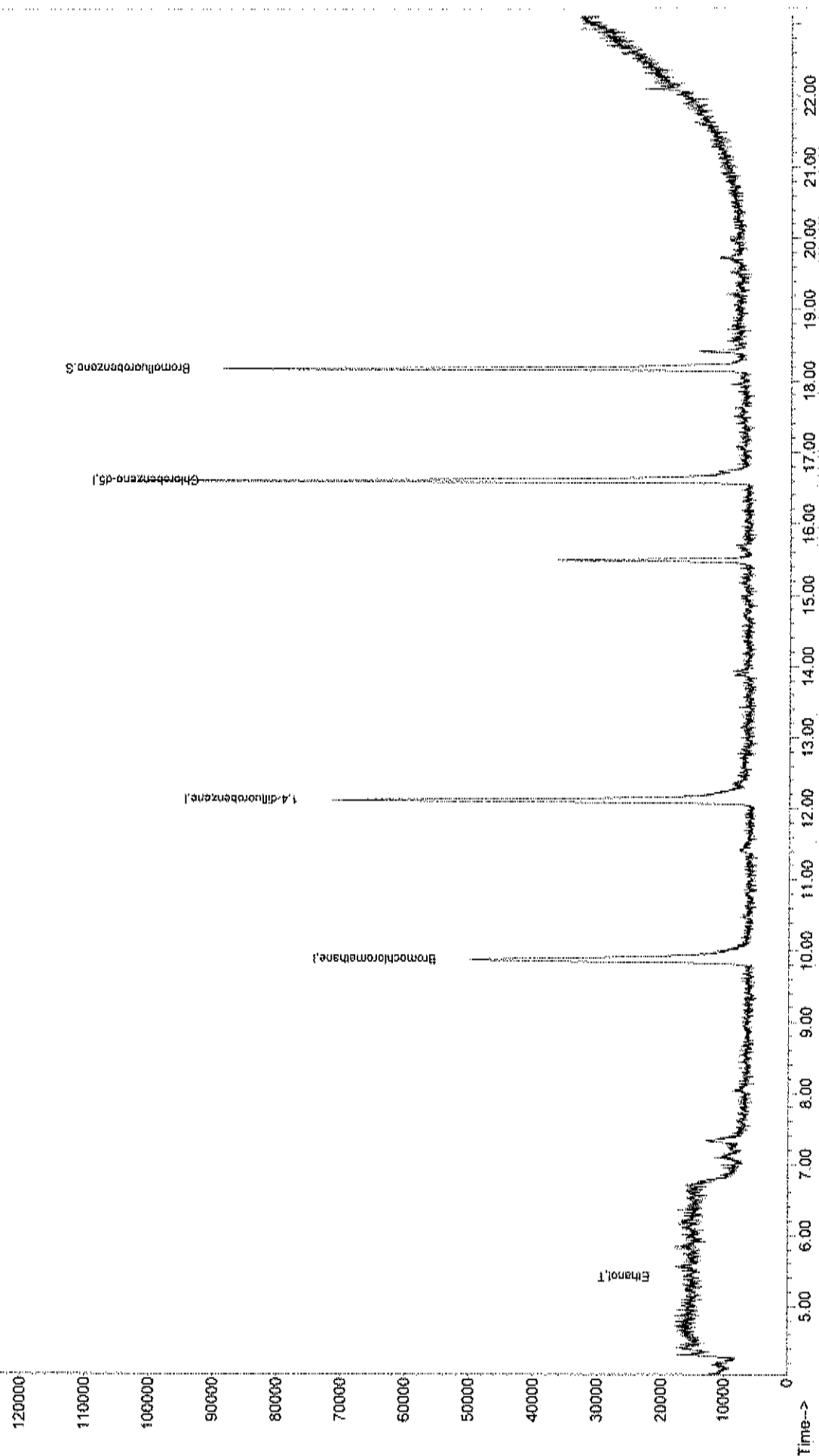
Data File : C:\HPCHEM\1\DATA2\AN022416.D
Acq On : 24 Feb 2016 8:19 pm
Sample : WAC022416L
Misc : A204_1UG
MS Integration Params: RTEINT.P
Quant Time: Feb 25 7:58 2016
Quant Results File: A204_1UG.RES

Vial: 8
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\A204_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Thu Mar 03 09:50:16 2016
Response via : Initial Calibration

Abundance

TIC: AN022416.D



Data File : C:\HPCHEM\1\DATA\AN030411.D

Vial: 23

Acq On : 4 Mar 2016 4:33 pm

Operator: RJP

Sample : WAC030416C

Inst : MSD #1

Misc : A303_1UG

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Mar 05 07:18:39 2016

Quant Results File: A303_1UG.RES

Quant Method : C:\HPCHEM\1\METHODS\A303_1UG.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Fri Mar 04 09:32:27 2016

Response via : Initial Calibration

DataAcq Meth : 1UG_RUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	9.88	128	35963m	1.00	ppb	0.07
35) 1,4-difluorobenzene	12.10	114	85165	1.00	ppb	0.03
50) Chlorobenzene-d5	16.59	117	80951	1.00	ppb	0.02

System Monitoring Compounds

66) Bromofluorobenzene	18.16	95	39389	0.70	ppb	0.02
Spiked Amount	1.000	Range	70 - 130	Recovery	=	70.00%

Target Compounds

Qvalue

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\AN030411.D
Acq On : 4 Mar 2016 4:33 pm
Sample : WAC030416C
Misc : A303_1UG
MS Integration Params: RTEINT.P
Quant Time: Apr 12 14:26 2016

Vial: 23
Operator: RJP
Inst : MSD #1
Multiplr: 1.00

Quant Results File: A303_1UG.RES

Method : C:\HPCHEM\1\METHODS\A303_1UG.M (RTE Integrator)
Title : TO-15 VOA Standards for 5 point calibration
Last Update : Fri Mar 04 09:32:27 2016
Response via : Initial Calibration

