

### TO-15 Package Review Checklist

Client: Enviro Group Limited Project: Casper PCE SDG: C1008023

		<u>YES</u>	<u>NO</u>	<u>NA</u>
Analytical Results	Present and Complete	✓	—	—
TIC's present	Present and Complete	✓	—	—
	Holding Times Met	✓	—	—

Comments: \_\_\_\_\_

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

Comments: \_\_\_\_\_

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: NO MS/MSD

Sample Raw Data	Present and Complete	✓	—	—
	Spectra present for all samples	✓	—	—

Comments: \_\_\_\_\_

### TO-15 Package Review Checklist

Client: EnviroGroup Project: Casper PCE SDG: C1008023

		<u>YES</u>	<u>NO</u>	<u>NA</u>
<b>Standards Data</b>				
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: SEE CPOE NARRATIVE

Section Supervisor: [Signature] Date: 9/5/10

QC Supervisor: [Signature] Date: 9/7/10



www.CentekLabs.com

# CEN TEK LABORATORIES, LLC

143 Midler Park Drive \* Syracuse, NY 13206  
Phone (315) 431-9730 \* Emergency 24/7 (315) 416-2752

## Analytical Report

NYSDOH ELAP  
Certificate No. 11830

Mr. Jeff Kurtz  
EnviroGroup Limited  
7009 S. Potomac Street, Suite 300  
Engelwood, CO 80112

Friday, August 13, 2010  
Order No.: C1008023

TEL: (303) 790-1340

FAX 303-790-1347

RE: Capser PCE Orphan Plumes

Dear Mr. Jeff Kurtz:

Centek Laboratories, LLC received 2 sample(s) on 8/9/2010 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.

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.

Centek Laboratories is distinctively qualified to meet your needs for precise and timely volatile organic compound analysis. We perform all analyses according to EPA, NIOSH or OSHA-approved analytical methods. Centek Laboratories is dedicated to providing quality analyses and exceptional customer service. Samples were analyzed using the methods outlined in the following references:

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

Analytical results relate to samples as received at laboratory. 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,



Russell Pellegrino  
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.

## **ASP CAT B DELIVERABLE PACKAGE**

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**Centek Laboratories**

Date: 05-Sep-10

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**CLIENT:** EnviroGroup Limited  
**Project:** Capser PCE Orphan Plumes  
**Lab Order:** C1008023

**CASE NARRATIVE**

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

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

Add 5% for Cat B / Dilute only for PCE, TCE, 1,1-DCE, cis-1,2-DCE and vinyl chloride all other E value.

Also report to Martina Litasi (mlitasi@envirogroup.com)

See Corrective Action: [1957] Surrogate did not meet criteria.

Centek Laboratories, LLC

Corrective Action Report

Date Initiated: 09-Aug-10

Corrective Action Report ID: 1957

Initiated By: Russell Pellegrino

Department: MSVOA

Corrective Action Description

CAR Summary: Surrogate did not meet criteria.

Description of Nonconformance: Surrogate was high and did not meet criteria for sample C1008023-001. Based on the chromatographic evidence this is most likely due to matrix interference.

Description of Corrective Action: Samples were analyzed further as dilutions with results meeting criteria.

Performed By: Russell Pellegrino

Completion Date: 10-Aug-10

Client Notification

Client Notification Required: No

Notified By:

Comment:

Quality Assurance Review

Nonconformance Type: Deficiency

Further Action required by QA: No further corrective action taken. All sets of data submitted

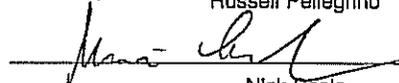
Approval and Closure

Technical Director / Deputy Tech. Dir.:

  
Russell Pellegrino

Close Date: 11-Aug-10

QA Officer Approval:

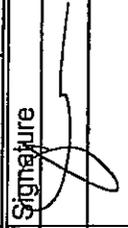
  
Nick Scala

QA Date: 11-Aug-10

**Chain of Custody**

Centek Laboratories, LLC  
 143 Midler Park Drive  
 Syracuse, NY 13206  
 Phone: 315-431-9730 Fax: 315-431-9731

Emergency: 315-416-2752

Site Name: <u>Casper PCE Orphan Plumer</u> Project: <u>WDEQ CASPERS</u> PO#: <u>WD-0664</u> Other: _____		Detection Limit <input type="checkbox"/> 5ppbv <input checked="" type="checkbox"/> 1ug/M3 <input type="checkbox"/> 1ug/M3 +TCE .25		Report Level <input type="checkbox"/> Level I <input type="checkbox"/> Level II <input checked="" type="checkbox"/> Cat "B" Like	
Company: <u>EnviroGroup Limited</u> Invoice: <u>same as left</u>		Company: <u>EnviroGroup Limited</u>		Phone: _____ Fax: _____ Email: _____	
Report: <u>MARTINA LINDA / DEFF KUKTZE</u> <u>7009 S. POMAC ST. STE 300</u> <u>CENTENNIAL, CO. 80112</u> Phone: <u>303-790-1340</u> Fax: <u>303-790-1347</u> Email: <u>Mlinda@envirogroup.com</u>		Analysis Request <u>70-15</u> <u>70-15</u>		Comments <u>1.1-DEC, 1.1-DEC, 1.1-DEC, 1.1-DEC</u> <u>" "</u> <u>* / canister was not used</u>	
Turnaround Time: 5 Business Days <input checked="" type="checkbox"/> 4 Business Days <input type="checkbox"/> 3 Business Days <input type="checkbox"/> 2 Business Days <input type="checkbox"/> Next Day by 5pm <input type="checkbox"/> Next Day by Noon <input type="checkbox"/> Same Day <input type="checkbox"/>		Check One <input checked="" type="checkbox"/> Rush TAT Surcharge % 0% <input type="checkbox"/> 35% <input type="checkbox"/> 50% <input type="checkbox"/> 75% <input type="checkbox"/> 100% <input type="checkbox"/> 150% <input type="checkbox"/> 200% <input type="checkbox"/>		Date Sampled <u>7/27/10 0937</u> <u>7/27/10 1346</u>	
Sample ID <u>ESV-43 DUP</u> <u>ESV-52 DUP</u>		Canister Number <u>274</u> <u>131</u>		Regulator Number <u>44</u> <u>404</u>	
Date Sampled <u>7/27/10 0937</u> <u>7/27/10 1346</u>		Date Sampled <u>7/27/10 0937</u> <u>7/27/10 1346</u>		Date Sampled <u>7/27/10 0937</u> <u>7/27/10 1346</u>	
Chain of Custody Sampled by: <u>MARTINA LINDA</u> Relinquished by: _____ Received at Lab by: <u>MARTINA LINDA</u>		Print Name <u>MARTINA LINDA</u> <u>MARTINA LINDA</u>		Signature  <u>M. Linda</u>	
Date/Time <u>8/5/10 1500</u> <u>8/9/10</u>		Date/Time <u>8/5/10 1500</u> <u>8/9/10</u>		Courier: <u>Shipped via FedEx</u> <u>GOOD</u>	

**Centek Laboratories, LLC**

Date: 05-Sep-10

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**CLIENT:** EnviroGroup Limited  
**Project:** Capser PCE Orphan Plumes  
**Lab Order:** C1008023

**Work Order Sample Summary**

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Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
C1008023-001A	ESV-43 DUP	274,44	7/27/2010	8/9/2010
C1008023-002A	ESV-52 DUP	131,404	7/27/2010	8/9/2010

Centek Laboratories, LLC

Sample Receipt Checklist

Client Name: ENVIROGROUP LIMITED

Date and Time Received: 8/9/2010

Work Order Number C1008023

Received by: DL

Checklist completed by: ML M. Lorde 8/9/10  
Signature Date

Reviewed by: DL 8/9/10  
Initials Date

Matrix: Carrier name: FedEx

- 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? Yes  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 below.

Client contacted: \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted: \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding: \_\_\_\_\_

Comments: Refer to comments on COC record

Corrective Action: \_\_\_\_\_

05-Sep-10

**Centek Laboratories, LLC**

**Lab Order:** C1008023  
**Client:** EnviroGroup Limited  
**Project:** Capser PCE Orphan Plumes

**DATES REPORT**

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
C1008023-001A	ESV-43 DUP	7/27/2010	Air	1ug/M3 by Method TO15			8/10/2010
				1ug/M3 by Method TO15			8/10/2010
				1ug/M3 by Method TO15			8/10/2010
C1008023-002A	ESV-52 DUP			1ug/M3 by Method TO15			8/10/2010
				1ug/M3 by Method TO15			8/10/2010

Sample ID:	Action:	ActionDate:	Person:	NewLocation:
C1008023-001A	Login	8/9/2010 7:08:26 PM	russ	Sample Log In
C1008023-002A	Login	8/9/2010 7:09:24 PM	russ	Sample Log In
C1008023-001A	Transfer	8/9/2010 7:45:13 PM	ADM	GC/MS Lab
C1008023-002A	Transfer	8/9/2010 7:45:13 PM	ADM	GC/MS Lab
C1008023-001A	Mark as Consumed	8/11/2010 9:56:23 AM	ADM	Consumed
C1008023-002A	Mark as Consumed	8/11/2010 9:56:23 AM	ADM	Consumed

**Centek Laboratories, LLC**

143 Midler Park Drive  
Syracuse, NY 13206

TEL: 3154319730

FAX: 3154319731

**BOTTLE ORDER**

**1875**

05-Sep-10

**SHIPPED TO:**

Company: EnviroGroup Limited  
Contact: Martina Latasi  
Address: 7009 S. Potomac Street, Suite 300  
Engelwood, CO 80112  
Phone: 303-790-1340  
Quote ID: 0  
Project:

Submitted By:

Ship Date: 7/14/2010  
VIA: FedEx  
Due Date: 7/16/2010

Bottle Code	Bottle Type	TEST(s)	QTY
MC1000CC	1L Mini-Can	1ug/M3 by Method TO15	3

Can / Reg ID	Description
158	1L Mini-Can - 1128
259	Time-Set Reg - 697
378	Time-Set Reg - 752
404	Time-Set Reg - 783
131	1L Mini-Can - 1079
86	1L Mini-Can - 1091

Comments: 3 1L @ 100ml/min WAC 062210 F-H

**GC/MS VOLATILES-WHOLE AIR**

**METHOD TO-15**

**ANALYTICAL RESULTS**



## Analytical Report

Date: 31-Aug-10

CLIENT: EnviroGroup Limited  
 Lab Order: C1008023  
 Project: Capser PCE Orphan Plumes  
 Lab ID: C1008023-001A

Client Sample ID: ESV-43 DUP  
 Tag Number: 274,44  
 Collection Date: 7/27/2010  
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
<b>FIELD PARAMETERS</b>						
Lab Vacuum In	-2			"Hg		8/9/2010
Lab Vacuum Out	-27			"Hg		8/9/2010
<b>1UG/M3 BY METHOD TO15</b>						
			<b>TO-15</b>			Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,2,4-Trimethylbenzene	1.7	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,2-Dichloroethane	0.59	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,2-Dichloropropane	1.1	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,3,5-Trimethylbenzene	0.43	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,3-butadiene	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,4-Dichlorobenzene	0.82	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,4-Dioxane	< 0.30	0.30		ppbV	1	8/10/2010 3:47:00 AM
2,2,4-trimethylpentane	0.23	0.15		ppbV	1	8/10/2010 3:47:00 AM
4-ethyltoluene	0.20	0.15		ppbV	1	8/10/2010 3:47:00 AM
Acetone	70	12		ppbV	40	8/10/2010 9:56:00 AM
Allyl chloride	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Benzene	0.66	0.15		ppbV	1	8/10/2010 3:47:00 AM
Benzyl chloride	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Bromodichloromethane	0.31	0.15		ppbV	1	8/10/2010 3:47:00 AM
Bromoform	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Bromomethane	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Carbon disulfide	0.56	0.15		ppbV	1	8/10/2010 3:47:00 AM
Carbon tetrachloride	0.13	0.15	J	ppbV	1	8/10/2010 3:47:00 AM
Chlorobenzene	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Chloroform	1.8	0.15		ppbV	1	8/10/2010 3:47:00 AM
Chloromethane	0.90	0.15		ppbV	1	8/10/2010 3:47:00 AM
cis-1,2-Dichloroethene	0.11	0.15	J	ppbV	1	8/10/2010 3:47:00 AM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Cyclohexane	2.6	0.15		ppbV	1	8/10/2010 3:47:00 AM
Dibromochloromethane	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM

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



## Analytical Report

Date: 31-Aug-10

CLIENT: EnviroGroup Limited

Client Sample ID: ESV-43 DUP

Lab Order: C1008023

Tag Number: 274,44

Project: Capser PCE Orphan Plumes

Collection Date: 7/27/2010

Lab ID: C1008023-001A

Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
<b>1UG/M3 BY METHOD TO15</b>				<b>TO-15</b>		Analyst: RJP
Ethyl acetate	6.6	2.5		ppbV	10	8/10/2010 5:03:00 AM
Ethylbenzene	0.95	0.15		ppbV	1	8/10/2010 3:47:00 AM
Freon 11	0.45	0.15		ppbV	1	8/10/2010 3:47:00 AM
Freon 113	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Freon 114	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Freon 12	0.45	0.15		ppbV	1	8/10/2010 3:47:00 AM
Heptane	1.1	0.15		ppbV	1	8/10/2010 3:47:00 AM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Hexane	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Isopropyl alcohol	87	6.0		ppbV	40	8/10/2010 9:56:00 AM
m&p-Xylene	2.2	0.30		ppbV	1	8/10/2010 3:47:00 AM
Methyl Butyl Ketone	0.23	0.30	J	ppbV	1	8/10/2010 3:47:00 AM
Methyl Ethyl Ketone	2.6	3.0	J	ppbV	10	8/10/2010 5:03:00 AM
Methyl Isobutyl Ketone	0.37	0.30		ppbV	1	8/10/2010 3:47:00 AM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Methylene chloride	0.45	0.15		ppbV	1	8/10/2010 3:47:00 AM
o-Xylene	0.76	0.15		ppbV	1	8/10/2010 3:47:00 AM
Propylene	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Styrene	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Tetrachloroethylene	0.27	0.15		ppbV	1	8/10/2010 3:47:00 AM
Tetrahydrofuran	2.7	1.5		ppbV	10	8/10/2010 5:03:00 AM
Toluene	15	1.5		ppbV	10	8/10/2010 5:03:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
trans-1,3-Dichloropropene	0.62	0.15		ppbV	1	8/10/2010 3:47:00 AM
Trichloroethene	0.31	0.15		ppbV	1	8/10/2010 3:47:00 AM
Vinyl acetate	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Vinyl Bromide	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Vinyl chloride	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Surr: Bromofluorobenzene	144	70-130	S	%REC	1	8/10/2010 3:47:00 AM
Surr: Bromofluorobenzene	109	70-130		%REC	10	8/10/2010 5:03:00 AM
Surr: Bromofluorobenzene	88.0	70-130		%REC	40	8/10/2010 9:56:00 AM

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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## Analytical Report

Date: 31-Aug-10

CLIENT: EnviroGroup Limited  
 Lab Order: C1008023  
 Project: Capser PCE Orphan Plumes  
 Lab ID: C1008023-001A

Client Sample ID: ESV-43 DUP  
 Tag Number: 274,44  
 Collection Date: 7/27/2010  
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
<b>1UG/M3 BY METHOD TO15</b>			<b>TO-15</b>		<b>Analyst: RJP</b>	
1,1,1-Trichloroethane	< 0.83	0.83		ug/m3	1	8/10/2010 3:47:00 AM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	8/10/2010 3:47:00 AM
1,1,2-Trichloroethane	< 0.83	0.83		ug/m3	1	8/10/2010 3:47:00 AM
1,1-Dichloroethane	< 0.62	0.62		ug/m3	1	8/10/2010 3:47:00 AM
1,1-Dichloroethene	< 0.60	0.60		ug/m3	1	8/10/2010 3:47:00 AM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	8/10/2010 3:47:00 AM
1,2,4-Trimethylbenzene	8.3	0.75		ug/m3	1	8/10/2010 3:47:00 AM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	8/10/2010 3:47:00 AM
1,2-Dichlorobenzene	< 0.92	0.92		ug/m3	1	8/10/2010 3:47:00 AM
1,2-Dichloroethane	2.4	0.62		ug/m3	1	8/10/2010 3:47:00 AM
1,2-Dichloropropane	5.0	0.70		ug/m3	1	8/10/2010 3:47:00 AM
1,3,5-Trimethylbenzene	2.1	0.75		ug/m3	1	8/10/2010 3:47:00 AM
1,3-butadiene	< 0.34	0.34		ug/m3	1	8/10/2010 3:47:00 AM
1,3-Dichlorobenzene	< 0.92	0.92		ug/m3	1	8/10/2010 3:47:00 AM
1,4-Dichlorobenzene	5.0	0.92		ug/m3	1	8/10/2010 3:47:00 AM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	8/10/2010 3:47:00 AM
2,2,4-trimethylpentane	1.1	0.71		ug/m3	1	8/10/2010 3:47:00 AM
4-ethyltoluene	1.0	0.75		ug/m3	1	8/10/2010 3:47:00 AM
Acetone	170	29		ug/m3	40	8/10/2010 9:56:00 AM
Allyl chloride	< 0.48	0.48		ug/m3	1	8/10/2010 3:47:00 AM
Benzene	2.1	0.49		ug/m3	1	8/10/2010 3:47:00 AM
Benzyl chloride	< 0.88	0.88		ug/m3	1	8/10/2010 3:47:00 AM
Bromodichloromethane	2.1	1.0		ug/m3	1	8/10/2010 3:47:00 AM
Bromoform	< 1.6	1.6		ug/m3	1	8/10/2010 3:47:00 AM
Bromomethane	< 0.59	0.59		ug/m3	1	8/10/2010 3:47:00 AM
Carbon disulfide	1.8	0.47		ug/m3	1	8/10/2010 3:47:00 AM
Carbon tetrachloride	0.83	0.96	J	ug/m3	1	8/10/2010 3:47:00 AM
Chlorobenzene	< 0.70	0.70		ug/m3	1	8/10/2010 3:47:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	8/10/2010 3:47:00 AM
Chloroform	9.0	0.74		ug/m3	1	8/10/2010 3:47:00 AM
Chloromethane	1.9	0.31		ug/m3	1	8/10/2010 3:47:00 AM
cis-1,2-Dichloroethene	0.44	0.60	J	ug/m3	1	8/10/2010 3:47:00 AM
cis-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	8/10/2010 3:47:00 AM
Cyclohexane	9.1	0.52		ug/m3	1	8/10/2010 3:47:00 AM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	8/10/2010 3:47:00 AM
Ethyl acetate	24	9.2		ug/m3	10	8/10/2010 5:03:00 AM
Ethylbenzene	4.2	0.66		ug/m3	1	8/10/2010 3:47:00 AM
Freon 11	2.6	0.86		ug/m3	1	8/10/2010 3:47:00 AM

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



**Analytical Report**

Date: 31-Aug-10

**CLIENT:** EnviroGroup Limited  
**Lab Order:** C1008023  
**Project:** Capser PCE Orphan Plumes  
**Lab ID:** C1008023-001A

**Client Sample ID:** ESV-43 DUP  
**Tag Number:** 274,44  
**Collection Date:** 7/27/2010  
**Matrix:** AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
<b>1UG/M3 BY METHOD TO15</b>			<b>TO-15</b>			<b>Analyst: RJP</b>
Freon 113	< 1.2	1.2		ug/m3	1	8/10/2010 3:47:00 AM
Freon 114	< 1.1	1.1		ug/m3	1	8/10/2010 3:47:00 AM
Freon 12	2.3	0.75		ug/m3	1	8/10/2010 3:47:00 AM
Heptane	4.5	0.62		ug/m3	1	8/10/2010 3:47:00 AM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	8/10/2010 3:47:00 AM
Hexane	< 0.54	0.54		ug/m3	1	8/10/2010 3:47:00 AM
Isopropyl alcohol	220	15		ug/m3	40	8/10/2010 9:56:00 AM
m&p-Xylene	9.5	1.3		ug/m3	1	8/10/2010 3:47:00 AM
Methyl Butyl Ketone	0.96	1.2	J	ug/m3	1	8/10/2010 3:47:00 AM
Methyl Ethyl Ketone	7.8	9.0	J	ug/m3	10	8/10/2010 5:03:00 AM
Methyl Isobutyl Ketone	1.5	1.2		ug/m3	1	8/10/2010 3:47:00 AM
Methyl tert-butyl ether	< 0.55	0.55		ug/m3	1	8/10/2010 3:47:00 AM
Methylene chloride	1.6	0.53		ug/m3	1	8/10/2010 3:47:00 AM
o-Xylene	3.4	0.66		ug/m3	1	8/10/2010 3:47:00 AM
Propylene	< 0.26	0.26		ug/m3	1	8/10/2010 3:47:00 AM
Styrene	< 0.65	0.65		ug/m3	1	8/10/2010 3:47:00 AM
Tetrachloroethylene	1.9	1.0		ug/m3	1	8/10/2010 3:47:00 AM
Tetrahydrofuran	8.1	4.5		ug/m3	10	8/10/2010 5:03:00 AM
Toluene	57	5.7		ug/m3	10	8/10/2010 5:03:00 AM
trans-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	8/10/2010 3:47:00 AM
trans-1,3-Dichloropropene	2.9	0.69		ug/m3	1	8/10/2010 3:47:00 AM
Trichloroethene	1.7	0.82		ug/m3	1	8/10/2010 3:47:00 AM
Vinyl acetate	< 0.54	0.54		ug/m3	1	8/10/2010 3:47:00 AM
Vinyl Bromide	< 0.67	0.67		ug/m3	1	8/10/2010 3:47:00 AM
Vinyl chloride	< 0.39	0.39		ug/m3	1	8/10/2010 3:47:00 AM

**NOTES:**

S - Outlying surrogate recovery observed. Based on the chromatographic evidence, it appears that the contamination is from fuel.

<b>Qualifiers:</b>	** 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	





## Analytical Report

Date: 31-Aug-10

CLIENT: EnviroGroup Limited  
 Lab Order: C1008023  
 Project: Capser PCE Orphan Plumes  
 Lab ID: C1008023-002A

Client Sample ID: ESV-52 DUP  
 Tag Number: 131,404  
 Collection Date: 7/27/2010  
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
<b>1UG/M3 BY METHOD TO15</b>				<b>TO-15</b>		<b>Analyst: RJP</b>
Ethyl acetate	< 0.25	0.25		ppbV	1	8/10/2010 4:25:00 AM
Ethylbenzene	0.91	0.15		ppbV	1	8/10/2010 4:25:00 AM
Freon 11	0.26	0.15		ppbV	1	8/10/2010 4:25:00 AM
Freon 113	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Freon 114	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Freon 12	0.50	0.15		ppbV	1	8/10/2010 4:25:00 AM
Heptane	1.6	0.15		ppbV	1	8/10/2010 4:25:00 AM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Hexane	3.6	1.5		ppbV	10	8/10/2010 5:40:00 AM
Isopropyl alcohol	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
m&p-Xylene	3.0	0.30		ppbV	1	8/10/2010 4:25:00 AM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	8/10/2010 4:25:00 AM
Methyl Ethyl Ketone	< 0.30	0.30		ppbV	1	8/10/2010 4:25:00 AM
Methyl Isobutyl Ketone	0.62	0.30		ppbV	1	8/10/2010 4:25:00 AM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Methylene chloride	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
o-Xylene	0.94	0.15		ppbV	1	8/10/2010 4:25:00 AM
Propylene	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Styrene	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Tetrachloroethylene	1.7	0.15		ppbV	1	8/10/2010 4:25:00 AM
Tetrahydrofuran	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Toluene	4.8	1.5		ppbV	10	8/10/2010 5:40:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Trichloroethene	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Vinyl acetate	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Vinyl Bromide	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Vinyl chloride	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Surr: Bromofluorobenzene	127	70-130		%REC	1	8/10/2010 4:25:00 AM

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 4 of 4



## Analytical Report

Date: 31-Aug-10

CLIENT: EnviroGroup Limited  
 Lab Order: C1008023  
 Project: Capser PCE Orphan Plumes  
 Lab ID: C1008023-002A

Client Sample ID: ESV-52 DUP  
 Tag Number: 131,404  
 Collection Date: 7/27/2010  
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
<b>1UG/M3 BY METHOD TO15</b>			<b>TO-15</b>			Analyst: RJP
1,1,1-Trichloroethane	2.2	0.83		ug/m3	1	8/10/2010 4:25:00 AM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	8/10/2010 4:25:00 AM
1,1,2-Trichloroethane	< 0.83	0.83		ug/m3	1	8/10/2010 4:25:00 AM
1,1-Dichloroethane	< 0.62	0.62		ug/m3	1	8/10/2010 4:25:00 AM
1,1-Dichloroethene	< 0.60	0.60		ug/m3	1	8/10/2010 4:25:00 AM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	8/10/2010 4:25:00 AM
1,2,4-Trimethylbenzene	9.7	0.75		ug/m3	1	8/10/2010 4:25:00 AM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	8/10/2010 4:25:00 AM
1,2-Dichlorobenzene	< 0.92	0.92		ug/m3	1	8/10/2010 4:25:00 AM
1,2-Dichloroethane	< 0.62	0.62		ug/m3	1	8/10/2010 4:25:00 AM
1,2-Dichloropropane	< 0.70	0.70		ug/m3	1	8/10/2010 4:25:00 AM
1,3,5-Trimethylbenzene	2.3	0.75		ug/m3	1	8/10/2010 4:25:00 AM
1,3-butadiene	< 0.34	0.34		ug/m3	1	8/10/2010 4:25:00 AM
1,3-Dichlorobenzene	< 0.92	0.92		ug/m3	1	8/10/2010 4:25:00 AM
1,4-Dichlorobenzene	< 0.92	0.92		ug/m3	1	8/10/2010 4:25:00 AM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	8/10/2010 4:25:00 AM
2,2,4-trimethylpentane	2.7	0.71		ug/m3	1	8/10/2010 4:25:00 AM
4-ethyltoluene	1.8	0.75		ug/m3	1	8/10/2010 4:25:00 AM
Acetone	28	7.2		ug/m3	10	8/10/2010 5:40:00 AM
Allyl chloride	< 0.48	0.48		ug/m3	1	8/10/2010 4:25:00 AM
Benzene	6.5	4.9		ug/m3	10	8/10/2010 5:40:00 AM
Benzyl chloride	< 0.88	0.88		ug/m3	1	8/10/2010 4:25:00 AM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	8/10/2010 4:25:00 AM
Bromoform	< 1.6	1.6		ug/m3	1	8/10/2010 4:25:00 AM
Bromomethane	< 0.59	0.59		ug/m3	1	8/10/2010 4:25:00 AM
Carbon disulfide	1.3	0.47		ug/m3	1	8/10/2010 4:25:00 AM
Carbon tetrachloride	< 0.96	0.96		ug/m3	1	8/10/2010 4:25:00 AM
Chlorobenzene	< 0.70	0.70		ug/m3	1	8/10/2010 4:25:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	8/10/2010 4:25:00 AM
Chloroform	3.0	0.74		ug/m3	1	8/10/2010 4:25:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	8/10/2010 4:25:00 AM
cis-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	8/10/2010 4:25:00 AM
cis-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	8/10/2010 4:25:00 AM
Cyclohexane	16	5.2		ug/m3	10	8/10/2010 5:40:00 AM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	8/10/2010 4:25:00 AM
Ethyl acetate	< 0.92	0.92		ug/m3	1	8/10/2010 4:25:00 AM
Ethylbenzene	4.0	0.66		ug/m3	1	8/10/2010 4:25:00 AM
Freon 11	1.5	0.86		ug/m3	1	8/10/2010 4:25:00 AM

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



**Analytical Report**

Date: 31-Aug-10

**CLIENT:** EnviroGroup Limited  
**Lab Order:** C1008023  
**Project:** Capser PCE Orphan Plumes  
**Lab ID:** C1008023-002A

**Client Sample ID:** ESV-52 DUP  
**Tag Number:** 131,404  
**Collection Date:** 7/27/2010  
**Matrix:** AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
<b>1UG/M3 BY METHOD TO15</b>			<b>TO-15</b>			<b>Analyst: RJP</b>
Freon 113	< 1.2	1.2		ug/m3	1	8/10/2010 4:25:00 AM
Freon 114	< 1.1	1.1		ug/m3	1	8/10/2010 4:25:00 AM
Freon 12	2.5	0.75		ug/m3	1	8/10/2010 4:25:00 AM
Heptane	6.6	0.62		ug/m3	1	8/10/2010 4:25:00 AM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	8/10/2010 4:25:00 AM
Hexane	13	5.4		ug/m3	10	8/10/2010 5:40:00 AM
Isopropyl alcohol	< 0.37	0.37		ug/m3	1	8/10/2010 4:25:00 AM
m&p-Xylene	13	1.3		ug/m3	1	8/10/2010 4:25:00 AM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	8/10/2010 4:25:00 AM
Methyl Ethyl Ketone	< 0.90	0.90		ug/m3	1	8/10/2010 4:25:00 AM
Methyl Isobutyl Ketone	2.6	1.2		ug/m3	1	8/10/2010 4:25:00 AM
Methyl tert-butyl ether	< 0.55	0.55		ug/m3	1	8/10/2010 4:25:00 AM
Methylene chloride	< 0.53	0.53		ug/m3	1	8/10/2010 4:25:00 AM
o-Xylene	4.1	0.66		ug/m3	1	8/10/2010 4:25:00 AM
Propylene	< 0.26	0.26		ug/m3	1	8/10/2010 4:25:00 AM
Styrene	< 0.65	0.65		ug/m3	1	8/10/2010 4:25:00 AM
Tetrachloroethylene	12	1.0		ug/m3	1	8/10/2010 4:25:00 AM
Tetrahydrofuran	< 0.45	0.45		ug/m3	1	8/10/2010 4:25:00 AM
Toluene	18	5.7		ug/m3	10	8/10/2010 5:40:00 AM
trans-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	8/10/2010 4:25:00 AM
trans-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	8/10/2010 4:25:00 AM
Trichloroethene	< 0.82	0.82		ug/m3	1	8/10/2010 4:25:00 AM
Vinyl acetate	< 0.54	0.54		ug/m3	1	8/10/2010 4:25:00 AM
Vinyl Bromide	< 0.67	0.67		ug/m3	1	8/10/2010 4:25:00 AM
Vinyl chloride	< 0.39	0.39		ug/m3	1	8/10/2010 4:25:00 AM

**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

**GC/MS VOLATILES-WHOLE AIR**

**METHOD TO-15**

**QUALITY CONTROL SUMMARY**

Run File : C:\HPCHEM\1\DATA\AH080902.D

Run Time : 9 Aug 2010 12:25 pm

Daily Calibration File : C:\HPCHEM\1\DATA\AH080902.D

File	Sample	Surrogate	Recovery %	Internal Standard Responses		
				(IS1)	(IS2)	(IS3)
		(BFB)		24772	67235	59660
AH080903.D	LCS1UG-080910	113		24498	64816	54447
AH080904.D	MB1UG-080910	99		23349	61496	47883
AH080923.D	LCS1UGD-08091	123		22240	60394	50832
AH080924.D	C1008023-001A	144*		23421	66986	68455
AH080925.D	C1008023-002A	127		24219	79293	70934
AH080926.D	C1008023-001A	109	DL10x	21089	54079	48300
AH080927.D	C1008023-002A	103	DL10x	22651	62318	52486
AH080934.D	C1008023-001A	88	DL40x	20930	49613	41459

t - fails 24hr time check \* - fails criteria

Created: Tue Aug 31 08:54:05 2010 MSD #1/

Centek Laboratories, LLC

Date: 31-Aug-10

**CLIENT:** EnviroGroup Limited  
**Work Order:** C1008023  
**Project:** Capser PCE Orphan Plumes  
**Test No:** TO-15

**Matrix:** A

**QC SUMMARY REPORT  
 SURROGATE RECOVERIES**

**Sample ID** BR4FBZ

C1008023-001A	88.0							
C1008023-002A	127							
LCS1UG-080910	113							
LCS1UGD-080910	123							
MB1UG-080910	99.0							

Acronym	Surrogate	QC Limits
BR4FBZ	= Bromofluorobenzene	70-130

\* Surrogate recovery outside acceptance limits

CLIENT: EnviroGroup Limited  
 Work Order: C1008023  
 Project: Capser PCE Orphan Plumes

**ANALYTICAL QC SUMMARY REPORT**

TestCode: 1ugM3\_TO15

Sample ID	MB1UG-080910	SampType:	MBLK	TestCode:	1ugM3_TO15	Units:	ppbV	Prep Date:		RunNo:	3771		
Client ID:	ZZZZZ	Batch ID:	R3771	Analysis Date:	8/9/2010					SeqNo:	46186		
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									
Carbon disulfide	< 0.15			0.15									
Carbon tetrachloride	< 0.15			0.15									
Chlorobenzene	< 0.15			0.15									
Chloroethane	< 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  
 S Spike Recovery outside accepted recovery limits

**CLIENT:** EnviroGroup Limited  
**Work Order:** C1008023  
**Project:** Capser PCE Orphan Plumes

**ANALYTICAL QC SUMMARY REPORT**

**TestCode:** 1ugM3\_TO15

Sample ID	MB1UG-080910	SampType:	MBLK	TestCode:	1ugM3_TO15	Units:	ppbV	Prep Date:		RunNo:	3771
Client ID:	ZZZZZ	Batch ID:	R3771	TestNo:	TO-15			Analysis Date:	8/9/2010	SeqNo:	46186

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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									
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									

**Qualifiers:**

- J 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

**ANALYTICAL QC SUMMARY REPORT**

CLIENT: EnviroGroup Limited  
 Work Order: C1008023

Project: Capser PCE Orphan Plumes

TestCode: 1ugM3\_TO15

Sample ID	MB1UG-080910	Sample Type	MBLK	TestCode	1ugM3_TO15	Units	ppbV	Prep Date		RunNo	3771		
Client ID	ZZZZZ	Batch ID	R3771	TestNo	TO-15			Analysis Date	8/9/2010	SeqNo	46186		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Vinyl acetate	< 0.15	0.15
Vinyl Bromide	< 0.15	0.15
Vinyl chloride	< 0.15	0.15

Qualifiers: J Results reported are not blank corrected  
 S Analyte detected at or below quantitation limits  
 ND 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: EnviroGroup Limited

Work Order: C1008023

Project: Capser PCE Orphan Plumes

**ANALYTICAL QC SUMMARY REPORT**

TestCode: 1ugM3\_TO15

Sample ID	LCS1UG-080910	SampType: LCS	TestCode: 1ugM3_TO15	Units: ppbv	Prep Date:	RunNo: 3771					
Client ID:	ZZZZZ	Batch ID: R3771	TestNo: TO-15		Analysis Date: 8/9/2010	SeqNo: 46187					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.8000	0.15	1	0	80.0	70	130				
1,1,2,2-Tetrachloroethane	0.8300	0.15	1	0	83.0	70	130				
1,1,2-Trichloroethane	0.8000	0.15	1	0	80.0	70	130				
1,1-Dichloroethane	0.9100	0.15	1	0	91.0	70	130				
1,1-Dichloroethene	0.9300	0.15	1	0	93.0	70	130				
1,2,4-Trichlorobenzene	0.7400	0.15	1	0	74.0	70	130				
1,2,4-Trimethylbenzene	0.8000	0.15	1	0	80.0	70	130				
1,2-Dibromoethane	0.8000	0.15	1	0	80.0	70	130				
1,2-Dichlorobenzene	0.7500	0.15	1	0	75.0	70	130				
1,2-Dichloroethane	0.8700	0.15	1	0	87.0	70	130				
1,2-Dichloropropane	0.8800	0.15	1	0	88.0	70	130				
1,3,5-Trimethylbenzene	0.7500	0.15	1	0	75.0	70	130				
1,3-butadiene	1.110	0.15	1	0	111	70	130				
1,3-Dichlorobenzene	0.7400	0.15	1	0	74.0	70	130				
1,4-Dichlorobenzene	0.7800	0.15	1	0	78.0	70	130				
1,4-Dioxane	0.7300	0.30	1	0	73.0	70	130				
2,2,4-trimethylpentane	0.8000	0.15	1	0	80.0	70	130				
4-ethyltoluene	0.7500	0.15	1	0	75.0	70	130				
Acetone	1.240	0.30	1	0	124	70	130				
Allyl chloride	1.140	0.15	1	0	114	70	130				
Benzene	0.8400	0.15	1	0	84.0	70	130				
Benzyl chloride	0.9700	0.15	1	0	97.0	70	130				
Bromodichloromethane	0.7800	0.15	1	0	78.0	70	130				
Bromoform	0.7800	0.15	1	0	78.0	70	130				
Bromomethane	0.9600	0.15	1	0	96.0	70	130				
Carbon disulfide	0.9200	0.15	1	0	92.0	70	130				
Carbon tetrachloride	0.8000	0.15	1	0	80.0	70	130				
Chlorobenzene	0.8200	0.15	1	0	82.0	70	130				
Chloroethane	1.030	0.15	1	0	103	70	130				

Qualifiers: J Resultis reported are not blank corrected  
 S Analyte detected at or below quantification 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

# ANALYTICAL QC SUMMARY REPORT

**CLIENT:** EnviroGroup Limited  
**Work Order:** C1008023  
**Project:** Capser PCE Orphan Plumes

**TestCode:** 1ugM3\_TO15

Sample ID	LCST1UG-080910	SampType: LCS	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 3771			
Client ID: ZZZZZ	Batch ID: R3771	Result	TestNo: TO-15	SPK value	SPK Ref Val	SeqNo: 46187			
Analyte	PQL	SPK value	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	0.15	1	85.0	70	130				
Chloromethane	0.15	1	119	70	130				
dis-1,2-Dichloroethene	0.15	1	83.0	70	130				
dis-1,3-Dichloropropene	0.15	1	84.0	70	130				
Cyclohexane	0.15	1	89.0	70	130				
Dibromochloromethane	0.15	1	78.0	70	130				
Ethyl acetate	0.25	1	100	70	130				
Ethylbenzene	0.15	1	81.0	70	130				
Freon 11	0.15	1	89.0	70	130				
Freon 113	0.15	1	91.0	70	130				
Freon 114	0.15	1	101	70	130				
Freon 12	0.15	1	91.0	70	130				
Heptane	0.15	1	80.0	70	130				
Hexachloro-1,3-butadiene	0.15	1	72.0	70	130				
Hexane	0.15	1	93.0	70	130				
Isopropyl alcohol	0.15	1	93.0	70	130				
m&p-Xylene	0.30	2	79.0	70	130				
Methyl Butyl Ketone	0.30	1	86.0	70	130				
Methyl Ethyl Ketone	0.30	1	98.0	70	130				
Methyl Isobutyl Ketone	0.30	1	100	70	130				
Methyl tert-butyl ether	0.15	1	126	70	130				
Methylene chloride	0.15	1	96.0	70	130				
o-Xylene	0.15	1	76.0	70	130				
Propylene	0.15	1	104	70	130				
Styrene	0.15	1	79.0	70	130				
Tetrachloroethylene	0.15	1	80.0	70	130				
Tetrahydrofuran	0.15	1	90.0	70	130				
Toluene	0.15	1	80.0	70	130				
trans-1,2-Dichloroethene	0.15	1	105	70	130				
trans-1,3-Dichloropropene	0.15	1	79.0	70	130				
Trichloroethene	0.15	1	81.0	70	130				

**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

**ANALYTICAL QC SUMMARY REPORT**

CLIENT: EnviroGroup Limited  
 Work Order: C1008023  
 Project: Capser PCE Orphan Plumes

TestCode: 1ugM3\_TO15

Sample ID: LCS1UG-080910    Batch ID: R3771    Prep Date:    RunNo: 3771  
 Client ID: ZZZZ    TestNo: TO-15    Analysis Date: 8/9/2010    SeqNo: 46187

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl acetate	0.9200	0.15	1	0	92.0	70	130				
Vinyl Bromide	0.8800	0.15	1	0	88.0	70	130				
Vinyl chloride	1.130	0.15	1	0	113	70	130				

Sample ID: LCS1UGD-080910    Batch ID: R3771    Prep Date:    RunNo: 3771  
 Client ID: ZZZZ    TestNo: TO-15    Analysis Date: 8/10/2010    SeqNo: 46188

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	0.8	10.7	30	
1,1,2,2-Tetrachloroethane	1.090	0.15	1	0	109	70	130	0.83	27.1	30	
1,1,2-Trichloroethane	0.9200	0.15	1	0	92.0	70	130	0.8	14.0	30	
1,1-Dichloroethane	1.240	0.15	1	0	124	70	130	0.91	30.7	30	
1,1-Dichloroethene	1.050	0.15	1	0	105	70	130	0.93	12.1	30	R
1,2,4-Trichlorobenzene	0.8800	0.15	1	0	88.0	70	130	0.74	17.3	30	
1,2,4-Trimethylbenzene	0.9700	0.15	1	0	97.0	70	130	0.8	19.2	30	
1,2-Dibromoethane	0.9100	0.15	1	0	91.0	70	130	0.8	12.9	30	
1,2-Dichlorobenzene	0.9500	0.15	1	0	95.0	70	130	0.76	22.2	30	
1,2-Dichloroethane	1.020	0.15	1	0	102	70	130	0.87	15.9	30	
1,2-Dichloropropane	0.9800	0.15	1	0	98.0	70	130	0.88	10.8	30	
1,3,5-Trimethylbenzene	0.9800	0.15	1	0	98.0	70	130	0.76	25.3	30	
1,3-butadiene	1.240	0.15	1	0	124	70	130	1.11	11.1	30	
1,3-Dichlorobenzene	0.9000	0.15	1	0	90.0	70	130	0.74	19.5	30	
1,4-Dichlorobenzene	0.9600	0.15	1	0	96.0	70	130	0.78	20.7	30	
1,4-Dioxane	0.7600	0.30	1	0	76.0	70	130	0.73	4.03	30	
2,2,4-trimethylpentane	0.9700	0.15	1	0	97.0	70	130	0.8	19.2	30	
4-ethyltoluene	1.030	0.15	1	0	103	70	130	0.76	30.2	30	R
Acetone	1.050	0.30	1	0	105	70	130	1.24	16.6	30	
Allyl chloride	1.210	0.15	1	0	121	70	130	1.14	5.96	30	
Benzene	0.9400	0.15	1	0	94.0	70	130	0.84	11.2	30	
Benzyl chloride	1.190	0.15	1	0	119	70	130	0.97	20.4	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:** EnviroGroup Limited  
**Work Order:** C1008023  
**Project:** Capser PCE Orphan Plumes

**ANALYTICAL QC SUMMARY REPORT**

**TestCode:** 1ugM3\_TO15

Sample ID	LCS1UGD-080910	Batch ID: R3771	Result	PQL	SPK value	SPK Ref Val	Units: ppbV	Prep Date:	RunNo: 3771		
Client ID: ZZZZZ	Batch ID: R3771	TestCode: 1ugM3_TO15	Analysis Date: 8/10/2010	SeqNo: 46188							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromodichloromethane	0.8500	0.15	1	0	85.0	70	130	0.78	8.59	30	
Bromoform	0.8800	0.15	1	0	88.0	70	130	0.78	12.0	30	
Bromomethane	1.100	0.15	1	0	110	70	130	0.96	13.6	30	
Carbon disulfide	1.070	0.15	1	0	107	70	130	0.92	15.1	30	
Carbon tetrachloride	0.8700	0.15	1	0	87.0	70	130	0.8	8.38	30	
Chlorobenzene	0.9600	0.15	1	0	96.0	70	130	0.82	15.7	30	
Chloroethane	1.140	0.15	1	0	114	70	130	1.03	10.1	30	
Chloroform	0.9600	0.15	1	0	96.0	70	130	0.85	12.2	30	
Chloromethane	1.280	0.15	1	0	128	70	130	1.19	7.29	30	
cis-1,2-Dichloroethene	1.000	0.15	1	0	100	70	130	0.83	18.6	30	
cis-1,3-Dichloropropene	0.9000	0.15	1	0	90.0	70	130	0.84	6.90	30	
Cyclohexane	0.9700	0.15	1	0	97.0	70	130	0.89	8.60	30	
Dibromochloromethane	0.8200	0.15	1	0	82.0	70	130	0.78	5.00	30	
Ethyl acetate	1.210	0.25	1	0	121	70	130	1	19.0	30	
Ethylbenzene	1.010	0.15	1	0	101	70	130	0.81	22.0	30	
Freon 11	1.020	0.15	1	0	102	70	130	0.89	13.6	30	
Freon 113	1.060	0.15	1	0	106	70	130	0.91	15.2	30	
Freon 114	1.140	0.15	1	0	114	70	130	1.01	12.1	30	
Freon 12	0.9900	0.15	1	0	99.0	70	130	0.91	8.42	30	
Heptane	0.9900	0.15	1	0	99.0	70	130	0.8	21.2	30	
Hexachloro-1,3-butadiene	0.8500	0.15	1	0	85.0	70	130	0.72	16.6	30	
Hexane	1.100	0.15	1	0	110	70	130	0.93	16.7	30	
Isopropyl alcohol	1.070	0.15	1	0	107	70	130	0.93	14.0	30	
m&p-Xylene	1.890	0.30	2	0	94.5	70	130	1.58	17.9	30	
Methyl Butyl Ketone	0.7800	0.30	1	0	78.0	70	130	0.86	9.76	30	
Methyl Ethyl Ketone	1.130	0.30	1	0	113	70	130	0.98	14.2	30	
Methyl Isobutyl Ketone	0.7900	0.30	1	0	79.0	70	130	1	23.5	30	
Methyl tert-butyl ether	1.240	0.15	1	0	124	70	130	1.26	1.60	30	
Methylene chloride	1.120	0.15	1	0	112	70	130	0.96	15.4	30	
o-Xylene	0.9500	0.15	1	0	95.0	70	130	0.76	22.2	30	
Propylene	1.100	0.15	1	0	110	70	130	1.04	5.61	30	

**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  
 S Spike Recovery outside accepted recovery limits

**CLIENT:** EnviroGroup Limited  
**Work Order:** C1008023  
**Project:** Capser PCE Orphan Plumes

**ANALYTICAL QC SUMMARY REPORT**

**TestCode:** 1ugM3\_TO15

Sample ID	LCS1UGD-080910	Sample Type:	LCSD	TestCode:	1ugM3_TO15	Units:	ppbV	Prep Date:	RunNo:	3771	
Client ID:	ZZZZZ	Batch ID:	R3771	TestNo:	TO-15	Analysis Date:	8/10/2010	SeqNo:	46188		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Styrene	1.010	0.15	1	0	101	70	130	0.79	24.4	30	
Tetrachloroethylene	0.9200	0.15	1	0	92.0	70	130	0.8	14.0	30	
Tetrahydrofuran	1.040	0.15	1	0	104	70	130	0.9	14.4	30	
Toluene	1.000	0.15	1	0	100	70	130	0.8	22.2	30	
trans-1,2-Dichloroethene	1.210	0.15	1	0	121	70	130	1.05	14.2	30	
trans-1,3-Dichloropropene	0.9800	0.15	1	0	98.0	70	130	0.79	21.5	30	
Trichloroethene	0.9300	0.15	1	0	93.0	70	130	0.81	13.8	30	
Vinyl acetate	1.310	0.15	1	0	131	70	130	0.92	35.0	30	SR
Vinyl Bromide	1.010	0.15	1	0	101	70	130	0.88	13.8	30	
Vinyl chloride	1.210	0.15	1	0	121	70	130	1.13	6.84	30	

**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  
 S Spike Recovery outside accepted recovery limits

Compound	Amount	IDL 1	IDL 2	IDL 3	IDL 4	IDL 5	IDL 6	IDL 7	Avg	Stdev	%Rec	IDL
Propylene	0.30	0.34	0.31	0.34	0.32	0.34	0.37	0.33	0.34	0.019	111.9	0.060
Freon 12	0.30	0.32	0.32	0.32	0.34	0.32	0.33	0.33	0.33	0.008	108.6	0.025
Chloromethane	0.30	0.36	0.34	0.35	0.37	0.36	0.36	0.37	0.36	0.011	119.5	0.034
Freon 114	0.30	0.33	0.36	0.35	0.35	0.35	0.36	0.36	0.35	0.011	117.1	0.034
Vinyl Chloride	0.30	0.3	0.3	0.31	0.31	0.32	0.32	0.33	0.31	0.011	104.3	0.035
1,3-butadiene	0.30	0.37	0.39	0.35	0.39	0.37	0.37	0.39	0.38	0.015	125.2	0.048
Bromomethane	0.30	0.35	0.35	0.37	0.36	0.36	0.37	0.38	0.36	0.011	121.0	0.035
Chloroethane	0.30	0.36	0.36	0.35	0.36	0.37	0.34	0.37	0.36	0.011	119.5	0.034
Vinyl Bromide	0.30	0.36	0.37	0.38	0.36	0.38	0.36	0.38	0.37	0.010	123.3	0.031
Freon 11	0.30	0.35	0.37	0.36	0.36	0.36	0.35	0.37	0.36	0.008	120.0	0.026
Acetone	0.30	0.38	0.38	0.36	0.38	0.39	0.38	0.41	0.38	0.015	127.6	0.047
Isopropyl alcohol	0.30	0.29	0.28	0.28	0.27	0.26	0.26	0.27	0.27	0.011	91.0	0.035
1,1-dichloroethene	0.30	0.31	0.34	0.34	0.37	0.35	0.34	0.37	0.35	0.021	115.2	0.065
Freon 113	0.30	0.35	0.36	0.37	0.38	0.36	0.35	0.36	0.36	0.011	120.5	0.034
Methylene chloride	0.30	0.35	0.37	0.36	0.38	0.36	0.35	0.38	0.36	0.016	119.0	0.050
Allyl chloride	0.30	0.39	0.34	0.4	0.37	0.37	0.35	0.4	0.37	0.024	124.8	0.075
Carbon disulfide	0.30	0.38	0.38	0.39	0.39	0.38	0.38	0.4	0.39	0.008	128.6	0.025
trans-1,2-dichloroethene	0.30	0.35	0.36	0.36	0.34	0.36	0.35	0.36	0.35	0.008	118.1	0.025
methyl tert-butyl ether	0.30	0.37	0.34	0.36	0.36	0.35	0.35	0.35	0.35	0.010	118.1	0.031
1,1-dichloroethane	0.30	0.36	0.34	0.35	0.31	0.35	0.38	0.36	0.35	0.022	116.7	0.068
Vinyl acetate	0.30	0.3	0.29	0.28	0.38	0.31	0.33	0.32	0.32	0.033	105.2	0.104
Methyl Ethyl Ketone	0.30	0.28	0.28	0.3	0.27	0.26	0.3	0.27	0.28	0.015	93.3	0.048
cis-1,2-dichloroethene	0.30	0.29	0.3	0.29	0.31	0.3	0.3	0.3	0.30	0.007	99.5	0.022
Hexane	0.30	0.29	0.28	0.29	0.33	0.29	0.29	0.28	0.29	0.017	97.6	0.054
Ethyl acetate	0.30	0.28	0.27	0.28	0.25	0.25	0.31	0.26	0.27	0.021	90.5	0.066
Chloroform	0.30	0.32	0.33	0.34	0.33	0.32	0.33	0.33	0.33	0.007	109.5	0.022
Tetrahydrofuran	0.30	0.34	0.31	0.32	0.29	0.25	0.28	0.32	0.30	0.030	100.5	0.095
1,2-dichloroethane	0.30	0.31	0.31	0.32	0.33	0.31	0.32	0.32	0.32	0.008	105.7	0.024
1,1,1-trichloroethane	0.30	0.34	0.33	0.36	0.33	0.34	0.32	0.35	0.34	0.013	112.9	0.042
Cyclohexane	0.30	0.28	0.3	0.29	0.32	0.3	0.23	0.3	0.29	0.029	96.2	0.090
Carbon tetrachloride	0.30	0.32	0.31	0.33	0.32	0.32	0.3	0.33	0.32	0.011	106.2	0.034
Benzene	0.30	0.29	0.28	0.3	0.29	0.28	0.29	0.3	0.29	0.008	96.7	0.026
1,4-dioxane	0.30	0.27	0.27	0.27	0.27	0.3	0.3	0.3	0.28	0.016	94.3	0.050
2,2,4-trimethylpentane	0.30	0.31	0.31	0.31	0.31	0.32	0.29	0.33	0.31	0.012	103.8	0.038

Compound	Amount	IDL 1	IDL 2	IDL 3	IDL 4	IDL 5	IDL 6	IDL 7	Avg	Stdv	Area	IDL
Heptane	0.30	0.32	0.3	0.33	0.28	0.3	0.3	0.37	0.31	0.029	104.8	0.092
Trichloroethene	0.30	0.28	0.28	0.29	0.28	0.28	0.28	0.29	0.28	0.005	94.3	0.015
1,2-dichloropropane	0.30	0.31	0.3	0.33	0.31	0.31	0.29	0.31	0.31	0.012	102.9	0.038
Bromodichloromethane	0.30	0.36	0.36	0.38	0.37	0.36	0.35	0.37	0.36	0.010	121.4	0.031
cis-1,3-dichloropropene	0.30	0.27	0.29	0.28	0.26	0.26	0.27	0.28	0.27	0.011	91.0	0.035
trans-1,3-dichloropropen	0.30	0.32	0.29	0.31	0.32	0.32	0.29	0.31	0.31	0.013	102.9	0.042
1,1,2-trichloroethane	0.30	0.32	0.31	0.34	0.32	0.32	0.31	0.33	0.32	0.011	107.1	0.034
Toluene	0.30	0.29	0.31	0.29	0.28	0.28	0.29	0.28	0.29	0.011	96.2	0.034
Methyl Isobutyl Ketone	0.30	0.35	0.3	0.27	0.28	0.33	0.27	0.27	0.30	0.033	98.6	0.102
Dibromochloromethane	0.30	0.39	0.41	0.41	0.4	0.41	0.39	0.43	0.41	0.014	135.2	0.044
Methyl Butyl Ketone	0.30	0.3	0.26	0.28	0.26	0.27	0.3	0.27	0.28	0.017	92.4	0.054
1,2-dibromoethane	0.30	0.3	0.34	0.34	0.33	0.33	0.31	0.34	0.33	0.016	109.0	0.050
Tetrachloroethylene	0.30	0.33	0.36	0.35	0.33	0.34	0.32	0.34	0.34	0.013	112.9	0.042
Chlorobenzene	0.30	0.31	0.34	0.32	0.33	0.32	0.32	0.33	0.32	0.010	108.1	0.031
Ethylbenzene	0.30	0.28	0.31	0.3	0.29	0.3	0.29	0.29	0.29	0.010	98.1	0.031
m&p-xylene	0.60	0.48	0.54	0.52	0.51	0.5	0.51	0.52	0.51	0.019	85.2	0.059
Styrene	0.30	0.3	0.31	0.3	0.3	0.29	0.29	0.3	0.30	0.007	99.5	0.022
Bromoform	0.30	0.42	0.43	0.42	0.41	0.42	0.4	0.43	0.42	0.011	139.5	0.034
o-xylene	0.30	0.29	0.31	0.24	0.31	0.31	0.29	0.3	0.29	0.025	97.6	0.079
Bromofluorobenzene	1.00	0.86	0.89	0.85	0.87	0.82	0.87	0.85	0.86	0.022	85.9	0.069
1,1,2,2-tetrachloroethane	0.30	0.33	0.33	0.34	0.33	0.34	0.32	0.33	0.33	0.007	110.5	0.022
4-ethyltoluene	0.30	0.34	0.37	0.36	0.35	0.35	0.35	0.35	0.35	0.010	117.6	0.030
1,3,5-trimethylbenzene	0.30	0.25	0.26	0.26	0.26	0.26	0.25	0.24	0.25	0.008	84.8	0.025
1,2,4-trimethylbenzene	0.30	0.27	0.28	0.28	0.28	0.26	0.28	0.28	0.28	0.008	91.9	0.025
1,3-dichlorobenzene	0.30	0.27	0.28	0.29	0.26	0.27	0.26	0.27	0.27	0.011	90.5	0.034
benzyl chloride	0.30	0.31	0.32	0.33	0.32	0.31	0.33	0.34	0.32	0.011	107.6	0.035
1,4-dichlorobenzene	0.30	0.25	0.26	0.26	0.25	0.25	0.24	0.26	0.25	0.008	84.3	0.024
1,2-dichlorobenzene	0.30	0.25	0.26	0.27	0.26	0.25	0.26	0.28	0.26	0.011	87.1	0.034
1,2,4-trichlorobenzene	0.30	0.26	0.29	0.28	0.26	0.28	0.26	0.27	0.27	0.012	90.5	0.038
Naphthalene	0.30	0.22	0.23	0.23	0.23	0.21	0.22	0.22	0.22	0.008	74.3	0.024
Hexachloro-1,3-butadien	0.30	0.29	0.3	0.3	0.28	0.3	0.29	0.3	0.29	0.008	98.1	0.025

Compound	IDL 1	IDL 2	IDL 3	IDL 4	IDL 5	IDL 6	IDL 7	AVG	Stdev	%Rec	IDL
Vinyl Chloride	0.10	0.12	0.11	0.12	0.11	0.11	0.12	0.12	0.005	115.7	0.017
1,1-dichloroethene	0.10	0.12	0.12	0.13	0.13	0.13	0.12	0.12	0.005	124.3	0.017
Methylene chloride	0.10	0.11	0.13	0.13	0.11	0.12	0.12	0.12	0.008	120.0	0.026
trans-1,2-dichloroethene	0.10	0.11	0.13	0.11	0.1	0.11	0.09	0.11	0.012	108.6	0.038
1,1-dichloroethane	0.10	0.11	0.13	0.11	0.12	0.11	0.12	0.12	0.008	117.1	0.024
cis-1,2-dichloroethene	0.10	0.09	0.11	0.09	0.09	0.09	0.1	0.10	0.010	97.1	0.030
1,2-dichloroethane	0.10	0.1	0.11	0.12	0.11	0.11	0.11	0.11	0.007	108.6	0.022
1,1,1-trichloroethane	0.10	0.11	0.11	0.12	0.11	0.09	0.1	0.11	0.010	107.1	0.030
Carbon tetrachloride	0.10	0.11	0.1	0.1	0.11	0.09	0.1	0.10	0.007	101.4	0.022
Benzene	0.10	0.09	0.11	0.09	0.1	0.1	0.09	0.09	0.008	94.3	0.025
Trichloroethene	0.10	0.09	0.09	0.09	0.1	0.09	0.1	0.09	0.005	94.3	0.017
1,1,2-trichloroethane	0.10	0.11	0.09	0.09	0.11	0.09	0.1	0.10	0.010	100.0	0.031
Tetrachloroethylene	0.10	0.12	0.12	0.13	0.12	0.11	0.11	0.12	0.008	117.1	0.024
Bromofluorobenzene	1.00	0.79	0.84	0.82	0.82	0.82	0.81	0.82	0.015	81.7	0.047

## GC/MS-Whole Air Calculations

## Relative Response Factor (RRF)

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

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)

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

## Percent Difference (%D)

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

where:  $\text{RRF}_c$  = relative response factor from the continuing calibration  
 $\text{mean RRF}_i$  = mean relative response factor from the initial calibration

## Sample Calculations

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

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)  
 $\text{RRF}$  = relative response factor for the compound being measured  
 $D_f$  = Dilution factor

**GC/MS VOLATILES-WHOLE AIR**

**METHOD TO-15**

**SAMPLE DATA**



**Analytical Report**

Date: 31-Aug-10

**CLIENT:** EnviroGroup Limited  
**Lab Order:** C1008023  
**Project:** Capser PCE Orphan Plumes  
**Lab ID:** C1008023-001A

**Client Sample ID:** ESV-43 DUP  
**Tag Number:** 274,44  
**Collection Date:** 7/27/2010  
**Matrix:** AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
<b>FIELD PARAMETERS</b>						
Lab Vacuum In	-2			"Hg		8/9/2010
Lab Vacuum Out	-27			"Hg		8/9/2010
<b>1UG/M3 BY METHOD TO15</b>						
						Analyst: RJP
1,1,1-Trichloroethane	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,2,4-Trimethylbenzene	1.7	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,2-Dichloroethane	0.59	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,2-Dichloropropane	1.1	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,3,5-Trimethylbenzene	0.43	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,3-butadiene	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,4-Dichlorobenzene	0.82	0.15		ppbV	1	8/10/2010 3:47:00 AM
1,4-Dioxane	< 0.30	0.30		ppbV	1	8/10/2010 3:47:00 AM
2,2,4-trimethylpentane	0.23	0.15		ppbV	1	8/10/2010 3:47:00 AM
4-ethyltoluene	0.20	0.15		ppbV	1	8/10/2010 3:47:00 AM
Acetone	70	12		ppbV	40	8/10/2010 9:56:00 AM
Allyl chloride	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Benzene	0.66	0.15		ppbV	1	8/10/2010 3:47:00 AM
Benzyl chloride	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Bromodichloromethane	0.31	0.15		ppbV	1	8/10/2010 3:47:00 AM
Bromoform	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Bromomethane	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Carbon disulfide	0.56	0.15		ppbV	1	8/10/2010 3:47:00 AM
Carbon tetrachloride	0.13	0.15	J	ppbV	1	8/10/2010 3:47:00 AM
Chlorobenzene	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Chloroform	1.8	0.15		ppbV	1	8/10/2010 3:47:00 AM
Chloromethane	0.90	0.15		ppbV	1	8/10/2010 3:47:00 AM
cis-1,2-Dichloroethene	0.11	0.15	J	ppbV	1	8/10/2010 3:47:00 AM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Cyclohexane	2.6	0.15		ppbV	1	8/10/2010 3:47:00 AM
Dibromochloromethane	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM

**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**

**Analytical Report**

Date: 31-Aug-10

**CLIENT:** EnviroGroup Limited  
**Lab Order:** C1008023  
**Project:** Capser PCE Orphan Plumes  
**Lab ID:** C1008023-001A

**Client Sample ID:** ESV-43 DUP  
**Tag Number:** 274,44  
**Collection Date:** 7/27/2010  
**Matrix:** AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
<b>1UG/M3 BY METHOD TO15</b>						
				<b>TO-15</b>		<b>Analyst: RJP</b>
Ethyl acetate	6.6	2.5		ppbV	10	8/10/2010 5:03:00 AM
Ethylbenzene	0.95	0.15		ppbV	1	8/10/2010 3:47:00 AM
Freon 11	0.45	0.15		ppbV	1	8/10/2010 3:47:00 AM
Freon 113	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Freon 114	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Freon 12	0.45	0.15		ppbV	1	8/10/2010 3:47:00 AM
Heptane	1.1	0.15		ppbV	1	8/10/2010 3:47:00 AM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Hexane	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Isopropyl alcohol	87	6.0		ppbV	40	8/10/2010 9:56:00 AM
m&p-Xylene	2.2	0.30		ppbV	1	8/10/2010 3:47:00 AM
Methyl Butyl Ketone	0.23	0.30	J	ppbV	1	8/10/2010 3:47:00 AM
Methyl Ethyl Ketone	2.6	3.0	J	ppbV	10	8/10/2010 5:03:00 AM
Methyl Isobutyl Ketone	0.37	0.30		ppbV	1	8/10/2010 3:47:00 AM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Methylene chloride	0.45	0.15		ppbV	1	8/10/2010 3:47:00 AM
o-Xylene	0.76	0.15		ppbV	1	8/10/2010 3:47:00 AM
Propylene	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Styrene	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Tetrachloroethylene	0.27	0.15		ppbV	1	8/10/2010 3:47:00 AM
Tetrahydrofuran	2.7	1.5		ppbV	10	8/10/2010 5:03:00 AM
Toluene	15	1.5		ppbV	10	8/10/2010 5:03:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
trans-1,3-Dichloropropene	0.62	0.15		ppbV	1	8/10/2010 3:47:00 AM
Trichloroethene	0.31	0.15		ppbV	1	8/10/2010 3:47:00 AM
Vinyl acetate	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Vinyl Bromide	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Vinyl chloride	< 0.15	0.15		ppbV	1	8/10/2010 3:47:00 AM
Surr: Bromofluorobenzene	144	70-130	S	%REC	1	8/10/2010 3:47:00 AM
Surr: Bromofluorobenzene	109	70-130		%REC	10	8/10/2010 5:03:00 AM
Surr: Bromofluorobenzene	88.0	70-130		%REC	40	8/10/2010 9:56:00 AM

**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



**Analytical Report**

Date: 31-Aug-10

**CLIENT:** EnviroGroup Limited  
**Lab Order:** C1008023  
**Project:** Capser PCE Orphan Plumes  
**Lab ID:** C1008023-001A

**Client Sample ID:** ESV-43 DUP  
**Tag Number:** 274,44  
**Collection Date:** 7/27/2010  
**Matrix:** AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
<b>1UG/M3 BY METHOD TO15</b>						
			<b>TO-15</b>			<b>Analyst: RJP</b>
1,1,1-Trichloroethane	< 0.83	0.83		ug/m3	1	8/10/2010 3:47:00 AM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	8/10/2010 3:47:00 AM
1,1,2-Trichloroethane	< 0.83	0.83		ug/m3	1	8/10/2010 3:47:00 AM
1,1-Dichloroethane	< 0.62	0.62		ug/m3	1	8/10/2010 3:47:00 AM
1,1-Dichloroethene	< 0.60	0.60		ug/m3	1	8/10/2010 3:47:00 AM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	8/10/2010 3:47:00 AM
1,2,4-Trimethylbenzene	8.3	0.75		ug/m3	1	8/10/2010 3:47:00 AM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	8/10/2010 3:47:00 AM
1,2-Dichlorobenzene	< 0.92	0.92		ug/m3	1	8/10/2010 3:47:00 AM
1,2-Dichloroethane	2.4	0.62		ug/m3	1	8/10/2010 3:47:00 AM
1,2-Dichloropropane	5.0	0.70		ug/m3	1	8/10/2010 3:47:00 AM
1,3,5-Trimethylbenzene	2.1	0.75		ug/m3	1	8/10/2010 3:47:00 AM
1,3-butadiene	< 0.34	0.34		ug/m3	1	8/10/2010 3:47:00 AM
1,3-Dichlorobenzene	< 0.92	0.92		ug/m3	1	8/10/2010 3:47:00 AM
1,4-Dichlorobenzene	5.0	0.92		ug/m3	1	8/10/2010 3:47:00 AM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	8/10/2010 3:47:00 AM
2,2,4-trimethylpentane	1.1	0.71		ug/m3	1	8/10/2010 3:47:00 AM
4-ethyltoluene	1.0	0.75		ug/m3	1	8/10/2010 3:47:00 AM
Acetone	170	29		ug/m3	40	8/10/2010 9:56:00 AM
Allyl chloride	< 0.48	0.48		ug/m3	1	8/10/2010 3:47:00 AM
Benzene	2.1	0.49		ug/m3	1	8/10/2010 3:47:00 AM
Benzyl chloride	< 0.88	0.88		ug/m3	1	8/10/2010 3:47:00 AM
Bromodichloromethane	2.1	1.0		ug/m3	1	8/10/2010 3:47:00 AM
Bromoform	< 1.6	1.6		ug/m3	1	8/10/2010 3:47:00 AM
Bromomethane	< 0.59	0.59		ug/m3	1	8/10/2010 3:47:00 AM
Carbon disulfide	1.8	0.47		ug/m3	1	8/10/2010 3:47:00 AM
Carbon tetrachloride	0.83	0.96	J	ug/m3	1	8/10/2010 3:47:00 AM
Chlorobenzene	< 0.70	0.70		ug/m3	1	8/10/2010 3:47:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	8/10/2010 3:47:00 AM
Chloroform	9.0	0.74		ug/m3	1	8/10/2010 3:47:00 AM
Chloromethane	1.9	0.31		ug/m3	1	8/10/2010 3:47:00 AM
cis-1,2-Dichloroethene	0.44	0.60	J	ug/m3	1	8/10/2010 3:47:00 AM
cis-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	8/10/2010 3:47:00 AM
Cyclohexane	9.1	0.52		ug/m3	1	8/10/2010 3:47:00 AM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	8/10/2010 3:47:00 AM
Ethyl acetate	24	9.2		ug/m3	10	8/10/2010 5:03:00 AM
Ethylbenzene	4.2	0.66		ug/m3	1	8/10/2010 3:47:00 AM
Freon 11	2.6	0.86		ug/m3	1	8/10/2010 3:47:00 AM

**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



**Analytical Report**

Date: 31-Aug-10

**CLIENT:** EnviroGroup Limited  
**Lab Order:** C1008023  
**Project:** Capser PCE Orphan Plumes  
**Lab ID:** C1008023-001A

**Client Sample ID:** ESV-43 DUP  
**Tag Number:** 274,44  
**Collection Date:** 7/27/2010  
**Matrix:** AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
<b>1UG/M3 BY METHOD TO15</b>			<b>TO-15</b>			Analyst: RJP
Freon 113	< 1.2	1.2		ug/m3	1	8/10/2010 3:47:00 AM
Freon 114	< 1.1	1.1		ug/m3	1	8/10/2010 3:47:00 AM
Freon 12	2.3	0.75		ug/m3	1	8/10/2010 3:47:00 AM
Heptane	4.5	0.62		ug/m3	1	8/10/2010 3:47:00 AM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	8/10/2010 3:47:00 AM
Hexane	< 0.54	0.54		ug/m3	1	8/10/2010 3:47:00 AM
Isopropyl alcohol	220	15		ug/m3	40	8/10/2010 9:56:00 AM
m&p-Xylene	9.5	1.3		ug/m3	1	8/10/2010 3:47:00 AM
Methyl Butyl Ketone	0.96	1.2	J	ug/m3	1	8/10/2010 3:47:00 AM
Methyl Ethyl Ketone	7.8	9.0	J	ug/m3	10	8/10/2010 5:03:00 AM
Methyl Isobutyl Ketone	1.5	1.2		ug/m3	1	8/10/2010 3:47:00 AM
Methyl tert-butyl ether	< 0.55	0.55		ug/m3	1	8/10/2010 3:47:00 AM
Methylene chloride	1.6	0.53		ug/m3	1	8/10/2010 3:47:00 AM
o-Xylene	3.4	0.66		ug/m3	1	8/10/2010 3:47:00 AM
Propylene	< 0.26	0.26		ug/m3	1	8/10/2010 3:47:00 AM
Styrene	< 0.65	0.65		ug/m3	1	8/10/2010 3:47:00 AM
Tetrachloroethylene	1.9	1.0		ug/m3	1	8/10/2010 3:47:00 AM
Tetrahydrofuran	8.1	4.5		ug/m3	10	8/10/2010 5:03:00 AM
Toluene	57	5.7		ug/m3	10	8/10/2010 5:03:00 AM
trans-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	8/10/2010 3:47:00 AM
trans-1,3-Dichloropropene	2.9	0.69		ug/m3	1	8/10/2010 3:47:00 AM
Trichloroethene	1.7	0.82		ug/m3	1	8/10/2010 3:47:00 AM
Vinyl acetate	< 0.54	0.54		ug/m3	1	8/10/2010 3:47:00 AM
Vinyl Bromide	< 0.67	0.67		ug/m3	1	8/10/2010 3:47:00 AM
Vinyl chloride	< 0.39	0.39		ug/m3	1	8/10/2010 3:47:00 AM

**NOTES:**

S - Outlying surrogate recovery observed. Based on the chromatographic evidence, it appears that the contamination is from fuel.

<b>Qualifiers:</b>	** 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\AH080924.D  
 Acq On : 10 Aug 2010 3:47 am  
 Sample : C1008023-001A  
 Misc : C1008023-001A  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 10 04:09:16 2010

Vial: 34  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:34:49 2010  
 Response via : Initial Calibration  
 DataAcq Meth : A612\_1UT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane	7.71	128	23421	1.00	ppb	0.00
30) 1,4-difluorobenzene	10.05	114	66986	1.00	ppb	0.00
44) Chlorobenzene-d5	14.91	117	68455	1.00	ppb	0.00

System Monitoring Compounds

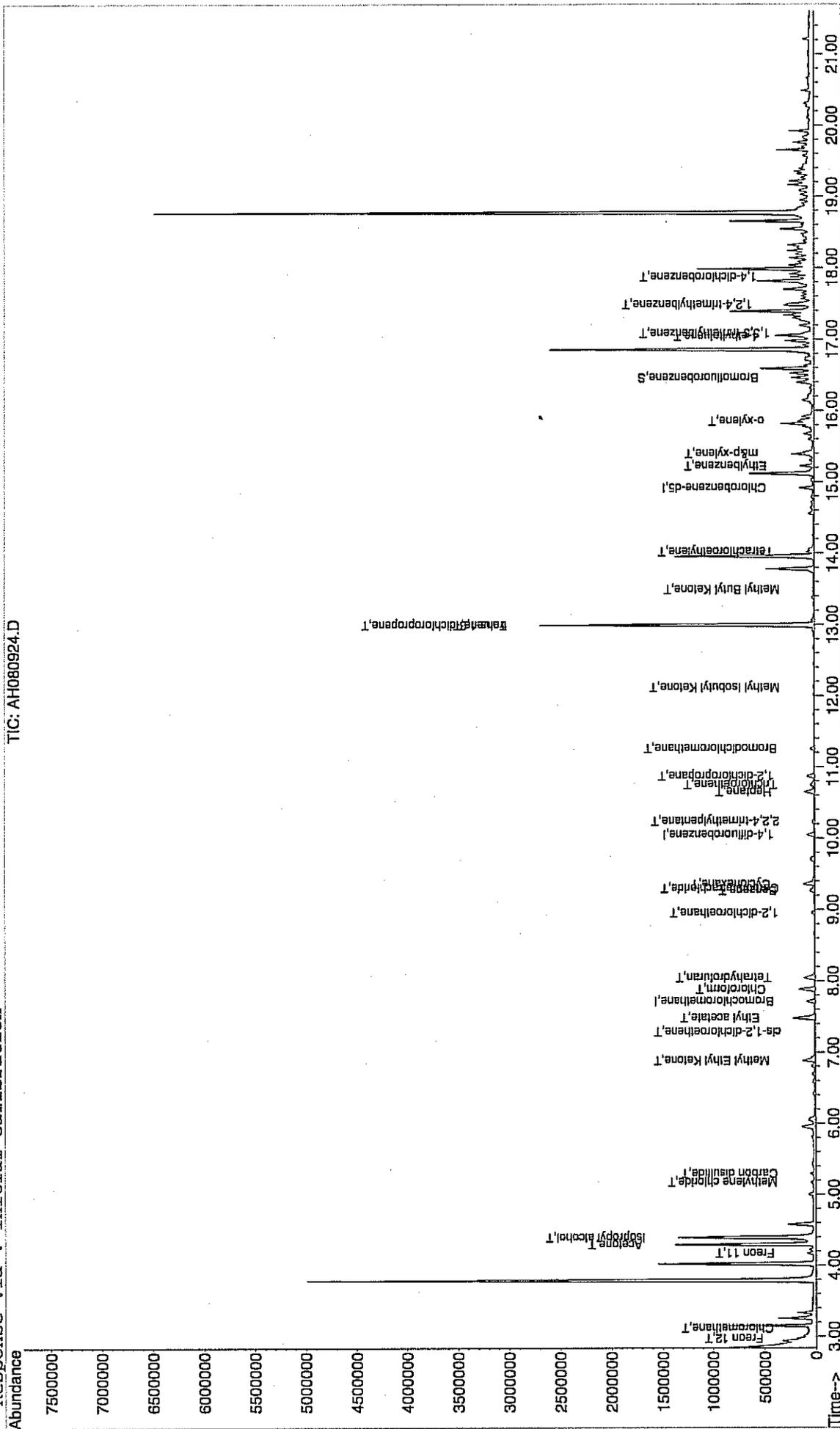
57) Bromofluorobenzene	16.46	95	41150m	1.44	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	144.00%#

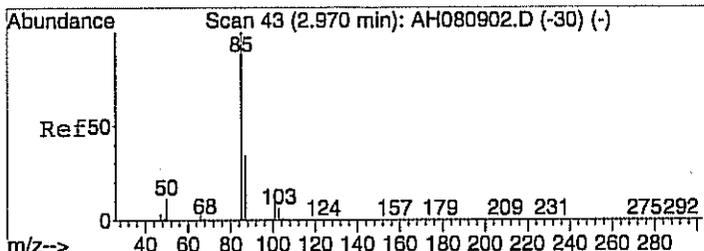
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
3) Freon 12	2.97	85	48235	0.45	ppb	99
4) Chloromethane	3.11	50	27043	0.90	ppb	91
11) Freon 11	4.16	101	46153	0.45	ppb	96
12) Acetone	4.29	58	473230	50.41	ppb	88
13) Isopropyl alcohol	4.39	45	1414664	64.14	ppb	89
16) Methylene chloride	5.17	84	12084	0.45	ppb	93
18) Carbon disulfide	5.29	76	42763	0.56	ppb	96
23) Methyl Ethyl Ketone	6.88	43	162330	4.11	ppb	# 51
24) cis-1,2-dichloroethene	7.29	61	2986	0.11	ppb	# 81
26) Ethyl acetate	7.48	43	286213	10.59	ppb	96
27) Chloroform	7.88	83	128598	1.82	ppb	98
28) Tetrahydrofuran	8.04	42	49727	4.33	ppb	# 66
29) 1,2-dichloroethane	8.96	62	24100	0.59	ppb	97
32) Cyclohexane	9.36	56	56051	2.59	ppb	# 7
33) Carbon tetrachloride	9.30	117	11772	0.13	ppb	99
34) Benzene	9.26	78	43316	0.66	ppb	96
36) 2,2,4-trimethylpentane	10.24	57	14144	0.23	ppb	# 69
37) Heptane	10.65	43	21992	1.08	ppb	# 61
38) Trichloroethene	10.75	130	13276	0.31	ppb	91
39) 1,2-dichloropropane	10.86	63	26394	1.07	ppb	97
40) Bromodichloromethane	11.26	83	24715	0.31	ppb	99
42) trans-1,3-dichloropropene	12.99	75	14377	0.62	ppb	# 1
45) Toluene	12.99	92	1120516	25.07	ppb	98
46) Methyl Isobutyl Ketone	12.12	43	8544	0.37	ppb	81
48) Methyl Butyl Ketone	13.49	43	5177	0.23	ppb	89
50) Tetrachloroethylene	14.02	164	14369	0.27	ppb	96
52) Ethylbenzene	15.22	91	75627	0.95	ppb	99
53) m&p-xylene	15.39	91	148963	2.16	ppb	97
56) o-xylene	15.84	91	58847	0.76	ppb	97
59) 4-ethyltoluene	17.03	105	14720m	0.20	ppb	
60) 1,3,5-trimethylbenzene	17.09	105	27995m	0.43	ppb	
61) 1,2,4-trimethylbenzene	17.49	105	81966	1.66	ppb	99
64) 1,4-dichlorobenzene	17.87	146	48906	0.82	ppb	95

Data File : C:\HPCHEM\1\DATA\AH080924.D  
 Acq On : 10 Aug 2010 3:47 am  
 Sample : C1008023-001A  
 Misc : C1008023-001A  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 12 13:14 2010

Vial: 34  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00  
 Quant Results File: A612\_1UT.RES

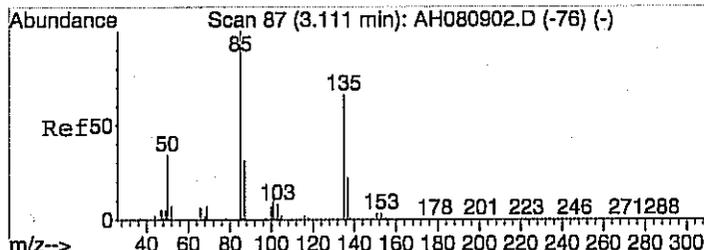
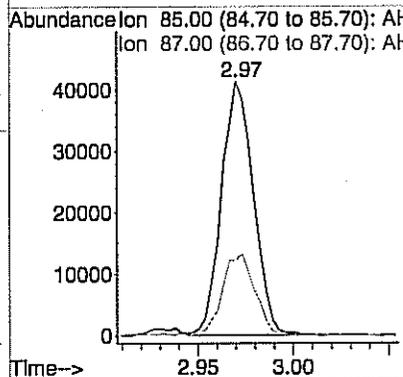
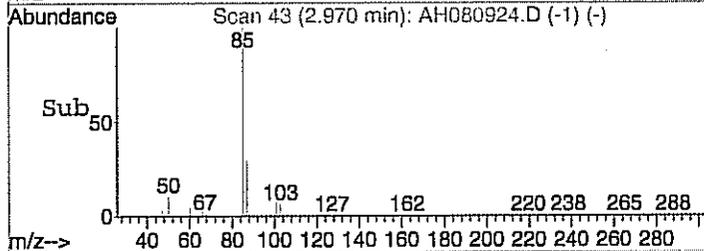
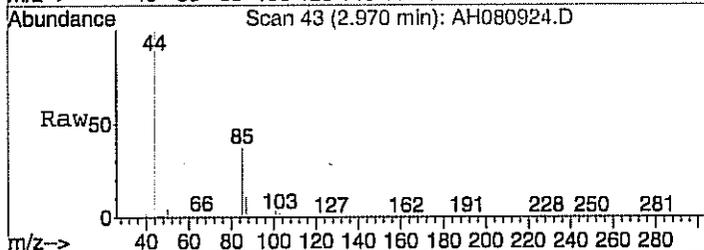
Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Tue Aug 31 08:51:03 2010  
 Response via : Initial Calibration





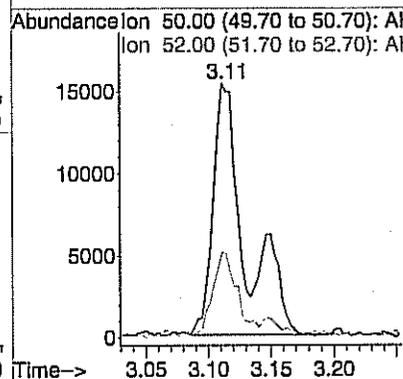
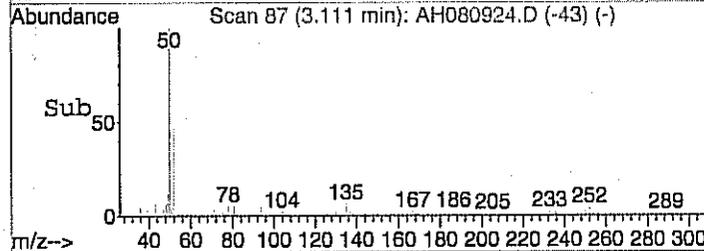
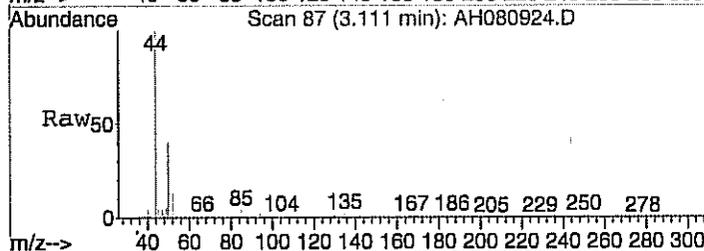
#3  
 Freon 12  
 Concen: 0.45 ppb  
 RT: 2.97 min Scan# 43  
 Delta R.T. -0.01 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

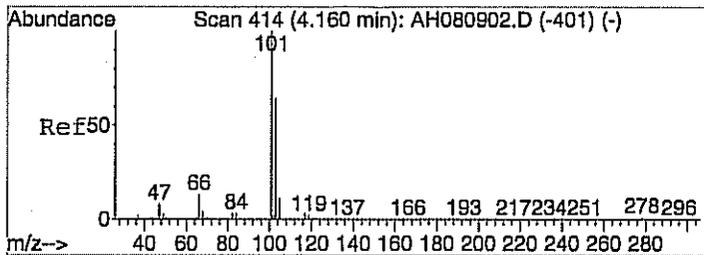
Tgt Ion:	85	Resp:	48235
Ion Ratio	Lower	Upper	
85	100		
87	33.0	12.7	52.7



#4  
 Chloromethane  
 Concen: 0.90 ppb  
 RT: 3.11 min Scan# 87  
 Delta R.T. -0.01 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

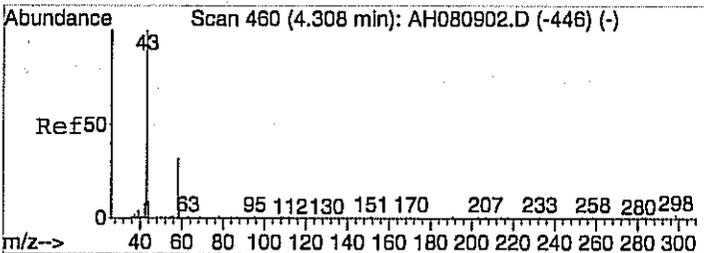
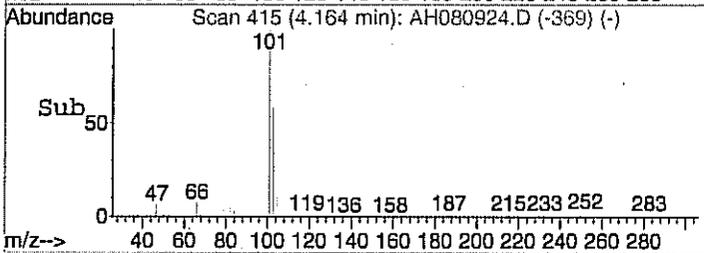
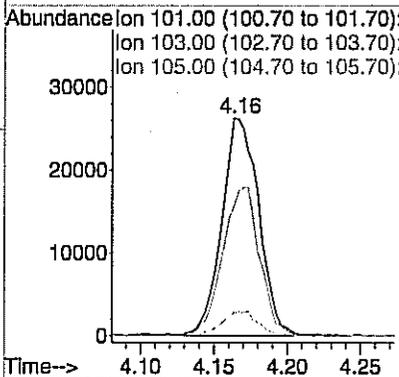
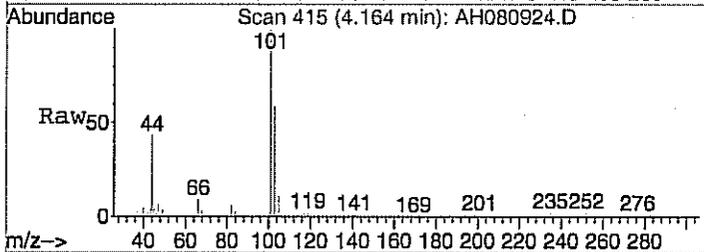
Tgt Ion:	50	Resp:	27043
Ion Ratio	Lower	Upper	
50	100		
52	30.7	6.2	46.2





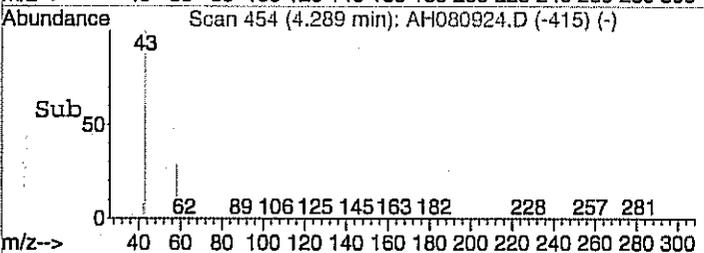
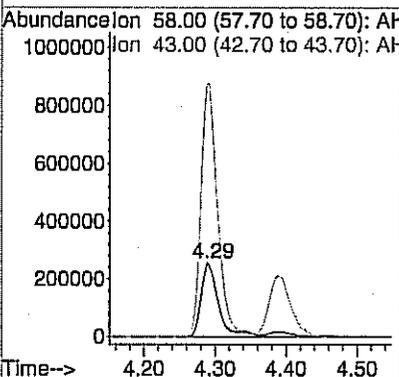
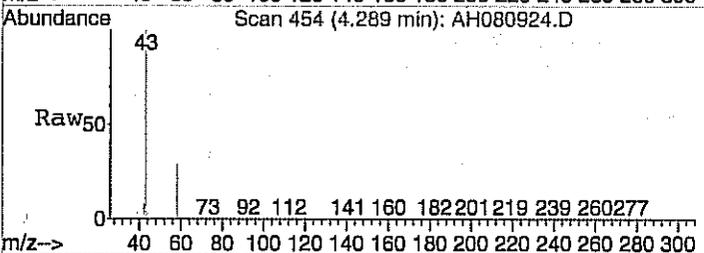
#11  
 Freon 11  
 Concen: 0.45 ppb  
 RT: 4.16 min Scan# 415  
 Delta R.T. -0.00 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

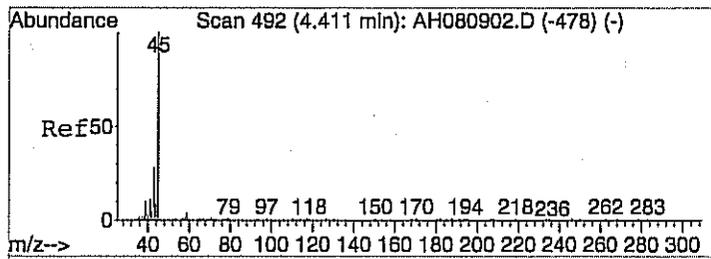
Tgt Ion	Resp	Lower	Upper
101	46153		
103	68.5	44.7	84.7
105	11.2	0.0	30.6



#12  
 Acetone  
 Concen: 50.41 ppb  
 RT: 4.29 min Scan# 454  
 Delta R.T. -0.03 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

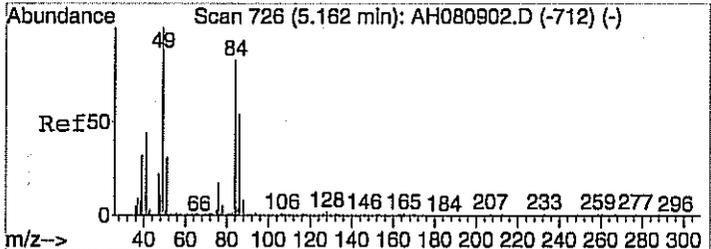
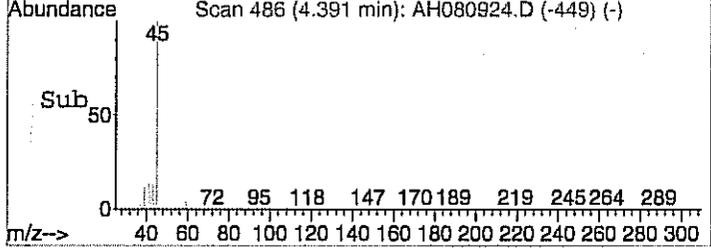
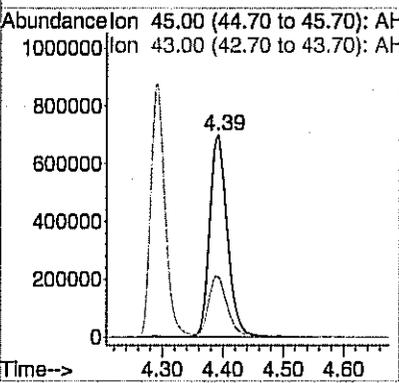
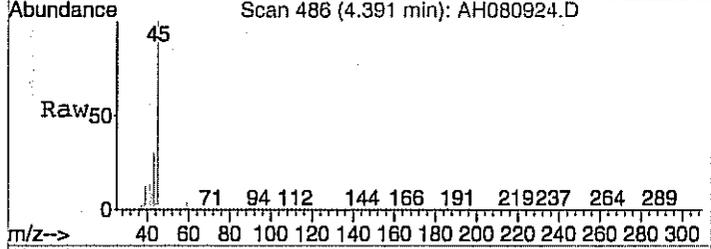
Tgt Ion	Resp	Lower	Upper
58	473230		
43	300.1	294.7	354.7





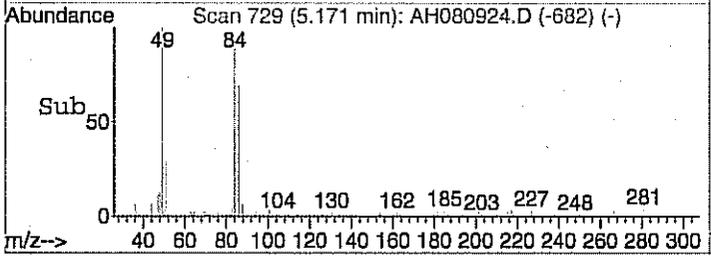
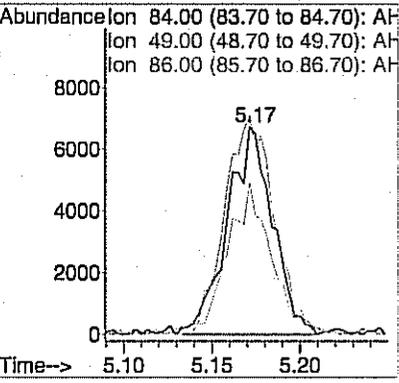
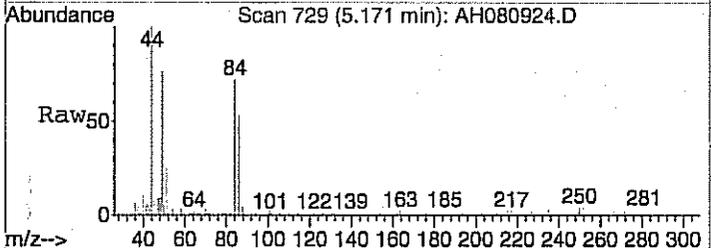
#13  
 Isopropyl alcohol  
 Concen: 64.14 ppb  
 RT: 4.39 min Scan# 486  
 Delta R.T. -0.03 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

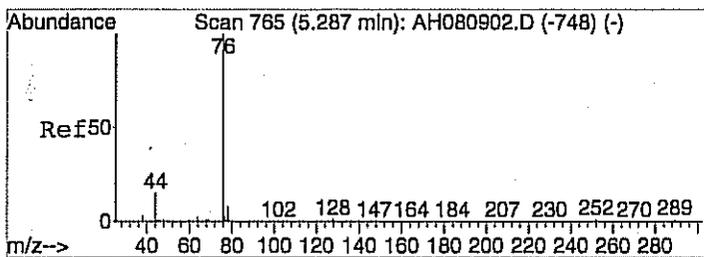
Tgt Ion	Resp	Lower	Upper
45	1414664		
43	32.0	18.8	58.8



#16  
 Methylene chloride  
 Concen: 0.45 ppb  
 RT: 5.17 min Scan# 729  
 Delta R.T. 0.00 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

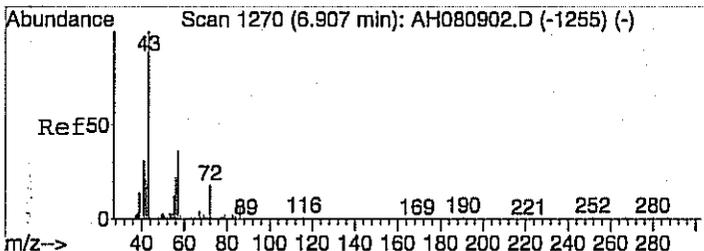
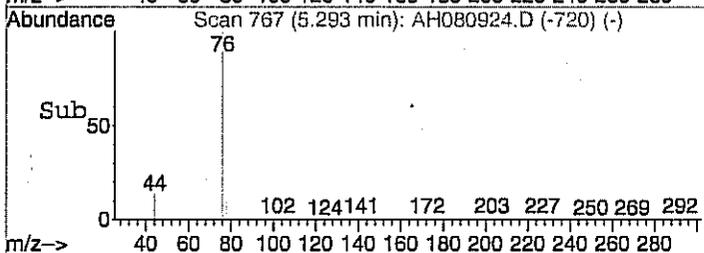
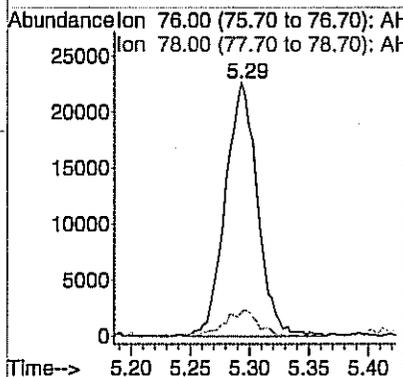
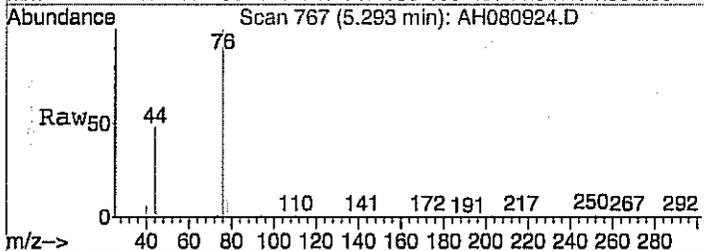
Tgt Ion	Resp	Lower	Upper
84	12084		
49	114.7	85.1	125.1
86	69.4	46.9	86.9





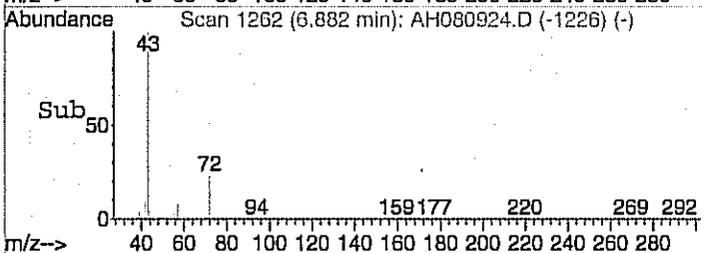
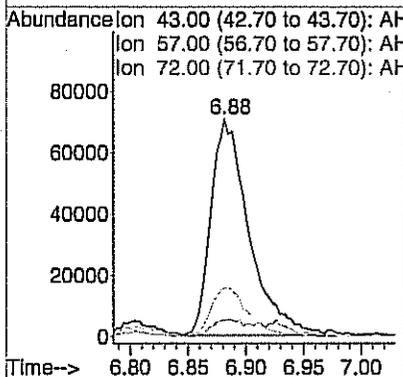
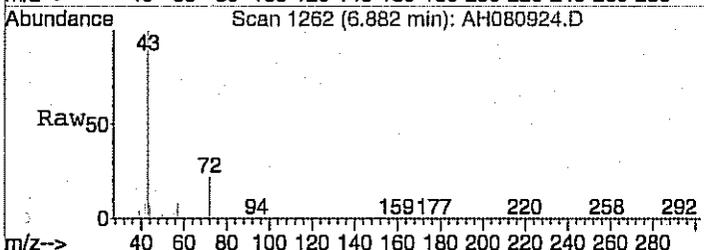
#18  
 Carbon disulfide  
 Concen: 0.56 ppb  
 RT: 5.29 min Scan# 767  
 Delta R.T. 0.00 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

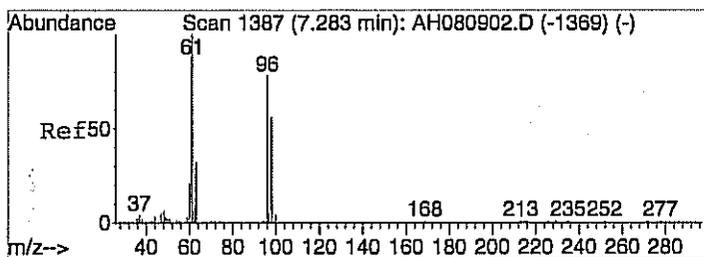
Tgt Ion	Resp	Lower	Upper
76	42763		
78	10.5	0.0	29.1



#23  
 Methyl Ethyl Ketone  
 Concen: 4.11 ppb  
 RT: 6.88 min Scan# 1262  
 Delta R.T. -0.04 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

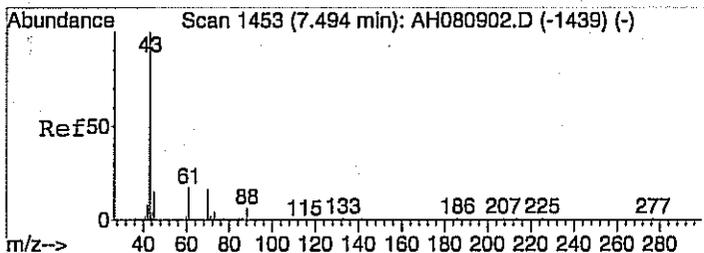
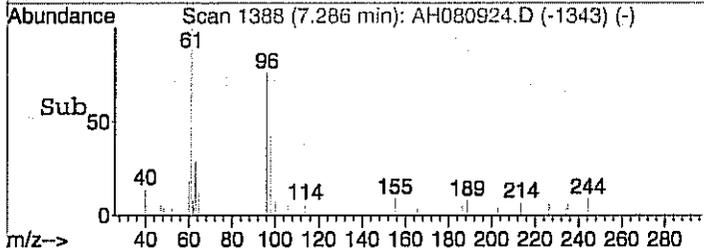
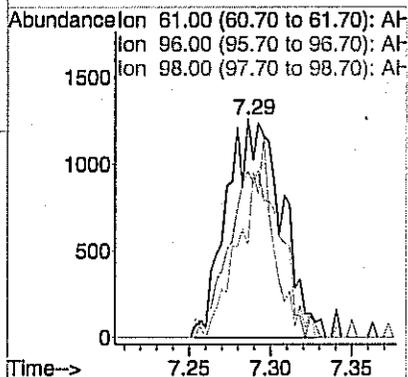
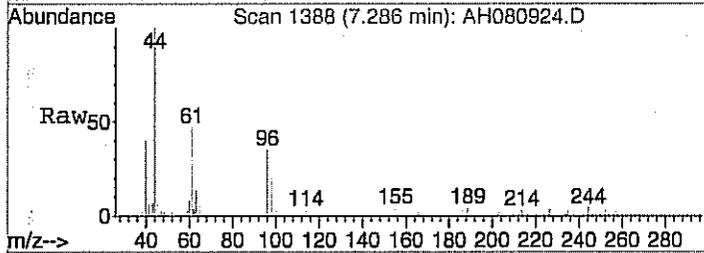
Tgt Ion	Resp	Lower	Upper
43	162330		
57	13.3	40.8	80.8#
72	22.8	0.0	39.7





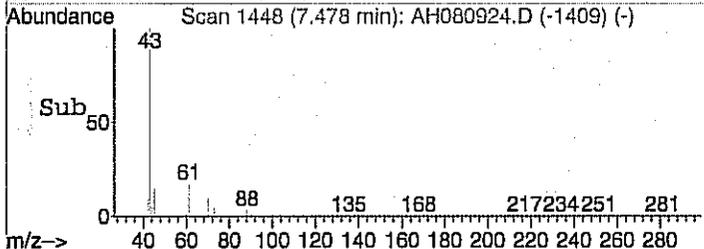
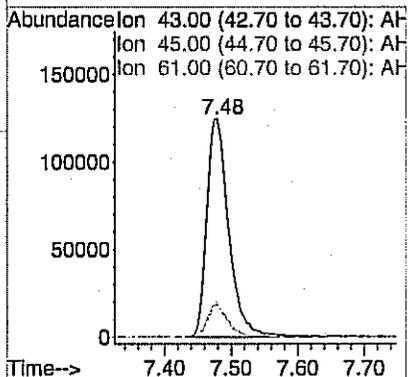
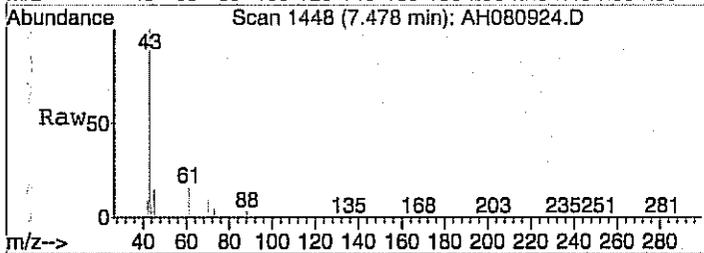
#24  
 cis-1,2-dichloroethene  
 Concen: 0.11 ppb  
 RT: 7.29 min Scan# 1388  
 Delta R.T. -0.01 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

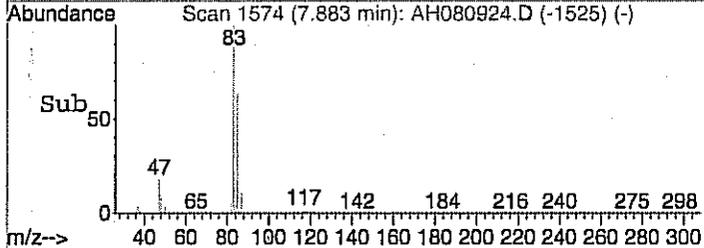
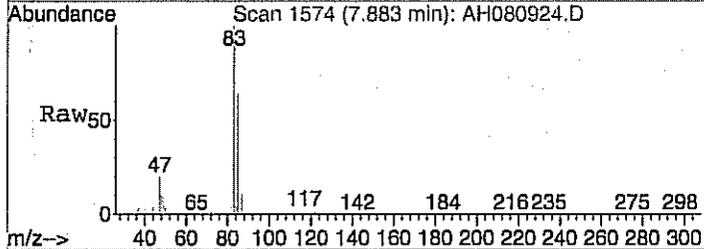
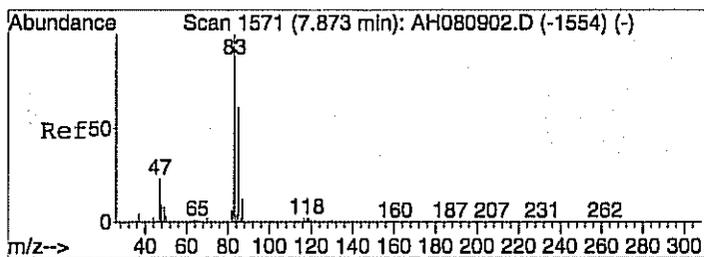
Tgt Ion	Resp	Lower	Upper
61	2986		
96	70.1	74.8	114.8#
98	54.6	40.7	80.7



#26  
 Ethyl acetate  
 Concen: 10.59 ppb  
 RT: 7.48 min Scan# 1448  
 Delta R.T. -0.03 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

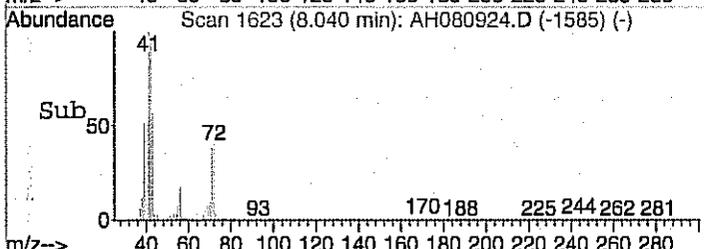
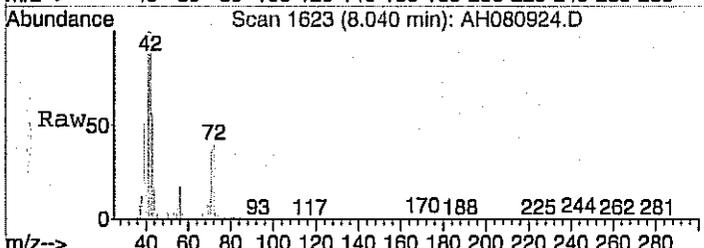
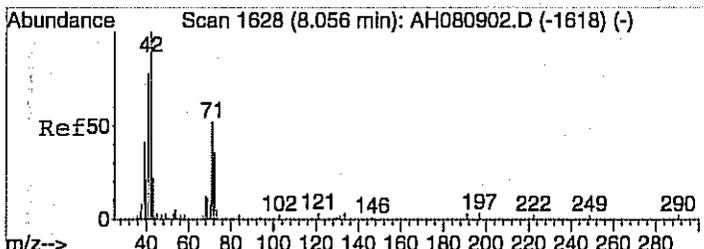
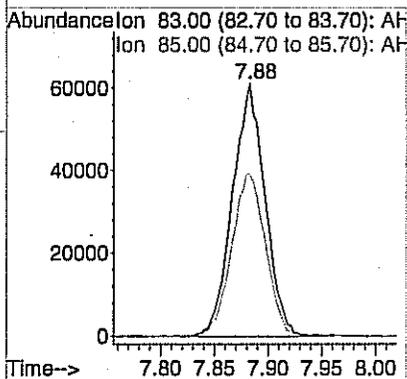
Tgt Ion	Resp	Lower	Upper
43	286213		
45	13.8	0.0	33.8
61	14.3	0.0	37.6





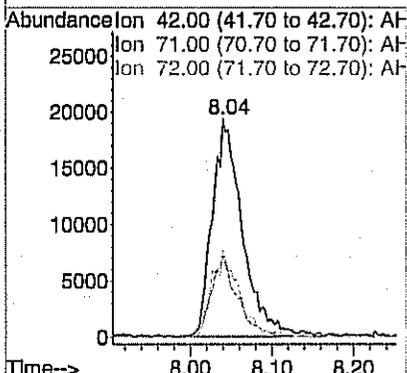
#27  
 Chloroform  
 Concen: 1.82 ppb  
 RT: 7.88 min Scan# 1574  
 Delta R.T. 0.01 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

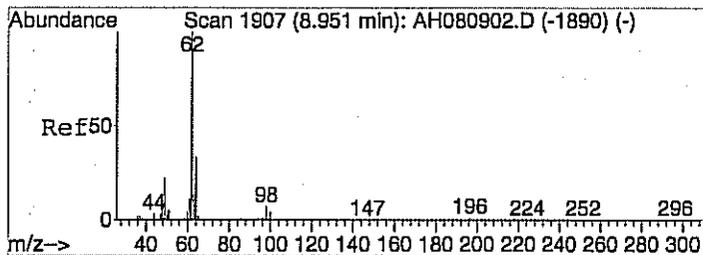
Tgt Ion	Resp	Lower	Upper
83	128598		
85	67.5	45.9	85.9



#28  
 Tetrahydrofuran  
 Concen: 4.33 ppb  
 RT: 8.04 min Scan# 1623  
 Delta R.T. -0.03 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

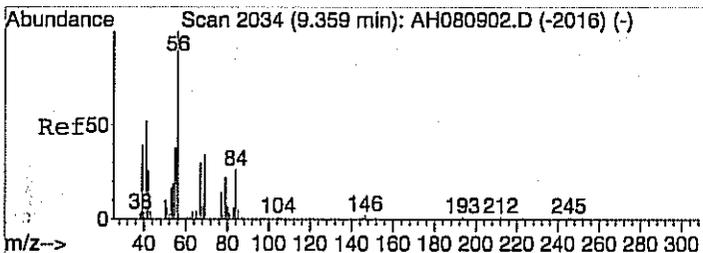
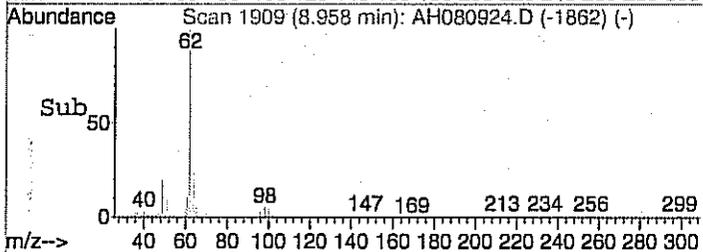
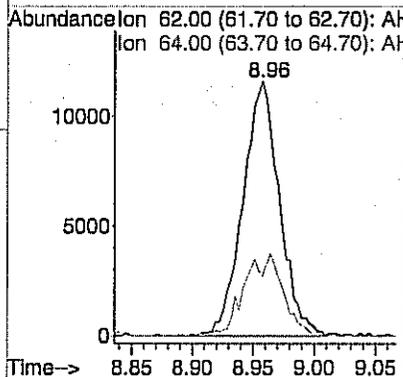
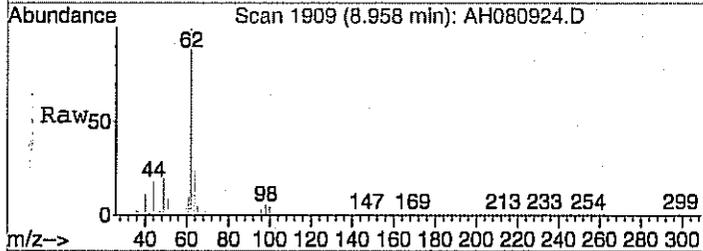
Tgt Ion	Resp	Lower	Upper
42	49727		
71	33.2	42.3	82.3#
72	36.1	39.0	79.0#





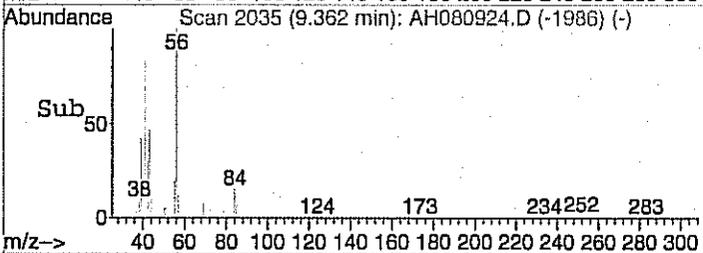
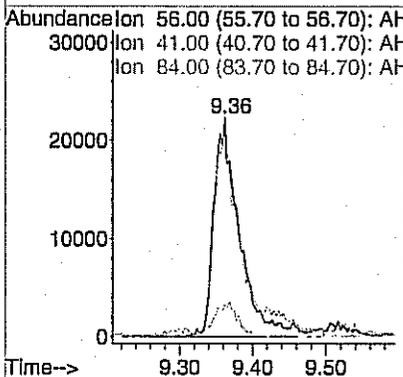
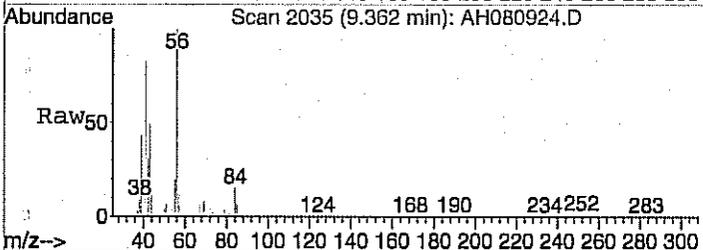
#29  
 1,2-dichloroethane  
 Concen: 0.59 ppb  
 RT: 8.96 min Scan# 1909  
 Delta R.T. 0.00 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

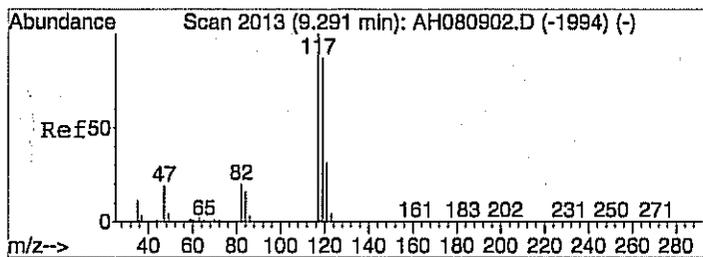
Tgt Ion	Resp	Lower	Upper
62	100		
64	34.2	12.8	52.8



#32  
 Cyclohexane  
 Concen: 2.59 ppb  
 RT: 9.36 min Scan# 2035  
 Delta R.T. 0.01 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

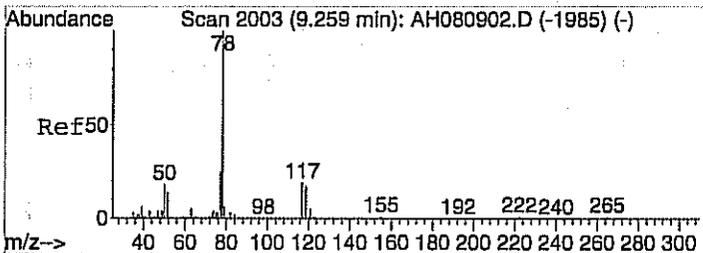
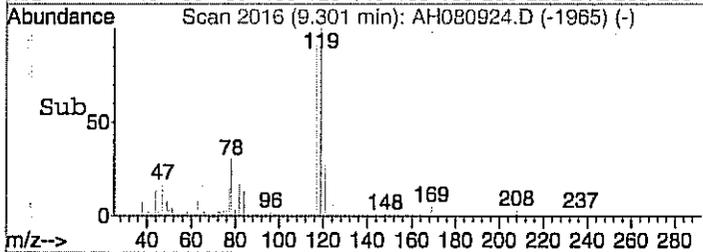
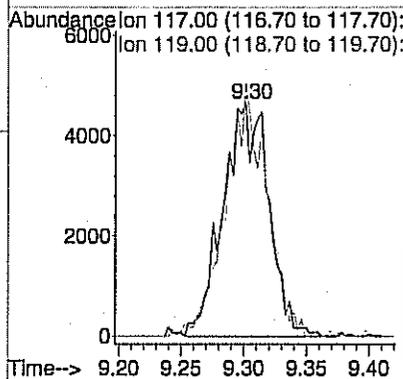
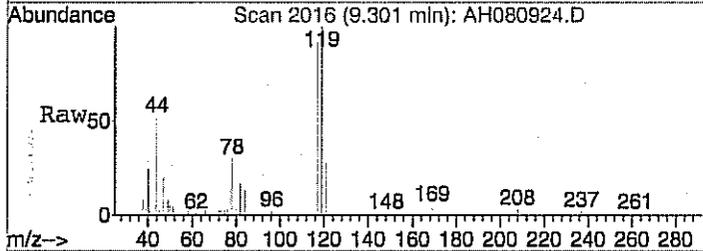
Tgt Ion	Resp	Lower	Upper
56	100		
41	100.3	40.2	80.2#
84	14.2	134.6	174.6#





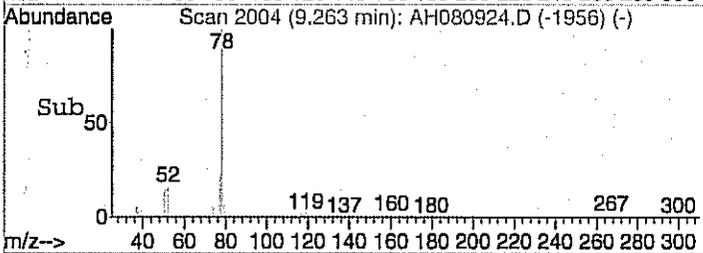
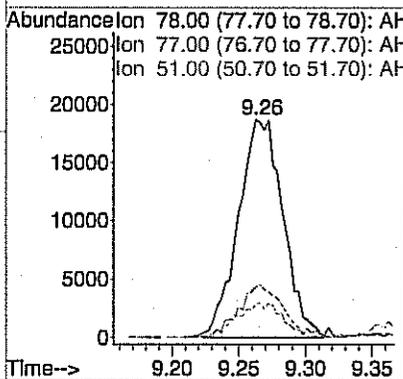
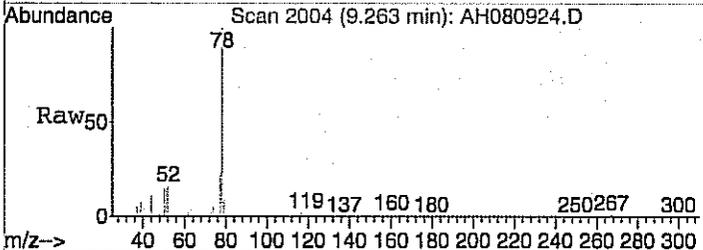
#33  
Carbon tetrachloride  
Concen: 0.13 ppb  
RT: 9.30 min Scan# 2016  
Delta R.T. 0.01 min  
Lab File: AH080924.D  
Acq: 10 Aug 2010 3:47 am

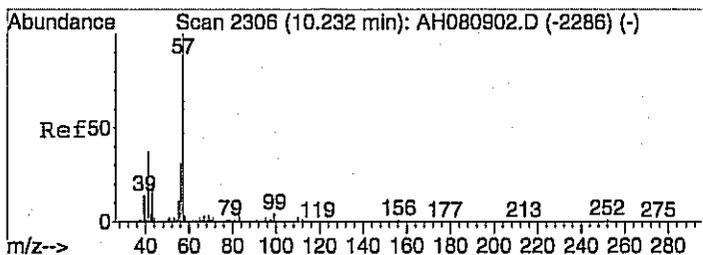
Tgt Ion	Resp	Lower	Upper
117	11772	100	
119	96.6	77.5	117.5



#34  
Benzene  
Concen: 0.66 ppb  
RT: 9.26 min Scan# 2004  
Delta R.T. 0.00 min  
Lab File: AH080924.D  
Acq: 10 Aug 2010 3:47 am

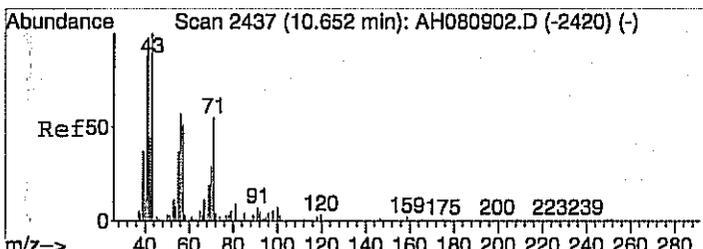
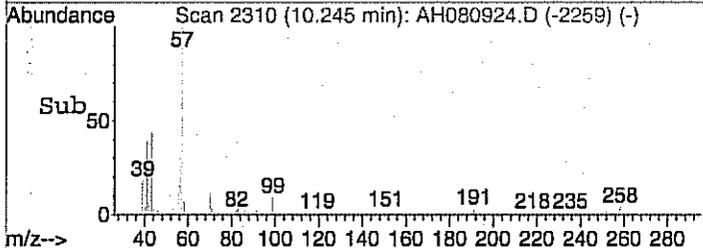
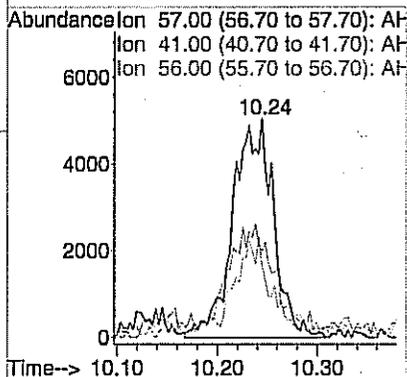
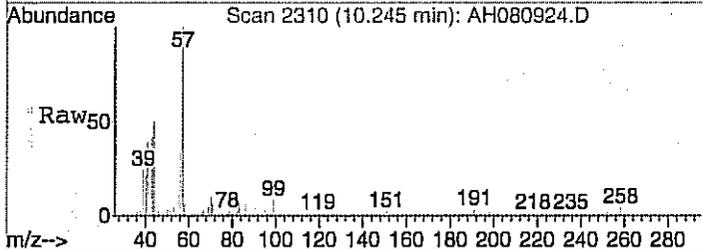
Tgt Ion	Resp	Lower	Upper
78	43316	100	
77	24.1	2.6	42.6
51	16.5	0.0	34.0





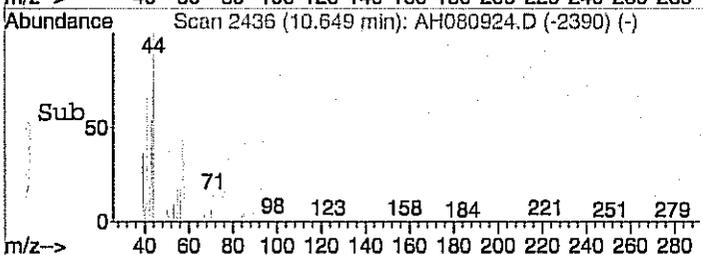
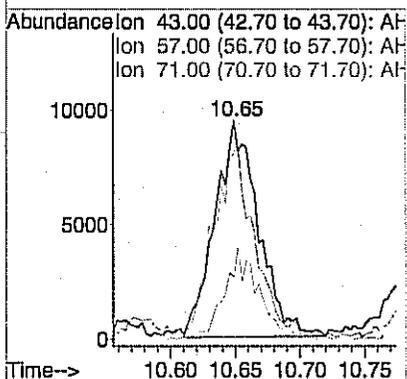
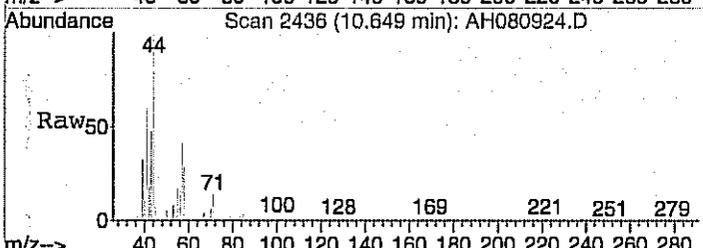
#36  
 2,2,4-trimethylpentane  
 Concen: 0.23 ppb  
 RT: 10.24 min Scan# 2310  
 Delta R.T. 0.01 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

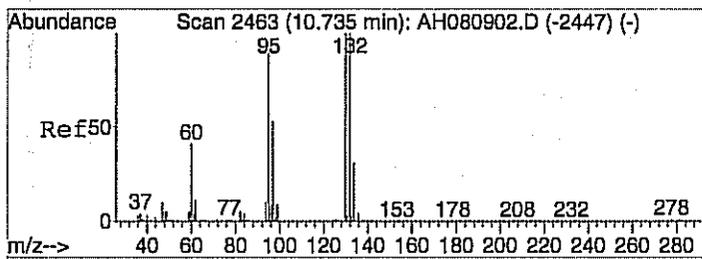
Tgt Ion	Resp	Lower	Upper
57	14144		
41	55.5	12.0	52.0#
56	44.2	12.7	52.7



#37  
 Heptane  
 Concen: 1.08 ppb  
 RT: 10.65 min Scan# 2436  
 Delta R.T. -0.00 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

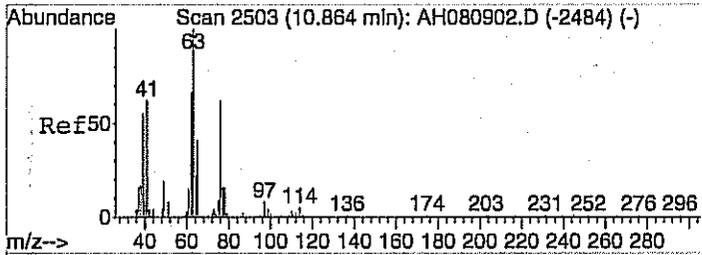
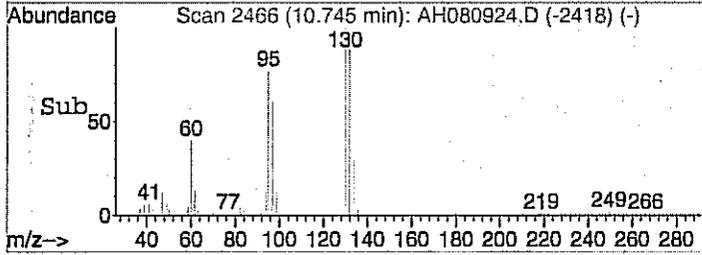
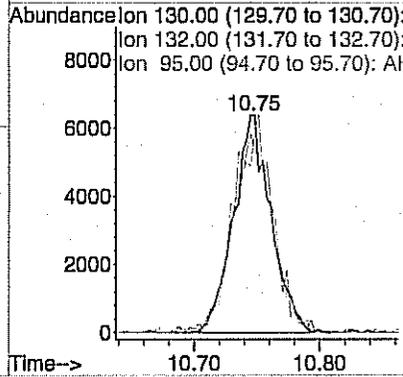
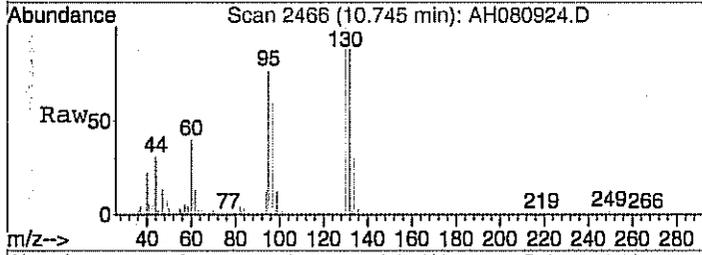
Tgt Ion	Resp	Lower	Upper
43	21992		
43	100		
57	83.8	38.8	78.8#
71	33.0	48.9	88.9#





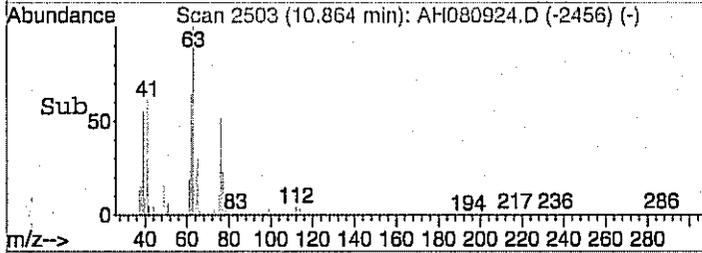
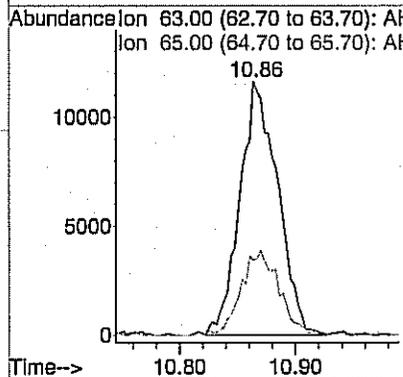
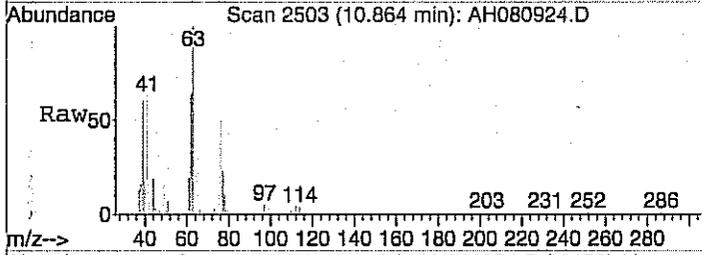
#38  
 Trichloroethene  
 Concen: 0.31 ppb  
 RT: 10.75 min Scan# 2466  
 Delta R.T. 0.00 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

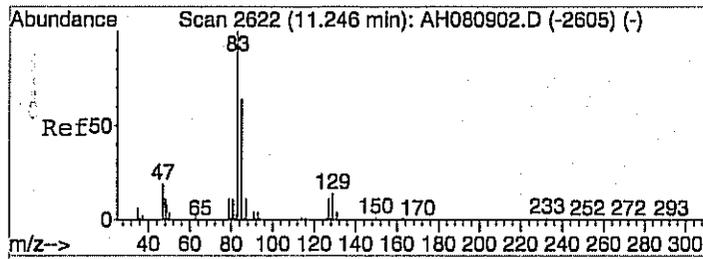
Tgt Ion	Resp	Lower	Upper
130	13276		
130	100		
132	98.7	76.1	116.1
95	102.8	68.2	108.2



#39  
 1,2-dichloropropane  
 Concen: 1.07 ppb  
 RT: 10.86 min Scan# 2503  
 Delta R.T. 0.00 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

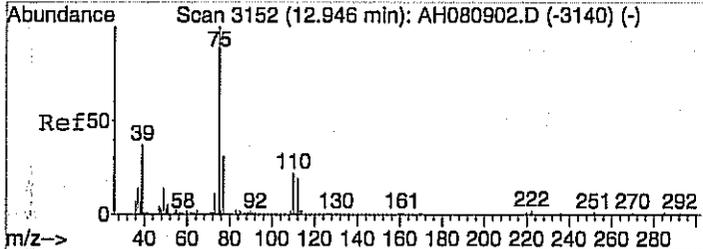
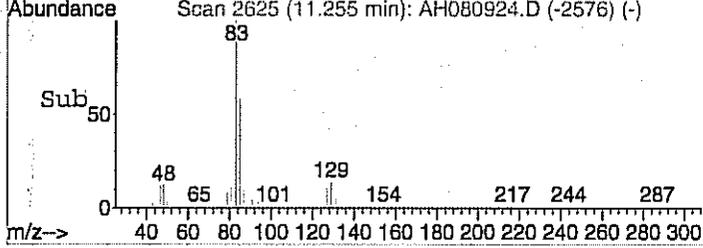
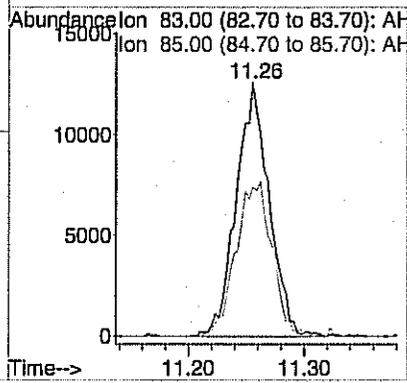
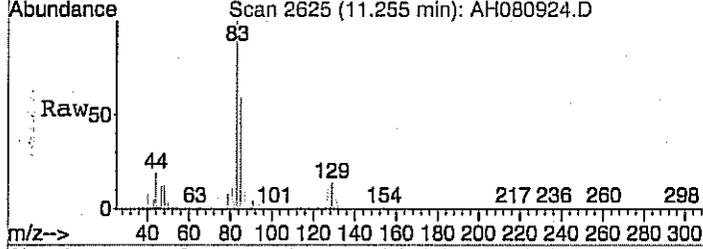
Tgt Ion	Resp	Lower	Upper
63	26394		
63	100		
65	33.2	11.6	51.6





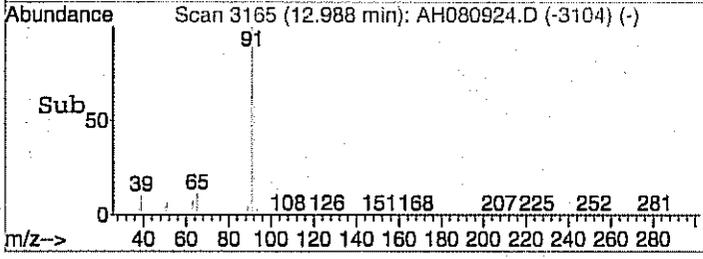
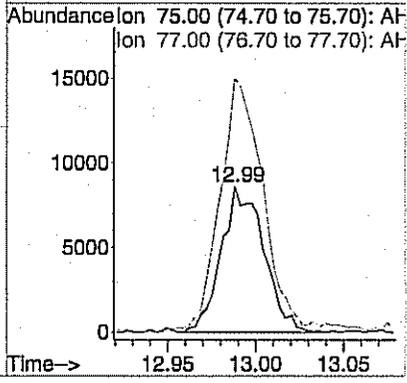
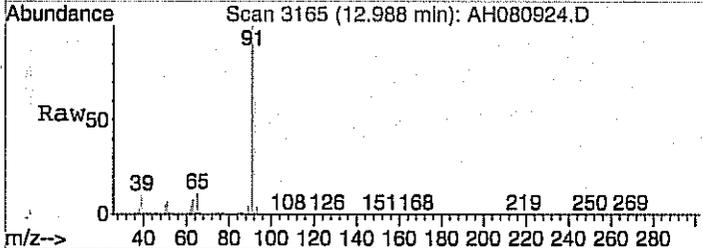
#40  
 Bromodichloromethane  
 Concen: 0.31 ppb  
 RT: 11.26 min Scan# 2625  
 Delta R.T. 0.01 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

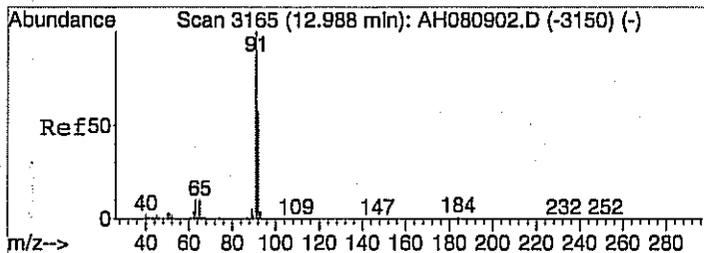
Tgt Ion	Resp	Lower	Upper
83	24715		
85	66.7	45.5	85.5



#42  
 trans-1,3-dichloropropene  
 Concen: 0.62 ppb  
 RT: 12.99 min Scan# 3165  
 Delta R.T. 0.05 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

Tgt Ion	Resp	Lower	Upper
75	14377		
77	181.2	20.2	60.2#

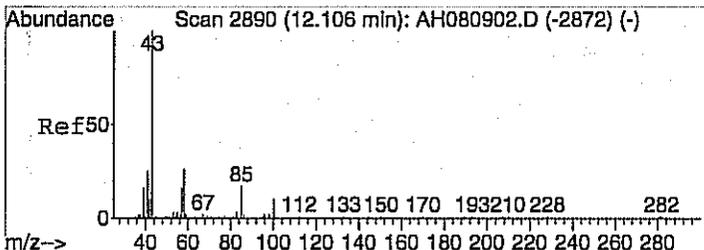
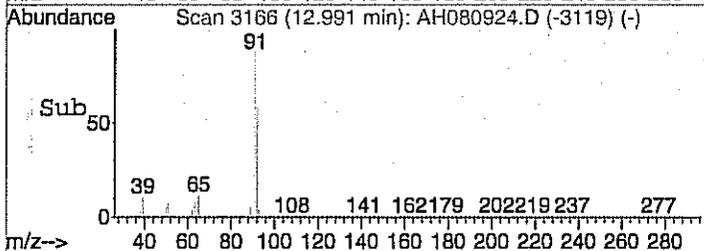
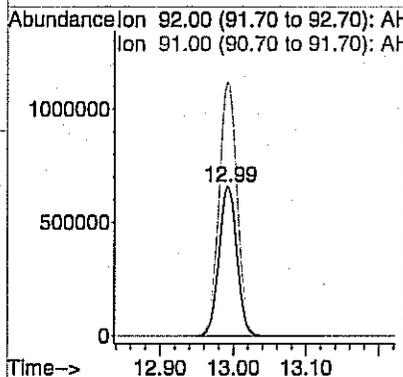
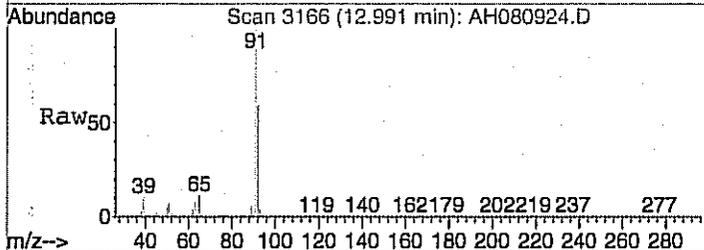




#45  
 Toluene  
 Concen: 25.07 ppb  
 RT: 12.99 min Scan# 3166  
 Delta R.T. 0.00 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

Tgt Ion: 92 Resp: 1120516

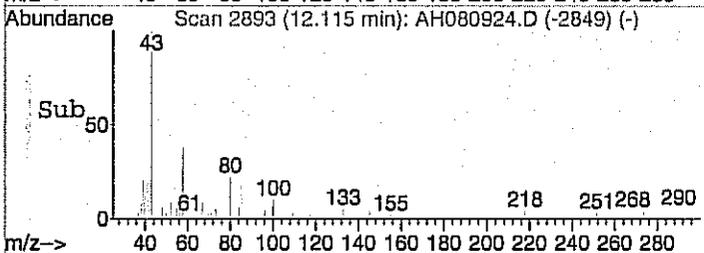
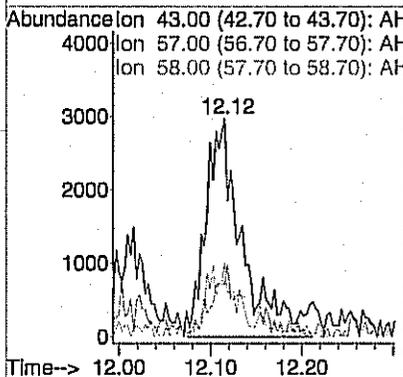
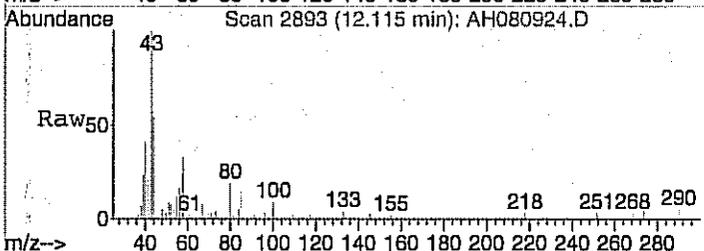
Ion	Ratio	Lower	Upper
92	100		
91	171.1	148.8	188.8

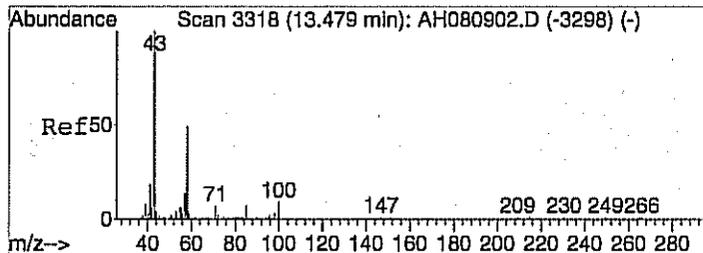


#46  
 Methyl Isobutyl Ketone  
 Concen: 0.37 ppb  
 RT: 12.12 min Scan# 2893  
 Delta R.T. -0.01 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

Tgt Ion: 43 Resp: 8544

Ion	Ratio	Lower	Upper
43	100		
57	28.7	4.7	44.7
58	23.7	19.9	59.9

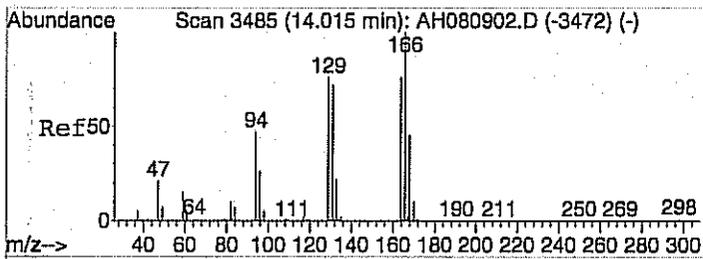
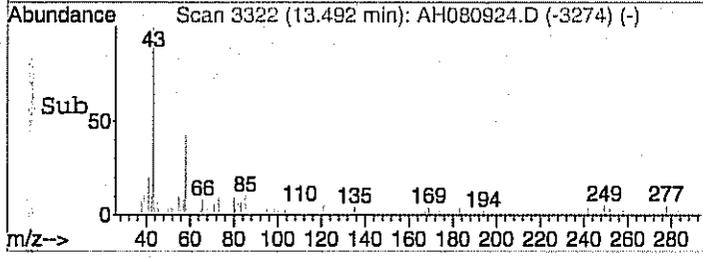
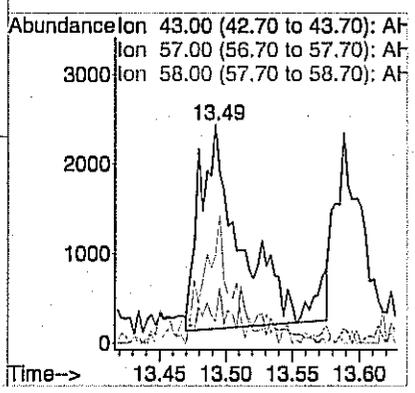
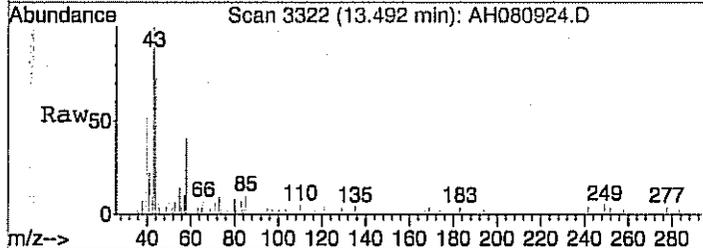




#48  
 Methyl Butyl Ketone  
 Concen: 0.23 ppb  
 RT: 13.49 min Scan# 3322  
 Delta R.T. 0.00 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

Tgt Ion: 43 Resp: 5177

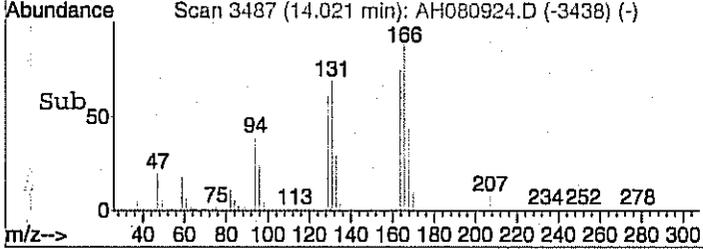
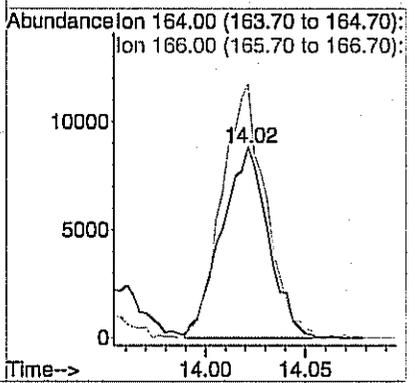
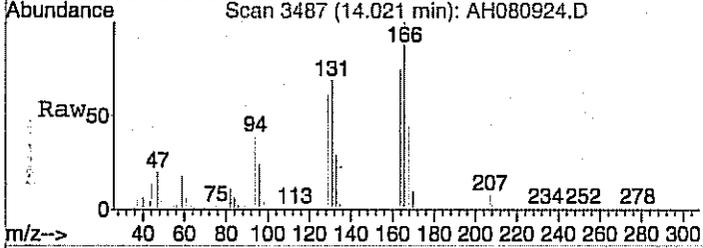
Ion	Ratio	Lower	Upper
43	100		
57	14.0	0.0	36.5
58	43.1	31.6	71.6

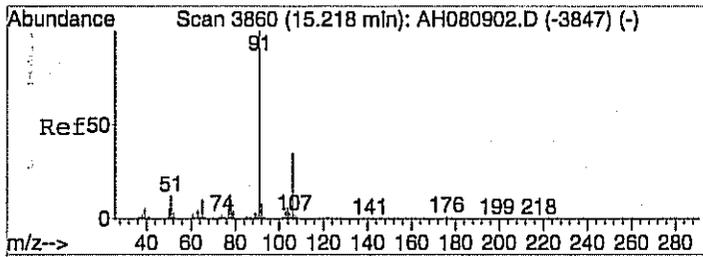


#50  
 Tetrachloroethylene  
 Concen: 0.27 ppb  
 RT: 14.02 min Scan# 3487  
 Delta R.T. 0.01 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

Tgt Ion: 164 Resp: 14369

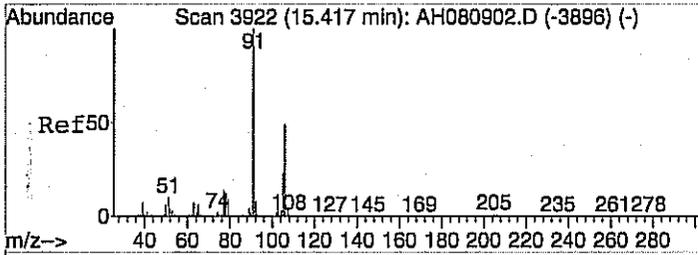
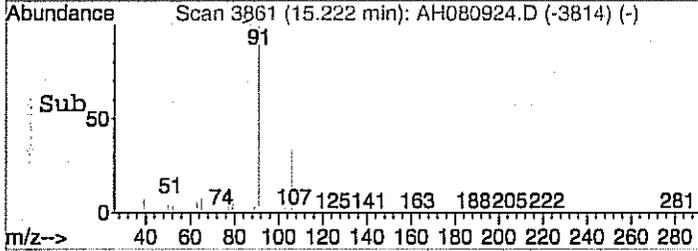
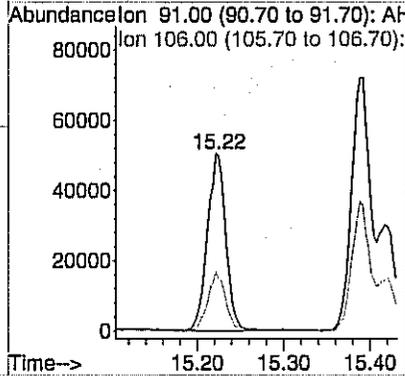
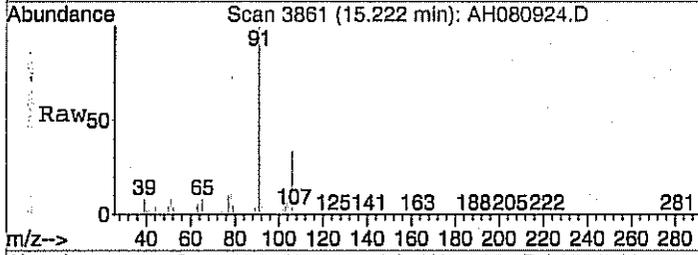
Ion	Ratio	Lower	Upper
164	100		
166	125.0	109.2	149.2





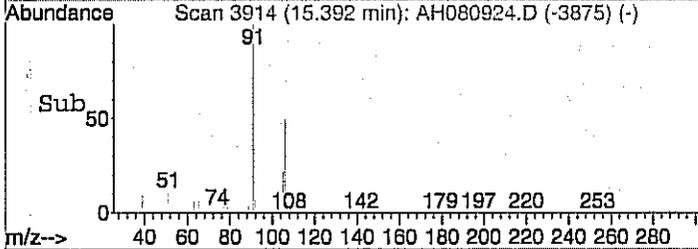
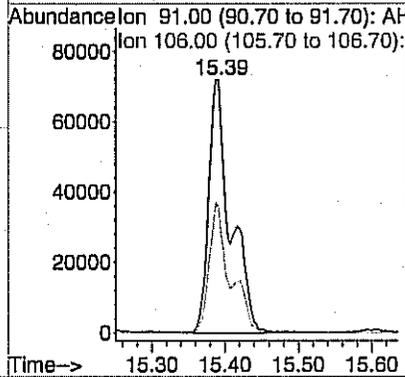
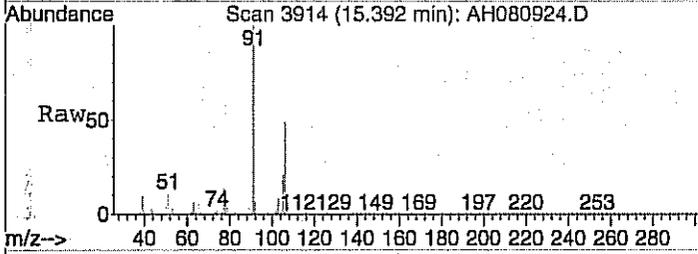
#52  
Ethylbenzene  
Concen: 0.95 ppb  
RT: 15.22 min Scan# 3861  
Delta R.T. 0.00 min  
Lab File: AH080924.D  
Acq: 10 Aug 2010 3:47 am

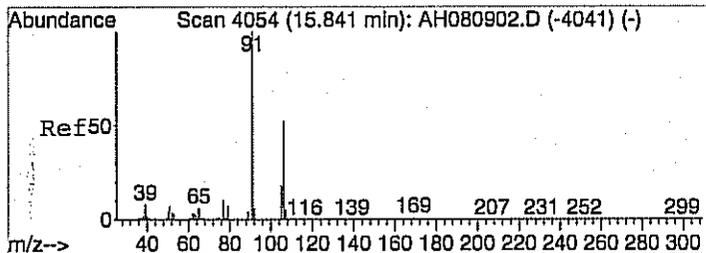
Tgt Ion	Resp	Lower	Upper
91	75627	100	
106	31.8	12.2	52.2



#53  
m&p-xylene  
Concen: 2.16 ppb  
RT: 15.39 min Scan# 3914  
Delta R.T. -0.03 min  
Lab File: AH080924.D  
Acq: 10 Aug 2010 3:47 am

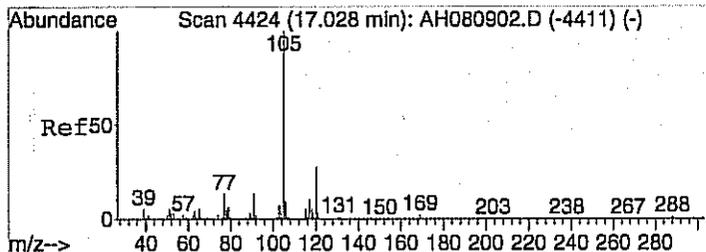
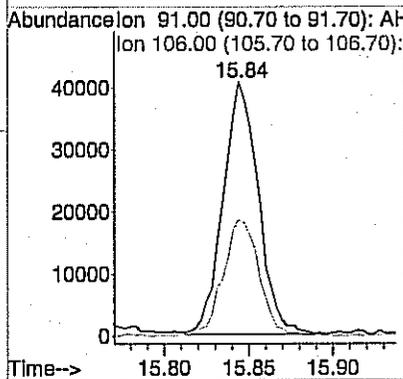
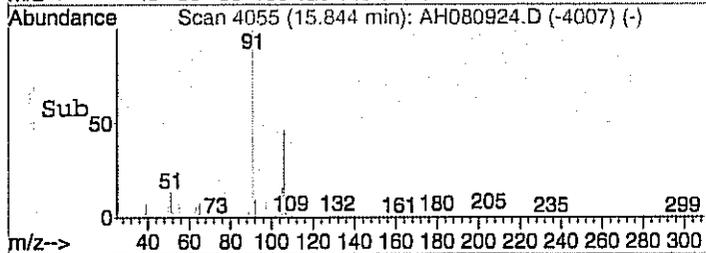
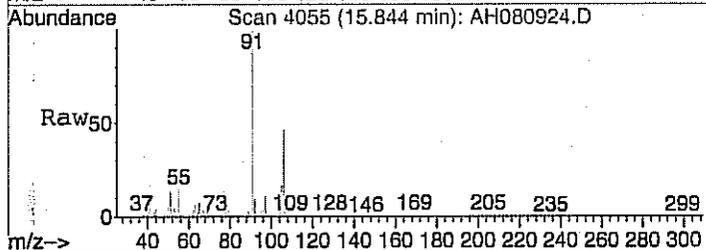
Tgt Ion	Resp	Lower	Upper
91	148963	100	
106	48.8	31.1	71.1





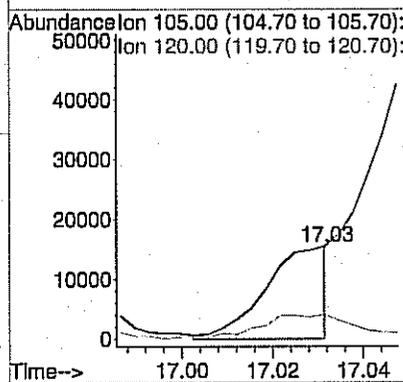
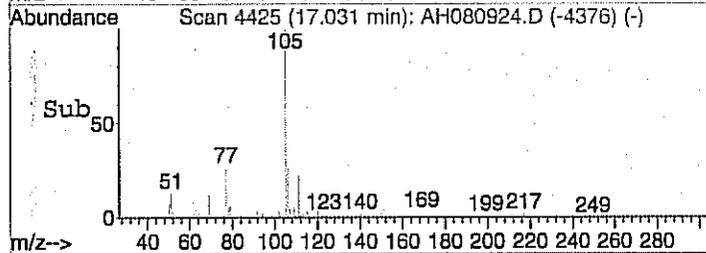
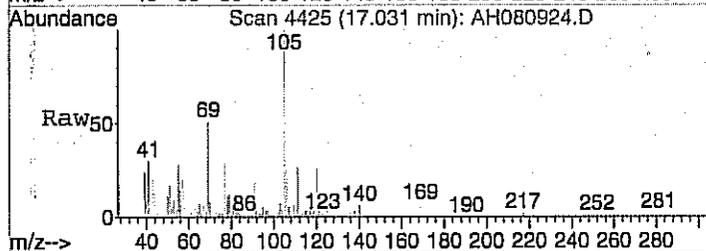
#56  
 o-xylene  
 Concen: 0.76 ppb  
 RT: 15.84 min Scan# 4055  
 Delta R.T. 0.00 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

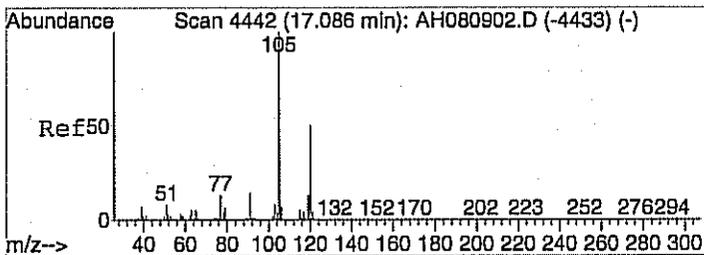
Tgt Ion	Resp	Lower	Upper
91	58847		
106	47.4	29.2	69.2



#59  
 4-ethyltoluene  
 Concen: 0.20 ppb m  
 RT: 17.03 min Scan# 4425  
 Delta R.T. 0.01 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

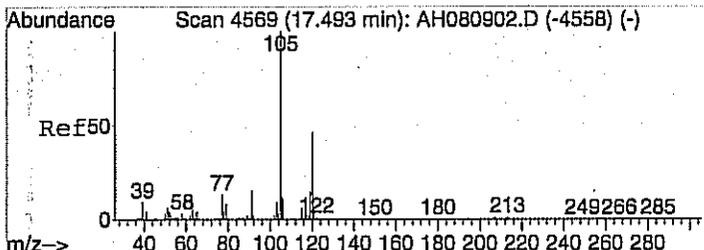
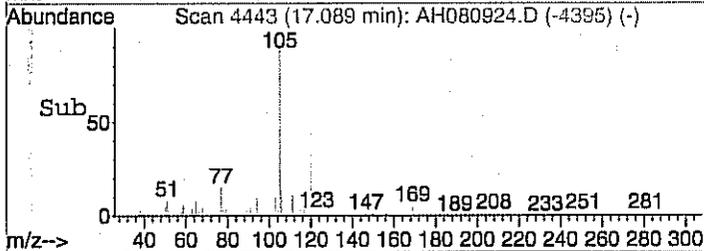
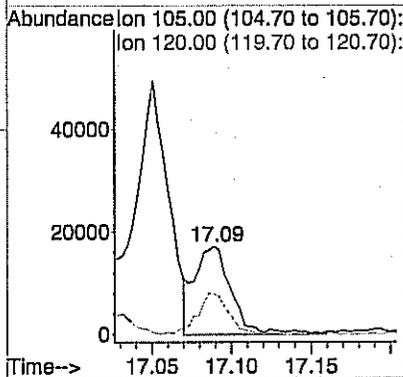
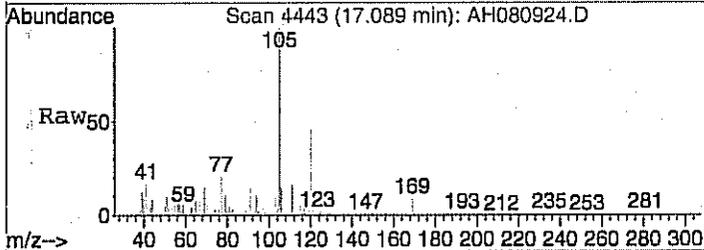
Tgt Ion	Resp	Lower	Upper
105	14720		
120	86.7	10.9	50.9#





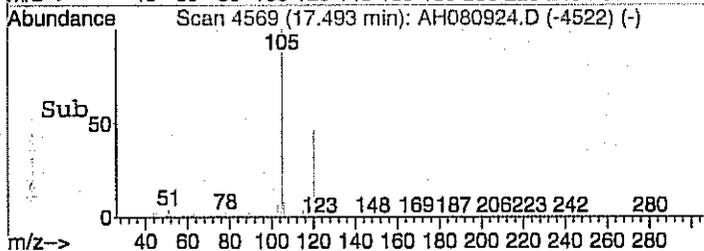
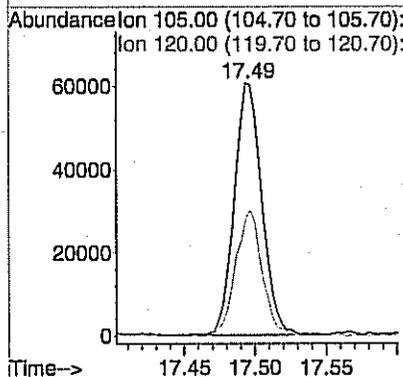
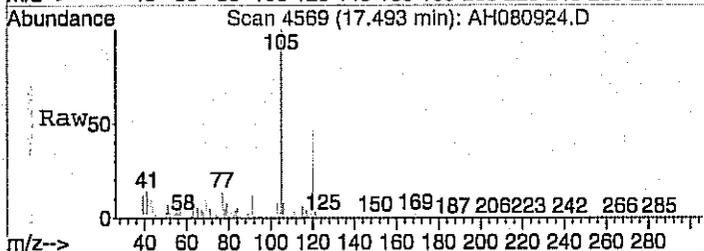
#60  
 1,3,5-trimethylbenzene  
 Concen: 0.43 ppb m  
 RT: 17.09 min Scan# 4443  
 Delta R.T. 0.00 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

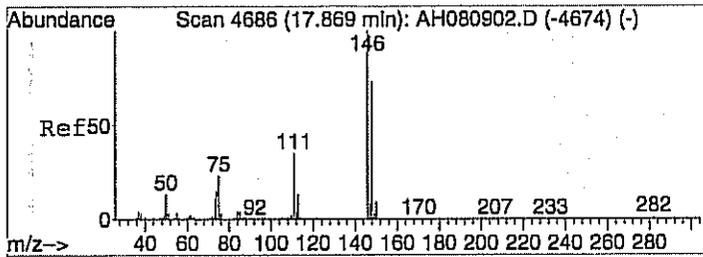
Tgt Ion	Resp	Ion Ratio	Lower	Upper
105	27995	100		
120		43.6	29.5	69.5



#61  
 1,2,4-trimethylbenzene  
 Concen: 1.66 ppb  
 RT: 17.49 min Scan# 4569  
 Delta R.T. 0.00 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

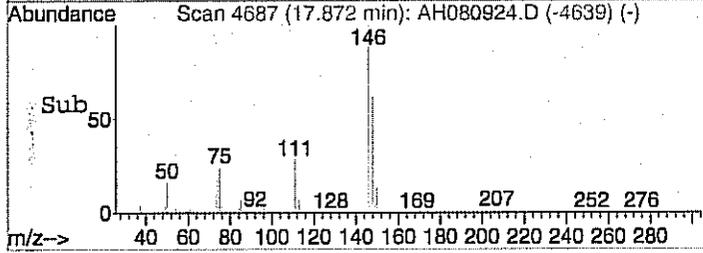
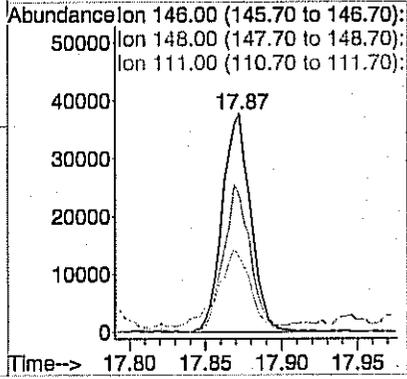
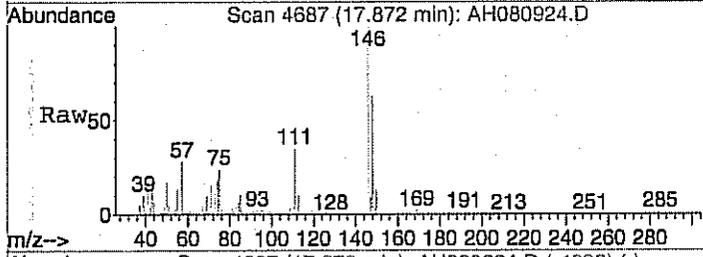
Tgt Ion	Resp	Ion Ratio	Lower	Upper
105	81966	100		
120		47.9	27.4	67.4





#64  
 1,4-dichlorobenzene  
 Concen: 0.82 ppb  
 RT: 17.87 min Scan# 4687  
 Delta R.T. 0.00 min  
 Lab File: AH080924.D  
 Acq: 10 Aug 2010 3:47 am

Tgt Ion	Ratio	Lower	Upper
146	100		
148	63.9	45.1	85.1
111	40.3	14.1	54.1



Data File : C:\HPCHEM\1\DATA\AH080926.D  
 Acq On : 10 Aug 2010 5:03 am  
 Sample : C1008023-001A 10X  
 Misc : C1008023-001A  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 10 05:25:08 2010

Vial: 36  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:34:49 2010  
 Response via : Initial Calibration  
 DataAcq Meth : A612\_1UT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane	7.71	128	21089	1.00	ppb	0.00
30) 1,4-difluorobenzene	10.05	114	54079	1.00	ppb	0.00
44) Chlorobenzene-d5	14.91	117	48300	1.00	ppb	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev (Min)
57) Bromofluorobenzene	16.47	95	21902	1.09	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	109.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
12) Acetone	4.31	58	38010	4.50	ppb	90
13) Isopropyl alcohol	4.41	45	123990	6.24	ppb	95
23) Methyl Ethyl Ketone	6.92	43	9269	0.26	ppb #	49
26) Ethyl acetate	7.50	43	16164	0.66	ppb	89
28) Tetrahydrofuran	8.08	42	2756	0.27	ppb #	26
45) Toluene	12.99	92	46591	1.48	ppb	97

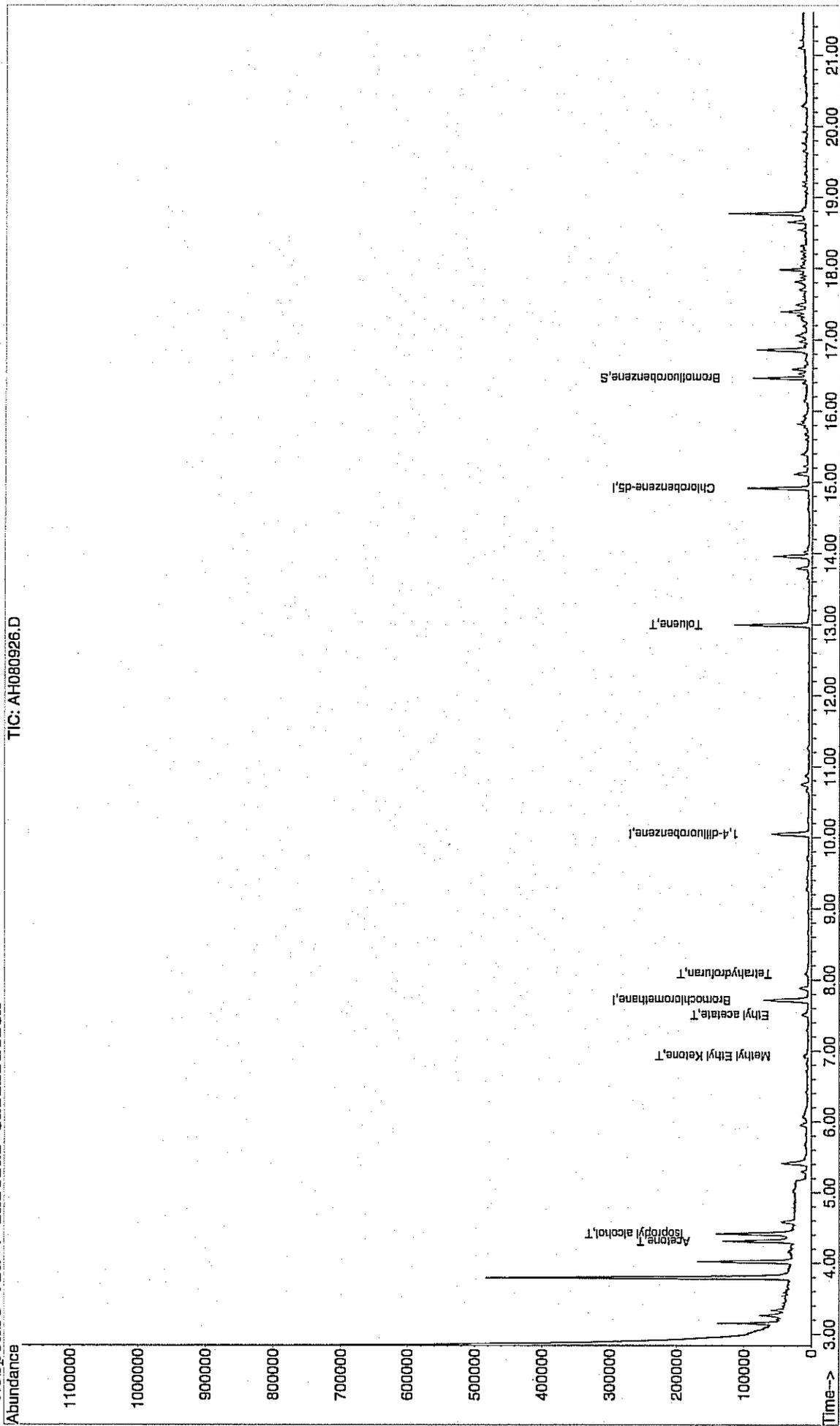
Quantitation Report (QI Reviewed)

Data File : C:\HPCHEM\1\DATA\AH080926.D  
Acq On : 10 Aug 2010 5:03 am  
Sample : C1008023-001A 10X  
Misc : C1008023-001A  
MS Integration Params: RTEINT.P  
Quant Time: Aug 12 13:14 2010

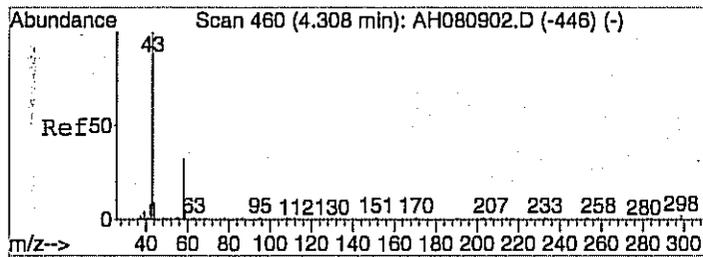
Vial: 36  
Operator: RJP  
Inst : MSD #1  
Multiplr: 1.00

Quant Results File: A612\_1UT.RES

Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
Title : TO-15 VOA Standards for 5 point calibration  
Last Update : Tue Aug 31 08:51:03 2010  
Response via : Initial Calibration

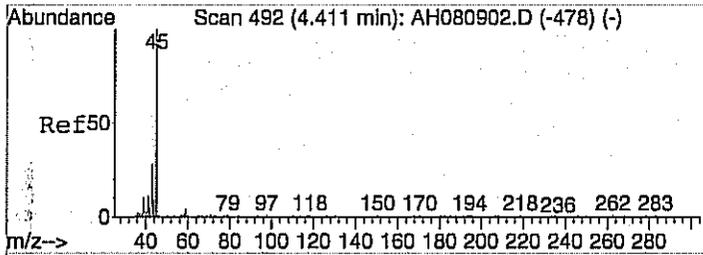
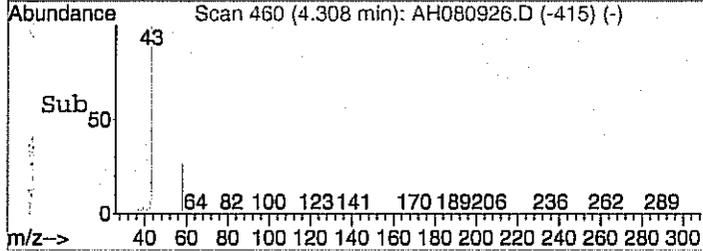
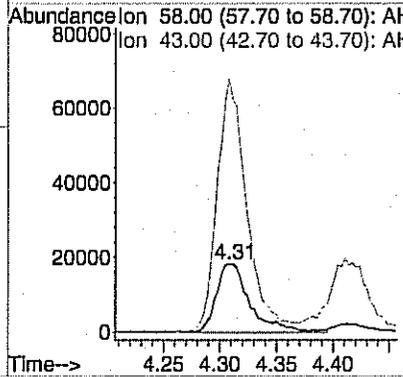
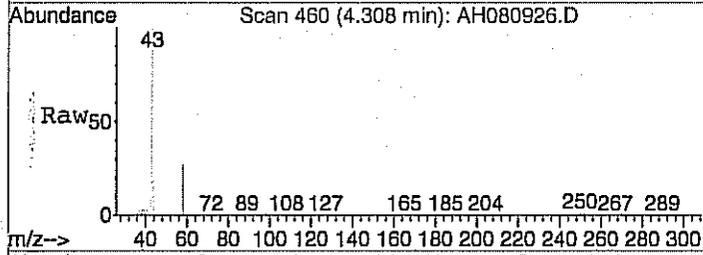


TIC: AH080926.D



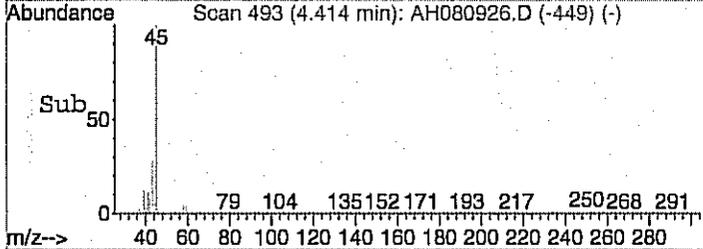
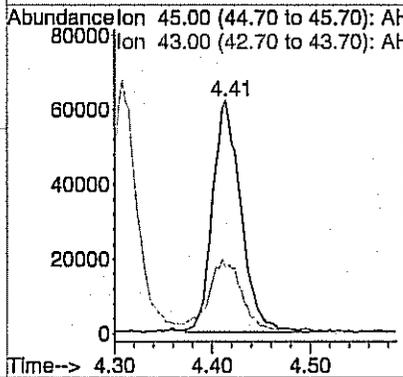
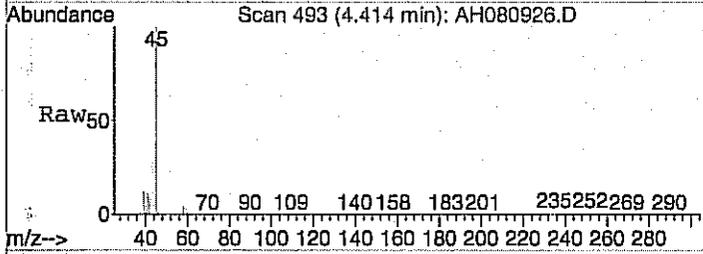
#12  
 Acetone  
 Concen: 4.50 ppb  
 RT: 4.31 min Scan# 460  
 Delta R.T. -0.01 min  
 Lab File: AH080926.D  
 Acq: 10 Aug 2010 5:03 am

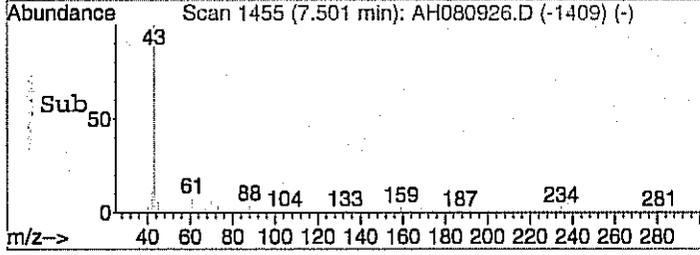
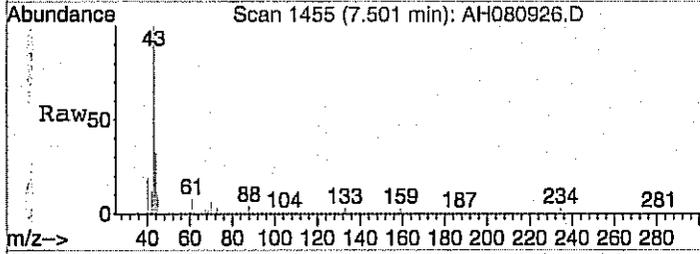
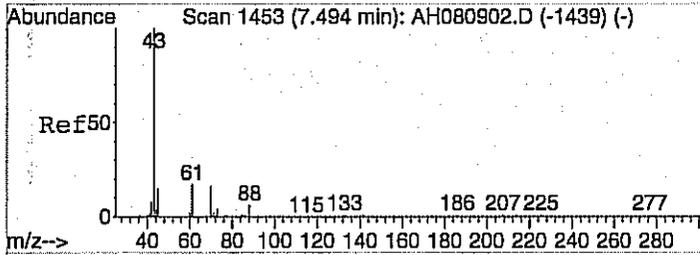
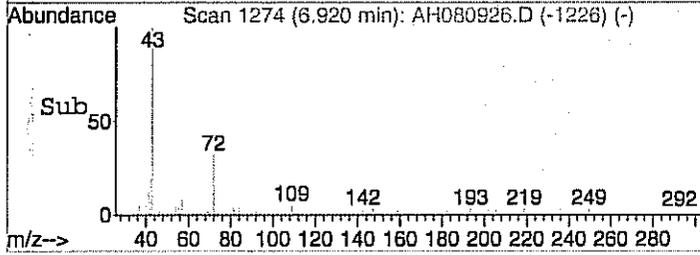
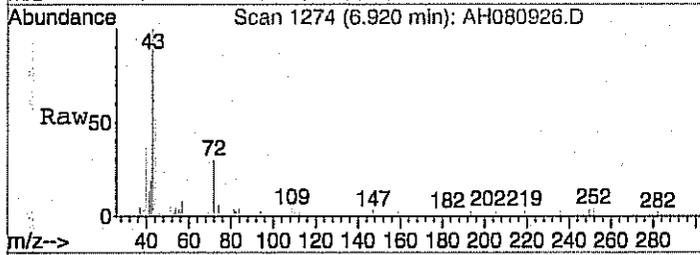
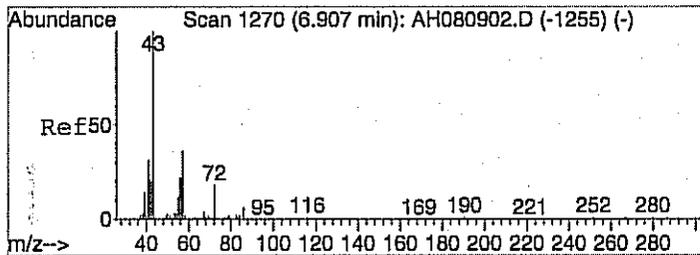
Tgt Ion	Resp	Lower	Upper
58	38010		
58	100		
43	345.9	294.7	354.7



#13  
 Isopropyl alcohol  
 Concen: 6.24 ppb  
 RT: 4.41 min Scan# 493  
 Delta R.T. -0.01 min  
 Lab File: AH080926.D  
 Acq: 10 Aug 2010 5:03 am

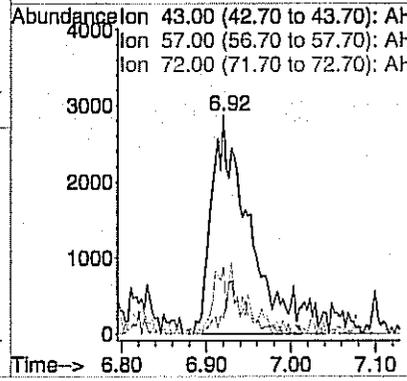
Tgt Ion	Resp	Lower	Upper
45	123990		
45	100		
43	35.6	18.8	58.8





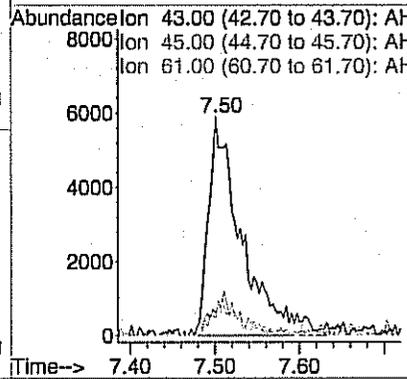
#23  
 Methyl Ethyl Ketone  
 Concen: 0.26 ppb  
 RT: 6.92 min Scan# 1274  
 Delta R.T. 0.00 min  
 Lab File: AH080926.D  
 Acq: 10 Aug 2010 5:03 am

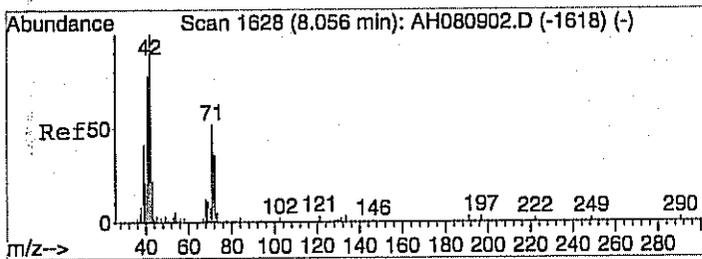
Tgt Ion	Resp	Lower	Upper
43	9269		
57	11.2	40.8	80.8#
72	23.1	0.0	39.7



#26  
 Ethyl acetate  
 Concen: 0.66 ppb  
 RT: 7.50 min Scan# 1455  
 Delta R.T. -0.00 min  
 Lab File: AH080926.D  
 Acq: 10 Aug 2010 5:03 am

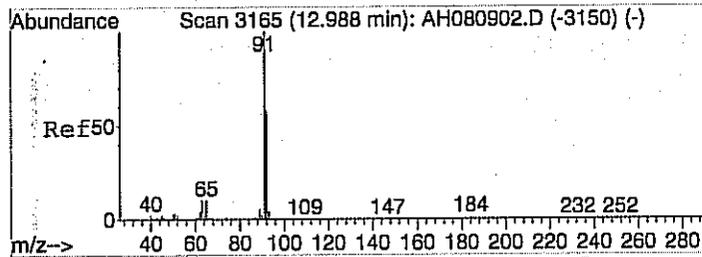
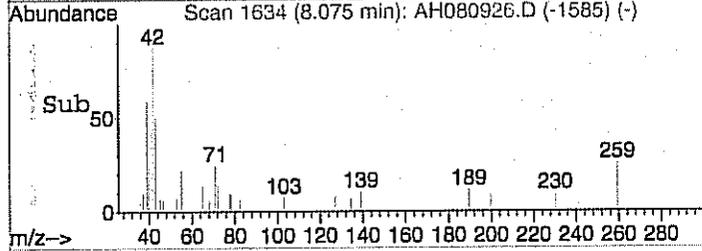
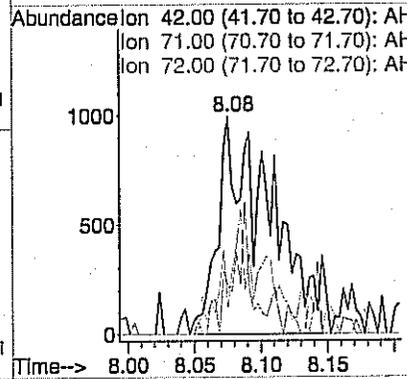
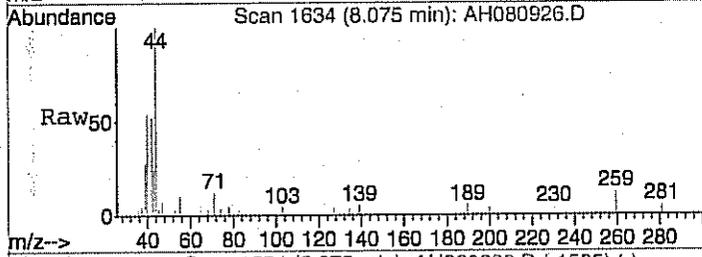
Tgt Ion	Resp	Lower	Upper
43	16164		
45	15.7	0.0	33.8
61	10.9	0.0	37.6





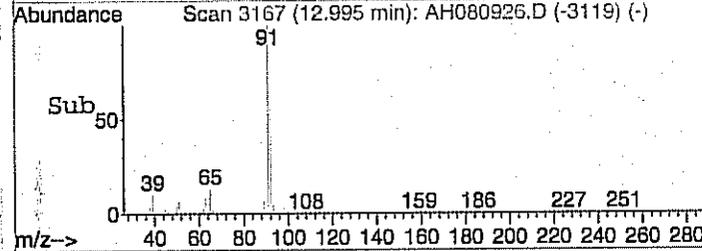
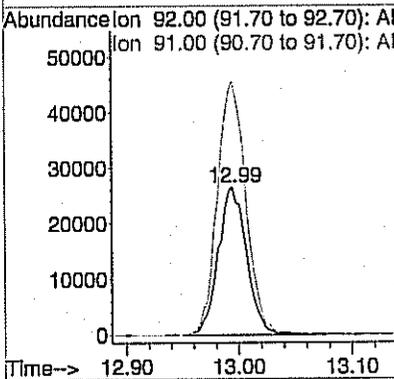
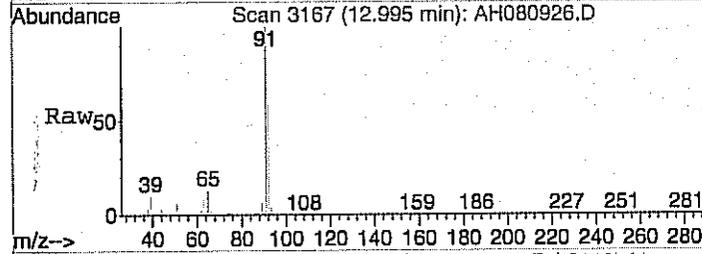
#28  
 Tetrahydrofuran  
 Concen: 0.27 ppb  
 RT: 8.08 min Scan# 1634  
 Delta R.T. 0.01 min  
 Lab File: AH080926.D  
 Acq: 10 Aug 2010 5:03 am

Tgt Ion	Resp	Lower	Upper
42	2756		
42	100		
71	0.0	42.3	82.3#
72	8.3	39.0	79.0#



#45  
 Toluene  
 Concen: 1.48 ppb  
 RT: 12.99 min Scan# 3167  
 Delta R.T. 0.00 min  
 Lab File: AH080926.D  
 Acq: 10 Aug 2010 5:03 am

Tgt Ion	Resp	Lower	Upper
92	46591		
92	100		
91	172.8	148.8	188.8



Data File : C:\HPCHEM\1\DATA\AH080934.D  
 Acq On : 10 Aug 2010 9:56 am  
 Sample : C1008023-001A 40X  
 Misc : C1008023-001A  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 10 10:17:57 2010

Vial: 44  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:34:49 2010  
 Response via : Initial Calibration  
 DataAcq Meth : A612\_1UT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.71	128	20930	1.00	ppb	0.00
30) 1,4-difluorobenzene	10.05	114	49613	1.00	ppb	0.00
44) Chlorobenzene-d5	14.91	117	41459	1.00	ppb	0.00
System Monitoring Compounds						
57) Bromofluorobenzene	16.46	95	15281	0.88	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	88.00%	
Target Compounds						
12) Acetone	4.31	58	14735	1.76	ppb	97
13) Isopropyl alcohol	4.42	45	42680	2.17	ppb	97

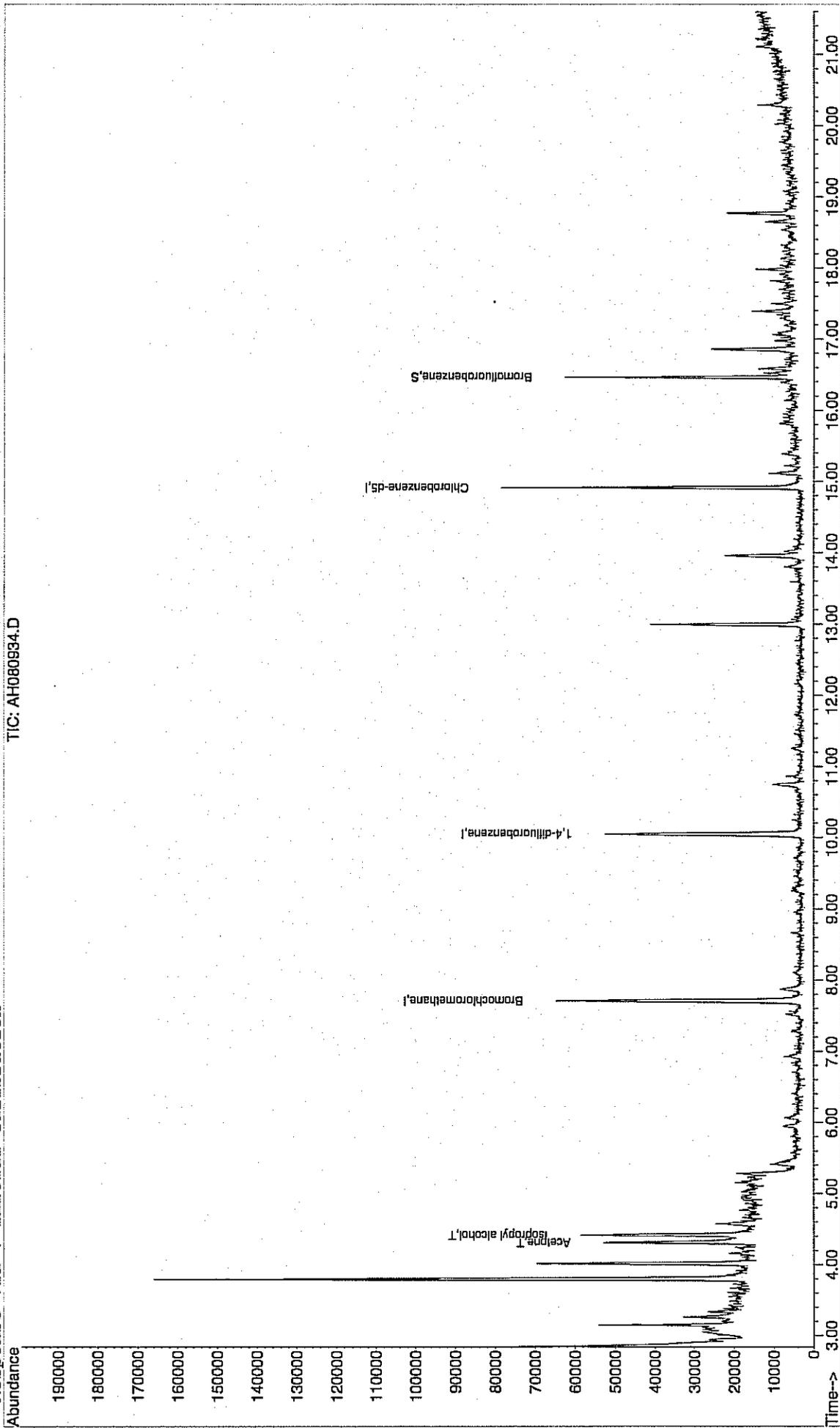
QUALIFICATION REPORT (Q1 Reviewed)

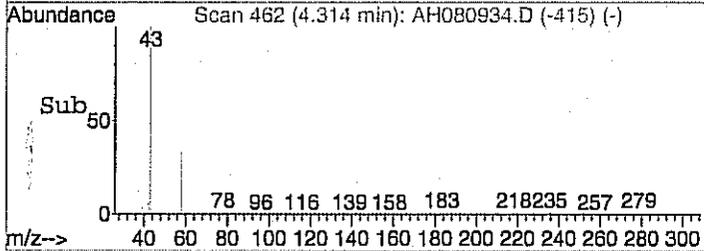
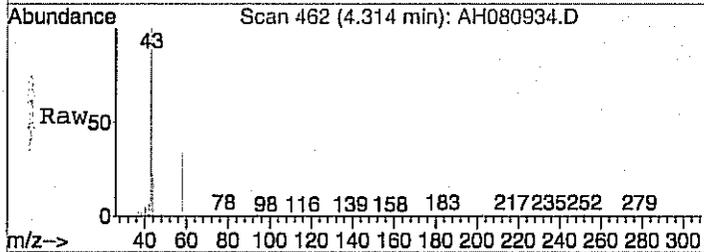
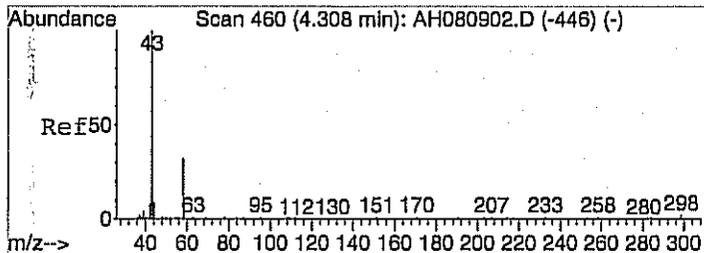
Data File : C:\HPCHEM\1\DATA\AH080934.D  
 Acq On : 10 Aug 2010 9:56 am  
 Sample : C1008023-001A 40X  
 Misc : C1008023-001A  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 12 13:15 2010

Vial: 44  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

Quant Results File: A612\_1UT.RES

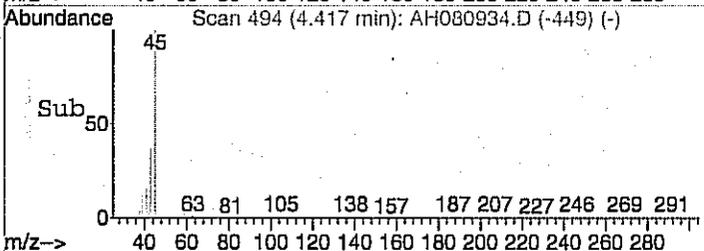
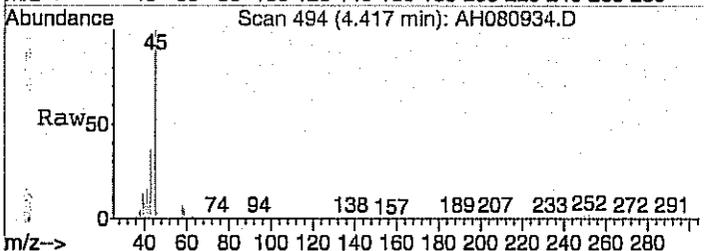
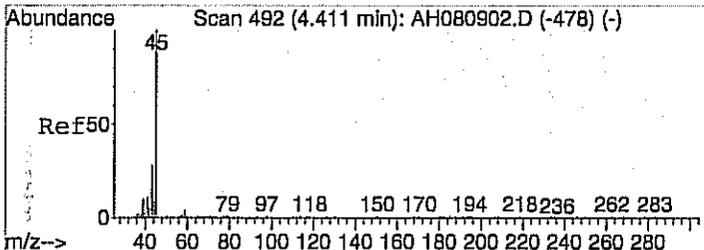
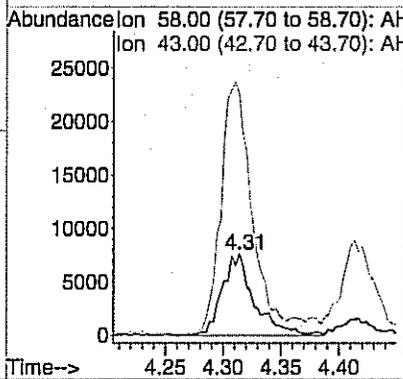
Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Tue Aug 31 08:51:03 2010  
 Response via : Initial Calibration





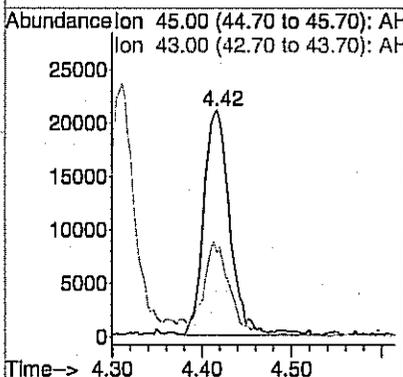
#12  
 Acetone  
 Concen: 1.76 ppb  
 RT: 4.31 min Scan# 462  
 Delta R.T. -0.00 min  
 Lab File: AH080934.D  
 Acq: 10 Aug 2010 9:56 am

Tgt Ion: 58 Resp: 14735  
 Ion Ratio Lower Upper  
 58 100  
 43 331.0 294.7 354.7



#13  
 Isopropyl alcohol  
 Concen: 2.17 ppb  
 RT: 4.42 min Scan# 494  
 Delta R.T. -0.01 min  
 Lab File: AH080934.D  
 Acq: 10 Aug 2010 9:56 am

Tgt Ion: 45 Resp: 42680  
 Ion Ratio Lower Upper  
 45 100  
 43 40.8 18.8 58.8





**Analytical Report**

Date: 31-Aug-10

**CLIENT:** EnviroGroup Limited  
**Lab Order:** C1008023  
**Project:** Capser PCE Orphan Plumes  
**Lab ID:** C1008023-002A

**Client Sample ID:** ESV-52 DUP  
**Tag Number:** 131,404  
**Collection Date:** 7/27/2010  
**Matrix:** AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
<b>FIELD PARAMETERS</b>						
Lab Vacuum In	-2			"Hg		8/9/2010
Lab Vacuum Out	-27			"Hg		8/9/2010
<b>1UG/M3 BY METHOD TO15</b>						
			<b>FLD</b>			<b>Analyst:</b>
						<b>Analyst: RJP</b>
1,1,1-Trichloroethane	0.40	0.15		ppbV	1	8/10/2010 4:25:00 AM
1,1,2,2-Tetrachloroethane	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
1,1,2-Trichloroethane	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
1,1-Dichloroethane	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
1,1-Dichloroethene	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
1,2,4-Trichlorobenzene	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
1,2,4-Trimethylbenzene	2.0	0.15		ppbV	1	8/10/2010 4:25:00 AM
1,2-Dibromoethane	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
1,2-Dichlorobenzene	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
1,2-Dichloroethane	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
1,2-Dichloropropane	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
1,3,5-Trimethylbenzene	0.46	0.15		ppbV	1	8/10/2010 4:25:00 AM
1,3-butadiene	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
1,3-Dichlorobenzene	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
1,4-Dichlorobenzene	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
1,4-Dioxane	< 0.30	0.30		ppbV	1	8/10/2010 4:25:00 AM
2,2,4-trimethylpentane	0.56	0.15		ppbV	1	8/10/2010 4:25:00 AM
4-ethyltoluene	0.36	0.15		ppbV	1	8/10/2010 4:25:00 AM
Acetone	11	3.0		ppbV	10	8/10/2010 5:40:00 AM
Allyl chloride	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Benzene	2.0	1.5		ppbV	10	8/10/2010 5:40:00 AM
Benzyl chloride	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Bromodichloromethane	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Bromoform	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Bromomethane	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Carbon disulfide	0.40	0.15		ppbV	1	8/10/2010 4:25:00 AM
Carbon tetrachloride	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Chlorobenzene	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Chloroethane	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Chloroform	0.61	0.15		ppbV	1	8/10/2010 4:25:00 AM
Chloromethane	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
cis-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
cis-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Cyclohexane	4.5	1.5		ppbV	10	8/10/2010 5:40:00 AM
Dibromochloromethane	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM

**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



**Analytical Report**

Date: 31-Aug-10

**CLIENT:** EnviroGroup Limited  
**Lab Order:** C1008023  
**Project:** Capser PCE Orphan Plumes  
**Lab ID:** C1008023-002A

**Client Sample ID:** ESV-52 DUP  
**Tag Number:** 131,404  
**Collection Date:** 7/27/2010  
**Matrix:** AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
<b>1UG/M3 BY METHOD TO15</b>			<b>TO-15</b>			Analyst: RJP
Ethyl acetate	< 0.25	0.25		ppbV	1	8/10/2010 4:25:00 AM
Ethylbenzene	0.91	0.15		ppbV	1	8/10/2010 4:25:00 AM
Freon 11	0.26	0.15		ppbV	1	8/10/2010 4:25:00 AM
Freon 113	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Freon 114	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Freon 12	0.50	0.15		ppbV	1	8/10/2010 4:25:00 AM
Heptane	1.6	0.15		ppbV	1	8/10/2010 4:25:00 AM
Hexachloro-1,3-butadiene	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Hexane	3.6	1.5		ppbV	10	8/10/2010 5:40:00 AM
Isopropyl alcohol	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
m&p-Xylene	3.0	0.30		ppbV	1	8/10/2010 4:25:00 AM
Methyl Butyl Ketone	< 0.30	0.30		ppbV	1	8/10/2010 4:25:00 AM
Methyl Ethyl Ketone	< 0.30	0.30		ppbV	1	8/10/2010 4:25:00 AM
Methyl Isobutyl Ketone	0.62	0.30		ppbV	1	8/10/2010 4:25:00 AM
Methyl tert-butyl ether	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Methylene chloride	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
o-Xylene	0.94	0.15		ppbV	1	8/10/2010 4:25:00 AM
Propylene	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Styrene	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Tetrachloroethylene	1.7	0.15		ppbV	1	8/10/2010 4:25:00 AM
Tetrahydrofuran	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Toluene	4.8	1.5		ppbV	10	8/10/2010 5:40:00 AM
trans-1,2-Dichloroethene	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
trans-1,3-Dichloropropene	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Trichloroethene	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Vinyl acetate	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Vinyl Bromide	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Vinyl chloride	< 0.15	0.15		ppbV	1	8/10/2010 4:25:00 AM
Surr: Bromofluorobenzene	127	70-130		%REC	1	8/10/2010 4:25:00 AM

**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



## Analytical Report

Date: 31-Aug-10

CLIENT: EnviroGroup Limited  
 Lab Order: C1008023  
 Project: Capser PCE Orphan Plumes  
 Lab ID: C1008023-002A

Client Sample ID: ESV-52 DUP  
 Tag Number: 131,404  
 Collection Date: 7/27/2010  
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
<b>1UG/M3 BY METHOD TO15</b>						
						Analyst: RJP
1,1,1-Trichloroethane	2.2	0.83		ug/m3	1	8/10/2010 4:25:00 AM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		ug/m3	1	8/10/2010 4:25:00 AM
1,1,2-Trichloroethane	< 0.83	0.83		ug/m3	1	8/10/2010 4:25:00 AM
1,1-Dichloroethane	< 0.62	0.62		ug/m3	1	8/10/2010 4:25:00 AM
1,1-Dichloroethene	< 0.60	0.60		ug/m3	1	8/10/2010 4:25:00 AM
1,2,4-Trichlorobenzene	< 1.1	1.1		ug/m3	1	8/10/2010 4:25:00 AM
1,2,4-Trimethylbenzene	9.7	0.75		ug/m3	1	8/10/2010 4:25:00 AM
1,2-Dibromoethane	< 1.2	1.2		ug/m3	1	8/10/2010 4:25:00 AM
1,2-Dichlorobenzene	< 0.92	0.92		ug/m3	1	8/10/2010 4:25:00 AM
1,2-Dichloroethane	< 0.62	0.62		ug/m3	1	8/10/2010 4:25:00 AM
1,2-Dichloropropane	< 0.70	0.70		ug/m3	1	8/10/2010 4:25:00 AM
1,3,5-Trimethylbenzene	2.3	0.75		ug/m3	1	8/10/2010 4:25:00 AM
1,3-butadiene	< 0.34	0.34		ug/m3	1	8/10/2010 4:25:00 AM
1,3-Dichlorobenzene	< 0.92	0.92		ug/m3	1	8/10/2010 4:25:00 AM
1,4-Dichlorobenzene	< 0.92	0.92		ug/m3	1	8/10/2010 4:25:00 AM
1,4-Dioxane	< 1.1	1.1		ug/m3	1	8/10/2010 4:25:00 AM
2,2,4-trimethylpentane	2.7	0.71		ug/m3	1	8/10/2010 4:25:00 AM
4-ethyltoluene	1.8	0.75		ug/m3	1	8/10/2010 4:25:00 AM
Acetone	28	7.2		ug/m3	10	8/10/2010 5:40:00 AM
Allyl chloride	< 0.48	0.48		ug/m3	1	8/10/2010 4:25:00 AM
Benzene	6.5	4.9		ug/m3	10	8/10/2010 5:40:00 AM
Benzyl chloride	< 0.88	0.88		ug/m3	1	8/10/2010 4:25:00 AM
Bromodichloromethane	< 1.0	1.0		ug/m3	1	8/10/2010 4:25:00 AM
Bromoform	< 1.6	1.6		ug/m3	1	8/10/2010 4:25:00 AM
Bromomethane	< 0.59	0.59		ug/m3	1	8/10/2010 4:25:00 AM
Carbon disulfide	1.3	0.47		ug/m3	1	8/10/2010 4:25:00 AM
Carbon tetrachloride	< 0.96	0.96		ug/m3	1	8/10/2010 4:25:00 AM
Chlorobenzene	< 0.70	0.70		ug/m3	1	8/10/2010 4:25:00 AM
Chloroethane	< 0.40	0.40		ug/m3	1	8/10/2010 4:25:00 AM
Chloroform	3.0	0.74		ug/m3	1	8/10/2010 4:25:00 AM
Chloromethane	< 0.31	0.31		ug/m3	1	8/10/2010 4:25:00 AM
cis-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	8/10/2010 4:25:00 AM
cis-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	8/10/2010 4:25:00 AM
Cyclohexane	16	5.2		ug/m3	10	8/10/2010 5:40:00 AM
Dibromochloromethane	< 1.3	1.3		ug/m3	1	8/10/2010 4:25:00 AM
Ethyl acetate	< 0.92	0.92		ug/m3	1	8/10/2010 4:25:00 AM
Ethylbenzene	4.0	0.66		ug/m3	1	8/10/2010 4:25:00 AM
Freon 11	1.5	0.86		ug/m3	1	8/10/2010 4:25:00 AM

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



## Analytical Report

Date: 31-Aug-10

CLIENT: EnviroGroup Limited  
 Lab Order: C1008023  
 Project: Capser PCE Orphan Plumes  
 Lab ID: C1008023-002A

Client Sample ID: ESV-52 DUP  
 Tag Number: 131,404  
 Collection Date: 7/27/2010  
 Matrix: AIR

Analyses	Result	**Limit	Qual	Units	DF	Date Analyzed
<b>1UG/M3 BY METHOD TO15</b>			<b>TO-15</b>			Analyst: RJP
Freon 113	< 1.2	1.2		ug/m3	1	8/10/2010 4:25:00 AM
Freon 114	< 1.1	1.1		ug/m3	1	8/10/2010 4:25:00 AM
Freon 12	2.5	0.75		ug/m3	1	8/10/2010 4:25:00 AM
Heptane	6.6	0.62		ug/m3	1	8/10/2010 4:25:00 AM
Hexachloro-1,3-butadiene	< 1.6	1.6		ug/m3	1	8/10/2010 4:25:00 AM
Hexane	13	5.4		ug/m3	10	8/10/2010 5:40:00 AM
Isopropyl alcohol	< 0.37	0.37		ug/m3	1	8/10/2010 4:25:00 AM
m&p-Xylene	13	1.3		ug/m3	1	8/10/2010 4:25:00 AM
Methyl Butyl Ketone	< 1.2	1.2		ug/m3	1	8/10/2010 4:25:00 AM
Methyl Ethyl Ketone	< 0.90	0.90		ug/m3	1	8/10/2010 4:25:00 AM
Methyl Isobutyl Ketone	2.6	1.2		ug/m3	1	8/10/2010 4:25:00 AM
Methyl tert-butyl ether	< 0.55	0.55		ug/m3	1	8/10/2010 4:25:00 AM
Methylene chloride	< 0.53	0.53		ug/m3	1	8/10/2010 4:25:00 AM
o-Xylene	4.1	0.66		ug/m3	1	8/10/2010 4:25:00 AM
Propylene	< 0.26	0.26		ug/m3	1	8/10/2010 4:25:00 AM
Styrene	< 0.65	0.65		ug/m3	1	8/10/2010 4:25:00 AM
Tetrachloroethylene	12	1.0		ug/m3	1	8/10/2010 4:25:00 AM
Tetrahydrofuran	< 0.45	0.45		ug/m3	1	8/10/2010 4:25:00 AM
Toluene	18	5.7		ug/m3	10	8/10/2010 5:40:00 AM
trans-1,2-Dichloroethene	< 0.60	0.60		ug/m3	1	8/10/2010 4:25:00 AM
trans-1,3-Dichloropropene	< 0.69	0.69		ug/m3	1	8/10/2010 4:25:00 AM
Trichloroethene	< 0.82	0.82		ug/m3	1	8/10/2010 4:25:00 AM
Vinyl acetate	< 0.54	0.54		ug/m3	1	8/10/2010 4:25:00 AM
Vinyl Bromide	< 0.67	0.67		ug/m3	1	8/10/2010 4:25:00 AM
Vinyl chloride	< 0.39	0.39		ug/m3	1	8/10/2010 4:25:00 AM

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

Data File : C:\HPCHEM\1\DATA\AH080925.D  
 Acq On : 10 Aug 2010 4:25 am  
 Sample : C1008023-002A  
 Misc : C1008023-002A  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 10 04:47:26 2010

Vial: 35  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:34:49 2010  
 Response via : Initial Calibration  
 DataAcq Meth : A612\_1UT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.72	128	24219	1.00	ppb	0.00
30) 1,4-difluorobenzene	10.05	114	79293	1.00	ppb	0.00
44) Chlorobenzene-d5	14.92	117	70934	1.00	ppb	0.00

System Monitoring Compounds  
 57) Bromofluorobenzene 16.46 95 37791 1.27 ppb 0.00  
 Spiked Amount 1.000 Range 70 - 130 Recovery = 127.00%

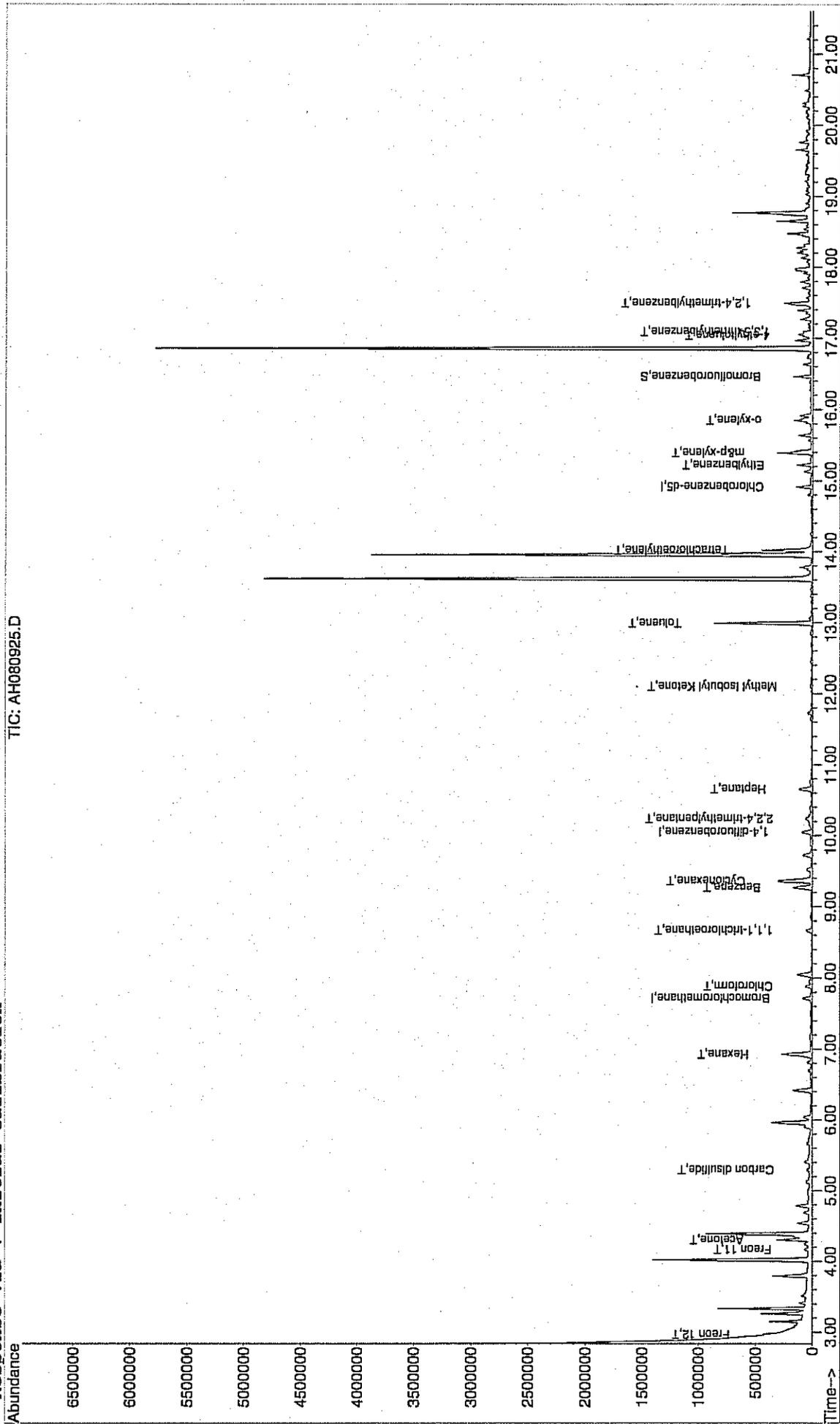
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
3) Freon 12	2.97	85	55917	0.50	ppb	98
11) Freon 11	4.17	101	27304	0.26	ppb	98
12) Acetone	4.30	58	94009m <sup>N</sup>	9.68	ppb	
18) Carbon disulfide	5.29	76	31758	0.40	ppb	96
25) Hexane	6.93	41	111008	5.53	ppb	# 58
27) Chloroform	7.88	83	44646	0.61	ppb	91
31) 1,1,1-trichloroethane	8.67	97	35653	0.40	ppb	99
32) Cyclohexane	9.36	56	154916	6.05	ppb	# 18
34) Benzene	9.27	78	172012	2.22	ppb	96
36) 2,2,4-trimethylpentane	10.23	57	41139	0.56	ppb	# 39
37) Heptane	10.66	43	38089	1.58	ppb	# 84
45) Toluene	12.99	92	359621	7.76	ppb	98
46) Methyl Isobutyl Ketone	12.10	43	14917	0.62	ppb	88
50) Tetrachloroethylene	14.02	164	95510	1.73	ppb	100
52) Ethylbenzene	15.22	91	75470	0.91	ppb	99
53) m&p-xylene	15.39	91	218259	3.05	ppb	97
56) o-xylene	15.85	91	74728	0.94	ppb	98
59) 4-ethyltoluene	17.03	105	26698m	0.36	ppb	
60) 1,3,5-trimethylbenzene	17.09	105	31080m	0.46	ppb	
61) 1,2,4-trimethylbenzene	17.50	105	99597	1.95	ppb	96

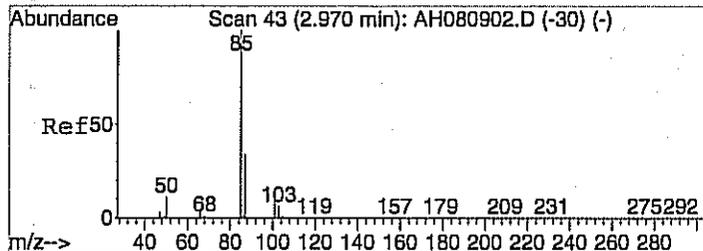
Data File : C:\HPCHEM\1\DATA\AH080925.D  
 Acq On : 10 Aug 2010 4:25 am  
 Sample : C1008023-002A  
 Misc : C1008023-002A  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 12 10:48 2010

Vial: 35  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

Quant Results File: A612\_1UT.RES

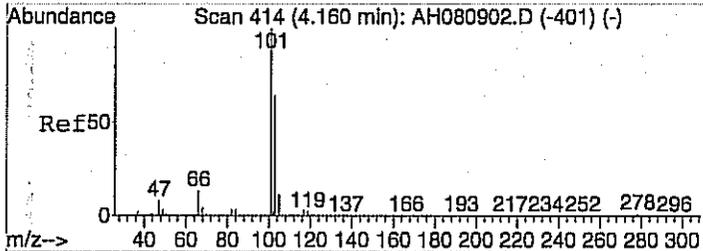
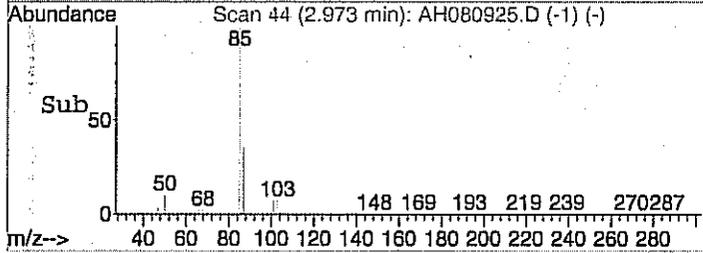
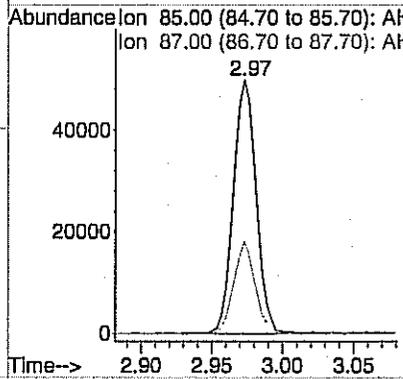
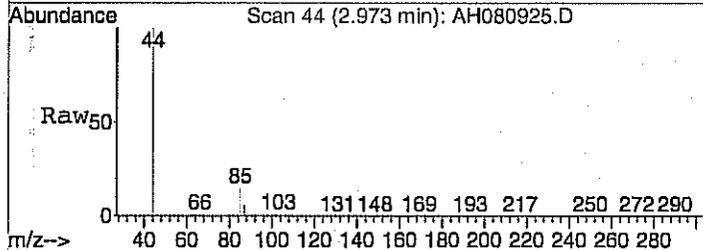
Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Tue Aug 31 08:51:03 2010  
 Response via : Initial Calibration





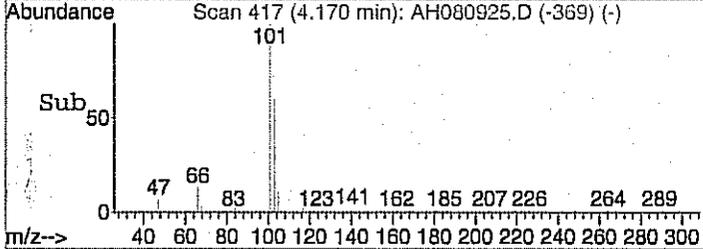
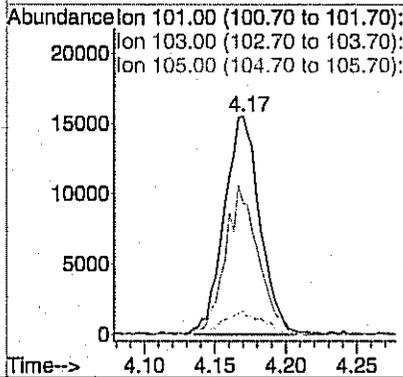
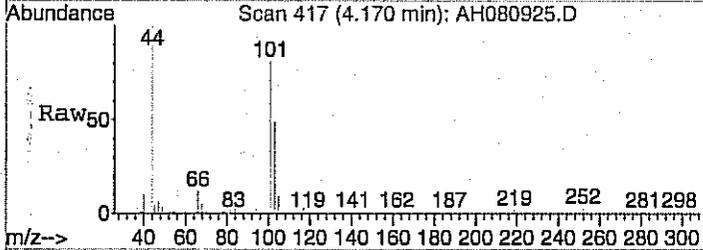
#3  
 Freon 12  
 Concen: 0.50 ppb  
 RT: 2.97 min Scan# 44  
 Delta R.T. -0.00 min  
 Lab File: AH080925.D  
 Acq: 10 Aug 2010 4:25 am

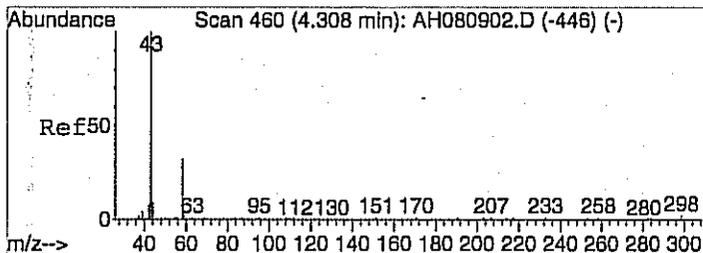
Tgt Ion: 85 Resp: 55917  
 Ion Ratio Lower Upper  
 85 100  
 87 33.8 12.7 52.7



#11  
 Freon 11  
 Concen: 0.26 ppb  
 RT: 4.17 min Scan# 417  
 Delta R.T. 0.00 min  
 Lab File: AH080925.D  
 Acq: 10 Aug 2010 4:25 am

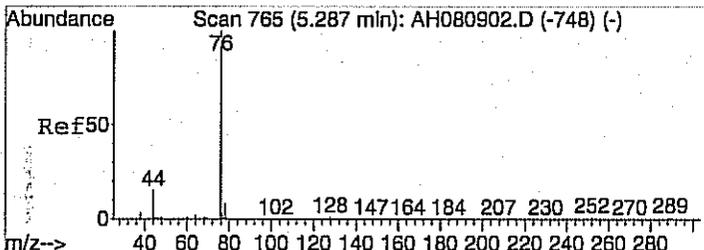
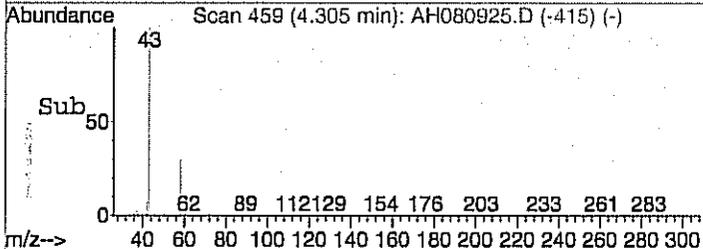
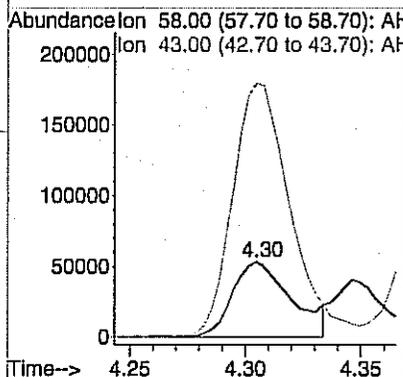
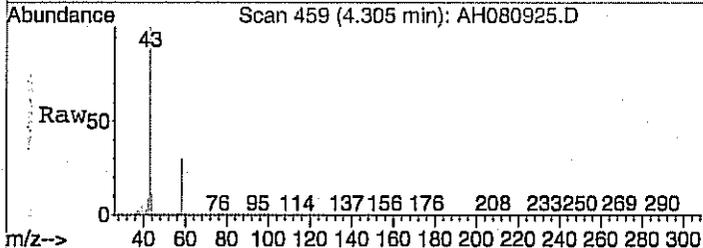
Tgt Ion: 101 Resp: 27304  
 Ion Ratio Lower Upper  
 101 100  
 103 62.7 44.7 84.7  
 105 11.3 0.0 30.6





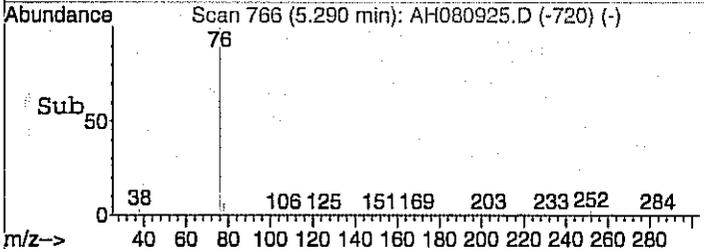
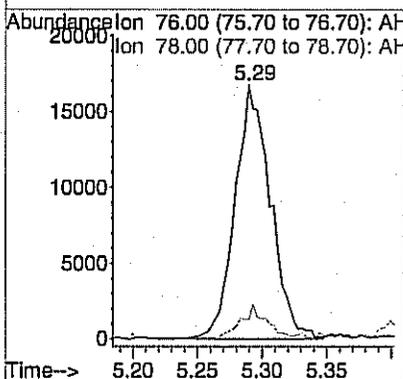
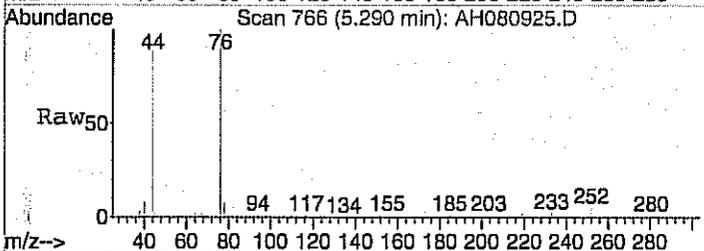
#12  
 Acetone  
 Concen: 9.68 ppb m  
 RT: 4.30 min Scan# 459  
 Delta R.T. -0.01 min  
 Lab File: AH080925.D  
 Acq: 10 Aug 2010 4:25 am

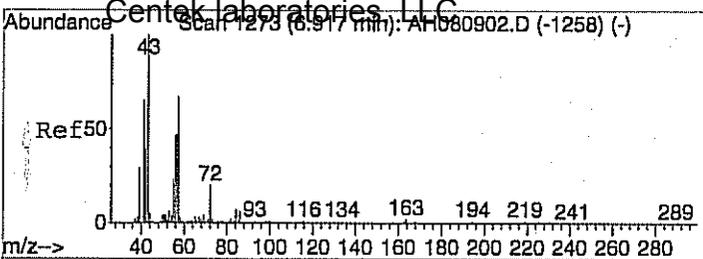
Tgt Ion: 58 Resp: 94009  
 Ion Ratio Lower Upper  
 58 100  
 43 331.0 294.7 354.7



#18  
 Carbon disulfide  
 Concen: 0.40 ppb  
 RT: 5.29 min Scan# 766  
 Delta R.T. -0.00 min  
 Lab File: AH080925.D  
 Acq: 10 Aug 2010 4:25 am

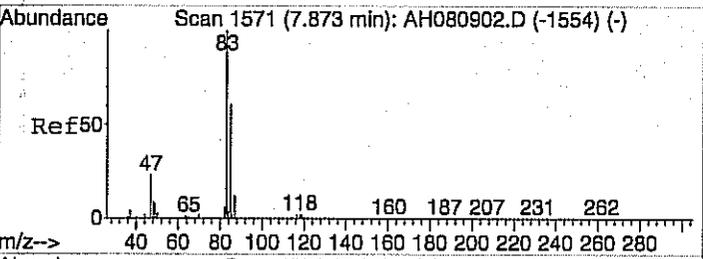
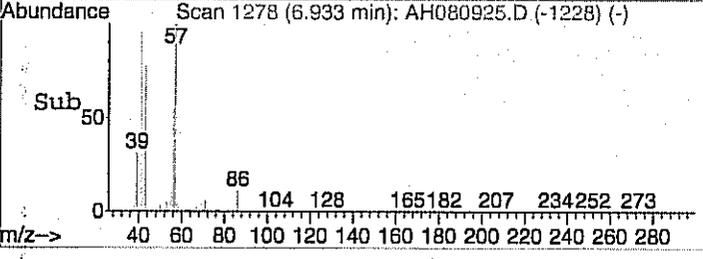
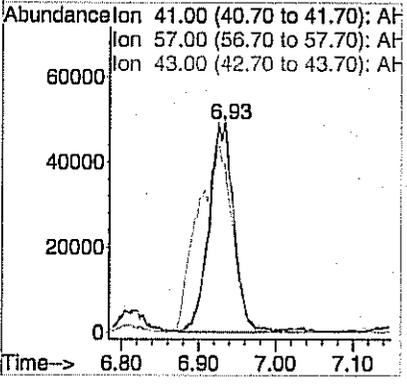
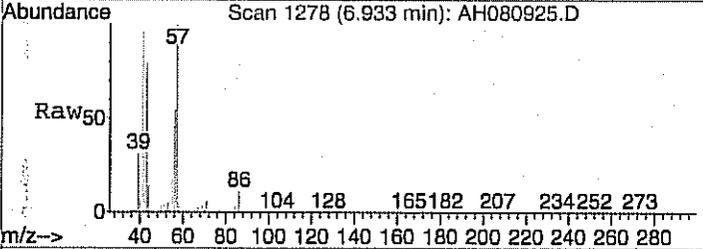
Tgt Ion: 76 Resp: 31758  
 Ion Ratio Lower Upper  
 76 100  
 78 10.5 0.0 29.1





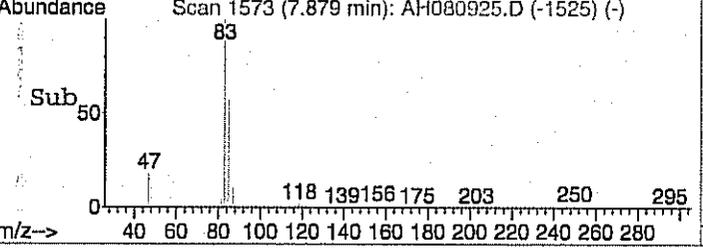
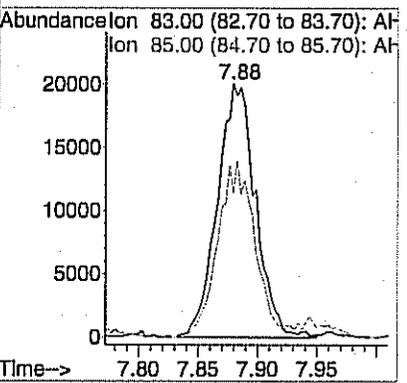
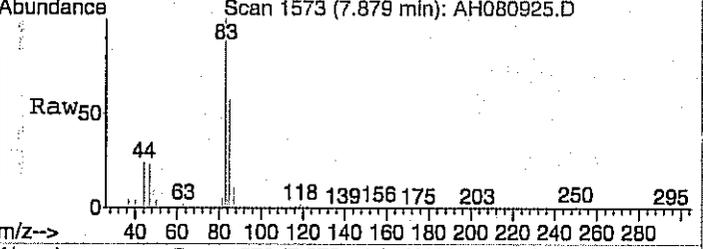
#25  
 Hexane  
 Concen: 5.53 ppb  
 RT: 6.93 min Scan# 1278  
 Delta R.T. 0.01 min  
 Lab File: AH080925.D  
 Acq: 10 Aug 2010 4:25 am

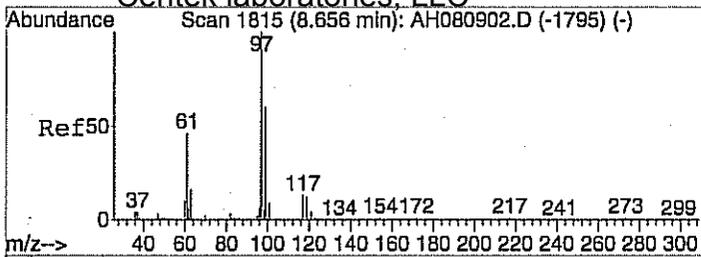
Tgt Ion	Resp	Lower	Upper
41	111008		
57	102.6	107.1	147.1#
43	123.8	190.1	230.1#



#27  
 Chloroform  
 Concen: 0.61 ppb  
 RT: 7.88 min Scan# 1573  
 Delta R.T. 0.00 min  
 Lab File: AH080925.D  
 Acq: 10 Aug 2010 4:25 am

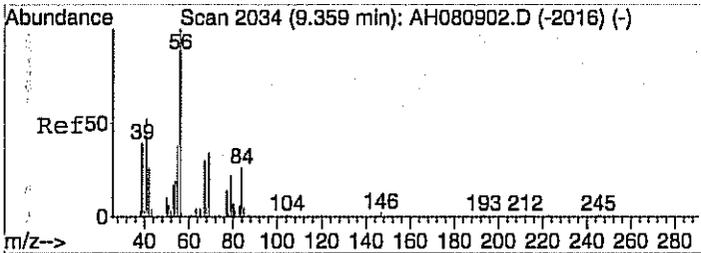
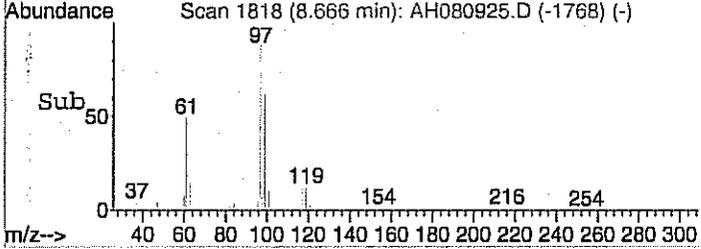
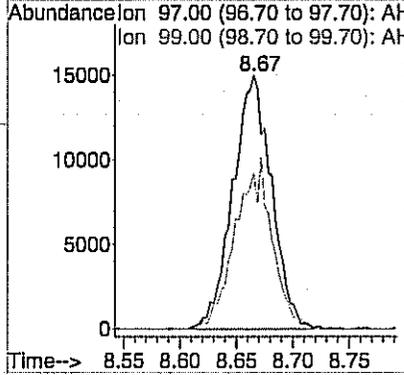
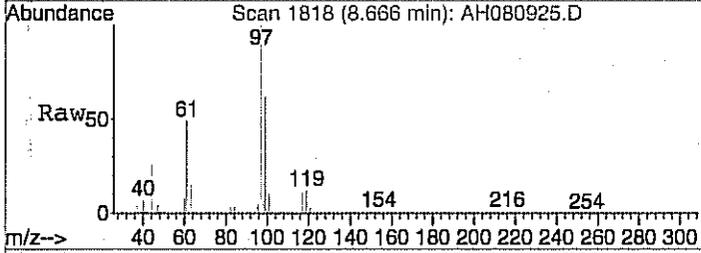
Tgt Ion	Resp	Lower	Upper
83	44646		
85	73.2	45.9	85.9





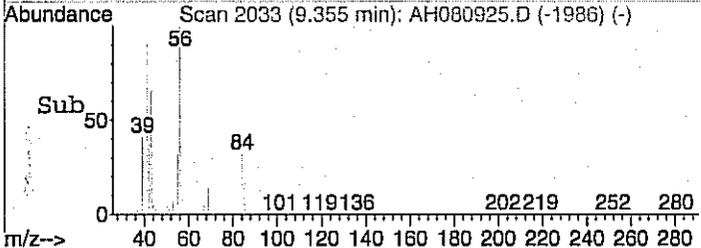
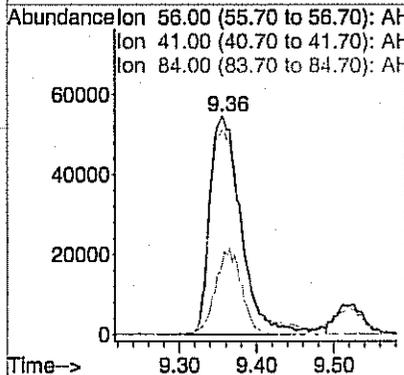
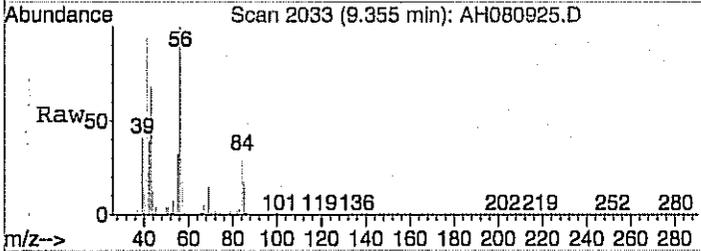
#31  
 1,1,1-trichloroethane  
 Concen: 0.40 ppb  
 RT: 8.67 min Scan# 1818  
 Delta R.T. 0.01 min  
 Lab File: AH080925.D  
 Acq: 10 Aug 2010 4:25 am

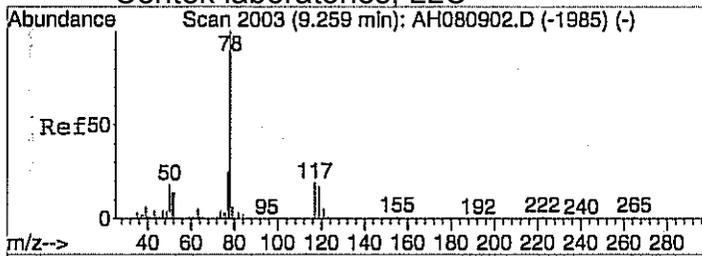
Tgt Ion	Resp	Lower	Upper
97	35653		
97	100		
99	63.6	44.0	84.0



#32  
 Cyclohexane  
 Concen: 6.05 ppb  
 RT: 9.36 min Scan# 2033  
 Delta R.T. -0.00 min  
 Lab File: AH080925.D  
 Acq: 10 Aug 2010 4:25 am

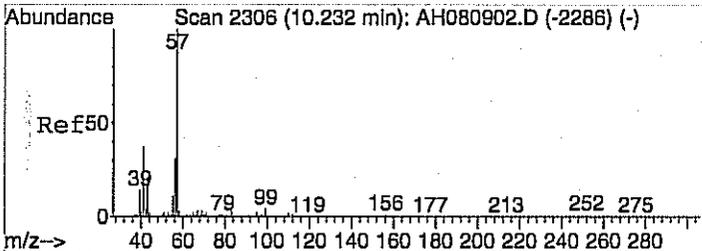
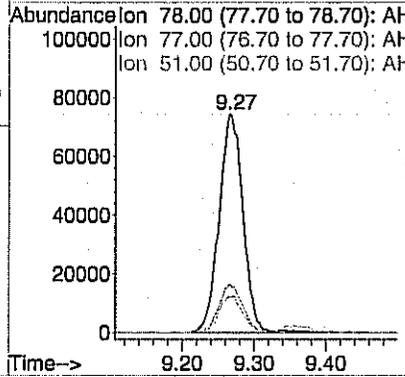
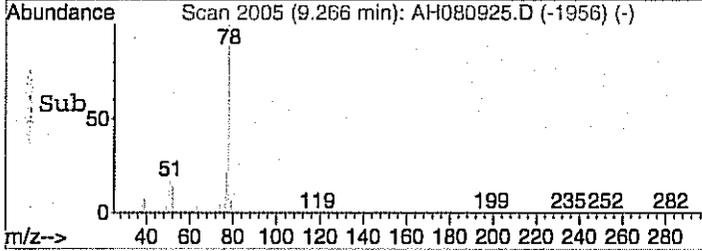
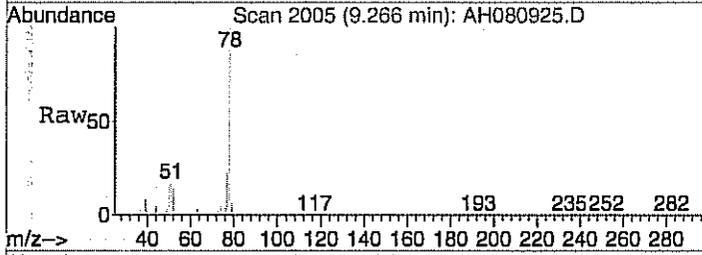
Tgt Ion	Resp	Lower	Upper
56	154916		
56	100		
41	98.9	40.2	80.2#
84	32.5	134.6	174.6#





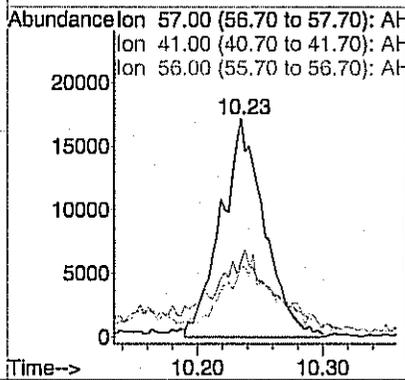
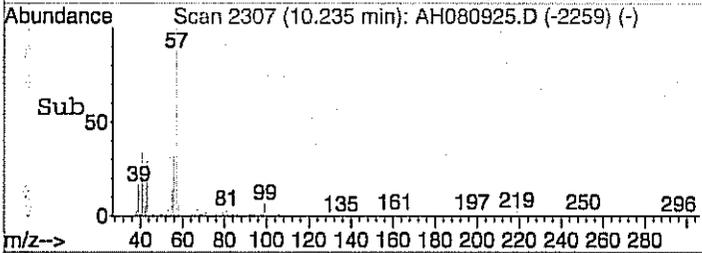
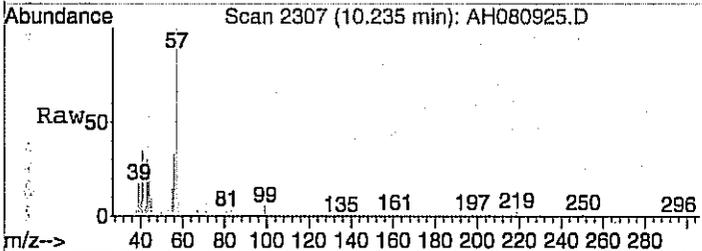
#34  
Benzene  
Concen: 2.22 ppb  
RT: 9.27 min Scan# 2005  
Delta R.T. 0.01 min  
Lab File: AH080925.D  
Acq: 10 Aug 2010 4:25 am

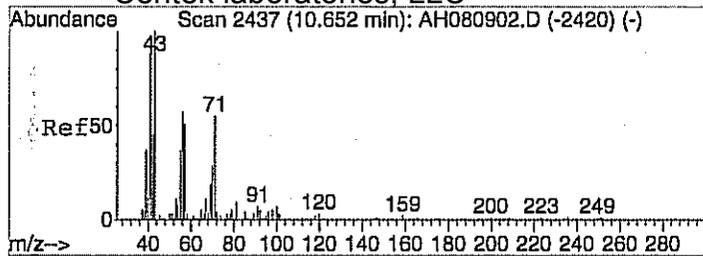
Tgt Ion	Resp	Lower	Upper
78	172012		
78	100		
77	23.8	2.6	42.6
51	17.1	0.0	34.0



#36  
2,2,4-trimethylpentane  
Concen: 0.56 ppb  
RT: 10.23 min Scan# 2307  
Delta R.T. 0.00 min  
Lab File: AH080925.D  
Acq: 10 Aug 2010 4:25 am

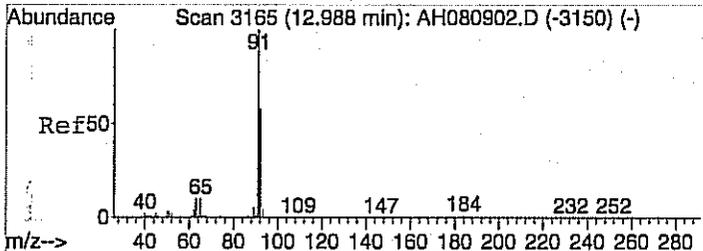
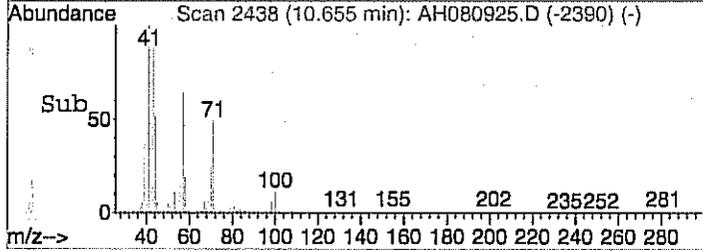
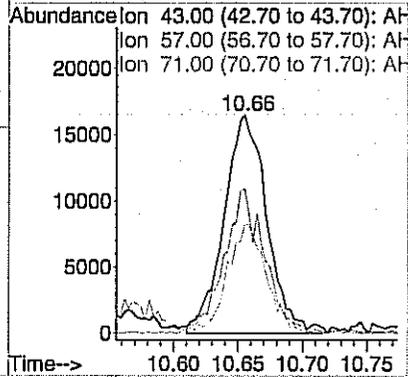
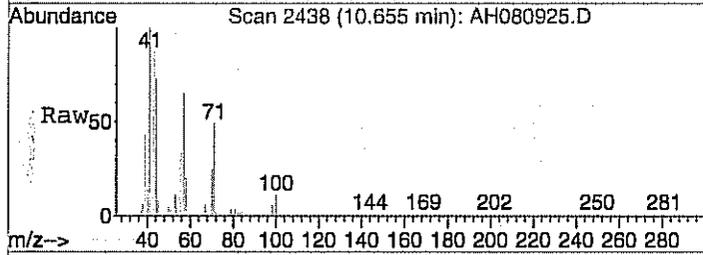
Tgt Ion	Resp	Lower	Upper
57	41139		
57	100		
41	69.2	12.0	52.0#
56	63.8	12.7	52.7#





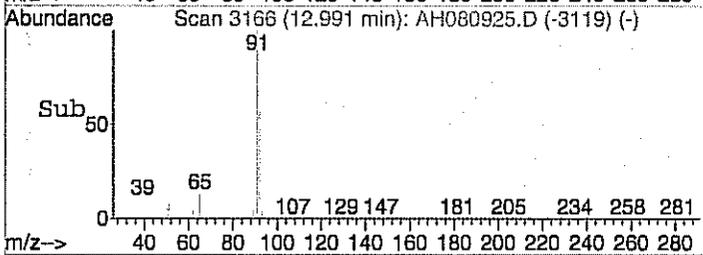
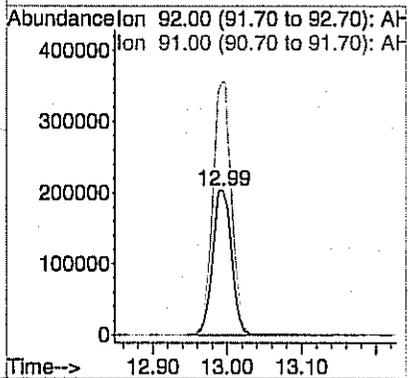
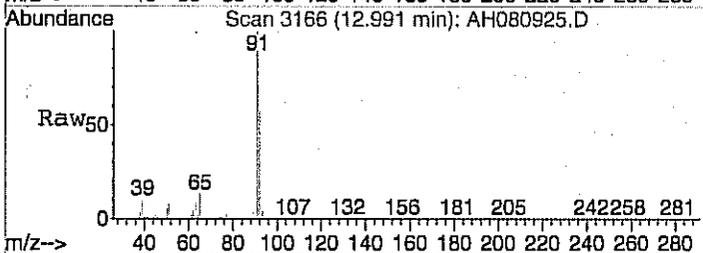
#37  
 Heptane  
 Concen: 1.58 ppb  
 RT: 10.66 min Scan# 2438  
 Delta R.T. 0.00 min  
 Lab File: AH080925.D  
 Acq: 10 Aug 2010 4:25 am

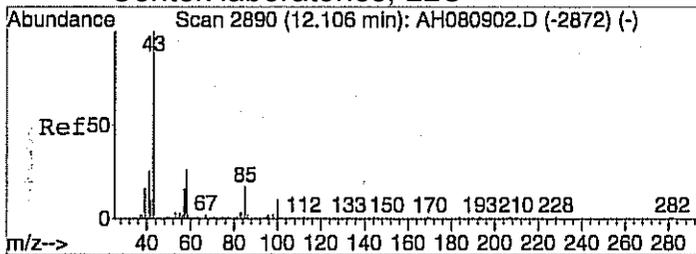
Tgt Ion:	43	57	71	Resp:	38089	Lower	Upper
Ion Ratio	100	60.8	46.0				
		38.8	48.9				
		78.8	88.9#				



#45  
 Toluene  
 Concen: 7.76 ppb  
 RT: 12.99 min Scan# 3166  
 Delta R.T. -0.00 min  
 Lab File: AH080925.D  
 Acq: 10 Aug 2010 4:25 am

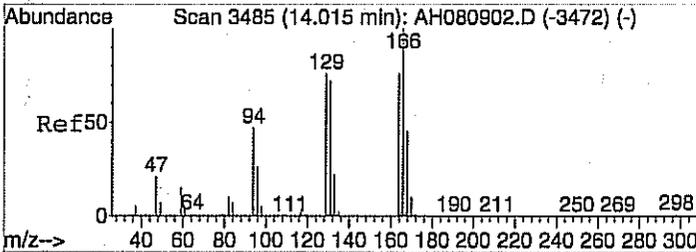
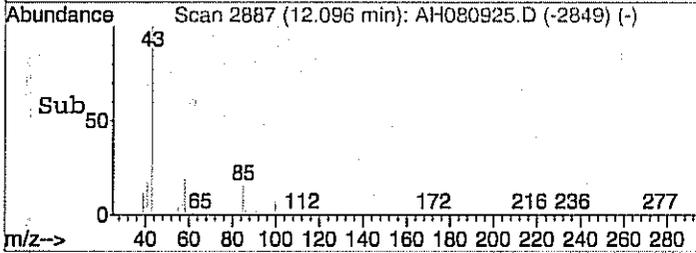
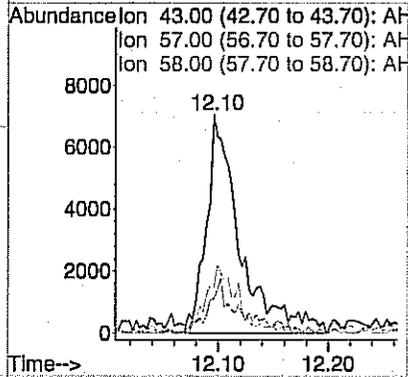
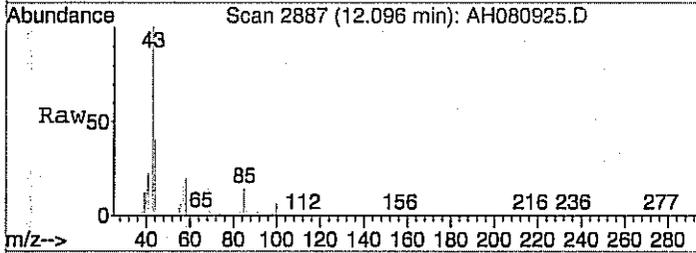
Tgt Ion:	92	91	Resp:	359621	Lower	Upper
Ion Ratio	100	171.8				
		148.8				
		188.8				





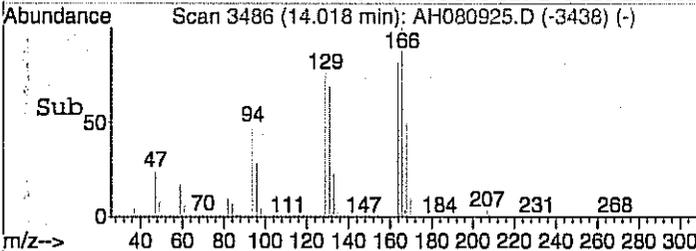
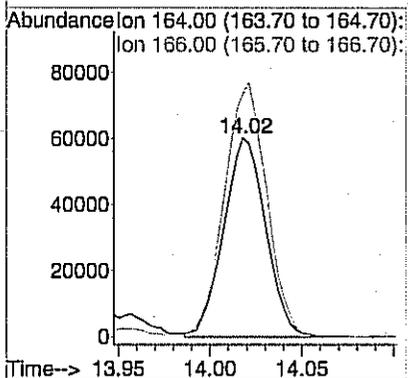
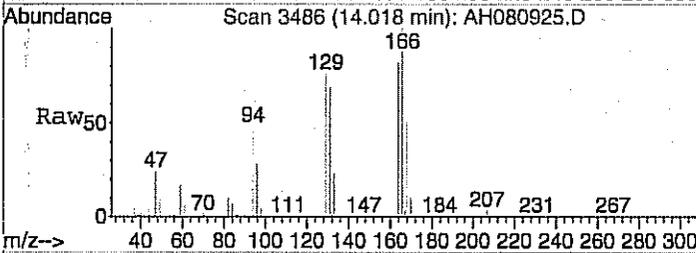
#46  
 Methyl Isobutyl Ketone  
 Concen: 0.62 ppb  
 RT: 12.10 min Scan# 2887  
 Delta R.T. -0.03 min  
 Lab File: AH080925.D  
 Acq: 10 Aug 2010 4:25 am

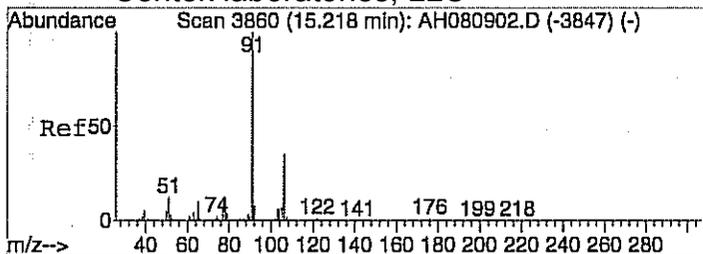
Tgt Ion	Resp	Lower	Upper
43	14917		
57	22.9	4.7	44.7
58	29.6	19.9	59.9



#50  
 Tetrachloroethylene  
 Concen: 1.73 ppb  
 RT: 14.02 min Scan# 3486  
 Delta R.T. 0.00 min  
 Lab File: AH080925.D  
 Acq: 10 Aug 2010 4:25 am

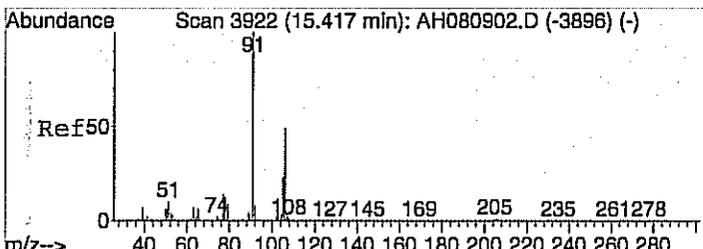
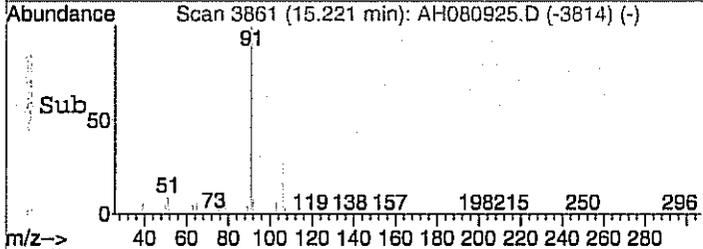
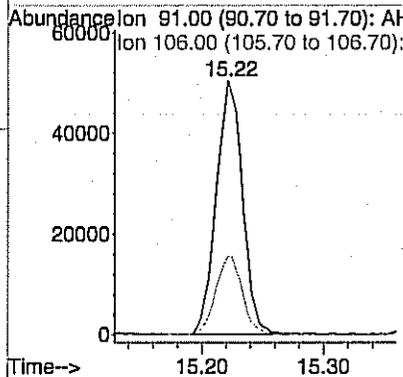
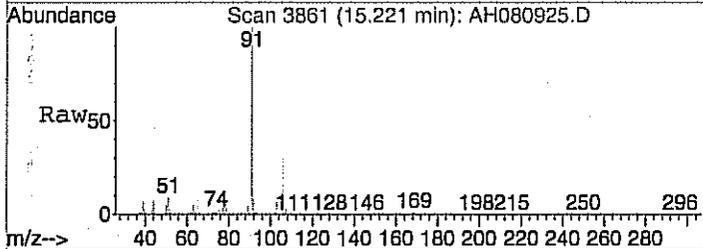
Tgt Ion	Resp	Lower	Upper
164	95510		
166	129.5	109.2	149.2





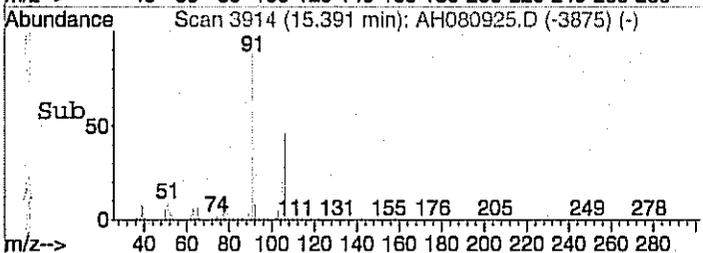
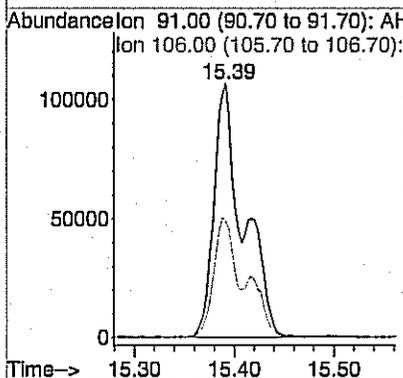
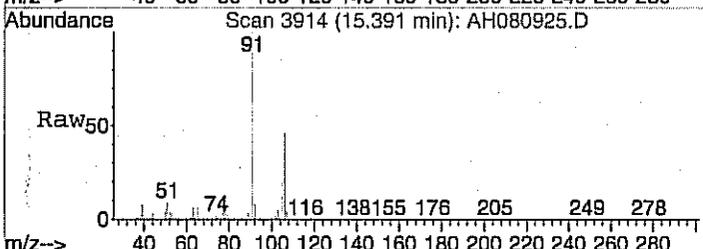
#52  
 Ethylbenzene  
 Concen: 0.91 ppb  
 RT: 15.22 min Scan# 3861  
 Delta R.T. -0.00 min  
 Lab File: AH080925.D  
 Acq: 10 Aug 2010 4:25 am

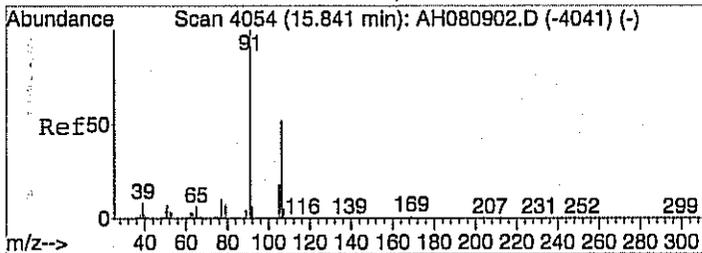
Tgt Ion	Resp	Lower	Upper
91	75470		
106	31.7	12.2	52.2



#53  
 m&p-xylene  
 Concen: 3.05 ppb  
 RT: 15.39 min Scan# 3914  
 Delta R.T. -0.03 min  
 Lab File: AH080925.D  
 Acq: 10 Aug 2010 4:25 am

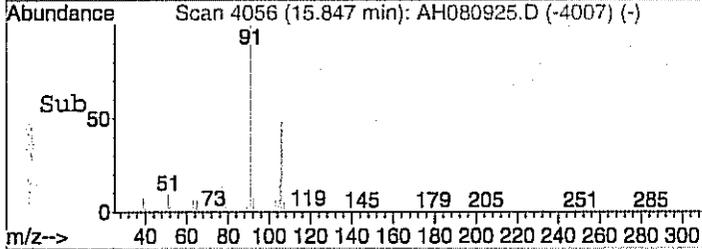
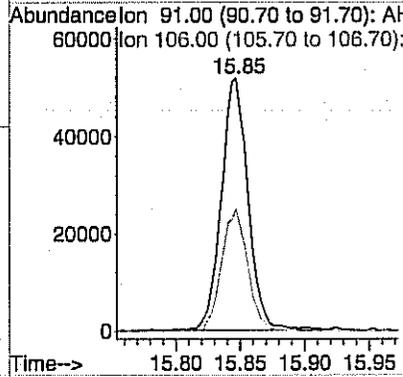
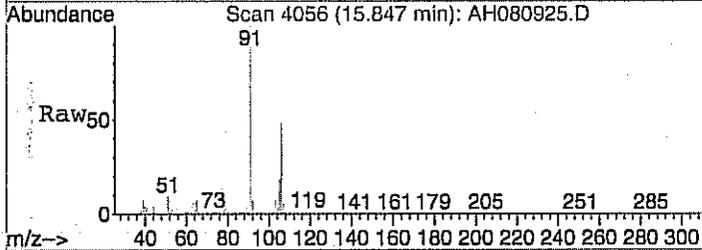
Tgt Ion	Resp	Lower	Upper
91	218259		
106	49.2	31.1	71.1





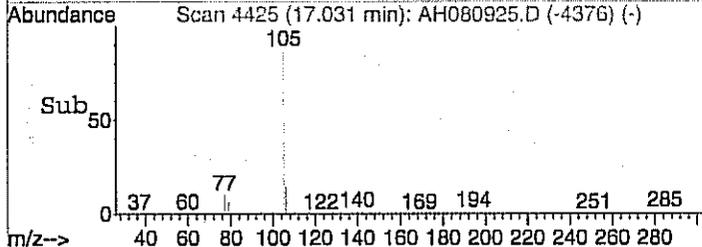
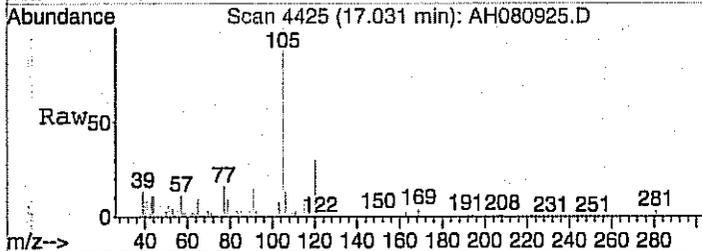
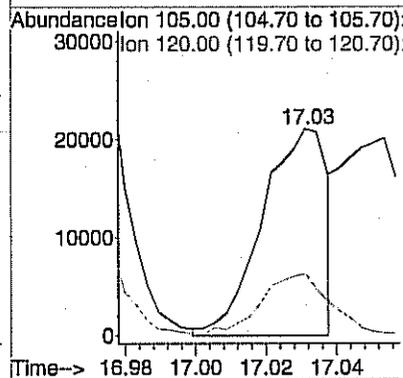
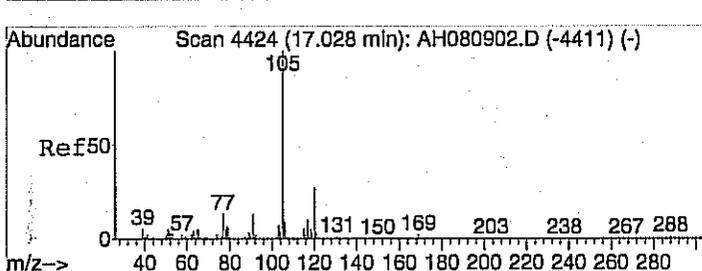
#56  
 o-xylene  
 Concen: 0.94 ppb  
 RT: 15.85 min Scan# 4056  
 Delta R.T. 0.01 min  
 Lab File: AH080925.D  
 Acq: 10 Aug 2010 4:25 am

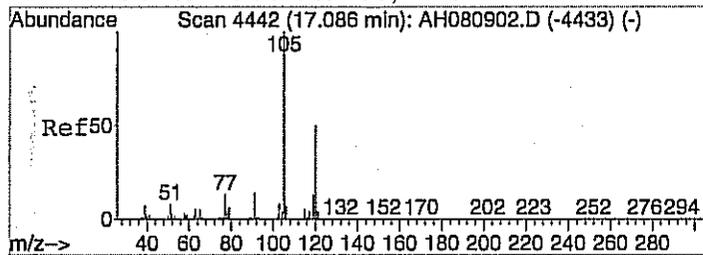
Tgt Ion	Ratio	Lower	Upper
91	100		
106	47.5	29.2	69.2



#59  
 4-ethyltoluene  
 Concen: 0.36 ppb m  
 RT: 17.03 min Scan# 4425  
 Delta R.T. 0.01 min  
 Lab File: AH080925.D  
 Acq: 10 Aug 2010 4:25 am

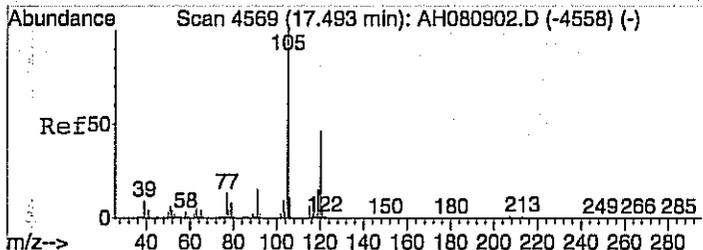
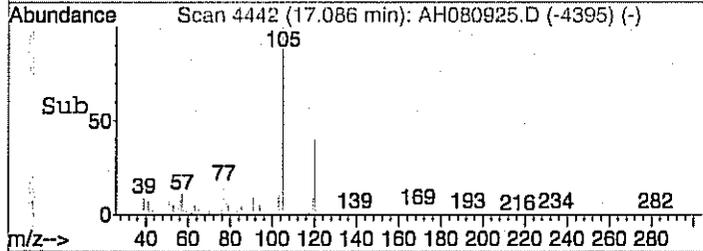
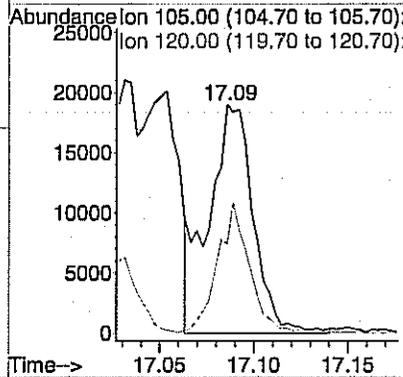
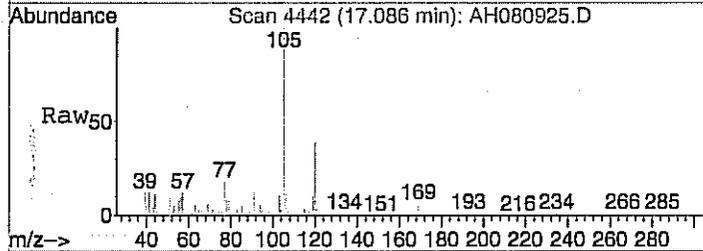
Tgt Ion	Ratio	Lower	Upper
105	100		
120	68.0	10.9	50.9#





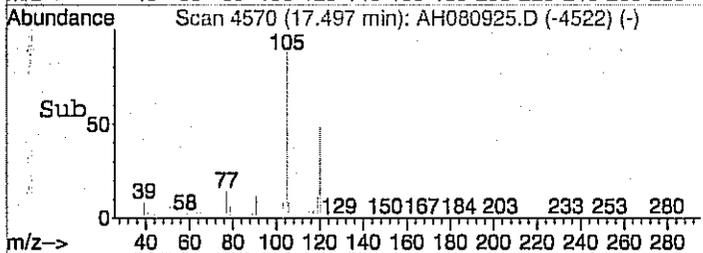
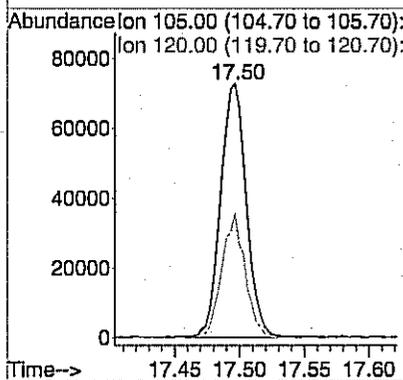
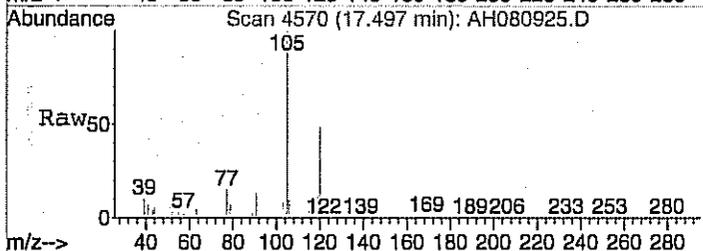
#60  
 1,3,5-trimethylbenzene  
 Concen: 0.46 ppb m  
 RT: 17.09 min Scan# 4442  
 Delta R.T. -0.00 min  
 Lab File: AH080925.D  
 Acq: 10 Aug 2010 4:25 am

Tgt Ion	Resp	Lower	Upper
105	31080	100	100
120	54.0	29.5	69.5



#61  
 1,2,4-trimethylbenzene  
 Concen: 1.95 ppb  
 RT: 17.50 min Scan# 4570  
 Delta R.T. 0.00 min  
 Lab File: AH080925.D  
 Acq: 10 Aug 2010 4:25 am

Tgt Ion	Resp	Lower	Upper
105	99597	100	100
120	44.5	27.4	67.4



Data File : C:\HPCHEM\1\DATA\AH080927.D  
 Acq On : 10 Aug 2010 5:40 am  
 Sample : C1008023-002A 10X  
 Misc : C1008023-002A  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 10 06:02:31 2010

Vial: 37  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:34:49 2010  
 Response via : Initial Calibration  
 DataAcq Meth : A612\_1UT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.72	128	22651	1.00	ppb	0.00
30) 1,4-difluorobenzene	10.05	114	62318	1.00	ppb	0.00
44) Chlorobenzene-d5	14.91	117	52486	1.00	ppb	0.00

System Monitoring Compounds

57) Bromofluorobenzene	16.46	95	22565	1.03	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	103.00%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
12) Acetone	4.32	58	10356m <sup>10</sup>	1.14	ppb	
25) Hexane	6.93	41	6854	0.36	ppb	# 59
32) Cyclohexane	9.38	56	9137	0.45	ppb	# 15
34) Benzene	9.27	78	12011	0.20	ppb	93
45) Toluene	12.99	92	16602	0.48	ppb	89

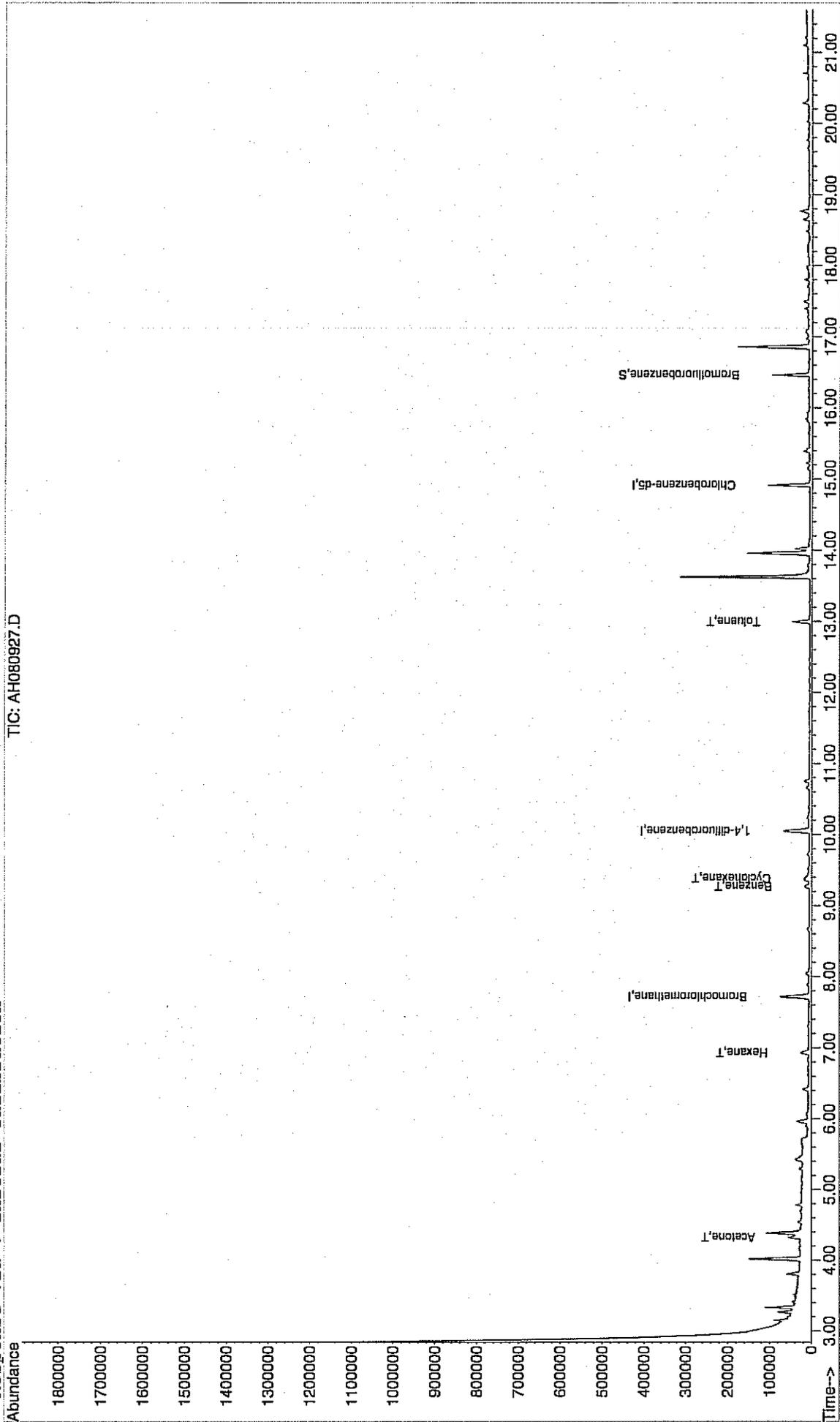
Quantitation report (not reviewed)

Data File : C:\HPCHEM\1\DATA\AH080927.D  
 Acq On : 10 Aug 2010 5:40 am  
 Sample : C1008023-002A 10X  
 Misc : C1008023-002A  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 12 13:16 2010

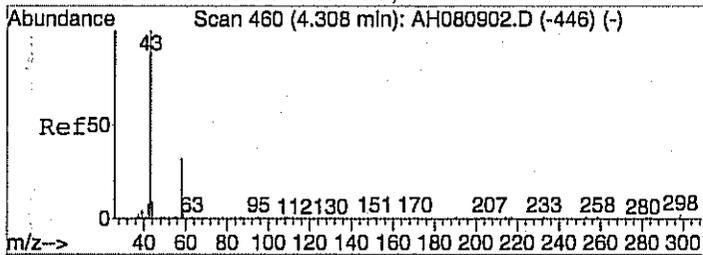
Vial: 37  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

Quant Results File: A612\_1UT.RES

Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Tue Aug 31 08:51:03 2010  
 Response via : Initial Calibration

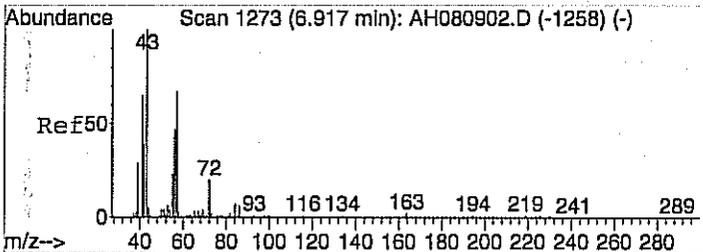
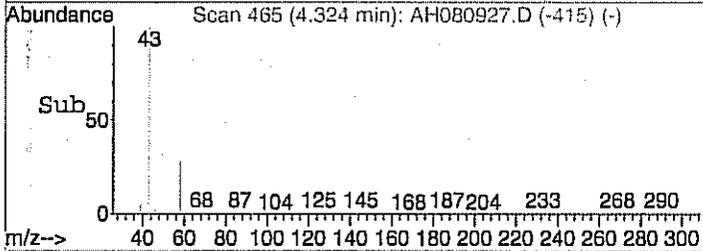
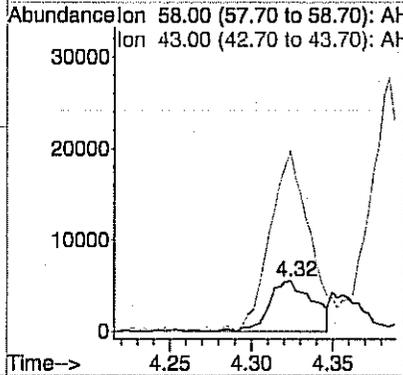
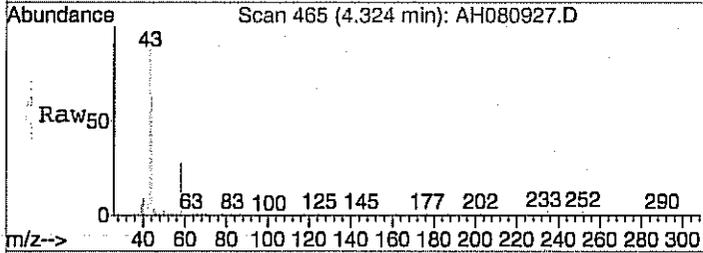


TIC: AH080927.D



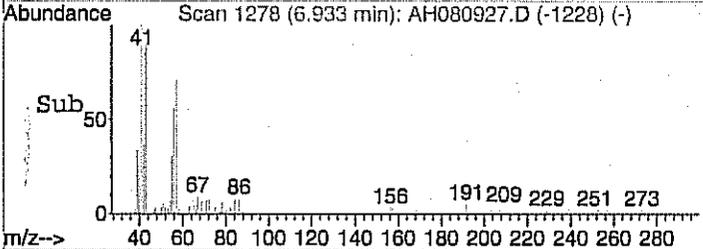
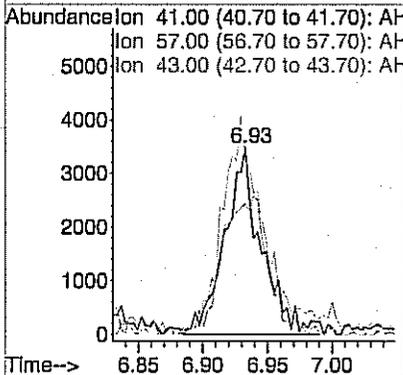
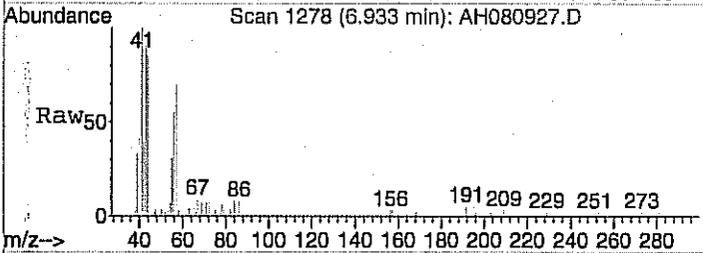
#12  
 Acetone  
 Concen: 1.14 ppb m  
 RT: 4.32 min Scan# 465  
 Delta R.T. 0.01 min  
 Lab File: AH080927.D  
 Acq: 10 Aug 2010 5:40 am

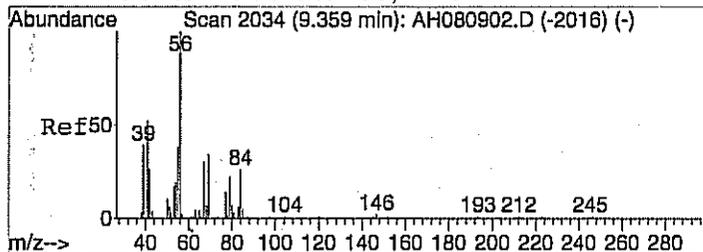
Tgt Ion: 58 Resp: 10356  
 Ion Ratio Lower Upper  
 58 100  
 43 337.1 294.7 354.7



#25  
 Hexane  
 Concen: 0.36 ppb  
 RT: 6.93 min Scan# 1278  
 Delta R.T. 0.01 min  
 Lab File: AH080927.D  
 Acq: 10 Aug 2010 5:40 am

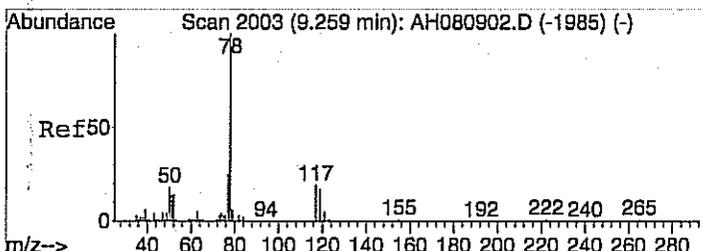
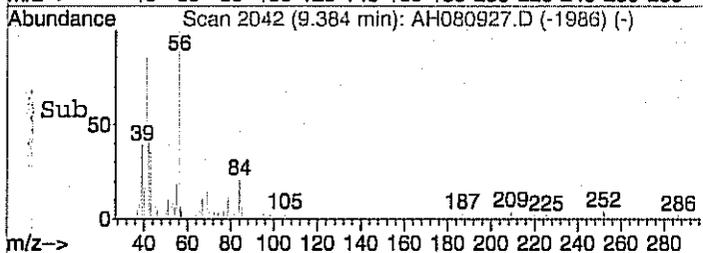
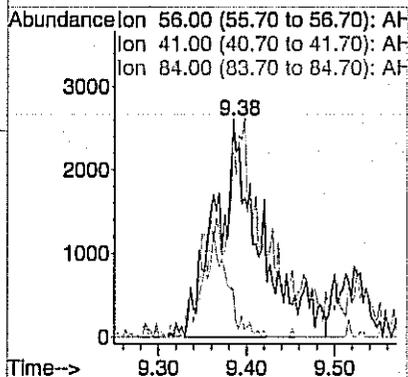
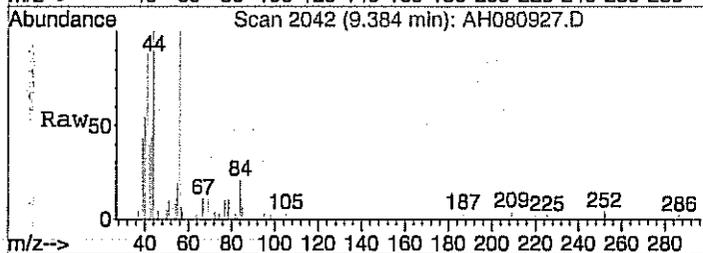
Tgt Ion: 41 Resp: 6854  
 Ion Ratio Lower Upper  
 41 100  
 57 89.7 107.1 147.1#  
 43 136.8 190.1 230.1#





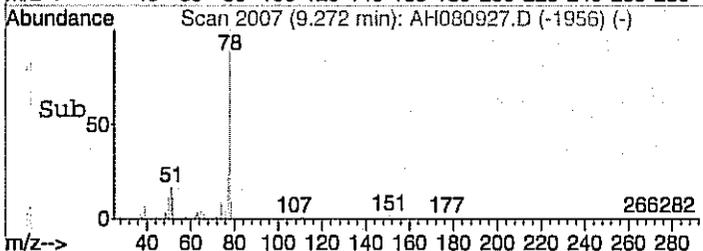
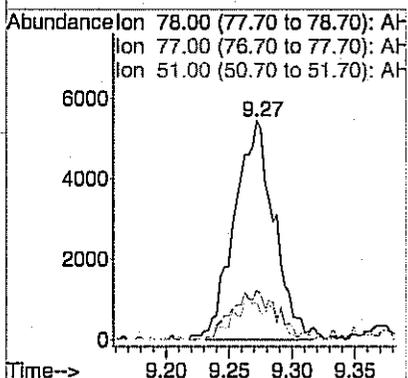
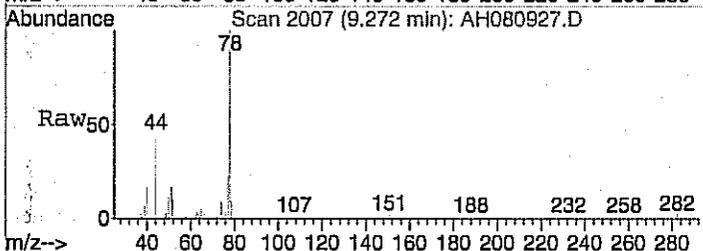
#32  
 Cyclohexane  
 Concen: 0.45 ppb  
 RT: 9.38 min Scan# 2042  
 Delta R.T. 0.03 min  
 Lab File: AH080927.D  
 Acq: 10 Aug 2010 5:40 am

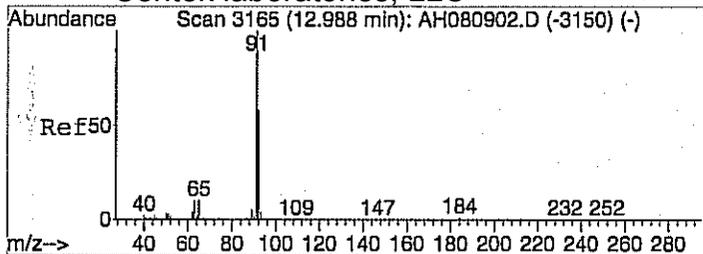
Tgt Ion	Resp	Lower	Upper
56	100		
41	94.2	40.2	80.2#
84	23.7	134.6	174.6#



#34  
 Benzene  
 Concen: 0.20 ppb  
 RT: 9.27 min Scan# 2007  
 Delta R.T. 0.01 min  
 Lab File: AH080927.D  
 Acq: 10 Aug 2010 5:40 am

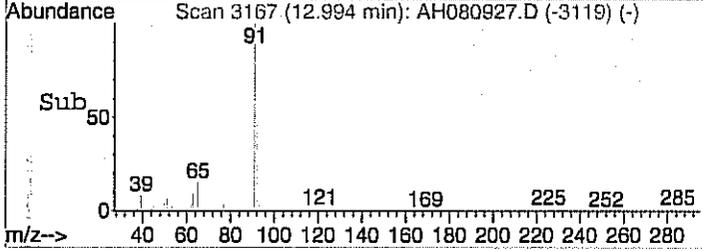
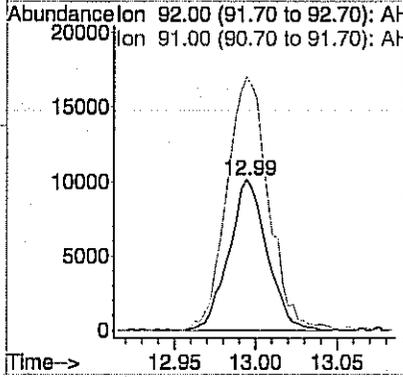
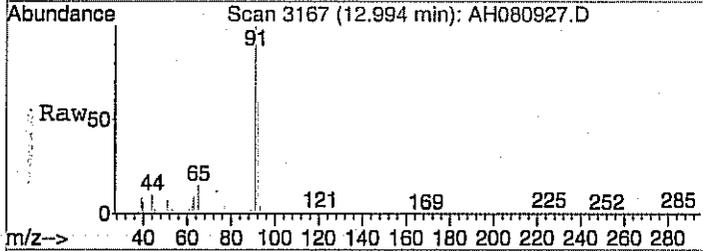
Tgt Ion	Resp	Lower	Upper
78	100		
77	24.5	2.6	42.6
51	19.3	0.0	34.0





#45  
 Toluene  
 Concen: 0.48 ppb  
 RT: 12.99 min Scan# 3167  
 Delta R.T. 0.00 min  
 Lab File: AH080927.D  
 Acq: 10 Aug 2010 5:40 am

Tgt Ion: 92 Resp: 16602  
 Ion Ratio Lower Upper  
 92 100  
 91 184.1 148.8 188.8



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**GC/MS VOLATILES-WHOLE AIR**

**METHOD TO-15**

**STANDARDS DATA**

**GC/MS VOLATILES-WHOLE AIR**

**METHOD TO-15**

**INITIAL CALIBRATION**

Centek Laboratories, LLC

Response Factor Report ASD #1

Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:34:49 2010  
 Response via : Initial Calibration

Calibration Files

0.04 =AH061224.D 0.1 =AH061225.D 0.15 =AH061222.D  
 0.30 =AH061221.D 0.50 =AH061220.D 0.75 =AH061219.D

Compound	0.04	0.1	0.15	0.30	0.50	0.75	Avg	%RSD
-----ISTD-----								
1) I Bromochloromethane								
2) T Propylene			0.723	0.571	0.537	0.532	0.550	13.48
3) T Freon 12			5.591	4.866	4.528	4.700	4.607	10.03
4) T Chloromethane			1.629	1.361	1.270	1.339	1.287	12.53
5) T Freon 114			4.973	4.139	4.094	4.211	4.112	9.33
6) T Vinyl Chloride	1.250		1.380	1.271	1.138	1.180	1.178	8.69
7) T 1,3-butadiene			0.882	0.665	0.758	0.749	0.713	11.79
8) T Bromomethane			1.942	1.637	1.540	1.568	1.544	11.88
9) T Chloroethane			0.635	0.531	0.497	0.499	0.496	13.38
10) T Vinyl Bromide			1.843	1.620	1.542	1.596	1.557	8.67
11) T Freon 11			5.113	4.650	4.383	4.412	4.355	8.66
12) T Acetone				0.412	0.397	0.423	0.401	3.73
13) T Isopropyl alcoh			1.177	0.982	0.912	0.984	0.942	11.97
14) T 1,1-dichloroeth			1.718	1.452	1.339	1.424	1.379	11.30
15) T Freon 113			3.798	3.124	3.058	3.260	3.098	10.37
16) T Methylene chlor			1.409	1.157	1.121	1.180	1.140	10.47
17) T Allyl chloride			0.792	0.974	0.904	0.940	0.877	7.05
18) T Carbon disulfid			4.216	3.516	3.262	3.272	3.271	13.27
19) T trans-1,2-dichl			1.577	1.282	1.371	1.670	1.461	8.83
20) T methyl tert-but			1.093	1.306	1.321	1.512	1.390	10.95
21) T 1,1-dichloroeth			2.200	1.984	1.880	2.025	1.936	6.68
22) T Vinyl acetate			1.131	1.026	1.070	1.310	1.196	9.52
23) T Methyl Ethyl Ke			1.656	1.420	1.467	1.805	1.685	9.99
24) T cis-1,2-dichlor			1.326	1.161	1.163	1.241	1.183	5.78
25) T Hexane			0.775	0.730	0.774	0.905	0.829	7.99
26) T Ethyl acetate			0.922	0.929	1.054	1.277	1.154	14.46
27) T Chloroform			3.509	3.019	3.028	3.123	3.025	7.32
28) T Tetrahydrofuran				0.452	0.447	0.490	0.491	7.37
29) T 1,2-dichloroeth			2.032	1.710	1.735	1.839	1.746	7.63
-----ISTD-----								
30) I 1,4-difluorobenzene								
31) T 1,1,1-trichloro			1.388	1.153	1.116	1.071	1.117	10.44
32) T Cyclohexane			0.332	0.289	0.284	0.320	0.323	7.58
33) T Carbon tetrachl	1.179	1.487	1.752	1.449	1.402	1.386	1.395	10.88
34) T Benzene			1.105	0.901	0.966	0.956	0.975	6.00
35) T 1,4-dioxane				0.130	0.119	0.136	0.133	6.08
36) T 2,2,4-trimethyl			1.005	0.886	0.861	0.934	0.935	5.29
37) T Heptane			0.322	0.287	0.287	0.297	0.304	5.36
38) T Trichloroethene	0.530	0.641	0.705	0.635	0.613	0.639	0.632	6.98
39) T 1,2-dichloropro			0.458	0.355	0.356	0.363	0.369	9.86
40) T Bromodichlorome			1.383	1.184	1.189	1.185	1.193	6.70
41) T cis-1,3-dichlor			0.399	0.350	0.371	0.426	0.419	10.40
42) T trans-1,3-dichl			0.341	0.318	0.322	0.346	0.344	5.25
43) T 1,1,2-trichloro			0.662	0.549	0.545	0.530	0.546	9.09
-----ISTD-----								
44) I Chlorobenzene-d5								
45) T Toluene			0.669	0.598	0.569	0.632	0.653	9.14
46) T Methyl Isobutyl				0.309	0.297	0.362	0.342	8.48
47) T Dibromochlorome			1.712	1.559	1.507	1.496	1.526	5.65
48) T Methyl Butyl Ke				0.342	0.279	0.323	0.329	8.43
49) T 1,2-dibromoetha			1.033	0.962	0.905	0.906	0.916	5.99
50) T Tetrachloroethy			0.931	0.817	0.751	0.743	0.777	8.91
51) T Chlorobenzene			1.120	1.046	1.056	1.072	1.077	2.40
52) T Ethylbenzene			1.080	1.069	1.056	1.109	1.168	9.80
53) T m&p-xylene			0.839	0.823	0.871	0.981	1.009	15.07
54) T Styrene			0.545	0.523	0.513	0.603	0.611	13.29
55) T Bromoform			1.601	1.573	1.597	1.636	1.629	2.98

(#) = Out of Range ### Number of calibration levels exceeded format ###

Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:34:49 2010  
 Response via : Initial Calibration

## Calibration Files

0.04 =AH061224.D 0.1 =AH061225.D 0.15 =AH061222.D  
 0.30 =AH061221.D 0.50 =AH061220.D 0.75 =AH061219.D

Compound		0.04	0.1	0.15	0.30	0.50	0.75	Avg	%RSD
56)	T o-xylene			0.879	0.854	0.868	1.105	1.126	21.16
57)	S Bromofluorobenz	0.346	0.334	0.347	0.390	0.398	0.469	0.418	14.83
58)	T 1,1,2,2-tetrach			0.954	0.833	0.806	0.894	0.893	7.11
59)	T 4-ethyltoluene			0.878	0.897	0.826	1.002	1.057	18.96
60)	T 1,3,5-trimethyl			0.737	0.678	0.750	0.882	0.960	24.31
61)	T 1,2,4-trimethyl			0.626	0.581	0.547	0.651	0.721	21.75
62)	T 1,3-dichloroben			0.754	0.779	0.819	0.888	0.888	11.18
63)	T benzyl chloride			0.493	0.471	0.546	0.589	0.613	17.50
64)	T 1,4-dichloroben			0.757	0.735	0.763	0.888	0.876	12.89
65)	T 1,2-dichloroben			0.746	0.665	0.699	0.780	0.789	10.73
66)	T 1,2,4-trichloro			0.416	0.334	0.341	0.467	0.432	14.72
67)	T Hexachloro-1,3-			0.890	0.847	0.811	0.910	0.890	4.69

Data File : C:\HPCHEM\1\DATA\AH061215.D  
 Acq On : 13 Jun 2010 1:47  
 Sample : AIUG\_2.0  
 Misc :

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

MS Integration Params: RTEINT.P  
 Quant Time: Jun 13 08:10:41 2010

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:10:24 2010  
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AH061218.D  
 DataAcq Meth : A612\_1UT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.71	128	17773	1.00	ppb	0.00
30) 1,4-difluorobenzene	10.04	114	47995	1.00	ppb	0.00
44) Chlorobenzene-d5	14.91	117	43664	1.00	ppb	0.00

#### System Monitoring Compounds

57) Bromofluorobenzene	16.46	95	19691	0.94	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	94.00%

#### Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	2.94	41	17165	1.86	ppb	97
3) Freon 12	2.98	85	147331	1.90	ppb	99
4) Chloromethane	3.12	50	40998	1.88	ppb	98
5) Freon 114	3.12	85	133055	1.91	ppb	100
6) Vinyl Chloride	3.26	62	38134	1.94	ppb	100
7) 1,3-butadiene	3.33	39	21499	1.81	ppb	68
8) Bromomethane	3.58	94	49534	1.98	ppb	96
9) Chloroethane	3.71	64	14798	1.74	ppb	94
10) Vinyl Bromide	3.95	106	50266	1.88	ppb	98
11) Freon 11	4.16	101	143802	1.99	ppb	99
12) Acetone	4.31	58	14001	2.07	ppb	98
13) Isopropyl alcohol	4.41	45	28553m	1.72	ppb	
14) 1,1-dichloroethene	4.77	96	44273	1.92	ppb	94
15) Freon 113	4.94	101	98334	1.85	ppb	99
16) Methylene chloride	5.17	84	36837	1.91	ppb	96
17) Allyl chloride	5.16	41	29075	1.87	ppb	94
18) Carbon disulfide	5.29	76	102781	1.93	ppb	99
19) trans-1,2-dichloroethene	6.01	61	50104	1.84	ppb	95
20) methyl tert-butyl ether	6.07	73	53956	2.17	ppb	64
21) 1,1-dichloroethane	6.40	63	64469	1.93	ppb	99
22) Vinyl acetate	6.42	43	47101	2.12	ppb	96
23) Methyl Ethyl Ketone	6.90	43	65797	2.16	ppb	95
24) cis-1,2-dichloroethene	7.28	61	40139	1.96	ppb	94
25) Hexane	6.92	41	31563	2.10	ppb	96
26) Ethyl acetate	7.49	43	48187	2.21	ppb	96
27) Chloroform	7.87	83	101451	1.94	ppb	100
28) Tetrahydrofuran	8.06	42	19490	2.27	ppb	87
29) 1,2-dichloroethane	8.95	62	59371	2.01	ppb	99
31) 1,1,1-trichloroethane	8.66	97	99359	1.92	ppb	99
32) Cyclohexane	9.36	56	34042	2.12	ppb	96
33) Carbon tetrachloride	9.29	117	127818	1.98	ppb	99
34) Benzene	9.26	78	94509	2.02	ppb	99
35) 1,4-dioxane	11.08	88	12887	1.90	ppb	77
36) 2,2,4-trimethylpentane	10.23	57	94971	2.07	ppb	96
37) Heptane	10.65	43	31578	2.10	ppb	98
38) Trichloroethene	10.74	130	62773	1.99	ppb	97
39) 1,2-dichloropropane	10.86	63	33660	1.90	ppb	98
40) Bromodichloromethane	11.25	83	111183	2.01	ppb	99
41) cis-1,3-dichloropropene	12.15	75	46267	2.18	ppb	98
42) trans-1,3-dichloropropene	12.94	75	35385	2.14	ppb	97
43) 1,1,2-trichloroethane	13.25	97	50138	1.94	ppb	99
45) Toluene	12.99	92	65556	2.41	ppb	99
46) Methyl Isobutyl Ketone	12.11	43	31556	2.13	ppb	94
47) Dibromochloromethane	13.92	129	126424	2.02	ppb	99
48) Methyl Butyl Ketone	13.49	43	27814m	1.82	ppb	
49) 1,2-dibromoethane	14.17	107	76085	1.98	ppb	97
50) Tetrachloroethylene	14.01	164	65139	2.03	ppb	99

(#) = qualifier out of range (m) = manual integration

Centek laboratories, LLC

Data File : C:\HPCHEM\1\DATA\AH061215.D  
 Acq On : 13 Jun 2010 1:47  
 Sample : ALUG\_2.0  
 Misc :

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

MS Integration Params: RTEINT.P  
 Quant Time: Jun 13 08:10:41 2010

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:10:24 2010  
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AH061218.D  
 DataAcq Meth : A612\_1UT

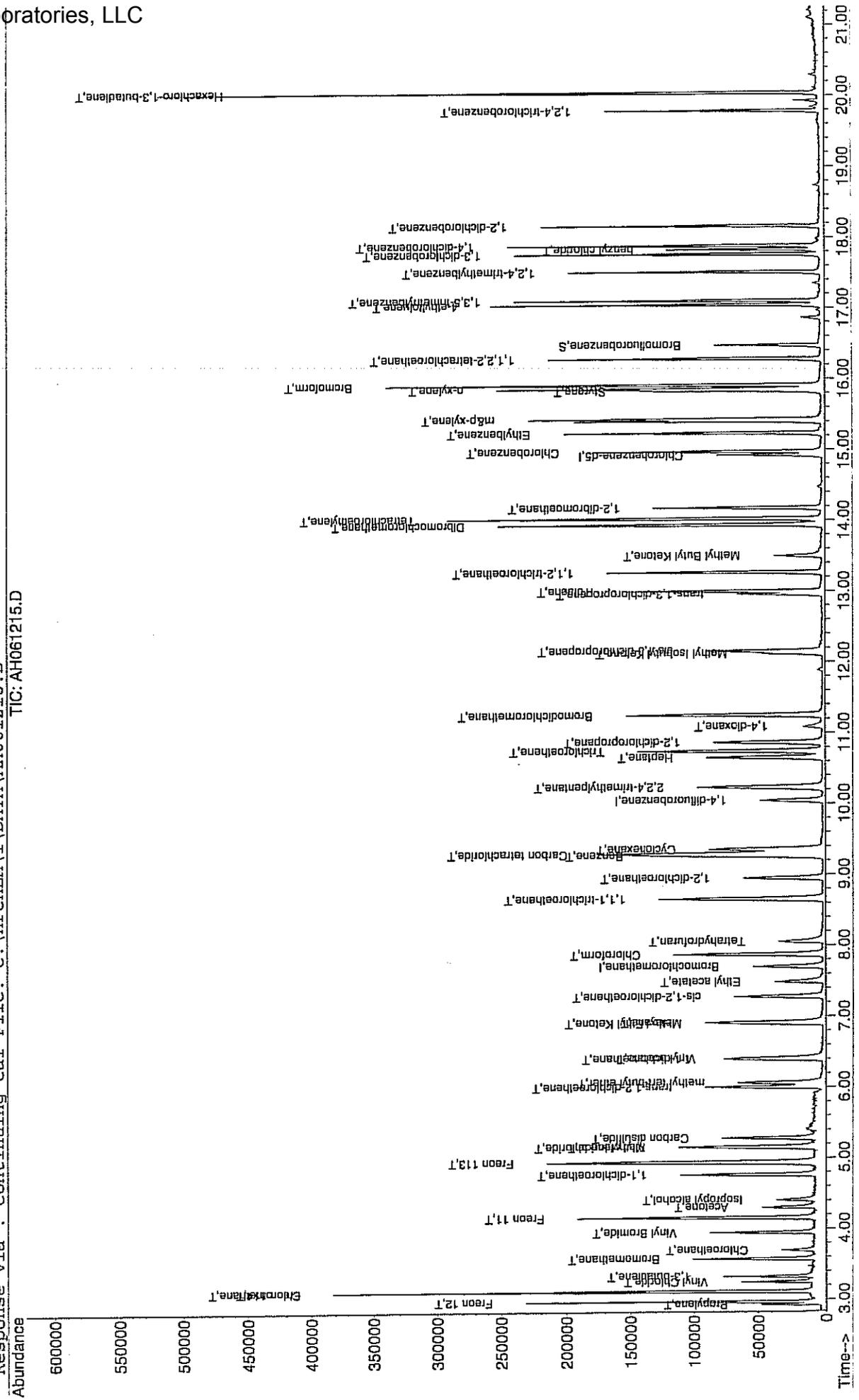
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
51) Chlorobenzene	14.96	112	95711	2.08	ppb	99
52) Ethylbenzene	15.22	91	118508	2.36	ppb	98
53) m&p-xylene	15.41	91	207742	4.47	ppb	98
54) Styrene	15.82	104	64953	2.37	ppb	91
55) Bromoform	15.90	173	146160	2.12	ppb	98
56) o-xylene	15.84	91	126623	2.43	ppb	98
58) 1,1,2,2-tetrachloroethane	16.27	83	79713	1.83	ppb	99
59) 4-ethyltoluene	17.03	105	122661	2.63	ppb	98
60) 1,3,5-trimethylbenzene	17.09	105	113485	2.53	ppb	96
61) 1,2,4-trimethylbenzene	17.49	105	89993	2.76	ppb	99
62) 1,3-dichlorobenzene	17.74	146	89568	2.27	ppb	99
63) benzyl chloride	17.81	91	66598	2.38	ppb	94
64) 1,4-dichlorobenzene	17.87	146	89615	2.27	ppb	99
65) 1,2-dichlorobenzene	18.15	146	79099	2.27	ppb	100
66) 1,2,4-trichlorobenzene	19.77	180	43896	2.23	ppb	96
67) Hexachloro-1,3-butadiene	20.03	225	78547	1.95	ppb	99

Data File : C:\HPCHEM\1\DATA\AH061215.D  
 Acq On : 13 Jun 2010 1:47  
 Sample : A1UG\_2.0  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Jun 13 8:16 2010

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

Quant Results File: A612\_1UT.RES

Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:34:49 2010  
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AH061218.D



Data File : C:\HPCHEM\1\DATA\AH061216.D  
 Acq On : 13 Jun 2010 2:23  
 Sample : A1UG\_1.5  
 Misc :

Vial: 2  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 13 08:10:57 2010

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Sun Jun 13 08:10:24 2010

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AH061218.D

DataAcq Meth : A612\_1UT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.71	128	17507	1.00	ppb	0.00
30) 1,4-difluorobenzene	10.04	114	48180	1.00	ppb	0.00
44) Chlorobenzene-d5	14.91	117	42145	1.00	ppb	0.00

System Monitoring Compounds

57) Bromofluorobenzene	16.46	95	19847	0.99	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	99.00%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	2.94	41	13397	1.47	ppb	89
3) Freon 12	2.98	85	116117	1.52	ppb	100
4) Chloromethane	3.12	50	31512	1.47	ppb	99
5) Freon 114	3.12	85	105225	1.53	ppb	98
6) Vinyl Chloride	3.26	62	29269	1.52	ppb	98
7) 1,3-butadiene	3.33	39	18529	1.59	ppb	85
8) Bromomethane	3.58	94	38391	1.56	ppb	99
9) Chloroethane	3.70	64	11786	1.40	ppb	97
10) Vinyl Bromide	3.96	106	39451	1.50	ppb	100
11) Freon 11	4.17	101	107951	1.52	ppb	99
12) Acetone	4.32	58	10772	1.62	ppb	96
13) Isopropyl alcohol	4.42	45	22763	1.39	ppb	95
14) 1,1-dichloroethene	4.77	96	34233	1.51	ppb	95
15) Freon 113	4.95	101	76078	1.45	ppb	98
16) Methylene chloride	5.17	84	28207	1.48	ppb	95
17) Allyl chloride	5.15	41	23204	1.52	ppb	93
18) Carbon disulfide	5.29	76	80397	1.53	ppb	100
19) trans-1,2-dichloroethene	6.01	61	39185	1.46	ppb	94
20) methyl tert-butyl ether	6.08	73	41080	1.68	ppb	64
21) 1,1-dichloroethane	6.40	63	49463	1.50	ppb	100
22) Vinyl acetate	6.43	43	33806	1.54	ppb	98
23) Methyl Ethyl Ketone	6.92	43	49253	1.64	ppb	92
24) cis-1,2-dichloroethene	7.29	61	30817	1.52	ppb	96
25) Hexane	6.92	41	23667	1.60	ppb	95
26) Ethyl acetate	7.50	43	33899	1.58	ppb	98
27) Chloroform	7.88	83	76996	1.49	ppb	99
28) Tetrahydrofuran	8.07	42	13742	1.62	ppb	90
29) 1,2-dichloroethane	8.95	62	44739	1.53	ppb	98
31) 1,1,1-trichloroethane	8.66	97	75292	1.45	ppb	97
32) Cyclohexane	9.36	56	24302	1.51	ppb	97
33) Carbon tetrachloride	9.30	117	95535	1.47	ppb	99
34) Benzene	9.26	78	68110	1.45	ppb	97
35) 1,4-dioxane	11.09	88	9209	1.35	ppb	81
36) 2,2,4-trimethylpentane	10.23	57	68032	1.48	ppb	94
37) Heptane	10.66	43	21805	1.44	ppb	96
38) Trichloroethene	10.74	130	45340	1.43	ppb	96
39) 1,2-dichloropropane	10.87	63	25489	1.43	ppb	100
40) Bromodichloromethane	11.25	83	84297	1.51	ppb	98
41) cis-1,3-dichloropropene	12.15	75	32883	1.54	ppb	99
42) trans-1,3-dichloropropene	12.94	75	26446	1.59	ppb	94
43) 1,1,2-trichloroethane	13.25	97	37525	1.44	ppb	99
45) Toluene	12.99	92	44959	1.71	ppb	98
46) Methyl Isobutyl Ketone	12.12	43	21828	1.52	ppb	97
47) Dibromochloromethane	13.93	129	97356	1.61	ppb	100
48) Methyl Butyl Ketone	13.49	43	20646	1.40	ppb	96
49) 1,2-dibromoethane	14.17	107	56671	1.53	ppb	99
50) Tetrachloroethylene	14.02	164	49233	1.59	ppb	99

(#) = qualifier out of range (m) = manual integration

Centek laboratories, LLC

Data File : C:\HPCHEM\1\DATA\AH061216.D  
 Acq On : 13 Jun 2010 2:23  
 Sample : ALUG\_1.5  
 Misc :

Vial: 2  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

MS Integration Params: RTEINT.P  
 Quant Time: Jun 13 08:10:57 2010

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:10:24 2010  
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AH061218.D  
 DataAcq Meth : A612\_1UT

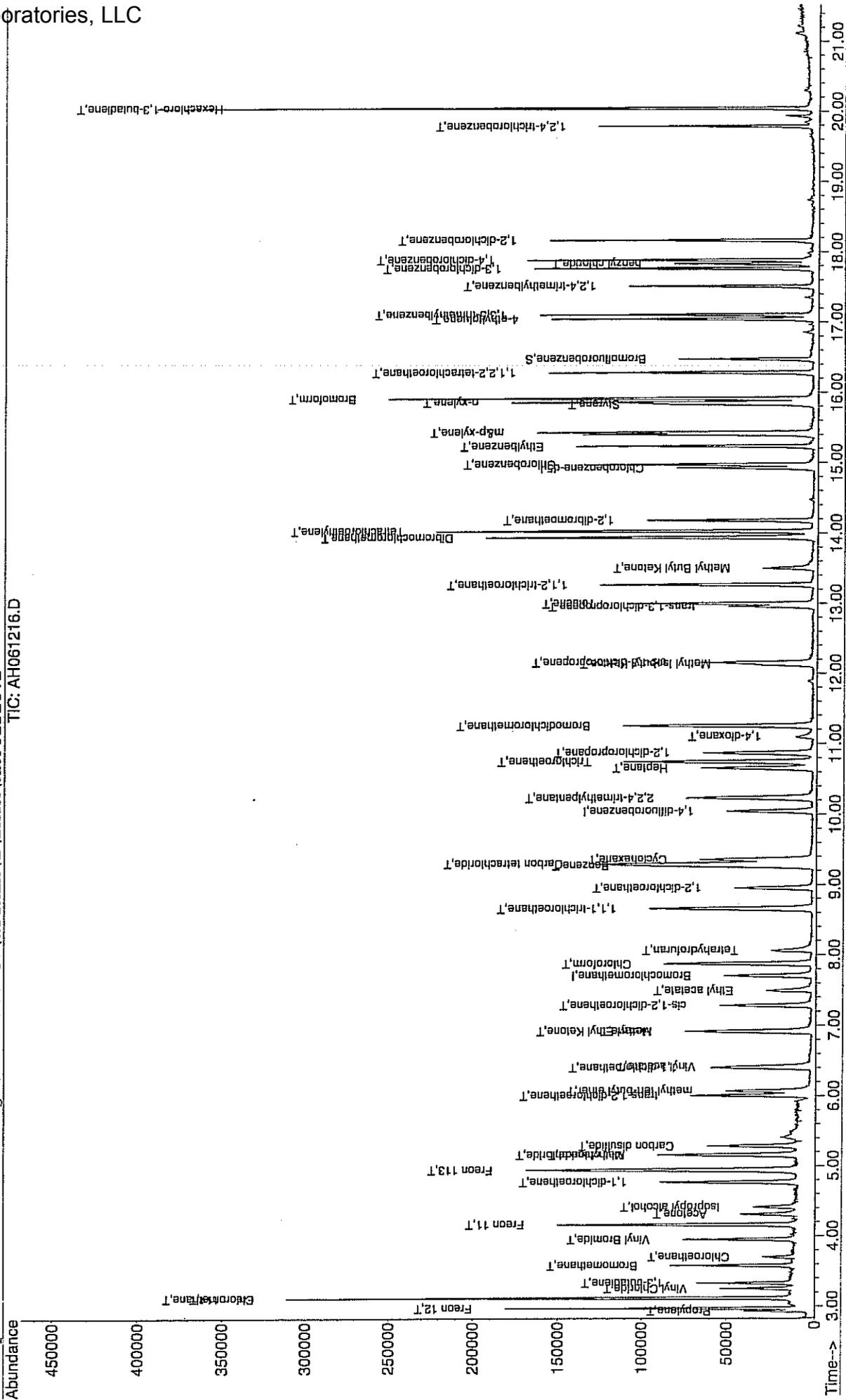
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
51) Chlorobenzene	14.96	112	69305	1.56	ppb	96
52) Ethylbenzene	15.22	91	82894	1.71	ppb	98
53) m&p-xylene	15.42	91	149350	3.33	ppb	97
54) Styrene	15.82	104	42581	1.61	ppb	91
55) Bromoform	15.90	173	107195	1.61	ppb	98
56) o-xylene	15.84	91	86195	1.71	ppb	99
58) 1,1,2,2-tetrachloroethane	16.26	83	56962	1.36	ppb	98
59) 4-ethyltoluene	17.03	105	79716	1.77	ppb	98
60) 1,3,5-trimethylbenzene	17.09	105	76446	1.77	ppb	98
61) 1,2,4-trimethylbenzene	17.50	105	52019	1.65	ppb	100
62) 1,3-dichlorobenzene	17.74	146	63375	1.67	ppb	99
63) benzyl chloride	17.81	91	46466	1.72	ppb	93
64) 1,4-dichlorobenzene	17.87	146	63293	1.66	ppb	99
65) 1,2-dichlorobenzene	18.15	146	55980	1.66	ppb	98
66) 1,2,4-trichlorobenzene	19.77	180	30481	1.60	ppb	99
67) Hexachloro-1,3-butadiene	20.02	225	59378	1.53	ppb	99

Data File : C:\HPCHEM\1\DATA\AH061216.D  
Acq On : 13 Jun 2010 2:23  
Sample : ALUG\_1.5  
Misc :  
MS Integration Params: RTEINT.P  
Quant Time: Jun 13 8:10 2010

Vial: 2  
Operator: RJP  
Inst : MSD #1  
Multiplr: 1.00

Quant Results File: A612\_1UT.RES

Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
Title : TO-15 VOA Standards for 5 point calibration  
Last Update : Sun Jun 13 08:34:49 2010  
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AH061218.D



Data File : C:\HPCHEM\1\DATA\AH061217.D  
 Acq On : 13 Jun 2010 2:59  
 Sample : A1UG\_1.25  
 Misc :

Vial: 3  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

MS Integration Params: RTEINT.P  
 Quant Time: Jun 13 08:11:19 2010

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:10:24 2010  
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AH061218.D  
 DataAcq Meth : A612\_1UT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.71	128	18324	1.00	ppb	0.00
30) 1,4-difluorobenzene	10.05	114	48652	1.00	ppb	0.00
44) Chlorobenzene-d5	14.91	117	42284	1.00	ppb	0.00

System Monitoring Compounds

57) Bromofluorobenzene	16.46	95	20972	1.04	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	104.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	2.94	41	11984	1.26	ppb	99
3) Freon 12	2.98	85	97025	1.21	ppb	99
4) Chloromethane	3.12	50	25667	1.14	ppb	99
5) Freon 114	3.12	85	87135	1.21	ppb	99
6) Vinyl Chloride	3.26	62	25060	1.24	ppb	99
7) 1,3-butadiene	3.34	39	15438	1.26	ppb	81
8) Bromomethane	3.58	94	32087	1.24	ppb	97
9) Chloroethane	3.70	64	10497	1.20	ppb	92
10) Vinyl Bromide	3.96	106	32938	1.20	ppb	98
11) Freon 11	4.17	101	93002	1.25	ppb	99
12) Acetone	4.31	58	8888	1.27	ppb	# 58
13) Isopropyl alcohol	4.42	45	20038	1.17	ppb	# 36
14) 1,1-dichloroethene	4.77	96	28711	1.21	ppb	95
15) Freon 113	4.95	101	66214	1.21	ppb	96
16) Methylene chloride	5.17	84	24156	1.21	ppb	95
17) Allyl chloride	5.15	41	19071	1.19	ppb	94
18) Carbon disulfide	5.29	76	67563	1.23	ppb	99
19) trans-1,2-dichloroethene	6.01	61	31126	1.11	ppb	91
20) methyl tert-butyl ether	6.08	73	32296	1.26	ppb	63
21) 1,1-dichloroethane	6.40	63	41700	1.21	ppb	97
22) Vinyl acetate	6.43	43	26718	1.17	ppb	97
23) Methyl Ethyl Ketone	6.91	43	38714	1.23	ppb	94
24) cis-1,2-dichloroethene	7.29	61	25605	1.21	ppb	93
25) Hexane	6.92	41	18657	1.21	ppb	95
26) Ethyl acetate	7.50	43	27057	1.20	ppb	97
27) Chloroform	7.88	83	63951	1.19	ppb	100
28) Tetrahydrofuran	8.06	42	11272	1.27	ppb	86
29) 1,2-dichloroethane	8.95	62	36885	1.21	ppb	100
31) 1,1,1-trichloroethane	8.65	97	63741	1.21	ppb	100
32) Cyclohexane	9.36	56	20271	1.25	ppb	97
33) Carbon tetrachloride	9.29	117	78723	1.20	ppb	97
34) Benzene	9.26	78	59110	1.25	ppb	98
35) 1,4-dioxane	11.09	88	8574m	1.25	ppb	
36) 2,2,4-trimethylpentane	10.23	57	55051	1.18	ppb	94
37) Heptane	10.65	43	17724	1.16	ppb	96
38) Trichloroethene	10.74	130	37563	1.18	ppb	97
39) 1,2-dichloropropane	10.86	63	21227	1.18	ppb	99
40) Bromodichloromethane	11.25	83	68145	1.21	ppb	99
41) cis-1,3-dichloropropene	12.15	75	26087	1.21	ppb	97
42) trans-1,3-dichloropropene	12.95	75	20826	1.24	ppb	96
43) 1,1,2-trichloroethane	13.25	97	30422	1.16	ppb	98
45) Toluene	12.99	92	35464	1.35	ppb	96
46) Methyl Isobutyl Ketone	12.12	43	19848	1.38	ppb	97
47) Dibromochloromethane	13.93	129	80120	1.32	ppb	100
48) Methyl Butyl Ketone	13.49	43	19272	1.30	ppb	94
49) 1,2-dibromoethane	14.17	107	46448	1.25	ppb	98
50) Tetrachloroethylene	14.01	164	37922	1.22	ppb	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\AH061217.D  
 Acq On : 13 Jun 2010 2:59  
 Sample : ALUG\_1.25  
 Misc :

Vial: 3  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

MS Integration Params: RTEINT.P  
 Quant Time: Jun 13 08:11:19 2010

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:10:24 2010  
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AH061218.D  
 DataAcq Meth : A612\_1UT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
51) Chlorobenzene	14.96	112	56932	1.28	ppb	98
52) Ethylbenzene	15.22	91	63862	1.31	ppb	98
53) m&p-xylene	15.41	91	118893	2.64	ppb	99
54) Styrene	15.82	104	34930	1.31	ppb	93
55) Bromoform	15.90	173	88805	1.33	ppb	98
56) o-xylene	15.84	91	68536	1.36	ppb	99
58) 1,1,2,2-tetrachloroethane	16.26	83	44581	1.06	ppb	93
59) 4-ethyltoluene	17.03	105	59417	1.32	ppb	98
60) 1,3,5-trimethylbenzene	17.09	105	58268	1.34	ppb	95
61) 1,2,4-trimethylbenzene	17.49	105	40152	1.27	ppb	97
62) 1,3-dichlorobenzene	17.75	146	49328	1.29	ppb	98
63) benzyl chloride	17.81	91	35168	1.30	ppb	97
64) 1,4-dichlorobenzene	17.87	146	49235	1.29	ppb	99
65) 1,2-dichlorobenzene	18.15	146	43948	1.30	ppb	98
66) 1,2,4-trichlorobenzene	19.77	180	24492	1.28	ppb	99
67) Hexachloro-1,3-butadiene	20.02	225	47719	1.22	ppb	96

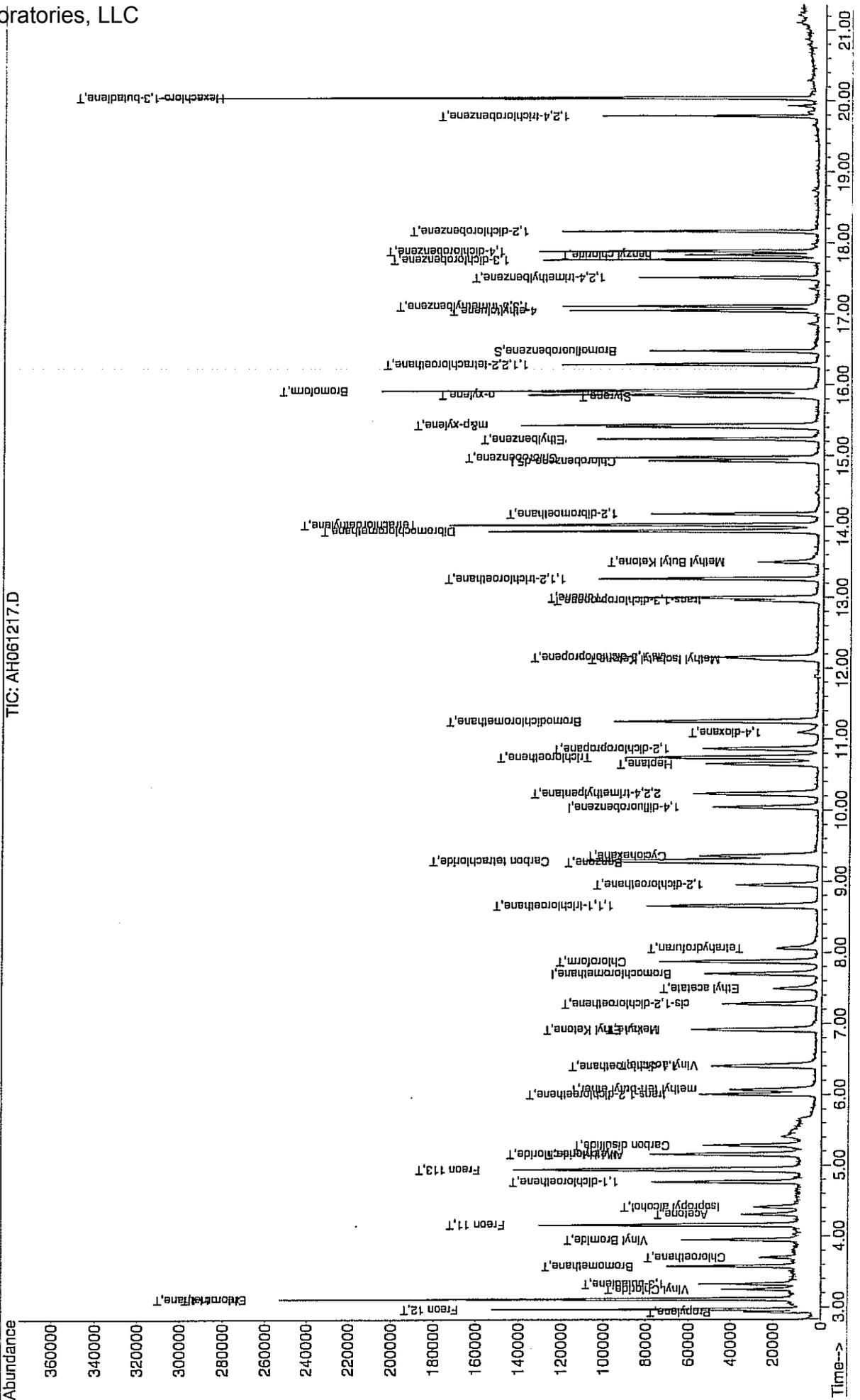
Quantitative Report (QI reviewed)

Data File : C:\HPCHEM\1\DATA\AH061217.D  
 Acq On : 13 Jun 2010 2:59  
 Sample : A1UG\_1.25  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Jun 13 8:18 2010

Vial: 3  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

Quant Results File: A612\_1UT.RES

Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:34:49 2010  
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AH061218.D



Data File : C:\HPCHEM\1\DATA\AH061218.D  
 Acq On : 13 Jun 2010 3:34  
 Sample : ALUG\_1.0  
 Misc :

Vial: 4  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

MS Integration Params: RTEINT.P  
 Quant Time: Jun 13 08:11:44 2010

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:10:24 2010  
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AH061218.D  
 DataAcq Meth : A612\_1UT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.71	128	18338	1.00	ppb	0.00
30) 1,4-difluorobenzene	10.05	114	48537	1.00	ppb	0.00
44) Chlorobenzene-d5	14.91	117	44328	1.00	ppb	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
57) Bromofluorobenzene	16.46	95	21185	1.00	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	100.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	2.94	41	9530	1.00	ppb	99
3) Freon 12	2.98	85	80081	1.00	ppb	99
4) Chloromethane	3.12	50	22475	1.00	ppb	97
5) Freon 114	3.12	85	71986	1.00	ppb	98
6) Vinyl Chloride	3.26	62	20234	1.00	ppb	95
7) 1,3-butadiene	3.34	39	12239	1.00	ppb	74
8) Bromomethane	3.58	94	25848	1.00	ppb	93
9) Chloroethane	3.71	64	8789	1.00	ppb	94
10) Vinyl Bromide	3.95	106	27579	1.00	ppb	98
11) Freon 11	4.17	101	74468	1.00	ppb	97
12) Acetone	4.31	58	6982	1.00	ppb	89
13) Isopropyl alcohol	4.42	45	17125	1.00	ppb	98
14) 1,1-dichloroethene	4.77	96	23786	1.00	ppb	91
15) Freon 113	4.95	101	54856	1.00	ppb	98
16) Methylene chloride	5.17	84	19941	1.00	ppb	94
17) Allyl chloride	5.16	41	16004	1.00	ppb	91
18) Carbon disulfide	5.29	76	54994	1.00	ppb	98
19) trans-1,2-dichloroethene	6.01	61	28080	1.00	ppb	98
20) methyl tert-butyl ether	6.08	73	25632	1.00	ppb	# 46
21) 1,1-dichloroethane	6.40	63	34549	1.00	ppb	99
22) Vinyl acetate	6.44	43	22920	1.00	ppb	94
23) Methyl Ethyl Ketone	6.92	43	31474	1.00	ppb	94
24) cis-1,2-dichloroethene	7.29	61	21170	1.00	ppb	97
25) Hexane	6.92	41	15479	1.00	ppb	92
26) Ethyl acetate	7.50	43	22479	1.00	ppb	97
27) Chloroform	7.88	83	53968	1.00	ppb	97
28) Tetrahydrofuran	8.07	42	8874	1.00	ppb	84
29) 1,2-dichloroethane	8.96	62	30540	1.00	ppb	98
31) 1,1,1-trichloroethane	8.66	97	52374	1.00	ppb	98
32) Cyclohexane	9.36	56	16230	1.00	ppb	94
33) Carbon tetrachloride	9.29	117	65382	1.00	ppb	99
34) Benzene	9.26	78	47340	1.00	ppb	99
35) 1,4-dioxane	11.09	88	6873m A	1.00	ppb	
36) 2,2,4-trimethylpentane	10.23	57	46415	1.00	ppb	92
37) Heptane	10.65	43	15213	1.00	ppb	92
38) Trichloroethene	10.74	130	31833	1.00	ppb	97
39) 1,2-dichloropropane	10.86	63	17935	1.00	ppb	98
40) Bromodichloromethane	11.25	83	56065	1.00	ppb	99
41) cis-1,3-dichloropropene	12.15	75	21454	1.00	ppb	98
42) trans-1,3-dichloropropene	12.94	75	16754	1.00	ppb	97
43) 1,1,2-trichloroethane	13.25	97	26181	1.00	ppb	99
45) Toluene	12.99	92	27625	1.00	ppb	95
46) Methyl Isobutyl Ketone	12.12	43	15060	1.00	ppb	97
47) Dibromochloromethane	13.93	129	63528	1.00	ppb	99
48) Methyl Butyl Ketone	13.49	43	15592m A	1.00	ppb	
49) 1,2-dibromoethane	14.17	107	38974	1.00	ppb	98
50) Tetrachloroethylene	14.01	164	32518	1.00	ppb	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\AH061218.D  
 Acq On : 13 Jun 2010 3:34  
 Sample : A1UG\_1.0  
 Misc :

Vial: 4  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

MS Integration Params: RTEINT.P  
 Quant Time: Jun 13 08:11:44 2010

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:10:24 2010  
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AH061218.D  
 DataAcq Meth : A612\_1UT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
51) Chlorobenzene	14.96	112	46632	1.00	ppb	97
52) Ethylbenzene	15.22	91	51046	1.00	ppb	99
53) m&p-xylene	15.42	91	94373	2.00	ppb	98
54) Styrene	15.82	104	27871	1.00	ppb	93
55) Bromoform	15.90	173	69981	1.00	ppb	98
56) o-xylene	15.84	91	52943	1.00	ppb	98
58) 1,1,2,2-tetrachloroethane	16.26	83	44129	1.00	ppb	96
59) 4-ethyltoluene	17.02	105	47282	1.00	ppb	99
60) 1,3,5-trimethylbenzene	17.09	105	45477	1.00	ppb	97
61) 1,2,4-trimethylbenzene	17.49	105	33147	1.00	ppb	99
62) 1,3-dichlorobenzene	17.75	146	40006	1.00	ppb	98
63) benzyl chloride	17.81	91	28392	1.00	ppb	97
64) 1,4-dichlorobenzene	17.87	146	40133	1.00	ppb	99
65) 1,2-dichlorobenzene	18.14	146	35366	1.00	ppb	96
66) 1,2,4-trichlorobenzene	19.77	180	20012	1.00	ppb	95
67) Hexachloro-1,3-butadiene	20.03	225	40861	1.00	ppb	95



Data File : C:\HPCHEM\1\DATA\AH061219.D  
 Acq On : 13 Jun 2010 4:10  
 Sample : A1UG\_0.75  
 Misc :

Vial: 5  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

MS Integration Params: RTEINT.P  
 Quant Time: Jun 13 08:11:59 2010

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:10:24 2010  
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AH061218.D  
 DataAcq Meth : A612\_1UT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.71	128	17271	1.00	ppb	0.00
30) 1,4-difluorobenzene	10.04	114	47919	1.00	ppb	0.00
44) Chlorobenzene-d5	14.91	117	42288	1.00	ppb	0.00

System Monitoring Compounds

57) Bromofluorobenzene	16.46	95	19820	0.98	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	98.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	2.94	41	6894	0.77	ppb	91
3) Freon 12	2.98	85	60882	0.81	ppb	100
4) Chloromethane	3.12	50	17338	0.82	ppb	98
5) Freon 114	3.12	85	54549	0.80	ppb	99
6) Vinyl Chloride	3.26	62	15284	0.80	ppb	93
7) 1,3-butadiene	3.34	39	9708	0.84	ppb	80
8) Bromomethane	3.59	94	20316	0.83	ppb	97
9) Chloroethane	3.70	64	6469	0.78	ppb	98
10) Vinyl Bromide	3.95	106	20674	0.80	ppb	99
11) Freon 11	4.16	101	57152	0.81	ppb	99
12) Acetone	4.32	58	5481	0.83	ppb	87
13) Isopropyl alcohol	4.42	45	12744	0.79	ppb	87
14) 1,1-dichloroethene	4.77	96	18445	0.82	ppb	94
15) Freon 113	4.95	101	42224	0.82	ppb	100
16) Methylene chloride	5.17	84	15279	0.81	ppb	94
17) Allyl chloride	5.16	41	12173	0.81	ppb	93
18) Carbon disulfide	5.29	76	42383	0.82	ppb	99
19) trans-1,2-dichloroethene	6.01	61	21632	0.82	ppb	99
20) methyl tert-butyl ether	6.08	73	19590	0.81	ppb	# 46
21) 1,1-dichloroethane	6.40	63	26235	0.81	ppb	100
22) Vinyl acetate	6.43	43	16967	0.79	ppb	95
23) Methyl Ethyl Ketone	6.92	43	23387	0.79	ppb	92
24) cis-1,2-dichloroethene	7.28	61	16080	0.81	ppb	94
25) Hexane	6.92	41	11727	0.80	ppb	90
26) Ethyl acetate	7.50	43	16543	0.78	ppb	94
27) Chloroform	7.88	83	40456	0.80	ppb	98
28) Tetrahydrofuran	8.07	42	6346	0.76	ppb	85
29) 1,2-dichloroethane	8.95	62	23817	0.83	ppb	99
31) 1,1,1-trichloroethane	8.66	97	38507	0.74	ppb	100
32) Cyclohexane	9.35	56	11507	0.72	ppb	98
33) Carbon tetrachloride	9.29	117	49810	0.77	ppb	99
34) Benzene	9.27	78	34340	0.73	ppb	97
35) 1,4-dioxane	11.11	88	4897	0.72	ppb	78
36) 2,2,4-trimethylpentane	10.23	57	33568	0.73	ppb	95
37) Heptane	10.65	43	10659	0.71	ppb	97
38) Trichloroethene	10.74	130	22961	0.73	ppb	96
39) 1,2-dichloropropane	10.86	63	13044	0.74	ppb	99
40) Bromodichloromethane	11.25	83	42590	0.77	ppb	100
41) cis-1,3-dichloropropene	12.15	75	15319	0.72	ppb	99
42) trans-1,3-dichloropropene	12.94	75	12438	0.75	ppb	98
43) 1,1,2-trichloroethane	13.25	97	19034	0.74	ppb	98
45) Toluene	12.99	92	20051	0.76	ppb	96
46) Methyl Isobutyl Ketone	12.12	43	11496	0.80	ppb	96
47) Dibromochloromethane	13.93	129	47435	0.78	ppb	99
48) Methyl Butyl Ketone	13.49	43	10232	0.69	ppb	97
49) 1,2-dibromoethane	14.17	107	28733	0.77	ppb	98
50) Tetrachloroethylene	14.01	164	23571	0.76	ppb	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\AH061219.D

Acq On : 13 Jun 2010 4:10

Sample : A1UG\_0.75

Misc :

MS Integration Params: RTEINT.P

Quant Time: Jun 13 08:11:59 2010

Vial: 5

Operator: RJP

Inst : MSD #1

Multiplr: 1.00

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Sun Jun 13 08:10:24 2010

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AH061218.D

DataAcq Meth : A612\_1UT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
51) Chlorobenzene	14.96	112	34009	0.76	ppb	97
52) Ethylbenzene	15.22	91	35170	0.72	ppb	94
53) m&p-xylene	15.42	91	62235	1.38	ppb	97
54) Styrene	15.82	104	19126	0.72	ppb	95
55) Bromoform	15.90	173	51898	0.78	ppb	97
56) o-xylene	15.84	91	35044	0.69	ppb	100
58) 1,1,2,2-tetrachloroethane	16.26	83	28343	0.67	ppb	98
59) 4-ethyltoluene	17.02	105	31772	0.70	ppb	99
60) 1,3,5-trimethylbenzene	17.09	105	27964	0.64	ppb	96
61) 1,2,4-trimethylbenzene	17.49	105	20649	0.65	ppb	100
62) 1,3-dichlorobenzene	17.75	146	28149	0.74	ppb	98
63) benzyl chloride	17.81	91	18683	0.69	ppb	98
64) 1,4-dichlorobenzene	17.87	146	28149	0.74	ppb	98
65) 1,2-dichlorobenzene	18.15	146	24725	0.73	ppb	99
66) 1,2,4-trichlorobenzene	19.77	180	14817	0.78	ppb	100
67) Hexachloro-1,3-butadiene	20.03	225	28847	0.74	ppb	99



Data File : C:\HPCHEM\1\DATA\AH061220.D  
 Acq On : 13 Jun 2010 4:46  
 Sample : ALUG\_0.50  
 Misc :

Vial: 6  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

MS Integration Params: RTEINT.P  
 Quant Time: Jun 13 08:12:29 2010

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:10:24 2010  
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AH061218.D  
 DataAcq Meth : A612\_1UT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane	7.71	128	17163	1.00	ppb	0.00
30) 1,4-difluorobenzene	10.05	114	45168	1.00	ppb	0.00
44) Chlorobenzene-d5	14.91	117	39385	1.00	ppb	0.00

System Monitoring Compounds  
 57) Bromofluorobenzene 16.46 95 15658 0.83 ppb 0.00  
 Spiked Amount 1.000 Range 70 - 130 Recovery = 83.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	2.94	41	4607	0.52	ppb	93
3) Freon 12	2.98	85	38861	0.52	ppb	99
4) Chloromethane	3.12	50	10895	0.52	ppb	97
5) Freon 114	3.12	85	35130	0.52	ppb	98
6) Vinyl Chloride	3.26	62	9767	0.52	ppb	99
7) 1,3-butadiene	3.34	39	6503	0.57	ppb	85
8) Bromomethane	3.59	94	13219	0.55	ppb	97
9) Chloroethane	3.71	64	4266	0.52	ppb	100
10) Vinyl Bromide	3.96	106	13233	0.51	ppb	99
11) Freon 11	4.17	101	37615	0.54	ppb	99
12) Acetone	4.32	58	3411	0.52	ppb	96
13) Isopropyl alcohol	4.42	45	7828	0.49	ppb	98
14) 1,1-dichloroethene	4.77	96	11487	0.52	ppb	87
15) Freon 113	4.95	101	26245	0.51	ppb	98
16) Methylene chloride	5.17	84	9619	0.52	ppb	93
17) Allyl chloride	5.16	41	7761	0.52	ppb	94
18) Carbon disulfide	5.29	76	27990	0.54	ppb	97
19) trans-1,2-dichloroethene	6.02	61	11764	0.45	ppb	95
20) methyl tert-butyl ether	6.09	73	11338	0.47	ppb	65
21) 1,1-dichloroethane	6.41	63	16129	0.50	ppb	98
22) Vinyl acetate	6.44	43	9178	0.43	ppb	89
23) Methyl Ethyl Ketone	6.93	43	12586	0.43	ppb	93
24) cis-1,2-dichloroethene	7.29	61	9983	0.50	ppb	92
25) Hexane	6.92	41	6643	0.46	ppb	# 85
26) Ethyl acetate	7.51	43	9043	0.43	ppb	95
27) Chloroform	7.87	83	25981	0.51	ppb	99
28) Tetrahydrofuran	8.09	42	3838m A	0.46	ppb	
29) 1,2-dichloroethane	8.95	62	14889	0.52	ppb	100
31) 1,1,1-trichloroethane	8.66	97	25210	0.52	ppb	99
32) Cyclohexane	9.37	56	6413m	0.42	ppb	
33) Carbon tetrachloride	9.30	117	31673	0.52	ppb	97
34) Benzene	9.26	78	21820	0.50	ppb	98
35) 1,4-dioxane	11.10	88	2684m	0.42	ppb	
36) 2,2,4-trimethylpentane	10.23	57	19444	0.45	ppb	92
37) Heptane	10.65	43	6484	0.46	ppb	91
38) Trichloroethene	10.75	130	13843	0.47	ppb	94
39) 1,2-dichloropropane	10.87	63	8051	0.48	ppb	100
40) Bromodichloromethane	11.25	83	26854	0.51	ppb	100
41) cis-1,3-dichloropropane	12.15	75	8387	0.42	ppb	98
42) trans-1,3-dichloropropene	12.95	75	7276	0.47	ppb	89
43) 1,1,2-trichloroethane	13.25	97	12306	0.51	ppb	97
45) Toluene	12.99	92	11203	0.46	ppb	95
46) Methyl Isobutyl Ketone	12.12	43	5847	0.44	ppb	95
47) Dibromochloromethane	13.93	129	29668	0.53	ppb	100
48) Methyl Butyl Ketone	13.50	43	5490m A	0.40	ppb	
49) 1,2-dibromoethane	14.17	107	17820	0.51	ppb	98
50) Tetrachloroethylene	14.02	164	14781	0.51	ppb	94

Data File : C:\HPCHEM\1\DATA\AH061220.D  
 Acq On : 13 Jun 2010 4:46  
 Sample : ALUG\_0.50  
 Misc :

Vial: 6  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

MS Integration Params: RTEINT.P  
 Quant Time: Jun 13 08:12:29 2010

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:10:24 2010  
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AH061218.D  
 DataAcq Meth : A612\_1UT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
51) Chlorobenzene	14.96	112	20788	0.50	ppb	98
52) Ethylbenzene	15.22	91	20795	0.46	ppb	98
53) m&p-xylene	15.42	91	34303	0.82	ppb	95
54) Styrene	15.82	104	10099	0.41	ppb	92
55) Bromoform	15.90	173	31446	0.51	ppb	96
56) o-xylene	15.84	91	17091	0.36	ppb	100
58) 1,1,2,2-tetrachloroethane	16.27	83	15882	0.41	ppb	98
59) 4-ethyltoluene	17.02	105	16269	0.39	ppb	92
60) 1,3,5-trimethylbenzene	17.09	105	14776	0.37	ppb	94
61) 1,2,4-trimethylbenzene	17.49	105	10779	0.37	ppb	100
62) 1,3-dichlorobenzene	17.75	146	16119	0.45	ppb	96
63) benzyl chloride	17.81	91	10747	0.43	ppb	92
64) 1,4-dichlorobenzene	17.87	146	15018	0.42	ppb	99
65) 1,2-dichlorobenzene	18.15	146	13766	0.44	ppb	98
66) 1,2,4-trichlorobenzene	19.77	180	6706	0.38	ppb	96
67) Hexachloro-1,3-butadiene	20.03	225	15968	0.44	ppb	98



Data File : C:\HPCHEM\1\DATA\AH061221.D  
 Acq On : 13 Jun 2010 5:22  
 Sample : ALUG\_0.30  
 Misc :

Vial: 7  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:10:24 2010  
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AH061218.D  
 DataAcq Meth : A612\_1UT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.71	128	16971	1.00	ppb	0.00
30) 1,4-difluorobenzene	10.05	114	44261	1.00	ppb	0.00
44) Chlorobenzene-d5	14.91	117	36406	1.00	ppb	0.00

System Monitoring Compounds

57) Bromofluorobenzene	16.46	95	14206	0.82	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	82.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	2.94	41	2909	0.33	ppb	86
3) Freon 12	2.98	85	24773	0.33	ppb	99
4) Chloromethane	3.12	50	6929	0.33	ppb	97
5) Freon 114	3.12	85	21073	0.32	ppb	98
6) Vinyl Chloride	3.26	62	6469	0.35	ppb	98
7) 1,3-butadiene	3.34	39	3388	0.30	ppb	# 44
8) Bromomethane	3.59	94	8333	0.35	ppb	99
9) Chloroethane	3.71	64	2702	0.33	ppb	92
10) Vinyl Bromide	3.95	106	8246	0.32	ppb	97
11) Freon 11	4.16	101	23676	0.34	ppb	100
12) Acetone	4.33	58	2099	0.32	ppb	# 78
13) Isopropyl alcohol	4.42	45	5000	0.32	ppb	96
14) 1,1-dichloroethene	4.78	96	7394	0.34	ppb	94
15) Freon 113	4.95	101	15903	0.31	ppb	100
16) Methylene chloride	5.18	84	5891	0.32	ppb	95
17) Allyl chloride	5.16	41	4957	0.33	ppb	91
18) Carbon disulfide	5.29	76	17900	0.35	ppb	95
19) trans-1,2-dichloroethene	6.02	61	6525	0.25	ppb	98
20) methyl tert-butyl ether	6.09	73	6648	0.28	ppb	# 55
21) 1,1-dichloroethane	6.41	63	10102	0.32	ppb	99
22) Vinyl acetate	6.44	43	5226	0.25	ppb	90
23) Methyl Ethyl Ketone	6.94	43	7229	0.25	ppb	88
24) cis-1,2-dichloroethene	7.28	61	5913	0.30	ppb	92
25) Hexane	6.92	41	3716	0.26	ppb	# 87
26) Ethyl acetate	7.51	43	4730	0.23	ppb	89
27) Chloroform	7.87	83	15369	0.31	ppb	99
28) Tetrahydrofuran	8.09	42	2299m	0.28	ppb	
29) 1,2-dichloroethane	8.96	62	8705	0.31	ppb	99
31) 1,1,1-trichloroethane	8.67	97	15308	0.32	ppb	100
32) Cyclohexane	9.36	56	3837	0.26	ppb	# 56
33) Carbon tetrachloride	9.29	117	19238	0.32	ppb	98
34) Benzene	9.26	78	11958	0.28	ppb	96
35) 1,4-dioxane	11.14	88	1725	0.28	ppb	87
36) 2,2,4-trimethylpentane	10.23	57	11760	0.28	ppb	91
37) Heptane	10.65	43	3807	0.27	ppb	92
38) Trichloroethene	10.75	130	8437	0.29	ppb	97
39) 1,2-dichloropropane	10.85	63	4711	0.29	ppb	99
40) Bromodichloromethane	11.25	83	15719	0.31	ppb	99
41) cis-1,3-dichloropropene	12.15	75	4654	0.24	ppb	96
42) trans-1,3-dichloropropene	12.95	75	4218	0.28	ppb	92
43) 1,1,2-trichloroethane	13.25	97	7287	0.31	ppb	96
45) Toluene	12.99	92	6530	0.29	ppb	98
46) Methyl Isobutyl Ketone	12.13	43	3378	0.27	ppb	91
47) Dibromochloromethane	13.93	129	17026	0.33	ppb	98
48) Methyl Butyl Ketone	13.51	43	3730m	0.29	ppb	
49) 1,2-dibromoethane	14.17	107	10506	0.33	ppb	97
50) Tetrachloroethylene	14.02	164	8924	0.33	ppb	94

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\AH061221.D  
 Acq On : 13 Jun 2010 5:22  
 Sample : A1UG\_0.30  
 Misc :

Vial: 7  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 13 08:12:52 2010

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Sun Jun 13 08:10:24 2010

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AH061218.D

DataAcq Meth : A612\_1UT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
51) Chlorobenzene	14.96	112	11424	0.30	ppb	94
52) Ethylbenzene	15.22	91	11678	0.28	ppb	94
53) m&p-xylene	15.41	91	17987	0.46	ppb	97
54) Styrene	15.82	104	5710	0.25	ppb	100
55) Bromoform	15.90	173	17185	0.30	ppb	98
56) o-xylene	15.84	91	9325	0.21	ppb	99
58) 1,1,2,2-tetrachloroethane	16.26	83	9103	0.25	ppb	96
59) 4-ethyltoluene	17.02	105	9796	0.25	ppb	98
60) 1,3,5-trimethylbenzene	17.08	105	7400	0.20	ppb	96
61) 1,2,4-trimethylbenzene	17.49	105	6346	0.23	ppb	98
62) 1,3-dichlorobenzene	17.75	146	8513	0.26	ppb	100
63) benzyl chloride	17.81	91	5147	0.22	ppb	95
64) 1,4-dichlorobenzene	17.87	146	8029	0.24	ppb	97
65) 1,2-dichlorobenzene	18.15	146	7267	0.25	ppb	97
66) 1,2,4-trichlorobenzene	19.77	180	3647	0.22	ppb	99
67) Hexachloro-1,3-butadiene	20.02	225	9249	0.28	ppb	98



Centek laboratories, LLC

Data File : C:\HPCHEM\1\DATA\AH061222.D  
 Acq On : 13 Jun 2010 5:58  
 Sample : ALUG\_0.15  
 Misc :

Vial: 8  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

MS Integration Params: RTEINT.P  
 Quant Time: Jun 13 08:13:12 2010

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:10:24 2010  
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AH061218.D  
 DataAcq Meth : A612\_1UT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.71	128	16193	1.00	ppb	0.00
30) 1,4-difluorobenzene	10.04	114	40138	1.00	ppb	0.00
44) Chlorobenzene-d5	14.91	117	33647	1.00	ppb	0.00

System Monitoring Compounds

57) Bromofluorobenzene	16.46	95	11675	0.73	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	73.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	2.94	41	1755	0.21	ppb	87
3) Freon 12	2.98	85	13581	0.19	ppb	99
4) Chloromethane	3.12	50	3956	0.20	ppb	93
5) Freon 114	3.12	85	12080	0.19	ppb	100
6) Vinyl Chloride	3.26	62	3352	0.19	ppb	92
7) 1,3-butadiene	3.33	39	2142m #	0.20	ppb	
8) Bromomethane	3.59	94	4717	0.21	ppb	99
9) Chloroethane	3.71	64	1542	0.20	ppb	97
10) Vinyl Bromide	3.95	106	4476	0.18	ppb	90
11) Freon 11	4.17	101	12419	0.19	ppb	97
13) Isopropyl alcohol	4.43	45	2859	0.19	ppb	89
14) 1,1-dichloroethene	4.77	96	4173	0.20	ppb	96
15) Freon 113	4.95	101	9224	0.19	ppb	97
16) Methylene chloride	5.17	84	3422	0.19	ppb	94
17) Allyl chloride	5.16	41	1924	0.14	ppb	99
18) Carbon disulfide	5.30	76	10240	0.21	ppb	95
19) trans-1,2-dichloroethene	6.02	61	3831	0.15	ppb	90
20) methyl tert-butyl ether	6.09	73	2655	0.12	ppb	77
21) 1,1-dichloroethane	6.41	63	5344	0.18	ppb	96
22) Vinyl acetate	6.44	43	2746	0.14	ppb	88
24) cis-1,2-dichloroethene	7.28	61	3221	0.17	ppb	89
25) Hexane	6.93	41	1883	0.14	ppb	# 72
26) Ethyl acetate	7.55	43	2239m #	0.11	ppb	
27) Chloroform	7.88	83	8524	0.18	ppb	97
29) 1,2-dichloroethane	8.96	62	4935	0.18	ppb	99
31) 1,1,1-trichloroethane	8.66	97	8355	0.19	ppb	99
32) Cyclohexane	9.36	56	2001	0.15	ppb	# 65
33) Carbon tetrachloride	9.30	117	10546	0.20	ppb	98
34) Benzene	9.27	78	6650	0.17	ppb	99
36) 2,2,4-trimethylpentane	10.23	57	6048	0.16	ppb	94
37) Heptane	10.66	43	1941	0.15	ppb	99
38) Trichloroethene	10.74	130	4243	0.16	ppb	94
39) 1,2-dichloropropane	10.87	63	2756	0.19	ppb	75
40) Bromodichloromethane	11.26	83	8325	0.18	ppb	97
41) cis-1,3-dichloropropene	12.16	75	2400	0.14	ppb	85
42) trans-1,3-dichloropropene	12.95	75	2053	0.15	ppb	76
43) 1,1,2-trichloroethane	13.26	97	3988	0.18	ppb	100
45) Toluene	12.99	92	3376	0.16	ppb	92
47) Dibromochloromethane	13.93	129	8640	0.18	ppb	95
49) 1,2-dibromoethane	14.17	107	5212	0.18	ppb	96
50) Tetrachloroethylene	14.01	164	4699	0.19	ppb	97
51) Chlorobenzene	14.96	112	5654	0.16	ppb	97
52) Ethylbenzene	15.22	91	5450	0.14	ppb	93
53) m&p-xylene	15.42	91	8467m #	0.24	ppb	
54) Styrene	15.82	104	2749	0.13	ppb	95
55) Bromoform	15.90	173	8080	0.15	ppb	99
56) o-xylene	15.84	91	4434	0.11	ppb	99

(#) = qualifier out of range (m) = manual integration

Centek laboratories, LLC

Data File : C:\HPCHEM\1\DATA\AH061222.D  
 Acq On : 13 Jun 2010 5:58  
 Sample : A1UG\_0.15  
 Misc :

Vial: 8  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

MS Integration Params: RTEINT.P  
 Quant Time: Jun 13 08:13:12 2010

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:10:24 2010  
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AH061218.D  
 DataAcq Meth : A612\_1UT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) 1,1,2,2-tetrachloroethane	16.27	83	4815	0.14	ppb	91
59) 4-ethyltoluene	17.02	105	4429	0.12	ppb	90
60) 1,3,5-trimethylbenzene	17.09	105	3720	0.11	ppb	97
61) 1,2,4-trimethylbenzene	17.50	105	3159	0.13	ppb	96
62) 1,3-dichlorobenzene	17.75	146	3804	0.13	ppb	92
63) benzyl chloride	17.82	91	2486	0.12	ppb	95
64) 1,4-dichlorobenzene	17.87	146	3819	0.13	ppb	97
65) 1,2-dichlorobenzene	18.15	146	3766	0.14	ppb	100
66) 1,2,4-trichlorobenzene	19.77	180	2100	0.14	ppb	97
67) Hexachloro-1,3-butadiene	20.02	225	4494	0.14	ppb	98

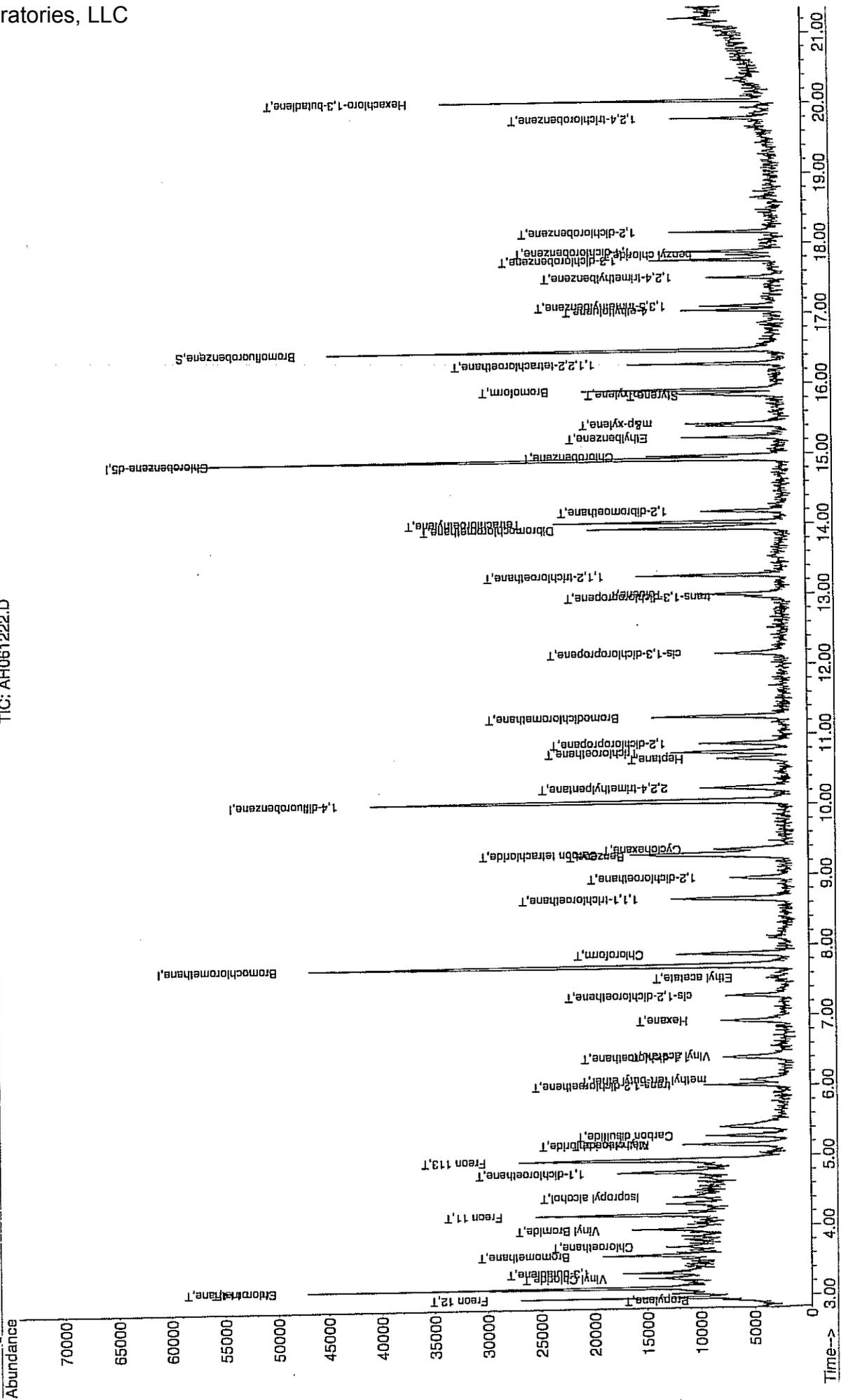
Data File : C:\HPCHEM\1\DATA\AH061222.D  
Acq On : 13 Jun 2010 5:58  
Sample : AIUG\_0.15  
Misc :  
MS Integration Params: RTEINT.P  
Quant Time: Jun 13 8:29 2010

Vial: 8  
Operator: RJP  
Inst : MSD #1  
Multiplr: 1.00

Quant Results File: A612\_1UT.RES

Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
Title : TO-15 VOA Standards for 5 point calibration  
Last Update : Sun Jun 13 08:34:49 2010  
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AH061218.D

TIC: AH061222.D



Data File : C:\HPCHEM\1\DATA\AH061224.D  
 Acq On : 13 Jun 2010 7:07  
 Sample : A1UG\_0.04  
 Misc :

Vial: 10  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jun 13 08:14:00 2010

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

Last Update : Sun Jun 13 08:10:24 2010

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AH061218.D

DataAcq Meth : A612\_1UT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.71	128	16993	1.00	ppb	0.00
30) 1,4-difluorobenzene	10.04	114	41281	1.00	ppb	0.00
44) Chlorobenzene-d5	14.91	117	35076	1.00	ppb	0.00

System Monitoring Compounds

57) Bromofluorobenzene	16.46	95	12136	0.72	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	72.00%

Target Compounds

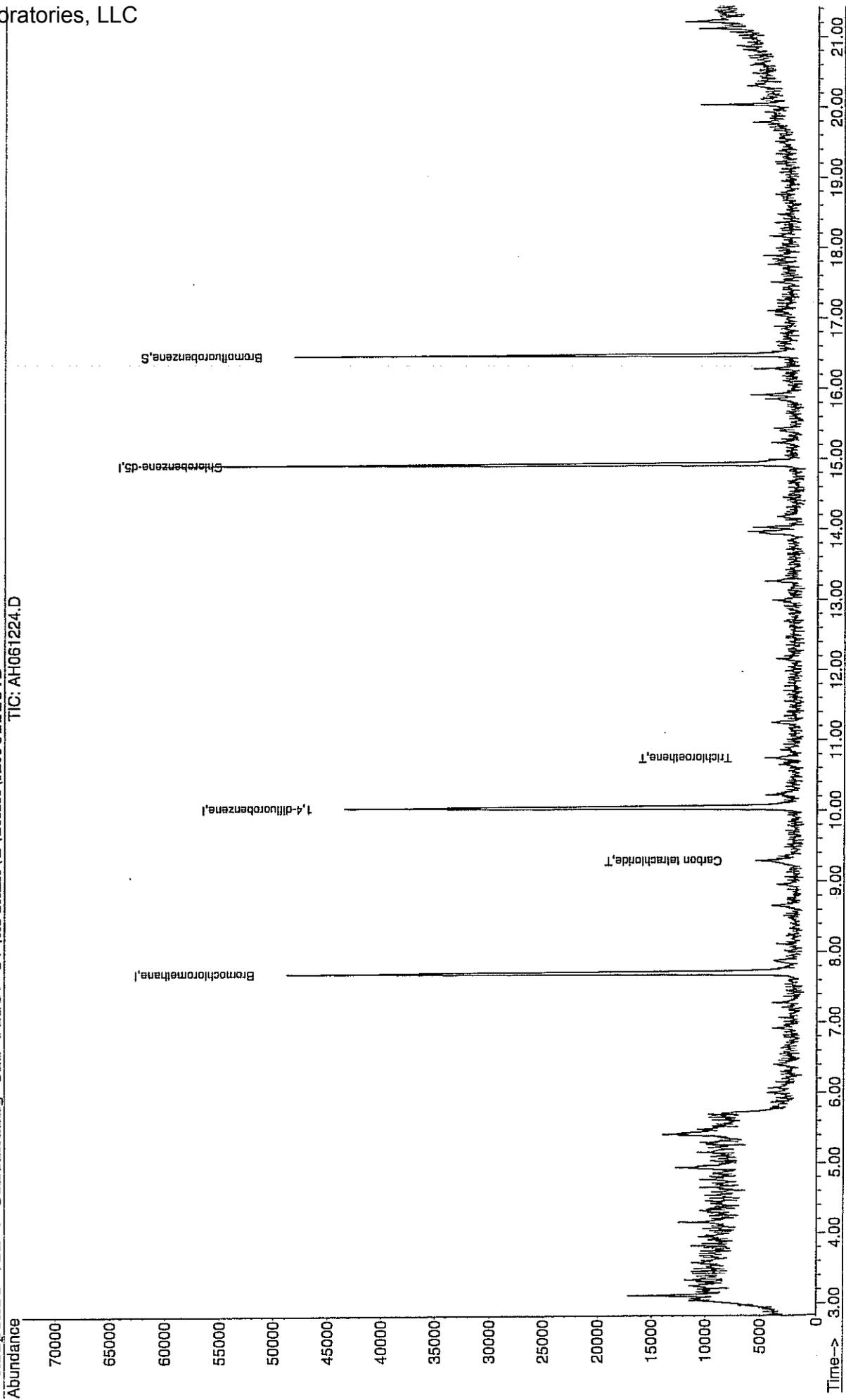
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
33) Carbon tetrachloride	9.29	117	1946	0.03	ppb	# 76
38) Trichloroethene	10.74	130	875	0.03	ppb	88

Data File : C:\HPCHEM\1\DATA\AH061224.D  
 Acq On : 13 Jun 2010 7:07  
 Sample : AIUG\_0.04  
 Misc :  
 MS Integration Params: RTEINT.P  
 Quant Time: Jun 13 8:32 2010

Vial: 10  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

Quant Results File: A612\_1UT.RES

Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:34:49 2010  
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AH061218.D



Data File : C:\HPCHEM\1\DATA\AH061225.D  
 Acq On : 13 Jun 2010 7:42  
 Sample : A1UG\_0.10  
 Misc :

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

MS Integration Params: RTEINT.P

Quant Time: Jun 13 08:14:13 2010

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:10:24 2010  
 Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AH061218.D  
 DataAcq Meth : A612\_1UT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.71	128	16486	1.00	ppb	0.00
30) 1,4-difluorobenzene	10.04	114	42741	1.00	ppb	0.00
44) Chlorobenzene-d5	14.91	117	35381	1.00	ppb	0.00

System Monitoring Compounds

57) Bromofluorobenzene	16.46	95	11821	0.70	ppb	0.00
Spiked Amount	1.000	Range	70 - 130	Recovery	=	70.00%

Target Compounds

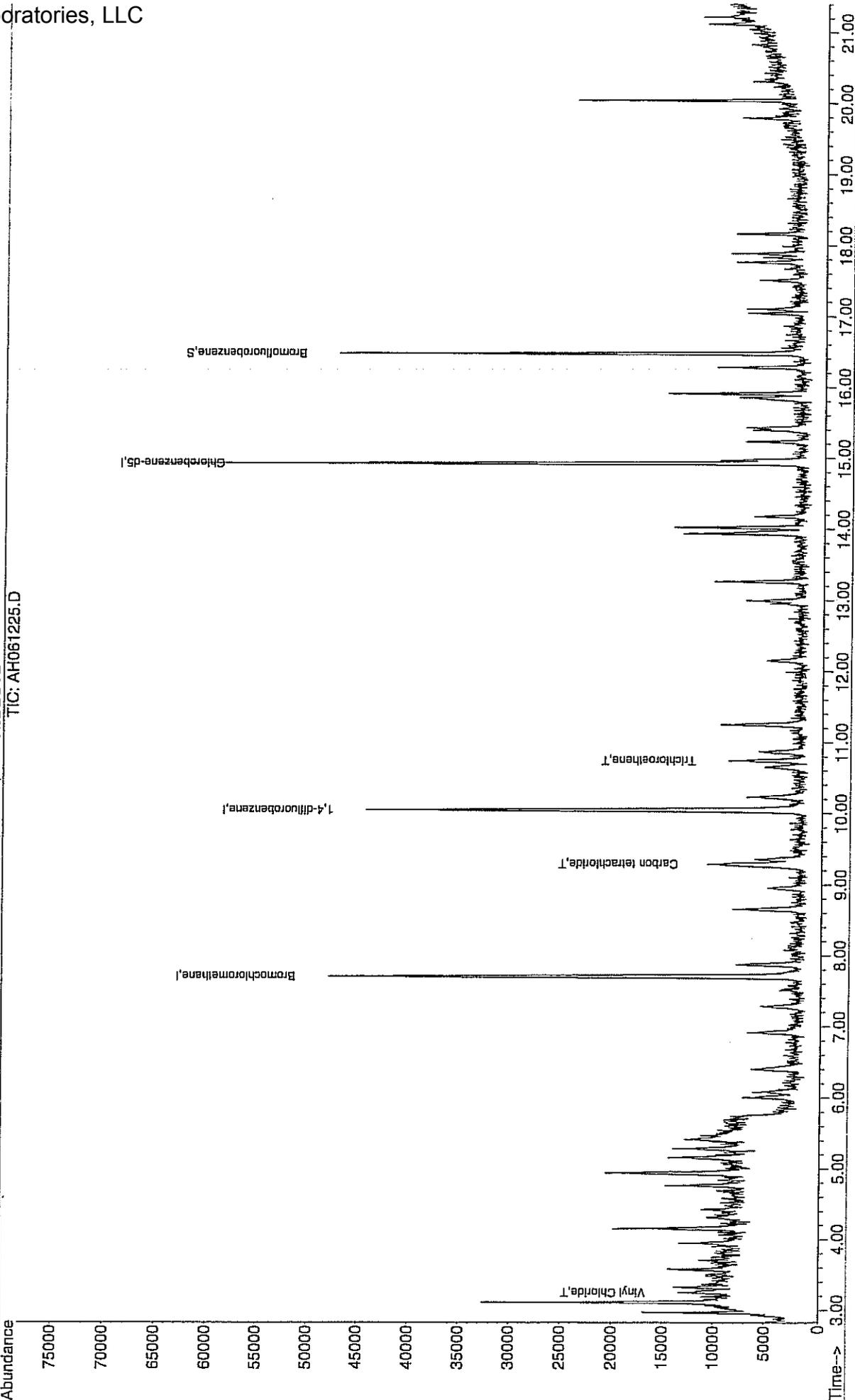
	R.T.	QIon	Response	Conc	Units	Qvalue
6) Vinyl Chloride	3.26	62	2061	0.11	ppb	75
33) Carbon tetrachloride	9.30	117	6356	0.11	ppb	97
38) Trichloroethene	10.74	130	2740	0.10	ppb	97

Data File : C:\HPCHEM\1\DATA\AH061225.D  
Acq On : 13 Jun 2010 7:42  
Sample : AIUG\_0.10  
Misc :  
MS Integration Params: RPEINT.P  
Quant Time: Jun 13 8:30 2010

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

Quant Results File: A612\_1UT.RES

Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
Title : TO-15 VOA Standards for 5 point calibration  
Last Update : Sun Jun 13 08:34:49 2010  
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\AH061218.D



**GC/MS VOLATILES-WHOLE AIR**

**METHOD TO-15**

**CALIBRATION VERIFICATION**

Centek laboratories, LLC Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\AH080902.D  
 Acq On : 9 Aug 2010 12:25 pm  
 Sample : ALUG\_1.0  
 Misc :  
 MS Integration Params: RTEINT.P

Vial: 3  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Tue Aug 31 08:51:03 2010  
 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	135	0.00
2 T	Propylene	0.550	0.580	-5.5	151#	0.00
3 T	Freon 12	4.607	4.041	12.3	125	0.00
4 T	Chloromethane	1.287	1.369	-6.4	151#	0.00
5 T	Freon 114	4.112	3.953	3.9	136	0.00
6 T	Vinyl Chloride	1.178	1.231	-4.5	151#	0.00
7 T	1,3-butadiene	0.713	0.774	-8.6	157#	0.00
8 T	Bromomethane	1.544	1.423	7.8	136	0.00
9 T	Chloroethane	0.496	0.498	-0.4	140	0.00
10 T	Vinyl Bromide	1.557	1.307	16.1	117	0.00
11 T	Freon 11	4.355	3.743	14.1	125	0.00
12 T	Acetone	0.401	0.458	-14.2	162#	0.00
13 T	Isopropyl alcohol	0.942	0.951	-1.0	138	0.00
14 T	1,1-dichloroethene	1.379	1.249	9.4	130	0.00
15 T	Freon 113	3.098	2.709	12.6	122	0.00
16 T	Methylene chloride	1.140	1.102	3.3	137	0.00
17 T	Allyl chloride	0.877	0.914	-4.2	142	0.00
18 T	Carbon disulfide	3.271	3.008	8.0	135	0.00
19 T	trans-1,2-dichloroethene	1.461	1.500	-2.7	132	0.00
20 T	methyl tert-butyl ether	1.390	1.657	-19.2	160#	0.00
21 T	1,1-dichloroethane	1.936	1.673	13.6	120	0.00
22 T	Vinyl acetate	1.196	1.098	8.2	119	0.00
23 T	Methyl Ethyl Ketone	1.685	1.771	-5.1	139	0.00
24 T	cis-1,2-dichloroethene	1.183	1.025	13.4	120	0.00
25 T	Hexane	0.829	0.750	9.5	120	0.00
26 T	Ethyl acetate	1.154	1.239	-7.4	137	0.00
27 T	Chloroform	3.025	2.434	19.5	112	0.00
28 T	Tetrahydrofuran	0.491	0.465	5.3	130	0.00
29 T	1,2-dichloroethane	1.746	1.461	16.3	119	0.00
30 I	1,4-difluorobenzene	1.000	1.000	0.0	139	0.00
31 T	1,1,1-trichloroethane	1.117	0.856	23.4	110	0.00
32 T	Cyclohexane	0.323	0.269	16.7	112	0.00
33 T	Carbon tetrachloride	1.395	1.064	23.7	109	0.00
34 T	Benzene	0.975	0.767	21.3	109	0.00
35 T	1,4-dioxane	0.133	0.101	24.1	99	0.00
36 T	2,2,4-trimethylpentane	0.935	0.713	23.7	103	0.00
37 T	Heptane	0.304	0.241	20.7	107	0.00
38 T	Trichloroethene	0.632	0.482	23.7	102	0.00
39 T	1,2-dichloropropane	0.369	0.317	14.1	119	0.00
40 T	Bromodichloromethane	1.193	0.876	26.6	105	0.00
41 T	cis-1,3-dichloropropene	0.419	0.335	20.0	105	0.00
42 T	trans-1,3-dichloropropene	0.344	0.275	20.1	110	0.00
43 T	1,1,2-trichloroethane	0.546	0.431	21.1	111	0.00
44 I	Chlorobenzene-d5	1.000	1.000	0.0	135	0.00
45 T	Toluene	0.653	0.487	25.4	105	0.00
46 T	Methyl Isobutyl Ketone	0.342	0.386	-12.9	153#	0.00
47 T	Dibromochloromethane	1.526	1.085	28.9	102	0.00
48 T	Methyl Butyl Ketone	0.329	0.400	-21.6	153#	0.00
49 T	1,2-dibromoethane	0.916	0.675	26.3	103	0.00
50 T	Tetrachloroethylene	0.777	0.559	28.1	103	0.00
51 T	Chlorobenzene	1.077	0.852	20.9	109	0.00
52 T	Ethylbenzene	1.168	0.897	23.2	105	0.00
53 T	m&p-xylene	1.009	0.776	23.1	98	0.00

(#) = Out of Range

Data File : C:\HPCHEM\1\DATA\AH080902.D  
 Acq On : 9 Aug 2010 12:25 pm  
 Sample : A1UG\_1.0  
 Misc :  
 MS Integration Params: RTEINT.P

Vial: 3  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Tue Aug 31 08:51:03 2010  
 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)
54 T	Styrene	0.611	0.461	24.5	99	0.00
55 T	Bromoform	1.629	1.145	29.7	98	0.00
56 T	o-xylene	1.126	0.824	26.8	93	0.00
57 S	Bromofluorobenzene	0.418	0.487	-16.5	137	0.00
58 T	1,1,2,2-tetrachloroethane	0.893	0.800	10.4	108	0.00
59 T	4-ethyltoluene	1.057	0.947	10.4	120	0.00
60 T	1,3,5-trimethylbenzene	0.960	0.812	15.4	107	0.00
61 T	1,2,4-trimethylbenzene	0.721	0.594	17.6	107	0.00
62 T	1,3-dichlorobenzene	0.888	0.658	25.9	98	0.00
63 T	benzyl chloride	0.613	0.589	3.9	124	0.00
64 T	1,4-dichlorobenzene	0.876	0.652	25.6	97	0.00
65 T	1,2-dichlorobenzene	0.789	0.582	26.2	98	0.00
66 T	1,2,4-trichlorobenzene	0.432	0.367	15.0	110	0.00
67 T	Hexachloro-1,3-butadiene	0.890	0.676	24.0	99	0.00

Data File : C:\HPCHEM\1\DATA\AH080902.D  
 Acq On : 9 Aug 2010 12:25 pm  
 Sample : A1UG\_1.0  
 Misc :

Vial: 3  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

MS Integration Params: RTEINT.P  
 Quant Time: Aug 09 12:47:04 2010

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:34:49 2010  
 Response via : Initial Calibration  
 DataAcq Meth : A612\_1UT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.71	128	24772	1.00	ppb	0.00
30) 1,4-difluorobenzene	10.04	114	67235	1.00	ppb	0.00
44) Chlorobenzene-d5	14.91	117	59660	1.00	ppb	0.00

System Monitoring Compounds

57) Bromofluorobenzene	16.46	95	29072	1.17	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	117.00%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	2.93	41	14369	1.05	ppb	97
3) Freon 12	2.97	85	100099	0.88	ppb	100
4) Chloromethane	3.11	50	33910	1.06	ppb	99
5) Freon 114	3.11	85	97917	0.96	ppb	97
6) Vinyl Chloride	3.25	62	30482	1.04	ppb	98
7) 1,3-butadiene	3.33	39	19184	1.09	ppb	88
8) Bromomethane	3.58	94	35252	0.92	ppb	99
9) Chloroethane	3.70	64	12330	1.00	ppb	97
10) Vinyl Bromide	3.95	106	32375	0.84	ppb	99
11) Freon 11	4.16	101	92719	0.86	ppb	99
12) Acetone	4.31	58	11340	1.14	ppb	86
13) Isopropyl alcohol	4.41	45	23554	1.01	ppb	92
14) 1,1-dichloroethene	4.77	96	30939	0.91	ppb	# 88
15) Freon 113	4.94	101	67109	0.87	ppb	97
16) Methylene chloride	5.16	84	27310	0.97	ppb	90
17) Allyl chloride	5.15	41	22652	1.04	ppb	86
18) Carbon disulfide	5.29	76	74504	0.92	ppb	98
19) trans-1,2-dichloroethene	6.01	61	37159	1.03	ppb	93
20) methyl tert-butyl ether	6.07	73	41055m	1.19	ppb	
21) 1,1-dichloroethane	6.40	63	41445	0.86	ppb	100
22) Vinyl acetate	6.42	43	27200	0.92	ppb	94
23) Methyl Ethyl Ketone	6.91	43	43875	1.05	ppb	81
24) cis-1,2-dichloroethene	7.28	61	25385	0.87	ppb	87
25) Hexane	6.92	41	18579	0.90	ppb	# 82
26) Ethyl acetate	7.49	43	30690	1.07	ppb	96
27) Chloroform	7.87	83	60284	0.80	ppb	100
28) Tetrahydrofuran	8.06	42	11507	0.95	ppb	81
29) 1,2-dichloroethane	8.95	62	36204	0.84	ppb	100
31) 1,1,1-trichloroethane	8.66	97	57564	0.77	ppb	100
32) Cyclohexane	9.36	56	18103	0.83	ppb	# 57
33) Carbon tetrachloride	9.29	117	71507	0.76	ppb	97
34) Benzene	9.26	78	51538	0.79	ppb	95
35) 1,4-dioxane	11.08	88	6818	0.76	ppb	71
36) 2,2,4-trimethylpentane	10.23	57	47936	0.76	ppb	89
37) Heptane	10.65	43	16216	0.79	ppb	91
38) Trichloroethene	10.74	130	32434	0.76	ppb	94
39) 1,2-dichloropropane	10.86	63	21283	0.86	ppb	99
40) Bromodichloromethane	11.25	83	58869	0.73	ppb	100
41) cis-1,3-dichloropropene	12.15	75	22536	0.80	ppb	94
42) trans-1,3-dichloropropene	12.95	75	18509	0.80	ppb	94
43) 1,1,2-trichloroethane	13.25	97	28979	0.79	ppb	99
45) Toluene	12.99	92	29026	0.75	ppb	95
46) Methyl Isobutyl Ketone	12.11	43	23021m	1.13	ppb	
47) Dibromochloromethane	13.93	129	64723	0.71	ppb	100
48) Methyl Butyl Ketone	13.48	43	23835m	1.21	ppb	
49) 1,2-dibromoethane	14.17	107	40241	0.74	ppb	97
50) Tetrachloroethylene	14.01	164	33355	0.72	ppb	94

(#) = qualifier out of range (m) = manual integration  
 AH080902.D A612\_1UT.M Tue Aug 31 08:53:18 2010

Data File : C:\HPCHEM\1\DATA\AH080902.D  
 Acq On : 9 Aug 2010 12:25 pm  
 Sample : A1UG\_1.0  
 Misc :

Vial: 3  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

MS Integration Params: RTEINT.P  
 Quant Time: Aug 09 12:47:04 2010

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:34:49 2010  
 Response via : Initial Calibration  
 DataAcq Meth : A612\_1UT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
51) Chlorobenzene	14.96	112	50841	0.79	ppb	95
52) Ethylbenzene	15.22	91	53504	0.77	ppb	96
53) m&p-xylene	15.42	91	92613	1.54	ppb	99
54) Styrene	15.82	104	27517	0.75	ppb	92
55) Bromoform	15.90	173	68293m	0.70	ppb	
56) o-xylene	15.84	91	49152	0.73	ppb	100
58) 1,1,2,2-tetrachloroethane	16.26	83	47731	0.90	ppb	96
59) 4-ethyltoluene	17.03	105	56524	0.90	ppb	98
60) 1,3,5-trimethylbenzene	17.09	105	48451	0.85	ppb	97
61) 1,2,4-trimethylbenzene	17.49	105	35467	0.82	ppb	100
62) 1,3-dichlorobenzene	17.75	146	39259	0.74	ppb	98
63) benzyl chloride	17.81	91	35147	0.96	ppb	94
64) 1,4-dichlorobenzene	17.87	146	38875	0.74	ppb	100
65) 1,2-dichlorobenzene	18.15	146	34737	0.74	ppb	97
66) 1,2,4-trichlorobenzene	19.77	180	21916	0.85	ppb	96
67) Hexachloro-1,3-butadiene	20.03	225	40302	0.76	ppb	98



**GC/MS VOLATILES-WHOLE AIR**

**METHOD TO-15**

**RAW DATA**

Data File : C:\HPCHEM\1\DATA\AH061201.D

Vial: 1

Acq On : 12 Jun 2010 10:05

Operator: RJP

Sample : BFB1UG

Inst : MSD #1

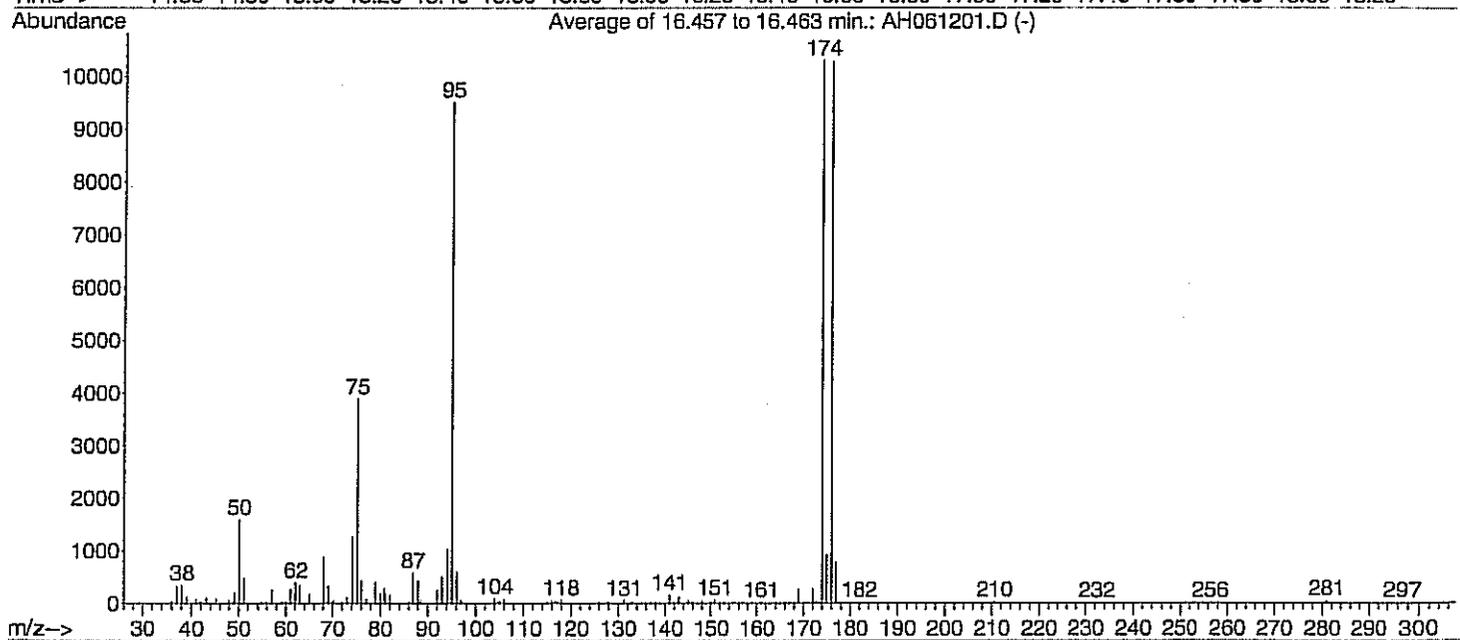
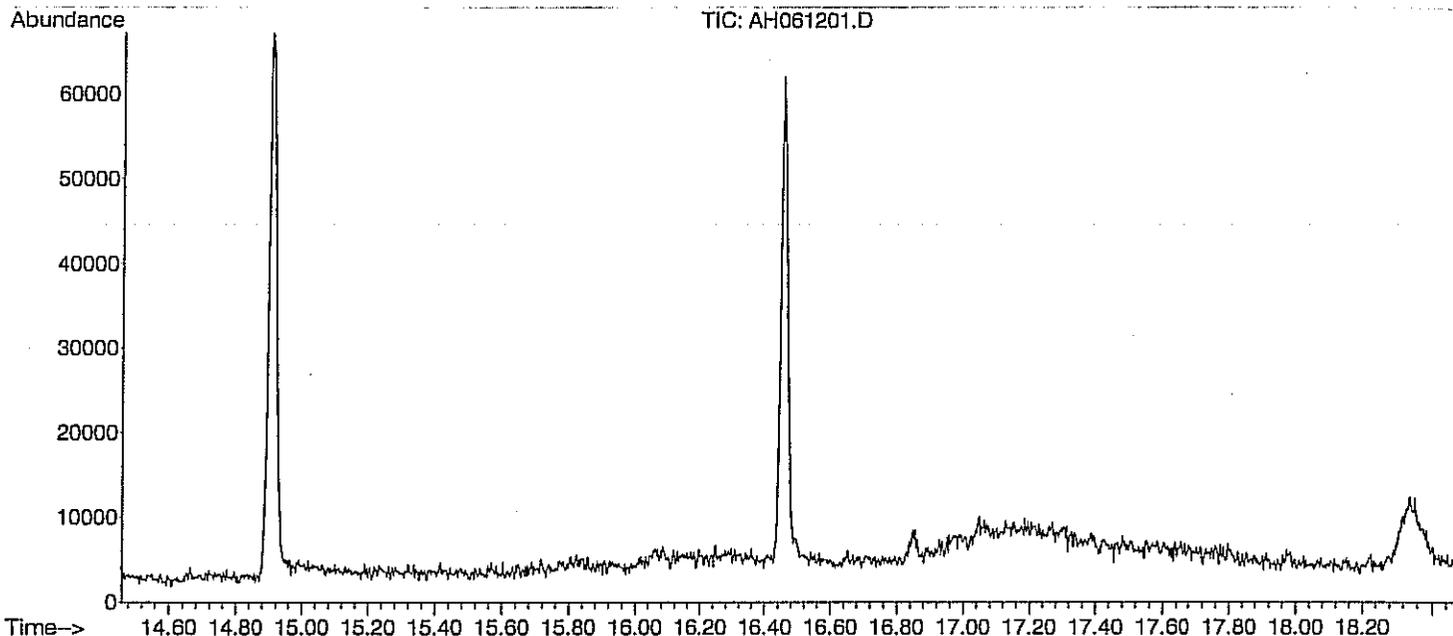
Misc :

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)

Title : TO-15 VOA Standards for 5 point calibration

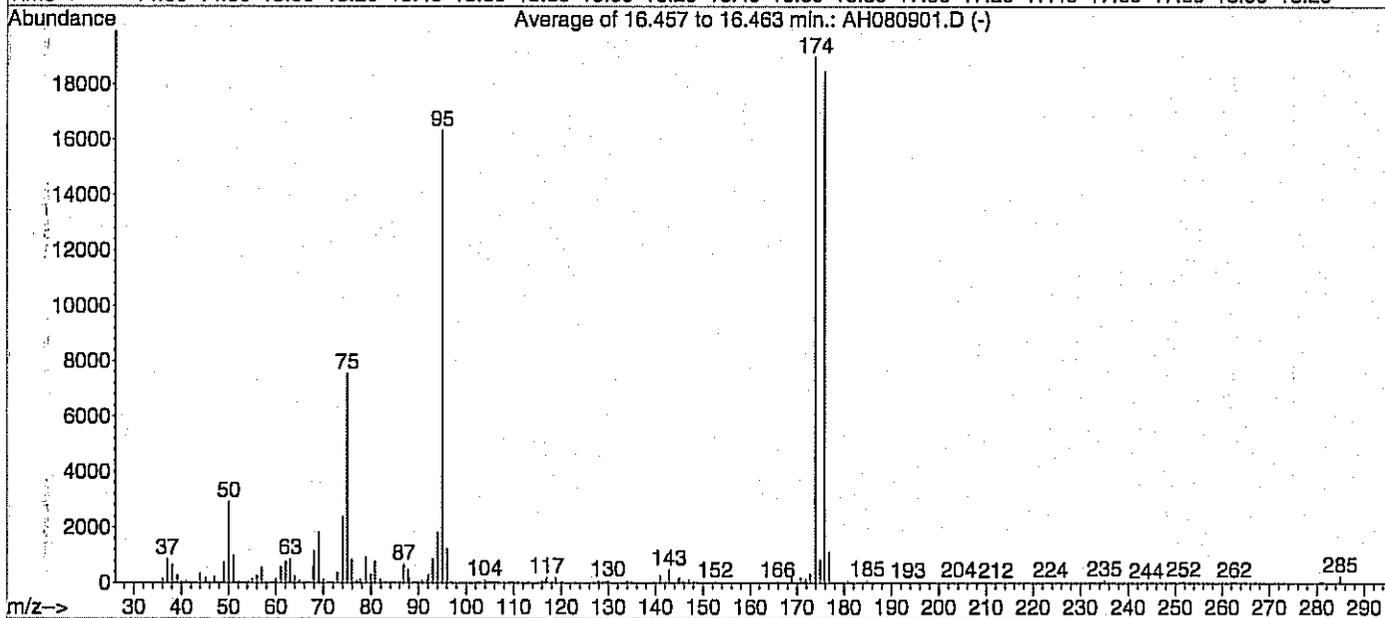
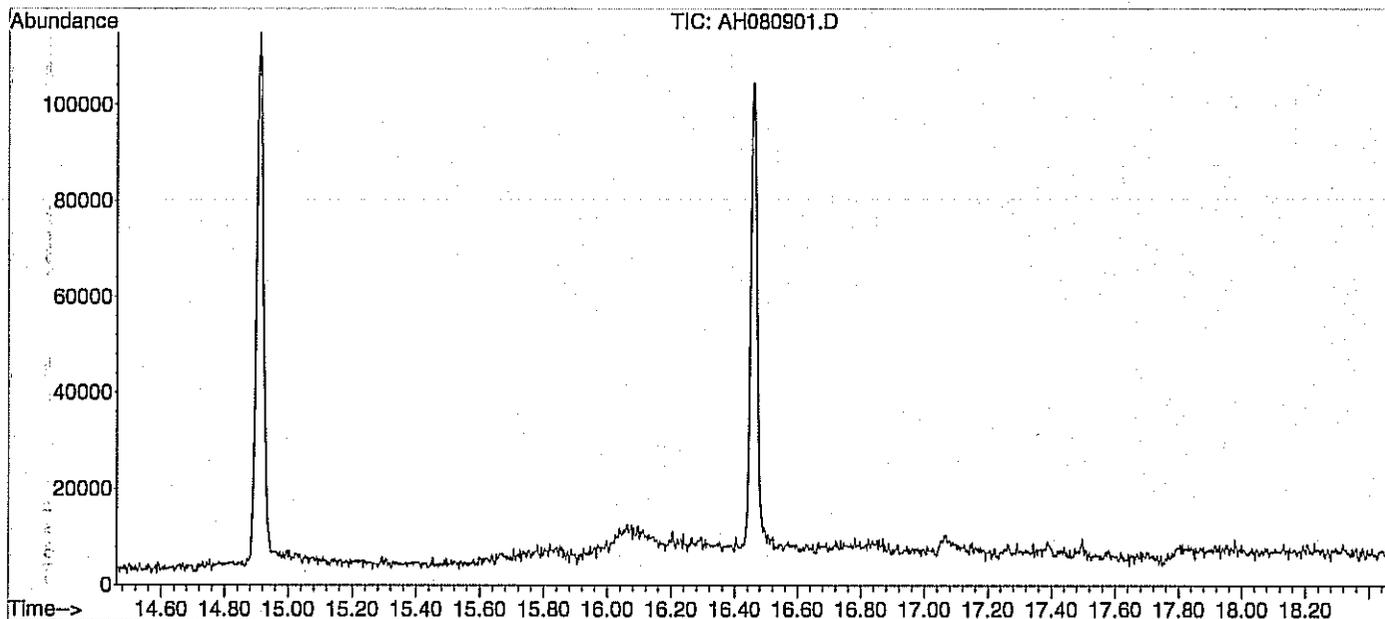


Spectrum Information: Average of 16.457 to 16.463 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	16.8	1598	PASS
75	95	30	66	40.9	3897	PASS
95	95	100	100	100.0	9521	PASS
96	95	5	9	6.3	601	PASS
173	174	0.00	2	0.4	40	PASS
174	95	50	120	108.3	10310	PASS
175	174	4	9	9.0	926	PASS
176	174	95	101	99.8	10291	PASS
177	176	5	9	7.7	789	PASS

Data File : C:\HPCHEM\1\DATA\AH080901.D  
 Acq On : 9 Aug 2010 11:49 am  
 Sample : BFB1UG  
 Misc :  
 MS Integration Params: RTEINT.P  
 Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration

Vial: 2  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00



Spectrum Information: Average of 16.457 to 16.463 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.8	2901	PASS
75	95	30	66	46.2	7543	PASS
95	95	100	100	100.0	16316	PASS
96	95	5	9	7.5	1217	PASS
173	174	0.00	2	1.7	321	PASS
174	95	50	120	116.4	18989	PASS
175	174	4	9	4.3	814	PASS
176	174	95	101	97.3	18474	PASS
177	176	5	9	5.9	1098	PASS

**GC/MS VOLATILES-WHOLE AIR**

**METHOD TO-15**

**RAW QC DATA**

CLIENT: EnviroGroup Limited  
 Work Order: C1008023  
 Project: Capser PCE Orphan Plumes

**ANALYTICAL QC SUMMARY REPORT**

TestCode: 1ugM3\_TO15

Sample ID	MB1UG-080910	SampType:	MBLK	TestCode:	1ugM3_TO15	Units:	ppbV	Prep Date:		RunNo:	3771		
Client ID:	ZZZZZ	Batch ID:	R3771	Analysis Date:	8/9/2010					SeqNo:	46186		
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											
Carbon disulfide	< 0.15	0.15											
Carbon tetrachloride	< 0.15	0.15											
Chlorobenzene	< 0.15	0.15											
Chloroethane	< 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

**ANALYTICAL QC SUMMARY REPORT**

CLIENT: EnviroGroup Limited  
 Work Order: C1008023  
 Project: Capser PCE Orphan Plumes

TestCode: 1ugM3\_TO15

Sample ID	MB1UG-080910	SampType: MBLK	TestCode: 1ugM3_TO15	Units: ppbv	Prep Date:	RunNo: 3771						
Client ID:	ZZZZZ	Batch ID: R3771	TestNo: TO-15		Analysis Date: 8/9/2010	SeqNo: 46186						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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										
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										

**Qualifiers:**

- J 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: EnviroGroup Limited  
 Work Order: C1008023

**ANALYTICAL QC SUMMARY REPORT**

Project: Capser PCE Orphan Plumes

TestCode: 1ugM3\_TO15

Sample ID	MB1UG-080910	SampleType	MBLK	TestCode	1ugM3_TO15	Units	ppbV	Prep Date:		RunNo:	3771		
Client ID	ZZZZ	Batch ID	R3771	TestNo:	TO-15			Analysis Date:	8/9/2010	SeqNo:	46186		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Vinyl acetate	< 0.15	0.15
Vinyl Bromide	< 0.15	0.15
Vinyl chloride	< 0.15	0.15

Qualifiers: J Results reported are not blank corrected  
 S Analyte detected at or below quantitation limits  
 ND 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\AH080904.D  
 Acq On : 9 Aug 2010 1:48 pm  
 Sample : MBLUG-080910  
 Misc : MBLUG-080910

Vial: 5  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

MS Integration Params: RTEINT.P  
 Quant Time: Aug 09 14:10:41 2010

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:34:49 2010  
 Response via : Initial Calibration  
 DataAcq Meth : A612\_1UT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane	7.71	128	23349	1.00	ppb	0.00
30) 1,4-difluorobenzene	10.05	114	61496	1.00	ppb	0.00
44) Chlorobenzene-d5	14.91	117	47883	1.00	ppb	0.00

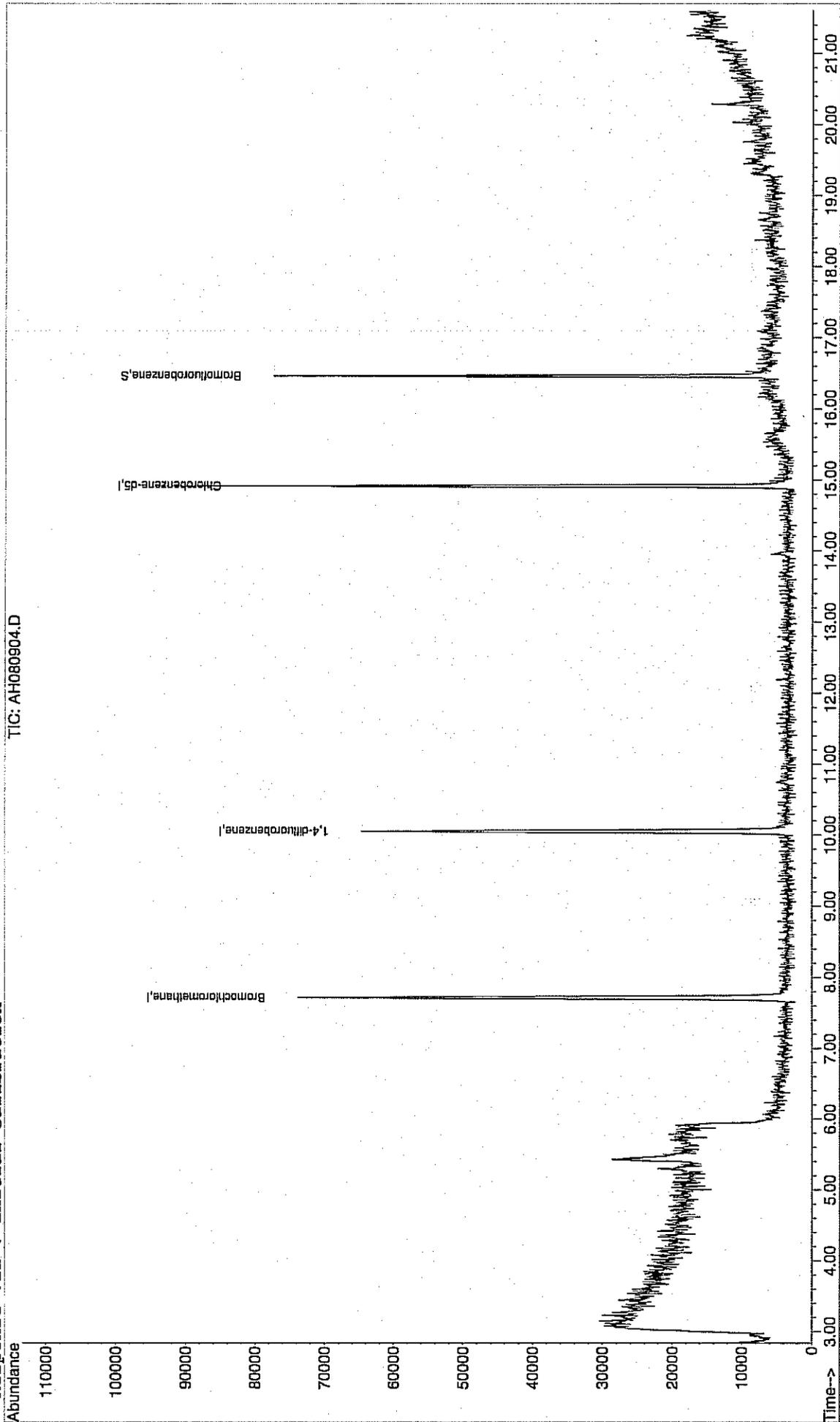
System Monitoring Compounds  
 57) Bromofluorobenzene 16.46 95 19895 0.99 ppb 0.00  
 Spiked Amount 1.000 Range 70 - 130 Recovery = 99.00%

Target Compounds Qvalue

Data File : C:\HPCHEM\1\DATA\AH080904.D  
 Acq On : 9 Aug 2010 1:48 pm  
 Sample : MB1UG-080910  
 Misc : MB1UG-080910  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 10 10:03 2010

Vial: 5  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00  
 Quant Results File: A612\_1UT.RES

Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Tue Aug 31 08:51:03 2010  
 Response via : Initial Calibration



CLIENT: EnviroGroup Limited  
 Work Order: C1008023  
 Project: Capser PCE Orphan Plumes

**ANALYTICAL QC SUMMARY REPORT**

TestCode: 1ugM3\_TO15

Sample ID	LCS1UG-080910	SampType: LCS	TestCode: 1ugM3_TO15	Units: ppbv	Prep Date:	RunNo: 3771					
Client ID:	ZZZZZ	Batch ID: R3771	TestNo: TO-15		Analysis Date: 8/9/2010	SeqNo: 46187					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.8000	0.15	1	0	80.0	70	130				
1,1,2,2-Tetrachloroethane	0.8300	0.15	1	0	83.0	70	130				
1,1,2-Trichloroethane	0.8000	0.15	1	0	80.0	70	130				
1,1-Dichloroethane	0.9100	0.15	1	0	91.0	70	130				
1,1-Dichloroethene	0.9300	0.15	1	0	93.0	70	130				
1,2,4-Trichlorobenzene	0.7400	0.15	1	0	74.0	70	130				
1,2,4-Trimethylbenzene	0.8000	0.15	1	0	80.0	70	130				
1,2-Dibromoethane	0.8000	0.15	1	0	80.0	70	130				
1,2-Dichlorobenzene	0.7600	0.15	1	0	76.0	70	130				
1,2-Dichloroethane	0.8700	0.15	1	0	87.0	70	130				
1,2-Dichloropropane	0.8800	0.15	1	0	88.0	70	130				
1,3,5-Trimethylbenzene	0.7600	0.15	1	0	76.0	70	130				
1,3-butadiene	1.110	0.15	1	0	111	70	130				
1,3-Dichlorobenzene	0.7400	0.15	1	0	74.0	70	130				
1,4-Dichlorobenzene	0.7800	0.15	1	0	78.0	70	130				
1,4-Dioxane	0.7300	0.30	1	0	73.0	70	130				
2,2,4-trimethylpentane	0.8000	0.15	1	0	80.0	70	130				
4-ethyltoluene	0.7600	0.15	1	0	76.0	70	130				
Acetone	1.240	0.30	1	0	124	70	130				
Allyl chloride	1.140	0.15	1	0	114	70	130				
Benzene	0.8400	0.15	1	0	84.0	70	130				
Benzyl chloride	0.9700	0.15	1	0	97.0	70	130				
Bromodichloromethane	0.7800	0.15	1	0	78.0	70	130				
Bromoform	0.7800	0.15	1	0	78.0	70	130				
Bromomethane	0.9600	0.15	1	0	96.0	70	130				
Carbon disulfide	0.9200	0.15	1	0	92.0	70	130				
Carbon tetrachloride	0.8000	0.15	1	0	80.0	70	130				
Chlorobenzene	0.8200	0.15	1	0	82.0	70	130				
Chloroethane	1.030	0.15	1	0	103	70	130				

Qualifiers: J Results reported are not blank corrected  
 S Analyte detected at or below quantitation limits  
 ND 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: EnviroGroup Limited  
 Work Order: C1008023  
 Project: Capser PCE Orphan Plumes

**ANALYTICAL QC SUMMARY REPORT**

TestCode: 1ugM3\_TO15

Sample ID	LCS1UG-080910	SampType: LCS	TestCode: 1ugM3_TO15	Units: ppbV	Prep Date:	RunNo: 3771					
Client ID: ZZZZ	Batch ID: R3771	Batch ID: R3771	TestNo: TO-15	Analysis Date: 8/9/2010	SeqNo: 46187						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	0.8500	0.15	1	0	85.0	70	130				
Chloromethane	1.190	0.15	1	0	119	70	130				
cis-1,2-Dichloroethene	0.8300	0.15	1	0	83.0	70	130				
cis-1,3-Dichloropropene	0.8400	0.15	1	0	84.0	70	130				
Cyclohexane	0.8900	0.15	1	0	89.0	70	130				
Dibromochloromethane	0.7800	0.15	1	0	78.0	70	130				
Ethyl acetate	1.000	0.25	1	0	100	70	130				
Ethylbenzene	0.8100	0.15	1	0	81.0	70	130				
Freon 11	0.8900	0.15	1	0	89.0	70	130				
Freon 113	0.9100	0.15	1	0	91.0	70	130				
Freon 114	1.010	0.15	1	0	101	70	130				
Freon 12	0.9100	0.15	1	0	91.0	70	130				
Heptane	0.8000	0.15	1	0	80.0	70	130				
Hexachloro-1,3-butadiene	0.7200	0.15	1	0	72.0	70	130				
Hexane	0.9300	0.15	1	0	93.0	70	130				
Isopropyl alcohol	0.9300	0.15	1	0	93.0	70	130				
m&p-Xylene	1.580	0.30	2	0	79.0	70	130				
Methyl Butyl Ketone	0.8600	0.30	1	0	86.0	70	130				
Methyl Ethyl Ketone	0.9800	0.30	1	0	98.0	70	130				
Methyl Isobutyl Ketone	1.000	0.30	1	0	100	70	130				
Methyl tert-butyl ether	1.260	0.15	1	0	126	70	130				
Methylene chloride	0.9600	0.15	1	0	96.0	70	130				
o-Xylene	0.7600	0.15	1	0	76.0	70	130				
Propylene	1.040	0.15	1	0	104	70	130				
Styrene	0.7900	0.15	1	0	79.0	70	130				
Tetrachloroethylene	0.8000	0.15	1	0	80.0	70	130				
Tetrahydrofuran	0.9000	0.15	1	0	90.0	70	130				
Toluene	0.8000	0.15	1	0	80.0	70	130				
trans-1,2-Dichloroethene	1.050	0.15	1	0	105	70	130				
trans-1,3-Dichloropropene	0.7900	0.15	1	0	79.0	70	130				
Trichloroethene	0.8100	0.15	1	0	81.0	70	130				

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

**ANALYTICAL QC SUMMARY REPORT**

CLIENT: EnviroGroup Limited  
 Work Order: C1008023  
 Project: Capser PCE Orphan Plumes

TestCode: 1ugM3\_TO15

Sample ID	LCS1UG-080910	Sample Type	LCS	TestCode	1ugM3_TO15	Units	ppbv	Prep Date:	RunNo: 3771		
Client ID	ZZZZZ	Batch ID	R3771	TestNo:	TO-15			Analysis Date:	8/9/2010		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Vinyl acetate	0.9200	0.15	1	0	92.0	70	130				
Vinyl Bromide	0.8800	0.15	1	0	88.0	70	130				
Vinyl chloride	1.130	0.15	1	0	113	70	130				

Sample ID	LCS1UGD-080910	Sample Type	LCS	TestCode	1ugM3_TO15	Units	ppbv	Prep Date:	RunNo: 3771		
Client ID	ZZZZZ	Batch ID	R3771	TestNo:	TO-15			Analysis Date:	8/10/2010		
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	0.8	10.7	30	
1,1,2,2-Tetrachloroethane	1.090	0.15	1	0	109	70	130	0.83	27.1	30	
1,1,2-Trichloroethane	0.9200	0.15	1	0	92.0	70	130	0.8	14.0	30	
1,1-Dichloroethane	1.240	0.15	1	0	124	70	130	0.91	30.7	30	R
1,1-Dichloroethene	1.050	0.15	1	0	105	70	130	0.93	12.1	30	
1,2,4-Trichlorobenzene	0.8800	0.15	1	0	88.0	70	130	0.74	17.3	30	
1,2,4-Trimethylbenzene	0.9700	0.15	1	0	97.0	70	130	0.8	19.2	30	
1,2-Dibromoethane	0.9100	0.15	1	0	91.0	70	130	0.8	12.9	30	
1,2-Dichlorobenzene	0.9500	0.15	1	0	95.0	70	130	0.76	22.2	30	
1,2-Dichloroethane	1.020	0.15	1	0	102	70	130	0.87	15.9	30	
1,2-Dichloropropane	0.9800	0.15	1	0	98.0	70	130	0.88	10.8	30	
1,3,5-Trimethylbenzene	0.9800	0.15	1	0	98.0	70	130	0.76	25.3	30	
1,3-butadiene	1.240	0.15	1	0	124	70	130	1.11	11.1	30	
1,3-Dichlorobenzene	0.9000	0.15	1	0	90.0	70	130	0.74	19.5	30	
1,4-Dichlorobenzene	0.9600	0.15	1	0	96.0	70	130	0.78	20.7	30	
1,4-Dioxane	0.7600	0.30	1	0	76.0	70	130	0.73	4.03	30	
2,2,4-trimethylpentane	0.9700	0.15	1	0	97.0	70	130	0.8	19.2	30	
4-ethyltoluene	1.030	0.15	1	0	103	70	130	0.76	30.2	30	R
Acetone	1.050	0.30	1	0	105	70	130	1.24	16.6	30	
Allyl chloride	1.210	0.15	1	0	121	70	130	1.14	5.96	30	
Benzene	0.9400	0.15	1	0	94.0	70	130	0.84	11.2	30	
Benzyl chloride	1.190	0.15	1	0	119	70	130	0.97	20.4	30	

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  
 S Spike Recovery outside accepted recovery limits

**ANALYTICAL QC SUMMARY REPORT**

CLIENT: EnviroGroup Limited  
 Work Order: C1008023  
 Project: Capser PCE Orphan Plumes

TestCode: 1ugM3\_TO15

Sample ID	LCS1UGD-080910	SampType: LCS D	TestCode: 1ugM3_TO15	Units: ppbv	Prep Date:	RunNo: 3771						
Client ID: ZZZZ	Batch ID: R3771	Batch ID: R3771	TestNo: TO-15	Analysis Date: 8/10/2010	SeqNo: 46188							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Limit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromodichloromethane	0.8500	0.15	1	0	85.0	70	130	30	0.78	8.59	30	
Bromoform	0.8800	0.15	1	0	88.0	70	130	30	0.78	12.0	30	
Bromomethane	1.100	0.15	1	0	110	70	130	30	0.96	13.6	30	
Carbon disulfide	1.070	0.15	1	0	107	70	130	30	0.92	15.1	30	
Carbon tetrachloride	0.8700	0.15	1	0	87.0	70	130	30	0.8	8.38	30	
Chlorobenzene	0.9600	0.15	1	0	96.0	70	130	30	0.82	15.7	30	
Chloroethane	1.140	0.15	1	0	114	70	130	30	1.03	10.1	30	
Chloroform	0.9600	0.15	1	0	96.0	70	130	30	0.85	12.2	30	
Chloromethane	1.280	0.15	1	0	128	70	130	30	1.19	7.29	30	
cis-1,2-Dichloroethene	1.000	0.15	1	0	100	70	130	30	0.83	18.6	30	
cis-1,3-Dichloropropene	0.9000	0.15	1	0	90.0	70	130	30	0.84	6.90	30	
Cyclohexane	0.9700	0.15	1	0	97.0	70	130	30	0.89	8.60	30	
Dibromochloromethane	0.8200	0.15	1	0	82.0	70	130	30	0.78	5.00	30	
Ethyl acetate	1.210	0.25	1	0	121	70	130	30	1	19.0	30	
Ethylbenzene	1.010	0.15	1	0	101	70	130	30	0.81	22.0	30	
Freon 11	1.020	0.15	1	0	102	70	130	30	0.89	13.6	30	
Freon 113	1.060	0.15	1	0	106	70	130	30	0.91	15.2	30	
Freon 114	1.140	0.15	1	0	114	70	130	30	1.01	12.1	30	
Freon 12	0.9900	0.15	1	0	99.0	70	130	30	0.91	8.42	30	
Heptane	0.9900	0.15	1	0	99.0	70	130	30	0.8	21.2	30	
Hexachloro-1,3-butadiene	0.8500	0.15	1	0	85.0	70	130	30	0.72	16.6	30	
Hexane	1.100	0.15	1	0	110	70	130	30	0.93	16.7	30	
Isopropyl alcohol	1.070	0.15	1	0	107	70	130	30	0.93	14.0	30	
m&p-Xylene	1.890	0.30	2	0	94.5	70	130	30	1.58	17.9	30	
Methyl Butyl Ketone	0.7800	0.30	1	0	78.0	70	130	30	0.86	9.76	30	
Methyl Ethyl Ketone	1.130	0.30	1	0	113	70	130	30	0.98	14.2	30	
Methyl Isobutyl Ketone	0.7900	0.30	1	0	79.0	70	130	30	1	23.5	30	
Methyl tert-butyl ether	1.240	0.15	1	0	124	70	130	30	1.26	1.60	30	
Methylene chloride	1.120	0.15	1	0	112	70	130	30	0.96	15.4	30	
o-Xylene	0.9500	0.15	1	0	95.0	70	130	30	0.76	22.2	30	
Propylene	1.100	0.15	1	0	110	70	130	30	1.04	5.61	30	

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

**CLIENT:** EnviroGroup Limited  
**Work Order:** C1008023  
**Project:** Capser PCE Orphan Plumes

**ANALYTICAL QC SUMMARY REPORT**

**TestCode:** 1ugM3\_TO15

**Sample ID:** LCS1UGD-080910    **Batch ID:** R3771    **TestCode:** 1ugM3\_TO15    **Units:** ppbV    **RunNo:** 3771  
**Client ID:** ZZZZZ    **Batch ID:** R3771    **Analysis Date:** 8/10/2010    **SeqNo:** 46188  
**TestNo:** TO-15    **Prep Date:**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Styrene	1.010	0.15	1	0	101	70	130	0.79	24.4	30	
Tetrachloroethylene	0.9200	0.15	1	0	92.0	70	130	0.8	14.0	30	
Tetrahydrofuran	1.040	0.15	1	0	104	70	130	0.9	14.4	30	
Toluene	1.000	0.15	1	0	100	70	130	0.8	22.2	30	
trans-1,2-Dichloroethene	1.210	0.15	1	0	121	70	130	1.05	14.2	30	
trans-1,3-Dichloropropene	0.9800	0.15	1	0	98.0	70	130	0.79	21.5	30	
Trichloroethene	0.9300	0.15	1	0	93.0	70	130	0.81	13.8	30	
Vinyl acetate	1.310	0.15	1	0	131	70	130	0.92	35.0	30	SR
Vinyl Bromide	1.010	0.15	1	0	101	70	130	0.88	13.8	30	
Vinyl chloride	1.210	0.15	1	0	121	70	130	1.13	6.84	30	

**Qualifiers:**

- J Results reported are not blank corrected
- S Analyte detected at or below quantitation limits
- E Spike Recovery outside accepted recovery limits
- ND 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\AH080903.D  
 Acq On : 9 Aug 2010 1:12 pm  
 Sample : LCS1UG-080910  
 Misc : LCS1UG-080910  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 09 13:34:20 2010

Vial: 4  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:34:49 2010  
 Response via : Initial Calibration  
 DataAcq Meth : A612\_1UT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.70	128	24498	1.00	ppb	0.00
30) 1,4-difluorobenzene	10.04	114	64816	1.00	ppb	0.00
44) Chlorobenzene-d5	14.91	117	54447	1.00	ppb	0.00

System Monitoring Compounds

57) Bromofluorobenzene	16.46	95	25637	1.13	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	113.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	2.93	41	14070	1.04	ppb	73
3) Freon 12	2.97	85	102472	0.91	ppb	97
4) Chloromethane	3.11	50	37635	1.19	ppb	99
5) Freon 114	3.11	85	101875	1.01	ppb	95
6) Vinyl Chloride	3.25	62	32651	1.13	ppb	99
7) 1,3-butadiene	3.33	39	19343	1.11	ppb	86
8) Bromomethane	3.58	94	36375	0.96	ppb	99
9) Chloroethane	3.70	64	12561	1.03	ppb	100
10) Vinyl Bromide	3.95	106	33396	0.88	ppb	98
11) Freon 11	4.16	101	95078	0.89	ppb	97
12) Acetone	4.31	58	12172	1.24	ppb	100
13) Isopropyl alcohol	4.41	45	21491	0.93	ppb	92
14) 1,1-dichloroethene	4.77	96	31341	0.93	ppb	89
15) Freon 113	4.94	101	69084	0.91	ppb	97
16) Methylene chloride	5.17	84	26679	0.96	ppb	89
17) Allyl chloride	5.15	41	24549	1.14	ppb	85
18) Carbon disulfide	5.28	76	73843	0.92	ppb	96
19) trans-1,2-dichloroethene	6.01	61	37500	1.05	ppb	92
20) methyl tert-butyl ether	6.07	73	42989	1.26	ppb	63
21) 1,1-dichloroethane	6.40	63	43118	0.91	ppb	97
22) Vinyl acetate	6.43	43	26936	0.92	ppb	97
23) Methyl Ethyl Ketone	6.90	43	40273	0.98	ppb	87
24) cis-1,2-dichloroethene	7.29	61	24124	0.83	ppb	91
25) Hexane	6.92	41	18921	0.93	ppb	# 92
26) Ethyl acetate	7.49	43	28364	1.00	ppb	93
27) Chloroform	7.88	83	62779	0.85	ppb	99
28) Tetrahydrofuran	8.06	42	10865	0.90	ppb	82
29) 1,2-dichloroethane	8.95	62	37282	0.87	ppb	98
31) 1,1,1-trichloroethane	8.66	97	57846	0.80	ppb	99
32) Cyclohexane	9.37	56	18722	0.89	ppb	91
33) Carbon tetrachloride	9.29	117	72526	0.80	ppb	96
34) Benzene	9.26	78	53161	0.84	ppb	95
35) 1,4-dioxane	11.09	88	6309	0.73	ppb	92
36) 2,2,4-trimethylpentane	10.23	57	48608	0.80	ppb	88
37) Heptane	10.65	43	15748	0.80	ppb	95
38) Trichloroethene	10.74	130	33153	0.81	ppb	96
39) 1,2-dichloropropane	10.86	63	21124	0.88	ppb	97
40) Bromodichloromethane	11.25	83	60074	0.78	ppb	99
41) cis-1,3-dichloropropene	12.15	75	22841	0.84	ppb	96
42) trans-1,3-dichloropropene	12.94	75	17542	0.79	ppb	98
43) 1,1,2-trichloroethane	13.25	97	28435	0.80	ppb	99
45) Toluene	12.99	92	28424	0.80	ppb	94
46) Methyl Isobutyl Ketone	12.11	43	18565	1.00	ppb	94
47) Dibromochloromethane	13.93	129	65098	0.78	ppb	98
48) Methyl Butyl Ketone	13.49	43	15479	0.86	ppb	94
49) 1,2-dibromoethane	14.17	107	39865	0.80	ppb	96
50) Tetrachloroethylene	14.02	164	33850	0.80	ppb	97

(#) = qualifier out of range (m) = manual integration  
 AH080903.D A612\_1UT.M Tue Aug 31 08:52:35 2010

Data File : C:\HPCHEM\1\DATA\AH080903.D  
 Acq On : 9 Aug 2010 1:12 pm  
 Sample : LCS1UG-080910  
 Misc : LCS1UG-080910  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 09 13:34:20 2010

Vial: 4  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:34:49 2010  
 Response via : Initial Calibration  
 DataAcq Meth : A612\_1UT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
51) Chlorobenzene	14.96	112	48112	0.82	ppb	96
52) Ethylbenzene	15.22	91	51480	0.81	ppb	100
53) m&p-xylene	15.42	91	86933	1.58	ppb	97
54) Styrene	15.82	104	26128	0.79	ppb	92
55) Bromoform	15.90	173	69180	0.78	ppb	99
56) o-xylene	15.84	91	46769	0.76	ppb	96
58) 1,1,2,2-tetrachloroethane	16.27	83	40359	0.83	ppb	98
59) 4-ethyltoluene	17.03	105	43659	0.76	ppb	95
60) 1,3,5-trimethylbenzene	17.09	105	39935	0.76	ppb	97
61) 1,2,4-trimethylbenzene	17.49	105	31529	0.80	ppb	100
62) 1,3-dichlorobenzene	17.74	146	35964	0.74	ppb	99
63) benzyl chloride	17.81	91	32455	0.97	ppb	96
64) 1,4-dichlorobenzene	17.87	146	37261	0.78	ppb	98
65) 1,2-dichlorobenzene	18.15	146	32625	0.76	ppb	97
66) 1,2,4-trichlorobenzene	19.77	180	17311	0.74	ppb	92
67) Hexachloro-1,3-butadiene	20.03	225	34952m	0.72	ppb	

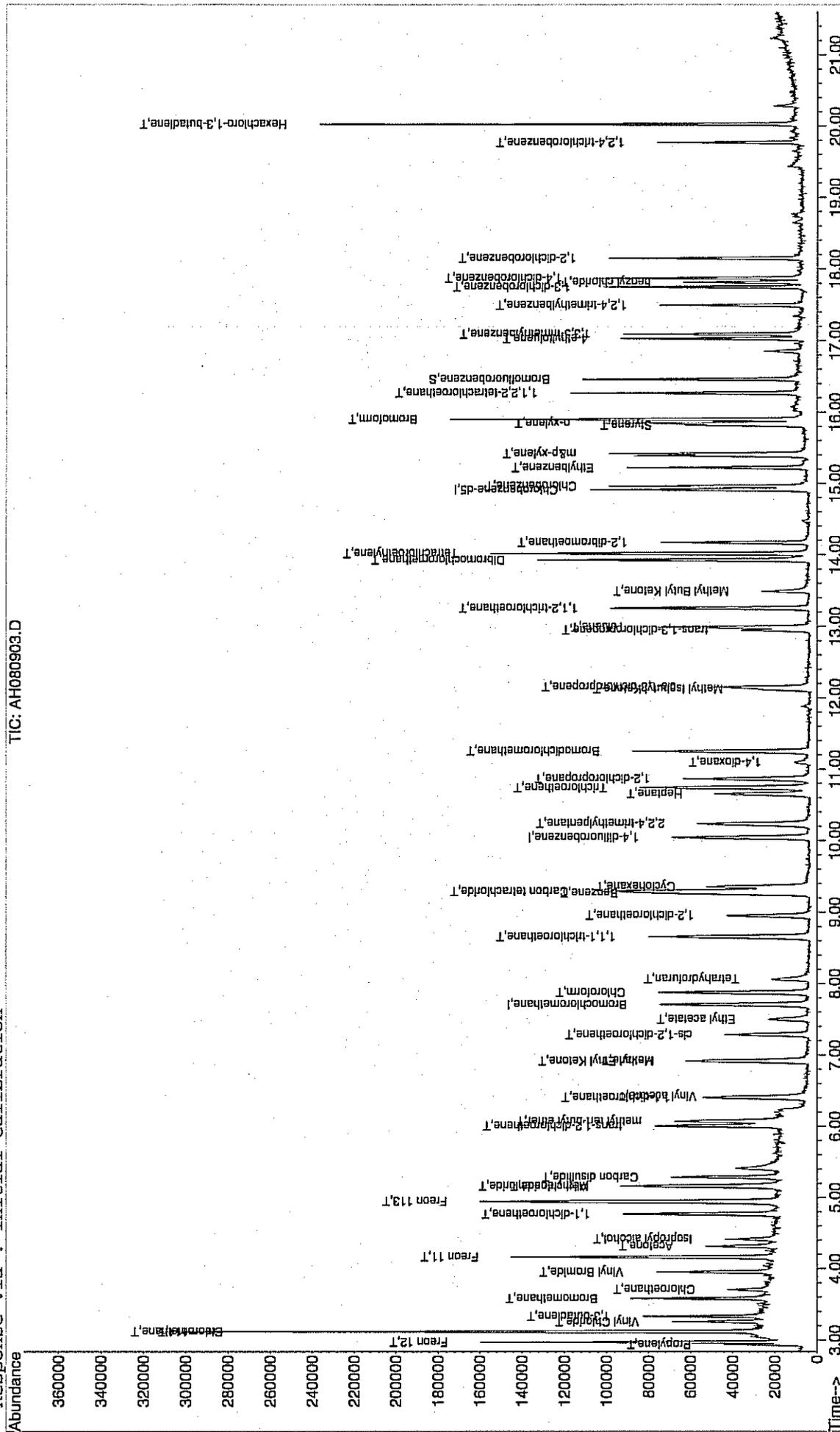
Quantitation report (not reviewed)

Data File : C:\HPCHEM\1\DATA\AH080903.D  
 Acq On : 9 Aug 2010 1:12 pm  
 Sample : LCS1UG-080910  
 Misc : LCS1UG-080910  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 10 10:02 2010

Vial: 4  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

Quant Results File: A612\_1UT.RES

Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Tue Aug 31 08:51:03 2010  
 Response via : Initial Calibration



Data File : C:\HPCHEM\1\DATA\AH080923.D  
 Acq On : 10 Aug 2010 3:09 am  
 Sample : LCS1UGD-080910  
 Misc : LCS1UGD-080910  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 10 03:31:30 2010

Vial: 33  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:34:49 2010  
 Response via : Initial Calibration  
 DataAcq Meth : A612\_1UT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Bromochloromethane	7.71	128	22240	1.00	ppb	0.00
30) 1,4-difluorobenzene	10.05	114	60394	1.00	ppb	0.00
44) Chlorobenzene-d5	14.91	117	50832	1.00	ppb	0.00

System Monitoring Compounds

57) Bromofluorobenzene	16.46	95	26230	1.23	ppb	0.00
Spiked Amount	1.000	Range 70 - 130	Recovery	=	123.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Propylene	2.94	41	13427	1.10	ppb	93
3) Freon 12	2.98	85	101589	0.99	ppb	99
4) Chloromethane	3.12	50	36642	1.28	ppb	100
5) Freon 114	3.12	85	104389	1.14	ppb	96
6) Vinyl Chloride	3.26	62	31618	1.21	ppb	98
7) 1,3-butadiene	3.34	39	19598	1.24	ppb	82
8) Bromomethane	3.59	94	37628	1.10	ppb	97
9) Chloroethane	3.71	64	12574	1.14	ppb	91
10) Vinyl Bromide	3.96	106	35005	1.01	ppb	99
11) Freon 11	4.17	101	99147	1.02	ppb	100
12) Acetone	4.32	58	9338m	1.05	ppb	
13) Isopropyl alcohol	4.42	45	22487	1.07	ppb	85
14) 1,1-dichloroethene	4.78	96	32144	1.05	ppb	89
15) Freon 113	4.95	101	73201	1.06	ppb	95
16) Methylene chloride	5.17	84	28494	1.12	ppb	88
17) Allyl chloride	5.16	41	23684	1.21	ppb	88
18) Carbon disulfide	5.30	76	77507	1.07	ppb	98
19) trans-1,2-dichloroethene	6.02	61	39367	1.21	ppb	93
20) methyl tert-butyl ether	6.08	73	38429m	1.24	ppb	
21) 1,1-dichloroethane	6.41	63	53555	1.24	ppb	96
22) Vinyl acetate	6.43	43	34754m	1.31	ppb	
23) Methyl Ethyl Ketone	6.91	43	42520	1.13	ppb	87
24) cis-1,2-dichloroethene	7.29	61	26323	1.00	ppb	87
25) Hexane	6.92	41	20351	1.10	ppb	# 92
26) Ethyl acetate	7.50	43	31154	1.21	ppb	97
27) Chloroform	7.88	83	64667	0.96	ppb	99
28) Tetrahydrofuran	8.06	42	11314	1.04	ppb	83
29) 1,2-dichloroethane	8.96	62	39631	1.02	ppb	98
31) 1,1,1-trichloroethane	8.66	97	60149	0.89	ppb	100
32) Cyclohexane	9.36	56	18939	0.97	ppb	91
33) Carbon tetrachloride	9.29	117	73651	0.87	ppb	99
34) Benzene	9.27	78	55464	0.94	ppb	95
35) 1,4-dioxane	11.10	88	6090m	0.76	ppb	
36) 2,2,4-trimethylpentane	10.23	57	54612	0.97	ppb	91
37) Heptane	10.66	43	18165	0.99	ppb	90
38) Trichloroethene	10.75	130	35623	0.93	ppb	97
39) 1,2-dichloropropane	10.87	63	21799	0.98	ppb	97
40) Bromodichloromethane	11.26	83	61150	0.85	ppb	98
41) cis-1,3-dichloropropene	12.15	75	22678	0.90	ppb	100
42) trans-1,3-dichloropropene	12.95	75	20387	0.98	ppb	93
43) 1,1,2-trichloroethane	13.26	97	30374	0.92	ppb	98
45) Toluene	12.99	92	33063	1.00	ppb	98
46) Methyl Isobutyl Ketone	12.12	43	13734m	0.79	ppb	
47) Dibromochloromethane	13.93	129	63778	0.82	ppb	100
48) Methyl Butyl Ketone	13.50	43	12993m	0.78	ppb	
49) 1,2-dibromoethane	14.17	107	42432	0.91	ppb	97
50) Tetrachloroethylene	14.01	164	36187	0.92	ppb	96

(#) = qualifier out of range (m) = manual integration  
 AH080923.D A612\_1UT.M Tue Aug 31 08:52:38 2010

Data File : C:\HPCHEM\1\DATA\AH080923.D  
 Acq On : 10 Aug 2010 3:09 am  
 Sample : LCS1UGD-080910  
 Misc : LCS1UGD-080910  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 10 03:31:30 2010

Vial: 33  
 Operator: RJP  
 Inst : MSD #1  
 Multiplr: 1.00

Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:34:49 2010  
 Response via : Initial Calibration  
 DataAcq Meth : A612\_1UT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
51) Chlorobenzene	14.96	112	52740	0.96	ppb	92
52) Ethylbenzene	15.22	91	59672	1.01	ppb	97
53) m&p-xylene	15.42	91	97130	1.89	ppb	98
54) Styrene	15.82	104	31450	1.01	ppb	95
55) Bromoform	15.90	173	72482	0.88	ppb	99
56) o-xylene	15.85	91	54130	0.95	ppb	99
58) 1,1,2,2-tetrachloroethane	16.27	83	49644	1.09	ppb	99
59) 4-ethyltoluene	17.03	105	55176	1.03	ppb	98
60) 1,3,5-trimethylbenzene	17.09	105	47818	0.98	ppb	98
61) 1,2,4-trimethylbenzene	17.50	105	35568	0.97	ppb	99
62) 1,3-dichlorobenzene	17.75	146	40619	0.90	ppb	99
63) benzyl chloride	17.82	91	37021	1.19	ppb	94
64) 1,4-dichlorobenzene	17.87	146	42746	0.96	ppb	100
65) 1,2-dichlorobenzene	18.15	146	37921	0.95	ppb	98
66) 1,2,4-trichlorobenzene	19.77	180	19404	0.88	ppb	97
67) Hexachloro-1,3-butadiene	20.03	225	38648	0.85	ppb	94



**GC/MS VOLATILES-WHOLE AIR**

**METHOD TO-15**

**INJECTION LOG**



**Centek Laboratories, LLC**  
 Instrument: HP5973 MSD  
 GC Column: J&W DB-5MS, 1.5u, 60M

**Injection Logbook A-MSD**

Internal Standard Stock #: 7574  
 Standard Stock #(s) 7571  
 LCS Stock #(s) 7572  
 Method Reference: Toxic Organic Compounds in Ambient Air Jan-99

Detection Limit	Login Number	Data File Name	Dil. Factor	Inj Vol cc	MethodQ File	Group Number	Inj. Date	Inj. Time	Comments	CD BackUp#
	BFBIVK	AH000501	-	-	A746		8/5/10	1149		
	AIVG - I.S	07	-	200	A612-1UG					
	LCSIVK-080910	03	-	↓						
	MBIVK ↓	04	-	↓						
	C1008002-00201	05	90	20 (914)						
	009	06	↓	↓						
	010	07	↓	↓						
	013	08	↓	↓						
	004	09	270	20 (2714)						
	06 ↓	10	↓	↓						
	C1008016-002	11	-	200						
	003	12	-	↓						
	007	14	-	↓						
	C1008015-001	15	-	↓						
	C1008016-001A	16/17	10	20						
	003	18/19	↓	↓			8/10/10	0038		
	004 ↓	20/21	↓	↓						
	C1008015-001 ↓	21/22	↓	↓						
	C1008006-001 A	21/22	↓	↓						
	LCSIVK-080910	22/23	-	200						
	C1008023-001	23/24	-	↓						
	002	24/25	-	↓						
	001B	25/26	10	20						
	002	27	40	5						
	C1008016-001	28	↓	↓						
	003	30	↓	↓						
	004	31	↓	↓						
	006-001	33	↓	↓						
	023-001 ↓	34	↓	↓						
	016-001	36	-	200						

Analyzed by: MB Page No: 254  
 11:04



**GC/MS VOLATILES-WHOLE AIR**

**METHOD TO-15**

**STANDARDS LOG**

Centek Laboratories, LLC

GC/MS Calibration Standards Logbook

Std #	Date Prep	Date exp	Description	Stock #	Stock conc	Initial vol	Final vol	Final conc/ppbv	Prep by	Chkd by
6117	11/11/08	11/14/08	TO15IUT JS <sup>A</sup>	6112	50ppb	0.5PSIG	30PSIA	1ppb	AD	
6118	11/12/08	11/09	TO15 JS	AB-263	1ppm	SPECTRA GASES			MP	
6119			TO15 SUBSET	AB-2274						} REGRAT 5/11/10 7140A+B
6120			TO14 MIX	AB-2236						
6121	11/14/08	11/21/08	TO15 JS	6118	1ppm	1.5PSIG	30PSIA	50ppb	MP	
6122			STD	4192/4193						
6123			LCS	2056/2057						
6124			TO15IUT JS <sup>A</sup>	6121	50ppb	0.5PSIG	45PSIA	1ppb		
6125			STD <sup>A</sup>	6122						
6126			LCS	6123						
6127	11/15/08		TO15IUT JS <sup>A</sup>	6121	50ppb	0.5PSIG	45PSIA	1ppb		
6128	11/17/08	11/21/08	TO15IUT JS <sup>B</sup>	6121						
6129			STD <sup>B</sup>	6122						
6130			JS <sup>A</sup>							
6131	11/18/08		JS <sup>A</sup>							
6132			JS <sup>B</sup>							
6133	11/19/08		JS <sup>C</sup>							
6134			JS <sup>D</sup>							

GC/MS Calibration Standards Logbook

Centek Laboratories, LLC

Std #	Date Prep	Date exp	Description	Stock #	Stock conc	Initial vol	final vol	Final conc/ppbV	Prep by	Chkd by
7365	8/30/09	8/31/09	T015IUT IS <sup>A</sup>	7352	50ppb	0.9psic	45psic	1ppb	MP	
7366	8/31/09	9/1/09	T015 IS	06503 083	1ppm	SCOTT GASES		1ppm	MP	
7367	8/31/09	9/6/09	T015 IS	7366	1ppm	1.5psic	30psic	50ppb	MP	
7368			STD	619/20						
7369			LCS	619/13						
7370			↓	619/54						
7371			T015IUT IS <sup>A</sup>	7367	50ppb	0.9psic	45psic	1ppb		
7372			STD <sup>C</sup>	7368						
7373			LCS	7369						
7374	9/11/09		T015IUT IS <sup>A</sup>	7367						
7375	9/2/09		↓	↓						
7376	9/1/09	9/6/09	T015IUT IS <sup>(B)</sup>	7367	50ppb	0.9psic	45psic	1ppb	Z.L.	
7377			↓	7368					↓	
7378	9/2/09	9/6/09	T015IUT IS <sup>(B)</sup>	7367	50ppb	0.9psic	45psic	1ppb	Z.L.	
7379	9/2/09	9/6/09	↓	7367					Z.L.	
7380	9/3/09	9/10/09	T015 IS	7366	1ppm	1.5psic	30psic	50ppb	Z.L.	
7381	9/3/09	9/16/09	T015IUT IS <sup>(C)</sup>	7380	50ppb	0.9psic	45psic	1ppb	Z.L.	
7382	9/3/09	9/10/09	↓	7380					↓	
7382A	8/31/09	9/6/09	T015IUT IS <sup>(B)</sup>	7367	50ppb	0.9psic	45psic	1ppb	Z.L.	
7382B			↓	7368					↓	

GC/MS Calibration Standards Logbook

Centek Laboratories, LLC

Std #	Date Prep	Date exp	Description	Stock #	Stock conc	Initial vol	final vol	Final conc/ppb	Prep by	Chkd by
7609	1/19/10	1/25/10	TO15 INT IS (CB)	7601	50ppb	0.9psig	45psia	1ppb	Z.Z.	
7610	1/20/10	1/25/10	TO15 INT IS (CB)	7601	50ppb	0.9psig	45psia	1ppb	Z.Z.	
7611	1/20/10	1/25/10	SILX/SULF	6194/7046	1ppm	1.5psig	30psia	50ppb	Z.Z.	
7612	1/20/10	1/25/10	FORM 10ppm	7068	36.5%	1.1ul	50psia	10ppm	↓	
7613	↓	↓	50ppb FORM	7612	10ppm	0.23psig	45psia	50ppb	Z.Z.	
7614	1/21/10	1/25/10	TO15 IS (CB)	7366	1ppm	1.5psig	30psia	50ppb	Z.Z.	
7615	1/21/10	1/25/10	TO15 INT IS (CB)	7614	50ppb	0.9psig	45psia	1ppb	Z.Z.	
7616	1/22/10	1/25/10	TO15 INT IS (CB)	7614	50ppb	0.9psig	45psia	1ppb	Z.Z.	
7617	1/25/10	1/20/11	TO15 SUBSET	AB-HH60	1ppm	1800psig	SpectraGases	1ppm	↓	
7618	1/25/10	1/15/11	TO14 MIX	AB-4573	1ppm	1800psig	SpectraGases	1ppm	M	
7619	1/25/10	1/25/11	FIXED GASES	10940 216304	% VARIES	10L	MATHESON TRI-GAS		Z.Z.	
7620	1/25/10	7/1/10	TO15 INT IS (CA)	7366	1ppm	1.5psig	30psia	50ppb	↓	
7621	↓	↓	STD	7617/748 7384/748	↓	↓	↓	↓	↓	
7622	↓	↓	LCS	619/620	↓	↓	↓	↓	↓	
7623	1/25/10	2/1/10	TO15 INT IS (CA)	7620	50ppb	0.9psig	45psia	1ppb	Z.Z.	
7624	↓	↓	STD	7621	↓	↓	↓	↓	↓	
7625	↓	↓	LCS	7622	↓	↓	↓	↓	↓	
7626	↓	↓	IS (CB)	7620	↓	↓	↓	↓	↓	

GC/MS Calibration Standards Logbook

Centek Laboratories, LLC

Std #	Date Prep	Date exp	Description	Stock #	Stock conc	Initial vol	final vol	Final conc/ppbv	Prep by	Chkd by
7969	8/3/10	8/10/10	TO151UG APH	7962	50ppb	0.9psiv	45psiv	1ppb	MO	
7970			IS <sup>A</sup>	7963						
7971			STD <sup>A</sup>	7964						
7972			LCS	7965						
7973			IS <sup>A</sup>	7963						
7974	8/9/10		IS <sup>A</sup>	7963					Z.F.	
7975	8/10/10	8/18/10	TO15 IS	7366	1ppm	1.5psiv	30psiv	50ppb		
7976			STD	7617/18						
7977			LCS	7740e/40						
7978			SUL/SUL	694/704						
7979			FORM	7068	36.5%	1.1uL	30psiv	10 ppm		
7980			↓ 50	7975	10ppm	0.23psiv	50psiv	50ppb		
7981	8/11/10		TO151UG IS <sup>A</sup>	7975	50ppb	0.9psiv	75psiv	1ppb	MO	
7982			STD <sup>A</sup>	7976						
7983			LCS	7977						
7984	8/15/10		IS <sup>A</sup>	7975						
7985		8/25/10	TO15 APH	7961	1ppm	1.5psiv	30psiv	50ppb		
7986			TO151UG ↓	7985	50ppb	0.9psiv	45psiv	1ppb		

GC/MS Calibration Standards Logbook

Centek Laboratories, LLC

Std #	Date Prep	Date exp	Description	Stock #	Stock conc	Initial vol	final vol	Final conc/ppbV	Prep by	Chkd by
7987	8/17/10	8/18/10	70151014 JS <sup>A</sup>	7575	50ppm	0.5psic	76psia	1ppm	M	
7988	8/18/10	8/25/10	7015 JS	7366	1ppm	1.5psic	39psia	50ppm	Z.L.	
7989			STD	7671/8						
7990			LCS	7740/41						
7991			SUL/SIL	6954/7048						
7992			FORM	7068	36.5%	1.10c	30psia	10ppm		
7993			↓ 50	7592	10ppm	0.23psic	50psia	50ppm	MP	
7994	8/19/10		70151014 JS <sup>A</sup>	7988	50ppm	0.5psic	45psia	1ppm		
7995			STD <sup>A</sup>	7589						
7996			LCS	7990						
7997	8/20/10		JS <sup>A</sup>	7989						
7998	8/21/10		↓							
7999	8/24/10		↓							
8000			JS <sup>B</sup>	7988					Z.L.	
8001			STD <sup>B</sup>	7989						
8002	8/25/10	9/1/10	7015 JS	7366	1ppm	1.5psic	30psia	50ppm	MP	
8003			STD	7671/8						
8004			LCS	7740/41						

**GC/MS VOLATILES-WHOLE AIR**

**METHOD TO-15**

**CANISTER CLEANING LOG**



Data File : C:\HPCHEM\1\DATA2\10JUNE\AH062210.D Vial: 26  
 Acq On : 22 Jun 2010 8:02 pm Operator: RJP  
 Sample : WAC062210F Inst : MSD #1  
 Misc : 1UG+0.25 Multiplr: 1.00  
 MS Integration Params: RTEINT.P  
 Quant Time: Jun 22 20:23:51 2010 Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:34:49 2010  
 Response via : Initial Calibration  
 DataAcq Meth : A612\_1UT

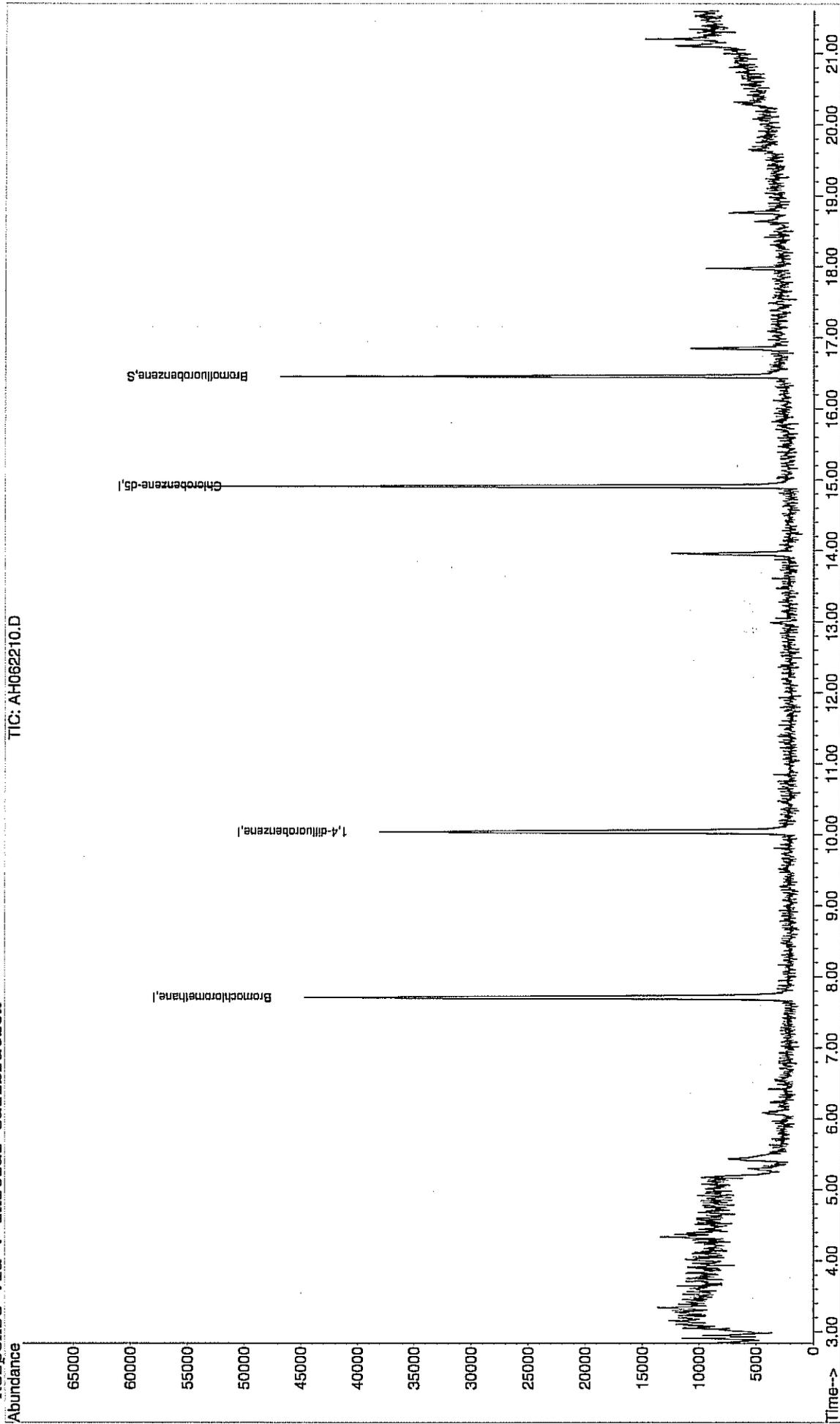
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.72	128	15981	1.00	ppb	0.00
30) 1,4-difluorobenzene	10.04	114	37163	1.00	ppb	0.00
44) Chlorobenzene-d5	14.91	117	31011	1.00	ppb	0.00

System Monitoring Compounds  
 57) Bromofluorobenzene 16.46 95 12212 0.94 ppb 0.00  
 Spiked Amount 1.000 Range 70 - 130 Recovery = 94.00%

Target Compounds Qvalue

Data File : C:\HPCHEM\1\DATA2\10JUNE\AH062210.D  
 Vial: 26  
 Acq On : 22 Jun 2010 8:02 pm  
 Operator: RJP  
 Sample : WAC062210F  
 Inst : MSD #1  
 Misc : LUG+0.25  
 Multiplr: 1.00  
 MS Integration Params: RTEINT.P  
 Quant Time: Jun 22 20:23 2010  
 Quant Results File: A612\_1UT.RES

Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Tue Aug 10 18:13:27 2010  
 Response via : Initial Calibration



Data File : C:\HPCHEM\1\DATA2\10JUNE\AH062211.D Vial: 27  
 Acq On : 22 Jun 2010 8:37 pm Operator: RJP  
 Sample : WAC062210G Inst : MSD #1  
 Misc : 1UG+0.25 Multiplr: 1.00  
 MS Integration Params: RTEINT.P  
 Quant Time: Jun 22 20:58:43 2010 Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:34:49 2010  
 Response via : Initial Calibration  
 DataAcq Meth : A612\_1UT

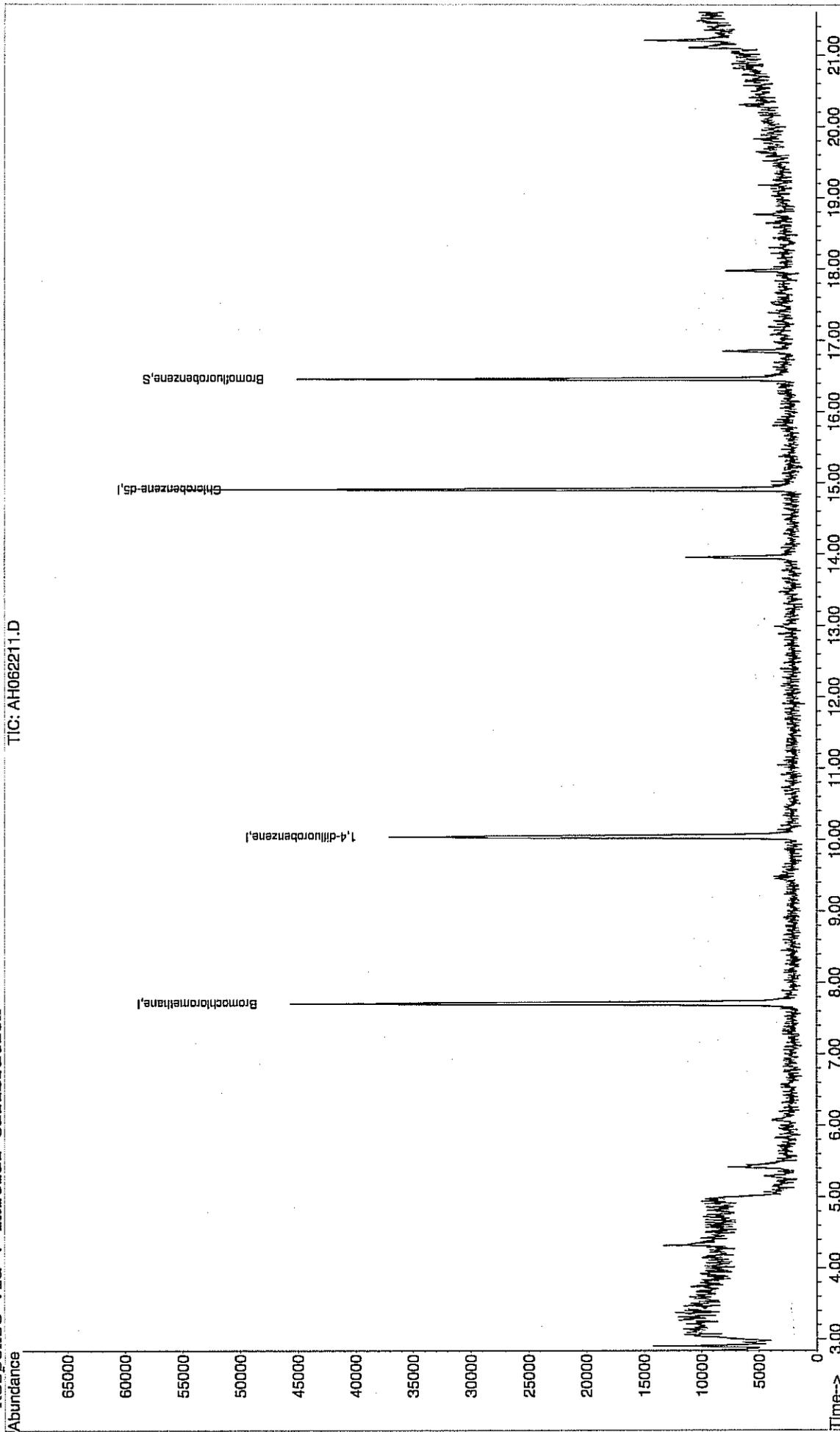
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.71	128	15261	1.00	ppb	0.00
30) 1,4-difluorobenzene	10.04	114	37292	1.00	ppb	0.00
44) Chlorobenzene-d5	14.91	117	30634	1.00	ppb	0.00

System Monitoring Compounds  
 57) Bromofluorobenzene 16.46 95 11231 0.88 ppb 0.00  
 Spiked Amount 1.000 Range 70 - 130 Recovery = 88.00%

Target Compounds Qvalue

Data File : C:\HPCHEM\1\DATA2\10JUNE\AH062211.D  
 Vial: 27  
 Acq On : 22 Jun 2010 8:37 pm  
 Operator: RJP  
 Sample : WAC062210G  
 Inst : MSD #1  
 Misc : IUG+0.25  
 Multiplr: 1.00  
 MS Integration Params: RTEINT.P  
 Quant Time: Aug 17 10:23 2010  
 Quant Results File: A612\_1UT.RES

Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Tue Aug 10 18:13:27 2010  
 Response via : Initial Calibration



Data File : C:\HPCHEM\1\DATA2\10JUNE\AH062212.D Vial: 28  
 Acq On : 22 Jun 2010 9:11 pm Operator: RJP  
 Sample : WAC062210H Inst : MSD #1  
 Misc : 1UG+0.25 Multiplr: 1.00  
 MS Integration Params: RTEINT.P  
 Quant Time: Jun 22 21:33:22 2010 Quant Results File: A612\_1UT.RES

Quant Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
 Title : TO-15 VOA Standards for 5 point calibration  
 Last Update : Sun Jun 13 08:34:49 2010  
 Response via : Initial Calibration  
 DataAcq Meth : A612\_1UT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	7.70	128	15995	1.00	ppb	0.00
30) 1,4-difluorobenzene	10.04	114	35107	1.00	ppb	0.00
44) Chlorobenzene-d5	14.91	117	29383	1.00	ppb	0.00

System Monitoring Compounds  
 57) Bromofluorobenzene 16.46 95 11558 0.94 ppb 0.00  
 Spiked Amount 1.000 Range 70 - 130 Recovery = 94.00%

Target Compounds Qvalue

Data File : C:\HPCHEM\1\DATA2\10JUNE\AH062212.D  
Acq On : 22 Jun 2010 9:11 pm  
Sample : WAC062210H  
Misc : 1UG+0.25  
MS Integration Params: RTEINT.P  
Quant Time: Aug 17 10:24 2010

Vial: 28  
Operator: RJP  
Inst : MSD #1  
Multiplr: 1.00

Quant Results File: A612\_1UT.RE5

Method : C:\HPCHEM\1\METHODS\A612\_1UT.M (RTE Integrator)  
Title : TO-15 VOA Standards for 5 point calibration  
Last Update : Tue Aug 10 18:13:27 2010  
Response via : Initial Calibration

