



08/27/12

## Technical Report for

**KRW Consulting, Inc.**

**FRU 297-8B**

**1106-06**

**Accutest Job Number: D20575**

**Sampling Date: 01/19/11**

### Report to:

**KRW Consulting, Inc.**  
**8000 West 14th Avenue Suite 200**  
**Lakewood, CO 80214**  
**bberger@krwconsulting.com; gknell@krwconsulting.com;**  
**dknudson@krwconsulting.com; jhess@krwconsulting.com;**  
**ATTN: Dwayne Knudson**

**Total number of pages in report: 234**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

  
**Brad Madadian**  
**Laboratory Director**

**Client Service contact: Renea Jackson 303-425-6021**

Certifications: CO, ID, NE, NM, ND (R-027) (PW), UT (NELAP CO00049), TX (T104704511-12-1)

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Test results relate only to samples analyzed.

# Table of Contents

-1-

<b>Section 1: Sample Summary .....</b>	<b>4</b>
<b>Section 2: Case Narrative/Conformance Summary .....</b>	<b>5</b>
<b>Section 3: Summary of Hits .....</b>	<b>9</b>
<b>Section 4: Sample Results .....</b>	<b>12</b>
<b>4.1:</b> D20575-1: FRU 297-8B FW .....	13
<b>4.2:</b> D20575-2: FRU 297-8B RES .....	17
<b>4.3:</b> D20575-2A: FRU 297-8B RES .....	23
<b>4.4:</b> D20575-3: FRU 297-8B CUT1 .....	25
<b>4.5:</b> D20575-3A: FRU 297-8B CUT1 .....	31
<b>4.6:</b> D20575-4: FRU 297-8B CUT 2 .....	33
<b>4.7:</b> D20575-4A: FRU 297-8B CUT 2 .....	39
<b>Section 5: Misc. Forms .....</b>	<b>41</b>
<b>5.1:</b> Chain of Custody .....	42
<b>Section 6: GC/MS Volatiles - QC Data Summaries .....</b>	<b>43</b>
<b>6.1:</b> Method Blank Summary .....	44
<b>6.2:</b> Blank Spike Summary .....	45
<b>6.3:</b> Matrix Spike/Matrix Spike Duplicate Summary .....	46
<b>Section 7: GC/MS Volatiles - Raw Data .....</b>	<b>47</b>
<b>7.1:</b> Samples .....	48
<b>7.2:</b> Method Blanks .....	69
<b>Section 8: GC/MS Semi-volatiles - QC Data Summaries .....</b>	<b>72</b>
<b>8.1:</b> Method Blank Summary .....	73
<b>8.2:</b> Blank Spike Summary .....	74
<b>8.3:</b> Matrix Spike/Matrix Spike Duplicate Summary .....	75
<b>Section 9: GC/MS Semi-volatiles - Raw Data .....</b>	<b>76</b>
<b>9.1:</b> Samples .....	77
<b>9.2:</b> Method Blanks .....	116
<b>Section 10: GC Volatiles - QC Data Summaries .....</b>	<b>129</b>
<b>10.1:</b> Method Blank Summary .....	130
<b>10.2:</b> Blank Spike Summary .....	132
<b>10.3:</b> Matrix Spike/Matrix Spike Duplicate Summary .....	134
<b>Section 11: GC Volatiles - Raw Data .....</b>	<b>136</b>
<b>11.1:</b> Samples .....	137
<b>11.2:</b> Method Blanks .....	157
<b>Section 12: GC Semi-volatiles - QC Data Summaries .....</b>	<b>167</b>
<b>12.1:</b> Method Blank Summary .....	168
<b>12.2:</b> Blank Spike Summary .....	170
<b>12.3:</b> Matrix Spike/Matrix Spike Duplicate Summary .....	172
<b>Section 13: GC Semi-volatiles - Raw Data .....</b>	<b>174</b>
<b>13.1:</b> Samples .....	175
<b>13.2:</b> Method Blanks .....	187
<b>Section 14: Metals Analysis - QC Data Summaries .....</b>	<b>193</b>

# Table of Contents

-2-

<b>14.1:</b> Prep QC MP3874: Ba,Cd,Cr,Cu,Pb,Ni,Se,Ag,Zn .....	194
<b>14.2:</b> Prep QC MP3875: As .....	204
<b>14.3:</b> Prep QC MP3876: As .....	209
<b>14.4:</b> Prep QC MP3889: Ca,Mg,Na,Sodium Adsorption Ratio .....	213
<b>14.5:</b> Prep QC MP3911: Hg .....	221
<b>Section 15: General Chemistry - QC Data Summaries .....</b>	<b>225</b>
<b>15.1:</b> Method Blank and Spike Results Summary .....	226
<b>15.2:</b> Duplicate Results Summary .....	227
<b>Section 16: Misc. Forms (Accutest Labs of New England, Inc.) .....</b>	<b>228</b>
<b>16.1:</b> Chain of Custody .....	229
<b>Section 17: General Chemistry - QC Data (Accutest Labs of New England, Inc.) .....</b>	<b>231</b>
<b>17.1:</b> Method Blank and Spike Results Summary .....	232
<b>17.2:</b> Duplicate Results Summary .....	233
<b>17.3:</b> Matrix Spike Results Summary .....	234

## Sample Summary

KRW Consulting, Inc.

Job No: D20575

FRU 297-8B

Project No: 1106-06

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
D20575-1	01/19/11	11:00 BB	01/21/11	AQ	Water	FRU 297-8B FW
D20575-2	01/19/11	15:00 BB	01/21/11	SO	Sludge	FRU 297-8B RES
D20575-2A	01/19/11	15:00 BB	01/21/11	SO	Sludge	FRU 297-8B RES
D20575-3	01/19/11	12:45 BB	01/21/11	SO	Soil	FRU 297-8B CUT1
D20575-3A	01/19/11	12:45 BB	01/21/11	SO	Soil	FRU 297-8B CUT1
D20575-4	01/19/11	13:35 BB	01/21/11	SO	Soil	FRU 297-8B CUT 2
D20575-4A	01/19/11	13:35 BB	01/21/11	SO	Soil	FRU 297-8B CUT 2

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Soil samples reported on a dry weight basis unless otherwise indicated on result page.

## CASE NARRATIVE / CONFORMANCE SUMMARY

**Client:** KRW Consulting, Inc.

**Job No** D20575

**Site:** FRU 297-8A

**Report Dat** 1/31/2011 11:29:05 AM

On 01/21/2011, four (4) samples, 0 Trip Blanks, and 0 Field Blanks were received at Accutest Mountain States (AMS) at a temperature of 4.5°C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D20575 was assigned to the project. The lab sample IDs, client sample IDs, and dates of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

### Volatiles by GCMS By Method SW846 8260B

<b>Matrix</b> SO	<b>Batch ID:</b> V3V472
------------------	-------------------------

- All samples were analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D20575-4MS and D20575-4MSD were used as the QC samples indicated.

### Extractables by GCMS By Method SW846 8270C BY SIM

<b>Matrix</b> SO	<b>Batch ID:</b> OP3055
------------------	-------------------------

- All samples were extracted and analyzed within the recommended method holding time.
- Samples D20575-4MS and D20575-4MSD were used as the QC samples indicated.
- The method blank for this batch meets method specific criteria.
- The matrix spike and matrix spike duplicate (MS/MSD) recoveries of a few analytes are outside control limits. Outside control limits due to matrix interference. Refer to the lab control or spike blank for recovery information.
- Sample D20575-2: Dilution required due to matrix interference.

### Volatiles by GC By Method SW846 8015B

<b>Matrix</b> AQ	<b>Batch ID:</b> GGB494
------------------	-------------------------

- All samples were analyzed within the recommended method holding time.
- Samples D20575-1MS and D20575-1MSD were used as the QC samples indicated.
- The method blank for this batch meets method specific criteria.

<b>Matrix</b> SO	<b>Batch ID:</b> GGB493
------------------	-------------------------

- All samples were analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D20575-4MS and D20575-4MSD were used as the QC samples indicated.

## Extractables by GC By Method SW846-8015B

**Matrix** AQ

**Batch ID:** OP3059

- All samples were extracted and analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D20586-1MS and D20586-1MSD were used as the QC samples indicated.

**Matrix** SO

**Batch ID:** OP3054

- All samples were extracted and analyzed within the recommended method holding time.
- Samples D20576-3MS and D20576-3MSD were used as the QC samples indicated.
- The method blank for this batch meets method specific criteria.

## Metals By Method EPA 200.8

**Matrix** AQ

**Batch ID:** MP3876

- All samples were digested and analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D20547-3FMS and D20547-3FMSD were used as the QC samples for the metals analysis.

## Metals By Method SW846 6010B

**Matrix** AQ

**Batch ID:** MP3889

- All samples were digested and analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D20576-3AMS and D20576-3AMSD were used as the QC samples for the metals analysis.

**Matrix** SO

**Batch ID:** MP3874

- All samples were digested and analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D20575-2MS, D20575-2MSD, and D20575-2SDL were used as the QC samples for the metals analysis.
- The matrix spike and matrix spike duplicate (MS/MSD) recoveries of Zinc and the MSD recoveries of Cadmium and Nickel are outside control limits. The spike recovery indicates possible matrix interference. Refer to the lab control or spike blank for recovery information.
- The matrix spike (MS) recovery of Barium are outside control limits. The spike amount is low relative to the sample amount. Refer to the lab control or spike blank for recovery information.
- The serial dilution RPD for Barium, Chromium, Lead, Selenium, and Zinc are outside control limits for sample MP3874-SD1. The percent differences are acceptable for Chromium, Selenium, and Lead due to low initial sample concentration (< 50 times IDL).
- MP3874-S2 for Barium and Zinc: High RPD due to possible sample nonhomogeneity.

## Metals By Method SW846 6020

**Matrix** SO

**Batch ID:** MP3875

- All samples were digested and analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D20575-2MS, D20575-2MSD, and D20575-2SDL were used as the QC samples for the metals analysis.

## Metals By Method SW846 7471A

**Matrix** SO

**Batch ID:** MP3911

- All samples were digested and analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D20575-3MSD and D20575-3MS were used as the QC samples for the Mercury analysis.
- The matrix spike (MS) recovery of Mercury is outside control limits. The spike recovery indicates possible matrix interference and/or sample nonhomogeneity. Refer to the lab control or spike blank for recovery information.

## Wet Chemistry By Method ASTM D1498-76M

**Matrix** SO

**Batch ID:** M:GN33999

- The data for ASTM D1498-76M meets quality control requirements.
- Redox Potential Vs H<sub>2</sub>: Analysis performed at Accutest Laboratories, Marlborough, MA.

## Wet Chemistry By Method SM19 2540B M

**Matrix** SO

**Batch ID:** GN7997

- The data for SM19 2540B M meets quality control requirements.

## Wet Chemistry By Method SM20 2510B

**Matrix** AQ

**Batch ID:** GP3657

- Sample D20530-1DUP was used as the QC samples for the Specific Conductivity analysis.

## Wet Chemistry By Method SM20 4500H

**Matrix** AQ

**Batch ID:** GN7999

- The following sample was run outside of holding time for method SM20 4500H: D20575-1.

## Wet Chemistry By Method SW846 3060/7196A M

**Matrix** SO

**Batch ID:** R6076

- The data for SW846 3060/7196A M meets quality control requirements.
- Trivalent Chromium: Calculated as: (Chromium) - (Hexavalent Chromium)

## Wet Chemistry By Method SW846 3060A/7196A

**Matrix** SO

**Batch ID:** M:GP12555

- Hexavalent Chromium,: Analysis performed at Accutest Laboratories, Marlborough, MA.

## Wet Chemistry By Method SW846 9045C

**Matrix** SO

**Batch ID:** GN8002

- The following samples were run outside of holding time for method SW846 9045C: D20575-2, D20575-3, and D20575-4.

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

## SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** Accutest Mountain States

**Job No** D20575

**Site:** KRWCCOL: FRU 297-8A

**Report Date** 1/28/2011 2:46:48 PM

3 Sample(s) were collected on 01/19/2011 and were received at Accutest on 01/21/2011 properly preserved, at 1.3 Deg. C and intact. These Samples received an Accutest job number of D20575. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

### Wet Chemistry By Method ASTM D1498-76M

**Matrix:** SO

**Batch ID:** GN33999

- Sample(s) D20575-2DUP were used as the QC samples for Redox Potential Vs H2.

### Wet Chemistry By Method SW846 3060A/7196A

**Matrix:** SO

**Batch ID:** GP12555

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D20575-4DUP, D20575-4MS were used as the QC samples for Chromium, Hexavalent.
- Matrix Spike Recovery(s) for Chromium, Hexavalent are outside control limits. Soluble spike recovery indicates possible matrix interference and/or sample nonhomogeneity. Refer to spike blank.
- RPD(s) for Duplicate for Chromium, Hexavalent are outside control limits for sample GP12555-D1. RPD acceptable due to low duplicate and sample concentrations.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(D20575).



## Summary of Hits

**Job Number:** D20575  
**Account:** KRW Consulting, Inc.  
**Project:** FRU 297-8B  
**Collected:** 01/19/11



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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### D20575-1 FRU 297-8B FW

TPH-DRO (C10-C28)	0.657	0.40	0.28	mg/l	SW846-8015B
Arsenic	11.5	1.6		ug/l	EPA 200.8
Specific Conductivity	931	1.0		umhos/cm	SM20 2510B
pH	8.56			su	SM20 4500H

### D20575-2 FRU 297-8B RES

Toluene	347 J	660	330	ug/kg	SW846 8260B
Ethylbenzene	154 J	660	130	ug/kg	SW846 8260B
m,p-Xylene	539 J	1300	230	ug/kg	SW846 8260B
TPH-DRO (C10-C28)	120	51	33	mg/kg	SW846-8015B
Arsenic	7.3	1.5		mg/kg	SW846 6020
Barium	11500	19		mg/kg	SW846 6010B
Chromium	17.8	3.8		mg/kg	SW846 6010B
Copper	37.9	1.9		mg/kg	SW846 6010B
Lead	26.2	19		mg/kg	SW846 6010B
Nickel	15.5	12		mg/kg	SW846 6010B
Zinc	72.2	12		mg/kg	SW846 6010B
Chromium, Hexavalent <sup>a</sup>	2.3	1.5		mg/kg	SW846 3060A/7196A
Chromium, Trivalent <sup>b</sup>	15.5	5.3		mg/kg	SW846 3060/7196A M
Redox Potential Vs H2 <sup>a</sup>	149			mv	ASTM D1498-76M
Specific Conductivity	8280	1.0		umhos/cm	DEPT.OF AG, BOOK N9
pH	11.99			su	SW846 9045C

### D20575-2A FRU 297-8B RES

Calcium	6.16	2.0		mg/l	SW846 6010B
Sodium	1150	2.0		mg/l	SW846 6010B
Sodium Adsorption Ratio <sup>c</sup>	126			ratio	LADNR29B

### D20575-3 FRU 297-8B CUT1

Benzene	202	76	23	ug/kg	SW846 8260B
Toluene	4920	150	76	ug/kg	SW846 8260B
Ethylbenzene	1190	150	30	ug/kg	SW846 8260B
m,p-Xylene	3940	300	53	ug/kg	SW846 8260B
o-Xylene	292	150	53	ug/kg	SW846 8260B
1-Methylnaphthalene	397	84	74	ug/kg	SW846 8270C BY SIM
2-Methylnaphthalene	851	420	130	ug/kg	SW846 8270C BY SIM
Naphthalene	445	420	93	ug/kg	SW846 8270C BY SIM
Phenanthrene	112	84	67	ug/kg	SW846 8270C BY SIM
TPH-GRO (C6-C10)	96.4	15	15	mg/kg	SW846 8015B
TPH-DRO (C10-C28)	834	17	11	mg/kg	SW846-8015B

## Summary of Hits

**Job Number:** D20575  
**Account:** KRW Consulting, Inc.  
**Project:** FRU 297-8B  
**Collected:** 01/19/11



Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Arsenic		18.6	0.51		mg/kg	SW846 6020
Barium		1250	1.3		mg/kg	SW846 6010B
Cadmium		2.7	1.3		mg/kg	SW846 6010B
Chromium		18.2	1.3		mg/kg	SW846 6010B
Copper		29.3	0.64		mg/kg	SW846 6010B
Lead		21.2	6.4		mg/kg	SW846 6010B
Nickel		16.6	3.8		mg/kg	SW846 6010B
Selenium		11.4	6.4		mg/kg	SW846 6010B
Zinc		50.0	3.8		mg/kg	SW846 6010B
Chromium, Trivalent <sup>b</sup>		18.2	1.8		mg/kg	SW846 3060/7196A M
Redox Potential Vs H2 <sup>a</sup>		49.0			mv	ASTM D1498-76M
Specific Conductivity		13200	1.0		umhos/cm	DEPT.OF AG, BOOK N9
pH		11.78			su	SW846 9045C

### D20575-3A FRU 297-8B CUT1

Calcium	9.14	2.0	mg/l	SW846 6010B
Sodium	2580	2.0	mg/l	SW846 6010B
Sodium Adsorption Ratio <sup>c</sup>	232		ratio	LADNR29B

### D20575-4 FRU 297-8B CUT 2

Toluene	159 J	160	78	ug/kg	SW846 8260B
Ethylbenzene	56.8 J	160	31	ug/kg	SW846 8260B
m,p-Xylene	230 J	310	55	ug/kg	SW846 8260B
1-Methylnaphthalene	108	86	76	ug/kg	SW846 8270C BY SIM
2-Methylnaphthalene	212 J	430	130	ug/kg	SW846 8270C BY SIM
Naphthalene	100 J	430	95	ug/kg	SW846 8270C BY SIM
TPH-DRO (C10-C28)	612	17	11	mg/kg	SW846-8015B
Arsenic	20.1	0.52		mg/kg	SW846 6020
Barium	2220	1.3		mg/kg	SW846 6010B
Chromium	18.0	1.3		mg/kg	SW846 6010B
Copper	27.3	0.65		mg/kg	SW846 6010B
Lead	33.5	6.5		mg/kg	SW846 6010B
Nickel	16.8	3.9		mg/kg	SW846 6010B
Zinc	53.4	3.9		mg/kg	SW846 6010B
Chromium, Trivalent <sup>b</sup>	18.0	1.8		mg/kg	SW846 3060/7196A M
Redox Potential Vs H2 <sup>a</sup>	103			mv	ASTM D1498-76M
Specific Conductivity	13600	1.0		umhos/cm	DEPT.OF AG, BOOK N9
pH	12.23			su	SW846 9045C

### D20575-4A FRU 297-8B CUT 2

Calcium	6.02	2.0	mg/l	SW846 6010B
Sodium	1470	2.0	mg/l	SW846 6010B

## Summary of Hits

Page 3 of 3

**Job Number:** D20575  
**Account:** KRW Consulting, Inc.  
**Project:** FRU 297-8B  
**Collected:** 01/19/11



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Analyte						
Sodium Adsorption Ratio <sup>c</sup>		163			ratio	LADNR29B

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

(b) Calculated as: (Chromium) - (Chromium, Hexavalent)

(c) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

Sample Results

Report of Analysis

Accutest Laboratories

## Report of Analysis

Page 1 of 1

<b>Client Sample ID:</b>	FRU 297-8B FW	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-1	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	AQ - Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8015B		
<b>Project:</b>	FRU 297-8B		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB9230.D	1	01/24/11	JL	n/a	n/a	GGB494
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.20	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	115%		60-140%		

ND = Not detected      MDL - Method Detection Limit  
RL = Reporting Limit  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

Accutest Laboratories

## Report of Analysis

Page 1 of 1

<b>Client Sample ID:</b>	FRU 297-8B FW	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-1	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	AQ - Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846-8015B SW846 3510C		
<b>Project:</b>	FRU 297-8B		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FE5661.D	1	01/25/11	JB	01/24/11	OP3059	GFE284
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	0.657	0.40	0.28	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	88%		40-137%		

ND = Not detected      MDL - Method Detection Limit  
RL = Reporting Limit  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

Report of Analysis

<b>Client Sample ID:</b>	FRU 297-8B FW	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-1	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	AQ - Water	<b>Percent Solids:</b>	n/a
<b>Project:</b>	FRU 297-8B		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	11.5	1.6	ug/l	2	01/24/11	01/25/11 GJ	EPA 200.8 <sup>1</sup>	EPA 200.8 <sup>2</sup>

(1) Instrument QC Batch: MA1270  
(2) Prep QC Batch: MP3876

RL = Reporting Limit

Report of Analysis

<b>Client Sample ID:</b>	FRU 297-8B FW	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-1	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	AQ - Water	<b>Percent Solids:</b>	n/a
<b>Project:</b>	FRU 297-8B		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Specific Conductivity	931	1.0	umhos/cm	1	01/25/11	CJ	SM20 2510B
pH	8.56		su	1	01/24/11 13:45	JK	SM20 4500H

RL = Reporting Limit



Accutest Laboratories

## Report of Analysis

Page 1 of 1

<b>Client Sample ID:</b>	FRU 297-8B RES	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-2	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	SO - Sludge	<b>Percent Solids:</b>	26.3
<b>Method:</b>	SW846 8260B		
<b>Project:</b>	FRU 297-8B		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V08631.D	1	01/24/11	DC	n/a	n/a	V3V472
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.00 g	5.0 ml	100 ul
Run #2			

## Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	330	99	ug/kg	
108-88-3	Toluene	347	660	330	ug/kg	J
100-41-4	Ethylbenzene	154	660	130	ug/kg	J
	m,p-Xylene	539	1300	230	ug/kg	J
95-47-6	o-Xylene	ND	660	230	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	91%		70-130%
460-00-4	4-Bromofluorobenzene	94%		70-130%
17060-07-0	1,2-Dichloroethane-D4	86%		70-130%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

Accutest Laboratories

## Report of Analysis

Page 1 of 1

<b>Client Sample ID:</b>	FRU 297-8B RES	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-2	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	SO - Sludge	<b>Percent Solids:</b>	26.3
<b>Method:</b>	SW846 8270C BY SIM SW846 3540C		
<b>Project:</b>	FRU 297-8B		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	3G02753.D	10	01/25/11	TMB	01/24/11	OP3055	E3G94
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	250	240	ug/kg	
208-96-8	Acenaphthylene	ND	1300	260	ug/kg	
120-12-7	Anthracene	ND	250	160	ug/kg	
56-55-3	Benzo(a)anthracene	ND	250	250	ug/kg	
50-32-8	Benzo(a)pyrene	ND	250	160	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	250	180	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	250	160	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	250	160	ug/kg	
218-01-9	Chrysene	ND	250	130	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	250	190	ug/kg	
206-44-0	Fluoranthene	ND	250	160	ug/kg	
86-73-7	Fluorene	ND	250	250	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	250	170	ug/kg	
90-12-0	1-Methylnaphthalene	ND	250	220	ug/kg	
91-57-6	2-Methylnaphthalene	ND	1300	390	ug/kg	
91-20-3	Naphthalene	ND	1300	280	ug/kg	
85-01-8	Phenanthrene	ND	250	200	ug/kg	
129-00-0	Pyrene	ND	250	170	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	49%		10-193%
321-60-8	2-Fluorobiphenyl	57%		20-138%
1718-51-0	Terphenyl-d14	65%		17-174%

(a) Dilution required due to matrix interference.

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Accutest Laboratories

## Report of Analysis

Page 1 of 1

<b>Client Sample ID:</b>	FRU 297-8B RES	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-2	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	SO - Sludge	<b>Percent Solids:</b>	26.3
<b>Method:</b>	SW846 8015B		
<b>Project:</b>	FRU 297-8B		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB9226.D	1	01/24/11	JL	n/a	n/a	GGB493
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.0 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	66	66	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	112%		60-140%		

ND = Not detected      MDL - Method Detection Limit  
RL = Reporting Limit  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

Accutest Laboratories

## Report of Analysis

Page 1 of 1

<b>Client Sample ID:</b>	FRU 297-8B RES	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-2	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	SO - Sludge	<b>Percent Solids:</b>	26.3
<b>Method:</b>	SW846-8015B SW846 3550B		
<b>Project:</b>	FRU 297-8B		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FE5651.D	1	01/25/11	JB	01/24/11	OP3054	GFE284
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	120	51	33	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	113%		63-130%		

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	FRU 297-8B RES	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-2	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	SO - Sludge	<b>Percent Solids:</b>	26.3
<b>Project:</b>	FRU 297-8B		

## Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	7.3	1.5	mg/kg	5	01/24/11	01/25/11 GJ	SW846 6020 <sup>2</sup>	SW846 3050B <sup>6</sup>
Barium	11500	19	mg/kg	5	01/24/11	01/26/11 JM	SW846 6010B <sup>3</sup>	SW846 3050B <sup>5</sup>
Cadmium	< 3.8	3.8	mg/kg	1	01/24/11	01/24/11 JB	SW846 6010B <sup>1</sup>	SW846 3050B <sup>5</sup>
Chromium	17.8	3.8	mg/kg	1	01/24/11	01/24/11 JB	SW846 6010B <sup>1</sup>	SW846 3050B <sup>5</sup>
Copper	37.9	1.9	mg/kg	1	01/24/11	01/24/11 JB	SW846 6010B <sup>1</sup>	SW846 3050B <sup>5</sup>
Lead	26.2	19	mg/kg	1	01/24/11	01/24/11 JB	SW846 6010B <sup>1</sup>	SW846 3050B <sup>5</sup>
Mercury	< 0.37	0.37	mg/kg	1	01/27/11	01/27/11 JM	SW846 7471A <sup>4</sup>	SW846 7471A <sup>7</sup>
Nickel	15.5	12	mg/kg	1	01/24/11	01/24/11 JB	SW846 6010B <sup>1</sup>	SW846 3050B <sup>5</sup>
Selenium	< 19	19	mg/kg	1	01/24/11	01/26/11 JM	SW846 6010B <sup>3</sup>	SW846 3050B <sup>5</sup>
Silver	< 12	12	mg/kg	1	01/24/11	01/24/11 JB	SW846 6010B <sup>1</sup>	SW846 3050B <sup>5</sup>
Zinc	72.2	12	mg/kg	1	01/24/11	01/24/11 JB	SW846 6010B <sup>1</sup>	SW846 3050B <sup>5</sup>

- (1) Instrument QC Batch: MA1268  
 (2) Instrument QC Batch: MA1270  
 (3) Instrument QC Batch: MA1274  
 (4) Instrument QC Batch: MA1278  
 (5) Prep QC Batch: MP3874  
 (6) Prep QC Batch: MP3875  
 (7) Prep QC Batch: MP3911

RL = Reporting Limit

## Report of Analysis

<b>Client Sample ID:</b>	FRU 297-8B RES	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-2	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	SO - Sludge	<b>Percent Solids:</b>	26.3
<b>Project:</b>	FRU 297-8B		

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent <sup>a</sup>	2.3	1.5	mg/kg	1	01/26/11 16:48	AMA	SW846 3060A/7196A
Chromium, Trivalent <sup>b</sup>	15.5	5.3	mg/kg	1	01/26/11 16:48	AMA	SW846 3060/7196A M
Redox Potential Vs H2 <sup>a</sup>	149		mv	1	01/26/11	AMA	ASTM D1498-76M
Solids, Percent	26.3		%	1	01/24/11	SWT	SM19 2540B M
Specific Conductivity	8280	1.0	umhos/cm	1	01/25/11	CJ	DEPT.OF AG, BOOK N9
pH	11.99		su	1	01/24/11 14:30	JK	SW846 9045C

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

(b) Calculated as: (Chromium) - (Chromium, Hexavalent)

RL = Reporting Limit

Report of Analysis

<b>Client Sample ID:</b>	FRU 297-8B RES	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-2A	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	SO - Sludge	<b>Percent Solids:</b>	26.3
<b>Project:</b>	FRU 297-8B		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	6.16	2.0	mg/l	1	01/25/11	01/25/11 JM	SW846 6010B <sup>1</sup>	EPA 200.7 <sup>2</sup>
Magnesium	< 1.0	1.0	mg/l	1	01/25/11	01/25/11 JM	SW846 6010B <sup>1</sup>	EPA 200.7 <sup>2</sup>
Sodium	1150	2.0	mg/l	1	01/25/11	01/25/11 JM	SW846 6010B <sup>1</sup>	EPA 200.7 <sup>2</sup>

(1) Instrument QC Batch: MA1272  
(2) Prep QC Batch: MP3889

RL = Reporting Limit

Report of Analysis

<b>Client Sample ID:</b>	FRU 297-8B RES	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-2A	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	SO - Sludge	<b>Percent Solids:</b>	26.3
<b>Project:</b>	FRU 297-8B		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio <sup>a</sup>	126		ratio	1	01/25/11 16:40	JM	LADNR29B

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit



Accutest Laboratories

## Report of Analysis

Page 1 of 1

<b>Client Sample ID:</b>	FRU 297-8B CUT1	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-3	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	79.3
<b>Method:</b>	SW846 8260B		
<b>Project:</b>	FRU 297-8B		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V08634.D	1	01/24/11	DC	n/a	n/a	V3V472
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.00 g	5.0 ml	100 ul
Run #2			

## Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	202	76	23	ug/kg	
108-88-3	Toluene	4920	150	76	ug/kg	
100-41-4	Ethylbenzene	1190	150	30	ug/kg	
	m,p-Xylene	3940	300	53	ug/kg	
95-47-6	o-Xylene	292	150	53	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	86%		70-130%
460-00-4	4-Bromofluorobenzene	91%		70-130%
17060-07-0	1,2-Dichloroethane-D4	88%		70-130%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

Accutest Laboratories

## Report of Analysis

Page 1 of 1

<b>Client Sample ID:</b>	FRU 297-8B CUT1	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-3	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	79.3
<b>Method:</b>	SW846 8270C BY SIM SW846 3540C		
<b>Project:</b>	FRU 297-8B		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G02754.D	10	01/25/11	TMB	01/24/11	OP3055	E3G94
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	84	78	ug/kg	
208-96-8	Acenaphthylene	ND	420	86	ug/kg	
120-12-7	Anthracene	ND	84	54	ug/kg	
56-55-3	Benzo(a)anthracene	ND	84	82	ug/kg	
50-32-8	Benzo(a)pyrene	ND	84	53	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	84	61	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	84	52	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	84	53	ug/kg	
218-01-9	Chrysene	ND	84	42	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	84	62	ug/kg	
206-44-0	Fluoranthene	ND	84	52	ug/kg	
86-73-7	Fluorene	ND	84	82	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	84	55	ug/kg	
90-12-0	1-Methylnaphthalene	397	84	74	ug/kg	
91-57-6	2-Methylnaphthalene	851	420	130	ug/kg	
91-20-3	Naphthalene	445	420	93	ug/kg	
85-01-8	Phenanthrene	112	84	67	ug/kg	
129-00-0	Pyrene	ND	84	57	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	83%		10-193%
321-60-8	2-Fluorobiphenyl	64%		20-138%
1718-51-0	Terphenyl-d14	80%		17-174%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Accutest Laboratories

## Report of Analysis

Page 1 of 1

<b>Client Sample ID:</b>	FRU 297-8B CUT1	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-3	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	79.3
<b>Method:</b>	SW846 8015B		
<b>Project:</b>	FRU 297-8B		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB9225.D	1	01/24/11	JL	n/a	n/a	GGB493
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.0 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	96.4	15	15	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	106%		60-140%		

ND = Not detected      MDL - Method Detection Limit  
RL = Reporting Limit  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

Accutest Laboratories

## Report of Analysis

Page 1 of 1

<b>Client Sample ID:</b>	FRU 297-8B CUT1	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-3	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	79.3
<b>Method:</b>	SW846-8015B SW846 3550B		
<b>Project:</b>	FRU 297-8B		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FE5652.D	1	01/25/11	JB	01/24/11	OP3054	GFE284
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	834	17	11	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	109%		63-130%		

ND = Not detected      MDL - Method Detection Limit  
RL = Reporting Limit  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID: FRU 297-8B CUT1

Lab Sample ID: D20575-3

Matrix: SO - Soil

Project: FRU 297-8B

Date Sampled: 01/19/11

Date Received: 01/21/11

Percent Solids: 79.3

## Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	18.6	0.51	mg/kg	5	01/24/11	01/25/11 GJ	SW846 6020 <sup>2</sup>	SW846 3050B <sup>6</sup>
Barium	1250	1.3	mg/kg	1	01/24/11	01/24/11 JB	SW846 6010B <sup>1</sup>	SW846 3050B <sup>5</sup>
Cadmium	2.7	1.3	mg/kg	1	01/24/11	01/24/11 JB	SW846 6010B <sup>1</sup>	SW846 3050B <sup>5</sup>
Chromium	18.2	1.3	mg/kg	1	01/24/11	01/24/11 JB	SW846 6010B <sup>1</sup>	SW846 3050B <sup>5</sup>
Copper	29.3	0.64	mg/kg	1	01/24/11	01/24/11 JB	SW846 6010B <sup>1</sup>	SW846 3050B <sup>5</sup>
Lead	21.2	6.4	mg/kg	1	01/24/11	01/24/11 JB	SW846 6010B <sup>1</sup>	SW846 3050B <sup>5</sup>
Mercury	< 0.12	0.12	mg/kg	1	01/27/11	01/27/11 JM	SW846 7471A <sup>4</sup>	SW846 7471A <sup>7</sup>
Nickel	16.6	3.8	mg/kg	1	01/24/11	01/24/11 JB	SW846 6010B <sup>1</sup>	SW846 3050B <sup>5</sup>
Selenium	11.4	6.4	mg/kg	1	01/24/11	01/26/11 JM	SW846 6010B <sup>3</sup>	SW846 3050B <sup>5</sup>
Silver	< 3.8	3.8	mg/kg	1	01/24/11	01/24/11 JB	SW846 6010B <sup>1</sup>	SW846 3050B <sup>5</sup>
Zinc	50.0	3.8	mg/kg	1	01/24/11	01/24/11 JB	SW846 6010B <sup>1</sup>	SW846 3050B <sup>5</sup>

(1) Instrument QC Batch: MA1268

(2) Instrument QC Batch: MA1270

(3) Instrument QC Batch: MA1274

(4) Instrument QC Batch: MA1278

(5) Prep QC Batch: MP3874

(6) Prep QC Batch: MP3875

(7) Prep QC Batch: MP3911

RL = Reporting Limit

## Report of Analysis

**Client Sample ID:** FRU 297-8B CUT1**Lab Sample ID:** D20575-3**Matrix:** SO - Soil**Project:** FRU 297-8B**Date Sampled:** 01/19/11**Date Received:** 01/21/11**Percent Solids:** 79.3**General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent <sup>a</sup>	< 0.49	0.49	mg/kg	1	01/26/11 16:48	AMA	SW846 3060A/7196A
Chromium, Trivalent <sup>b</sup>	18.2	1.8	mg/kg	1	01/26/11 16:48	AMA	SW846 3060/7196A M
Redox Potential Vs H2 <sup>a</sup>	49.0		mv	1	01/26/11	AMA	ASTM D1498-76M
Solids, Percent	79.3		%	1	01/24/11	SWT	SM19 2540B M
Specific Conductivity	13200	1.0	umhos/cm	1	01/25/11	CJ	DEPT.OF AG, BOOK N9
pH	11.78		su	1	01/24/11 14:30	JK	SW846 9045C

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

(b) Calculated as: (Chromium) - (Chromium, Hexavalent)

RL = Reporting Limit

Report of Analysis

<b>Client Sample ID:</b>	FRU 297-8B CUT1	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-3A	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	79.3
<b>Project:</b>	FRU 297-8B		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	9.14	2.0	mg/l	1	01/25/11	01/25/11 JM	SW846 6010B <sup>1</sup>	EPA 200.7 <sup>2</sup>
Magnesium	< 1.0	1.0	mg/l	1	01/25/11	01/25/11 JM	SW846 6010B <sup>1</sup>	EPA 200.7 <sup>2</sup>
Sodium	2580	2.0	mg/l	1	01/25/11	01/25/11 JM	SW846 6010B <sup>1</sup>	EPA 200.7 <sup>2</sup>

(1) Instrument QC Batch: MA1272  
(2) Prep QC Batch: MP3889

RL = Reporting Limit

Report of Analysis

<b>Client Sample ID:</b>	FRU 297-8B CUT1	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-3A	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	79.3
<b>Project:</b>	FRU 297-8B		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio <sup>a</sup>	232		ratio	1	01/25/11 16:50	JM	LADNR29B

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit



Accutest Laboratories

## Report of Analysis

Page 1 of 1

<b>Client Sample ID:</b>	FRU 297-8B CUT 2	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-4	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	77.9
<b>Method:</b>	SW846 8260B		
<b>Project:</b>	FRU 297-8B		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V08628.D	1	01/24/11	DC	n/a	n/a	V3V472
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.00 g	5.0 ml	100 ul
Run #2			

## Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	78	24	ug/kg	
108-88-3	Toluene	159	160	78	ug/kg	J
100-41-4	Ethylbenzene	56.8	160	31	ug/kg	J
	m,p-Xylene	230	310	55	ug/kg	J
95-47-6	o-Xylene	ND	160	55	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	91%		70-130%
460-00-4	4-Bromofluorobenzene	93%		70-130%
17060-07-0	1,2-Dichloroethane-D4	89%		70-130%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Accutest Laboratories

## Report of Analysis

Page 1 of 1

<b>Client Sample ID:</b>	FRU 297-8B CUT 2	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-4	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	77.9
<b>Method:</b>	SW846 8270C BY SIM SW846 3540C		
<b>Project:</b>	FRU 297-8B		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G02755.D	10	01/25/11	TMB	01/24/11	OP3055	E3G94
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	86	80	ug/kg	
208-96-8	Acenaphthylene	ND	430	88	ug/kg	
120-12-7	Anthracene	ND	86	55	ug/kg	
56-55-3	Benzo(a)anthracene	ND	86	84	ug/kg	
50-32-8	Benzo(a)pyrene	ND	86	54	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	86	62	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	86	53	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	86	54	ug/kg	
218-01-9	Chrysene	ND	86	43	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	86	63	ug/kg	
206-44-0	Fluoranthene	ND	86	53	ug/kg	
86-73-7	Fluorene	ND	86	84	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	86	56	ug/kg	
90-12-0	1-Methylnaphthalene	108	86	76	ug/kg	
91-57-6	2-Methylnaphthalene	212	430	130	ug/kg	J
91-20-3	Naphthalene	100	430	95	ug/kg	J
85-01-8	Phenanthrene	ND	86	68	ug/kg	
129-00-0	Pyrene	ND	86	58	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	82%		10-193%
321-60-8	2-Fluorobiphenyl	68%		20-138%
1718-51-0	Terphenyl-d14	84%		17-174%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Accutest Laboratories

## Report of Analysis

Page 1 of 1

<b>Client Sample ID:</b>	FRU 297-8B CUT 2	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-4	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	77.9
<b>Method:</b>	SW846 8015B		
<b>Project:</b>	FRU 297-8B		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB9222.D	1	01/24/11	JL	n/a	n/a	GGB493
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.0 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	16	16	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	103%		60-140%		

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

Accutest Laboratories

## Report of Analysis

Page 1 of 1

<b>Client Sample ID:</b>	FRU 297-8B CUT 2	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-4	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	77.9
<b>Method:</b>	SW846-8015B SW846 3550B		
<b>Project:</b>	FRU 297-8B		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FE5653.D	1	01/25/11	JB	01/24/11	OP3054	GFE284
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	612	17	11	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	125%		63-130%		

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID: FRU 297-8B CUT 2

Lab Sample ID: D20575-4

Matrix: SO - Soil

Project: FRU 297-8B

Date Sampled: 01/19/11

Date Received: 01/21/11

Percent Solids: 77.9

## Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	20.1	0.52	mg/kg	5	01/24/11	01/25/11 GJ	SW846 6020 <sup>2</sup>	SW846 3050B <sup>6</sup>
Barium	2220	1.3	mg/kg	1	01/24/11	01/24/11 JB	SW846 6010B <sup>1</sup>	SW846 3050B <sup>5</sup>
Cadmium	< 1.3	1.3	mg/kg	1	01/24/11	01/24/11 JB	SW846 6010B <sup>1</sup>	SW846 3050B <sup>5</sup>
Chromium	18.0	1.3	mg/kg	1	01/24/11	01/24/11 JB	SW846 6010B <sup>1</sup>	SW846 3050B <sup>5</sup>
Copper	27.3	0.65	mg/kg	1	01/24/11	01/24/11 JB	SW846 6010B <sup>1</sup>	SW846 3050B <sup>5</sup>
Lead	33.5	6.5	mg/kg	1	01/24/11	01/24/11 JB	SW846 6010B <sup>1</sup>	SW846 3050B <sup>5</sup>
Mercury	< 0.11	0.11	mg/kg	1	01/27/11	01/27/11 JM	SW846 7471A <sup>4</sup>	SW846 7471A <sup>7</sup>
Nickel	16.8	3.9	mg/kg	1	01/24/11	01/24/11 JB	SW846 6010B <sup>1</sup>	SW846 3050B <sup>5</sup>
Selenium	< 6.5	6.5	mg/kg	1	01/24/11	01/26/11 JM	SW846 6010B <sup>3</sup>	SW846 3050B <sup>5</sup>
Silver	< 3.9	3.9	mg/kg	1	01/24/11	01/24/11 JB	SW846 6010B <sup>1</sup>	SW846 3050B <sup>5</sup>
Zinc	53.4	3.9	mg/kg	1	01/24/11	01/24/11 JB	SW846 6010B <sup>1</sup>	SW846 3050B <sup>5</sup>

(1) Instrument QC Batch: MA1268

(2) Instrument QC Batch: MA1270

(3) Instrument QC Batch: MA1274

(4) Instrument QC Batch: MA1278

(5) Prep QC Batch: MP3874

(6) Prep QC Batch: MP3875

(7) Prep QC Batch: MP3911

RL = Reporting Limit

## Report of Analysis

<b>Client Sample ID:</b>	FRU 297-8B CUT 2	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-4	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	77.9
<b>Project:</b>	FRU 297-8B		

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent <sup>a</sup>	< 0.50	0.50	mg/kg	1	01/26/11 16:48	AMA	SW846 3060A/7196A
Chromium, Trivalent <sup>b</sup>	18.0	1.8	mg/kg	1	01/26/11 16:48	AMA	SW846 3060/7196A M
Redox Potential Vs H2 <sup>a</sup>	103		mv	1	01/26/11	AMA	ASTM D1498-76M
Solids, Percent	77.9		%	1	01/24/11	SWT	SM19 2540B M
Specific Conductivity	13600	1.0	umhos/cm	1	01/25/11	CJ	DEPT.OF AG, BOOK N9
pH	12.23		su	1	01/24/11 14:30	JK	SW846 9045C

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

(b) Calculated as: (Chromium) - (Chromium, Hexavalent)

RL = Reporting Limit

Report of Analysis

<b>Client Sample ID:</b>	FRU 297-8B CUT 2	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-4A	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	77.9
<b>Project:</b>	FRU 297-8B		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	6.02	2.0	mg/l	1	01/25/11	01/25/11 JM	SW846 6010B <sup>1</sup>	EPA 200.7 <sup>2</sup>
Magnesium	< 1.0	1.0	mg/l	1	01/25/11	01/25/11 JM	SW846 6010B <sup>1</sup>	EPA 200.7 <sup>2</sup>
Sodium	1470	2.0	mg/l	1	01/25/11	01/25/11 JM	SW846 6010B <sup>1</sup>	EPA 200.7 <sup>2</sup>

(1) Instrument QC Batch: MA1272  
(2) Prep QC Batch: MP3889

RL = Reporting Limit

Report of Analysis

<b>Client Sample ID:</b>	FRU 297-8B CUT 2	<b>Date Sampled:</b>	01/19/11
<b>Lab Sample ID:</b>	D20575-4A	<b>Date Received:</b>	01/21/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	77.9
<b>Project:</b>	FRU 297-8B		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio <sup>a</sup>	163		ratio	1	01/25/11 17:00	JM	LADNR29B

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit



## Misc. Forms

5

### Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody

4036 Youngfield Street, Wheat Ridge, Colorado 80033  
TEL: 303-425-6021; 877-737-4521 FAX: 303-425-6854  
www.accutest.com

<b>Client / Reporting Information</b>		<b>Project Information</b>		<b>Requested Analysis (see TEST CODE sheet)</b>		<b>Matrix Codes</b>	
Company Name: <b>KRW Consulting</b>		Project Name: <b>FRU 297-8A P: Sampling</b>					
Street Address: <b>14 N 14th Ave Suite 200</b>		Street:					
City: <b>Lakewood CO</b> State: <b>CO</b> Zip: <b>80214</b>		City:					
Project Contact: <b>Dwayne Knudsen</b> E-mail:		Billing Information (If different from Report to):					
Phone #: <b>303 239 9011</b> Fax: <b>303 239 0745</b>		Project #: <b>0905-06</b>					
Sampler(s) Name(s): <b>Brant B. Starch, Mike R</b>		Client Purchase Order #:					
Project Manager: <b>Joe Hess</b>		Attention:					
Field ID / Point of Collection: <b>FRU 297-8A FW</b>		MECH/ID Vial #:					
Date: <b>01/19/2011</b> Time: <b>1100</b>		Sampled by: <b>BB</b>					
Matrix: <b>LA</b> # of bottles: <b>7</b>		FIC: <b>3</b> NaOH: <b>1</b>					
HNO3: <b>1</b> H2SO4: <b>2</b> NONE: <b>4</b>		DI Water: <b>4</b> MEQH: <b>4</b> ENCORE: <b>4</b>					
Number of preserved bottles:							
LAB USE ONLY							
FRU 297-8A Res		01/19/2011 1500		BB SL 45		5	
FRU 297-8A Cat 1		01/19/2011 1245		BB SO 45		5	
FRU 297-8A Cat 2		01/19/2011 1335		BB SO 45		5	
Turnaround Time (Business days):		Approved By (Accutest PM): / Date:		Data Deliverable Information:		Comments / Special Instructions:	
<input type="checkbox"/> Std. 10 Business Days <input type="checkbox"/> UST Analysis 3-5 Days <input type="checkbox"/> 6 - 8 Day RUSH <input checked="" type="checkbox"/> 3 - 5 Day RUSH <input type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 1 Day EMERGENCY		<input type="checkbox"/> Level 1 <input type="checkbox"/> Level 2 <input type="checkbox"/> Level 3 <input type="checkbox"/> Level 4 Level 1 = Results Only Level 2 = Results + QC Summary + Case Narrative Level 3 = Results + QC Summary + Partial Raw data Level 4 = Full Deliverable		<input checked="" type="checkbox"/> PDF <input type="checkbox"/> EDD Format <input type="checkbox"/> Other		email results dknudsen@krcconsulting.com jhess@krcconsulting.com gknall@	
Emergency & Rush T/A data available VIA Lablink		Sample Custody must be documented below each time samples change possession, including courier delivery.					
Relinquished By: <b>Brant B. Starch</b>		Date Time: <b>01/20/2011</b>		Received By: <b>1 FedEx 1-21-11 10:00</b>		Date Time: <b>1/22/11</b>	
Relinquished By: <b>3</b>		Date Time: <b>3</b>		Received By: <b>4</b>		Date Time: <b>4</b>	
Relinquished By: <b>5</b>		Date Time: <b>5</b>		Custody Seal # <b>5</b>		<input checked="" type="checkbox"/> Intact <input type="checkbox"/> Not Intact	
				Preserved where applicable		On Ice <b>4</b> Cooler Temp: <b>4.5°C</b>	

**D20575: Chain of Custody**

**Page 1 of 1**

## GC/MS Volatiles

### QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

**Method Blank Summary**

Page 1 of 1

**Job Number:** D20575  
**Account:** KRWCCOL KRW Consulting, Inc.  
**Project:** FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3V472-MB1	3V08625.D	1	01/24/11	DC	n/a	n/a	V3V472

The QC reported here applies to the following samples:

Method: SW846 8260B

D20575-2, D20575-3, D20575-4

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	50	15	ug/kg	
100-41-4	Ethylbenzene	ND	100	20	ug/kg	
108-88-3	Toluene	ND	100	50	ug/kg	
	m,p-Xylene	ND	200	35	ug/kg	
95-47-6	o-Xylene	ND	100	35	ug/kg	

CAS No.	Surrogate Recoveries	Limits
2037-26-5	Toluene-D8	92% 70-130%
460-00-4	4-Bromofluorobenzene	86% 70-130%
17060-07-0	1,2-Dichloroethane-D4	87% 70-130%

## Blank Spike Summary

Page 1 of 1

**Job Number:** D20575

**Account:** KRWCCOL KRW Consulting, Inc.

**Project:** FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3V472-BS1	3V08626.D	1	01/24/11	DC	n/a	n/a	V3V472

The QC reported here applies to the following samples:

Method: SW846 8260B

D20575-2, D20575-3, D20575-4

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	48.8	98	68-130
100-41-4	Ethylbenzene	50	49.1	98	70-130
108-88-3	Toluene	50	47.4	95	70-130
	m,p-Xylene	50	44.0	88	53-130
95-47-6	o-Xylene	50	45.5	91	61-130

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	93%	70-130%
460-00-4	4-Bromofluorobenzene	90%	70-130%
17060-07-0	1,2-Dichloroethane-D4	95%	70-130%

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

**Job Number:** D20575  
**Account:** KRWCCOL KRW Consulting, Inc.  
**Project:** FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D20575-4MS	3V08629.D	1	01/24/11	DC	n/a	n/a	V3V472
D20575-4MSD	3V08630.D	1	01/24/11	DC	n/a	n/a	V3V472
D20575-4	3V08628.D	1	01/24/11	DC	n/a	n/a	V3V472

The QC reported here applies to the following samples:

Method: SW846 8260B

D20575-2, D20575-3, D20575-4

CAS No.	Compound	D20575-4 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		3920	4300	110	4360	111	1	55-140/30
100-41-4	Ethylbenzene	56.8	J	3920	4520	114	4600	116	2	56-139/30
108-88-3	Toluene	159	J	3920	4310	106	4400	108	2	57-144/30
	m,p-Xylene	230	J	3920	4230	102	4260	103	1	47-130/30
95-47-6	o-Xylene	ND		3920	4120	105	4200	107	2	51-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D20575-4	Limits
2037-26-5	Toluene-D8	89%	90%	91%	70-130%
460-00-4	4-Bromofluorobenzene	93%	94%	93%	70-130%
17060-07-0	1,2-Dichloroethane-D4	87%	88%	89%	70-130%

\* = Outside of Control Limits.

GC/MS Volatiles

Raw Data

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3012411.S\  
Data File : 3V08631.D  
Acq On : 24 Jan 2011 1:35 pm  
Operator : DONC  
Sample : D20575-2, 50x  
Misc : MS1762,V3V472,5,,100,5,1  
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jan 25 10:34:07 2011  
Quant Method : C:\msdchem\1\METHODS\V3HSL462TVH462.M  
Quant Title : 8260  
QLast Update : Mon Jan 17 09:47:23 2011  
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	11.891	168	604295	50.00	ug/l	0.00
32) 1,4-Difluorobenzene	12.686	114	887813	50.00	ug/l	0.00
48) Chlorobenzene-d5	15.318	117	815629	50.00	ug/l	0.00
63) 1,4-Dichlorobenzene-d4	17.310	152	498825	50.00	ug/l	0.00

System Monitoring Compounds

30) 1,2-Dichloroethane-d4	12.289	102	66162	43.16	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	86.32%
55) Toluene-d8	14.076	98	1073586	45.56	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	91.12%
59) 4-Bromofluorobenzene	16.267	95	415955	47.20	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	94.40%

Target Compounds

						Qvalue
9) Ethyl Alcohol	8.258	45	189	14.64	ug/l	87
24) 2-Butanone	11.374	72	247	0.30	ug/l	86
37) Hexane	10.485	57	4346	0.41	ug/l	100
46) Dibromochloromethane	14.897	129	64	1.60	ug/l	82
56) Toluene	14.137	92	17114	1.05	ug/l	99
58) Ethylbenzene	15.385	91	13598	0.47	ug/l	98
61) m,p-xylene	15.472	106	21278	1.63	ug/l	96
66) 1,3,5-Trimethylbenzene	16.563	105	21682	0.83	ug/l	92
67) 1,2,4-Trimethylbenzene	16.919	105	68436	2.44	ug/l	96
72) Naphthalene	19.890	128	51635	1.81	ug/l	100

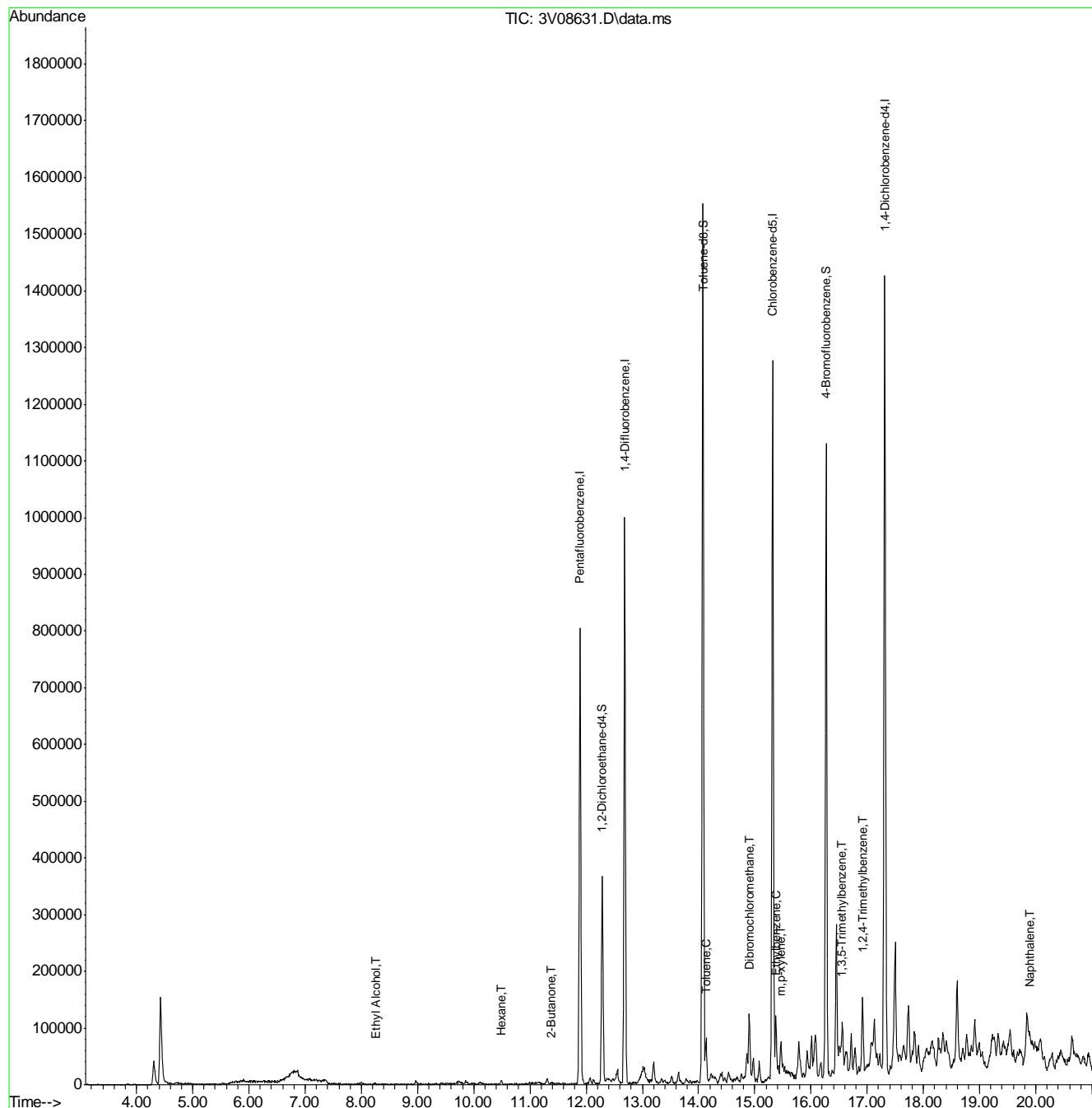
(#) = qualifier out of range (m) = manual integration (+) = signals summed

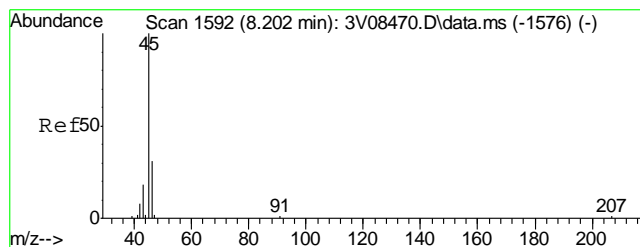


## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3012411.S\  
Data File : 3V08631.D  
Acq On : 24 Jan 2011 1:35 pm  
Operator : DONC  
Sample : D20575-2, 50x  
Misc : MS1762,V3V472,5,,100,5,1  
ALS Vial : 9 Sample Multiplier: 1

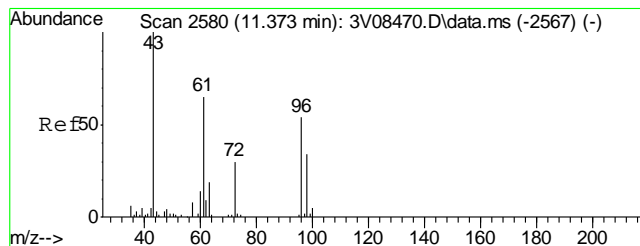
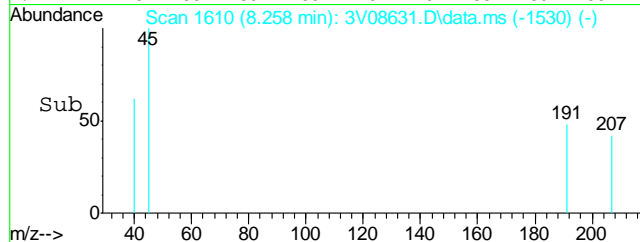
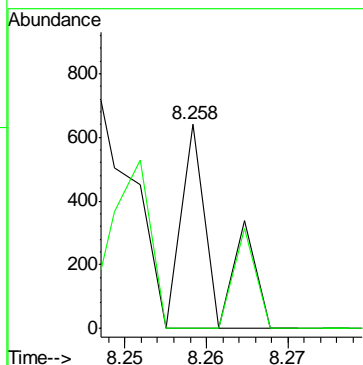
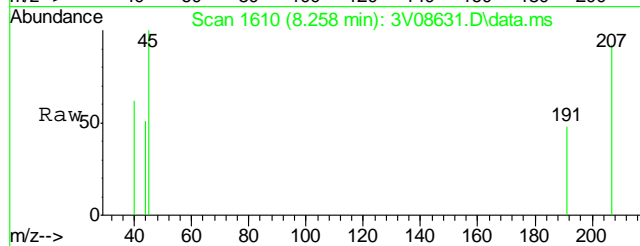
Quant Time: Jan 25 10:34:07 2011  
Quant Method : C:\msdchem\1\METHODS\V3HSL462TVH462.M  
Quant Title : 8260  
QLast Update : Mon Jan 17 09:47:23 2011  
Response via : Initial Calibration





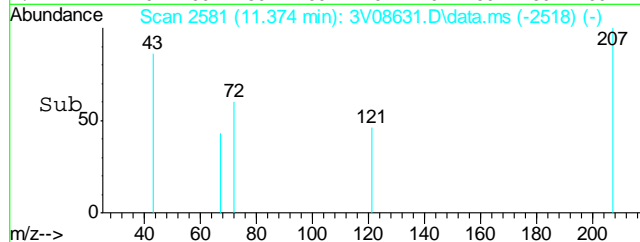
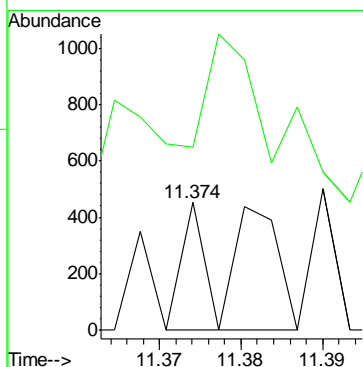
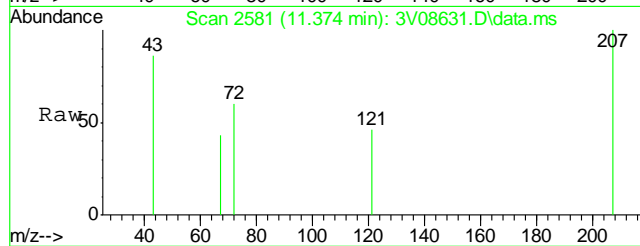
#9  
Ethyl Alcohol  
Concen: 14.64 ug/l  
RT: 8.258 min Scan# 1610  
Delta R.T. 0.056 min  
Lab File: 3V08631.D  
Acq: 24 Jan 2011 1:35 pm

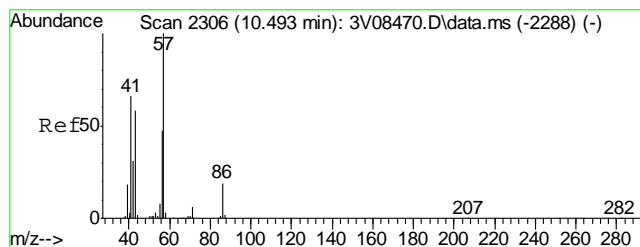
Tgt Ion: 45 Resp: 189  
Ion Ratio Lower Upper  
45 100  
46 32.3 32.2 48.4



#24  
2-Butanone  
Concen: 0.30 ug/l  
RT: 11.374 min Scan# 2581  
Delta R.T. 0.001 min  
Lab File: 3V08631.D  
Acq: 24 Jan 2011 1:35 pm

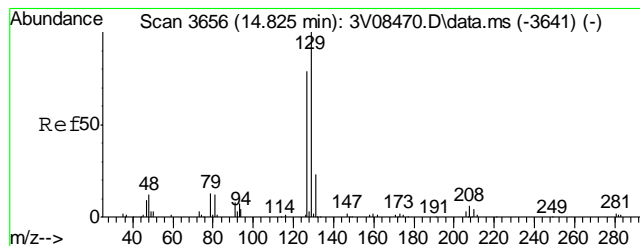
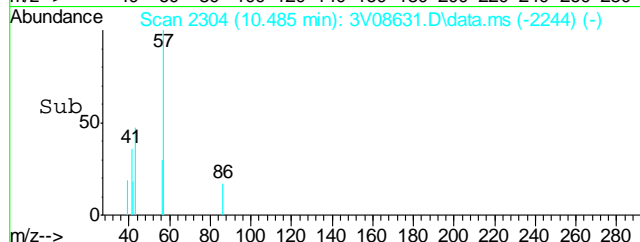
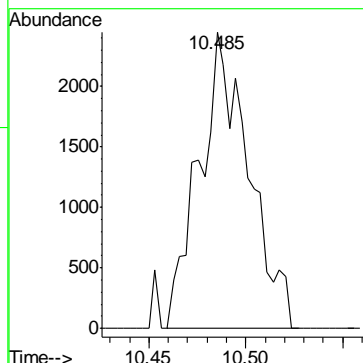
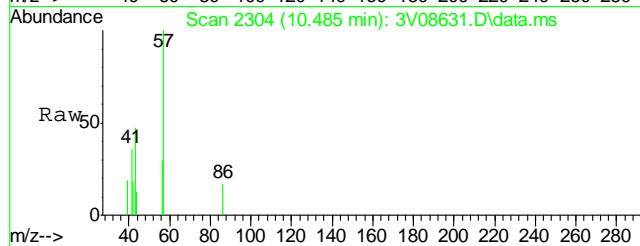
Tgt Ion: 72 Resp: 247  
Ion Ratio Lower Upper  
72 100  
43 344.1 252.0 378.0





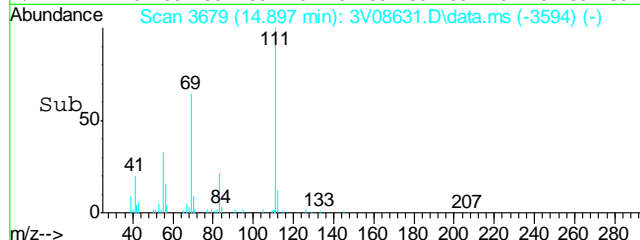
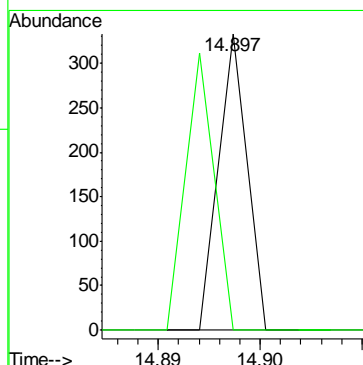
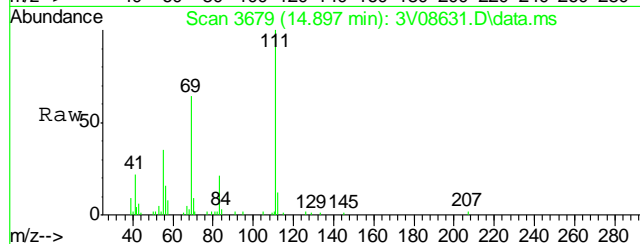
#37  
Hexane  
Concen: 0.41 ug/l  
RT: 10.485 min Scan# 2304  
Delta R.T. -0.008 min  
Lab File: 3V08631.D  
Acq: 24 Jan 2011 1:35 pm

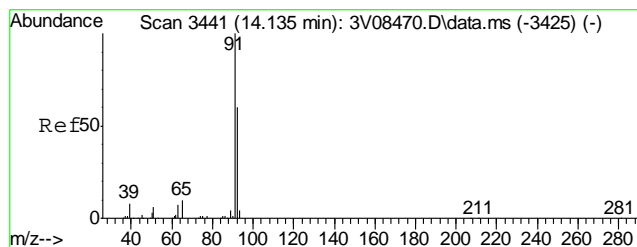
Tgt Ion: 57 Resp: 4346



#46  
Dibromochloromethane  
Concen: 1.60 ug/l  
RT: 14.897 min Scan# 3679  
Delta R.T. 0.072 min  
Lab File: 3V08631.D  
Acq: 24 Jan 2011 1:35 pm

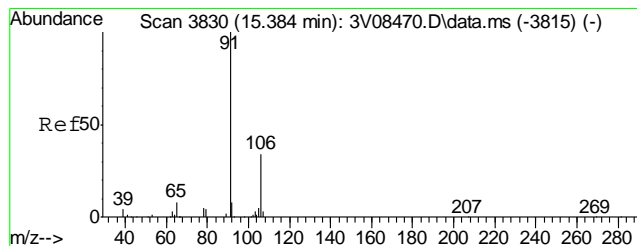
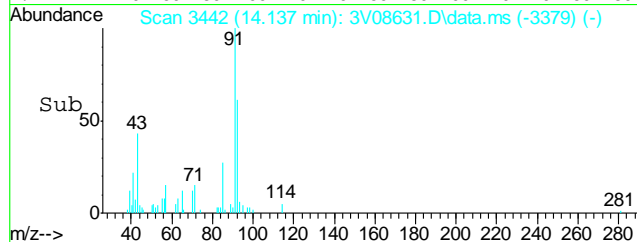
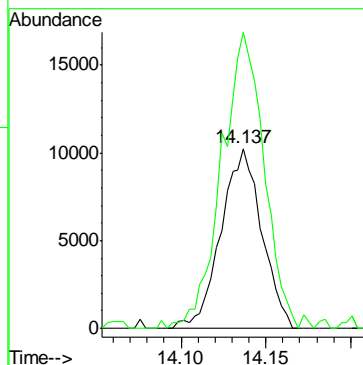
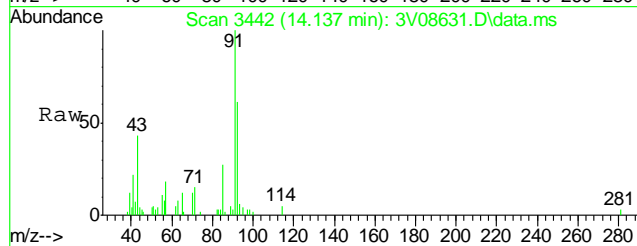
Tgt Ion: 129 Resp: 64  
Ion Ratio Lower Upper  
129 100  
127 93.8 58.3 98.3





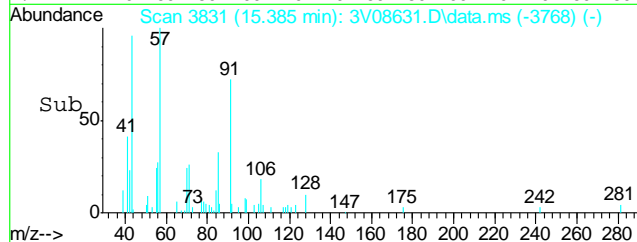
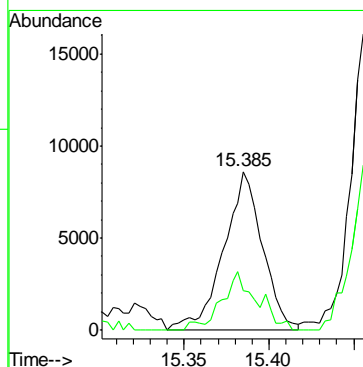
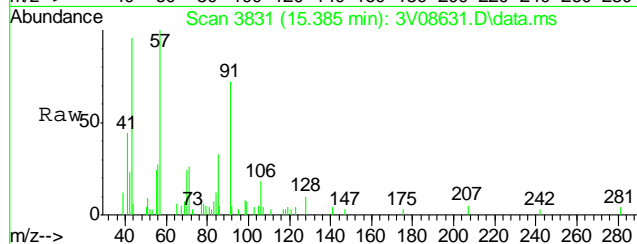
#56  
Toluene  
Concen: 1.05 ug/l  
RT: 14.137 min Scan# 3442  
Delta R.T. 0.001 min  
Lab File: 3V08631.D  
Acq: 24 Jan 2011 1:35 pm

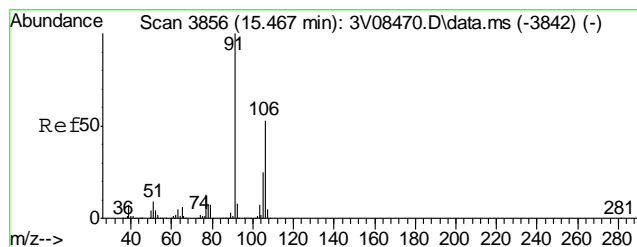
Tgt Ion: 92 Resp: 17114  
Ion Ratio Lower Upper  
92 100  
91 170.7 151.6 191.6



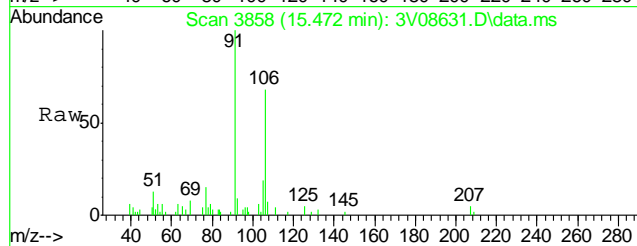
#58  
Ethylbenzene  
Concen: 0.47 ug/l  
RT: 15.385 min Scan# 3831  
Delta R.T. 0.001 min  
Lab File: 3V08631.D  
Acq: 24 Jan 2011 1:35 pm

Tgt Ion: 91 Resp: 13598  
Ion Ratio Lower Upper  
91 100  
106 32.0 13.3 53.3

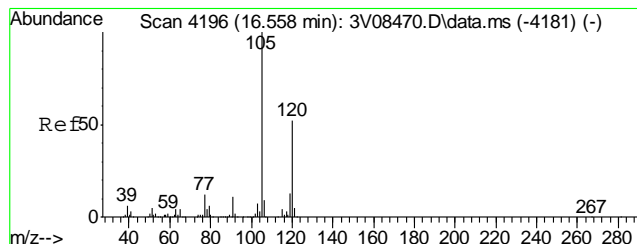
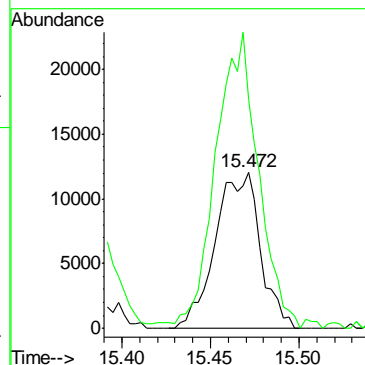
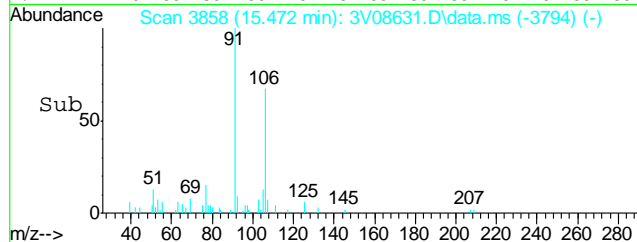




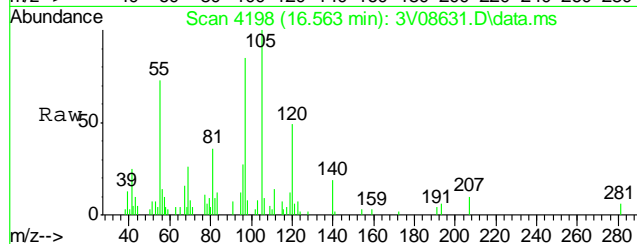
#61  
m,p-xylene  
Concen: 1.63 ug/l  
RT: 15.472 min Scan# 3858  
Delta R.T. 0.005 min  
Lab File: 3V08631.D  
Acq: 24 Jan 2011 1:35 pm



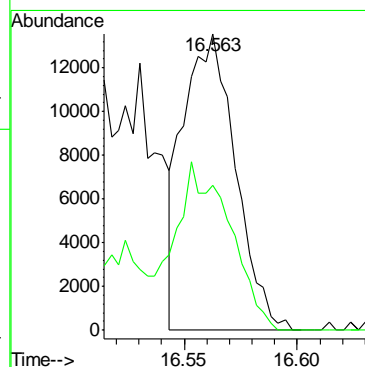
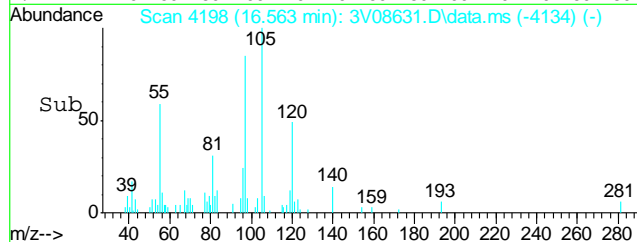
Tgt Ion:106 Resp: 21278  
Ion Ratio Lower Upper  
106 100  
91 181.1 167.5 207.5

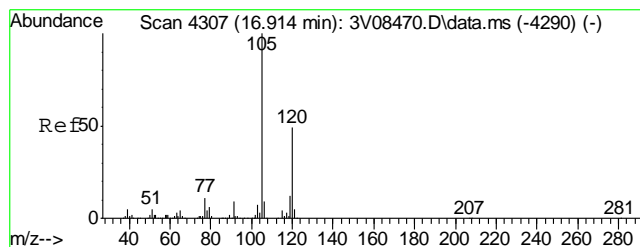


#66  
1,3,5-Trimethylbenzene  
Concen: 0.83 ug/l  
RT: 16.563 min Scan# 4198  
Delta R.T. 0.005 min  
Lab File: 3V08631.D  
Acq: 24 Jan 2011 1:35 pm



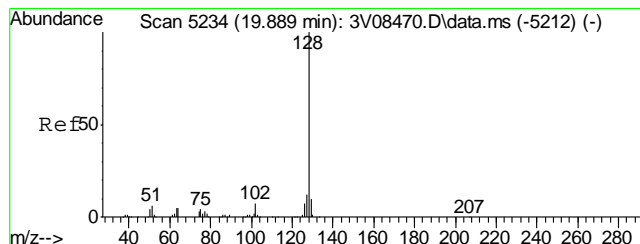
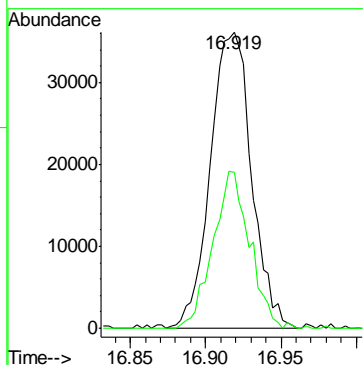
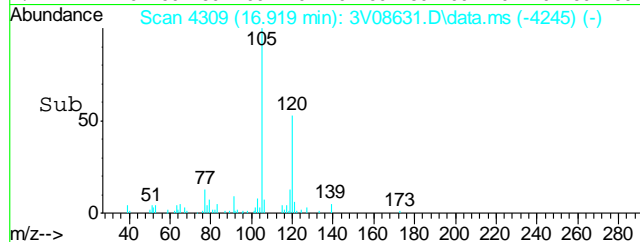
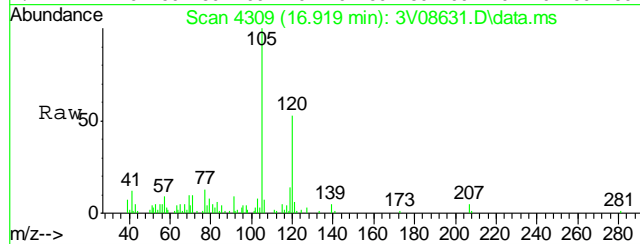
Tgt Ion:105 Resp: 21682  
Ion Ratio Lower Upper  
105 100  
120 58.8 42.4 63.6





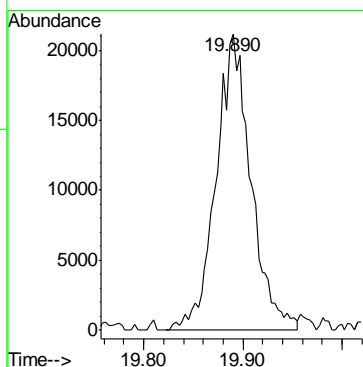
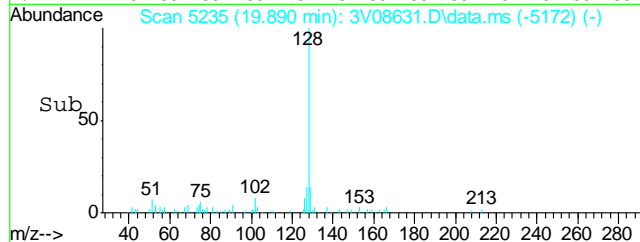
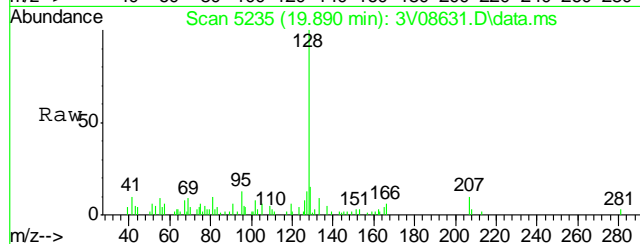
#67  
1,2,4-Trimethylbenzene  
Concen: 2.44 ug/l  
RT: 16.919 min Scan# 4309  
Delta R.T. 0.005 min  
Lab File: 3V08631.D  
Acq: 24 Jan 2011 1:35 pm

Tgt Ion:105 Resp: 68436  
Ion Ratio Lower Upper  
105 100  
120 47.0 39.5 59.3



#72  
Naphthalene  
Concen: 1.81 ug/l  
RT: 19.890 min Scan# 5235  
Delta R.T. 0.001 min  
Lab File: 3V08631.D  
Acq: 24 Jan 2011 1:35 pm

Tgt Ion:128 Resp: 51635



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3012411.S\  
Data File : 3V08634.D  
Acq On : 24 Jan 2011 3:08 pm  
Operator : DONC  
Sample : D20575-3, 50x  
Misc : MS1762,V3V472,5,,100,5,1  
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jan 25 11:41:48 2011  
Quant Method : C:\msdchem\1\METHODS\V3HSL462TVH462.M  
Quant Title : 8260  
QLast Update : Mon Jan 17 09:47:23 2011  
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	11.891	168	665770	50.00	ug/l	0.00
32) 1,4-Difluorobenzene	12.684	114	977703	50.00	ug/l	0.00
48) Chlorobenzene-d5	15.318	117	991968	50.00	ug/l	0.00
63) 1,4-Dichlorobenzene-d4	17.311	152	577028	50.00	ug/l	0.00

System Monitoring Compounds

30) 1,2-Dichloroethane-d4	12.286	102	74664	44.21	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	88.42%
55) Toluene-d8	14.073	98	1232490	43.01	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	86.02%
59) 4-Bromofluorobenzene	16.268	95	487697	45.50	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	91.00%

Target Compounds

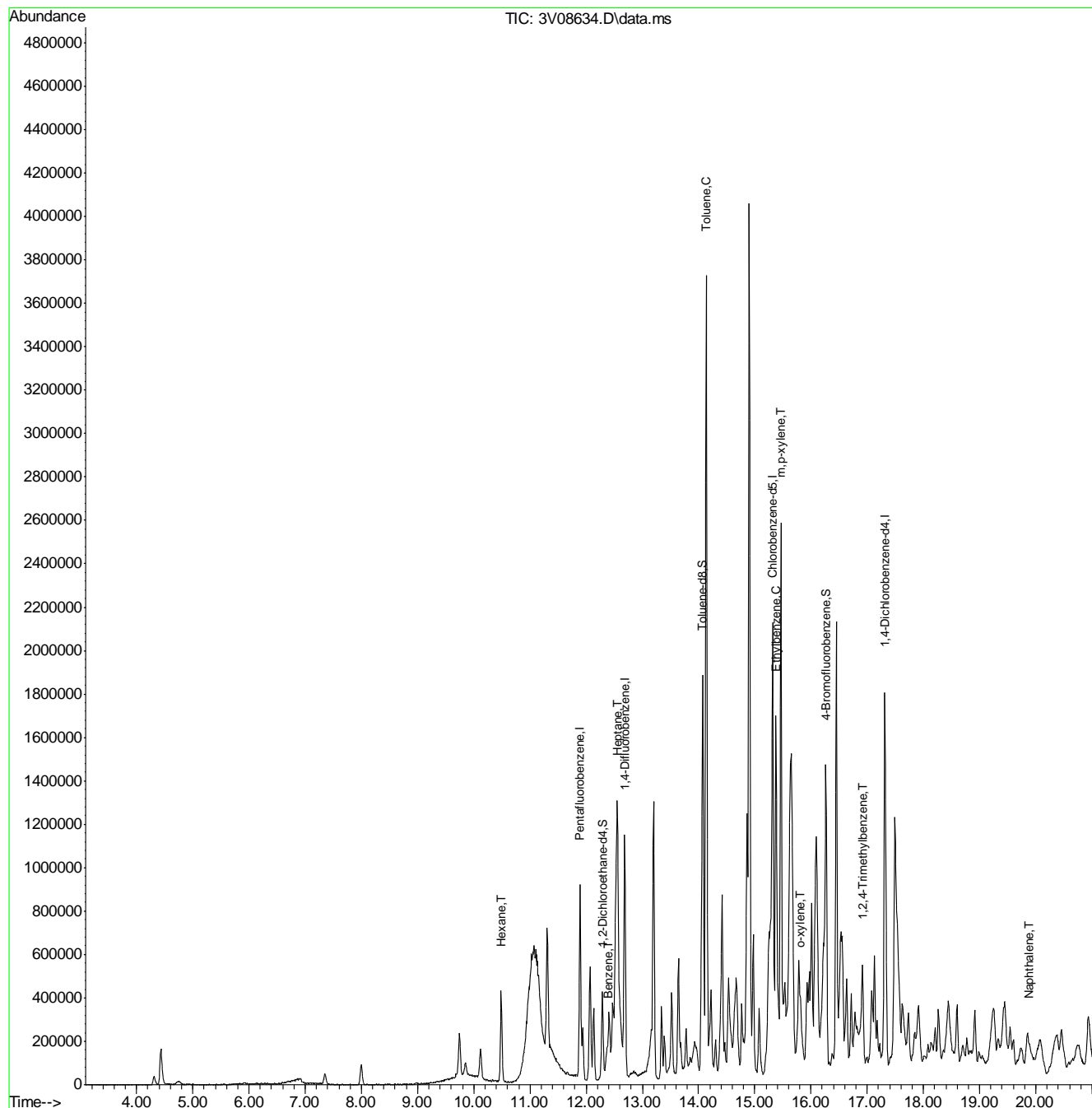
						Qvalue
37) Hexane	10.486	57	231426	19.73	ug/l	100
39) Heptane	12.556	43	344884	30.32	ug/l	92
45) Benzene	12.376	78	71722	2.65	ug/l	100
56) Toluene	14.134	92	1282552	64.68	ug/l	98
58) Ethylbenzene	15.386	91	554093	15.65	ug/l	95
61) m,p-xylene	15.466	106	820741	51.76	ug/l	96
62) o-xylene	15.819	106	61651	3.84	ug/l	95
67) 1,2,4-Trimethylbenzene	16.916	105	155550	4.80	ug/l	99
72) Naphthalene	19.891	128	90715	2.75	ug/l	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

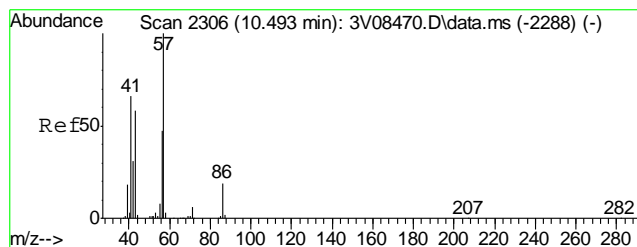
## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3012411.S\  
Data File : 3V08634.D  
Acq On : 24 Jan 2011 3:08 pm  
Operator : DONC  
Sample : D20575-3, 50x  
Misc : MS1762,V3V472,5,,100,5,1  
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jan 25 11:41:48 2011  
Quant Method : C:\msdchem\1\METHODS\V3HSL462TVH462.M  
Quant Title : 8260  
QLast Update : Mon Jan 17 09:47:23 2011  
Response via : Initial Calibration

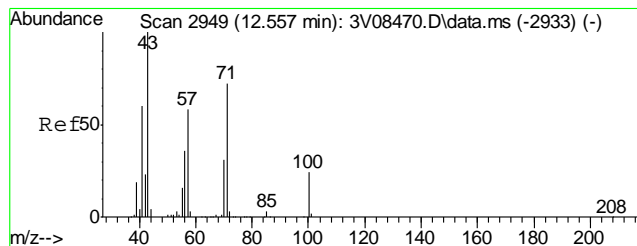
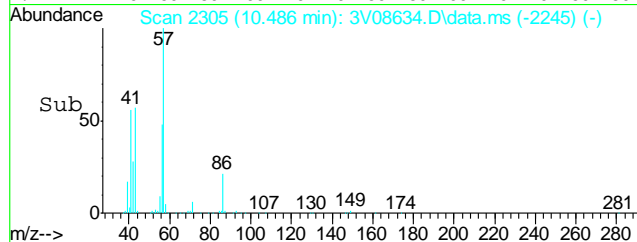
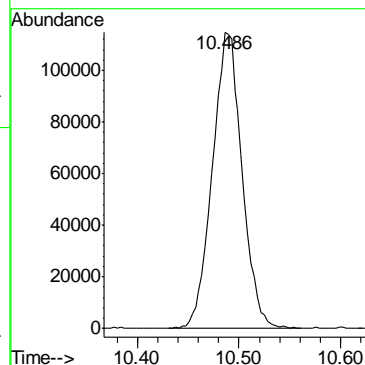
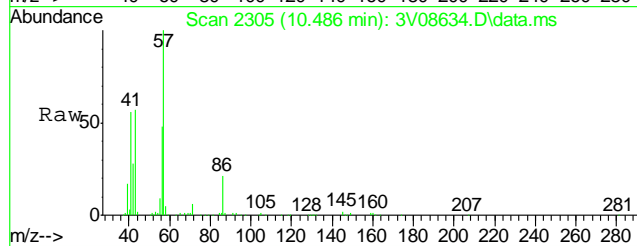






#37  
Hexane  
Concen: 19.73 ug/l  
RT: 10.486 min Scan# 2305  
Delta R.T. -0.007 min  
Lab File: 3V08634.D  
Acq: 24 Jan 2011 3:08 pm

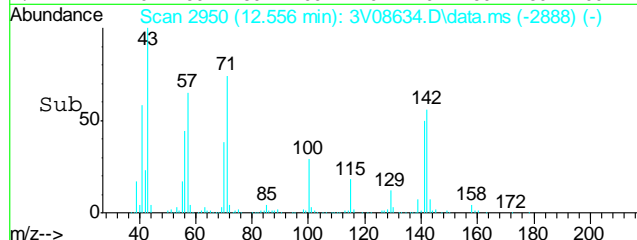
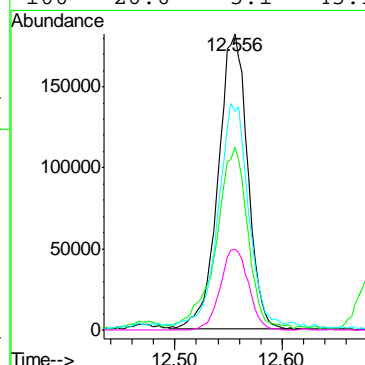
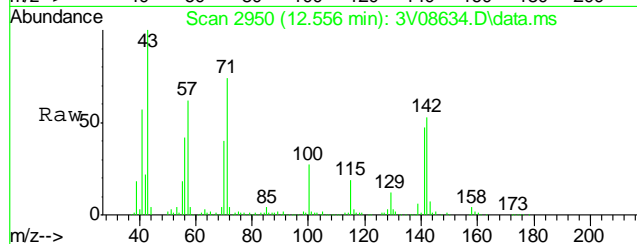
Tgt Ion: 57 Resp: 231426

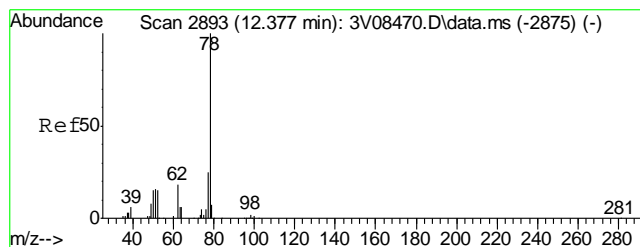


#39  
Heptane  
Concen: 30.32 ug/l  
RT: 12.556 min Scan# 2950  
Delta R.T. -0.000 min  
Lab File: 3V08634.D  
Acq: 24 Jan 2011 3:08 pm

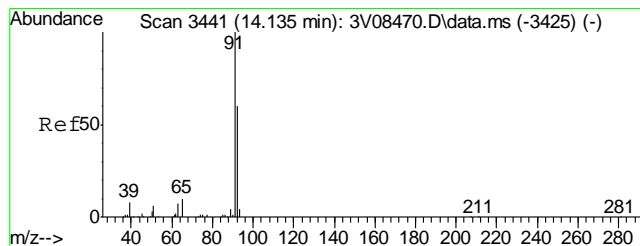
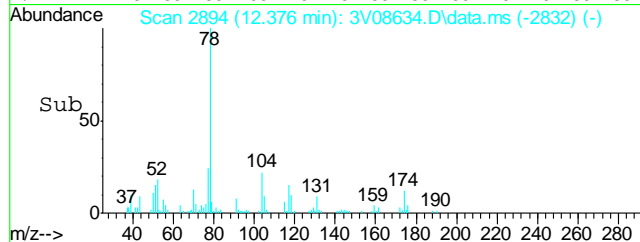
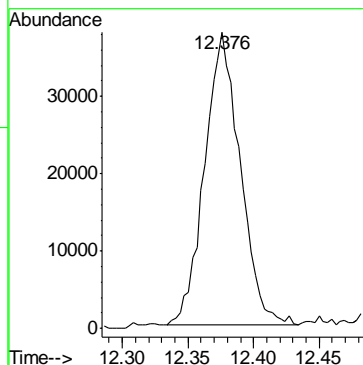
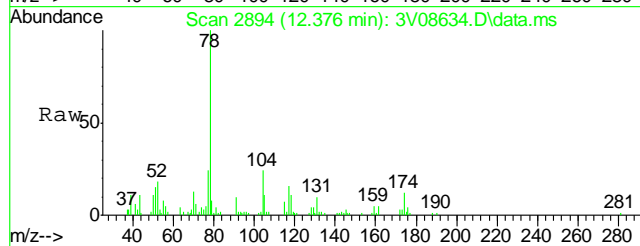
Tgt Ion: 43 Resp: 344884

Ion	Ratio	Lower	Upper
43	100		
57	66.2	38.2	78.2
71	77.7	50.9	90.9
100	26.0	5.1	45.1

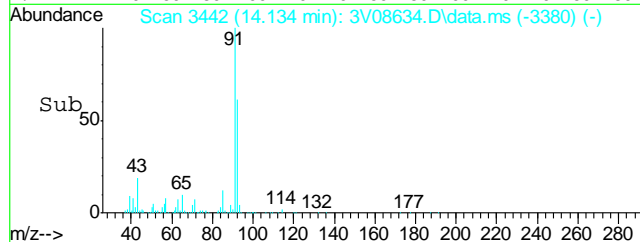
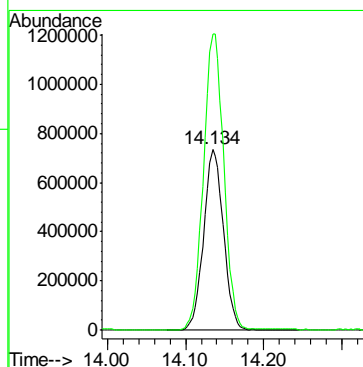
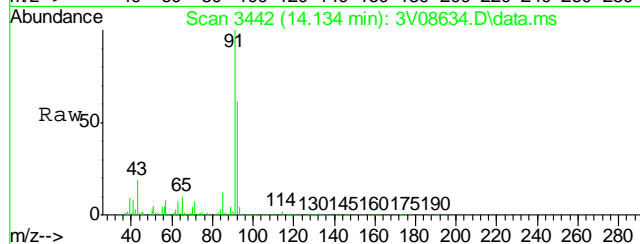


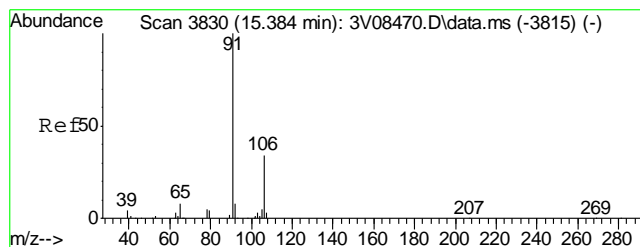


#45  
Benzene  
Concen: 2.65 ug/l  
RT: 12.376 min Scan# 2894  
Delta R.T. -0.001 min  
Lab File: 3V08634.D  
Acq: 24 Jan 2011 3:08 pm  
Tgt Ion: 78 Resp: 71722



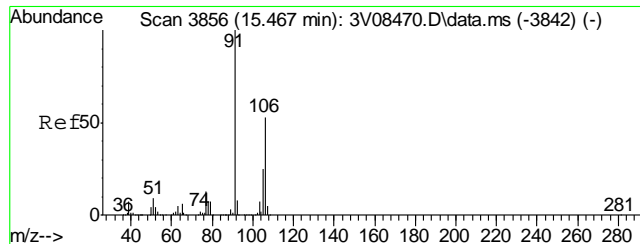
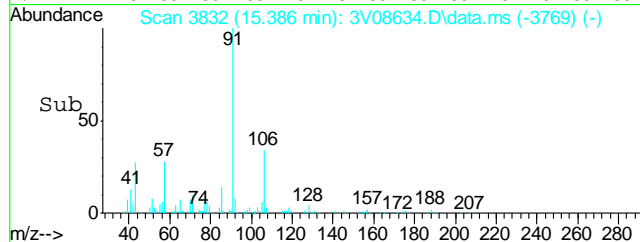
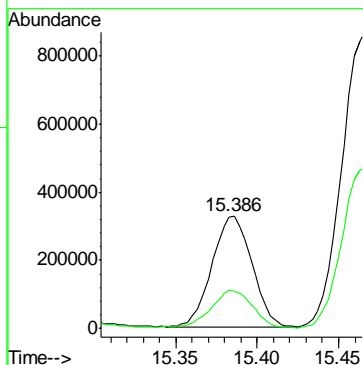
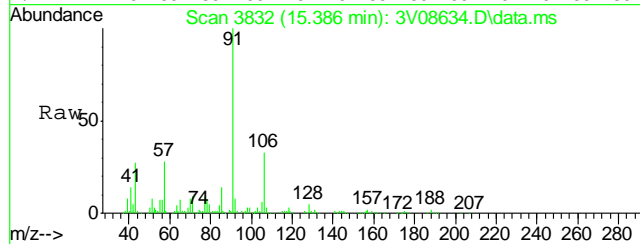
#56  
Toluene  
Concen: 64.68 ug/l  
RT: 14.134 min Scan# 3442  
Delta R.T. -0.001 min  
Lab File: 3V08634.D  
Acq: 24 Jan 2011 3:08 pm  
Tgt Ion: 92 Resp: 1282552  
Ion Ratio Lower Upper  
92 100  
91 168.9 151.6 191.6





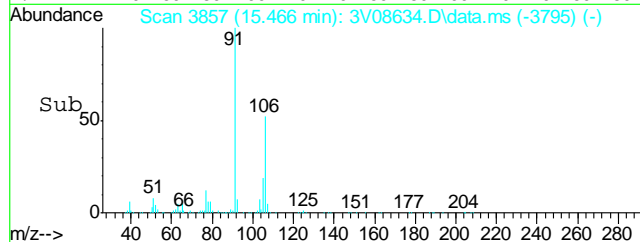
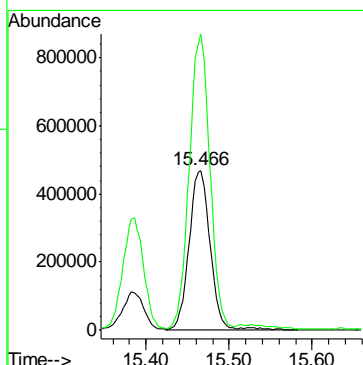
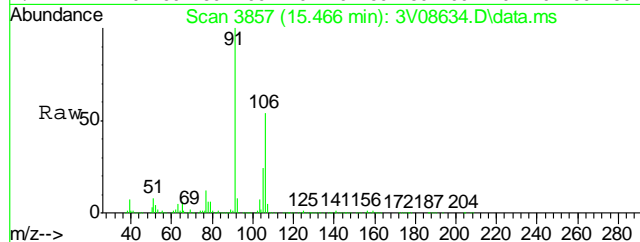
#58  
Ethylbenzene  
Concen: 15.65 ug/l  
RT: 15.386 min Scan# 3832  
Delta R.T. 0.002 min  
Lab File: 3V08634.D  
Acq: 24 Jan 2011 3:08 pm

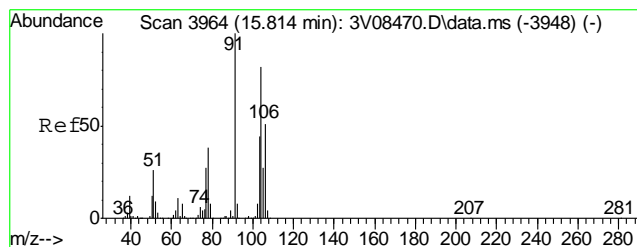
Tgt Ion: 91 Resp: 554093  
Ion Ratio Lower Upper  
91 100  
106 36.1 13.3 53.3



#61  
m,p-xylene  
Concen: 51.76 ug/l  
RT: 15.466 min Scan# 3857  
Delta R.T. -0.001 min  
Lab File: 3V08634.D  
Acq: 24 Jan 2011 3:08 pm

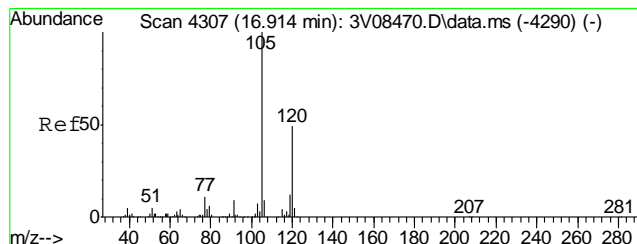
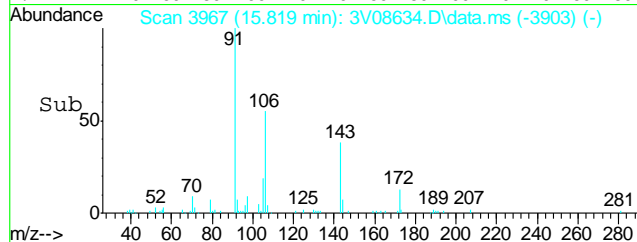
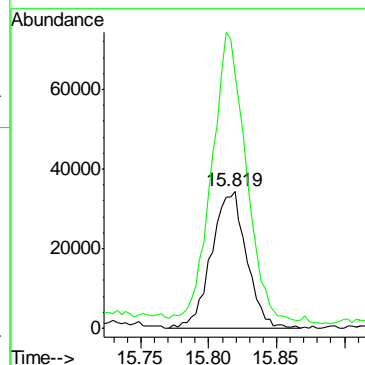
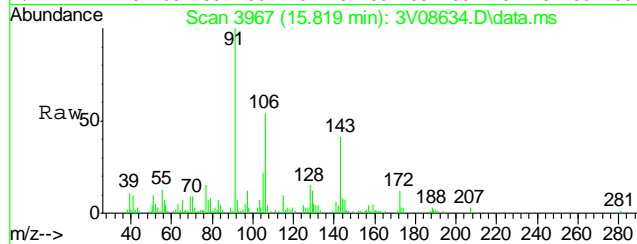
Tgt Ion: 106 Resp: 820741  
Ion Ratio Lower Upper  
106 100  
91 181.3 167.5 207.5





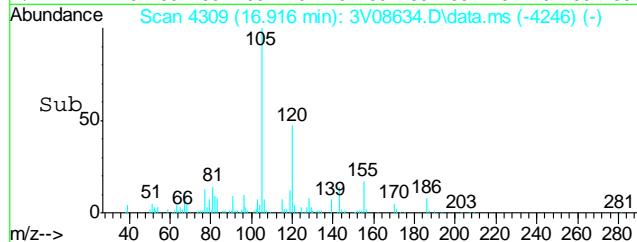
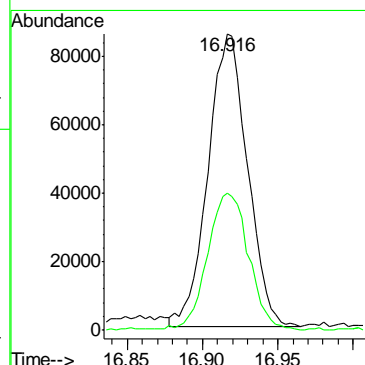
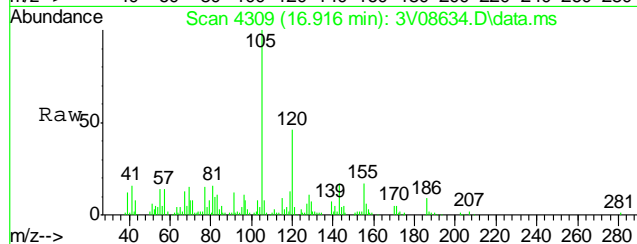
#62  
o-xylene  
Concen: 3.84 ug/l  
RT: 15.819 min Scan# 3967  
Delta R.T. 0.006 min  
Lab File: 3V08634.D  
Acq: 24 Jan 2011 3:08 pm

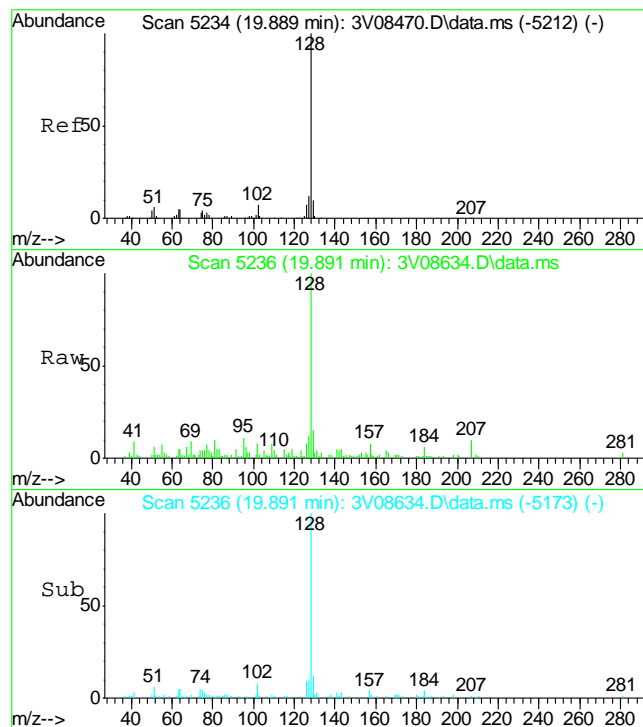
Tgt Ion:106 Resp: 61651  
Ion Ratio Lower Upper  
106 100  
91 204.6 158.2 237.2



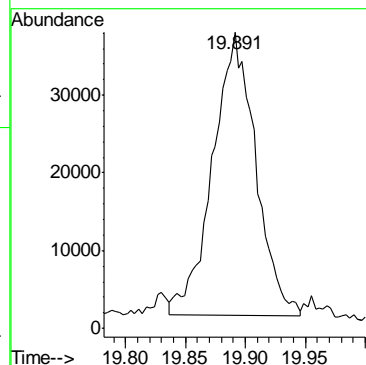
#67  
1,2,4-Trimethylbenzene  
Concen: 4.80 ug/l  
RT: 16.916 min Scan# 4309  
Delta R.T. 0.002 min  
Lab File: 3V08634.D  
Acq: 24 Jan 2011 3:08 pm

Tgt Ion:105 Resp: 155550  
Ion Ratio Lower Upper  
105 100  
120 48.7 39.5 59.3





#72  
Naphthalene  
Concen: 2.75 ug/l  
RT: 19.891 min Scan# 5236  
Delta R.T. 0.002 min  
Lab File: 3V08634.D  
Acq: 24 Jan 2011 3:08 pm  
Tgt Ion:128 Resp: 90715



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3012411.S\  
 Data File : 3V08628.D  
 Acq On : 24 Jan 2011 12:02 pm  
 Operator : DONC  
 Sample : D20575-4, 50x  
 Misc : MS1762,V3V472,5,,100,5,1  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 25 12:39:56 2011  
 Quant Method : C:\msdchem\1\METHODS\V3HSL462TVH462.M  
 Quant Title : 8260  
 QLast Update : Mon Jan 17 09:47:23 2011  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	11.890	168	511933	50.00	ug/l	0.00
32) 1,4-Difluorobenzene	12.686	114	766374	50.00	ug/l	0.00
48) Chlorobenzene-d5	15.317	117	705554	50.00	ug/l	0.00
63) 1,4-Dichlorobenzene-d4	17.313	152	429939	50.00	ug/l	0.00

## System Monitoring Compounds

30) 1,2-Dichloroethane-d4	12.288	102	57647	44.39	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	88.78%
55) Toluene-d8	14.075	98	927511	45.50	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	91.00%
59) 4-Bromofluorobenzene	16.267	95	354998	46.56	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	93.12%

## Target Compounds

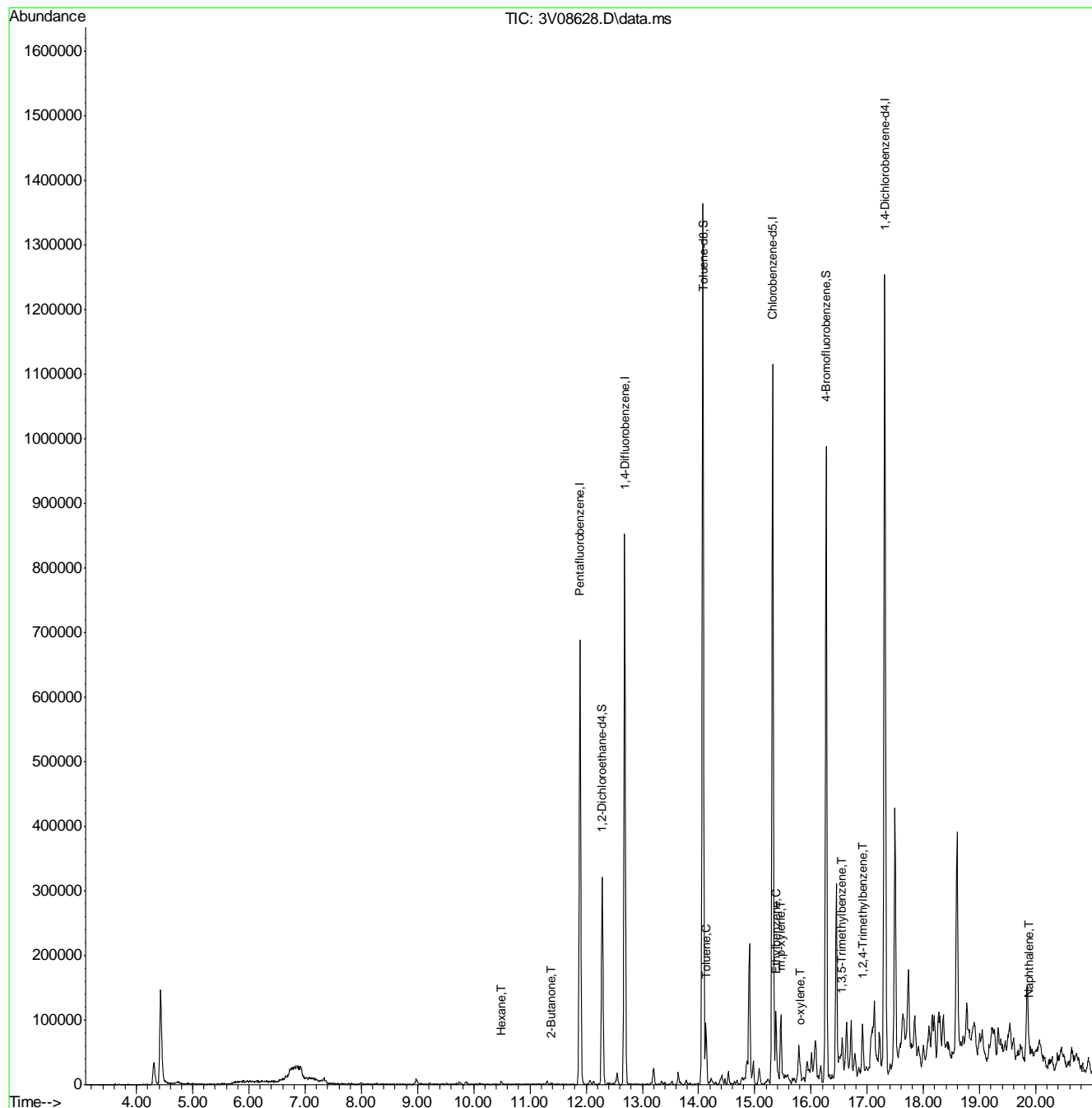
						Qvalue
24) 2-Butanone	11.373	72	486	0.71	ug/l	88
37) Hexane	10.488	57	1871	0.20	ug/l	100
56) Toluene	14.136	92	28666	2.03	ug/l	99
58) Ethylbenzene	15.384	91	18261	0.73	ug/l	94
61) m,p-xylene	15.465	106	33100	2.93	ug/l	98
62) o-xylene	15.824	106	4028	0.35	ug/l	95
66) 1,3,5-Trimethylbenzene	16.559	105	10505	0.46	ug/l	90
67) 1,2,4-Trimethylbenzene	16.918	105	32880	1.36	ug/l	93
72) Naphthalene	19.889	128	13935	0.57	ug/l	100

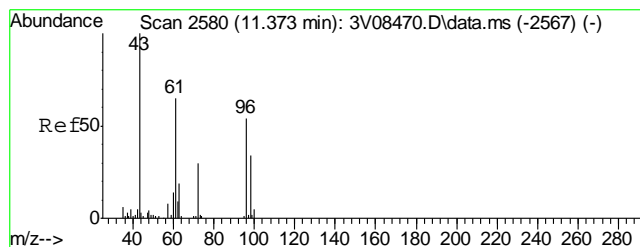
(#) = qualifier out of range (m) = manual integration (+) = signals summed

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3012411.S\  
Data File : 3V08628.D  
Acq On : 24 Jan 2011 12:02 pm  
Operator : DONC  
Sample : D20575-4, 50x  
Misc : MS1762,V3V472,5,,100,5,1  
ALS Vial : 6 Sample Multiplier: 1

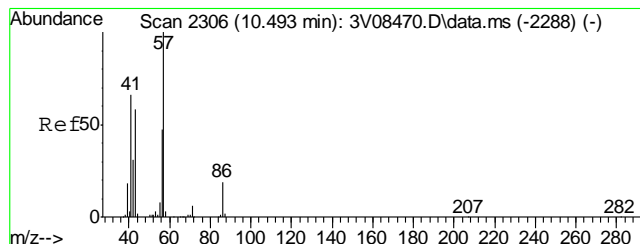
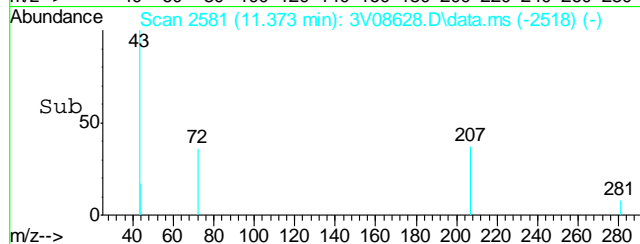
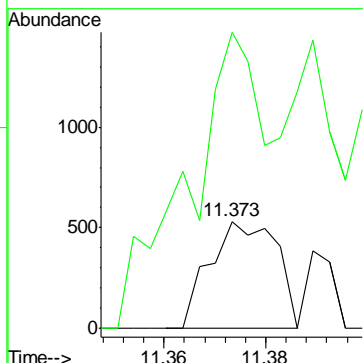
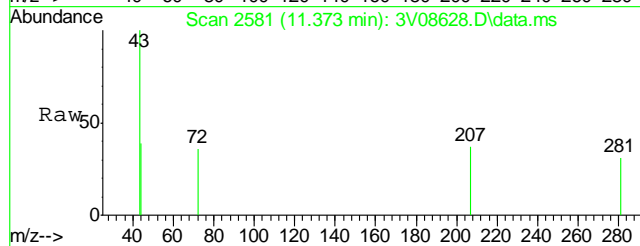
Quant Time: Jan 25 12:39:56 2011  
Quant Method : C:\msdchem\1\METHODS\V3HSL462TVH462.M  
Quant Title : 8260  
QLast Update : Mon Jan 17 09:47:23 2011  
Response via : Initial Calibration





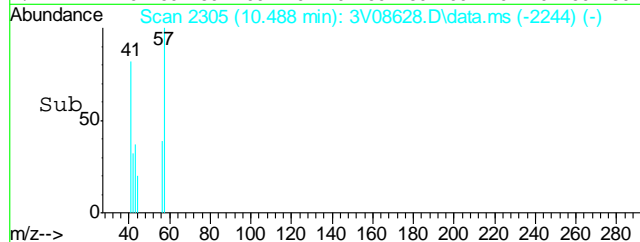
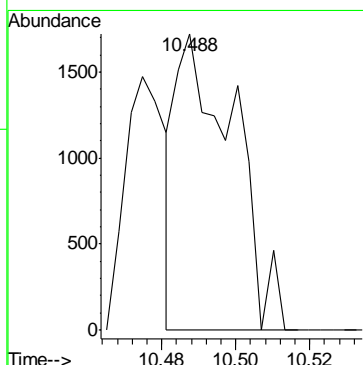
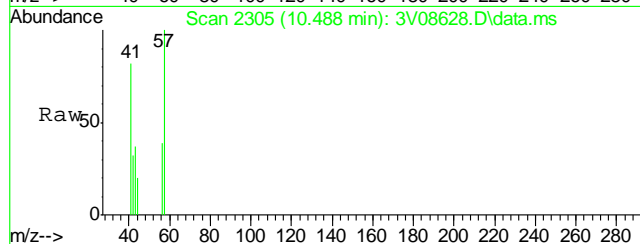
#24  
2-Butanone  
Concen: 0.71 ug/l  
RT: 11.373 min Scan# 2581  
Delta R.T. 0.001 min  
Lab File: 3V08628.D  
Acq: 24 Jan 2011 12:02 pm

Tgt Ion: 72 Resp: 486  
Ion Ratio Lower Upper  
72 100  
43 340.1 252.0 378.0

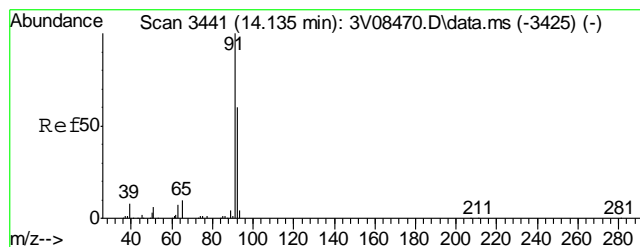


#37  
Hexane  
Concen: 0.20 ug/l  
RT: 10.488 min Scan# 2305  
Delta R.T. -0.005 min  
Lab File: 3V08628.D  
Acq: 24 Jan 2011 12:02 pm

Tgt Ion: 57 Resp: 1871

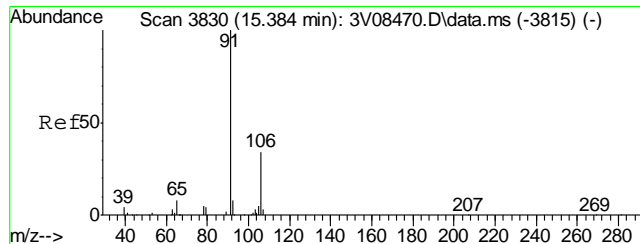
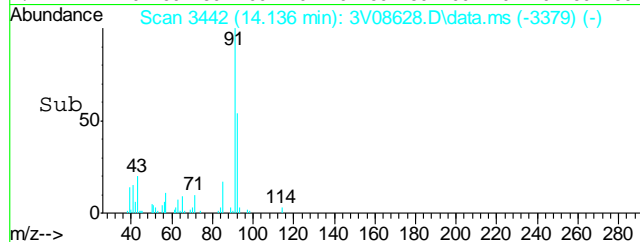
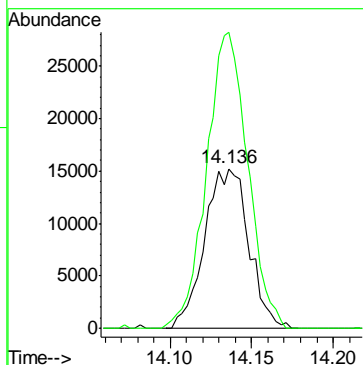
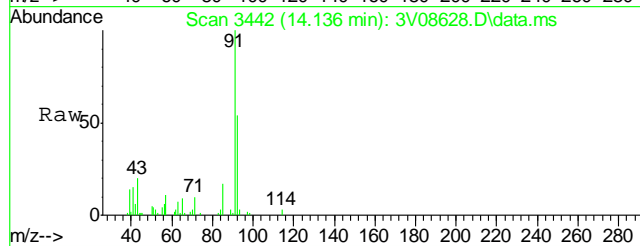






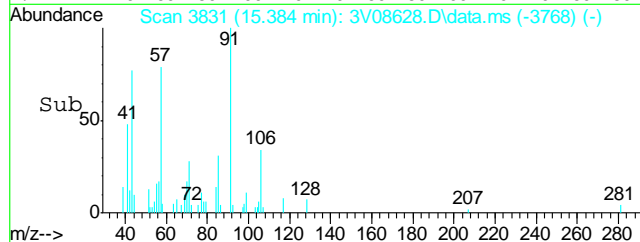
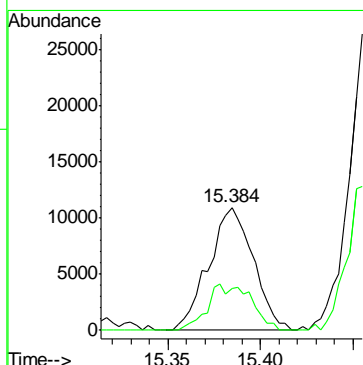
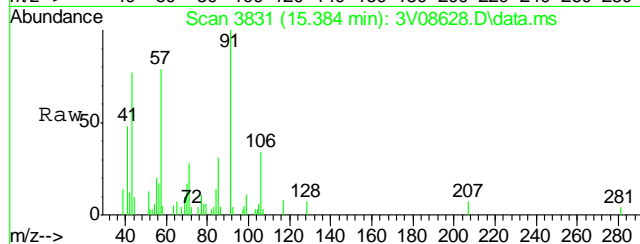
#56  
Toluene  
Concen: 2.03 ug/l  
RT: 14.136 min Scan# 3442  
Delta R.T. 0.001 min  
Lab File: 3V08628.D  
Acq: 24 Jan 2011 12:02 pm

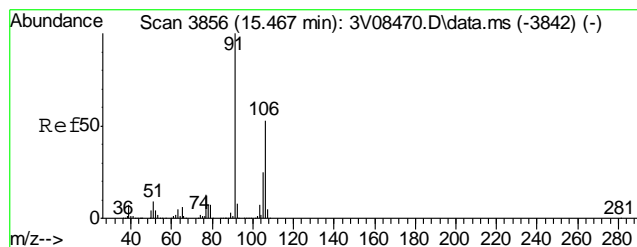
Tgt Ion: 92 Resp: 28666  
Ion Ratio Lower Upper  
92 100  
91 173.0 151.6 191.6



#58  
Ethylbenzene  
Concen: 0.73 ug/l  
RT: 15.384 min Scan# 3831  
Delta R.T. 0.001 min  
Lab File: 3V08628.D  
Acq: 24 Jan 2011 12:02 pm

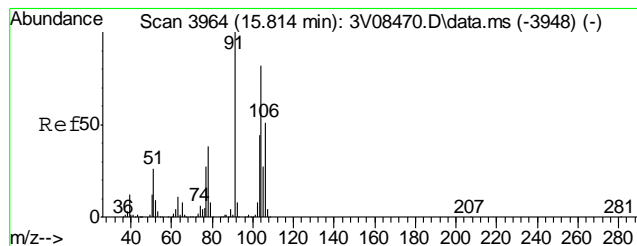
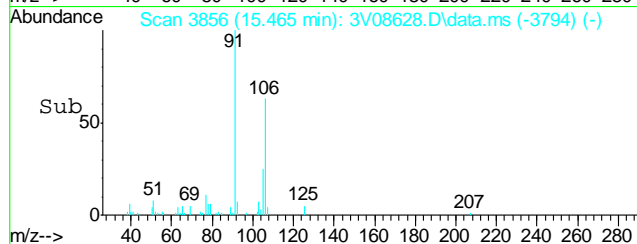
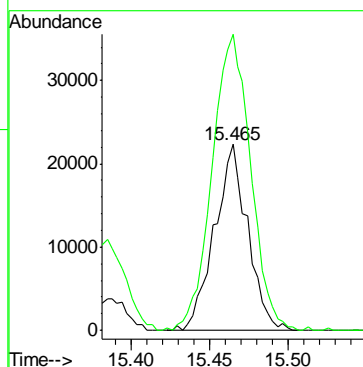
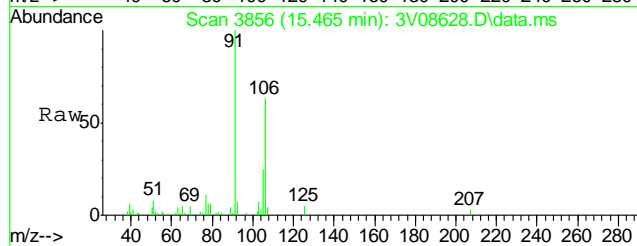
Tgt Ion: 91 Resp: 18261  
Ion Ratio Lower Upper  
91 100  
106 36.5 13.3 53.3





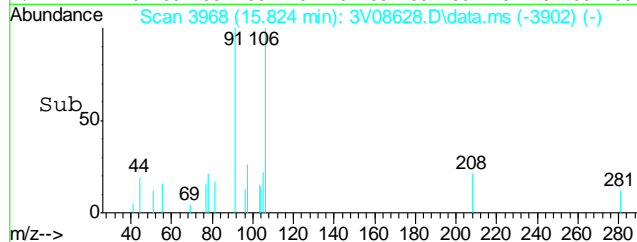
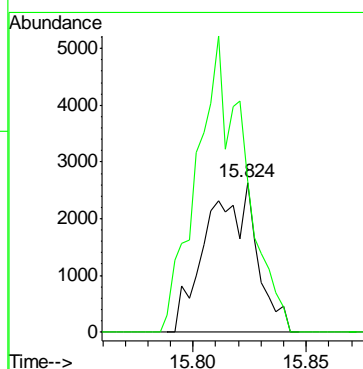
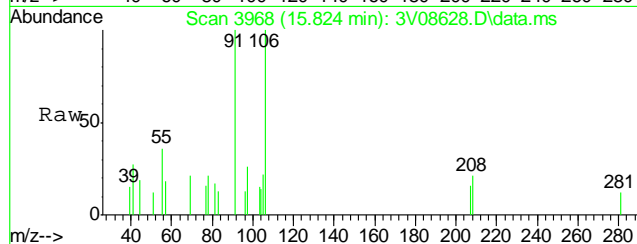
#61  
m,p-xylene  
Concen: 2.93 ug/l  
RT: 15.465 min Scan# 3856  
Delta R.T. -0.002 min  
Lab File: 3V08628.D  
Acq: 24 Jan 2011 12:02 pm

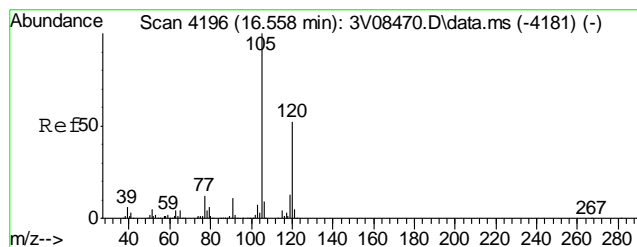
Tgt Ion:106 Resp: 33100  
Ion Ratio Lower Upper  
106 100  
91 184.4 167.5 207.5



#62  
o-xylene  
Concen: 0.35 ug/l  
RT: 15.824 min Scan# 3968  
Delta R.T. 0.010 min  
Lab File: 3V08628.D  
Acq: 24 Jan 2011 12:02 pm

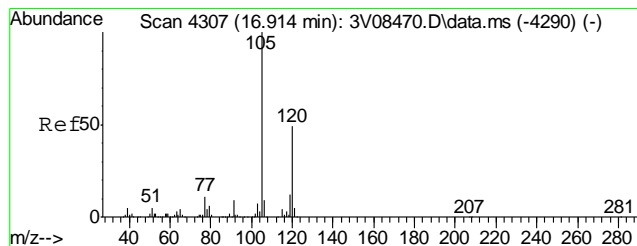
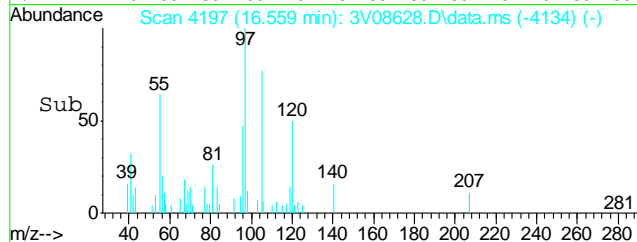
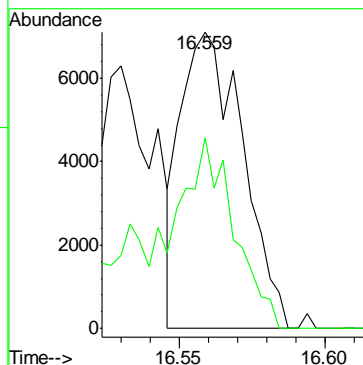
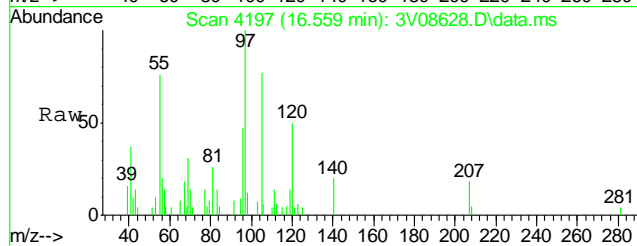
Tgt Ion:106 Resp: 4028  
Ion Ratio Lower Upper  
106 100  
91 190.7 158.2 237.2





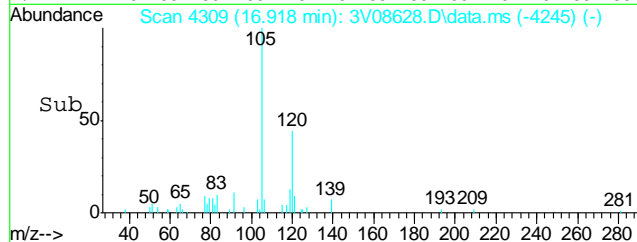
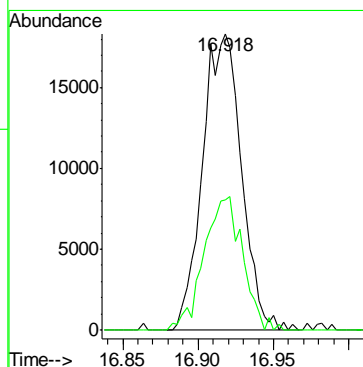
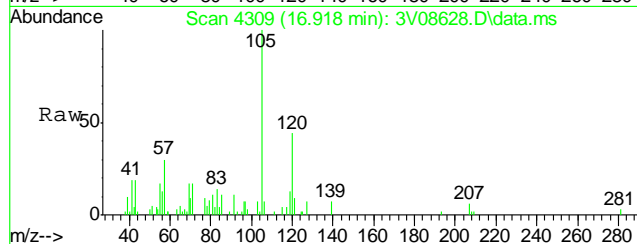
#66  
1,3,5-Trimethylbenzene  
Concen: 0.46 ug/l  
RT: 16.559 min Scan# 4197  
Delta R.T. 0.001 min  
Lab File: 3V08628.D  
Acq: 24 Jan 2011 12:02 pm

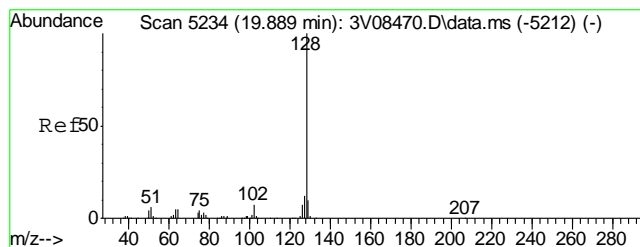
Tgt Ion	Ratio	Lower	Upper
105	100		
120	60.0	42.4	63.6



#67  
1,2,4-Trimethylbenzene  
Concen: 1.36 ug/l  
RT: 16.918 min Scan# 4309  
Delta R.T. 0.004 min  
Lab File: 3V08628.D  
Acq: 24 Jan 2011 12:02 pm

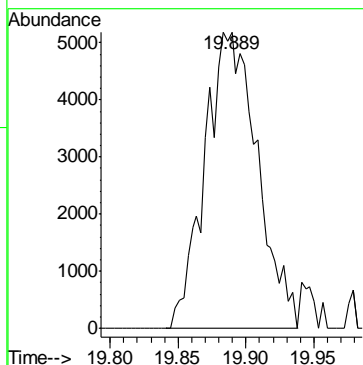
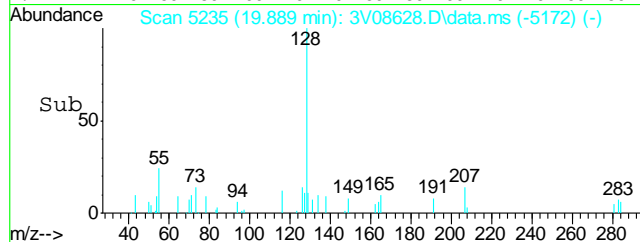
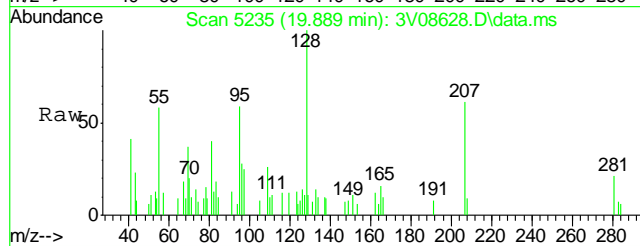
Tgt Ion	Ratio	Lower	Upper
105	100		
120	44.7	39.5	59.3





#72  
Naphthalene  
Concen: 0.57 ug/l  
RT: 19.889 min Scan# 5235  
Delta R.T. 0.001 min  
Lab File: 3V08628.D  
Acq: 24 Jan 2011 12:02 pm

Tgt Ion:128 Resp: 13935



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3012411.S\  
Data File : 3V08625.D  
Acq On : 24 Jan 2011 10:30 am  
Operator : DONC  
Sample : MB1  
Misc : MS1762,V3V472,5,,100,5,1  
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 25 10:22:56 2011  
Quant Method : C:\msdchem\1\METHODS\V3HSL462TVH462.M  
Quant Title : 8260  
QLast Update : Mon Jan 17 09:47:23 2011  
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	11.888	168	594287	50.00	ug/l	0.00
32) 1,4-Difluorobenzene	12.684	114	875120	50.00	ug/l	0.00
48) Chlorobenzene-d5	15.315	117	782271	50.00	ug/l	0.00
63) 1,4-Dichlorobenzene-d4	17.308	152	445588	50.00	ug/l	0.00

## System Monitoring Compounds

30) 1,2-Dichloroethane-d4	12.283	102	65792	43.64	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	87.28%
55) Toluene-d8	14.073	98	1044404	46.21	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	92.42%
59) 4-Bromofluorobenzene	16.265	95	362774	42.92	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	85.84%

## Target Compounds

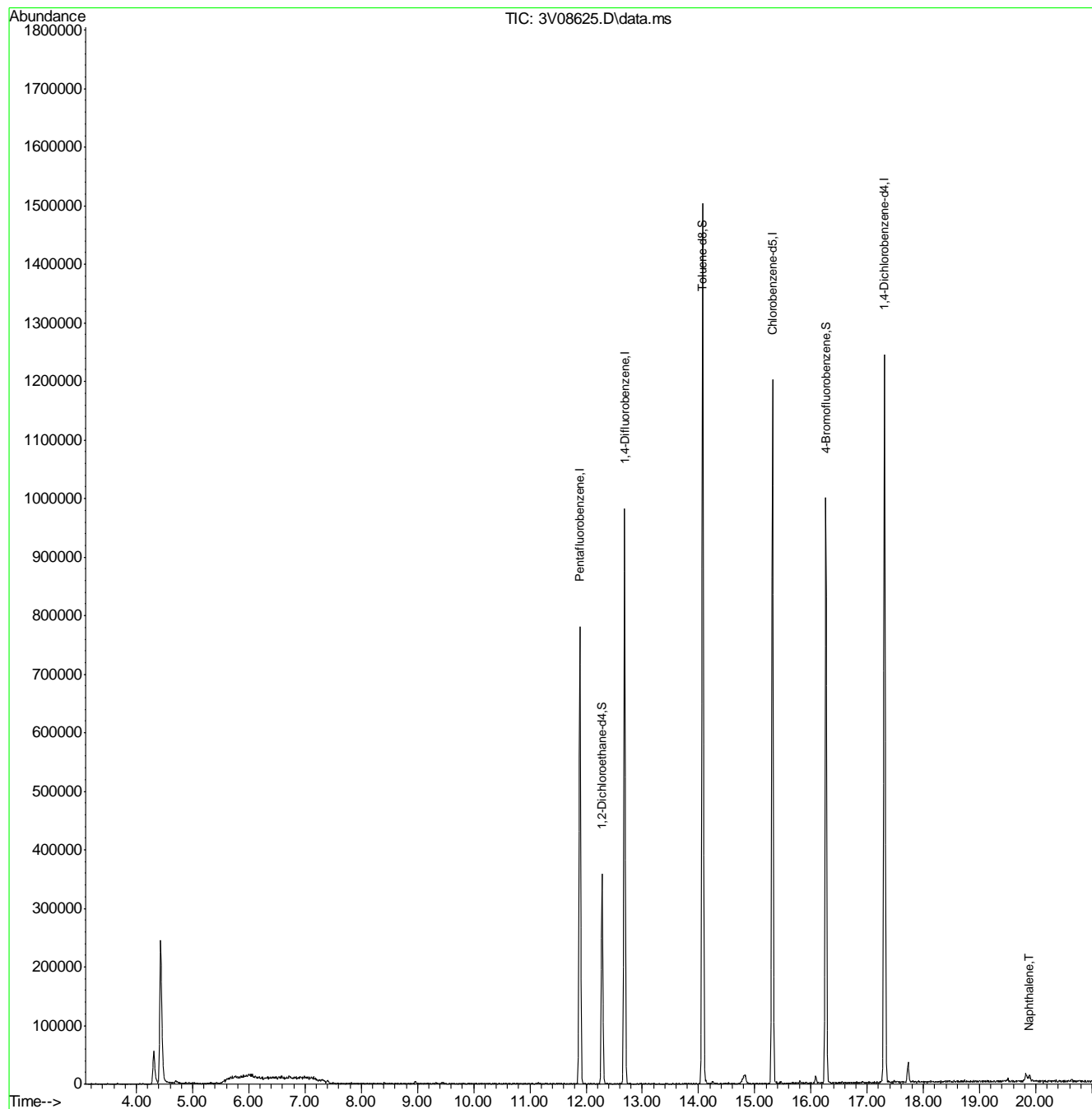
					Qvalue
72) Naphthalene	19.885	128	13616	0.54	ug/l 100

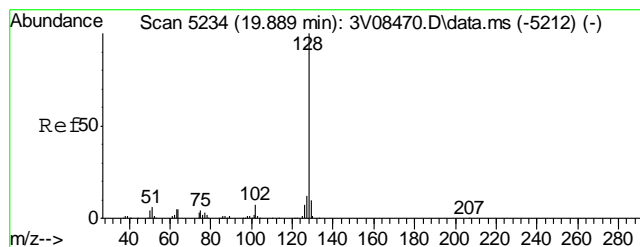
(#) = qualifier out of range (m) = manual integration (+) = signals summed

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V3012411.S\  
Data File : 3V08625.D  
Acq On : 24 Jan 2011 10:30 am  
Operator : DONC  
Sample : MB1  
Misc : MS1762,V3V472,5,,100,5,1  
ALS Vial : 3 Sample Multiplier: 1

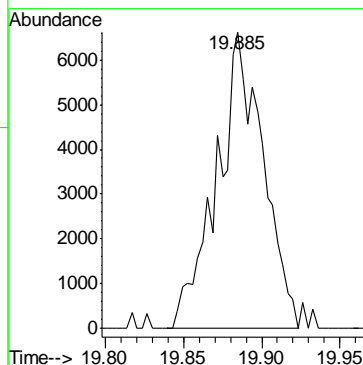
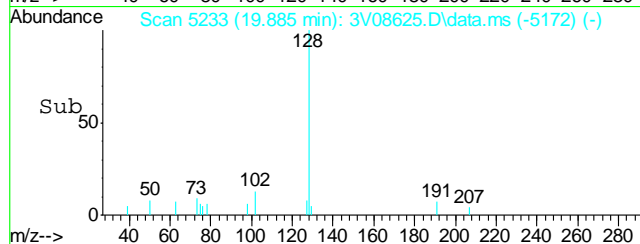
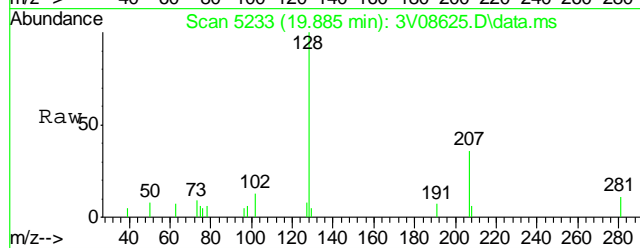
Quant Time: Jan 25 10:22:56 2011  
Quant Method : C:\msdchem\1\METHODS\V3HSL462TVH462.M  
Quant Title : 8260  
QLast Update : Mon Jan 17 09:47:23 2011  
Response via : Initial Calibration





#72  
Naphthalene  
Concen: 0.54 ug/l  
RT: 19.885 min Scan# 5233  
Delta R.T. -0.004 min  
Lab File: 3V08625.D  
Acq: 24 Jan 2011 10:30 am

Tgt Ion:128 Resp: 13616



7.2.1

7

## GC/MS Semi-volatiles

### QC Data Summaries

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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



**Method Blank Summary**

Page 1 of 1

**Job Number:** D20575  
**Account:** KRWCCOL KRW Consulting, Inc.  
**Project:** FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3055-MB	3G02751.D	1	01/25/11	TMB	01/24/11	OP3055	E3G94

**The QC reported here applies to the following samples:****Method:** SW846 8270C BY SIM

D20575-2, D20575-3, D20575-4

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	6.7	6.2	ug/kg	
208-96-8	Acenaphthylene	ND	33	6.9	ug/kg	
120-12-7	Anthracene	ND	6.7	4.3	ug/kg	
56-55-3	Benzo(a)anthracene	ND	6.7	6.5	ug/kg	
50-32-8	Benzo(a)pyrene	ND	6.7	4.2	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	6.7	4.8	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	6.7	4.2	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	6.7	4.2	ug/kg	
218-01-9	Chrysene	ND	6.7	3.3	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	6.7	4.9	ug/kg	
206-44-0	Fluoranthene	ND	6.7	4.1	ug/kg	
86-73-7	Fluorene	ND	6.7	6.5	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	6.7	4.4	ug/kg	
90-12-0	1-Methylnaphthalene	ND	6.7	5.9	ug/kg	
91-57-6	2-Methylnaphthalene	ND	33	10	ug/kg	
91-20-3	Naphthalene	ND	33	7.4	ug/kg	
85-01-8	Phenanthrene	ND	6.7	5.3	ug/kg	
129-00-0	Pyrene	ND	6.7	4.5	ug/kg	

CAS No.	Surrogate Recoveries	Limits
4165-60-0	Nitrobenzene-d5	72% 10-193%
321-60-8	2-Fluorobiphenyl	73% 20-138%
1718-51-0	Terphenyl-d14	90% 17-174%

8.1.1

8

## Blank Spike Summary

Page 1 of 1

**Job Number:** D20575  
**Account:** KRWCCOL KRW Consulting, Inc.  
**Project:** FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3055-BS	3G02752.D	1	01/25/11	TMB	01/24/11	OP3055	E3G94

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D20575-2, D20575-3, D20575-4

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	83.3	54.9	66	40-136
208-96-8	Acenaphthylene	83.3	54.2	65	42-139
120-12-7	Anthracene	83.3	64.1	77	40-141
56-55-3	Benzo(a)anthracene	83.3	70.9	85	38-143
50-32-8	Benzo(a)pyrene	83.3	66.9	80	39-145
205-99-2	Benzo(b)fluoranthene	83.3	64.9	78	38-151
191-24-2	Benzo(g,h,i)perylene	83.3	64.9	78	35-136
207-08-9	Benzo(k)fluoranthene	83.3	64.8	78	38-147
218-01-9	Chrysene	83.3	67.7	81	39-137
53-70-3	Dibenzo(a,h)anthracene	83.3	64.0	77	35-139
206-44-0	Fluoranthene	83.3	66.5	80	34-132
86-73-7	Fluorene	83.3	57.7	69	41-136
193-39-5	Indeno(1,2,3-cd)pyrene	83.3	66.5	80	31-144
90-12-0	1-Methylnaphthalene	83.3	54.7	66	36-130
91-57-6	2-Methylnaphthalene	83.3	52.9	63	40-131
91-20-3	Naphthalene	83.3	54.4	65	36-130
85-01-8	Phenanthrene	83.3	61.1	73	40-135
129-00-0	Pyrene	83.3	69.5	83	29-157

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	62%	10-193%
321-60-8	2-Fluorobiphenyl	56%	20-138%
1718-51-0	Terphenyl-d14	73%	17-174%

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

**Job Number:** D20575  
**Account:** KRWCCOL KRW Consulting, Inc.  
**Project:** FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3055-MS	3G02756.D	10	01/25/11	TMB	01/24/11	OP3055	E3G94
OP3055-MSD	3G02757.D	10	01/26/11	TMB	01/24/11	OP3055	E3G94
D20575-4	3G02755.D	10	01/25/11	TMB	01/24/11	OP3055	E3G94

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D20575-2, D20575-3, D20575-4

CAS No.	Compound	D20575-4 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		107	96.3	90	99.8	93	4	20-151/30
208-96-8	Acenaphthylene	ND		107	104	97	107	100	3	23-156/30
120-12-7	Anthracene	ND		107	107	100	111	104	4	25-149/30
56-55-3	Benzo(a)anthracene	ND		107	163	152	171	160* a	5	22-157/30
50-32-8	Benzo(a)pyrene	ND		107	178	166* a	187	175* a	5	23-153/30
205-99-2	Benzo(b)fluoranthene	ND		107	190	178* a	200	187* a	5	22-161/30
191-24-2	Benzo(g,h,i)perylene	ND		107	113	106	119	111	5	20-158/30
207-08-9	Benzo(k)fluoranthene	ND		107	110	103	115	108	4	17-161/30
218-01-9	Chrysene	ND		107	88.4	83	92.4	86	4	16-159/30
53-70-3	Dibenzo(a,h)anthracene	ND		107	141	132	153	143	8	21-154/30
206-44-0	Fluoranthene	ND		107	119	111	120	112	1	16-140/30
86-73-7	Fluorene	ND		107	129	121	131	122	2	15-153/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND		107	395	369* a	411	384* a	4	21-159/30
90-12-0	1-Methylnaphthalene	108		107	165	53	177	65	7	10-148/30
91-57-6	2-Methylnaphthalene	212	J	107	262	47	275	59	5	10-181/30
91-20-3	Naphthalene	100	J	107	178	73	176	71	1	10-176/30
85-01-8	Phenanthrene	ND		107	120	112	125	117	4	22-152/30
129-00-0	Pyrene	ND		107	133	124	139	130	4	10-200/30

CAS No.	Surrogate Recoveries	MS	MSD	D20575-4	Limits
4165-60-0	Nitrobenzene-d5	77%	80%	82%	10-193%
321-60-8	2-Fluorobiphenyl	60%	63%	68%	20-138%
1718-51-0	Terphenyl-d14	83%	87%	84%	17-174%

(a) Outside control limits due to matrix interference. Refer to Blank Spike.

\* = Outside of Control Limits.

GC/MS Semi-volatiles

Raw Data

6

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\012511\  
 Data File : 3g02753.D  
 Acq On : 25 Jan 2011 9:28 pm  
 Operator : TamiB  
 Sample : D20575-2,10x  
 Misc : OP3055,E3G94,30,,,1,10  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jan 26 10:28:56 2011  
 Quant Method : C:\msdchem\1\METHODS\SIMPE3G94.M  
 Quant Title : PAHSIM BASE  
 QLast Update : Wed Jan 26 10:24:40 2011  
 Response via : Initial Calibration

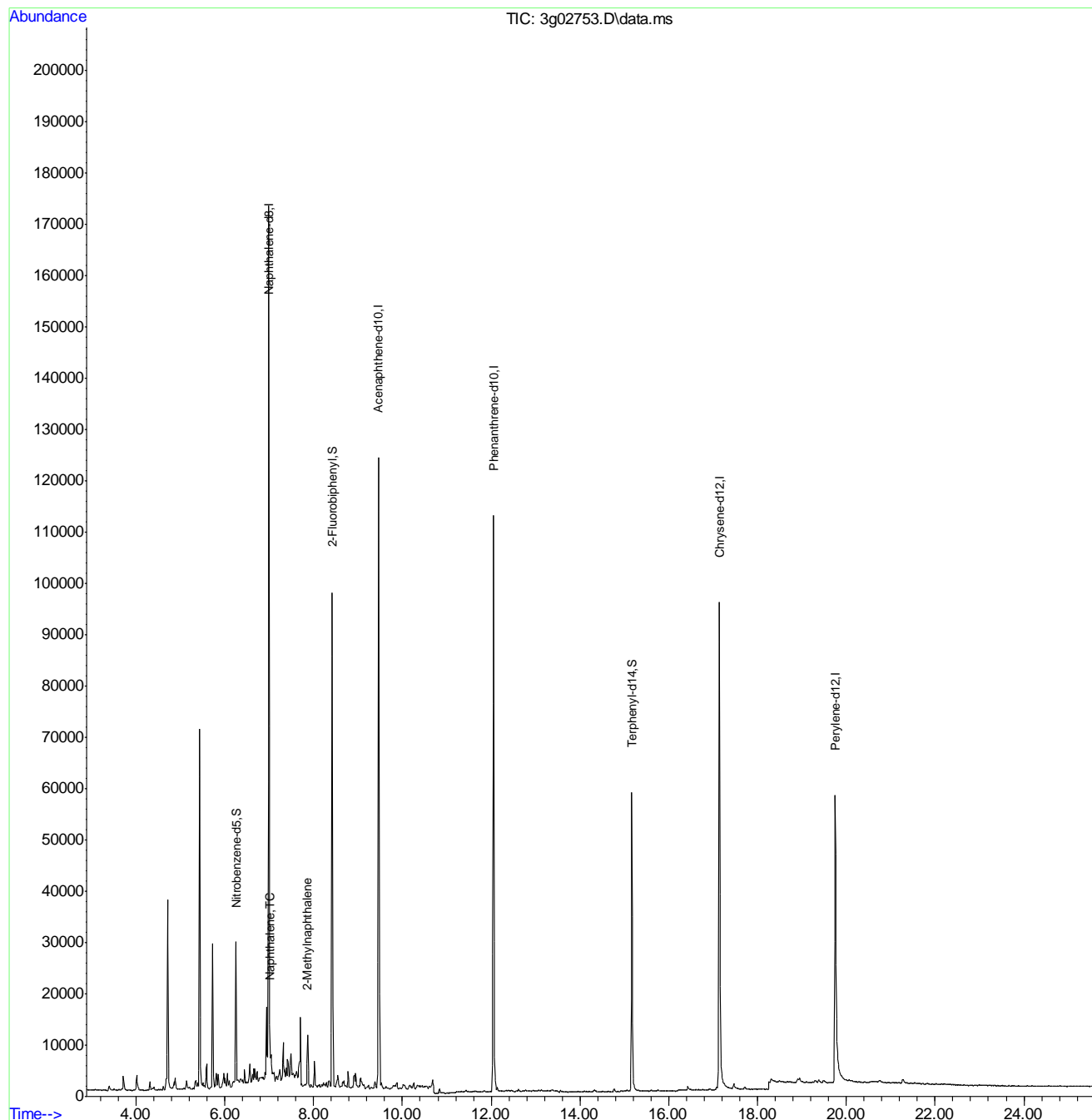
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	6.992	136	161390	4.00	ug/mL	0.00
6) Acenaphthene-d10	9.464	164	78233	4.00	ug/mL	0.00
14) Phenanthrene-d10	12.052	188	119134	4.00	ug/mL	0.00
18) Chrysene-d12	17.140	240	118530	4.00	ug/mL	0.00
23) Perylene-d12	19.750	264	103418	4.00	ug/mL	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	6.256	82	19797	2.43	ug/mL	0.00
7) 2-Fluorobiphenyl	8.424	172	98056	2.83	ug/mL	0.00
20) Terphenyl-d14	15.171	244	67932	3.27	ug/mL	0.00
Target Compounds						
					Qvalue	
3) N-Nitrosodimethylamine	0.000		0	N.D.	d	
4) N-Nitrosodi-propylamine	0.000		0	N.D.	d	
5) Naphthalene	7.017	128	5917	0.12	ug/mL	90
8) 2-Methylnaphthalene	7.869	142	5567	0.21	ug/mL	91
9) 1-Methylnaphthalene	0.000		0	N.D.	d	
10) Acenaphthylene	0.000		0	N.D.	d	
11) Acenaphthene	0.000		0	N.D.	d	
12) Fluorene	0.000		0	N.D.	d	
13) Diphenylamine	0.000		0	N.D.	d	
15) Phenanthrene	0.000		0	N.D.	d	
16) Anthracene	0.000		0	N.D.	d	
17) Fluoranthene	0.000		0	N.D.	d	
19) Pyrene	0.000		0	N.D.	d	
21) Benzo(a)anthracene	0.000		0	N.D.	d	
22) Chrysene	0.000		0	N.D.	d	
24) Benzo(b)fluoranthene	0.000		0	N.D.	d	
25) Benzo(k)fluoranthene	0.000		0	N.D.	d	
26) Benzo(a)pyrene	0.000		0	N.D.	d	
27) Indeno(1,2,3-cd)pyrene	0.000		0	N.D.	d	
28) Dibenz(a,h)anthracene	0.000		0	N.D.	d	
29) Benzo(g,h,i)perylene	0.000		0	N.D.	d	

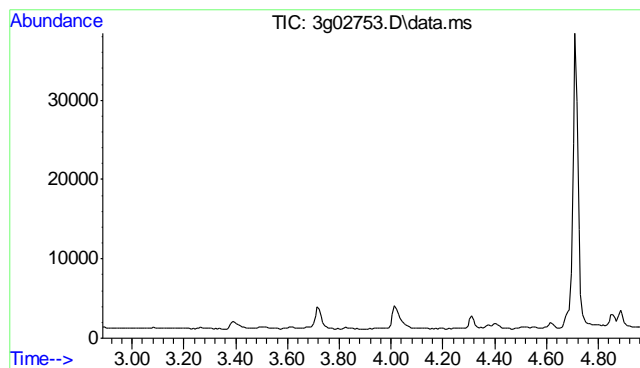
(#) = qualifier out of range (m) = manual integration (+) = signals summed

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\012511\  
Data File : 3g02753.D  
Acq On : 25 Jan 2011 9:28 pm  
Operator : TamiB  
Sample : D20575-2,10x  
Misc : OP3055,E3G94,30,,,1,10  
ALS Vial : 13 Sample Multiplier: 1

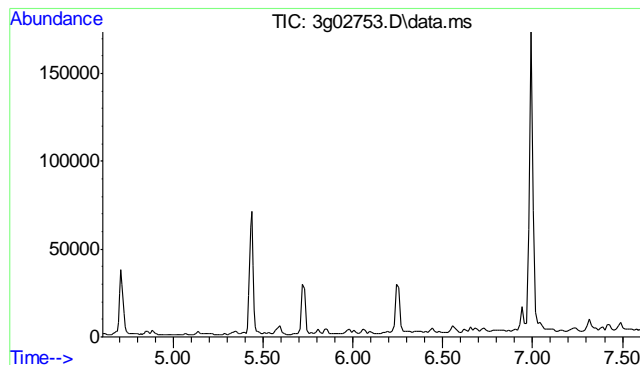
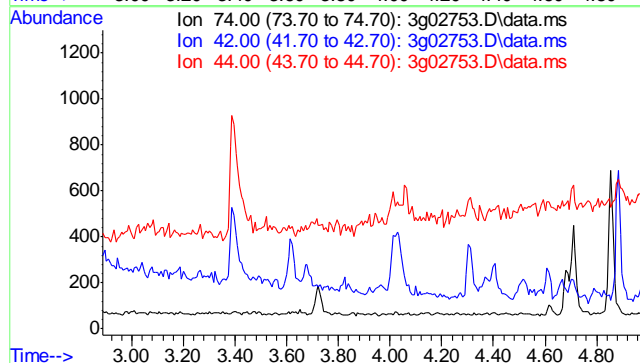
Quant Time: Jan 26 10:28:56 2011  
Quant Method : C:\msdchem\1\METHODS\SIMPE3G94.M  
Quant Title : PAHSIM BASE  
QLast Update : Wed Jan 26 10:24:40 2011  
Response via : Initial Calibration





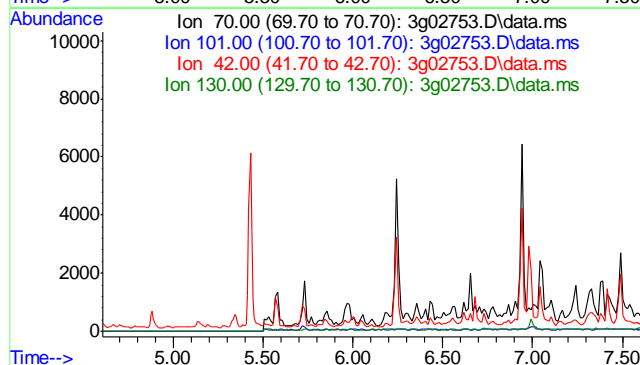
#3  
 N-Nitrosodimethylamine  
 Concen: N.D. ug/mL  
 Expected RT: 3.47 min  
 Lab File: 3g02753.D  
 Acq: 25 Jan 11 9:28 pm

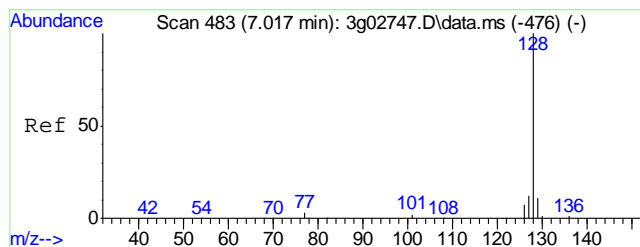
Tgt Ion	Exp Ratio
74	100
42	59.3
44	4.0



#4  
 N-Nitrosodi-propylamine  
 Concen: N.D. ug/mL  
 Expected RT: 6.11 min  
 Lab File: 3g02753.D  
 Acq: 25 Jan 11 9:28 pm

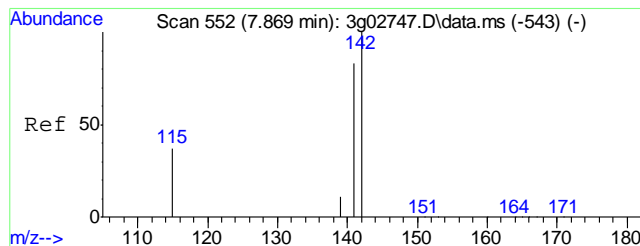
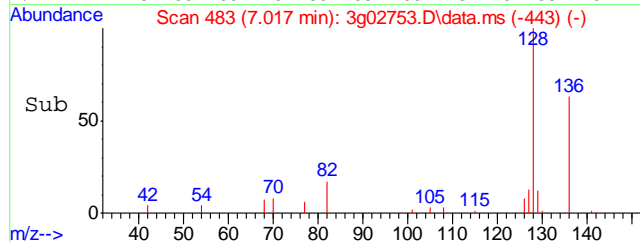
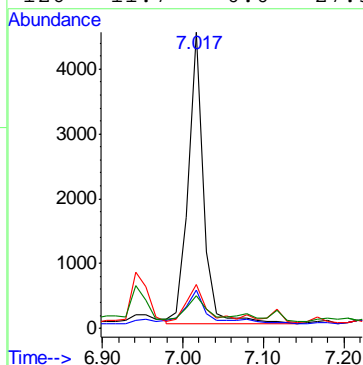
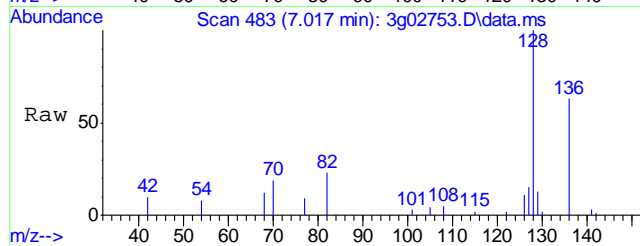
Tgt Ion	Exp Ratio
70	100
101	9.7
42	43.3
130	20.7





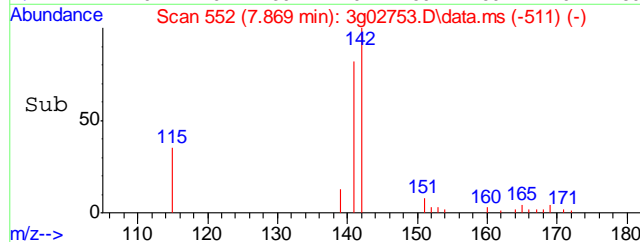
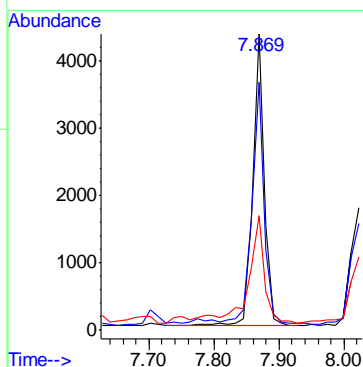
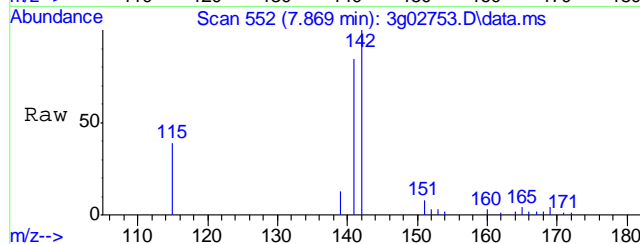
#5  
Naphthalene  
Concen: 0.12 ug/mL  
RT: 7.017 min Scan# 483  
Delta R.T. -0.000 min  
Lab File: 3g02753.D  
Acq: 25 Jan 11 9:28 pm

Tgt Ion:	128	Resp:	5917
Ion Ratio	100	Lower	Upper
128	100		
129	12.5	0.0	30.9
127	18.2	0.0	32.5
126	11.7	0.0	27.3

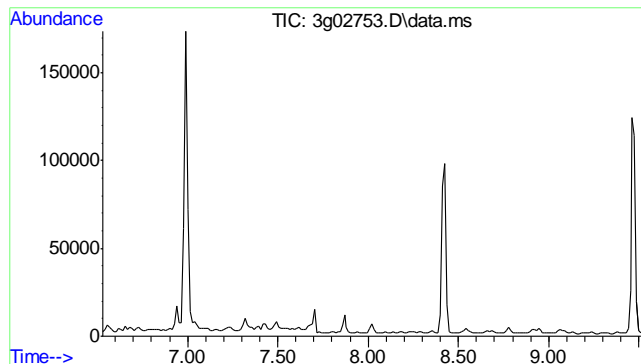


#8  
2-Methylnaphthalene  
Concen: 0.21 ug/mL  
RT: 7.869 min Scan# 552  
Delta R.T. -0.000 min  
Lab File: 3g02753.D  
Acq: 25 Jan 11 9:28 pm

Tgt Ion:	142	Resp:	5567
Ion Ratio	100	Lower	Upper
142	100		
141	87.3	63.5	103.5
115	51.2	18.6	58.6



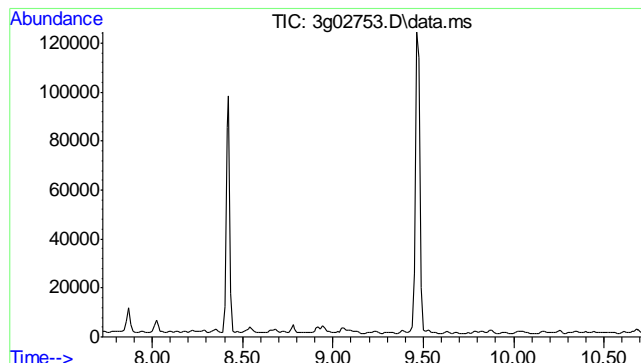
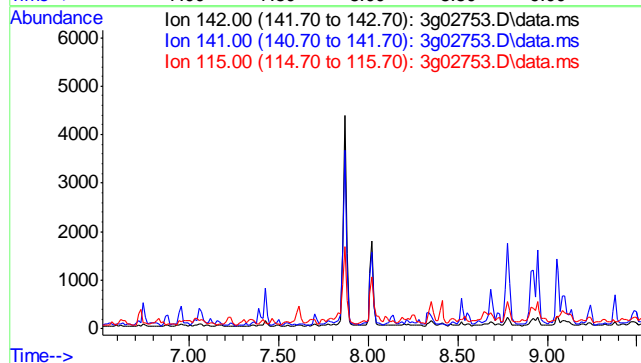




#9  
1-Methylnaphthalene  
Concen: N.D. ug/mL  
Expected RT: 8.02 min

Lab File: 3g02753.D  
Acq: 25 Jan 11 9:28 pm

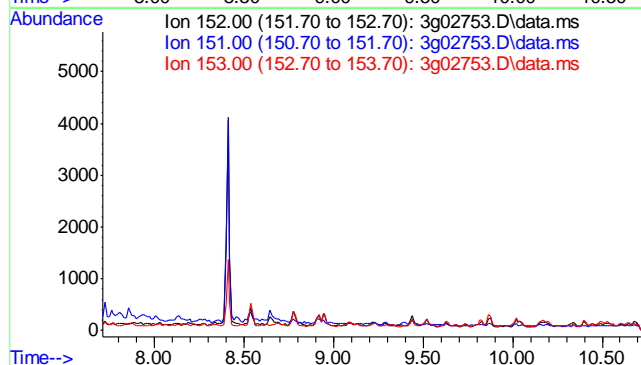
Tgt Ion: 142  
Sig Exp Ratio  
142 100  
141 86.2  
115 40.2

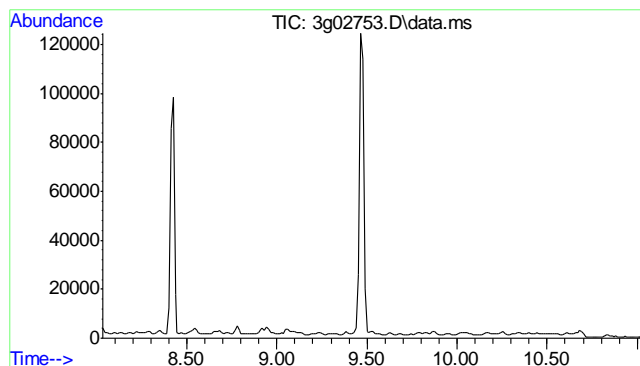


#10  
Acenaphthylene  
Concen: N.D. ug/mL  
Expected RT: 9.22 min

Lab File: 3g02753.D  
Acq: 25 Jan 11 9:28 pm

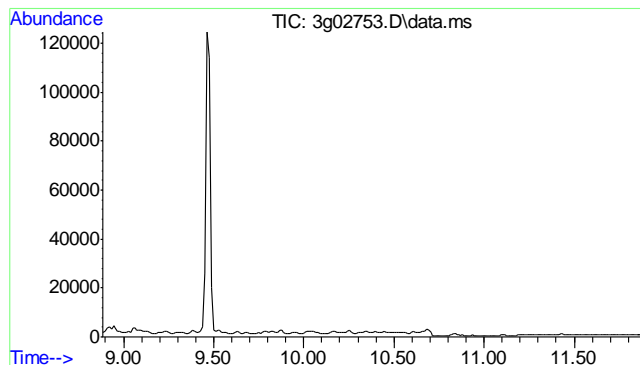
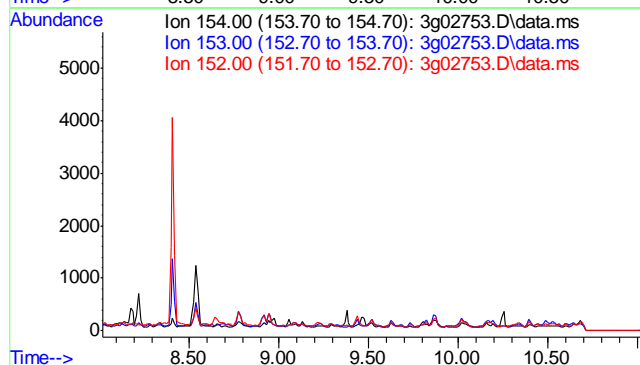
Tgt Ion: 152  
Sig Exp Ratio  
152 100  
151 18.9  
153 12.9





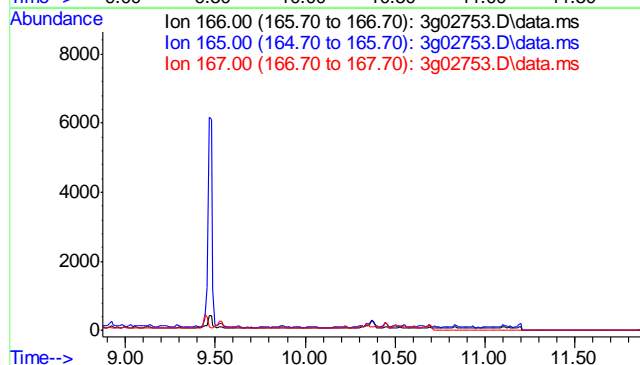
#11  
Acenaphthene  
Concen: N.D. ug/mL  
Expected RT: 9.52 min  
  
Lab File: 3g02753.D  
Acq: 25 Jan 11 9:28 pm

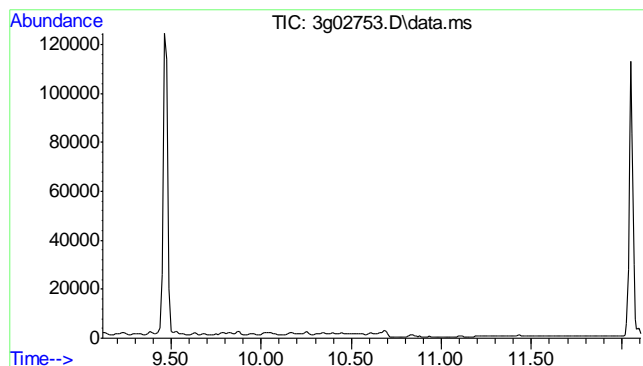
Tgt Ion:	154
Sig	Exp Ratio
154	100
153	104.3
152	49.5



#12  
Fluorene  
Concen: N.D. ug/mL  
Expected RT: 10.37 min  
  
Lab File: 3g02753.D  
Acq: 25 Jan 11 9:28 pm

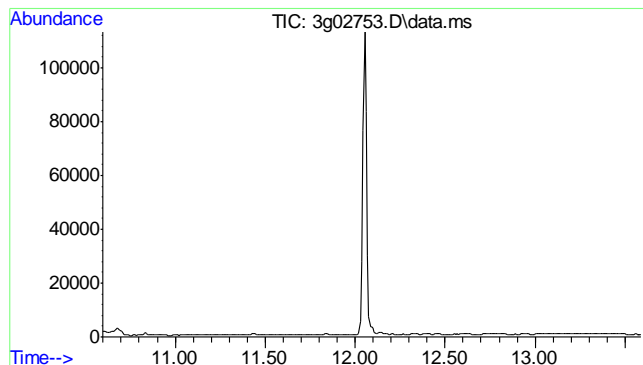
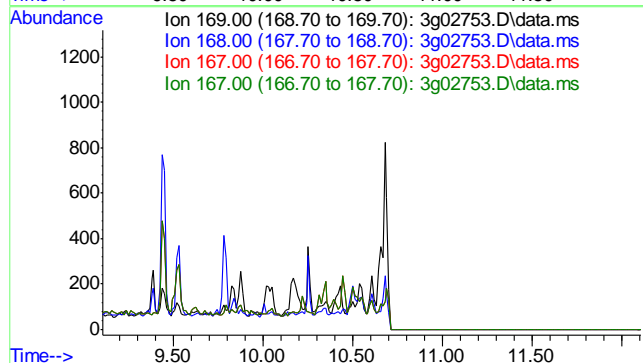
Tgt Ion:	166
Sig	Exp Ratio
166	100
165	90.7
167	13.4





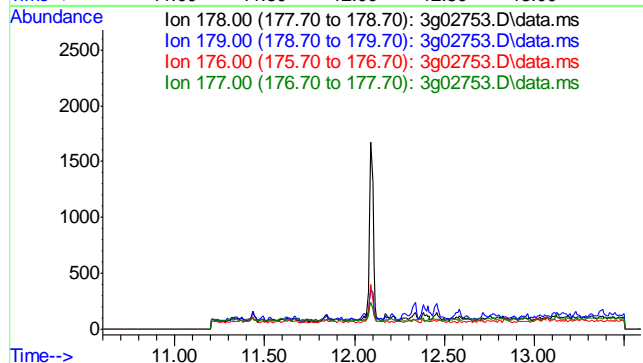
#13  
Diphenylamine  
Concen: N.D. ug/mL  
Expected RT: 10.61 min  
  
Lab File: 3g02753.D  
Acq: 25 Jan 11 9:28 pm

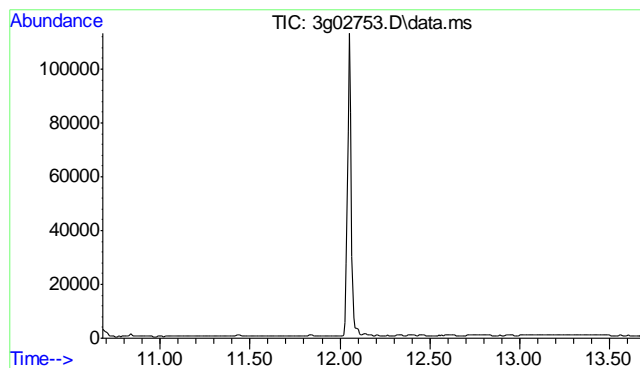
Tgt Ion	Sig	Exp Ratio
169	100	
168	62.1	
167	33.7	
167	33.7	



#15  
Phenanthrene  
Concen: N.D. ug/mL  
Expected RT: 12.09 min  
  
Lab File: 3g02753.D  
Acq: 25 Jan 11 9:28 pm

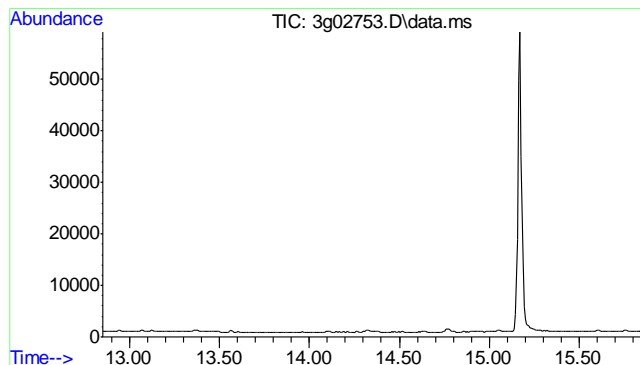
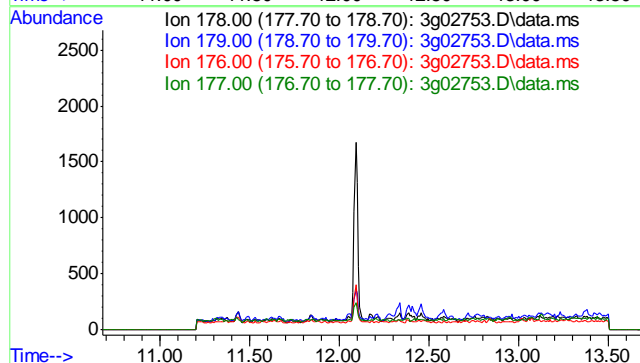
Tgt Ion	Sig	Exp Ratio
178	100	
179	15.1	
176	18.2	
177	10.2	





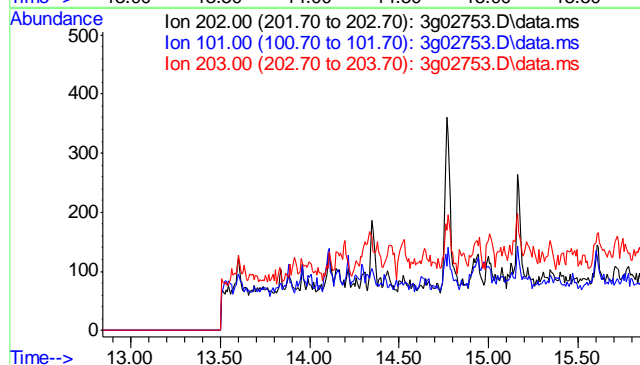
#16  
 Anthracene  
 Concen: N.D. ug/mL  
 Expected RT: 12.18 min  
  
 Lab File: 3g02753.D  
 Acq: 25 Jan 11 9:28 pm

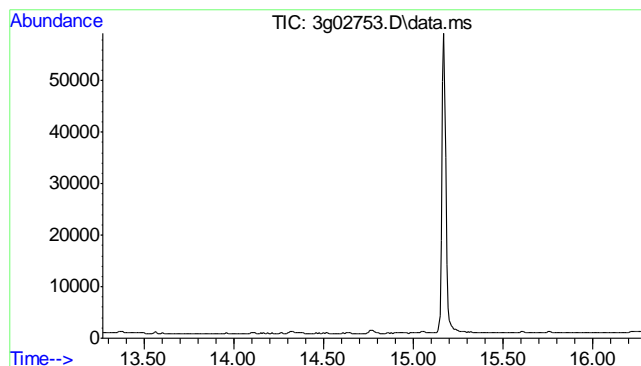
Tgt Ion	Sig	Exp Ratio
178	100	
179	15.0	
176	17.6	
177	8.8	



#17  
 Fluoranthene  
 Concen: N.D. ug/mL  
 Expected RT: 14.35 min  
  
 Lab File: 3g02753.D  
 Acq: 25 Jan 11 9:28 pm

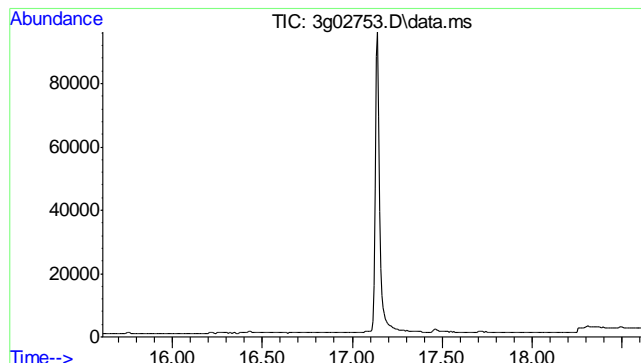
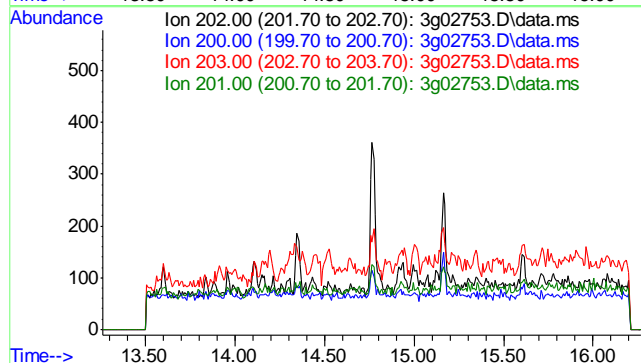
Tgt Ion	Sig	Exp Ratio
202	100	
101	18.9	
203	17.2	





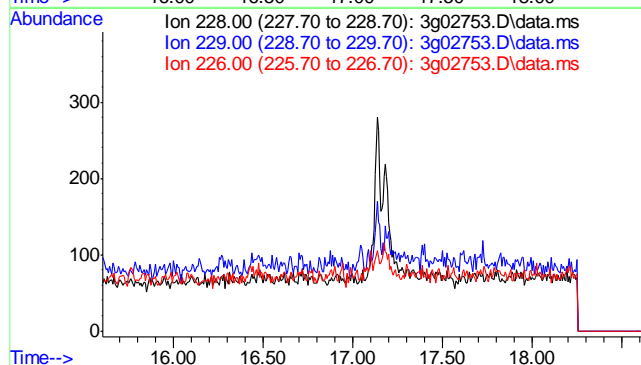
#19  
 Pyrene  
 Concen: N.D. ug/mL  
 Expected RT: 14.77 min  
  
 Lab File: 3g02753.D  
 Acq: 25 Jan 11 9:28 pm

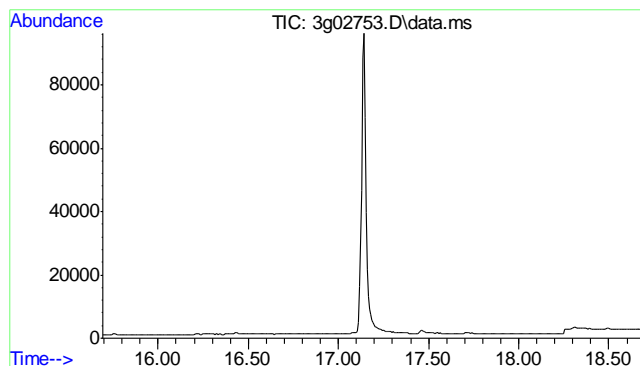
Tgt Ion	Exp Ratio
202	100
200	20.2
203	17.6
201	16.4



#21  
 Benzo(a)anthracene  
 Concen: N.D. ug/mL  
 Expected RT: 17.11 min  
  
 Lab File: 3g02753.D  
 Acq: 25 Jan 11 9:28 pm

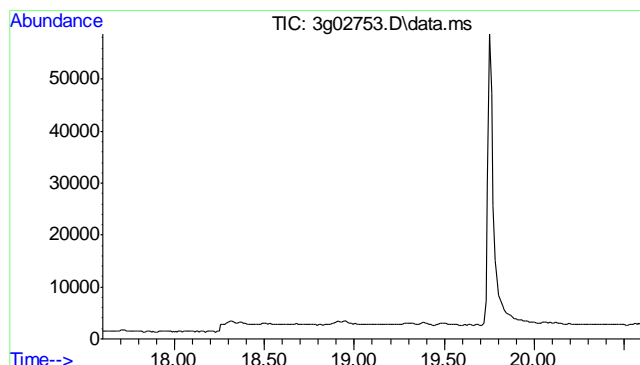
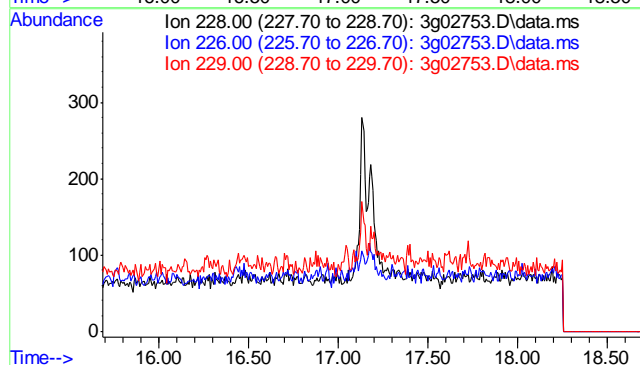
Tgt Ion	Exp Ratio
228	100
229	19.7
226	26.0





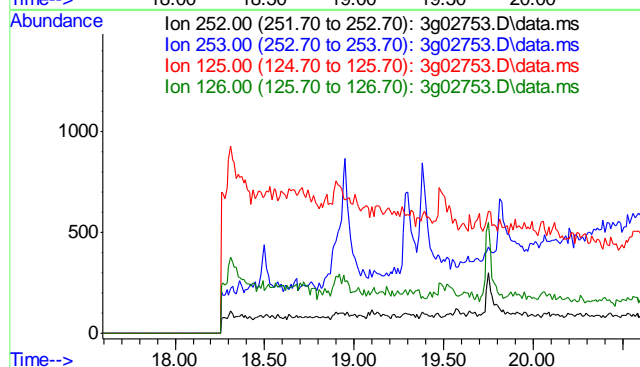
#22  
 Chrysene  
 Concen: N.D. ug/mL  
 Expected RT: 17.19 min  
  
 Lab File: 3g02753.D  
 Acq: 25 Jan 11 9:28 pm

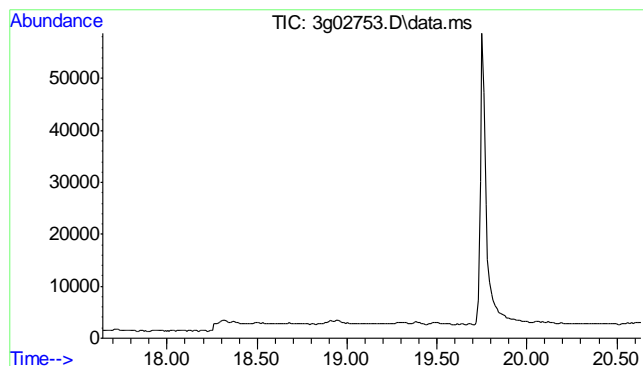
Tgt Ion	Exp Ratio
228	100
226	28.4
229	19.3



#24  
 Benzo(b)fluoranthene  
 Concen: N.D. ug/mL  
 Expected RT: 19.10 min  
  
 Lab File: 3g02753.D  
 Acq: 25 Jan 11 9:28 pm

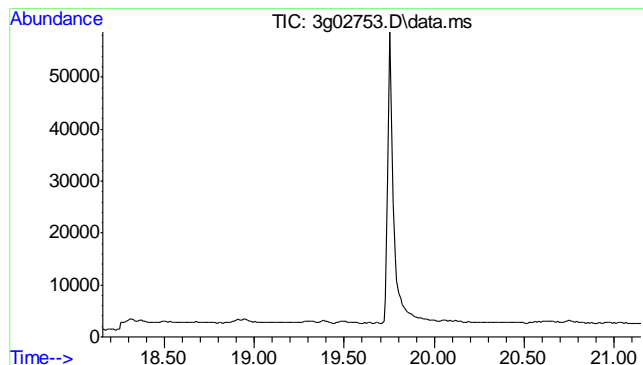
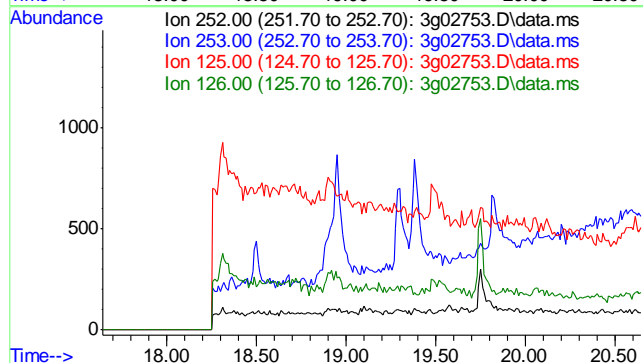
Tgt Ion	Exp Ratio
252	100
253	21.4
125	16.1
126	22.2





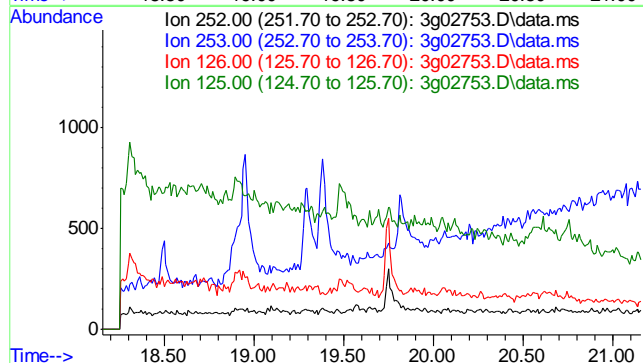
#25  
Benzo(k)fluoranthene  
Concen: N.D. ug/mL  
Expected RT: 19.14 min  
  
Lab File: 3g02753.D  
Acq: 25 Jan 11 9:28 pm

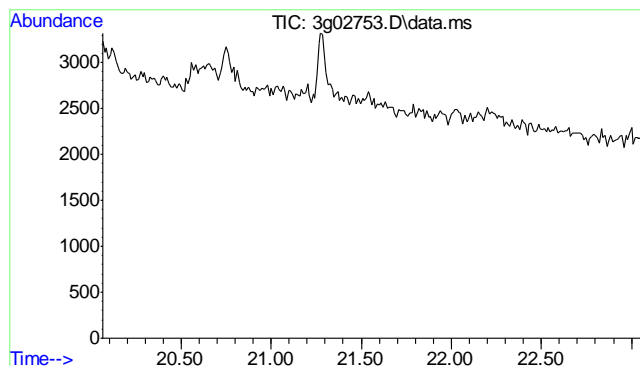
Tgt Ion	Exp Ratio
252	100
253	21.2
125	13.3
126	20.7



#26  
Benzo(a)pyrene  
Concen: N.D. ug/mL  
Expected RT: 19.66 min  
  
Lab File: 3g02753.D  
Acq: 25 Jan 11 9:28 pm

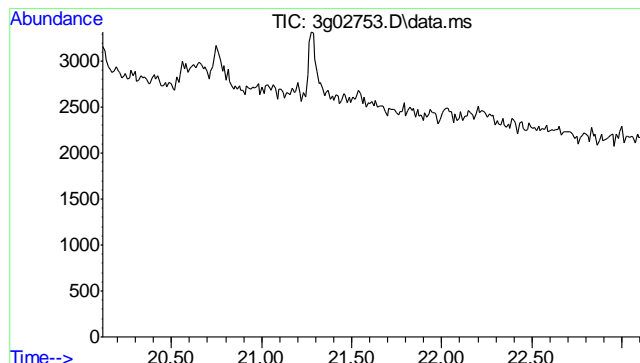
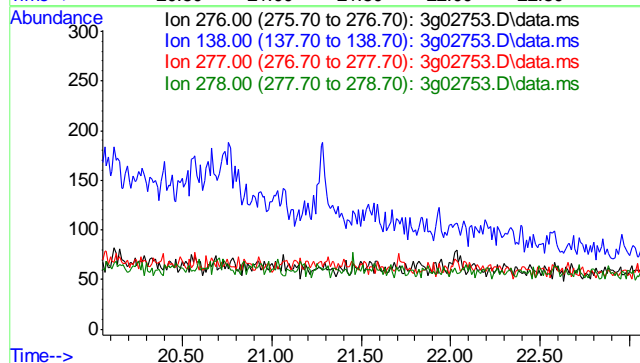
Tgt Ion	Exp Ratio
252	100
253	22.0
126	21.7
125	16.4





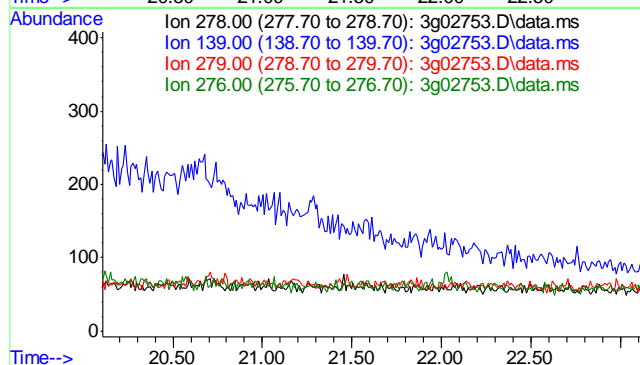
#27  
 Indeno(1,2,3-cd)pyrene  
 Concen: N.D. ug/mL  
 Expected RT: 21.56 min  
 Lab File: 3g02753.D  
 Acq: 25 Jan 11 9:28 pm

Tgt Ion	Exp Ratio
276	100
138	80.6
277	19.3
278	184.5

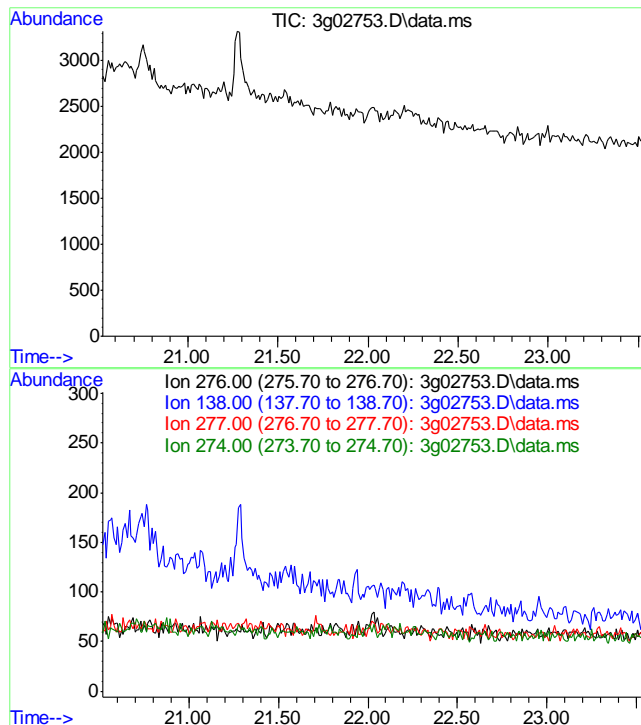


#28  
 Dibenzo(a,h)anthracene  
 Concen: N.D. ug/mL  
 Expected RT: 21.61 min  
 Lab File: 3g02753.D  
 Acq: 25 Jan 11 9:28 pm

Tgt Ion	Exp Ratio
278	100
139	22.5
279	23.5
276	127.6







#29  
 Benzo(g,h,i)perylene  
 Concen: N.D. ug/mL  
 Expected RT: 22.02 min  
 Lab File: 3g02753.D  
 Acq: 25 Jan 11 9:28 pm  
 Tgt Ion: 276  

Sig	Exp Ratio
276	100
138	30.1
277	22.8
274	20.8

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\012511\  
 Data File : 3g02754.D  
 Acq On : 25 Jan 2011 10:07 pm  
 Operator : TamiB  
 Sample : D20575-3,10x  
 Misc : OP3055,E3G94,30.11,,,1,10  
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jan 26 10:30:39 2011  
 Quant Method : C:\msdchem\1\METHODS\SIMPE3G94.M  
 Quant Title : PAHSIM BASE  
 QLast Update : Wed Jan 26 10:24:40 2011  
 Response via : Initial Calibration

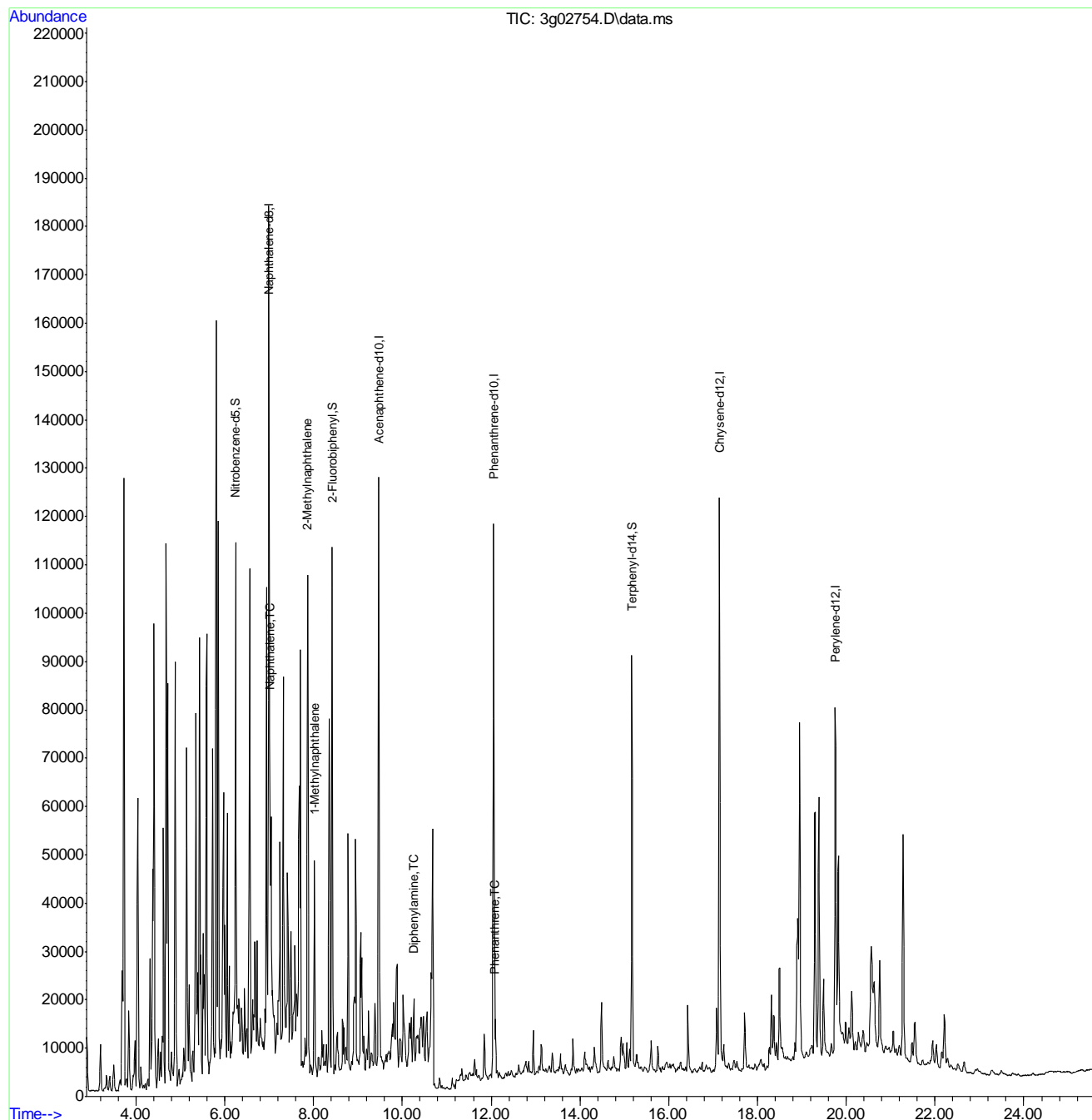
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	6.992	136	160453	4.00	ug/mL	0.00
6) Acenaphthene-d10	9.476	164	79419	4.00	ug/mL	0.01
14) Phenanthrene-d10	12.053	188	131575	4.00	ug/mL	0.00
18) Chrysene-d12	17.140	240	141083	4.00	ug/mL	0.00
23) Perylene-d12	19.751	264	120316	4.00	ug/mL	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	6.244	82	35406	4.16	ug/mL	-0.01
7) 2-Fluorobiphenyl	8.424	172	113406	3.22	ug/mL	0.00
20) Terphenyl-d14	15.171	244	99088	4.01	ug/mL	0.00
Target Compounds						
3) N-Nitrosodimethylamine	0.000		0	N.D.	d	
4) N-Nitrosodi-propylamine	0.000		0	N.D.	d	
5) Naphthalene	7.017	128	51424	1.06	ug/mL	79
8) 2-Methylnaphthalene	7.869	142	55595	2.03	ug/mL	97
9) 1-Methylnaphthalene	8.022	142	24964m	0.95	ug/mL	
10) Acenaphthylene	0.000		0	N.D.	d	
11) Acenaphthene	0.000		0	N.D.	d	
12) Fluorene	0.000		0	N.D.	d	
13) Diphenylamine	10.255	169	4496	0.24	ug/mL	83
15) Phenanthrene	12.092	178	10761	0.27	ug/mL	92
16) Anthracene	0.000		0	N.D.	d	
17) Fluoranthene	0.000		0	N.D.	d	
19) Pyrene	0.000		0	N.D.	d	
21) Benzo(a)anthracene	0.000		0	N.D.	d	
22) Chrysene	0.000		0	N.D.	d	
24) Benzo(b)fluoranthene	0.000		0	N.D.	d	
25) Benzo(k)fluoranthene	0.000		0	N.D.	d	
26) Benzo(a)pyrene	0.000		0	N.D.	d	
27) Indeno(1,2,3-cd)pyrene	21.538	276	20	Below Cal	#	1
28) Dibenz(a,h)anthracene	0.000		0	N.D.	d	
29) Benzo(g,h,i)perylene	0.000		0	N.D.	d	

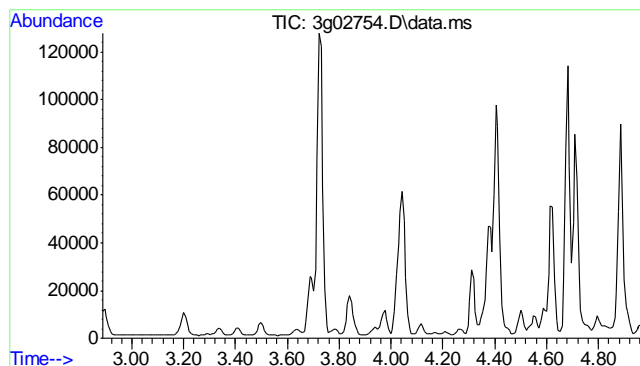
(#) = qualifier out of range (m) = manual integration (+) = signals summed

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\012511\  
Data File : 3g02754.D  
Acq On : 25 Jan 2011 10:07 pm  
Operator : TamiB  
Sample : D20575-3,10x  
Misc : OP3055,E3G94,30.11,,,1,10  
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jan 26 10:30:39 2011  
Quant Method : C:\msdchem\1\METHODS\SIMPE3G94.M  
Quant Title : PAHSIM BASE  
QLast Update : Wed Jan 26 10:24:40 2011  
Response via : Initial Calibration

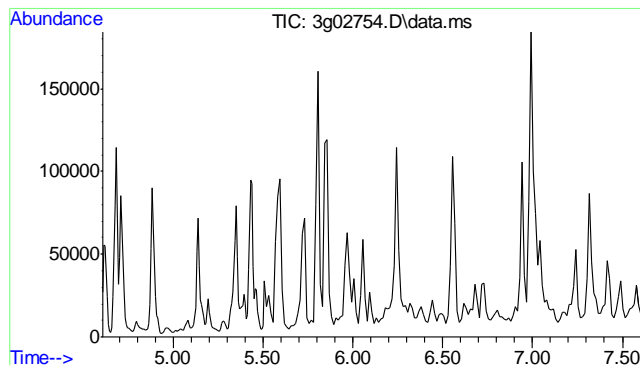
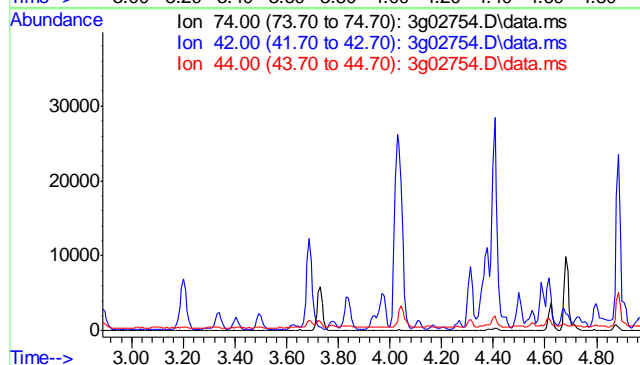




#3  
N-Nitrosodimethylamine  
Concen: N.D. ug/mL  
Expected RT: 3.47 min

Lab File: 3g02754.D  
Acq: 25 Jan 11 10:07 pm

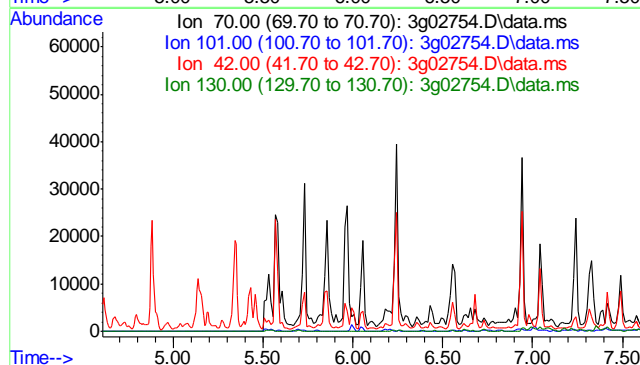
Tgt Ion:	74
Sig	Exp Ratio
74	100
42	59.3
44	4.0

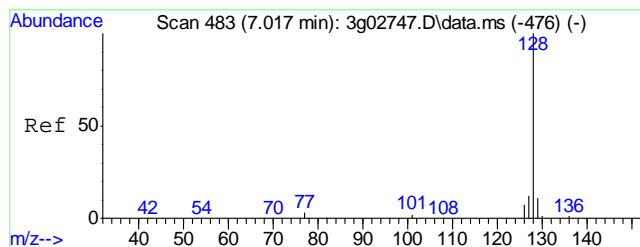


#4  
N-Nitrosodi-propylamine  
Concen: N.D. ug/mL  
Expected RT: 6.11 min

Lab File: 3g02754.D  
Acq: 25 Jan 11 10:07 pm

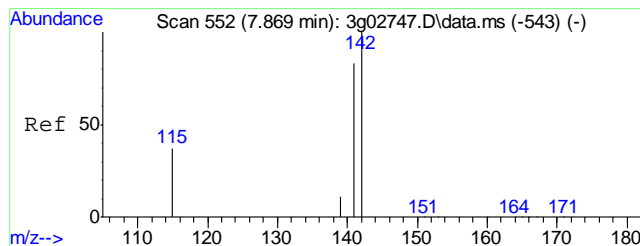
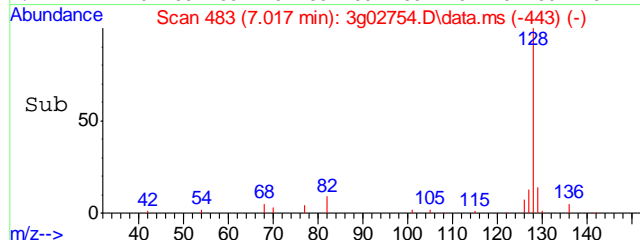
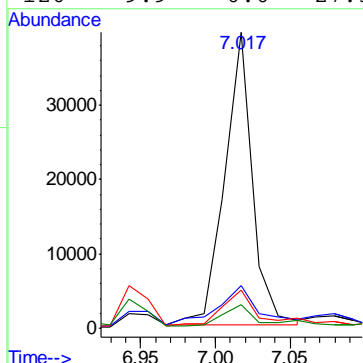
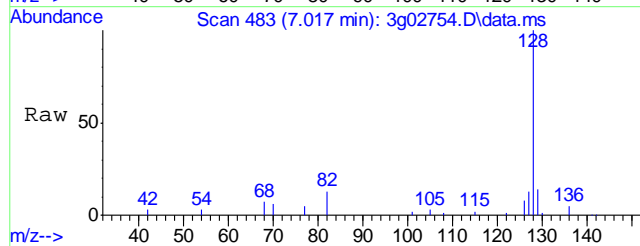
Tgt Ion:	70
Sig	Exp Ratio
70	100
101	9.7
42	43.3
130	20.7





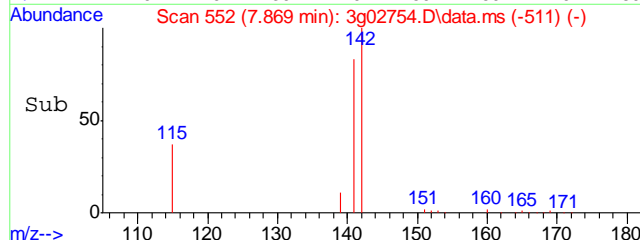
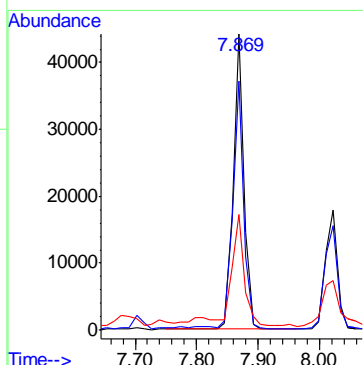
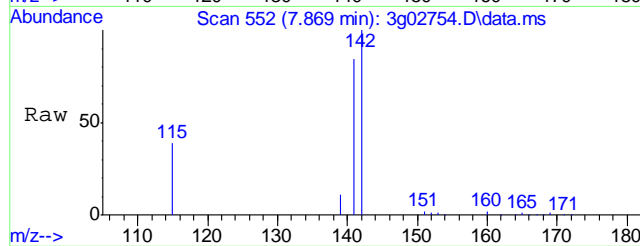
#5  
Naphthalene  
Concen: 1.06 ug/mL  
RT: 7.017 min Scan# 483  
Delta R.T. 0.000 min  
Lab File: 3g02754.D  
Acq: 25 Jan 11 10:07 pm

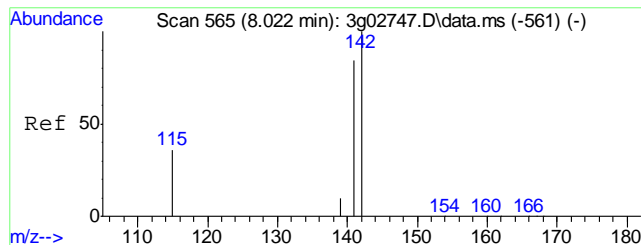
Tgt Ion	Ratio	Lower	Upper
128	100		
129	21.6	0.0	30.9
127	21.5	0.0	32.5
126	9.9	0.0	27.3



#8  
2-Methylnaphthalene  
Concen: 2.03 ug/mL  
RT: 7.869 min Scan# 552  
Delta R.T. 0.000 min  
Lab File: 3g02754.D  
Acq: 25 Jan 11 10:07 pm

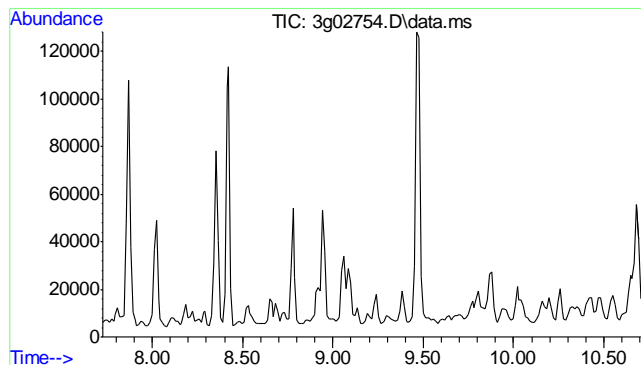
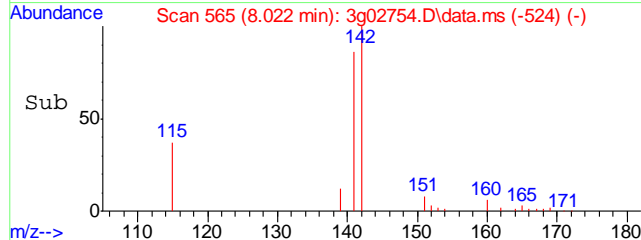
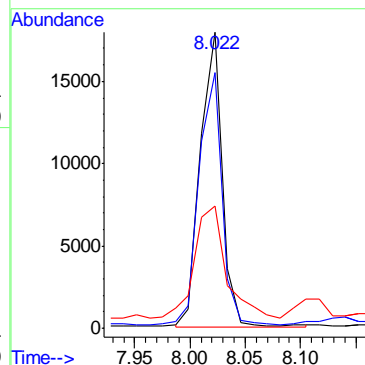
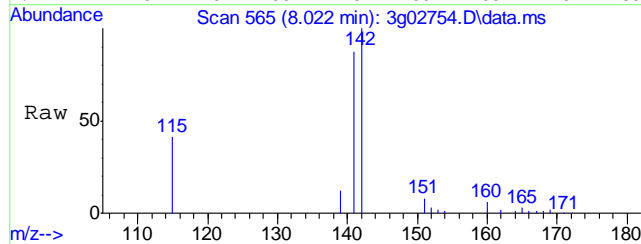
Tgt Ion	Ratio	Lower	Upper
142	100		
141	84.5	63.5	103.5
115	43.4	18.6	58.6





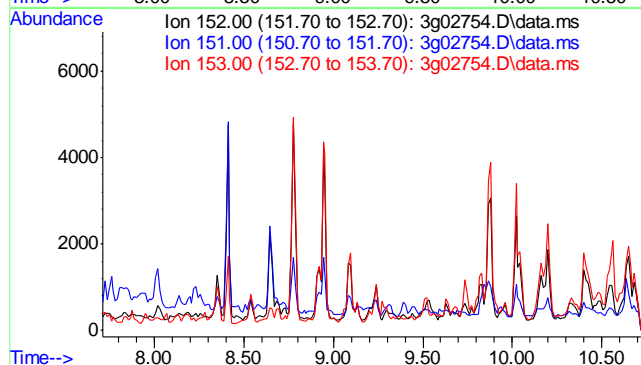
#9  
1-Methylnaphthalene  
Concen: 0.95 ug/mL m  
RT: 8.022 min Scan# 565  
Delta R.T. 0.000 min  
Lab File: 3g02754.D  
Acq: 25 Jan 11 10:07 pm

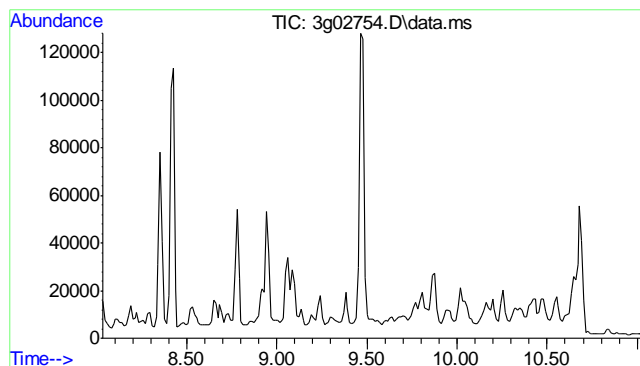
Tgt Ion:	142	Resp:	24964
Ion Ratio	Lower	Upper	
142	100		
141	188.3	69.0	103.4#
115	93.6	32.2	48.2#



#10  
Acenaphthylene  
Concen: N.D. ug/mL  
Expected RT: 9.22 min  
Lab File: 3g02754.D  
Acq: 25 Jan 11 10:07 pm

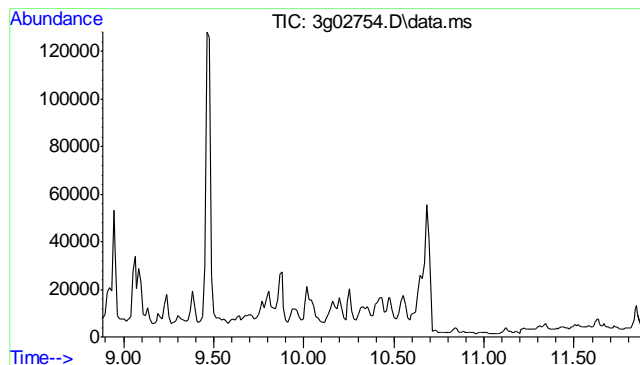
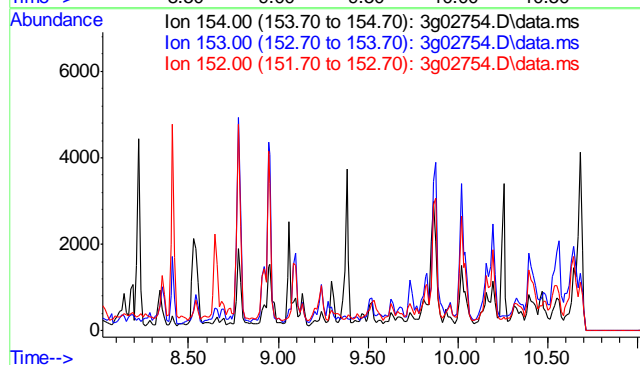
Tgt Ion:	152
Sig	Exp Ratio
152	100
151	18.9
153	12.9





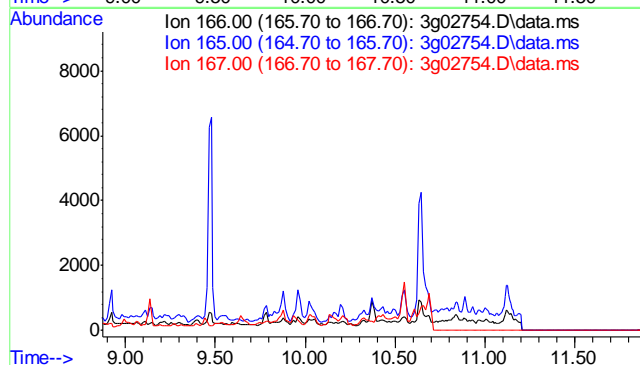
#11  
Acenaphthene  
Concen: N.D. ug/mL  
Expected RT: 9.52 min  
  
Lab File: 3g02754.D  
Acq: 25 Jan 11 10:07 pm

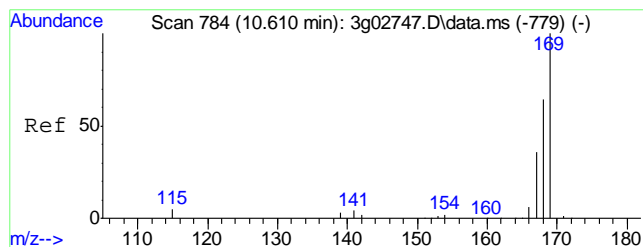
Tgt Ion: 154  
Sig Exp Ratio  
154 100  
153 104.3  
152 49.5



#12  
Fluorene  
Concen: N.D. ug/mL  
Expected RT: 10.37 min  
  
Lab File: 3g02754.D  
Acq: 25 Jan 11 10:07 pm

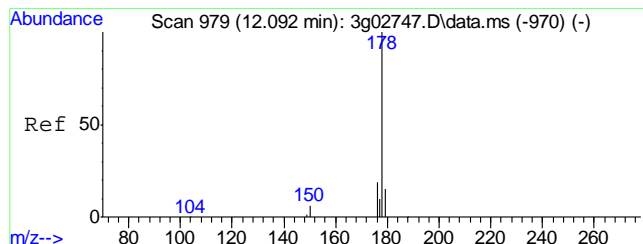
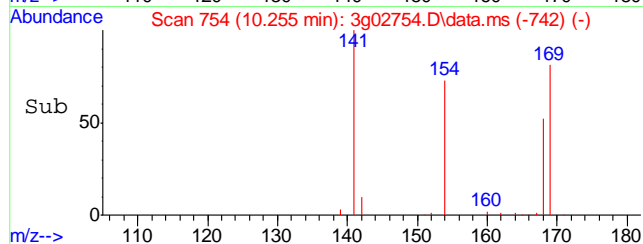
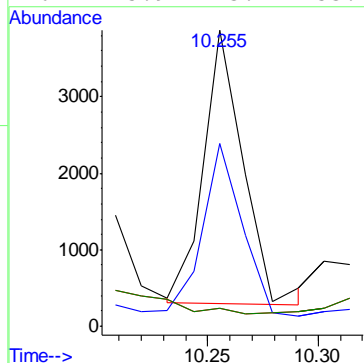
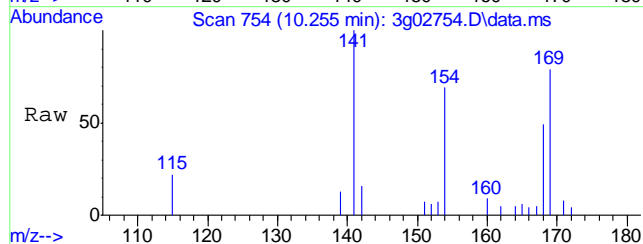
Tgt Ion: 166  
Sig Exp Ratio  
166 100  
165 90.7  
167 13.4





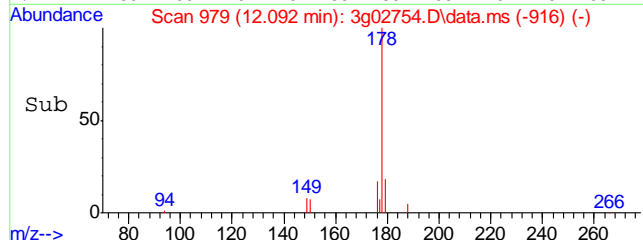
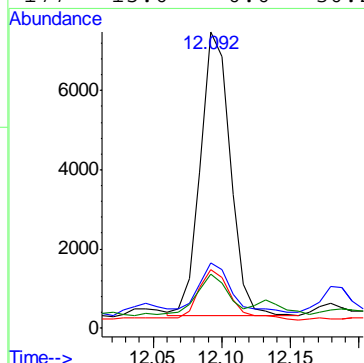
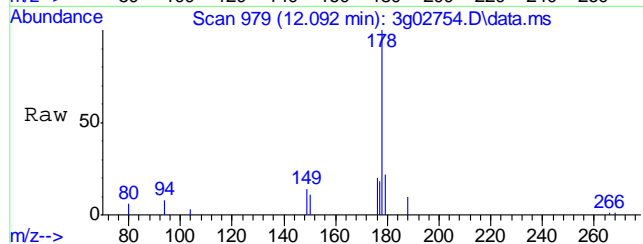
#13  
Diphenylamine  
Concen: 0.24 ug/mL  
RT: 10.255 min Scan# 754  
Delta R.T. -0.354 min  
Lab File: 3g02754.D  
Acq: 25 Jan 11 10:07 pm

Tgt Ion:	169	Resp:	4496
Ion Ratio	Lower	Upper	
169	100		
168	63.1	42.1	82.1
167	15.9	13.7	53.7
167	15.9	13.7	53.7

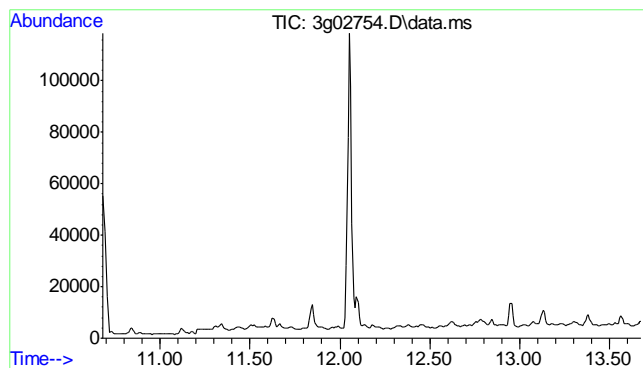


#15  
Phenanthrene  
Concen: 0.27 ug/mL  
RT: 12.092 min Scan# 979  
Delta R.T. 0.000 min  
Lab File: 3g02754.D  
Acq: 25 Jan 11 10:07 pm

Tgt Ion:	178	Resp:	10761
Ion Ratio	Lower	Upper	
178	100		
179	18.5	0.0	35.1
176	20.0	0.0	38.2
177	15.0	0.0	30.2

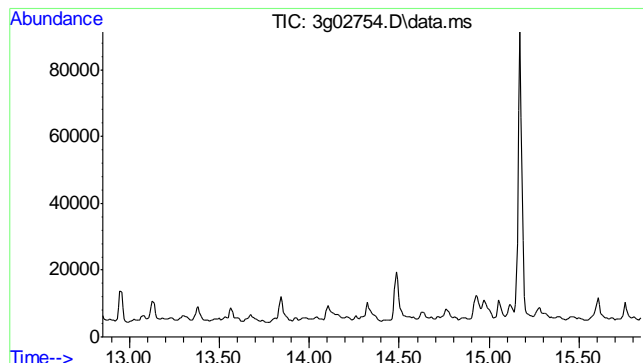
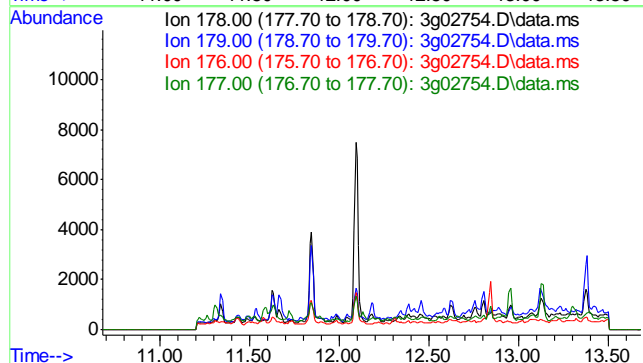






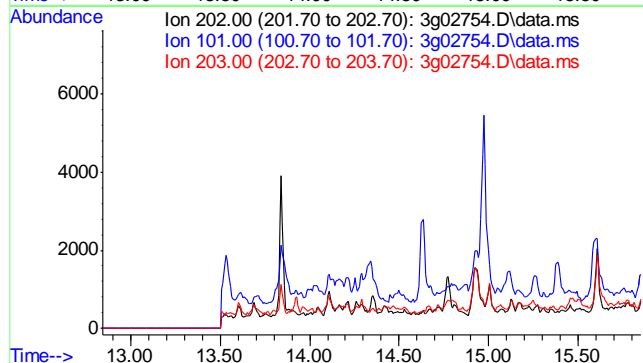
#16  
 Anthracene  
 Concen: N.D. ug/mL  
 Expected RT: 12.18 min  
  
 Lab File: 3G02754.D  
 Acq: 25 Jan 11 10:07 pm

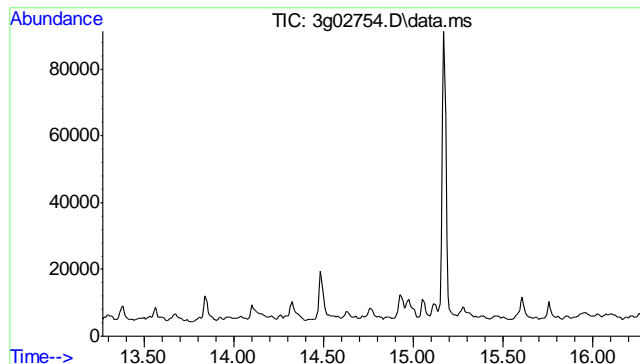
Tgt Ion	Sig	Exp Ratio
178	100	
179	15.0	
176	17.6	
177	8.8	



#17  
 Fluoranthene  
 Concen: N.D. ug/mL  
 Expected RT: 14.35 min  
  
 Lab File: 3G02754.D  
 Acq: 25 Jan 11 10:07 pm

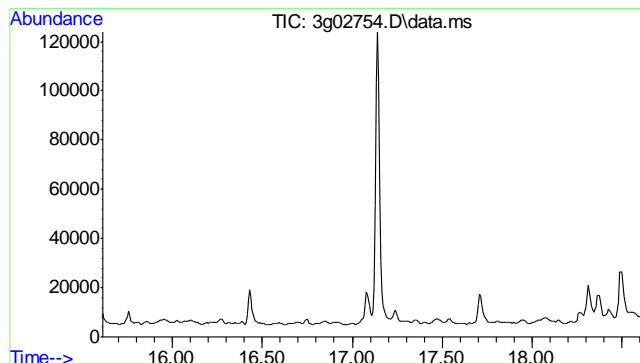
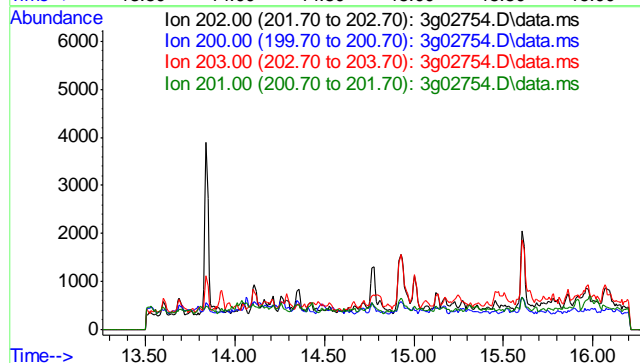
Tgt Ion	Sig	Exp Ratio
202	100	
101	18.9	
203	17.2	





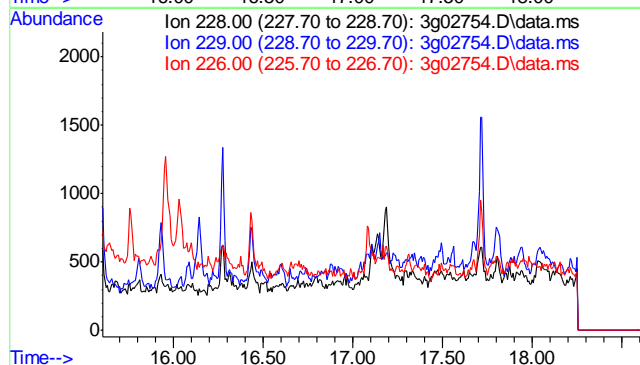
#19  
 Pyrene  
 Concen: N.D. ug/mL  
 Expected RT: 14.77 min  
  
 Lab File: 3g02754.D  
 Acq: 25 Jan 11 10:07 pm

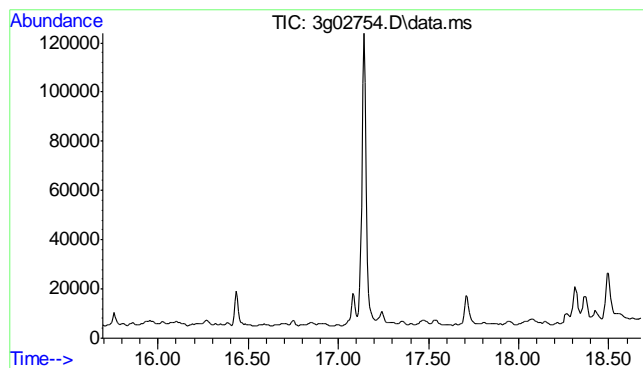
Tgt Ion	Exp Ratio
202	100
200	20.2
203	17.6
201	16.4



#21  
 Benzo(a)anthracene  
 Concen: N.D. ug/mL  
 Expected RT: 17.11 min  
  
 Lab File: 3g02754.D  
 Acq: 25 Jan 11 10:07 pm

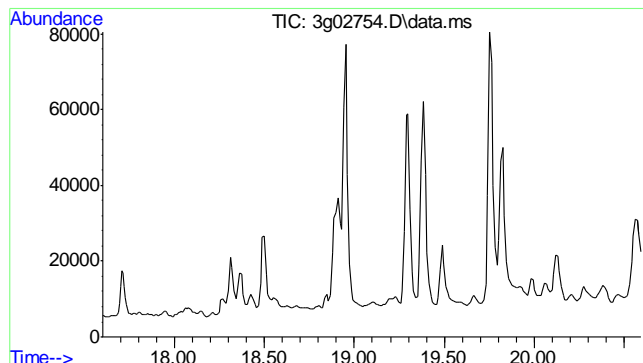
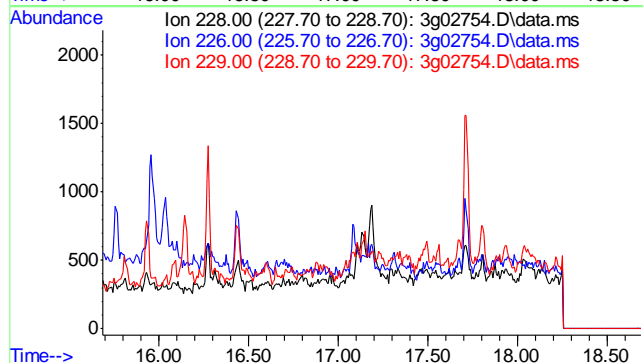
Tgt Ion	Exp Ratio
228	100
229	19.7
226	26.0





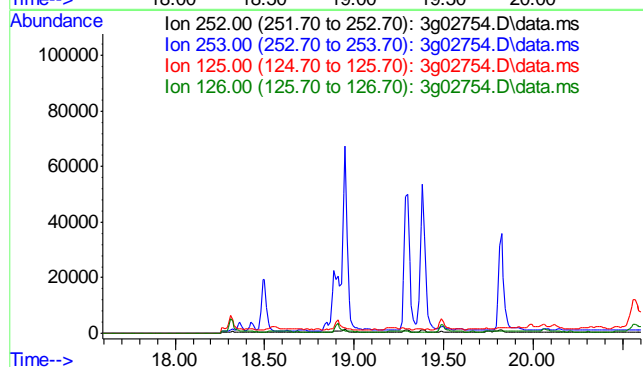
#22  
 Chrysene  
 Concen: N.D. ug/mL  
 Expected RT: 17.19 min  
  
 Lab File: 3g02754.D  
 Acq: 25 Jan 11 10:07 pm

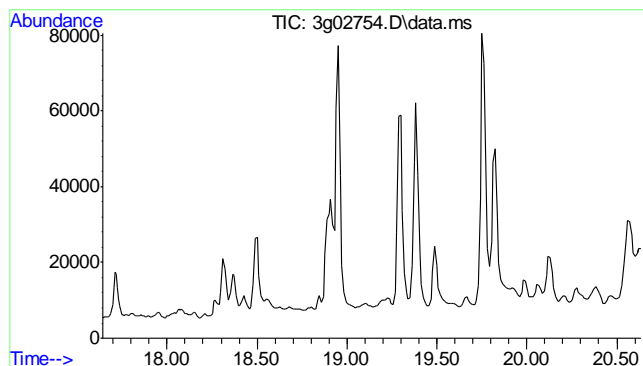
Tgt Ion	Exp Ratio
228	100
226	28.4
229	19.3



#24  
 Benzo(b)fluoranthene  
 Concen: N.D. ug/mL  
 Expected RT: 19.10 min  
  
 Lab File: 3g02754.D  
 Acq: 25 Jan 11 10:07 pm

Tgt Ion	Exp Ratio
252	100
253	21.4
125	16.1
126	22.2

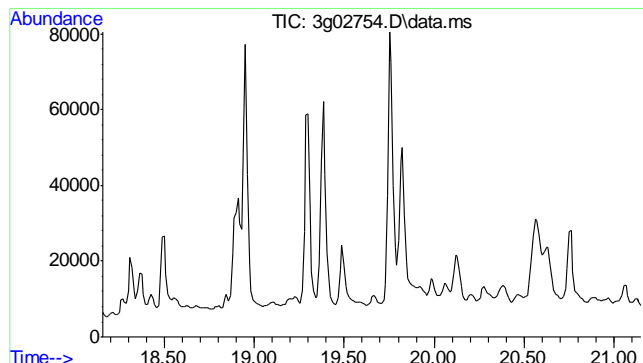
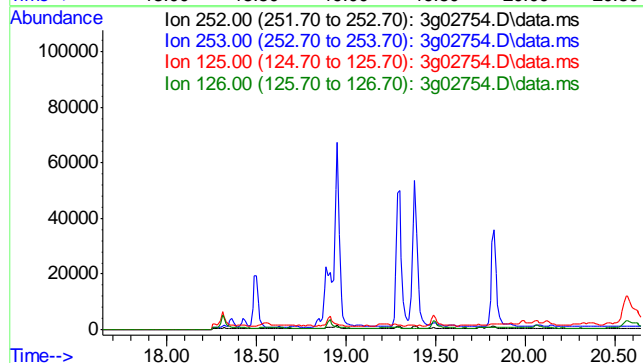




#25  
Benzo(k)fluoranthene  
Concen: N.D. ug/mL  
Expected RT: 19.14 min

Lab File: 3G02754.D  
Acq: 25 Jan 11 10:07 pm

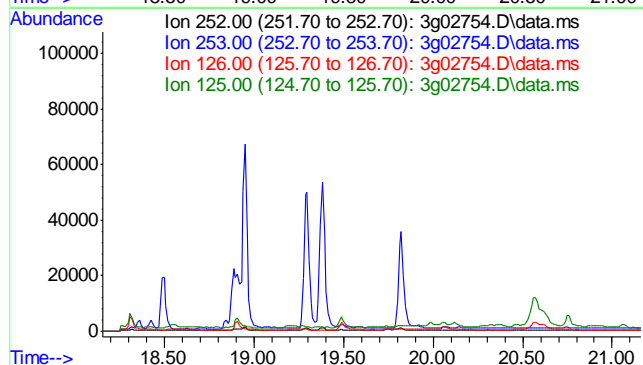
Tgt Ion: 252  
Sig Exp Ratio  
252 100  
253 21.2  
125 13.3  
126 20.7

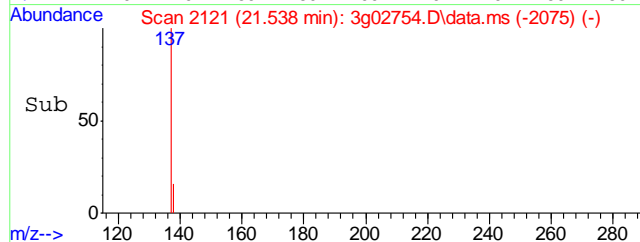
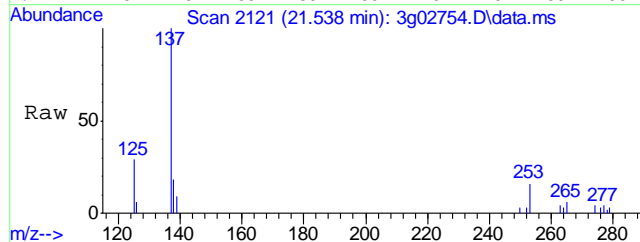
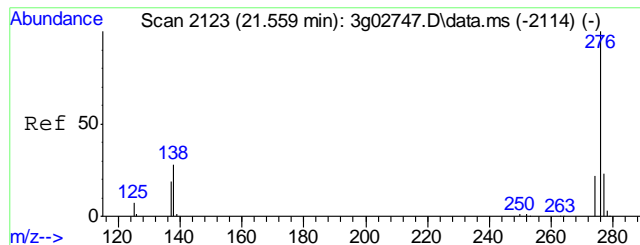


#26  
Benzo(a)pyrene  
Concen: N.D. ug/mL  
Expected RT: 19.66 min

Lab File: 3G02754.D  
Acq: 25 Jan 11 10:07 pm

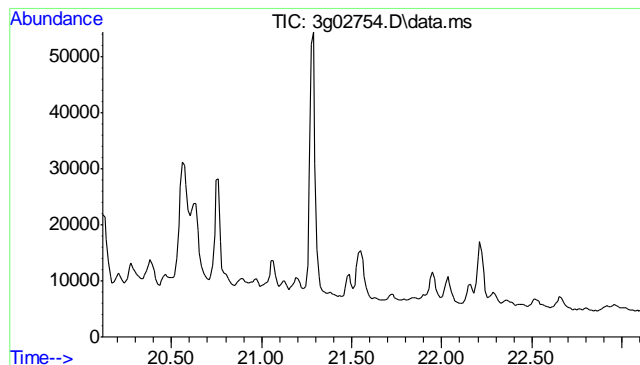
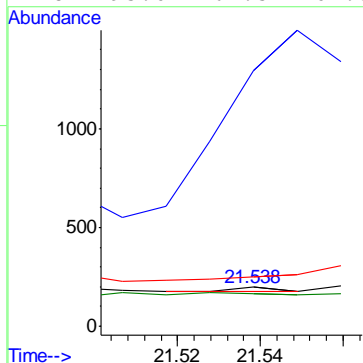
Tgt Ion: 252  
Sig Exp Ratio  
252 100  
253 22.0  
126 21.7  
125 16.4





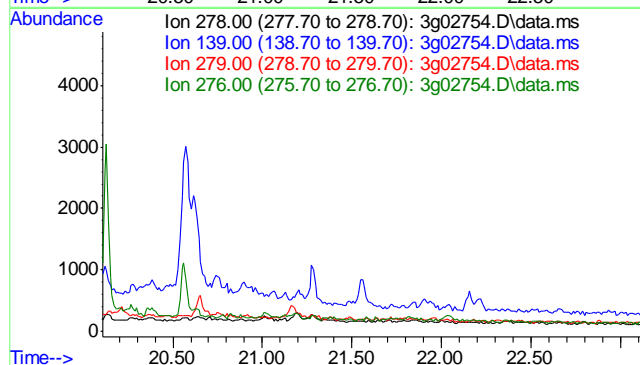
#27  
 Indeno(1,2,3-cd)pyrene  
 Concen: Below ug/mL  
 RT: 21.538 min Scan# 2121  
 Delta R.T. -0.021 min  
 Lab File: 3g02754.D  
 Acq: 25 Jan 11 10:07 pm

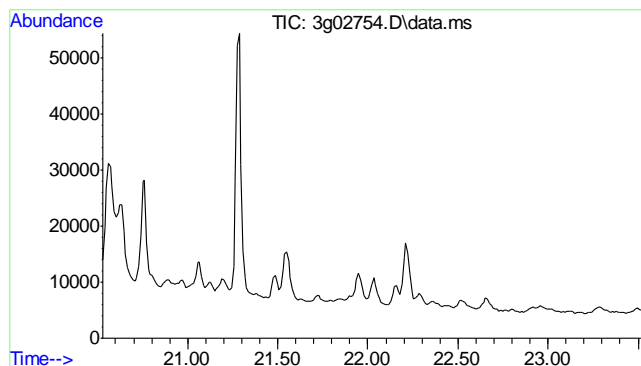
Tgt Ion:	276	Resp:	20
Ion Ratio	Lower	Upper	
276	100		
138	15355.0	60.6	100.6#
277	1160.0	0.0	39.3#
278	495.0	164.5	204.5#



#28  
 Dibenz(a,h)anthracene  
 Concen: N.D. ug/mL  
 Expected RT: 21.61 min  
 Lab File: 3g02754.D  
 Acq: 25 Jan 11 10:07 pm

Tgt Ion:	278
Sig	Exp Ratio
278	100
139	22.5
279	23.5
276	127.6

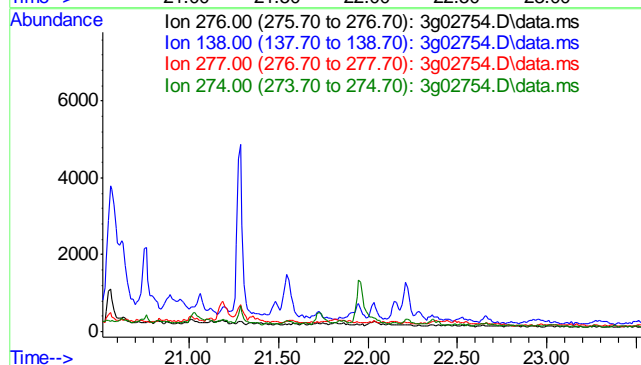




#29  
 Benzo(g,h,i)perylene  
 Concen: N.D. ug/mL  
 Expected RT: 22.02 min

Lab File: 3g02754.D  
 Acq: 25 Jan 11 10:07 pm

Tgt Ion	Exp Ratio
276	100
138	30.1
277	22.8
274	20.8



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\012511\  
 Data File : 3g02755.D  
 Acq On : 25 Jan 2011 10:47 pm  
 Operator : TamiB  
 Sample : D20575-4,10x  
 Misc : OP3055,E3G94,30.02,,,1,10  
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jan 26 10:31:34 2011  
 Quant Method : C:\msdchem\1\METHODS\SIMPE3G94.M  
 Quant Title : PAHSIM BASE  
 QLast Update : Wed Jan 26 10:24:40 2011  
 Response via : Initial Calibration

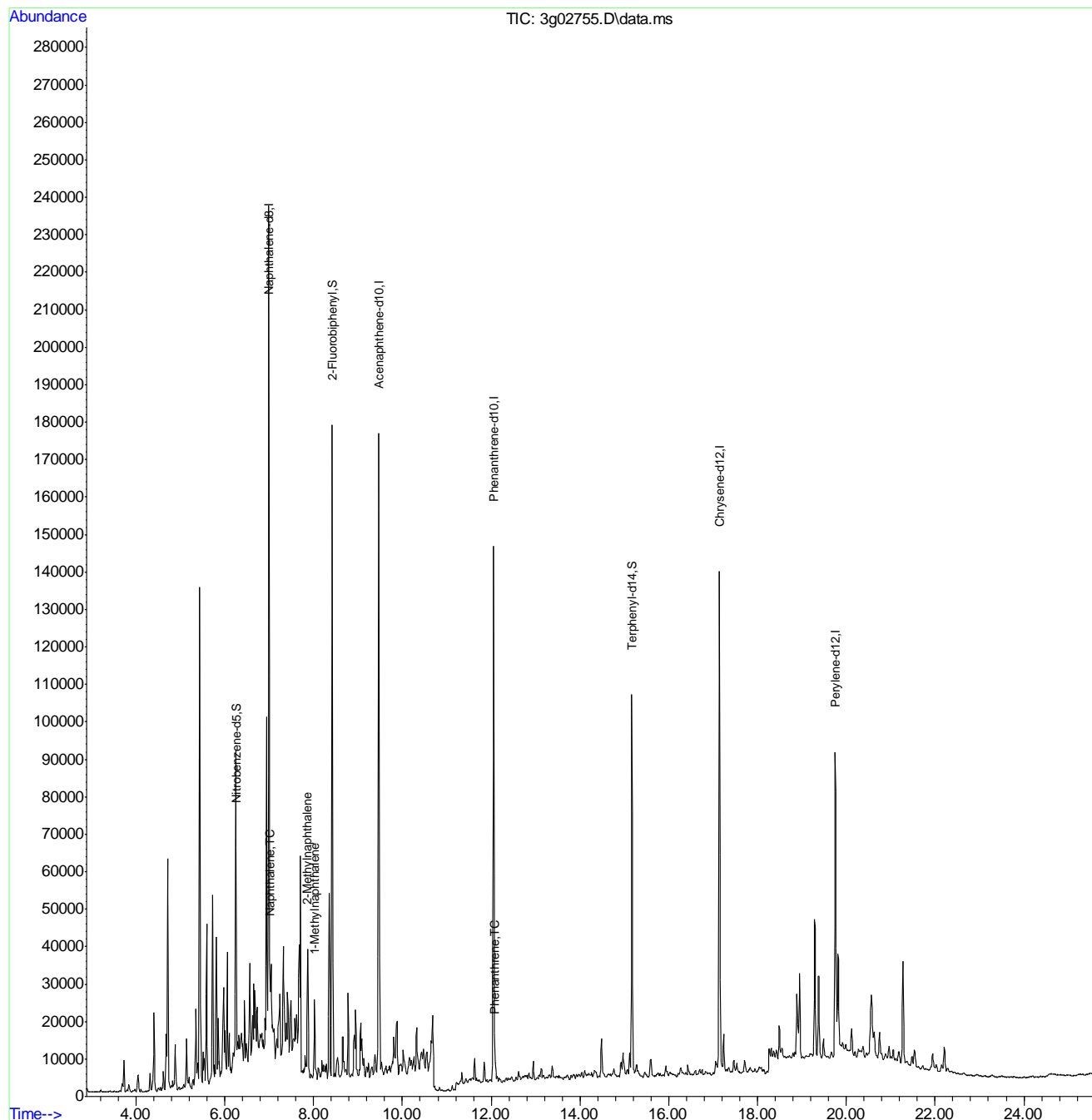
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	6.992	136	216181	4.00	ug/mL	0.00
6) Acenaphthene-d10	9.475	164	108786	4.00	ug/mL	0.01
14) Phenanthrene-d10	12.052	188	169947	4.00	ug/mL	0.00
18) Chrysene-d12	17.140	240	154173	4.00	ug/mL	0.00
23) Perylene-d12	19.750	264	124125	4.00	ug/mL	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	6.256	82	46662	4.08	ug/mL	0.00
7) 2-Fluorobiphenyl	8.424	172	163440	3.39	ug/mL	0.00
20) Terphenyl-d14	15.170	244	114143	4.22	ug/mL	0.00
Target Compounds						
						Qvalue
3) N-Nitrosodimethylamine	0.000		0	N.D.	d	
4) N-Nitrosodi-propylamine	0.000		0	N.D.	d	
5) Naphthalene	7.017	128	15266	0.23	ug/mL	69
8) 2-Methylnaphthalene	7.869	142	18626	0.50	ug/mL#	82
9) 1-Methylnaphthalene	8.022	142	9115	0.25	ug/mL#	61
10) Acenaphthylene	0.000		0	N.D.	d	
11) Acenaphthene	0.000		0	N.D.	d	
12) Fluorene	0.000		0	N.D.	d	
13) Diphenylamine	0.000		0	N.D.	d	
15) Phenanthrene	12.092	178	5007	0.10	ug/mL	85
16) Anthracene	0.000		0	N.D.	d	
17) Fluoranthene	0.000		0	N.D.	d	
19) Pyrene	0.000		0	N.D.	d	
21) Benzo(a)anthracene	0.000		0	N.D.	d	
22) Chrysene	0.000		0	N.D.	d	
24) Benzo(b)fluoranthene	0.000		0	N.D.	d	
25) Benzo(k)fluoranthene	0.000		0	N.D.	d	
26) Benzo(a)pyrene	0.000		0	N.D.	d	
27) Indeno(1,2,3-cd)pyrene	0.000		0	N.D.	d	
28) Dibenz(a,h)anthracene	0.000		0	N.D.	d	
29) Benzo(g,h,i)perylene	0.000		0	N.D.	d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

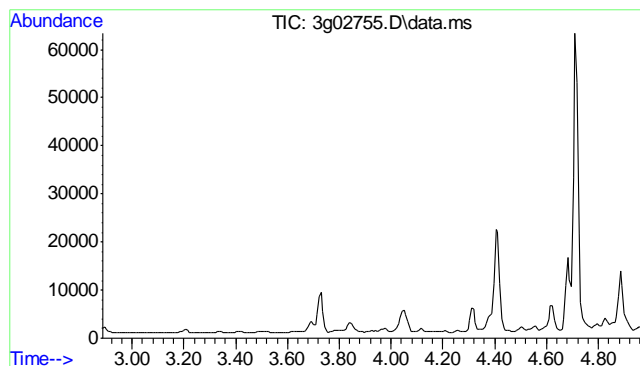
## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\012511\  
Data File : 3g02755.D  
Acq On : 25 Jan 2011 10:47 pm  
Operator : TamiB  
Sample : D20575-4,10x  
Misc : OP3055,E3G94,30.02,,,1,10  
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jan 26 10:31:34 2011  
Quant Method : C:\msdchem\1\METHODS\SIMPE3G94.M  
Quant Title : PAHSIM BASE  
QLast Update : Wed Jan 26 10:24:40 2011  
Response via : Initial Calibration

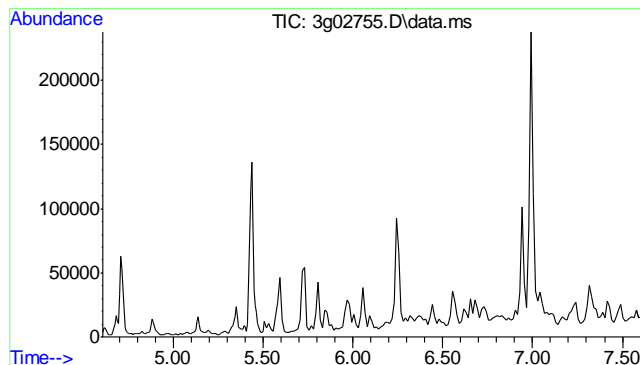
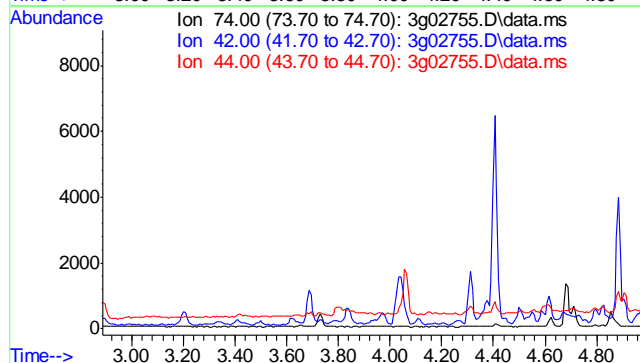






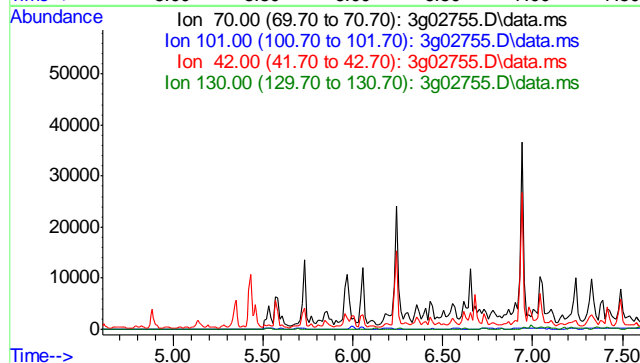
#3  
 N-Nitrosodimethylamine  
 Concen: N.D. ug/mL  
 Expected RT: 3.47 min  
 Lab File: 3g02755.D  
 Acq: 25 Jan 11 10:47 pm

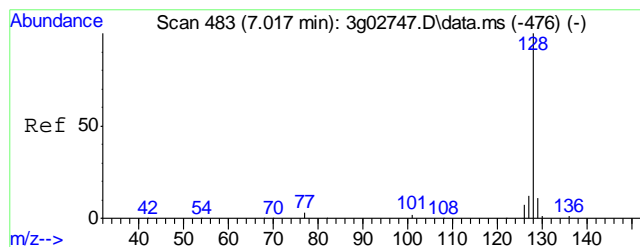
Tgt Ion	Exp Ratio
74	100
42	59.3
44	4.0



#4  
 N-Nitrosodi-propylamine  
 Concen: N.D. ug/mL  
 Expected RT: 6.11 min  
 Lab File: 3g02755.D  
 Acq: 25 Jan 11 10:47 pm

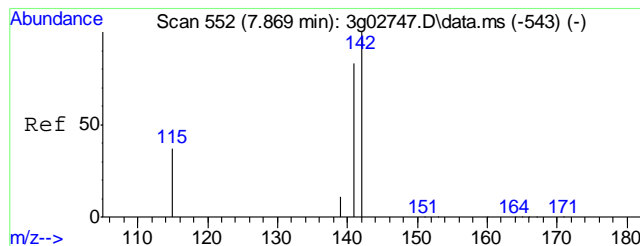
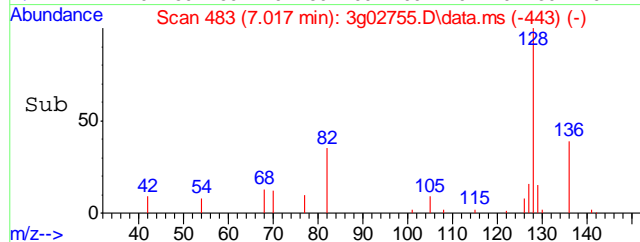
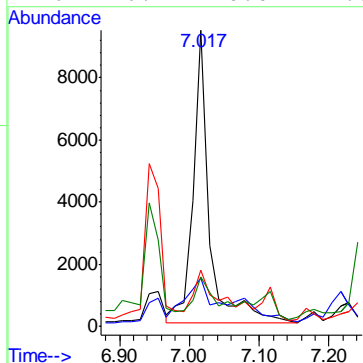
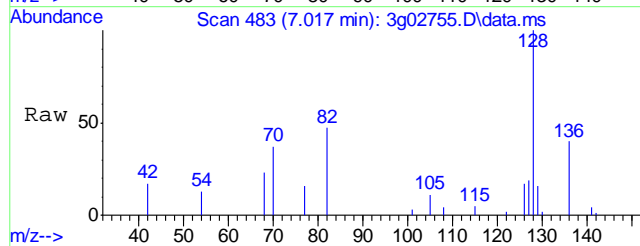
Tgt Ion	Exp Ratio
70	100
101	9.7
42	43.3
130	20.7





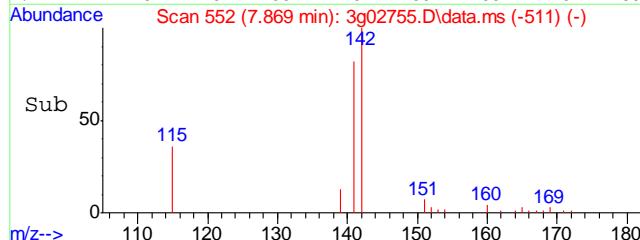
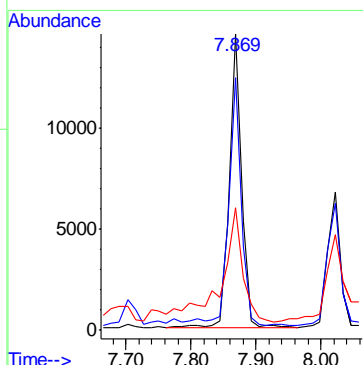
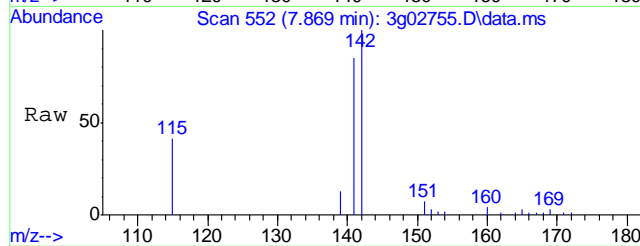
#5  
Naphthalene  
Concen: 0.23 ug/mL  
RT: 7.017 min Scan# 483  
Delta R.T. -0.000 min  
Lab File: 3g02755.D  
Acq: 25 Jan 11 10:47 pm

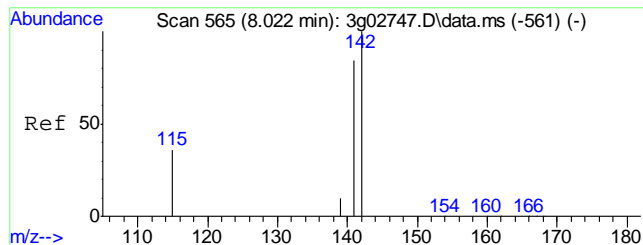
Tgt Ion:128 Resp: 15266  
Ion Ratio Lower Upper  
128 100  
129 20.9 0.0 30.9  
127 27.0 0.0 32.5  
126 16.2 0.0 27.3



#8  
2-Methylnaphthalene  
Concen: 0.50 ug/mL  
RT: 7.869 min Scan# 552  
Delta R.T. -0.000 min  
Lab File: 3g02755.D  
Acq: 25 Jan 11 10:47 pm

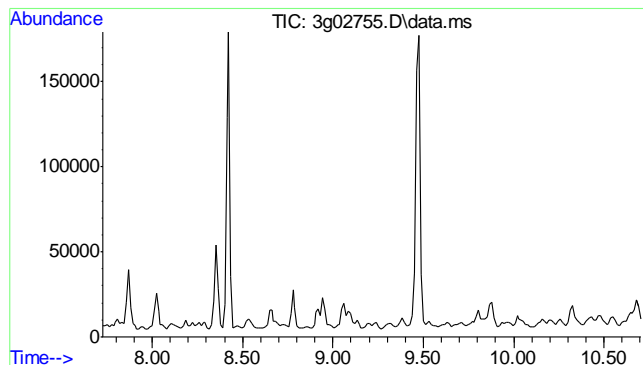
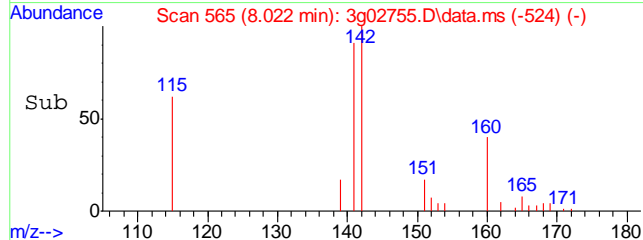
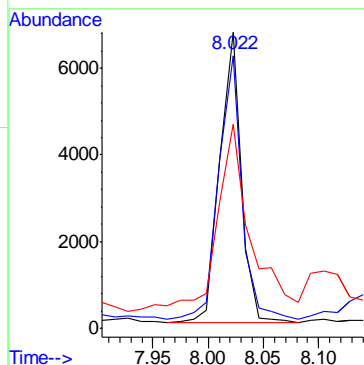
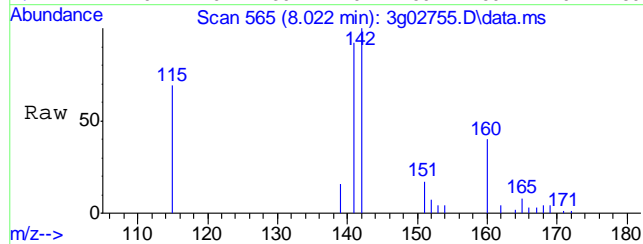
Tgt Ion:142 Resp: 18626  
Ion Ratio Lower Upper  
142 100  
141 85.6 63.5 103.5  
115 70.4 18.6 58.6#





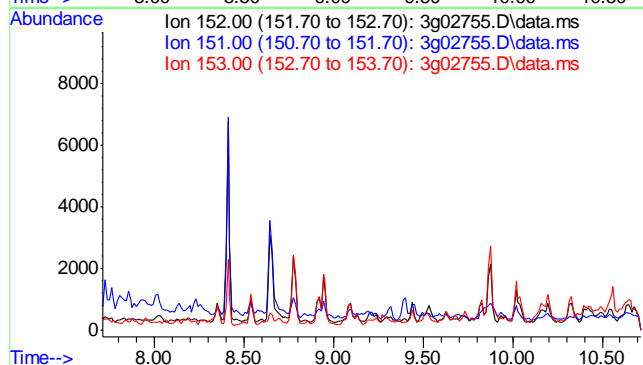
#9  
1-Methylnaphthalene  
Concen: 0.25 ug/mL  
RT: 8.022 min Scan# 565  
Delta R.T. -0.000 min  
Lab File: 3g02755.D  
Acq: 25 Jan 11 10:47 pm

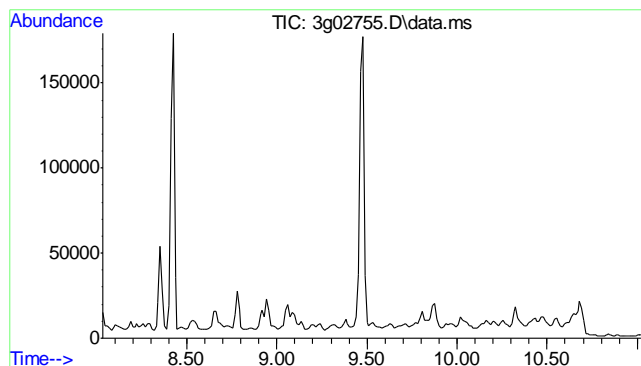
Tgt Ion:	142	Resp:	9115
Ion Ratio	100	Lower	Upper
142	100		
141	97.4	69.0	103.4
115	99.3	32.2	48.2#



#10  
Acenaphthylene  
Concen: N.D. ug/mL  
Expected RT: 9.22 min  
Lab File: 3g02755.D  
Acq: 25 Jan 11 10:47 pm

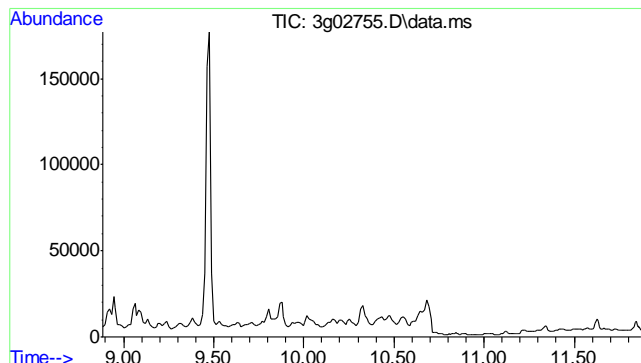
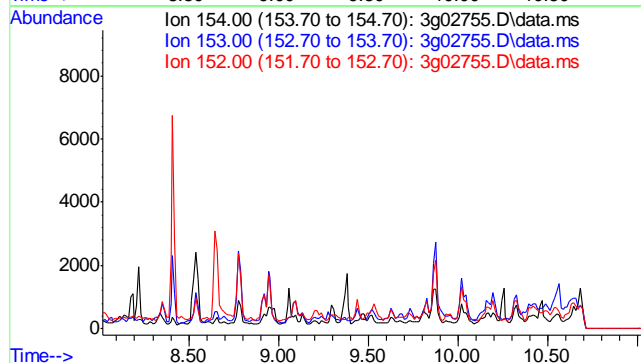
Tgt Ion:	152
Sig	Exp Ratio
152	100
151	18.9
153	12.9





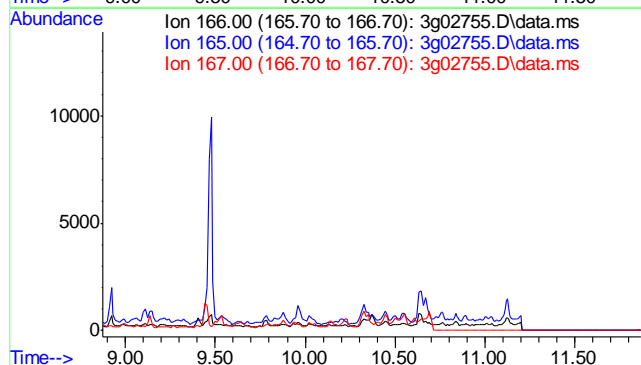
#11  
Acenaphthene  
Concen: N.D. ug/mL  
Expected RT: 9.52 min  
  
Lab File: 3g02755.D  
Acq: 25 Jan 11 10:47 pm

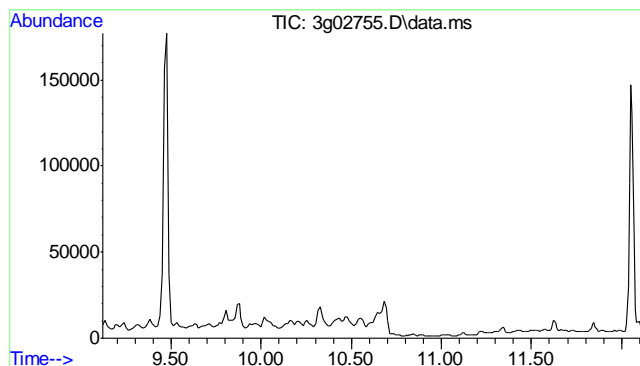
Tgt Ion:	154
Sig	Exp Ratio
154	100
153	104.3
152	49.5



#12  
Fluorene  
Concen: N.D. ug/mL  
Expected RT: 10.37 min  
  
Lab File: 3g02755.D  
Acq: 25 Jan 11 10:47 pm

Tgt Ion:	166
Sig	Exp Ratio
166	100
165	90.7
167	13.4

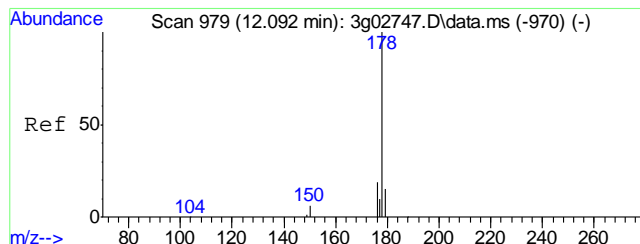
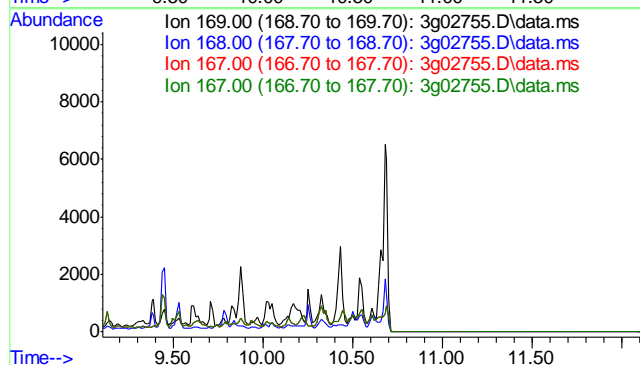




#13  
Diphenylamine  
Concen: N.D. ug/mL  
Expected RT: 10.61 min

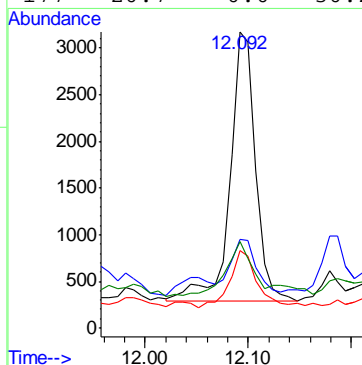
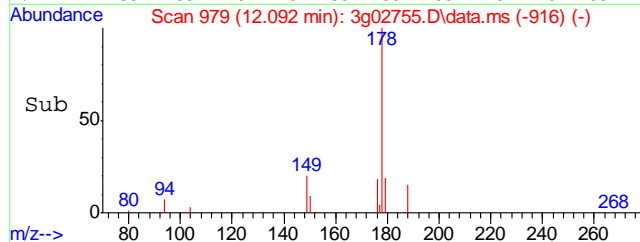
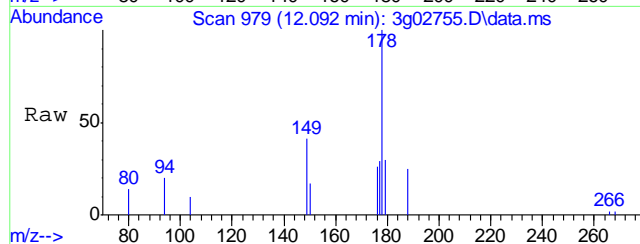
Lab File: 3g02755.D  
Acq: 25 Jan 11 10:47 pm

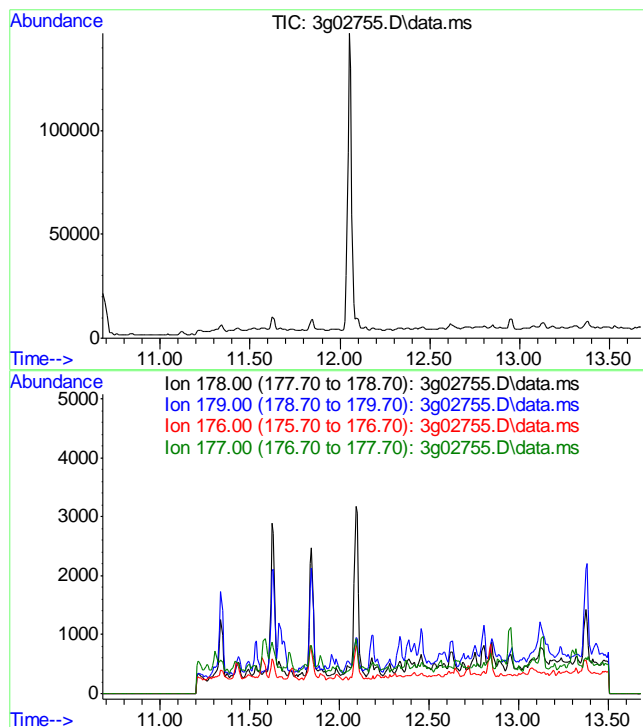
Tgt Ion	Exp Ratio
169	100
168	62.1
167	33.7
167	33.7



#15  
Phenanthrene  
Concen: 0.10 ug/mL  
RT: 12.092 min Scan# 979  
Delta R.T. -0.000 min  
Lab File: 3g02755.D  
Acq: 25 Jan 11 10:47 pm

Tgt Ion	Ratio	Lower	Upper
178	100		
179	18.6	0.0	35.1
176	23.5	0.0	38.2
177	20.7	0.0	30.2

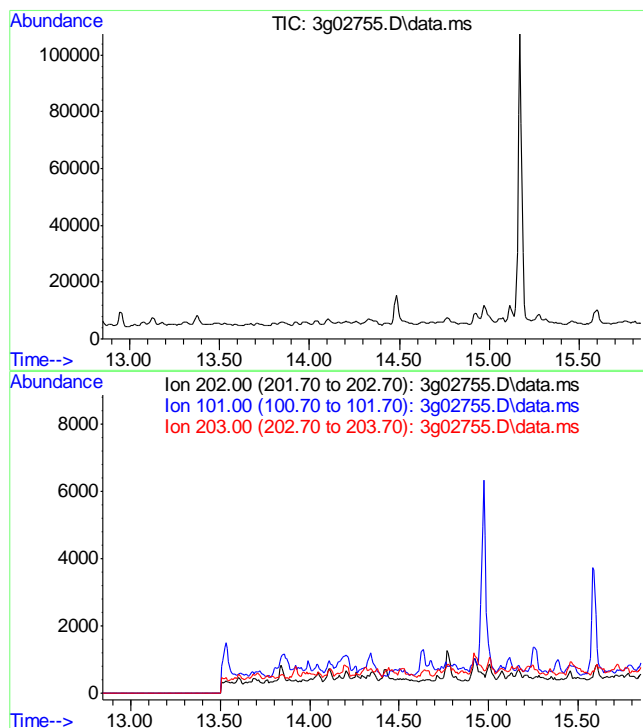




#16  
 Anthracene  
 Concen: N.D. ug/mL  
 Expected RT: 12.18 min

Lab File: 3g02755.D  
 Acq: 25 Jan 11 10:47 pm

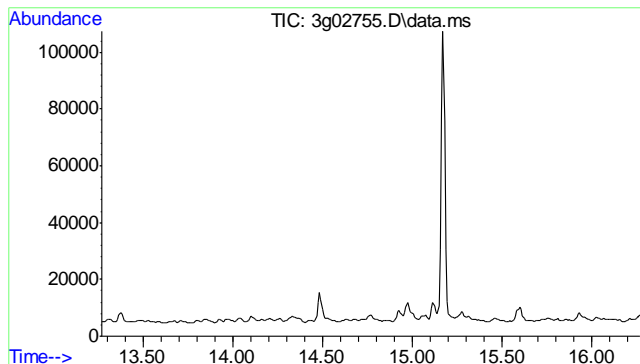
Tgt Ion	Exp Ratio
178	100
179	15.0
176	17.6
177	8.8



#17  
 Fluoranthene  
 Concen: N.D. ug/mL  
 Expected RT: 14.35 min

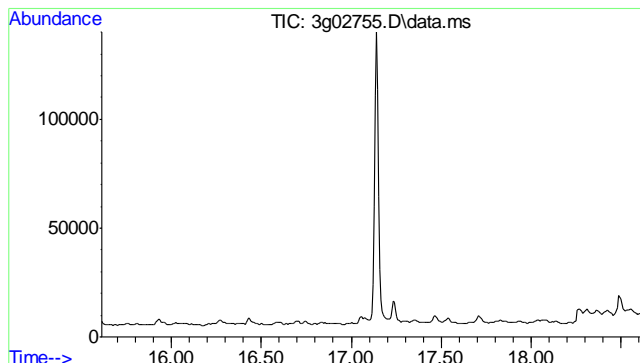
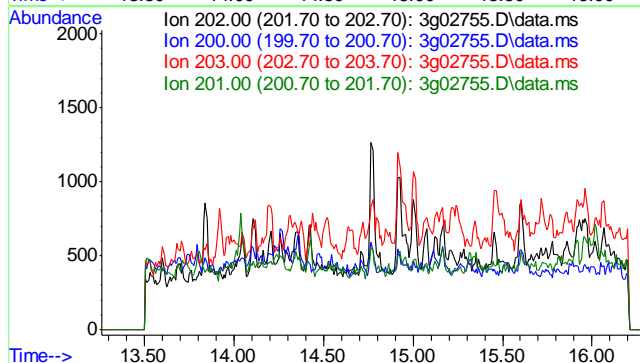
Lab File: 3g02755.D  
 Acq: 25 Jan 11 10:47 pm

Tgt Ion	Exp Ratio
202	100
101	18.9
203	17.2



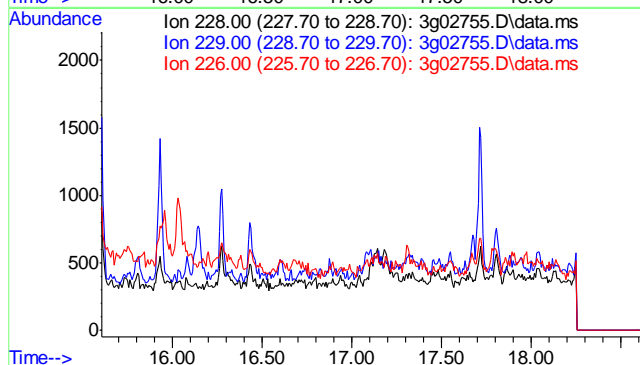
#19  
 Pyrene  
 Concen: N.D. ug/mL  
 Expected RT: 14.77 min  
  
 Lab File: 3g02755.D  
 Acq: 25 Jan 11 10:47 pm

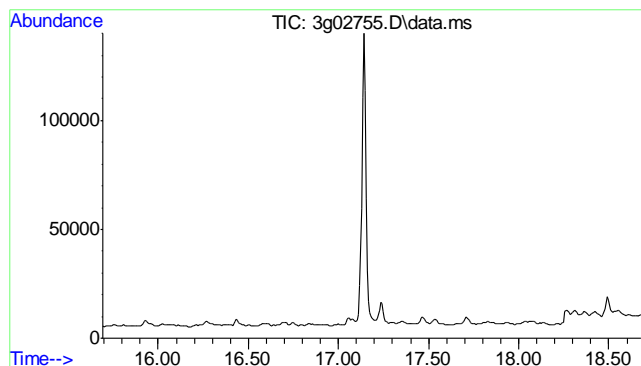
Tgt Ion	Exp Ratio
202	100
200	20.2
203	17.6
201	16.4



#21  
 Benzo(a)anthracene  
 Concen: N.D. ug/mL  
 Expected RT: 17.11 min  
  
 Lab File: 3g02755.D  
 Acq: 25 Jan 11 10:47 pm

Tgt Ion	Exp Ratio
228	100
229	19.7
226	26.0

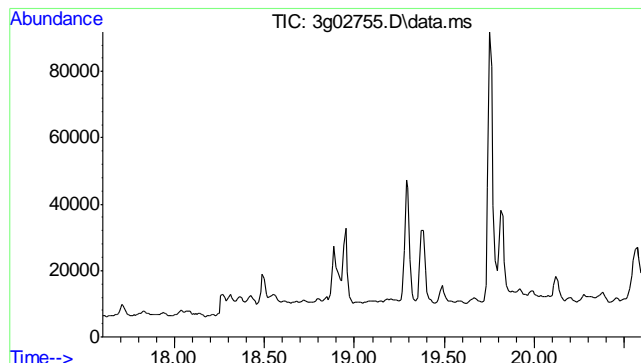
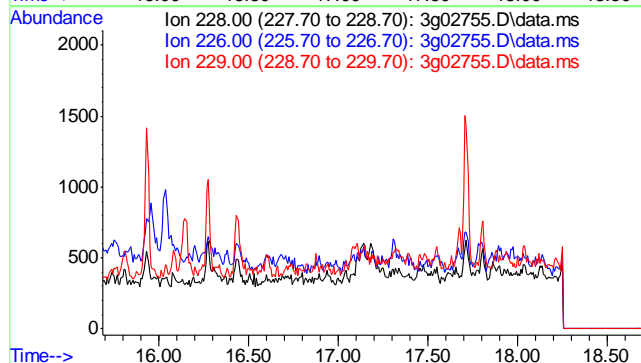




#22  
 Chrysene  
 Concen: N.D. ug/mL  
 Expected RT: 17.19 min

Lab File: 3g02755.D  
 Acq: 25 Jan 11 10:47 pm

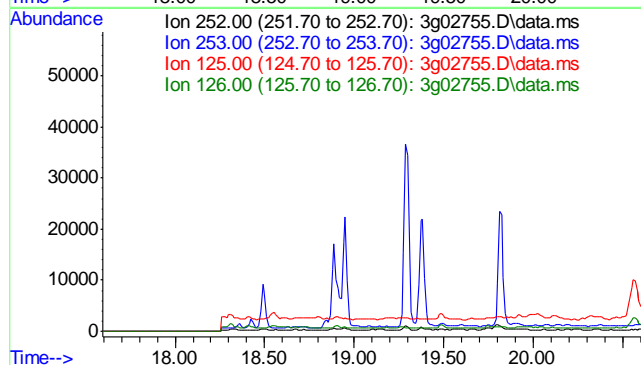
Tgt Ion	Exp Ratio
228	100
226	28.4
229	19.3



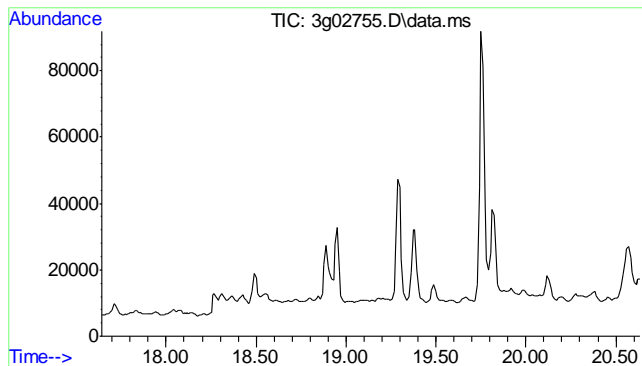
#24  
 Benzo(b)fluoranthene  
 Concen: N.D. ug/mL  
 Expected RT: 19.10 min

Lab File: 3g02755.D  
 Acq: 25 Jan 11 10:47 pm

Tgt Ion	Exp Ratio
252	100
253	21.4
125	16.1
126	22.2



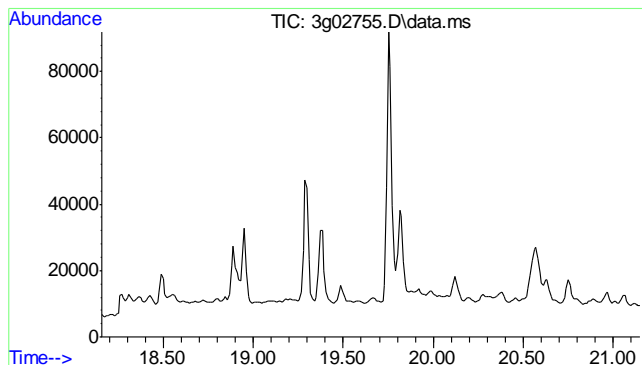
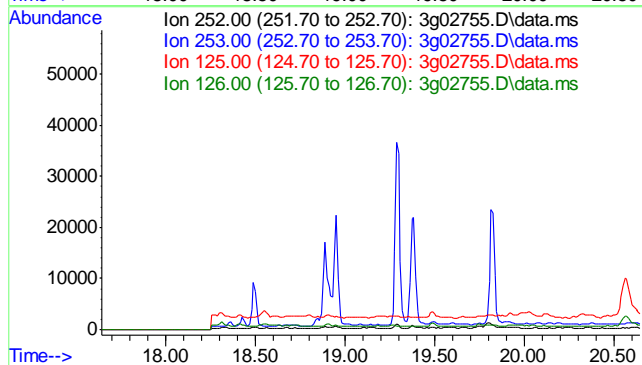




#25  
Benzo(k)fluoranthene  
Concen: N.D. ug/mL  
Expected RT: 19.14 min

Lab File: 3G02755.D  
Acq: 25 Jan 11 10:47 pm

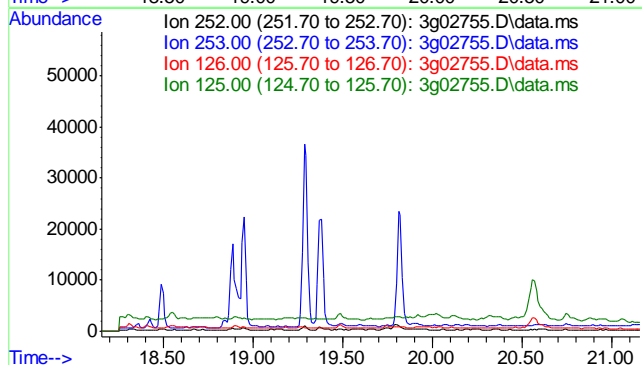
Tgt Ion	Sig	Exp Ratio
252	100	
253	21.2	
125	13.3	
126	20.7	

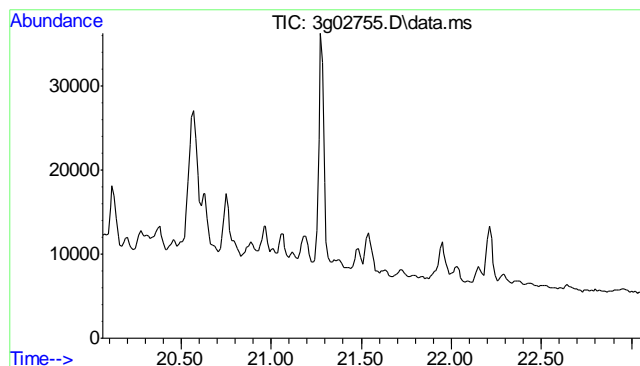


#26  
Benzo(a)pyrene  
Concen: N.D. ug/mL  
Expected RT: 19.66 min

Lab File: 3G02755.D  
Acq: 25 Jan 11 10:47 pm

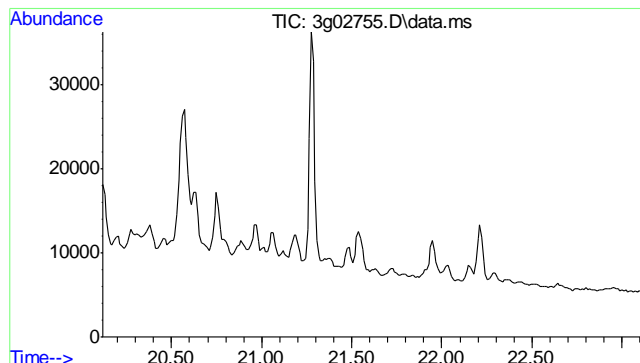
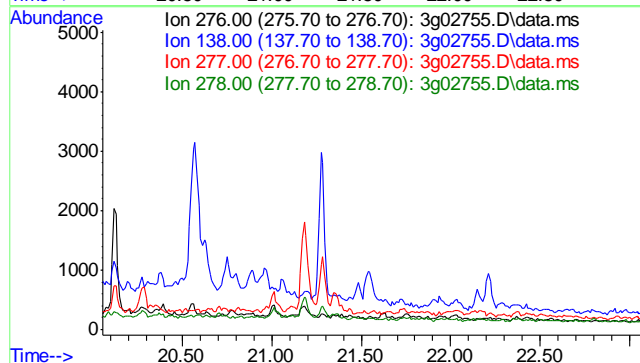
Tgt Ion	Sig	Exp Ratio
252	100	
253	22.0	
126	21.7	
125	16.4	





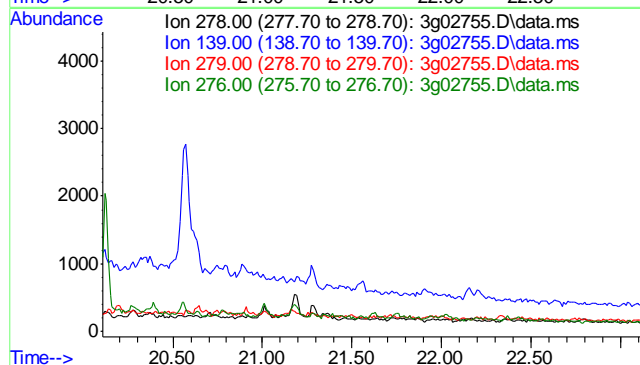
#27  
 Indeno(1,2,3-cd)pyrene  
 Concen: N.D. ug/mL  
 Expected RT: 21.56 min  
  
 Lab File: 3g02755.D  
 Acq: 25 Jan 11 10:47 pm

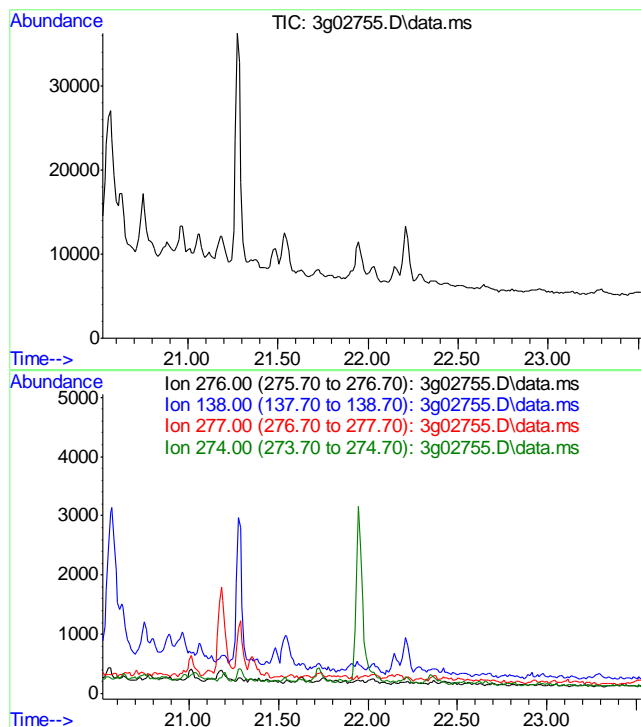
Tgt Ion:	276
Sig	Exp Ratio
276	100
138	80.6
277	19.3
278	184.5



#28  
 Dibenzo(a,h)anthracene  
 Concen: N.D. ug/mL  
 Expected RT: 21.61 min  
  
 Lab File: 3g02755.D  
 Acq: 25 Jan 11 10:47 pm

Tgt Ion:	278
Sig	Exp Ratio
278	100
139	22.5
279	23.5
276	127.6





#29  
 Benzo(g,h,i)perylene  
 Concen: N.D. ug/mL  
 Expected RT: 22.02 min

Lab File: 3g02755.D  
 Acq: 25 Jan 11 10:47 pm

Tgt Ion	Sig	Exp Ratio
276	100	
138	30.1	
277	22.8	
274	20.8	

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\012511\  
 Data File : 3g02751.D  
 Acq On : 25 Jan 2011 8:10 pm  
 Operator : TamiB  
 Sample : OP3055-MB  
 Misc : OP3055,E3G94,30,,,1,1  
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jan 26 10:27:35 2011  
 Quant Method : C:\msdchem\1\METHODS\SIMPE3G94.M  
 Quant Title : PAHSIM BASE  
 QLast Update : Wed Jan 26 10:24:40 2011  
 Response via : Initial Calibration

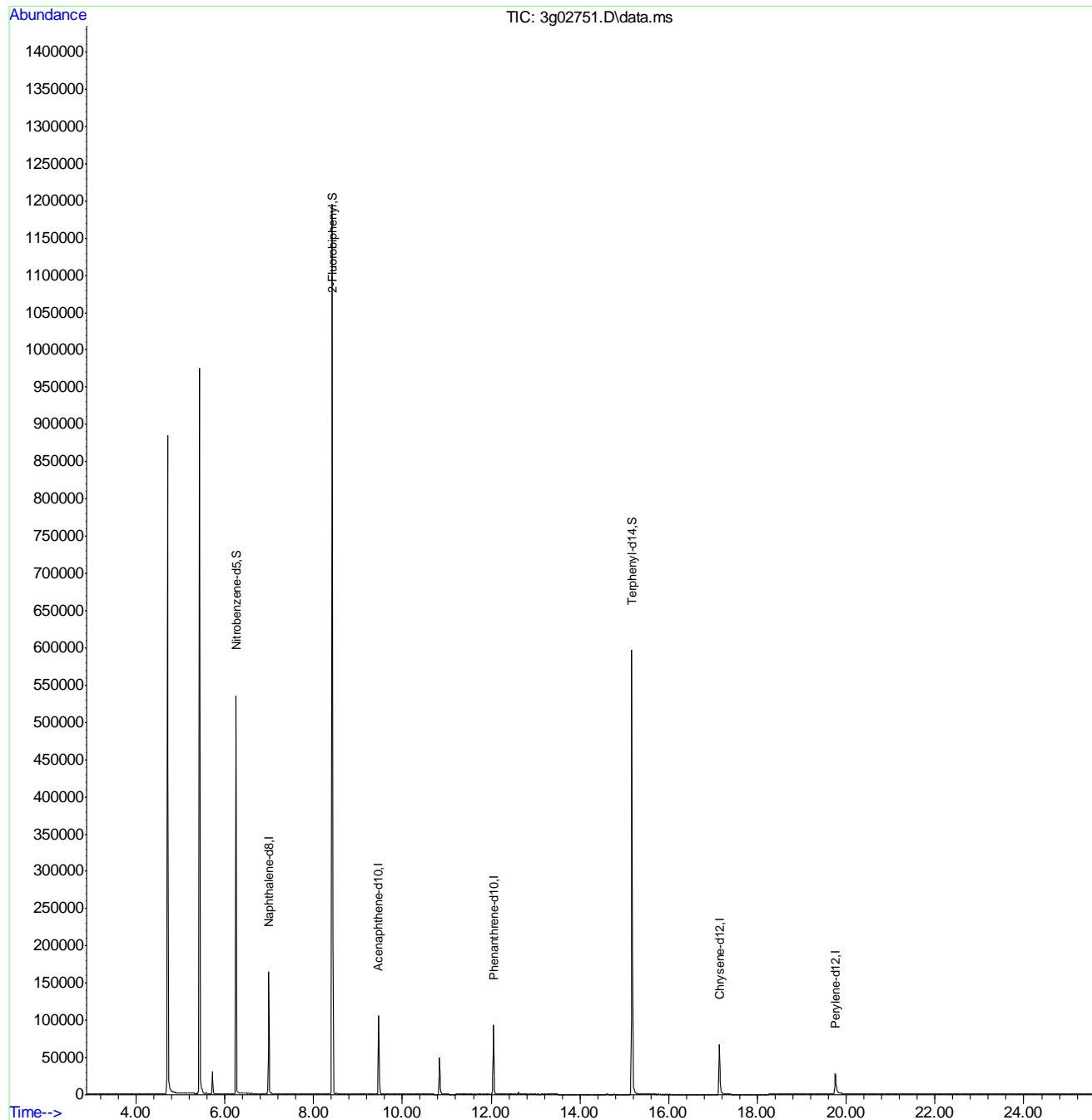
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	6.992	136	152811	4.00	ug/mL	0.00
6) Acenaphthene-d10	9.464	164	66972	4.00	ug/mL	0.00
14) Phenanthrene-d10	12.052	188	97011	4.00	ug/mL	0.00
18) Chrysene-d12	17.140	240	83843	4.00	ug/mL	0.00
23) Perylene-d12	19.751	264	55552	4.00	ug/mL	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	6.257	82	384485	35.95	ug/mL	0.00
7) 2-Fluorobiphenyl	8.424	172	1087103	36.61	ug/mL	0.00
20) Terphenyl-d14	15.171	244	659396	44.88	ug/mL	0.00
Target Compounds						
					Qvalue	
3) N-Nitrosodimethylamine	0.000		0	N.D.	d	
4) N-Nitrosodi-propylamine	0.000		0	N.D.	d	
5) Naphthalene	0.000		0	N.D.	d	
8) 2-Methylnaphthalene	0.000		0	N.D.	d	
9) 1-Methylnaphthalene	0.000		0	N.D.	d	
10) Acenaphthylene	0.000		0	N.D.	d	
11) Acenaphthene	0.000		0	N.D.	d	
12) Fluorene	0.000		0	N.D.	d	
13) Diphenylamine	0.000		0	N.D.		
15) Phenanthrene	0.000		0	N.D.	d	
16) Anthracene	0.000		0	N.D.	d	
17) Fluoranthene	0.000		0	N.D.	d	
19) Pyrene	0.000		0	N.D.	d	
21) Benzo(a)anthracene	0.000		0	N.D.	d	
22) Chrysene	0.000		0	N.D.	d	
24) Benzo(b)fluoranthene	0.000		0	N.D.	d	
25) Benzo(k)fluoranthene	0.000		0	N.D.	d	
26) Benzo(a)pyrene	0.000		0	N.D.	d	
27) Indeno(1,2,3-cd)pyrene	0.000		0	N.D.	d	
28) Dibenz(a,h)anthracene	0.000		0	N.D.	d	
29) Benzo(g,h,i)perylene	0.000		0	N.D.	d	

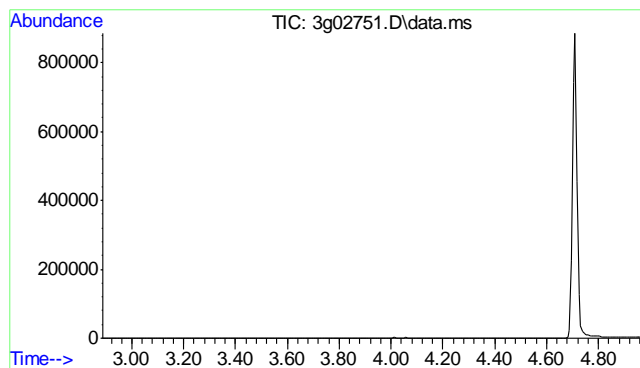
(#) = qualifier out of range (m) = manual integration (+) = signals summed

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\012511\  
Data File : 3g02751.D  
Acq On : 25 Jan 2011 8:10 pm  
Operator : TamiB  
Sample : OP3055-MB  
Misc : OP3055,E3G94,30,,,1,1  
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jan 26 10:27:35 2011  
Quant Method : C:\msdchem\1\METHODS\SIMPE3G94.M  
Quant Title : PAHSIM BASE  
QLast Update : Wed Jan 26 10:24:40 2011  
Response via : Initial Calibration

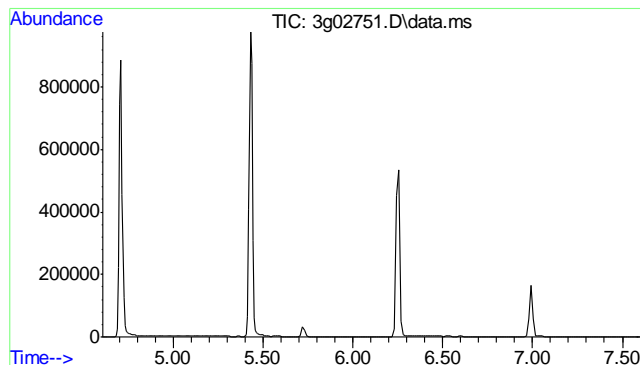
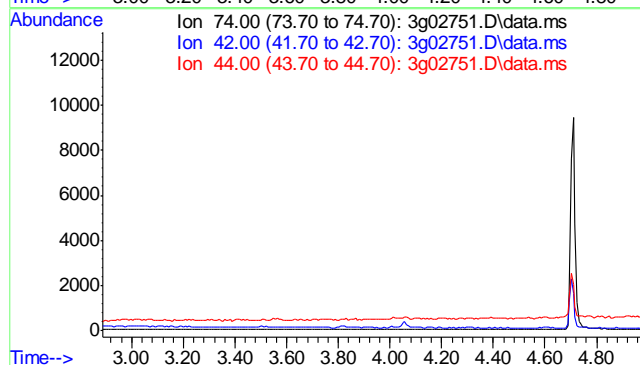




#3  
N-Nitrosodimethylamine  
Concen: N.D. ug/mL  
Expected RT: 3.47 min

Lab File: 3g02751.D  
Acq: 25 Jan 11 8:10 pm

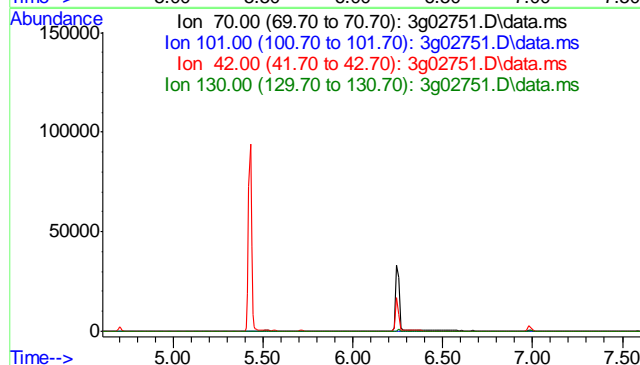
Tgt Ion:	74
Sig	Exp Ratio
74	100
42	59.3
44	4.0

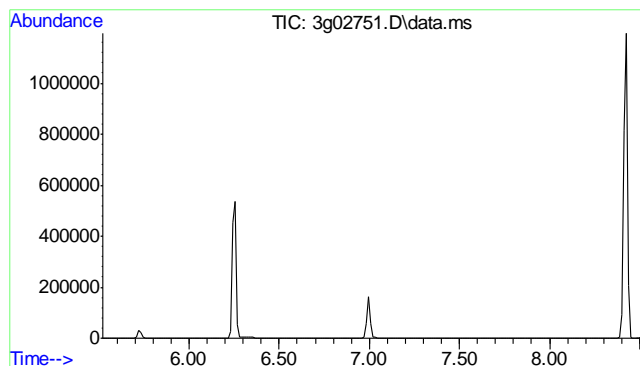


#4  
N-Nitrosodi-propylamine  
Concen: N.D. ug/mL  
Expected RT: 6.11 min

Lab File: 3g02751.D  
Acq: 25 Jan 11 8:10 pm

Tgt Ion:	70
Sig	Exp Ratio
70	100
101	9.7
42	43.3
130	20.7

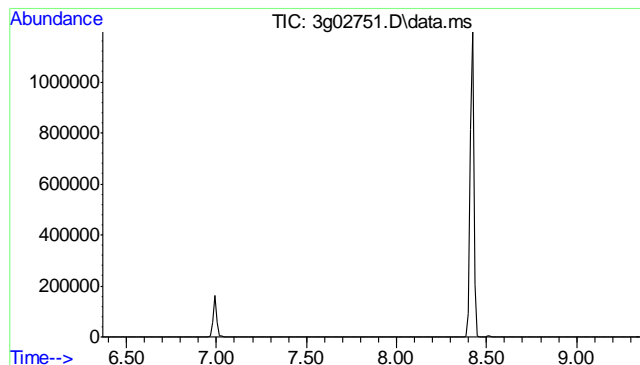
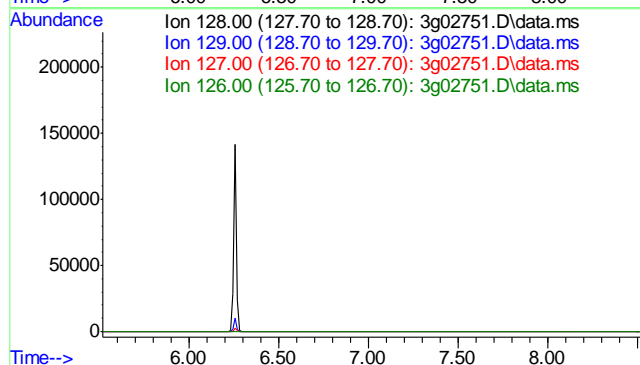




#5  
Naphthalene  
Concen: N.D. ug/mL  
Expected RT: 7.02 min

Lab File: 3g02751.D  
Acq: 25 Jan 11 8:10 pm

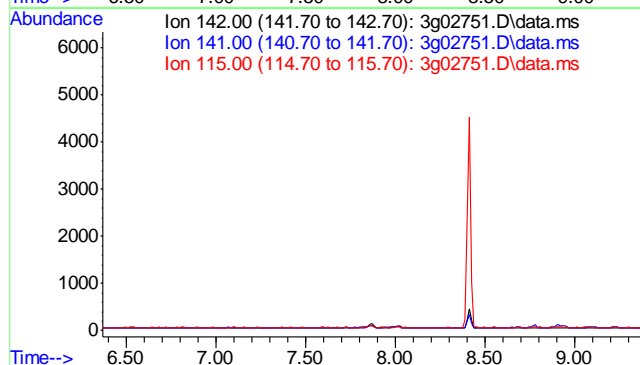
Tgt Ion:	128
Sig	Exp Ratio
128	100
129	10.9
127	12.5
126	7.3

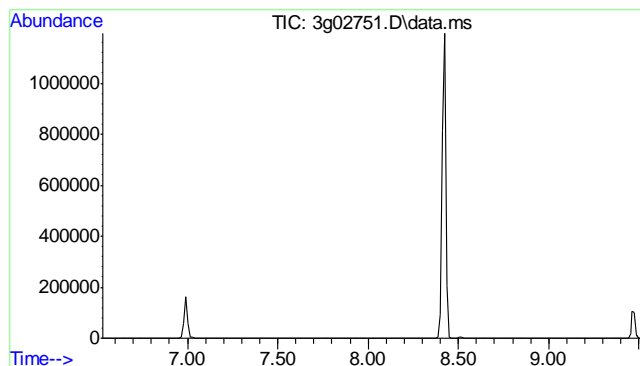


#8  
2-Methylnaphthalene  
Concen: N.D. ug/mL  
Expected RT: 7.87 min

Lab File: 3g02751.D  
Acq: 25 Jan 11 8:10 pm

Tgt Ion:	142
Sig	Exp Ratio
142	100
141	83.5
115	38.6

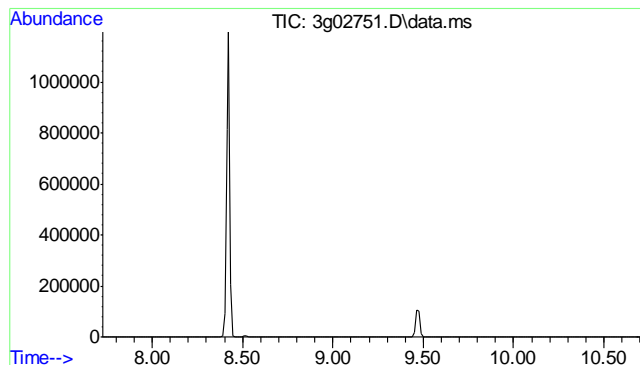
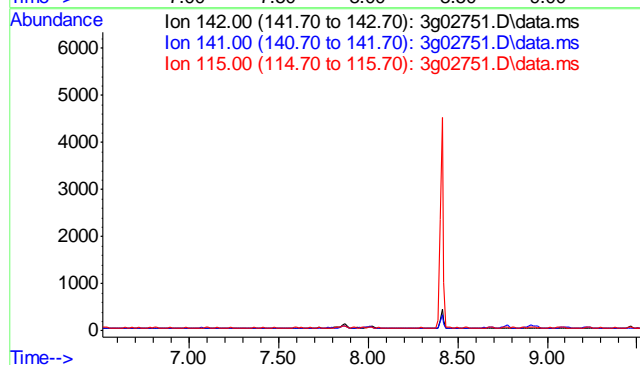




#9  
1-Methylnaphthalene  
Concen: N.D. ug/mL  
Expected RT: 8.02 min

Lab File: 3g02751.D  
Acq: 25 Jan 11 8:10 pm

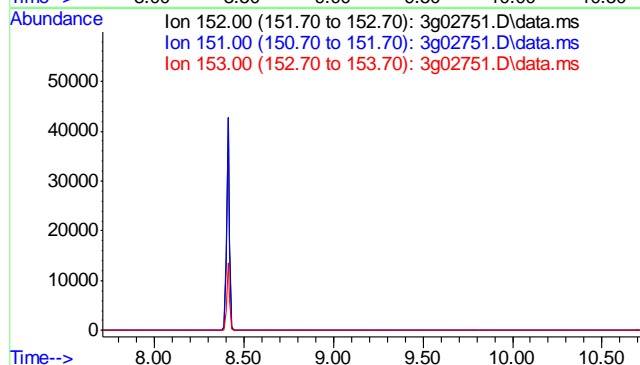
Tgt Ion: 142  
Sig Exp Ratio  
142 100  
141 86.2  
115 40.2



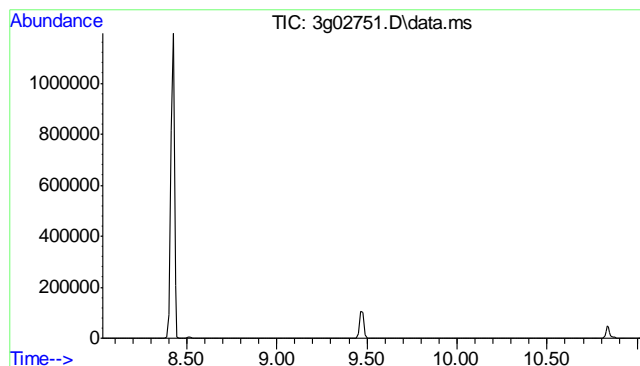
#10  
Acenaphthylene  
Concen: N.D. ug/mL  
Expected RT: 9.22 min

Lab File: 3g02751.D  
Acq: 25 Jan 11 8:10 pm

Tgt Ion: 152  
Sig Exp Ratio  
152 100  
151 18.9  
153 12.9



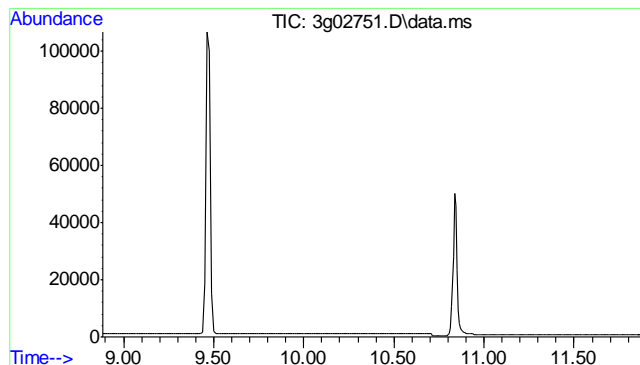
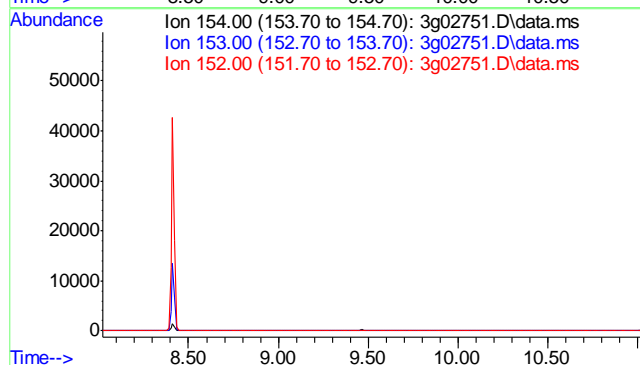




#11  
Acenaphthene  
Concen: N.D. ug/mL  
Expected RT: 9.52 min

Lab File: 3g02751.D  
Acq: 25 Jan 11 8:10 pm

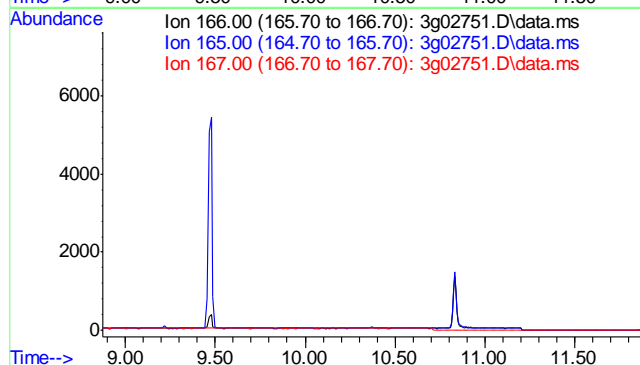
Tgt Ion: 154  
Sig Exp Ratio  
154 100  
153 104.3  
152 49.5

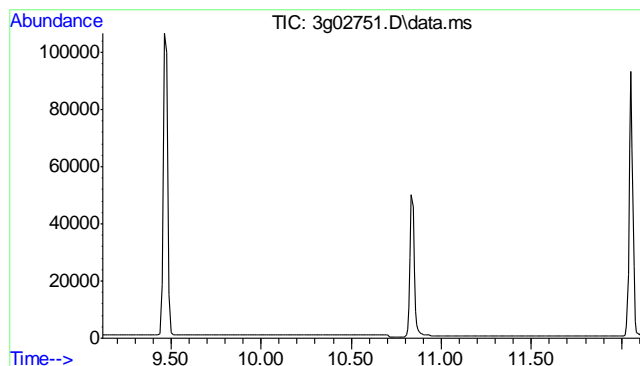


#12  
Fluorene  
Concen: N.D. ug/mL  
Expected RT: 10.37 min

Lab File: 3g02751.D  
Acq: 25 Jan 11 8:10 pm

Tgt Ion: 166  
Sig Exp Ratio  
166 100  
165 90.7  
167 13.4

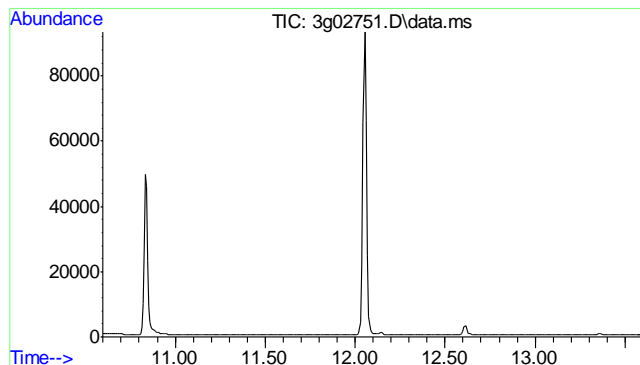
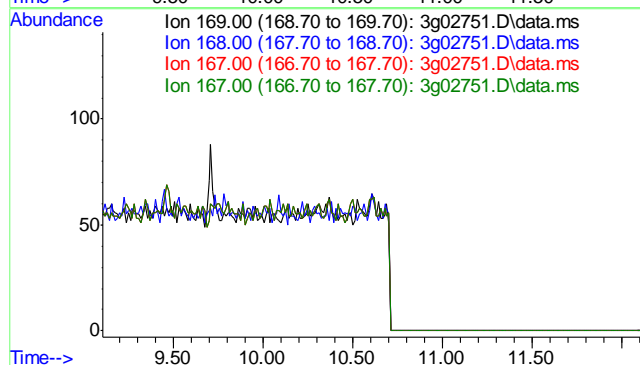




#13  
Diphenylamine  
Concen: N.D. ug/mL  
Expected RT: 10.61 min

Lab File: 3g02751.D  
Acq: 25 Jan 11 8:10 pm

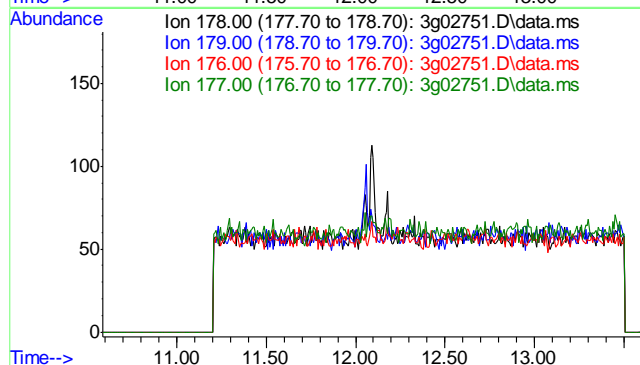
Tgt Ion: 169
Sig Exp Ratio
169 100
168 62.1
167 33.7
167 33.7

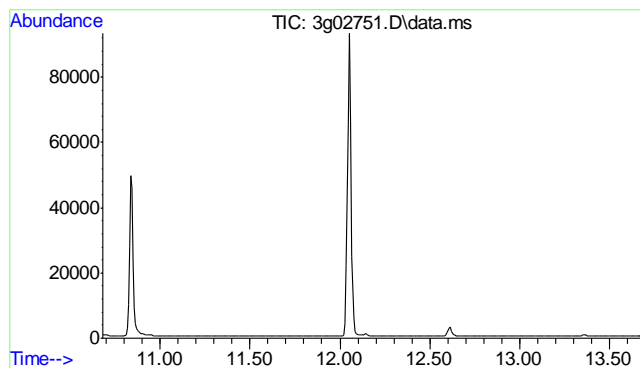


#15  
Phenanthrene  
Concen: N.D. ug/mL  
Expected RT: 12.09 min

Lab File: 3g02751.D  
Acq: 25 Jan 11 8:10 pm

Tgt Ion: 178
Sig Exp Ratio
178 100
179 15.1
176 18.2
177 10.2

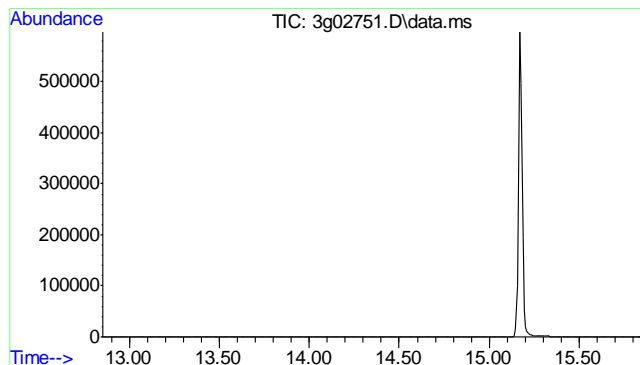
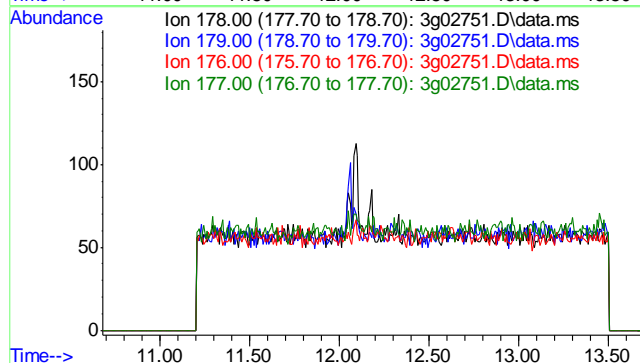




#16  
Anthracene  
Concen: N.D. ug/mL  
Expected RT: 12.18 min

Lab File: 3g02751.D  
Acq: 25 Jan 11 8:10 pm

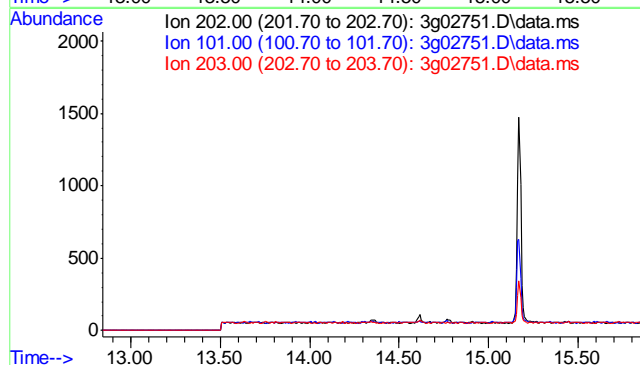
Tgt Ion:	178
Sig	Exp Ratio
178	100
179	15.0
176	17.6
177	8.8

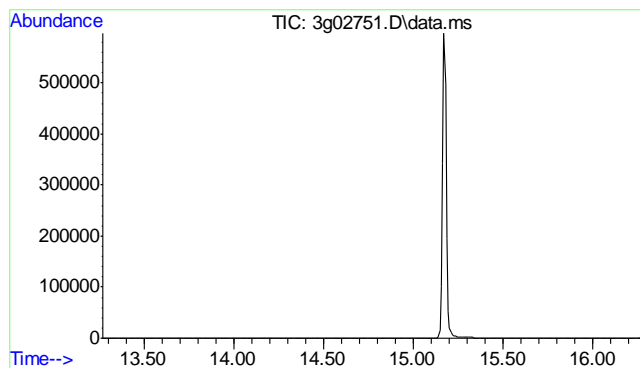


#17  
Fluoranthene  
Concen: N.D. ug/mL  
Expected RT: 14.35 min

Lab File: 3g02751.D  
Acq: 25 Jan 11 8:10 pm

Tgt Ion:	202
Sig	Exp Ratio
202	100
101	18.9
203	17.2

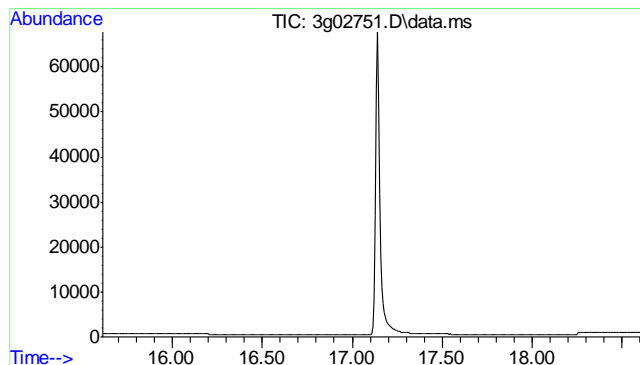
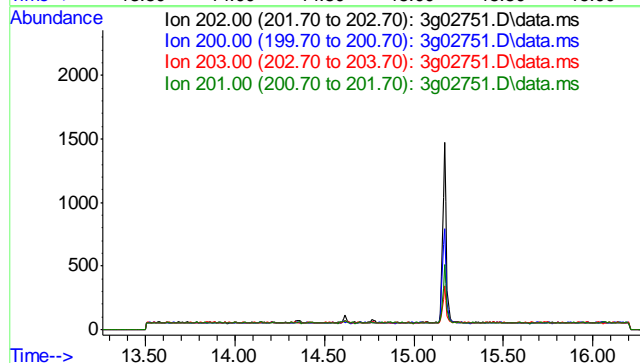




#19  
Pyrene  
Concen: N.D. ug/mL  
Expected RT: 14.77 min

Lab File: 3g02751.D  
Acq: 25 Jan 11 8:10 pm

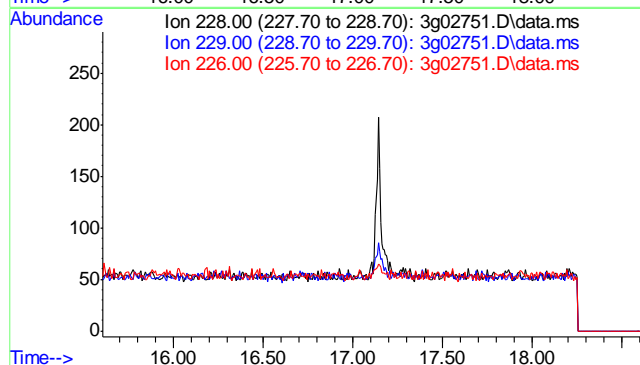
Tgt Ion:	202
Sig	Exp Ratio
202	100
200	20.2
203	17.6
201	16.4

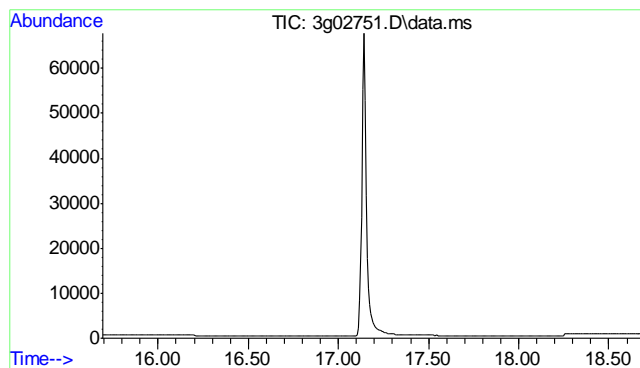


#21  
Benzo(a)anthracene  
Concen: N.D. ug/mL  
Expected RT: 17.11 min

Lab File: 3g02751.D  
Acq: 25 Jan 11 8:10 pm

Tgt Ion:	228
Sig	Exp Ratio
228	100
229	19.7
226	26.0

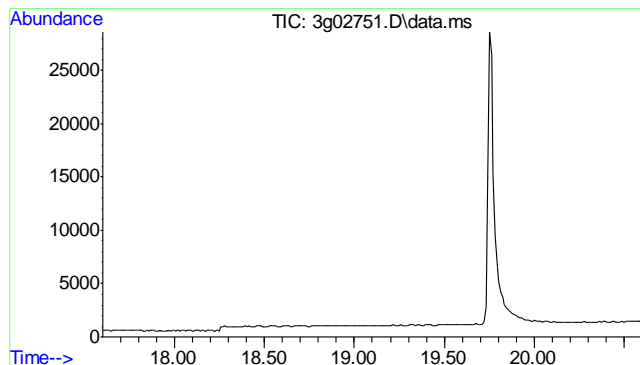
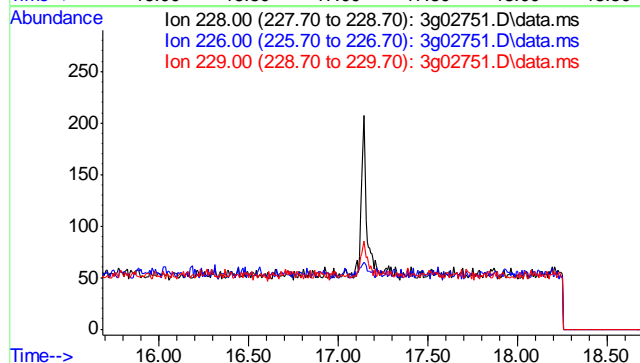




#22  
Chrysene  
Concen: N.D. ug/mL  
Expected RT: 17.19 min

Lab File: 3g02751.D  
Acq: 25 Jan 11 8:10 pm

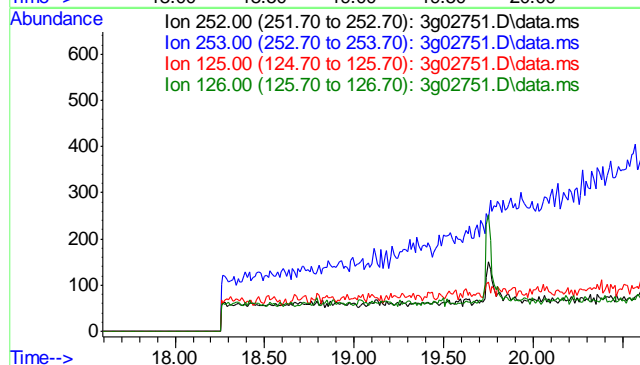
Tgt Ion:	228
Sig	Exp Ratio
228	100
226	28.4
229	19.3

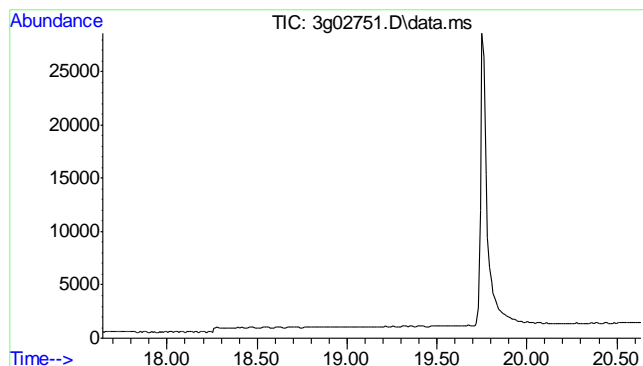


#24  
Benzo(b)fluoranthene  
Concen: N.D. ug/mL  
Expected RT: 19.10 min

Lab File: 3g02751.D  
Acq: 25 Jan 11 8:10 pm

Tgt Ion:	252
Sig	Exp Ratio
252	100
253	21.4
125	16.1
126	22.2

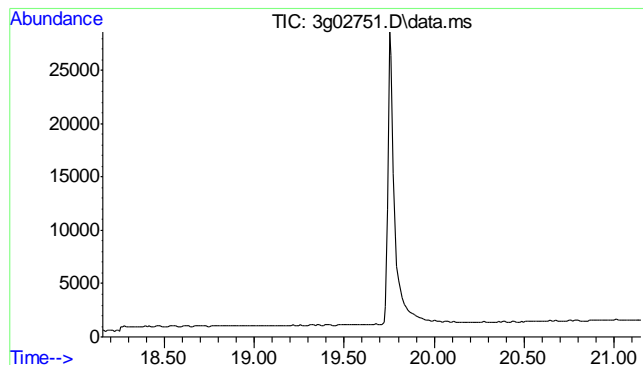
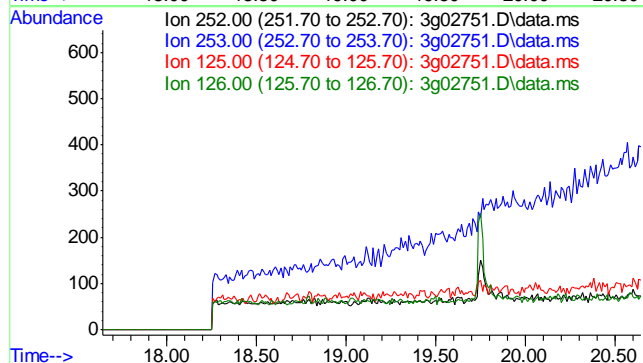




#25  
Benzo(k)fluoranthene  
Concen: N.D. ug/mL  
Expected RT: 19.14 min

Lab File: 3g02751.D  
Acq: 25 Jan 11 8:10 pm

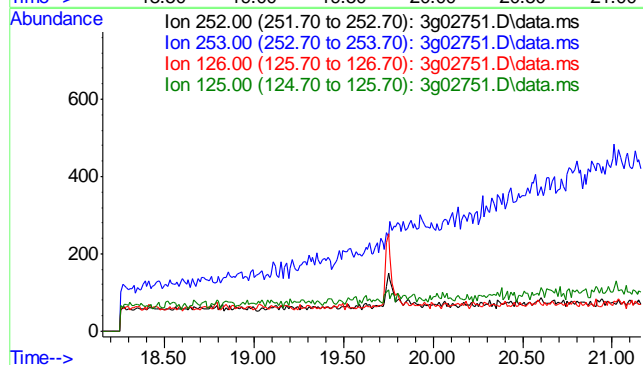
Tgt Ion:	252
Sig	Exp Ratio
252	100
253	21.2
125	13.3
126	20.7

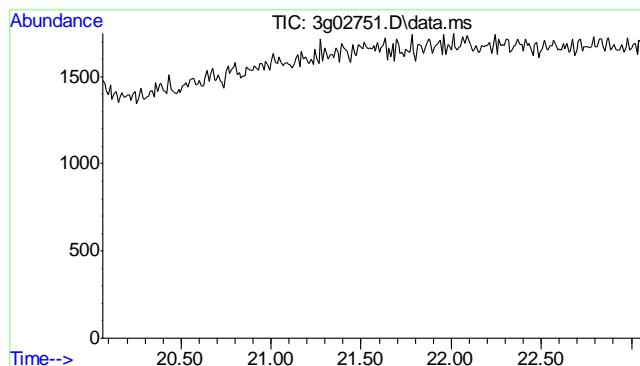


#26  
Benzo(a)pyrene  
Concen: N.D. ug/mL  
Expected RT: 19.66 min

Lab File: 3g02751.D  
Acq: 25 Jan 11 8:10 pm

Tgt Ion:	252
Sig	Exp Ratio
252	100
253	22.0
126	21.7
125	16.4

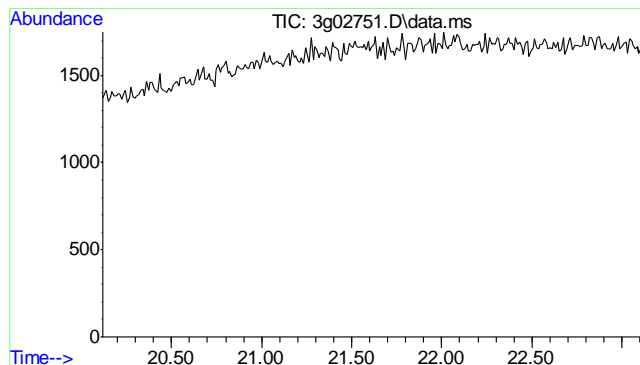
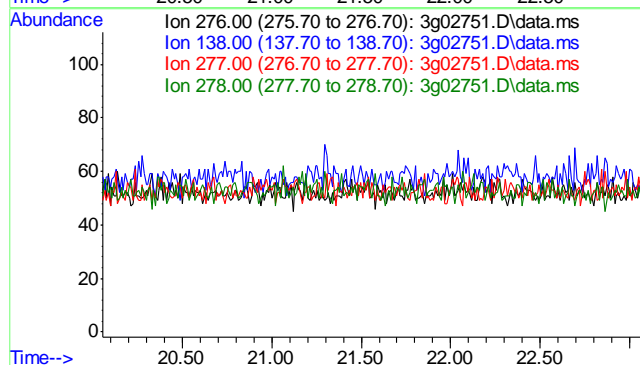




#27  
Indeno(1,2,3-cd)pyrene  
Concen: N.D. ug/mL  
Expected RT: 21.56 min

Lab File: 3g02751.D  
Acq: 25 Jan 11 8:10 pm

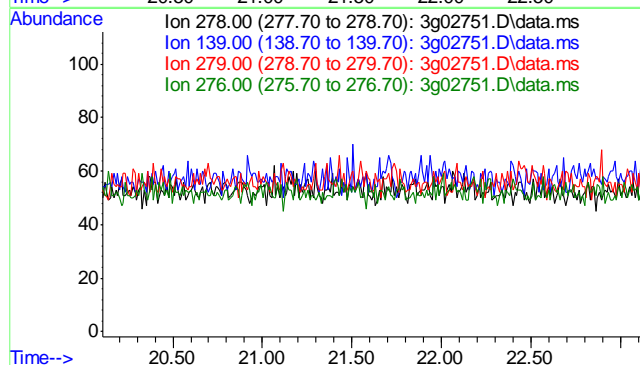
Tgt Ion:	276
Sig	Exp Ratio
276	100
138	80.6
277	19.3
278	184.5

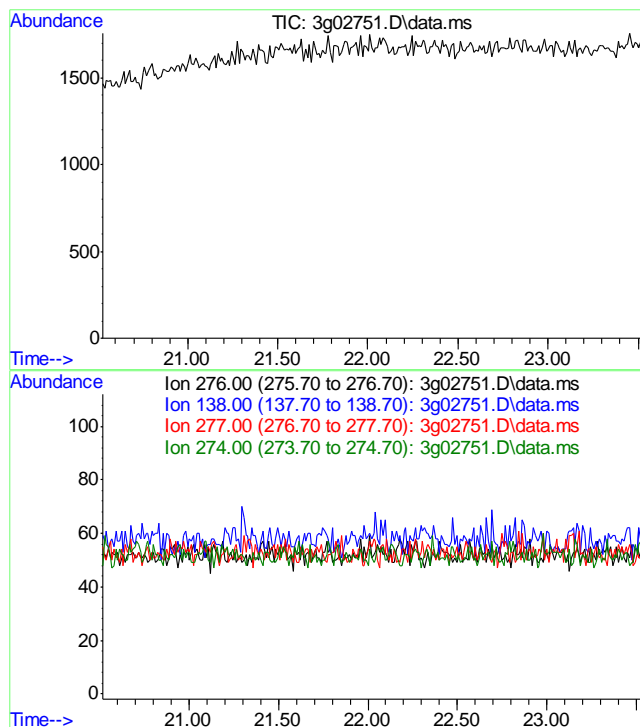


#28  
Dibenz(a,h)anthracene  
Concen: N.D. ug/mL  
Expected RT: 21.61 min

Lab File: 3g02751.D  
Acq: 25 Jan 11 8:10 pm

Tgt Ion:	278
Sig	Exp Ratio
278	100
139	22.5
279	23.5
276	127.6





#29  
Benzo(g,h,i)perylene  
Concen: N.D. ug/mL  
Expected RT: 22.02 min

Lab File: 3g02751.D  
Acq: 25 Jan 11 8:10 pm

Tgt Ion: 276

Sig	Exp Ratio
276	100
138	30.1
277	22.8
274	20.8



## GC Volatiles

### QC Data Summaries

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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

**Method Blank Summary**

Page 1 of 1

**Job Number:** D20575  
**Account:** KRWCCOL KRW Consulting, Inc.  
**Project:** FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB493-MB	GB9220.D	1	01/24/11	JL	n/a	n/a	GGB493

The QC reported here applies to the following samples:

Method: SW846 8015B

D20575-2, D20575-3, D20575-4

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	10	10	mg/kg	

CAS No.	Surrogate Recoveries	Limits
120-82-1	1,2,4-Trichlorobenzene	115% 60-140%

10.1.1  
10

Method Blank Summary

Job Number: D20575  
Account: KRWCCOL KRW Consulting, Inc.  
Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB494-MB	GB9220A.D	1	01/24/11	JL	n/a	n/a	GGB494

The QC reported here applies to the following samples: Method: SW846 8015B

D20575-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.20	mg/l	

CAS No.	Surrogate Recoveries	Limits
120-82-1	1,2,4-Trichlorobenzene	115% 60-140%

10.1.2  
10

Blank Spike Summary

Job Number: D20575  
Account: KRWCCOL KRW Consulting, Inc.  
Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB493-BS	GB9221.D	1	01/24/11	JL	n/a	n/a	GGB493

The QC reported here applies to the following samples: Method: SW846 8015B

D20575-2, D20575-3, D20575-4

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	84.3	77	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	123%	60-140%

\* = Outside of Control Limits.

Blank Spike Summary

Job Number: D20575  
Account: KRWCCOL KRW Consulting, Inc.  
Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB494-BS	GB9221A.D	1	01/24/11	JL	n/a	n/a	GGB494

The QC reported here applies to the following samples: Method: SW846 8015B

D20575-1

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-GRO (C6-C10)	2.2	1.69	77	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	123%	60-140%

\* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D20575  
Account: KRWCCOL KRW Consulting, Inc.  
Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D20575-4MS	GB9223.D	1	01/24/11	JL	n/a	n/a	GGB493
D20575-4MSD	GB9224.D	1	01/24/11	JL	n/a	n/a	GGB493
D20575-4	GB9222.D	1	01/24/11	JL	n/a	n/a	GGB493

The QC reported here applies to the following samples: Method: SW846 8015B

D20575-2, D20575-3, D20575-4

CAS No.	Compound	D20575-4 mg/kg	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	172	170	99	166	96	2	62-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D20575-4	Limits
120-82-1	1,2,4-Trichlorobenzene	109%	110%	103%	60-140%

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

**Job Number:** D20575

**Account:** KRWCCOL KRW Consulting, Inc.

**Project:** FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D20575-1MS	GB9231.D	1	01/24/11	JL	n/a	n/a	GGB494
D20575-1MSD	GB9232.D	1	01/24/11	JL	n/a	n/a	GGB494
D20575-1	GB9230.D	1	01/24/11	JL	n/a	n/a	GGB494

The QC reported here applies to the following samples:

Method: SW846 8015B

D20575-1

CAS No.	Compound	D20575-1 mg/l	Spike Q	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	2.2	1.98	90	1.95	89	2	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D20575-1	Limits
120-82-1	1,2,4-Trichlorobenzene	121%	121%	115%	60-140%

\* = Outside of Control Limits.

GC Volatiles

Raw Data





Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\012411\GB9230.D\FID1A.CH Vial: 12  
Signal #2 : Y:\1\DATA\012411\GB9230.D\FID2B.CH  
Acq On : 24 Jan 2011 4:36 pm Operator: JESSICA1  
Sample : D20575-1 Inst : GC/MS Ins  
Misc : GC1625,GGB494,,,,,1 Multiplr: 1.00  
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
Quant Time: Jan 25 07:42:05 2011 Quant Results File: TB460GB460.RES

Quant Method : C:\MSDCHEM\1\METHODS\TB460GB460.M (Chemstation Integrator)  
Title : 8015B/8021B TVH/BTEX  
Last Update : Fri Dec 10 12:50:00 2010  
Response via : Initial Calibration  
DataAcq Meth : TVB4.M

Volume Inj. :  
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624  
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm

Compound		R.T.	Response	Conc	Units	
-----						
System Monitoring Compounds						
2) S	1,2,4-Trichlorobenzene	14.27	3506160	115.219	%	
10) S	1,2,4-Trichlorobenzene (P)	0.00	0	N.D.	%	d
Target Compounds						
1) H	TVH-Gasoline	7.27	1614567	0.025	mg/L	
4) T	Methyl-t-butyl-ether	0.00	0	N.D.	ug/L	d
5) T	Benzene	0.00	0	N.D.	ug/L	d
6) T	Toluene	0.00	0	N.D.	ug/L	d
7) T	Ethylbenzene	0.00	0	N.D.	ug/L	d
8) T	m,p-Xylene	0.00	0	N.D.	ug/L	d
9) T	o-Xylene	0.00	0	N.D.	ug/L	d
11) T	Naphthalene	0.00	0	N.D.	ug/L	d

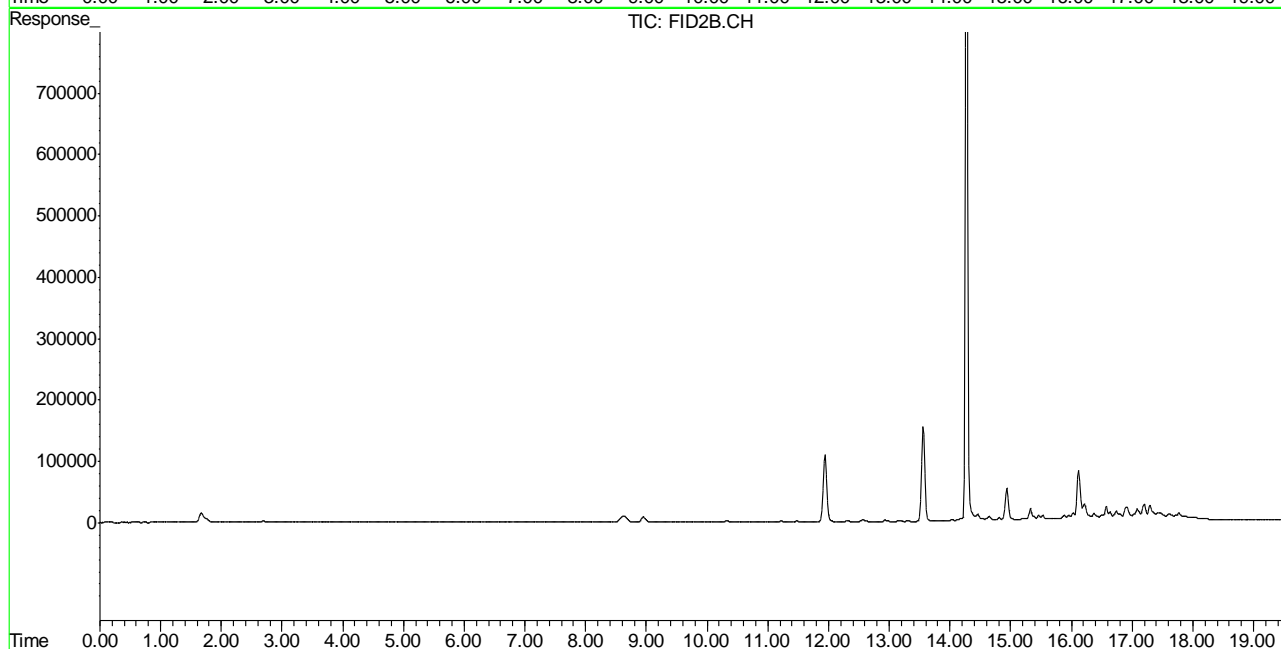
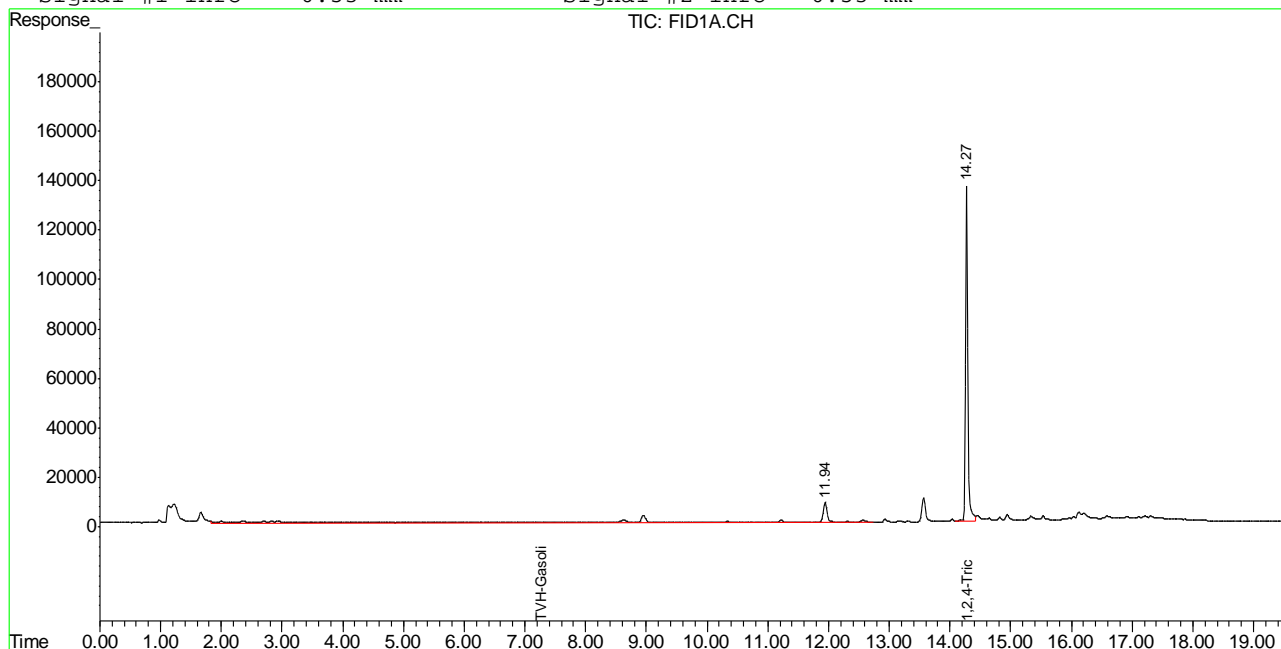
-----  
(f)=RT Delta > 1/2 Window (m)=manual int.  
GB9230.D TB460GB460.M Tue Jan 25 07:52:13 2011 GC

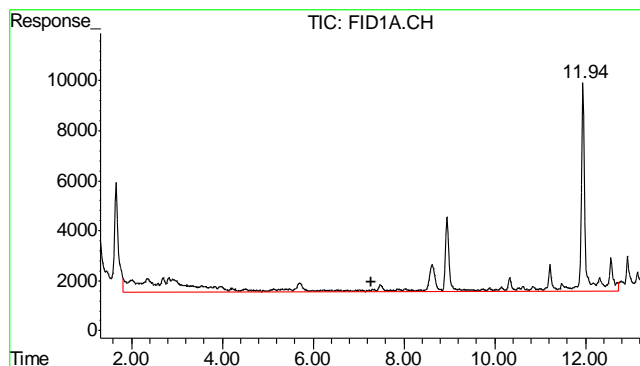
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\012411\GB9230.D\FID1A.CH Vial: 12  
 Signal #2 : Y:\1\DATA\012411\GB9230.D\FID2B.CH  
 Acq On : 24 Jan 2011 4:36 pm Operator: JESSICA1  
 Sample : D20575-1 Inst : GC/MS Ins  
 Misc : GC1625,GGB494,,,,,1 Multiplr: 1.00  
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
 Quant Time: Jan 25 6:26 2011 Quant Results File: TB460GB460.RES

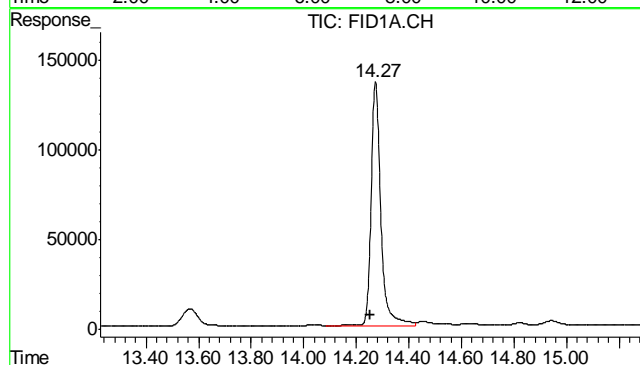
Quant Method : C:\MSDCHEM\1\METHODS\TB460GB460.M (Chemstation Integrator)  
 Title : 8015B/8021B TVH/BTEX  
 Last Update : Fri Dec 10 12:50:00 2010  
 Response via : Multiple Level Calibration  
 DataAcq Meth : TVB4.M

Volume Inj. :  
 Signal #1 Phase : DB-624 Signal #2 Phase: DB-624  
 Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm

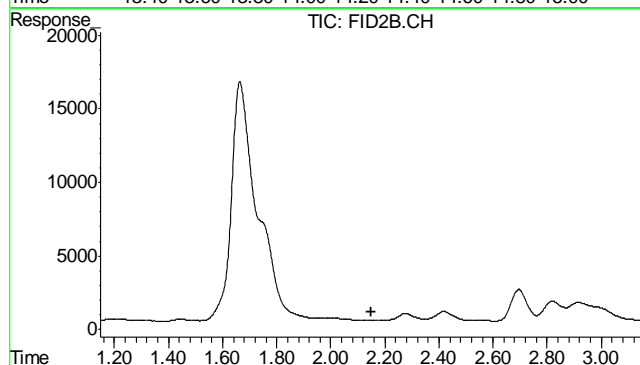




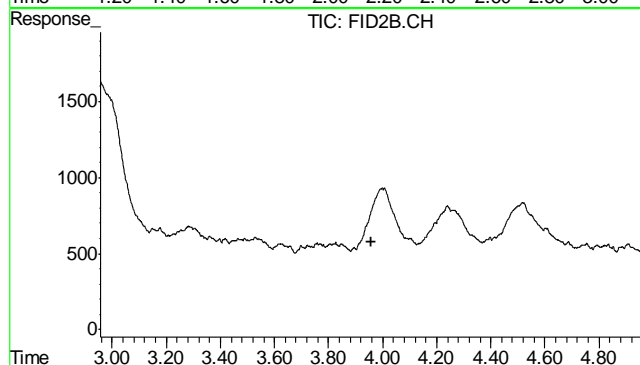
#1 TVH-Gasoline  
 R.T.: 7.270 min  
 Delta R.T.: 0.000 min  
 Response: 1614567  
 Conc: 0.03 mg/L m



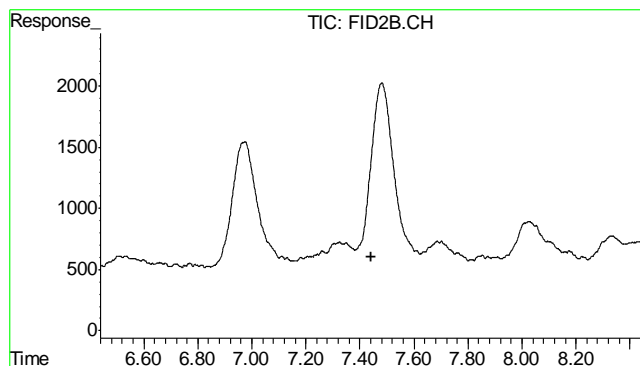
#2 1,2,4-Trichlorobenzene  
 R.T.: 14.274 min  
 Delta R.T.: 0.020 min  
 Response: 3506160  
 Conc: 115.22 %



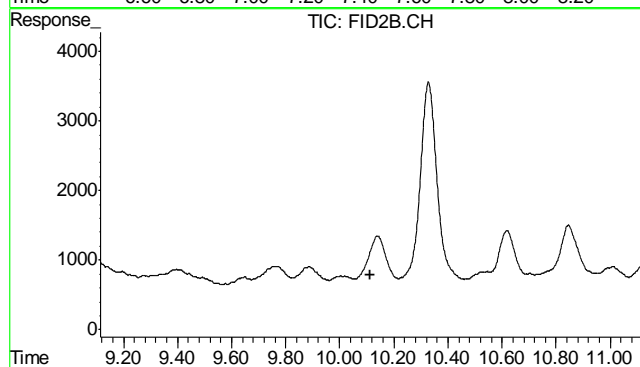
#4 Methyl-t-butyl-ether  
 R.T.: 0.000 min  
 Exp R.T.: 2.148 min  
 Response: 0  
 Conc: N.D.



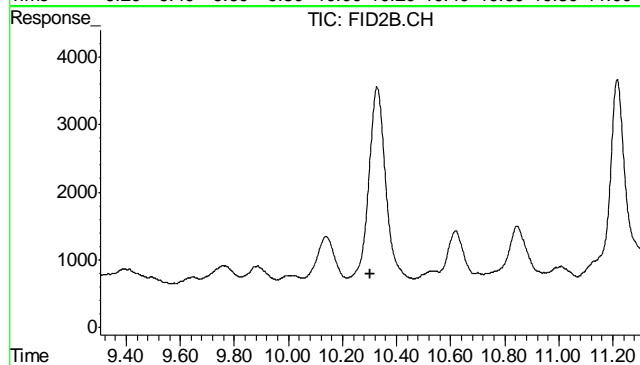
#5 Benzene  
 R.T.: 0.000 min  
 Exp R.T.: 3.956 min  
 Response: 0  
 Conc: N.D.



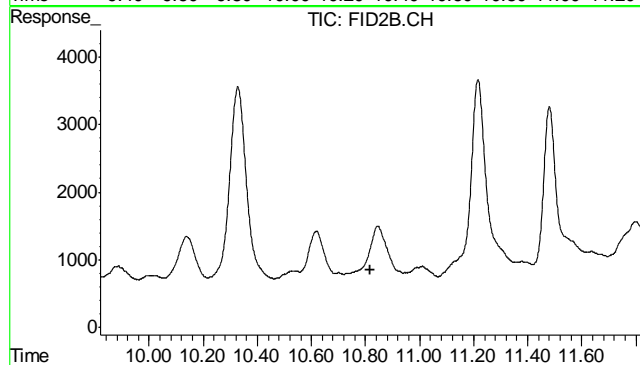
#6 Toluene  
 R.T.: 0.000 min  
 Exp R.T. : 7.440 min  
 Response: 0  
 Conc: N.D.



#7 Ethylbenzene  
 R.T.: 0.000 min  
 Exp R.T. : 10.114 min  
 Response: 0  
 Conc: N.D.

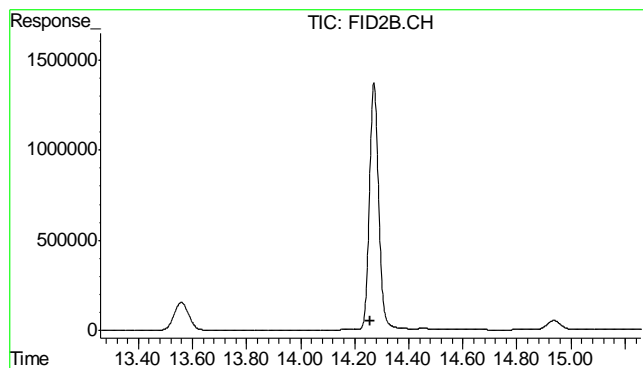


#8 m,p-Xylene  
 R.T.: 0.000 min  
 Exp R.T. : 10.304 min  
 Response: 0  
 Conc: N.D.



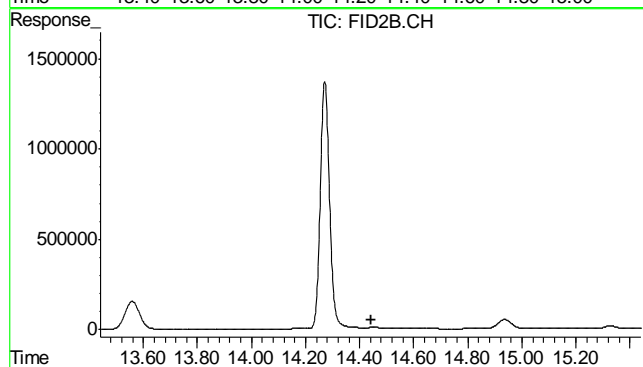
#9 o-Xylene  
 R.T.: 0.000 min  
 Exp R.T. : 10.819 min  
 Response: 0  
 Conc: N.D.

11.11



#10 1,2,4-Trichlorobenzene (P)

R.T.: 0.000 min  
 Exp R.T. : 14.259 min  
 Response: 0  
 Conc: N.D.



#11 Naphthalene

R.T.: 0.000 min  
 Exp R.T. : 14.441 min  
 Response: 0  
 Conc: N.D.

11.1.1  
 11

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\012411\GB9226.D\FID1A.CH Vial: 8  
Signal #2 : Y:\1\DATA\012411\GB9226.D\FID2B.CH  
Acq On : 24 Jan 2011 2:05 pm Operator: JESSICA1  
Sample : D20575-2 Inst : GC/MS Ins  
Misc : GC1624,GGB493,5.005,,100,5,1 Multiplr: 1.00  
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
Quant Time: Jan 24 15:58:19 2011 Quant Results File: TB460GB460.RES

Quant Method : C:\MSDCHEM\1\METHODS\TB460GB460.M (Chemstation Integrator)  
Title : 8015B/8021B TVH/BTEX  
Last Update : Fri Dec 10 12:50:00 2010  
Response via : Initial Calibration  
DataAcq Meth : TVB4.M

Volume Inj. :  
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624  
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm

	Compound	R.T.	Response	Conc	Units	
-----						
System Monitoring Compounds						
2) S	1,2,4-Trichlorobenzene	14.27	3407330	111.971	%	m
10) S	1,2,4-Trichlorobenzene (P)	0.00	0	N.D.	%	d
Target Compounds						
1) H	TVH-Gasoline	7.27	11818672	0.183	mg/L	
4) T	Methyl-t-butyl-ether	0.00	0	N.D.	ug/L	d
5) T	Benzene	0.00	0	N.D.	ug/L	d
6) T	Toluene	0.00	0	N.D.	ug/L	d
7) T	Ethylbenzene	0.00	0	N.D.	ug/L	d
8) T	m,p-Xylene	0.00	0	N.D.	ug/L	d
9) T	o-Xylene	0.00	0	N.D.	ug/L	d
11) T	Naphthalene	0.00	0	N.D.	ug/L	d

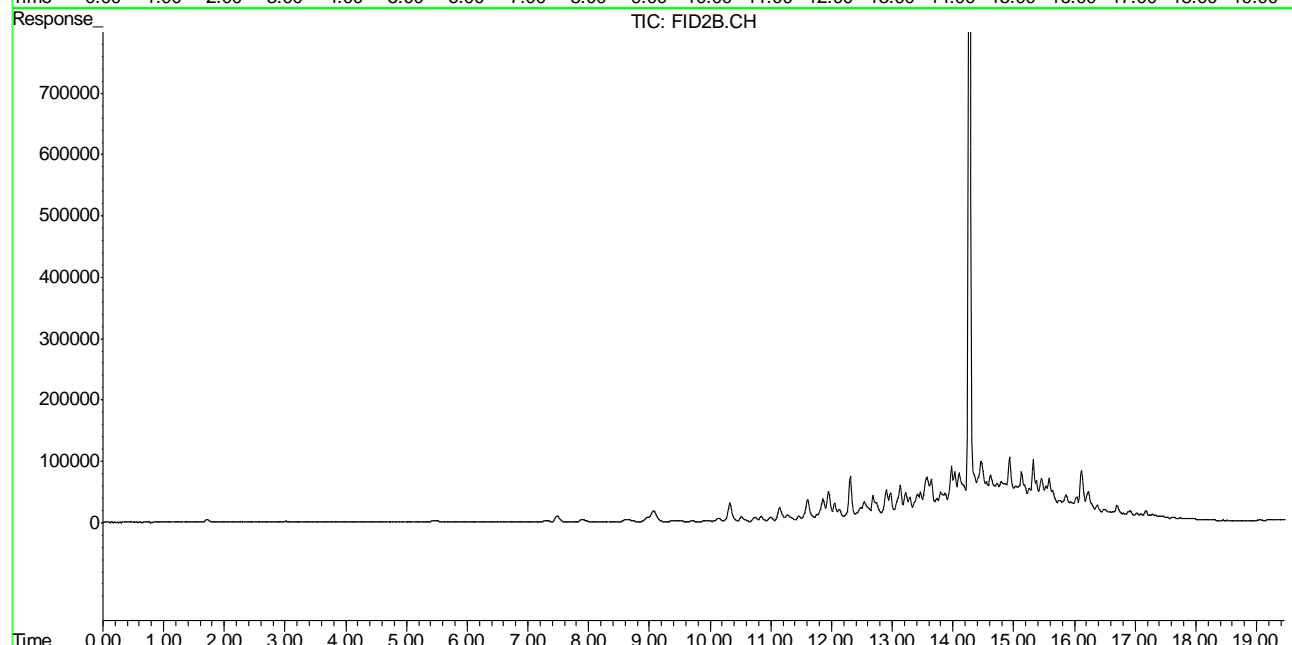
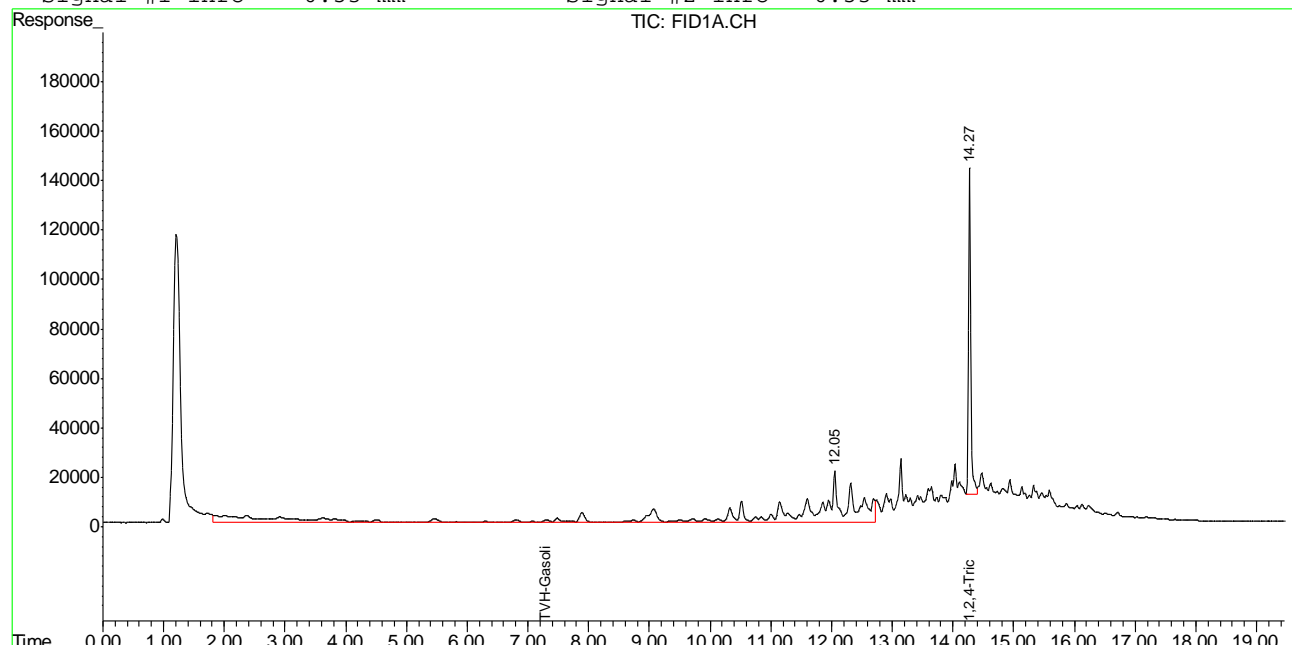
11.12  
11

Quantitation Report (QT Reviewed)

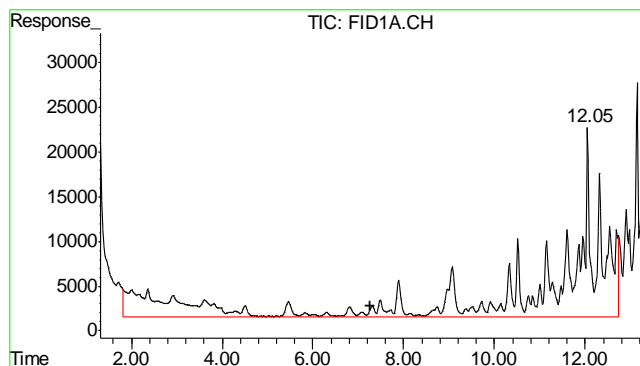
Signal #1 : Y:\1\DATA\012411\GB9226.D\FID1A.CH Vial: 8  
Signal #2 : Y:\1\DATA\012411\GB9226.D\FID2B.CH  
Acq On : 24 Jan 2011 2:05 pm Operator: JESSICA1  
Sample : D20575-2 Inst : GC/MS Ins  
Misc : GC1624,GGB493,5.005,,100,5,1 Multiplr: 1.00  
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
Quant Time: Jan 24 14:40 2011 Quant Results File: TB460GB460.RES

Quant Method : C:\MSDCHEM\1\METHODS\TB460GB460.M (Chemstation Integrator)  
Title : 8015B/8021B TVH/BTEX  
Last Update : Fri Dec 10 12:50:00 2010  
Response via : Multiple Level Calibration  
DataAcq Meth : TVB4.M

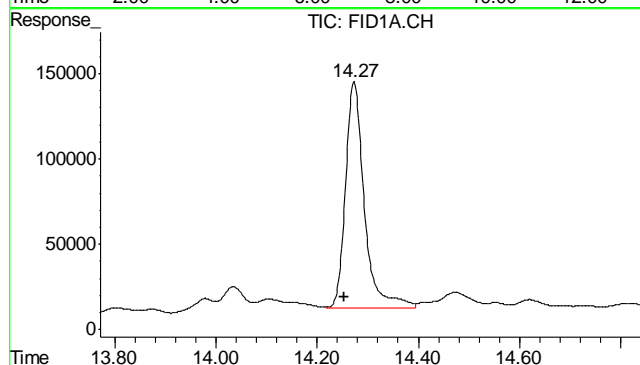
Volume Inj. :  
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624  
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm



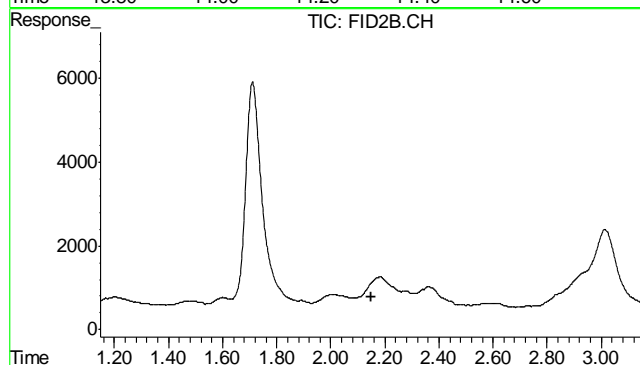
11.1.2  
11



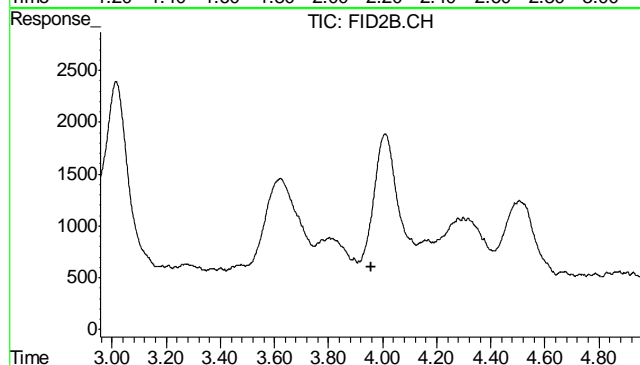
#1 TVH-Gasoline  
 R.T.: 7.270 min  
 Delta R.T.: 0.000 min  
 Response: 11818672  
 Conc: 0.18 mg/L m



#2 1,2,4-Trichlorobenzene  
 R.T.: 14.272 min  
 Delta R.T.: 0.018 min  
 Response: 3407330  
 Conc: 111.97 % m



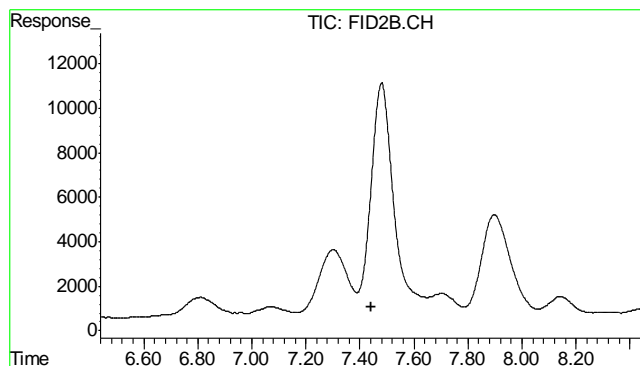
#4 Methyl-t-butyl-ether  
 R.T.: 0.000 min  
 Exp R.T.: 2.148 min  
 Response: 0  
 Conc: N.D.



#5 Benzene  
 R.T.: 0.000 min  
 Exp R.T.: 3.956 min  
 Response: 0  
 Conc: N.D.

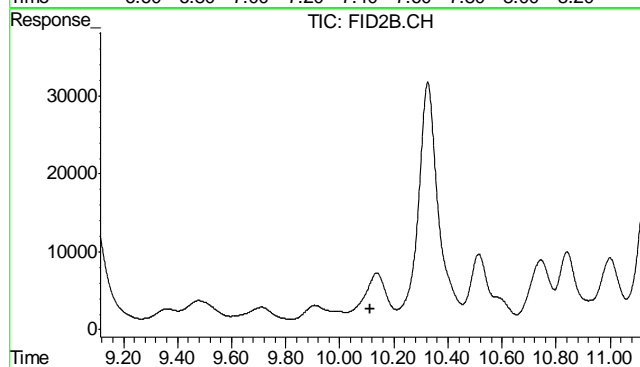
11.1.2  
11





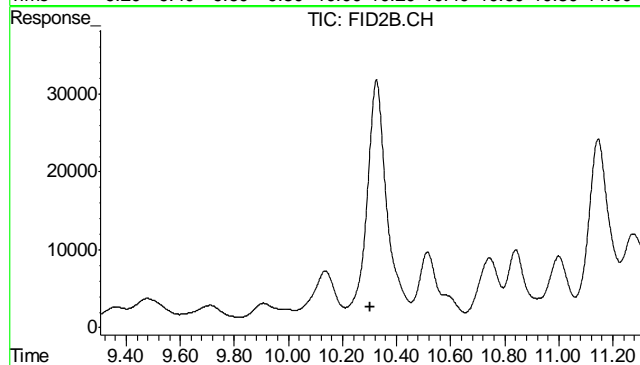
#6 Toluene

R.T.: 0.000 min  
Exp R.T. : 7.440 min  
Response: 0  
Conc: N.D.



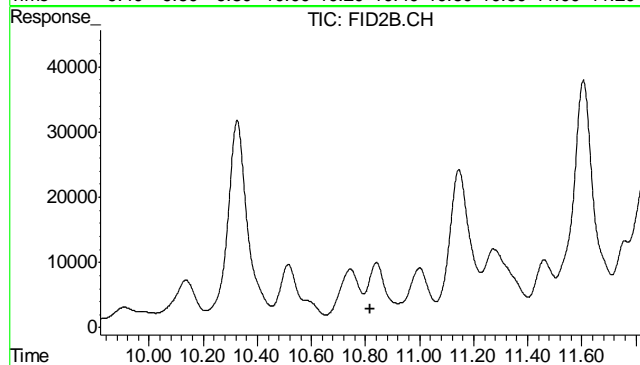
#7 Ethylbenzene

R.T.: 0.000 min  
Exp R.T. : 10.114 min  
Response: 0  
Conc: N.D.



#8 m,p-Xylene

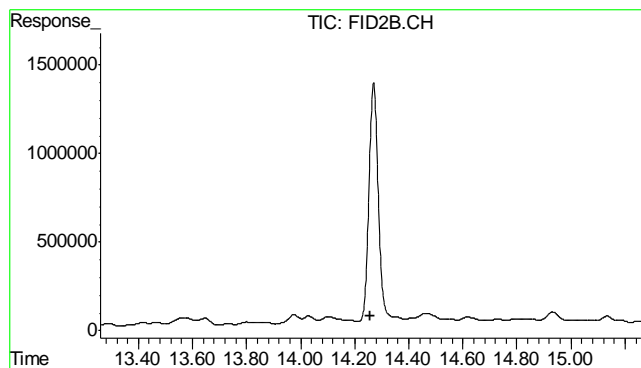
R.T.: 0.000 min  
Exp R.T. : 10.304 min  
Response: 0  
Conc: N.D.



#9 o-Xylene

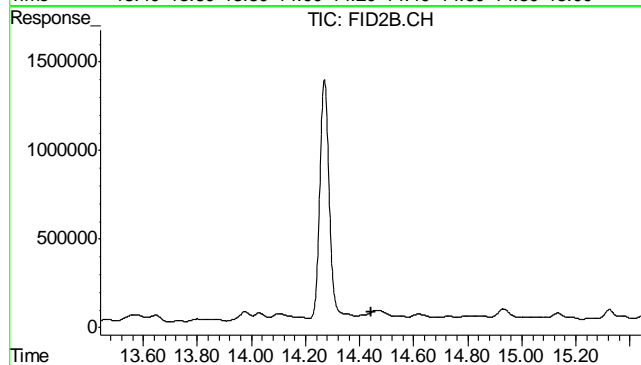
R.T.: 0.000 min  
Exp R.T. : 10.819 min  
Response: 0  
Conc: N.D.

11.12  
11



#10 1,2,4-Trichlorobenzene (P)

R.T.: 0.000 min  
 Exp R.T. : 14.259 min  
 Response: 0  
 Conc: N.D.



#11 Naphthalene

R.T.: 0.000 min  
 Exp R.T. : 14.441 min  
 Response: 0  
 Conc: N.D.

11.1.2  
11

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\012411\GB9225.D\FID1A.CH Vial: 7  
Signal #2 : Y:\1\DATA\012411\GB9225.D\FID2B.CH  
Acq On : 24 Jan 2011 1:29 pm Operator: JESSICA1  
Sample : D20575-3 Inst : GC/MS Ins  
Misc : GC1624,GGB493,5.003,,100,5,1 Multiplr: 1.00  
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
Quant Time: Jan 24 14:32:14 2011 Quant Results File: TB460GB460.RES

Quant Method : C:\MSDCHEM\1\METHODS\TB460GB460.M (Chemstation Integrator)  
Title : 8015B/8021B TVH/BTEX  
Last Update : Fri Dec 10 12:50:00 2010  
Response via : Initial Calibration  
DataAcq Meth : TVB4.M

Volume Inj. :  
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624  
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm

	Compound	R.T.	Response	Conc	Units	
-----						
System Monitoring Compounds						
2) S	1,2,4-Trichlorobenzene	14.27	3223707	105.937 %	m	
10) S	1,2,4-Trichlorobenzene (P)	0.00	0	N.D. %	d	
Target Compounds						
1) H	TVH-Gasoline	7.27	81773739	1.267 mg/L		
4) T	Methyl-t-butyl-ether	0.00	0	N.D. ug/L	d	
5) T	Benzene	0.00	0	N.D. ug/L	d	
6) T	Toluene	0.00	0	N.D. ug/L	d	
7) T	Ethylbenzene	0.00	0	N.D. ug/L	d	
8) T	m,p-Xylene	0.00	0	N.D. ug/L	d	
9) T	o-Xylene	0.00	0	N.D. ug/L	d	
11) T	Naphthalene	0.00	0	N.D. ug/L	d	

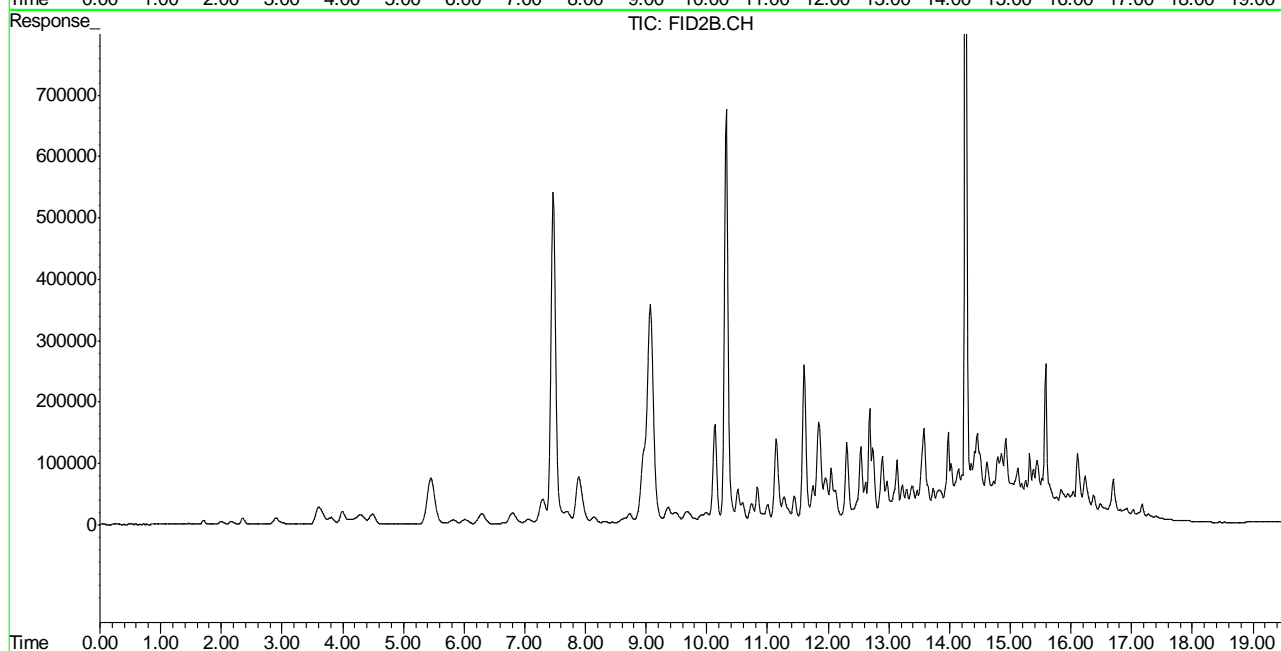
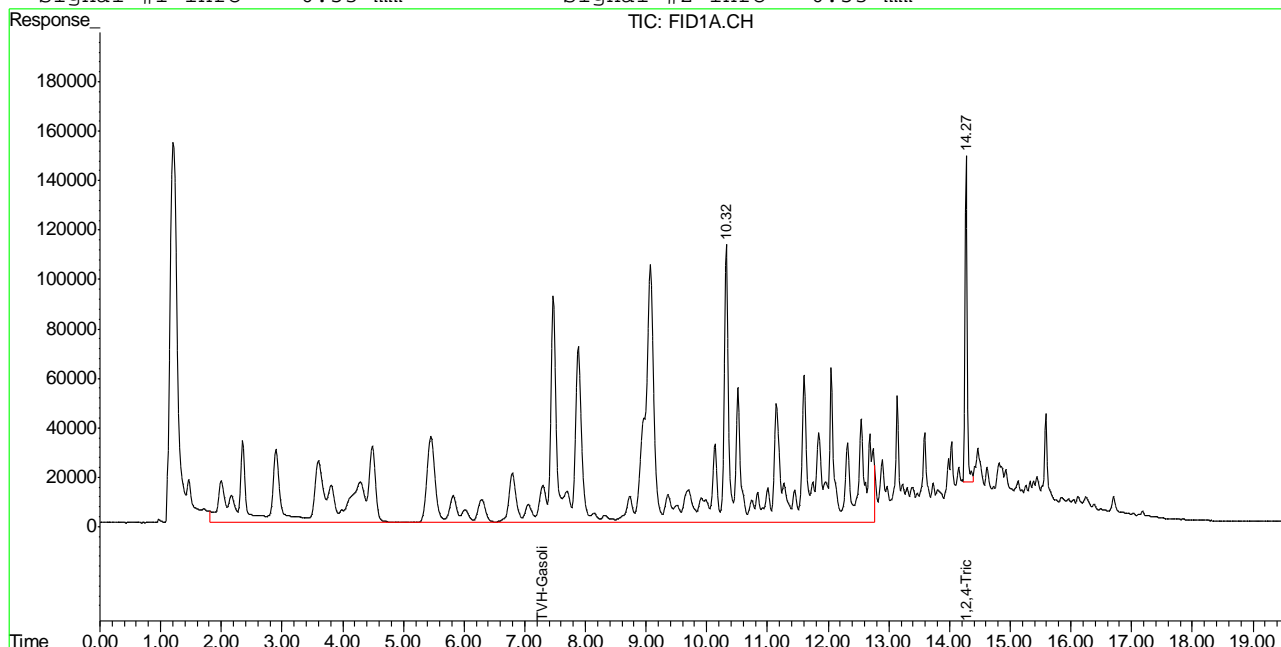
11.1.3  
11

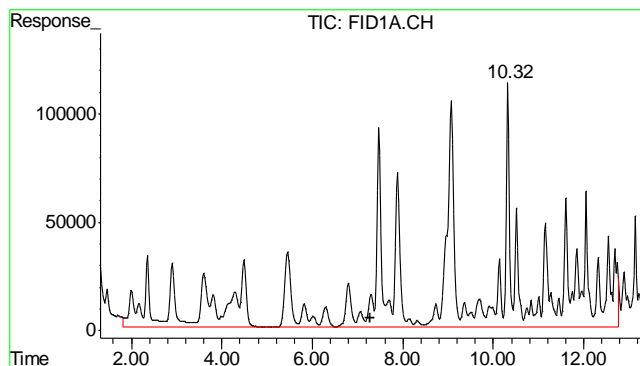
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\012411\GB9225.D\FID1A.CH Vial: 7  
 Signal #2 : Y:\1\DATA\012411\GB9225.D\FID2B.CH  
 Acq On : 24 Jan 2011 1:29 pm Operator: JESSICA1  
 Sample : D20575-3 Inst : GC/MS Ins  
 Misc : GC1624,GGB493,5.003,,100,5,1 Multiplr: 1.00  
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
 Quant Time: Jan 24 13:17 2011 Quant Results File: TB460GB460.RES

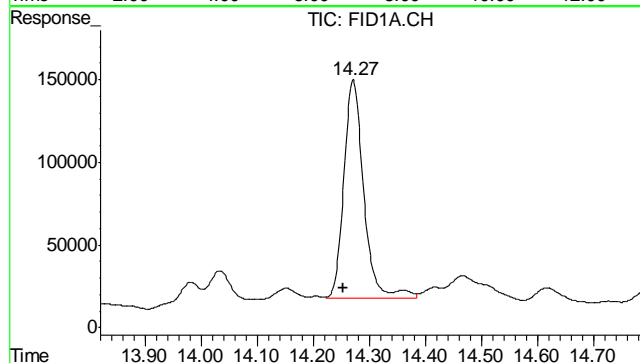
Quant Method : C:\MSDCHEM\1\METHODS\TB460GB460.M (Chemstation Integrator)  
 Title : 8015B/8021B TVH/BTEX  
 Last Update : Fri Dec 10 12:50:00 2010  
 Response via : Multiple Level Calibration  
 DataAcq Meth : TVB4.M

Volume Inj. :  
 Signal #1 Phase : DB-624 Signal #2 Phase: DB-624  
 Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm

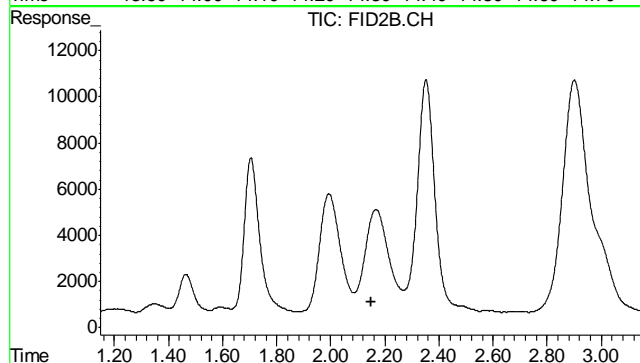




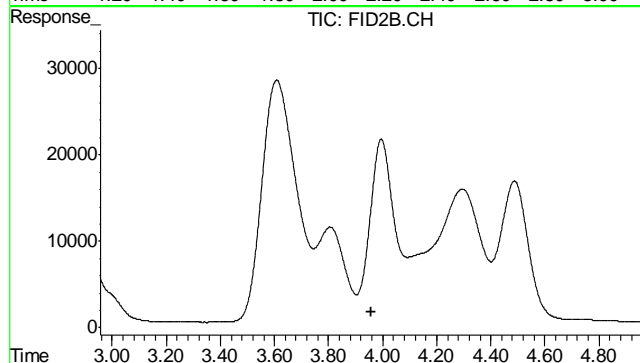
#1 TVH-Gasoline  
 R.T.: 7.270 min  
 Delta R.T.: 0.000 min  
 Response: 81773739  
 Conc: 1.27 mg/L m



#2 1,2,4-Trichlorobenzene  
 R.T.: 14.271 min  
 Delta R.T.: 0.017 min  
 Response: 3223707  
 Conc: 105.94 % m

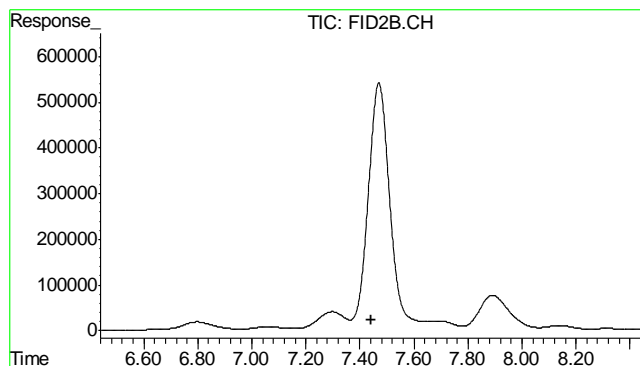


#4 Methyl-t-butyl-ether  
 R.T.: 0.000 min  
 Exp R.T.: 2.148 min  
 Response: 0  
 Conc: N.D.

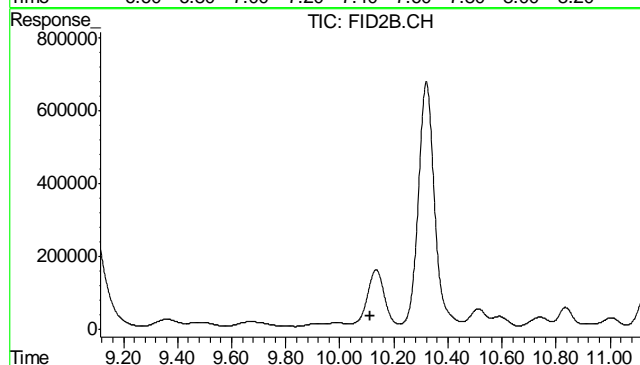


#5 Benzene  
 R.T.: 0.000 min  
 Exp R.T.: 3.956 min  
 Response: 0  
 Conc: N.D.

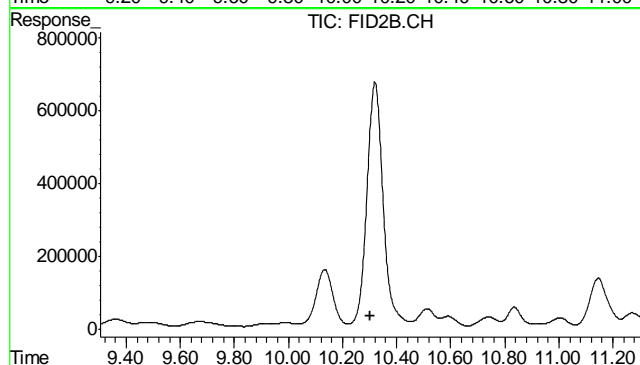
11.13  
11



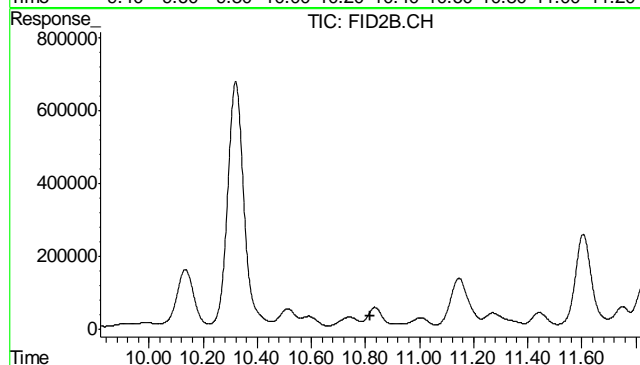
#6 Toluene  
 R.T.: 0.000 min  
 Exp R.T. : 7.440 min  
 Response: 0  
 Conc: N.D.



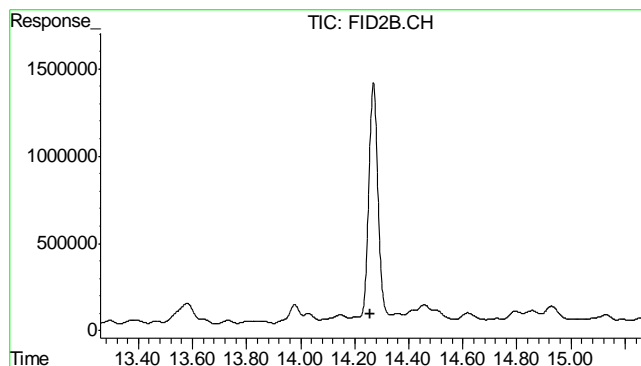
#7 Ethylbenzene  
 R.T.: 0.000 min  
 Exp R.T. : 10.114 min  
 Response: 0  
 Conc: N.D.



#8 m,p-Xylene  
 R.T.: 0.000 min  
 Exp R.T. : 10.304 min  
 Response: 0  
 Conc: N.D.

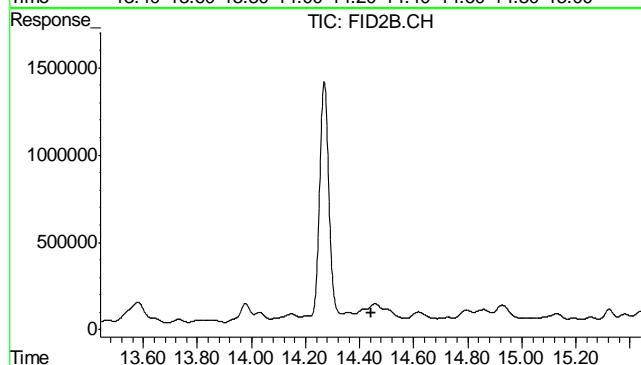


#9 o-Xylene  
 R.T.: 0.000 min  
 Exp R.T. : 10.819 min  
 Response: 0  
 Conc: N.D.



#10 1,2,4-Trichlorobenzene (P)

R.T.: 0.000 min  
 Exp R.T. : 14.259 min  
 Response: 0  
 Conc: N.D.



#11 Naphthalene

R.T.: 0.000 min  
 Exp R.T. : 14.441 min  
 Response: 0  
 Conc: N.D.

11.1.3  
11

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\012411\GB9222.D\FID1A.CH Vial: 4  
Signal #2 : Y:\1\DATA\012411\GB9222.D\FID2B.CH  
Acq On : 24 Jan 2011 11:41 am Operator: JESSICA1  
Sample : D20575-4 Inst : GC/MS Ins  
Misc : GC1624,GGB493,5.000,,100,5,1 Multiplr: 1.00  
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
Quant Time: Jan 24 14:32:04 2011 Quant Results File: TB460GB460.RES

Quant Method : C:\MSDCHEM\1\METHODS\TB460GB460.M (Chemstation Integrator)  
Title : 8015B/8021B TVH/BTEX  
Last Update : Fri Dec 10 12:50:00 2010  
Response via : Initial Calibration  
DataAcq Meth : TVB4.M

Volume Inj. :  
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624  
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm

Compound		R.T.	Response	Conc Units	
-----					
System Monitoring Compounds					
2) S	1,2,4-Trichlorobenzene	14.27	3146409	103.397 %	m
10) S	1,2,4-Trichlorobenzene (P)	0.00	0	N.D. %	d
Target Compounds					
1) H	TVH-Gasoline	7.27	11850833	0.184 mg/L	
4) T	Methyl-t-butyl-ether	0.00	0	N.D. ug/L	d
5) T	Benzene	0.00	0	N.D. ug/L	d
6) T	Toluene	0.00	0	N.D. ug/L	d
7) T	Ethylbenzene	0.00	0	N.D. ug/L	d
8) T	m,p-Xylene	0.00	0	N.D. ug/L	d
9) T	o-Xylene	0.00	0	N.D. ug/L	d
11) T	Naphthalene	0.00	0	N.D. ug/L	d

11.14  
11

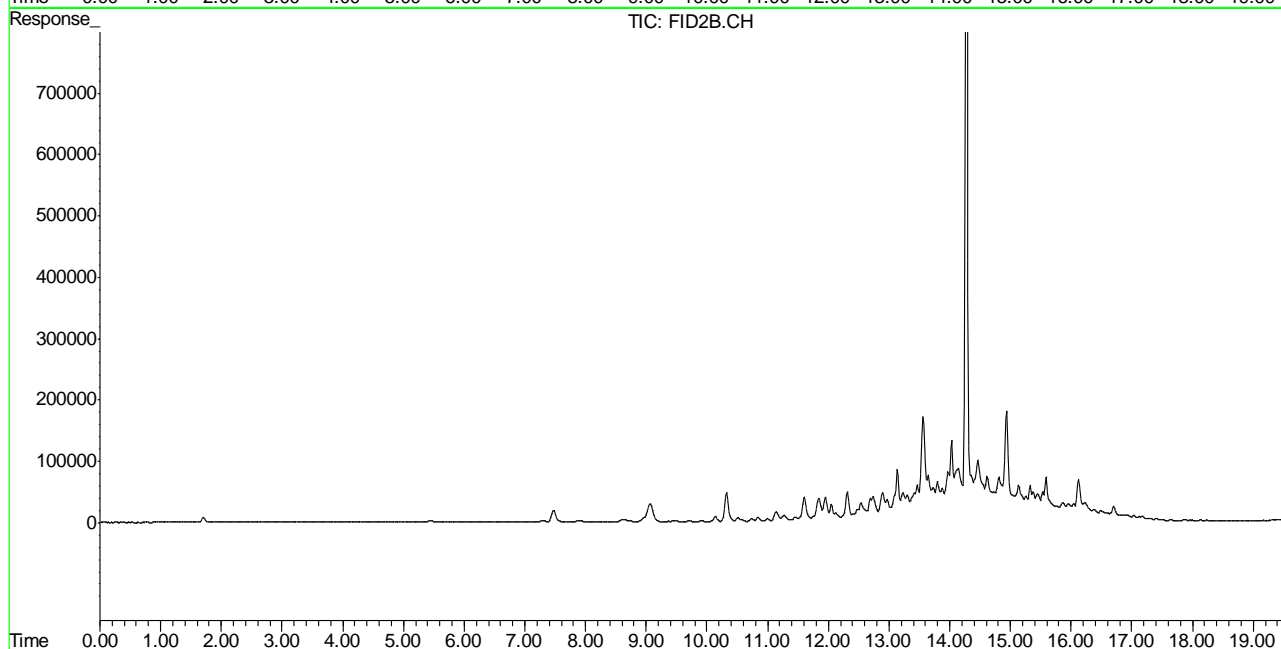
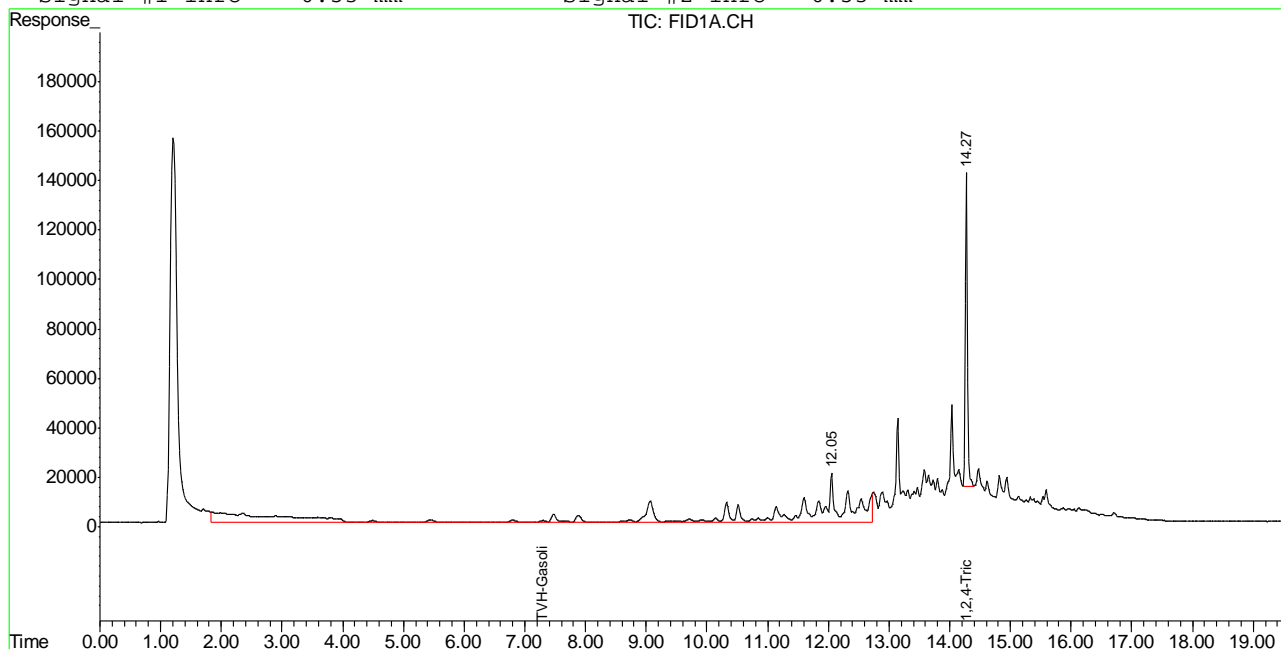


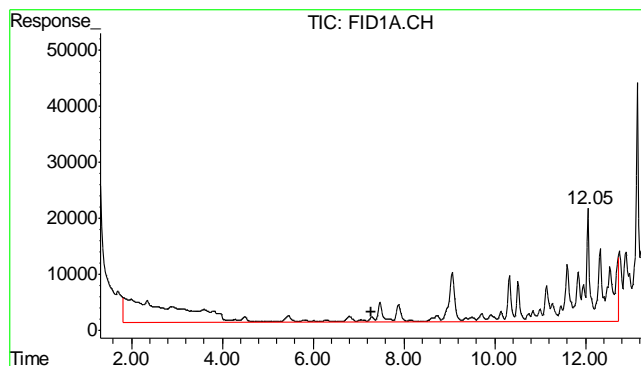
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\012411\GB9222.D\FID1A.CH Vial: 4  
 Signal #2 : Y:\1\DATA\012411\GB9222.D\FID2B.CH  
 Acq On : 24 Jan 2011 11:41 am Operator: JESSICA1  
 Sample : D20575-4 Inst : GC/MS Ins  
 Misc : GC1624,GGB493,5.000,,100,5,1 Multiplr: 1.00  
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
 Quant Time: Jan 24 13:15 2011 Quant Results File: TB460GB460.RES

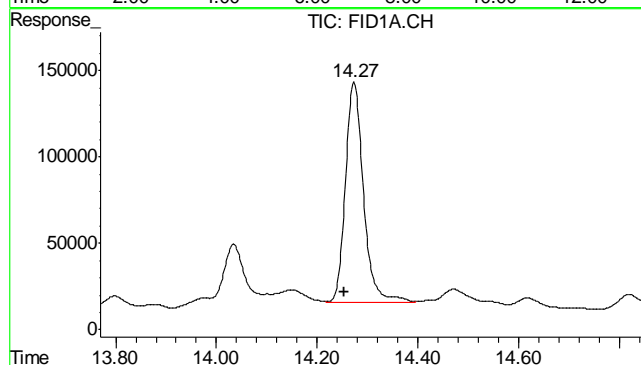
Quant Method : C:\MSDCHEM\1\METHODS\TB460GB460.M (Chemstation Integrator)  
 Title : 8015B/8021B TVH/BTEX  
 Last Update : Fri Dec 10 12:50:00 2010  
 Response via : Multiple Level Calibration  
 DataAcq Meth : TVB4.M

Volume Inj. :  
 Signal #1 Phase : DB-624 Signal #2 Phase: DB-624  
 Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm

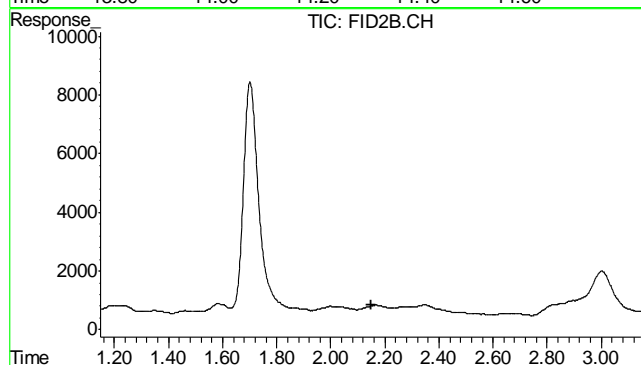




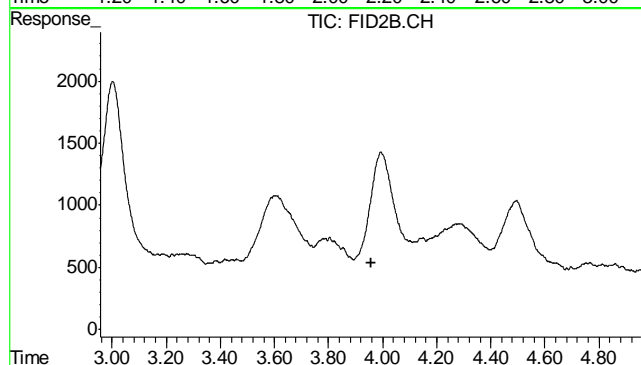
#1 TVH-Gasoline  
R.T.: 7.270 min  
Delta R.T.: 0.000 min  
Response: 11850833  
Conc: 0.18 mg/L m



#2 1,2,4-Trichlorobenzene  
R.T.: 14.272 min  
Delta R.T.: 0.018 min  
Response: 3146409  
Conc: 103.40 % m

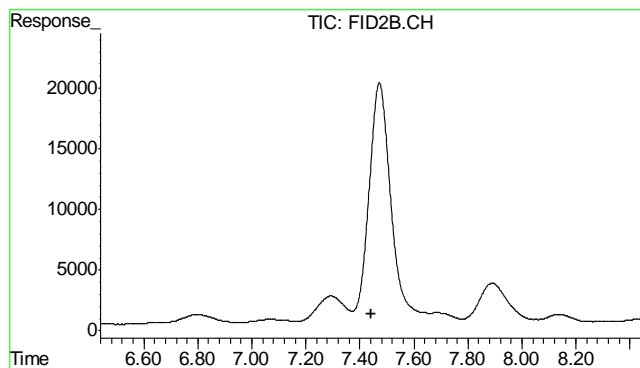


#4 Methyl-t-butyl-ether  
R.T.: 0.000 min  
Exp R.T.: 2.148 min  
Response: 0  
Conc: N.D.



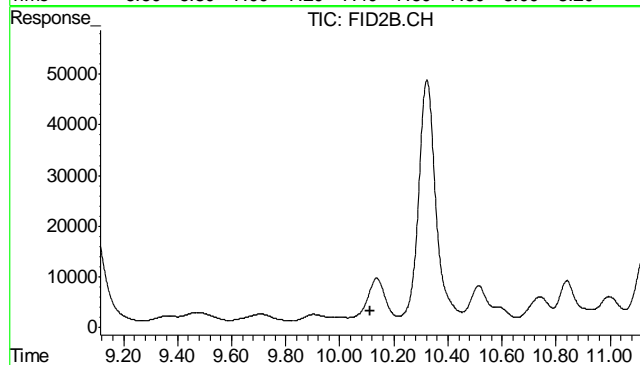
#5 Benzene  
R.T.: 0.000 min  
Exp R.T.: 3.956 min  
Response: 0  
Conc: N.D.

11.14  
11



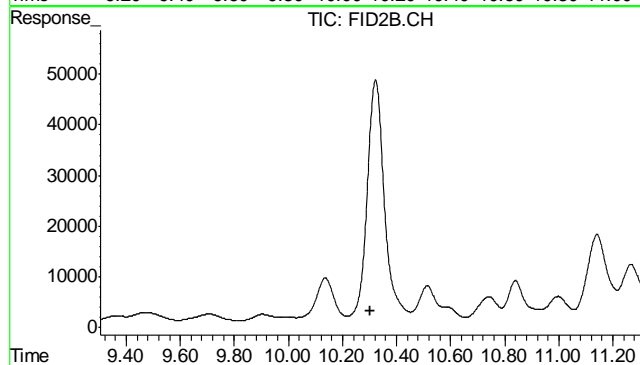
#6 Toluene

R.T.: 0.000 min  
Exp R.T. : 7.440 min  
Response: 0  
Conc: N.D.



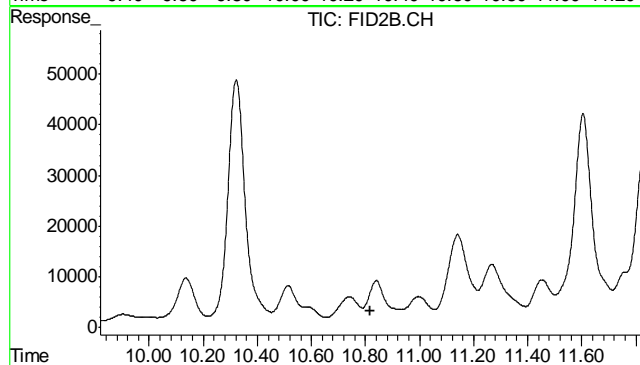
#7 Ethylbenzene

R.T.: 0.000 min  
Exp R.T. : 10.114 min  
Response: 0  
Conc: N.D.



#8 m,p-Xylene

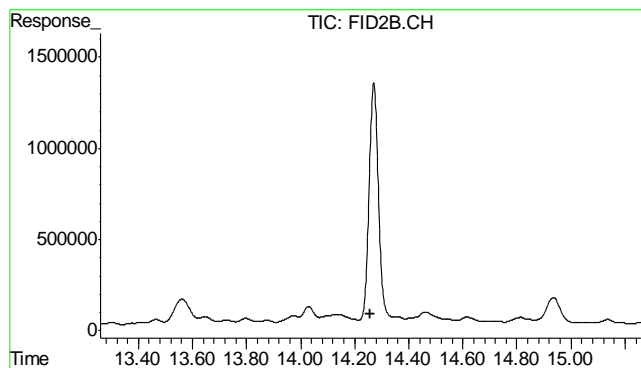
R.T.: 0.000 min  
Exp R.T. : 10.304 min  
Response: 0  
Conc: N.D.



#9 o-Xylene

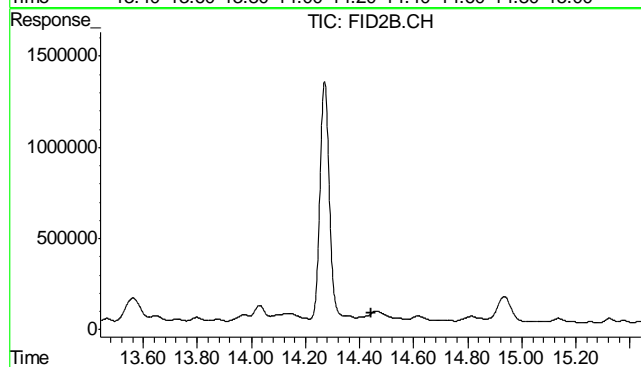
R.T.: 0.000 min  
Exp R.T. : 10.819 min  
Response: 0  
Conc: N.D.

11.14  
11



#10 1,2,4-Trichlorobenzene (P)

R.T.: 0.000 min  
 Exp R.T. : 14.259 min  
 Response: 0  
 Conc: N.D.



#11 Naphthalene

R.T.: 0.000 min  
 Exp R.T. : 14.441 min  
 Response: 0  
 Conc: N.D.

11.1.4  
11

## Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\012411\GB9220.D\FID1A.CH Vial: 2  
 Signal #2 : Y:\1\DATA\012411\GB9220.D\FID2B.CH  
 Acq On : 24 Jan 2011 10:20 am Operator: JESSICA1  
 Sample : MB, S Inst : GC/MS Ins  
 Misc : GC1624,GGB493,5,,100,5,1 Multiplr: 1.00  
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
 Quant Time: Jan 24 14:31:59 2011 Quant Results File: TB460GB460.RES

Quant Method : C:\MSDCHEM\1\METHODS\TB460GB460.M (Chemstation Integrator)  
 Title : 8015B/8021B TVH/BTEX  
 Last Update : Fri Dec 10 12:50:00 2010  
 Response via : Initial Calibration  
 DataAcq Meth : TVB4.M

Volume Inj. :  
 Signal #1 Phase : DB-624 Signal #2 Phase: DB-624  
 Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm

	Compound	R.T.	Response	Conc	Units	
-----						
System Monitoring Compounds						
2) S	1,2,4-Trichlorobenzene	14.27	3508775	115.305	%	
10) S	1,2,4-Trichlorobenzene (P)	0.00	0	N.D.	%	d
Target Compounds						
1) H	TVH-Gasoline	7.27	926177	0.014	mg/L	
4) T	Methyl-t-butyl-ether	0.00	0	N.D.	ug/L	d
5) T	Benzene	0.00	0	N.D.	ug/L	d
6) T	Toluene	0.00	0	N.D.	ug/L	d
7) T	Ethylbenzene	0.00	0	N.D.	ug/L	d
8) T	m,p-Xylene	0.00	0	N.D.	ug/L	d
9) T	o-Xylene	0.00	0	N.D.	ug/L	d
11) T	Naphthalene	0.00	0	N.D.	ug/L	d

(f)=RT Delta &gt; 1/2 Window

(m)=manual int.

GB9220.D TB460GB460.M

Tue Jan 25 07:51:48 2011

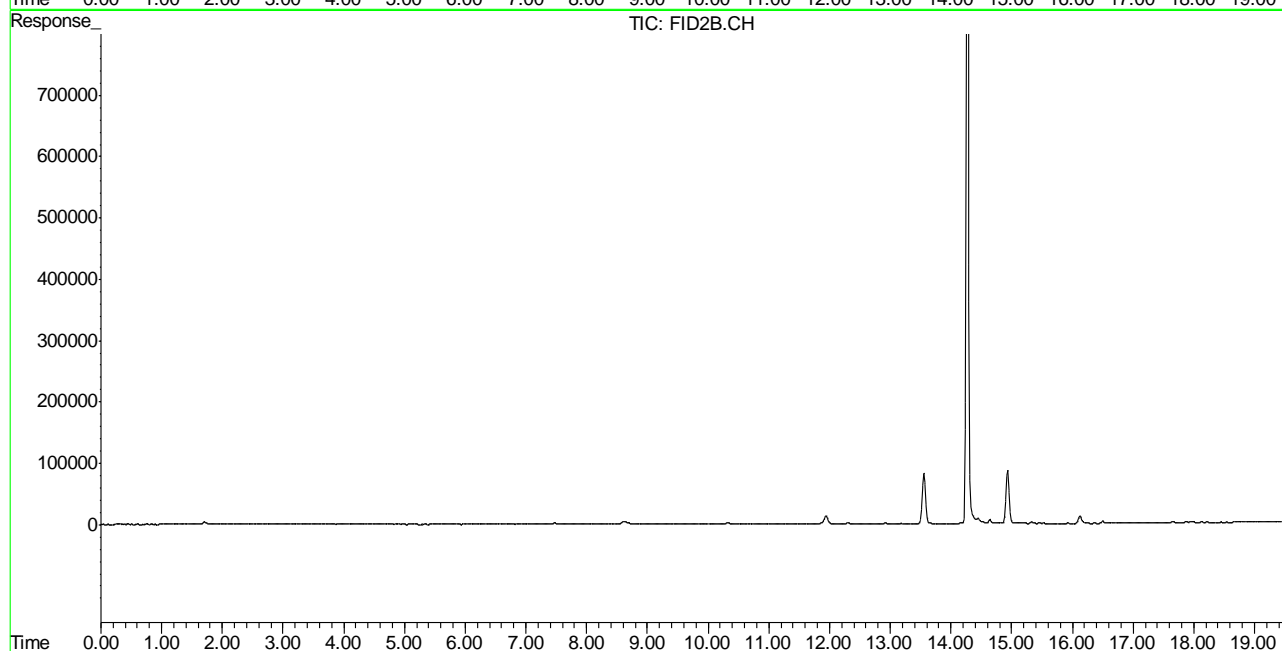
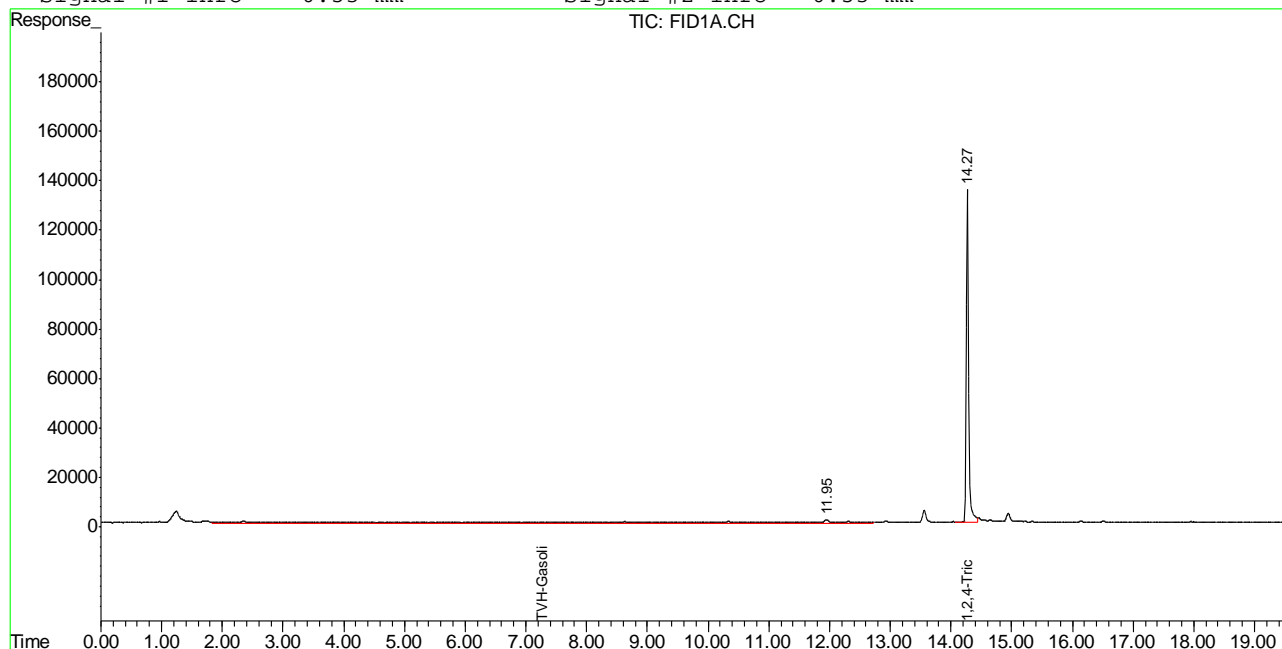
GC

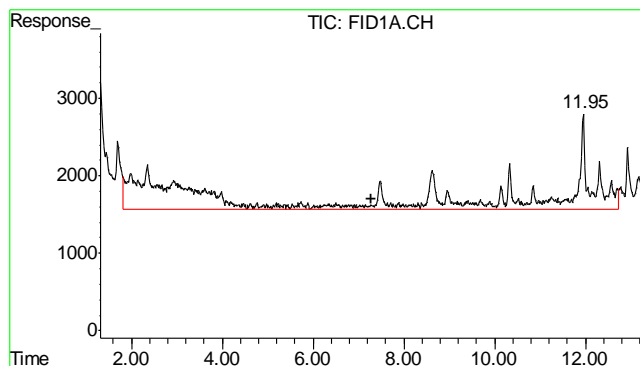
## Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\012411\GB9220.D\FID1A.CH Vial: 2  
Signal #2 : Y:\1\DATA\012411\GB9220.D\FID2B.CH  
Acq On : 24 Jan 2011 10:20 am Operator: JESSICA1  
Sample : MB, S Inst : GC/MS Ins  
Misc : GC1624,GGB493,5,,100,5,1 Multiplr: 1.00  
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
Quant Time: Jan 24 13:14 2011 Quant Results File: TB460GB460.RES

Quant Method : C:\MSDCHEM\1\METHODS\TB460GB460.M (Chemstation Integrator)  
Title : 8015B/8021B TVH/BTEX  
Last Update : Fri Dec 10 12:50:00 2010  
Response via : Multiple Level Calibration  
DataAcq Meth : TVB4.M

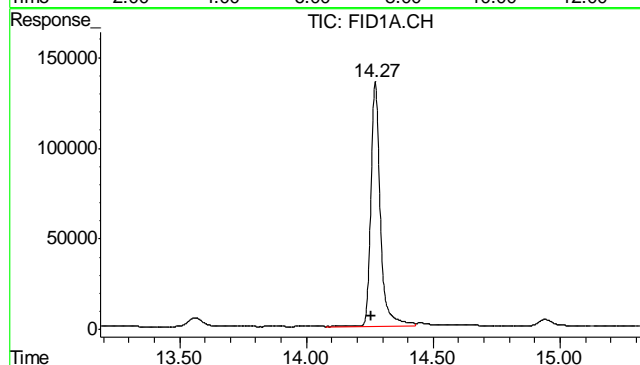
Volume Inj. :  
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624  
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





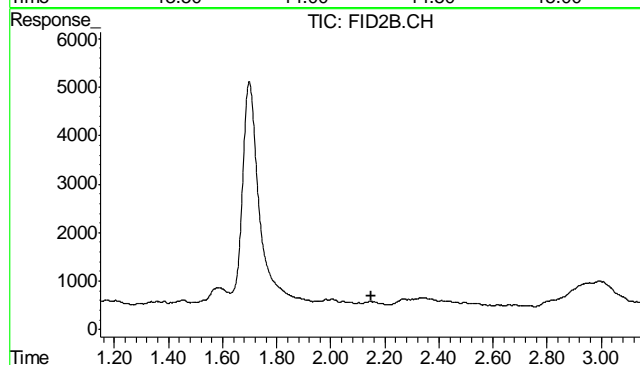
#1 TVH-Gasoline

R.T.: 7.270 min  
Delta R.T.: 0.000 min  
Response: 926177  
Conc: 0.01 mg/L m



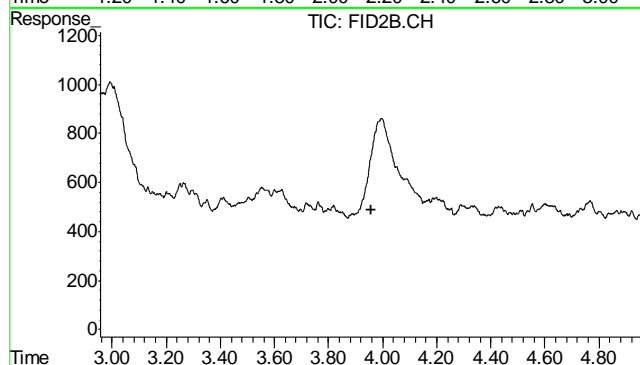
#2 1,2,4-Trichlorobenzene

R.T.: 14.271 min  
Delta R.T.: 0.017 min  
Response: 3508775  
Conc: 115.30 %



#4 Methyl-t-butyl-ether

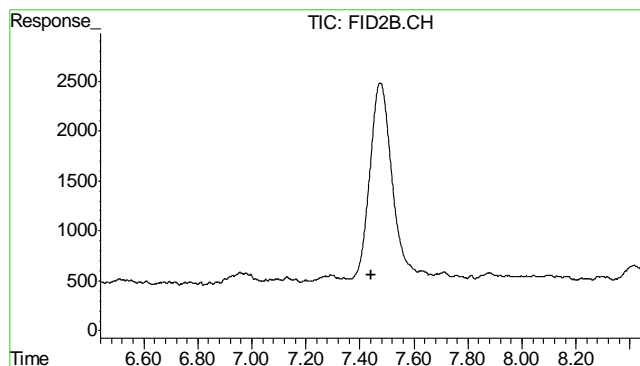
R.T.: 0.000 min  
Exp R.T.: 2.148 min  
Response: 0  
Conc: N.D.



#5 Benzene

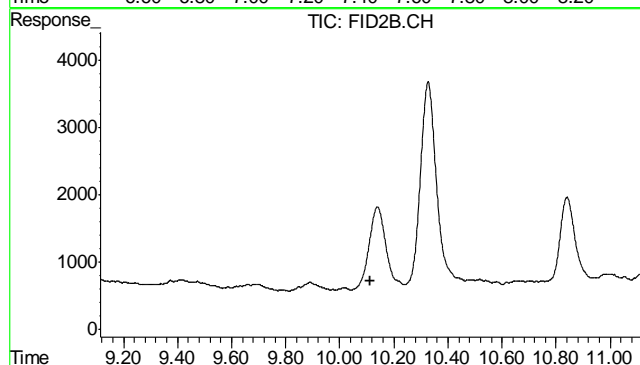
R.T.: 0.000 min  
Exp R.T.: 3.956 min  
Response: 0  
Conc: N.D.

11.21  
11



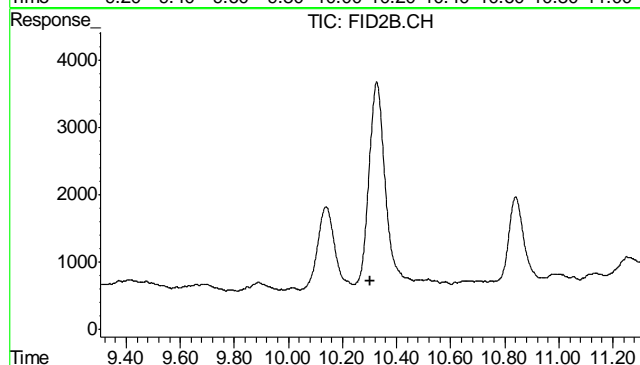
#6 Toluene

R.T.: 0.000 min  
Exp R.T. : 7.440 min  
Response: 0  
Conc: N.D.



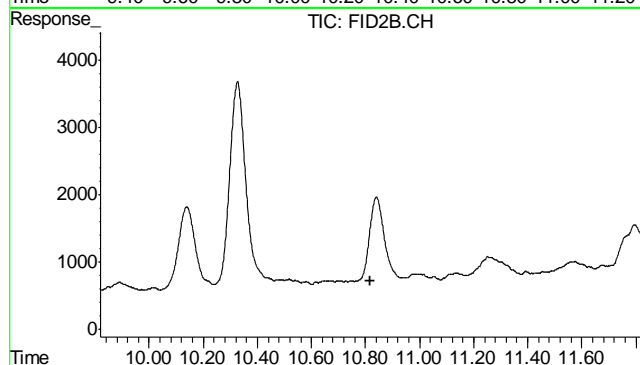
#7 Ethylbenzene

R.T.: 0.000 min  
Exp R.T. : 10.114 min  
Response: 0  
Conc: N.D.



#8 m,p-Xylene

R.T.: 0.000 min  
Exp R.T. : 10.304 min  
Response: 0  
Conc: N.D.

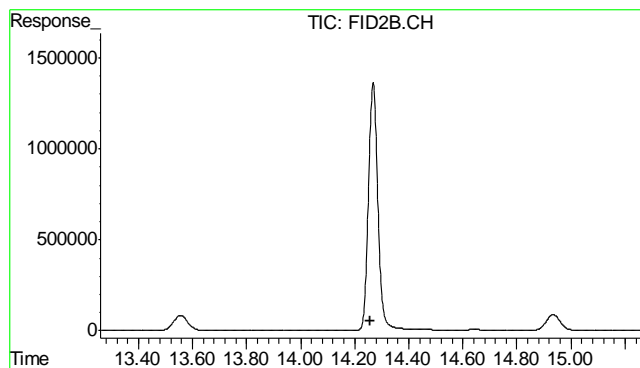


#9 o-Xylene

R.T.: 0.000 min  
Exp R.T. : 10.819 min  
Response: 0  
Conc: N.D.

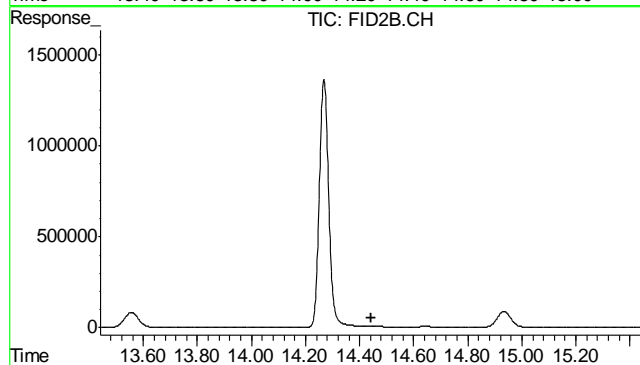
11.21  
11





#10 1,2,4-Trichlorobenzene (P)

R.T.: 0.000 min  
Exp R.T. : 14.259 min  
Response: 0  
Conc: N.D.



#11 Naphthalene

R.T.: 0.000 min  
Exp R.T. : 14.441 min  
Response: 0  
Conc: N.D.

11.2.1  
11

## Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\012411\GB9220A.D\FID1A.CH Vial: 2  
 Signal #2 : Y:\1\DATA\012411\GB9220A.D\FID2B.CH  
 Acq On : 24 Jan 2011 10:20 am Operator: JESSICA1  
 Sample : MB, W Inst : GC/MS Ins  
 Misc : GC1625,GGB494,,,,,1 Multiplr: 1.00  
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
 Quant Time: Jan 24 14:31:59 2011 Quant Results File: TB460GB460.RES

Quant Method : C:\MSDCHEM\1\METHODS\TB460GB460.M (Chemstation Integrator)  
 Title : 8015B/8021B TVH/BTEX  
 Last Update : Fri Dec 10 12:50:00 2010  
 Response via : Initial Calibration  
 DataAcq Meth : TVB4.M

Volume Inj. :  
 Signal #1 Phase : DB-624 Signal #2 Phase: DB-624  
 Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm

	Compound	R.T.	Response	Conc	Units	
-----						
System Monitoring Compounds						
2) S	1,2,4-Trichlorobenzene	14.27	3508775	115.305	%	
10) S	1,2,4-Trichlorobenzene (P)	0.00	0	N.D.	%	d
Target Compounds						
1) H	TVH-Gasoline	7.27	926177	0.014	mg/L	
4) T	Methyl-t-butyl-ether	0.00	0	N.D.	ug/L	d
5) T	Benzene	0.00	0	N.D.	ug/L	d
6) T	Toluene	0.00	0	N.D.	ug/L	d
7) T	Ethylbenzene	0.00	0	N.D.	ug/L	d
8) T	m,p-Xylene	0.00	0	N.D.	ug/L	d
9) T	o-Xylene	0.00	0	N.D.	ug/L	d
11) T	Naphthalene	0.00	0	N.D.	ug/L	d

(f)=RT Delta &gt; 1/2 Window

(m)=manual int.

GB9220A.D TB460GB460.M

Tue Jan 25 07:51:50 2011

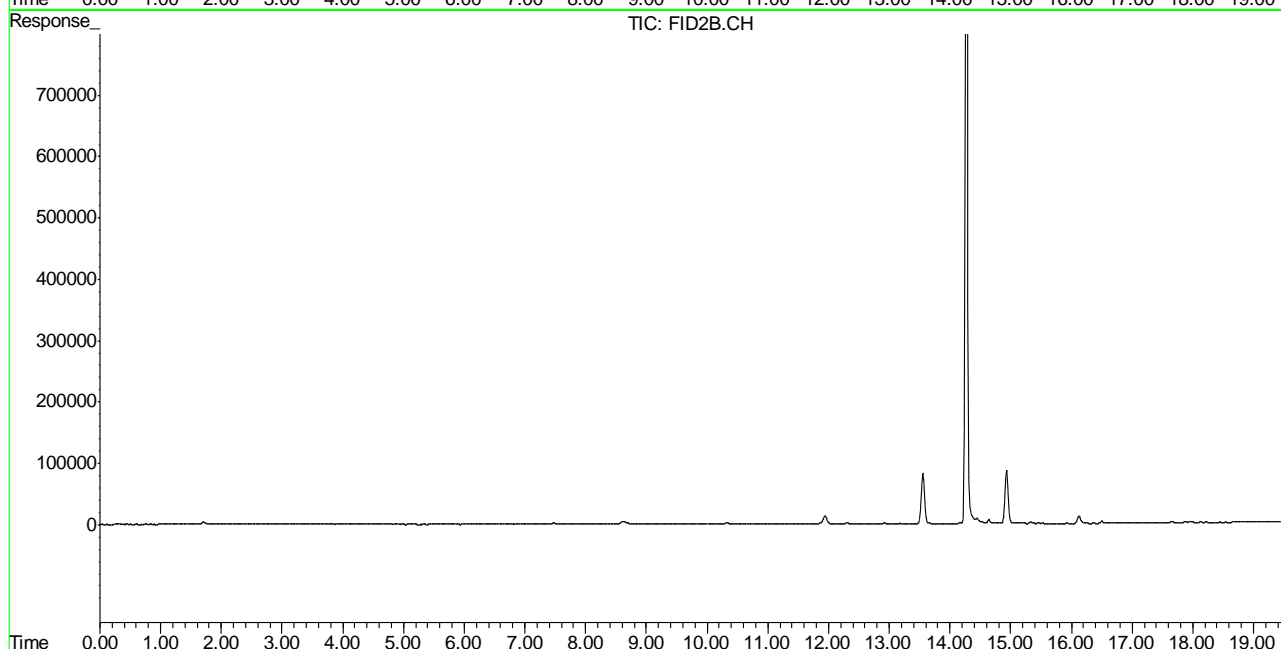
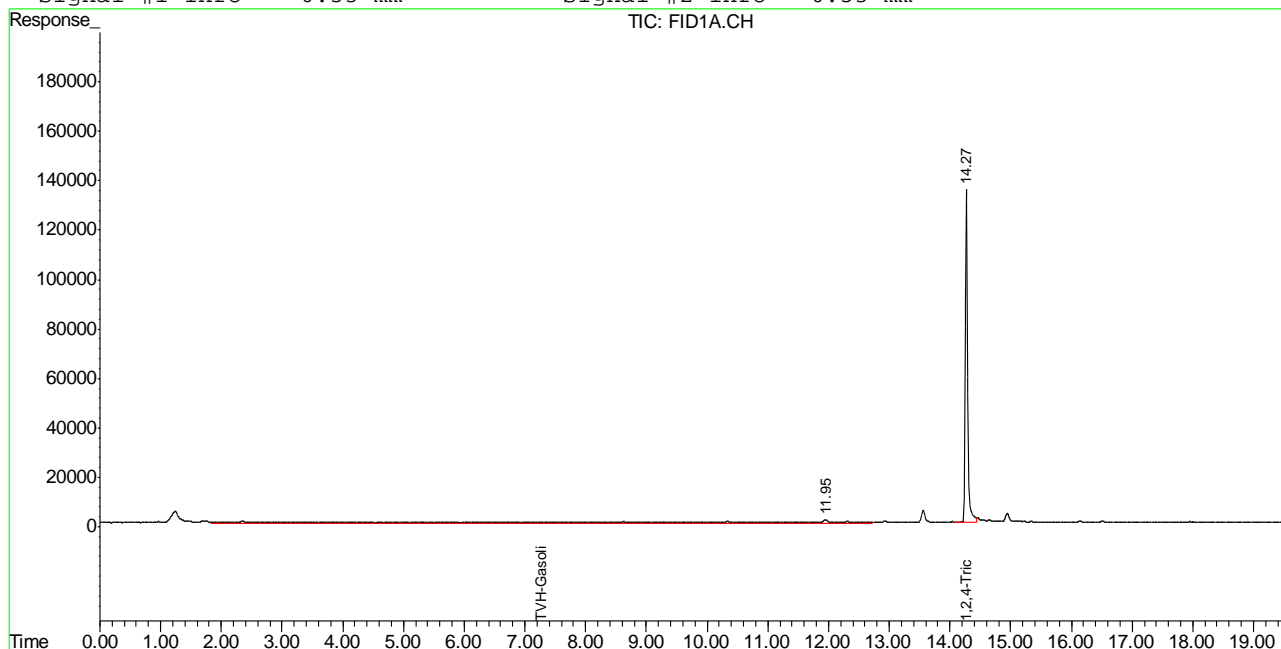
GC

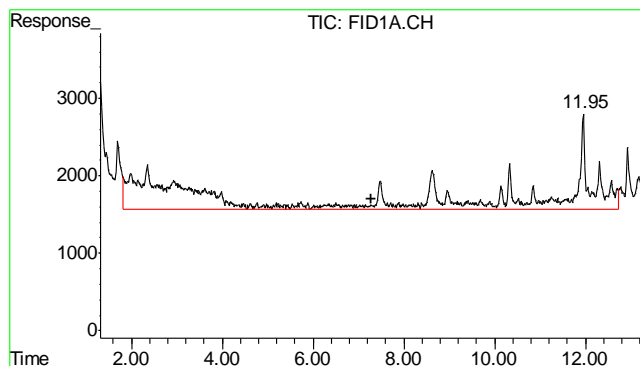
## Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\012411\GB9220A.D\FID1A.CH Vial: 2  
Signal #2 : Y:\1\DATA\012411\GB9220A.D\FID2B.CH  
Acq On : 24 Jan 2011 10:20 am Operator: JESSICA1  
Sample : MB, W Inst : GC/MS Ins  
Misc : GC1625,GGB494,,,,,1 Multiplr: 1.00  
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
Quant Time: Jan 24 13:14 2011 Quant Results File: TB460GB460.RES

Quant Method : C:\MSDCHEM\1\METHODS\TB460GB460.M (Chemstation Integrator)  
Title : 8015B/8021B TVH/BTEX  
Last Update : Fri Dec 10 12:50:00 2010  
Response via : Multiple Level Calibration  
DataAcq Meth : TVB4.M

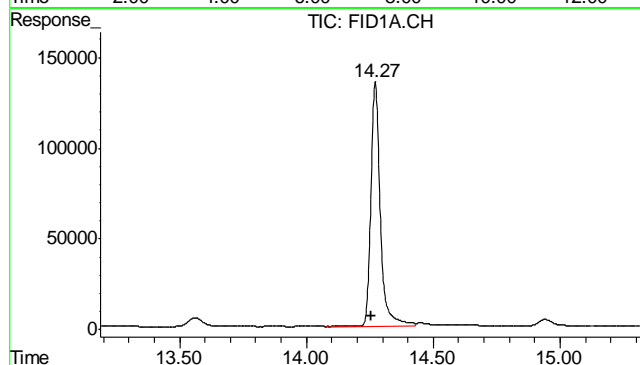
Volume Inj. :  
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624  
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





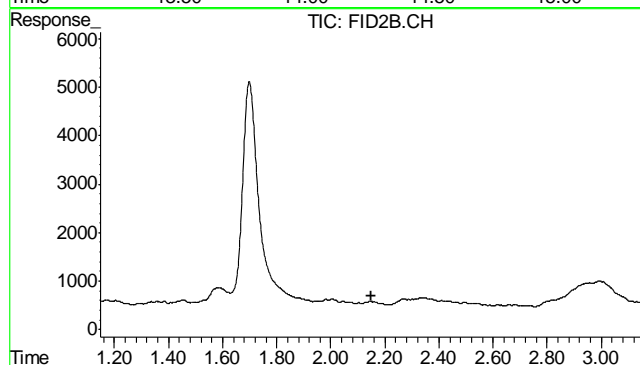
#1 TVH-Gasoline

R.T.: 7.270 min  
Delta R.T.: 0.000 min  
Response: 926177  
Conc: 0.01 mg/L m



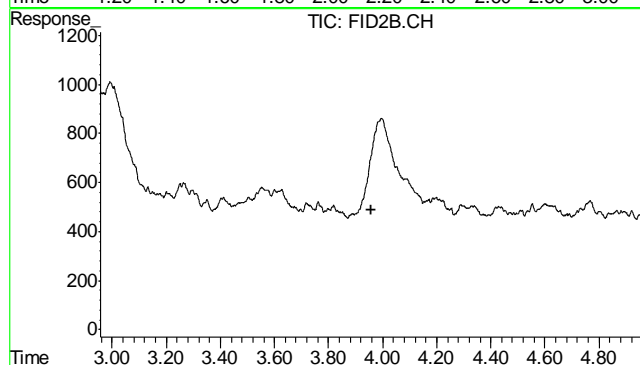
#2 1,2,4-Trichlorobenzene

R.T.: 14.271 min  
Delta R.T.: 0.017 min  
Response: 3508775  
Conc: 115.30 %



#4 Methyl-t-butyl-ether

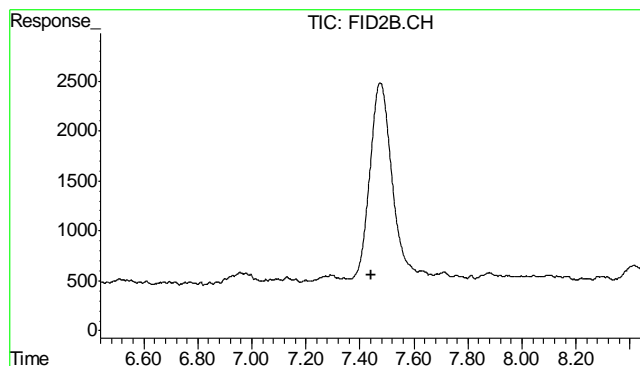
R.T.: 0.000 min  
Exp R.T.: 2.148 min  
Response: 0  
Conc: N.D.



#5 Benzene

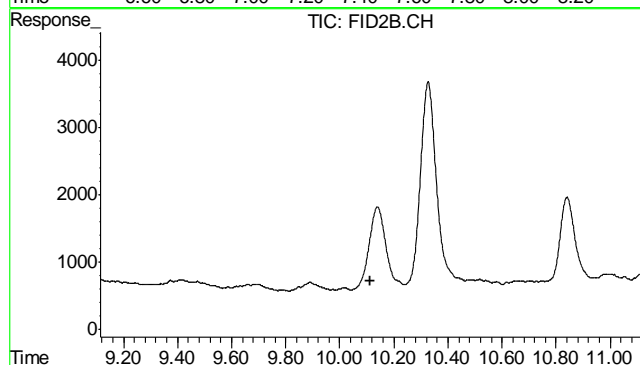
R.T.: 0.000 min  
Exp R.T.: 3.956 min  
Response: 0  
Conc: N.D.

11.22  
11



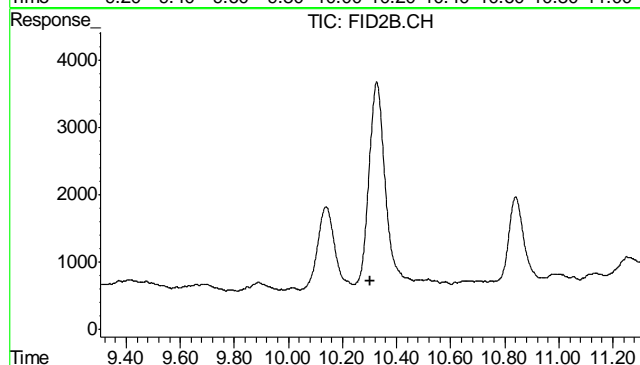
#6 Toluene

R.T.: 0.000 min  
Exp R.T. : 7.440 min  
Response: 0  
Conc: N.D.



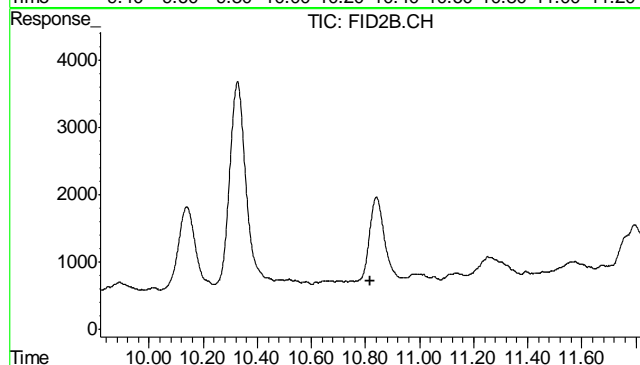
#7 Ethylbenzene

R.T.: 0.000 min  
Exp R.T. : 10.114 min  
Response: 0  
Conc: N.D.



#8 m,p-Xylene

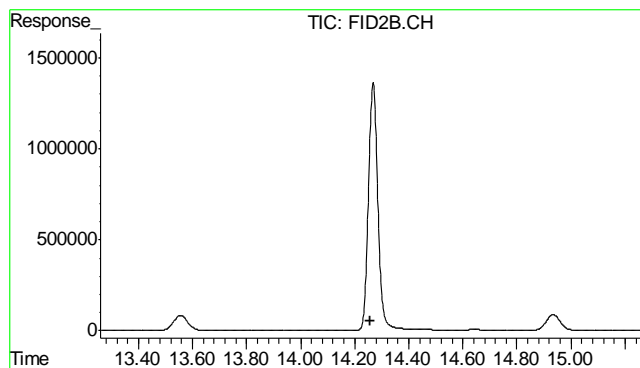
R.T.: 0.000 min  
Exp R.T. : 10.304 min  
Response: 0  
Conc: N.D.



#9 o-Xylene

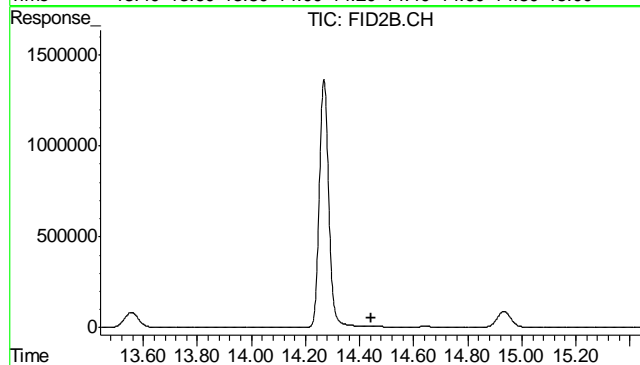
R.T.: 0.000 min  
Exp R.T. : 10.819 min  
Response: 0  
Conc: N.D.

11.22  
11



#10 1,2,4-Trichlorobenzene (P)

R.T.: 0.000 min  
Exp R.T. : 14.259 min  
Response: 0  
Conc: N.D.



#11 Naphthalene

R.T.: 0.000 min  
Exp R.T. : 14.441 min  
Response: 0  
Conc: N.D.

## GC Semi-volatiles

### QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

**Method Blank Summary**

Page 1 of 1

**Job Number:** D20575  
**Account:** KRWCCOL KRW Consulting, Inc.  
**Project:** FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3054-MB	FE5641.D	1	01/25/11	JB	01/24/11	OP3054	GFE284

The QC reported here applies to the following samples:

Method: SW846-8015B

D20575-2, D20575-3, D20575-4

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	13	8.7	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	106% 63-130%

12.1.1  
12



**Method Blank Summary**

Page 1 of 1

**Job Number:** D20575  
**Account:** KRWCCOL KRW Consulting, Inc.  
**Project:** FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3059-MB	FE5656.D	1	01/25/11	JB	01/24/11	OP3059	GFE284

The QC reported here applies to the following samples:

Method: SW846-8015B

D20575-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.40	0.28	mg/l	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	72% 40-137%

12.1.2  
12

## Blank Spike Summary

Page 1 of 1

**Job Number:** D20575  
**Account:** KRWCCOL KRW Consulting, Inc.  
**Project:** FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3054-BS	FE5642.D	1	01/25/11	JB	01/24/11	OP3054	GFE284

The QC reported here applies to the following samples:

Method: SW846-8015B

D20575-2, D20575-3, D20575-4

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	602	90	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	105%	63-130%

\* = Outside of Control Limits.

## Blank Spike Summary

Page 1 of 1

**Job Number:** D20575  
**Account:** KRWCCOL KRW Consulting, Inc.  
**Project:** FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3059-BS	FE5657.D	1	01/25/11	JB	01/24/11	OP3059	GFE284

The QC reported here applies to the following samples:

Method: SW846-8015B

D20575-1

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-DRO (C10-C28)	20	18.5	93	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	96%	40-137%

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

**Job Number:** D20575  
**Account:** KRWCCOL KRW Consulting, Inc.  
**Project:** FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3054-MS	FE5643.D	1	01/25/11	JB	01/24/11	OP3054	GFE284
OP3054-MSD	FE5650.D	1	01/25/11	JB	01/24/11	OP3054	GFE284
D20576-3	FE5645.D	1	01/25/11	JB	01/24/11	OP3054	GFE284

The QC reported here applies to the following samples:

Method: SW846-8015B

D20575-2, D20575-3, D20575-4

CAS No.	Compound	D20576-3 mg/kg	Spike Q	mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	287		1070	1230	88	1330	98	8	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D20576-3	Limits
84-15-1	o-Terphenyl	104%	109%	106%	63-130%

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

**Job Number:** D20575  
**Account:** KRWCCOL KRW Consulting, Inc.  
**Project:** FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3059-MS	FE5658.D	1	01/25/11	JB	01/24/11	OP3059	GFE284
OP3059-MSD	FE5659.D	1	01/25/11	JB	01/24/11	OP3059	GFE284
D20586-1	FE5660.D	1	01/25/11	JB	01/24/11	OP3059	GFE284

The QC reported here applies to the following samples:

Method: SW846-8015B

D20575-1

CAS No.	Compound	D20586-1 mg/l	Spike Q	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	ND	20	18.5	93	19.0	95	3	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D20586-1	Limits
84-15-1	o-Terphenyl	97%	99%	64%	40-137%

\* = Outside of Control Limits.

GC Semi-volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data File : E:\DATA\GFE284\FE5661.D Vial: 32  
Acq On : 25 Jan 2011 2:20 pm Operator: jacobbb  
Sample : D20575-1 Inst : FID6  
Misc : OP3059,GFE284,1000,,,2,1 Multiplr: 1.00  
IntFile : DF-GFE136.E  
Quant Time: Jan 25 15:38:50 2011 Quant Results File: DF-GFE284.RES

Quant Method : C:\MSDCHEM\1\METHODS\DF-GFE284.M (Chemstation Integrator)  
Title : 8015B TEH  
Last Update : Tue Jan 25 08:39:47 2011  
Response via : Initial Calibration  
DataAcq Meth : FR\_BASE2.M

Volume Inj. : 1ul  
Signal Phase : RTX-5  
Signal Info : 530um

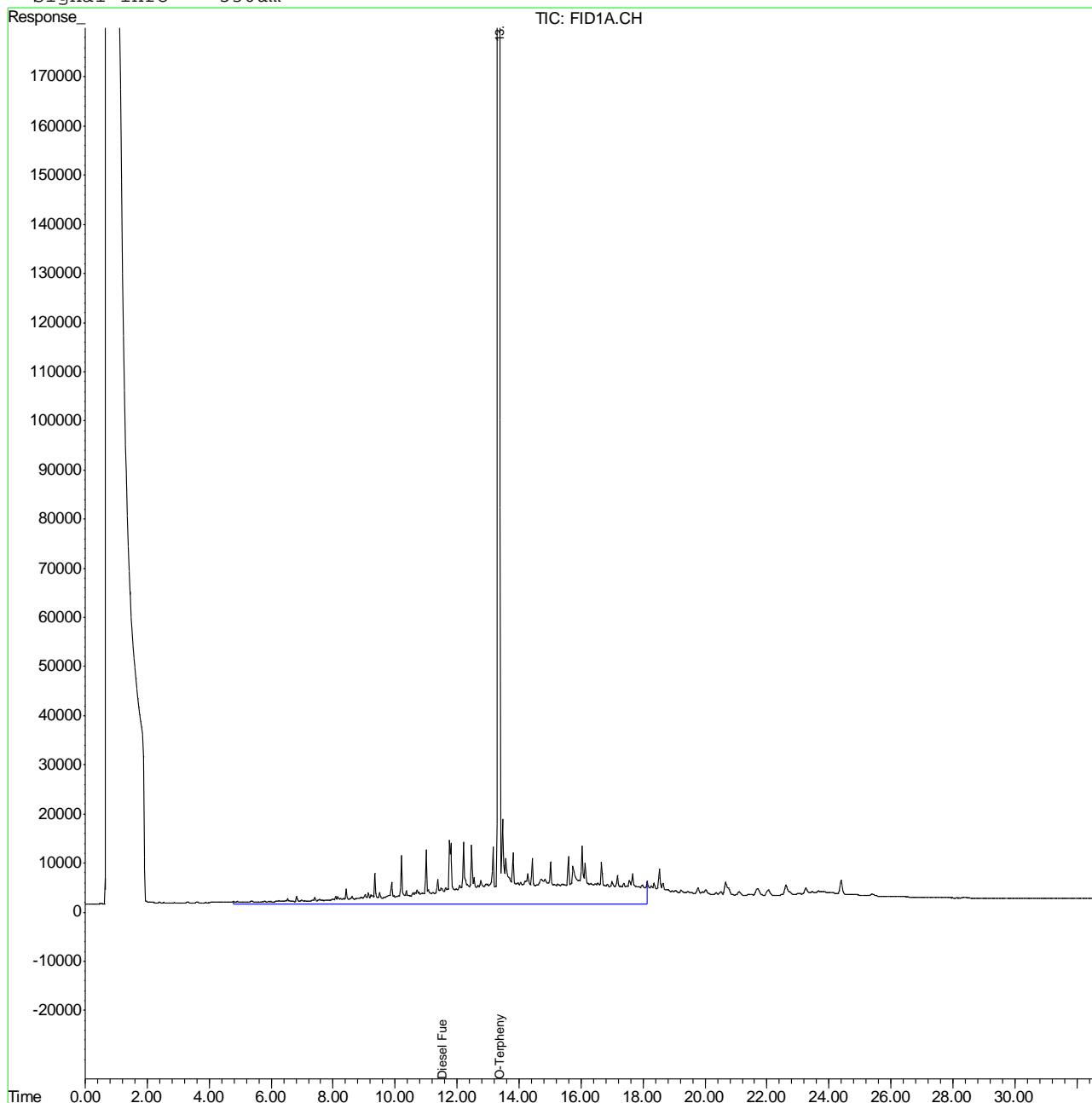
Compound	R.T.	Response	Conc Units
-----			
System Monitoring Compounds			
1) S O-Terphenyl	13.36	60781835	884.354 mg/L m
Target Compounds			
2) H Diesel Fuel (No. 2)	11.52	23371886	328.468 mg/L

Quantitation Report (QT Reviewed)

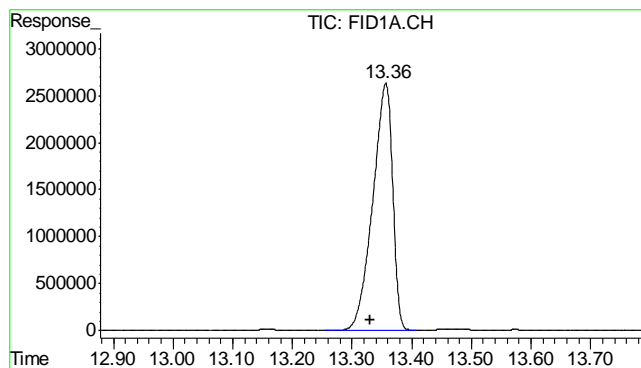
Data File : E:\DATA\GFE284\FE5661.D Vial: 32  
 Acq On : 25 Jan 2011 2:20 pm Operator: jacobbb  
 Sample : D20575-1 Inst : FID6  
 Misc : OP3059,GFE284,1000,,,2,1 Multiplr: 1.00  
 IntFile : DF-GFE136.E  
 Quant Time: Jan 25 14:42 2011 Quant Results File: DF-GFE284.RES

Quant Method : C:\MSDCHEM\1\METHODS\DF-GFE284.M (Chemstation Integrator)  
 Title : 8015B TEH  
 Last Update : Tue Jan 25 08:39:47 2011  
 Response via : Multiple Level Calibration  
 DataAcq Meth : FR\_BASE2.M

Volume Inj. : 1ul  
 Signal Phase : RTX-5  
 Signal Info : 530um

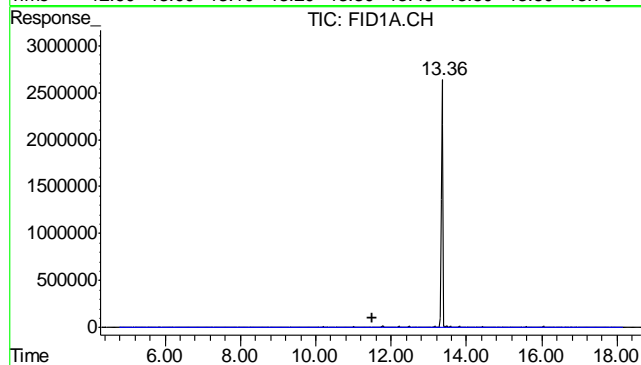






#1 O-Terphenyl

R.T.: 13.356 min  
 Delta R.T.: 0.026 min  
 Response: 60781835  
 Conc: 884.35 mg/L m



#2 Diesel Fuel (No. 2)

R.T.: 11.515 min  
 Delta R.T.: 0.000 min  
 Response: 23371886  
 Conc: 328.47 mg/L m

13.1.1  
 13

Quantitation Report (QT Reviewed)

Data File : E:\DATA\GFE284\FE5651.D Vial: 22  
Acq On : 25 Jan 2011 7:43 am Operator: jacobbb  
Sample : D20575-2 Inst : FID6  
Misc : OP3054,GFE284,30.09,,,2,1 Multiplr: 1.00  
IntFile : DF-GFE136.E  
Quant Time: Jan 25 08:47:55 2011 Quant Results File: DF-GFE284.RES

Quant Method : C:\MSDCHEM\1\METHODS\DF-GFE284.M (Chemstation Integrator)  
Title : 8015B TEH  
Last Update : Tue Jan 25 08:39:47 2011  
Response via : Initial Calibration  
DataAcq Meth : FR\_BASE2.M

Volume Inj. : 1ul  
Signal Phase : RTX-5  
Signal Info : 530um

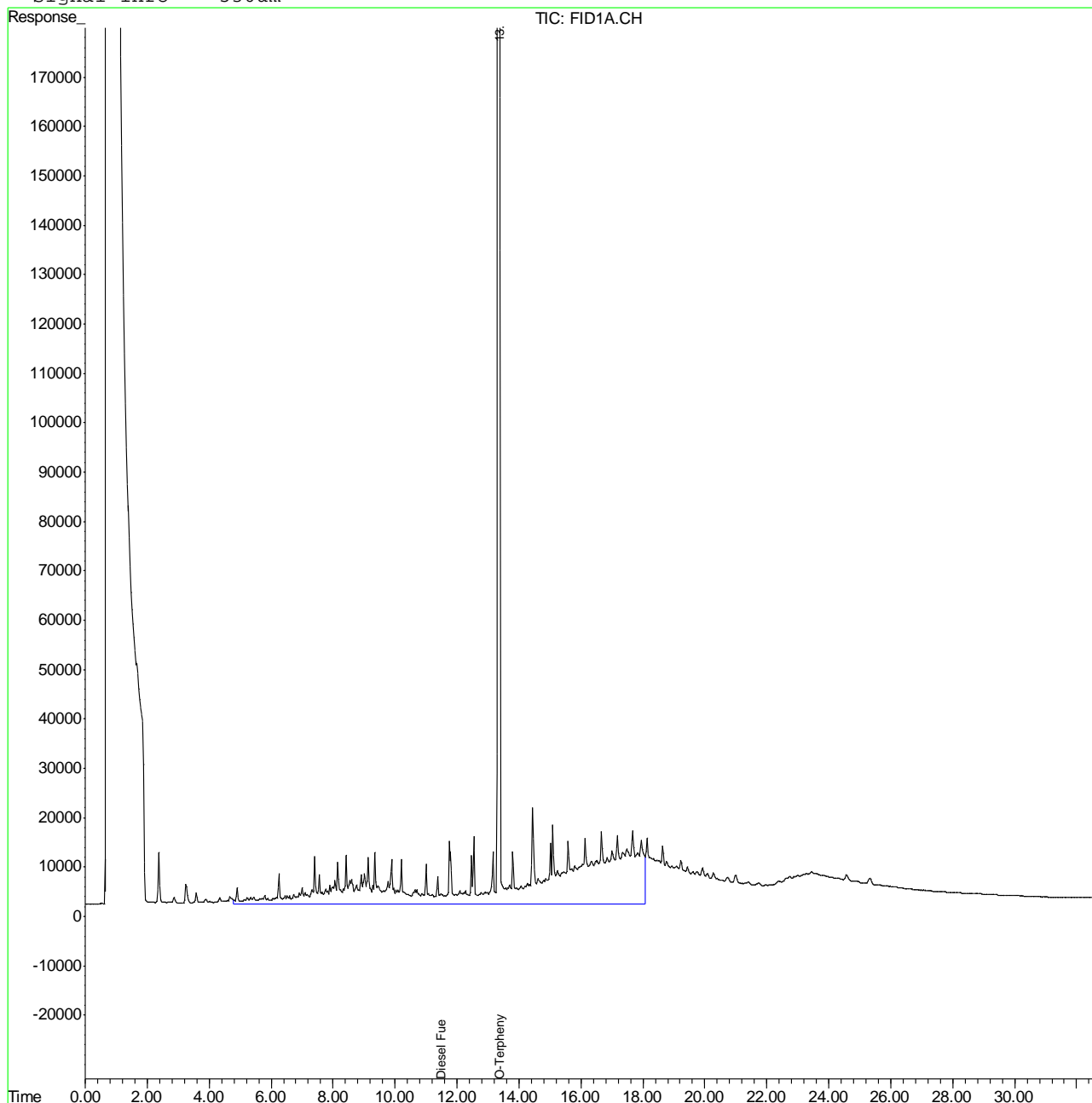
Compound	R.T.	Response	Conc Units
-----			
System Monitoring Compounds			
1) S O-Terphenyl	13.36	77399473	1134.547 mg/L m
Target Compounds			
2) H Diesel Fuel (No. 2)	11.52	33813483	475.385 mg/L

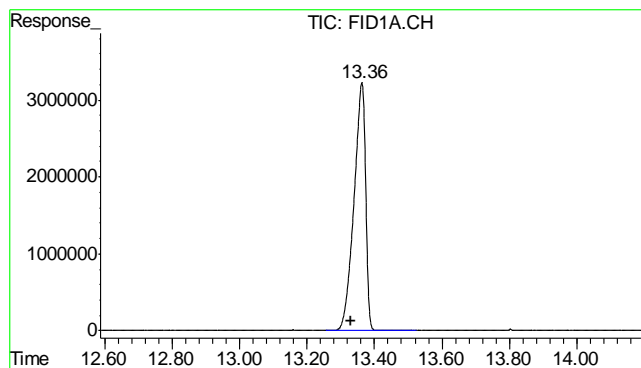
Quantitation Report (QT Reviewed)

Data File : E:\DATA\GFE284\FE5651.D Vial: 22  
 Acq On : 25 Jan 2011 7:43 am Operator: jacobbb  
 Sample : D20575-2 Inst : FID6  
 Misc : OP3054,GFE284,30.09,,,2,1 Multiplr: 1.00  
 IntFile : DF-GFE136.E  
 Quant Time: Jan 25 7:51 2011 Quant Results File: DF-GFE284.RES

Quant Method : C:\MSDCHEM\1\METHODS\DF-GFE284.M (Chemstation Integrator)  
 Title : 8015B TEH  
 Last Update : Tue Jan 25 08:39:47 2011  
 Response via : Multiple Level Calibration  
 DataAcq Meth : FR\_BASE2.M

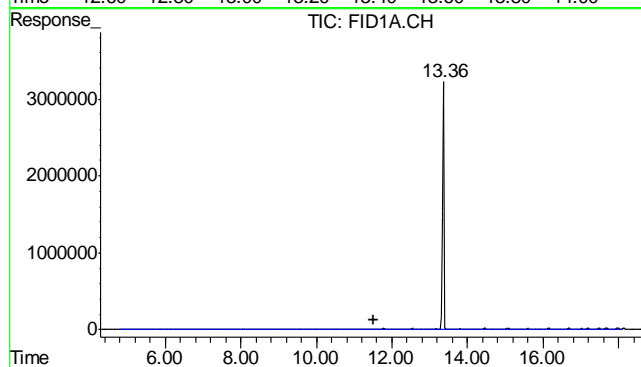
Volume Inj. : 1ul  
 Signal Phase : RTX-5  
 Signal Info : 530um





#1 O-Terphenyl

R.T.: 13.362 min  
Delta R.T.: 0.032 min  
Response: 77399473  
Conc: 1134.55 mg/L m



#2 Diesel Fuel (No. 2)

R.T.: 11.515 min  
Delta R.T.: 0.000 min  
Response: 33813483  
Conc: 475.38 mg/L m

Quantitation Report (QT Reviewed)

Data File : E:\DATA\GFE284\FE5652.D Vial: 23  
Acq On : 25 Jan 2011 8:23 am Operator: jacobbb  
Sample : D20575-3 Inst : FID6  
Misc : OP3054,GFE284,30.00,,,2,1 Multiplr: 1.00  
IntFile : DF-GFE136.E  
Quant Time: Jan 25 08:55:13 2011 Quant Results File: DF-GFE284.RES

Quant Method : C:\MSDCHEM\1\METHODS\DF-GFE284.M (Chemstation Integrator)  
Title : 8015B TEH  
Last Update : Tue Jan 25 08:39:47 2011  
Response via : Initial Calibration  
DataAcq Meth : FR\_BASE2.M

Volume Inj. : 1ul  
Signal Phase : RTX-5  
Signal Info : 530um

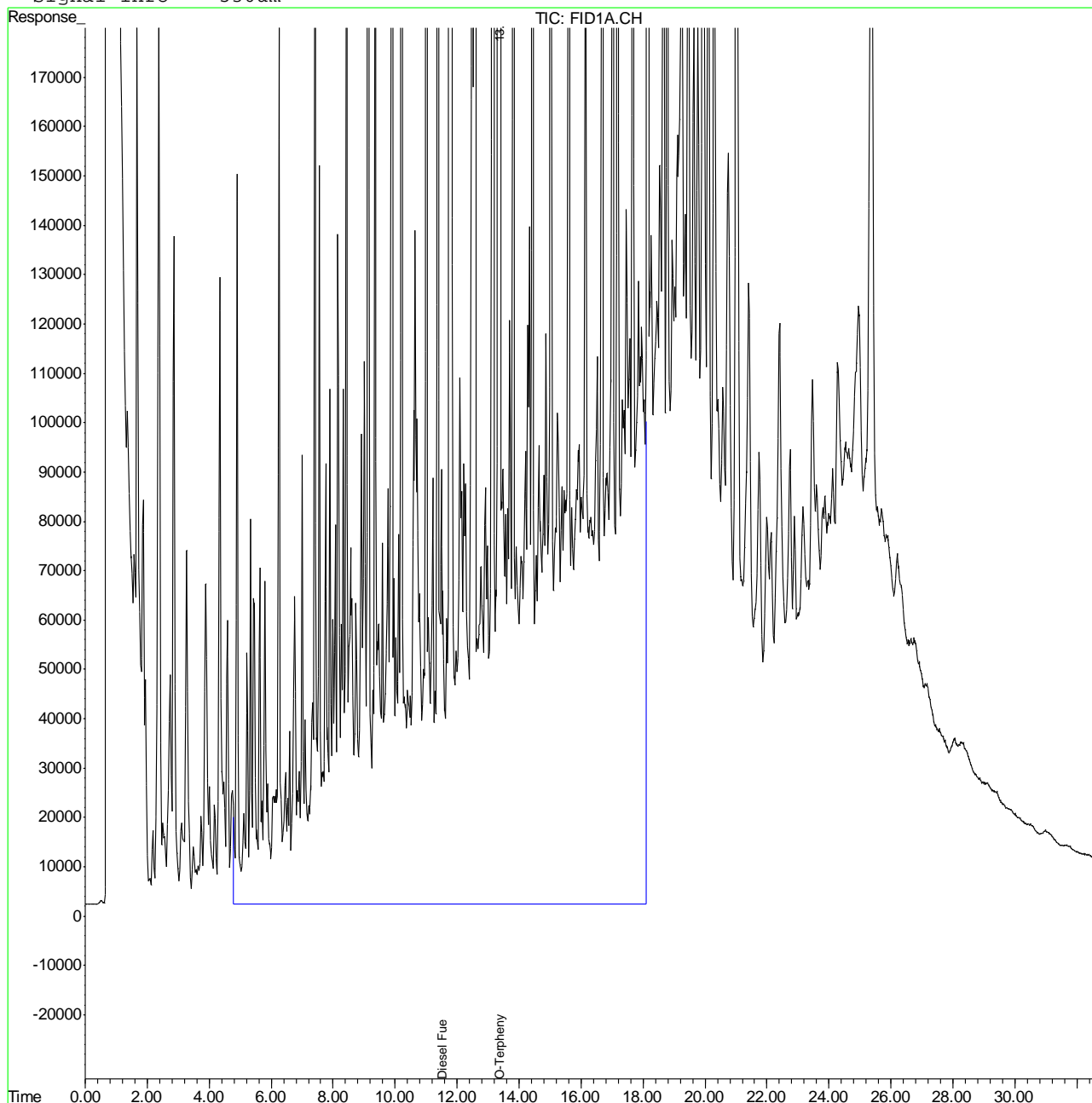
Compound	R.T.	Response	Conc Units
-----			
System Monitoring Compounds			
1) S O-Terphenyl	13.36	74218855	1086.362 mg/L m
Target Compounds			
2) H Diesel Fuel (No. 2)	11.52	689072216	9917.021 mg/L

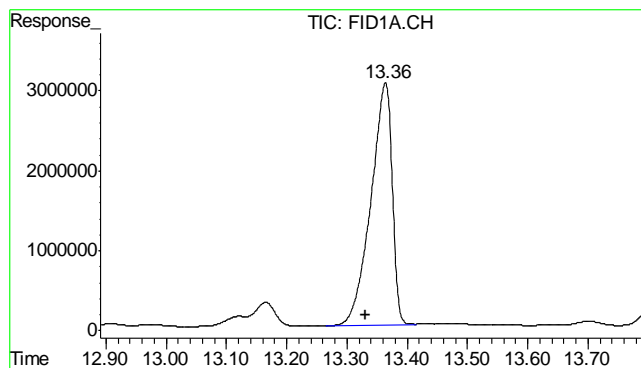
Quantitation Report (QT Reviewed)

Data File : E:\DATA\GFE284\FE5652.D Vial: 23  
 Acq On : 25 Jan 2011 8:23 am Operator: jacobbb  
 Sample : D20575-3 Inst : FID6  
 Misc : OP3054,GFE284,30.00,,,2,1 Multiplr: 1.00  
 IntFile : DF-GFE136.E  
 Quant Time: Jan 25 7:58 2011 Quant Results File: DF-GFE284.RES

Quant Method : C:\MSDCHEM\1\METHODS\DF-GFE284.M (Chemstation Integrator)  
 Title : 8015B TEH  
 Last Update : Tue Jan 25 08:39:47 2011  
 Response via : Multiple Level Calibration  
 DataAcq Meth : FR\_BASE2.M

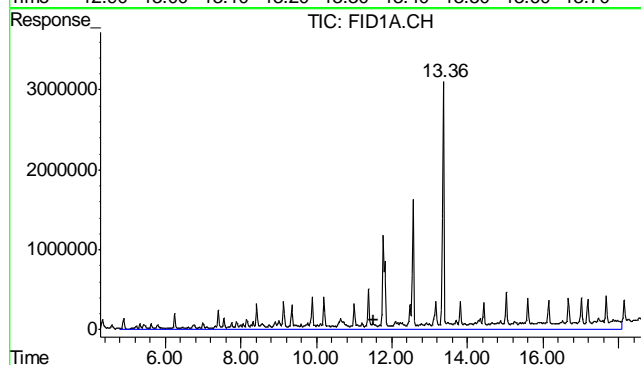
Volume Inj. : 1ul  
 Signal Phase : RTX-5  
 Signal Info : 530um





#1 O-Terphenyl

R.T.: 13.363 min  
 Delta R.T.: 0.033 min  
 Response: 74218855  
 Conc: 1086.36 mg/L m



#2 Diesel Fuel (No. 2)

R.T.: 11.515 min  
 Delta R.T.: 0.000 min  
 Response: 689072216  
 Conc: 9917.02 mg/L m

Quantitation Report (QT Reviewed)

Data File : E:\DATA\GFE284\FE5653.D Vial: 24  
Acq On : 25 Jan 2011 9:02 am Operator: jacobbb  
Sample : D20575-4 Inst : FID6  
Misc : OP3054,GFE284,30.03,,,2,1 Multiplr: 1.00  
IntFile : DF-GFE136.E  
Quant Time: Jan 25 09:57:45 2011 Quant Results File: DF-GFE284.RES

Quant Method : C:\MSDCHEM\1\METHODS\DF-GFE284.M (Chemstation Integrator)  
Title : 8015B TEH  
Last Update : Tue Jan 25 08:39:47 2011  
Response via : Initial Calibration  
DataAcq Meth : FR\_BASE2.M

Volume Inj. : 1ul  
Signal Phase : RTX-5  
Signal Info : 530um

Compound	R.T.	Response	Conc Units
-----			
System Monitoring Compounds			
1) S O-Terphenyl	13.37	85041300	1250.910 mg/L m
Target Compounds			
2) H Diesel Fuel (No. 2)	11.52	501089444	7162.132 mg/L

13.14  
13

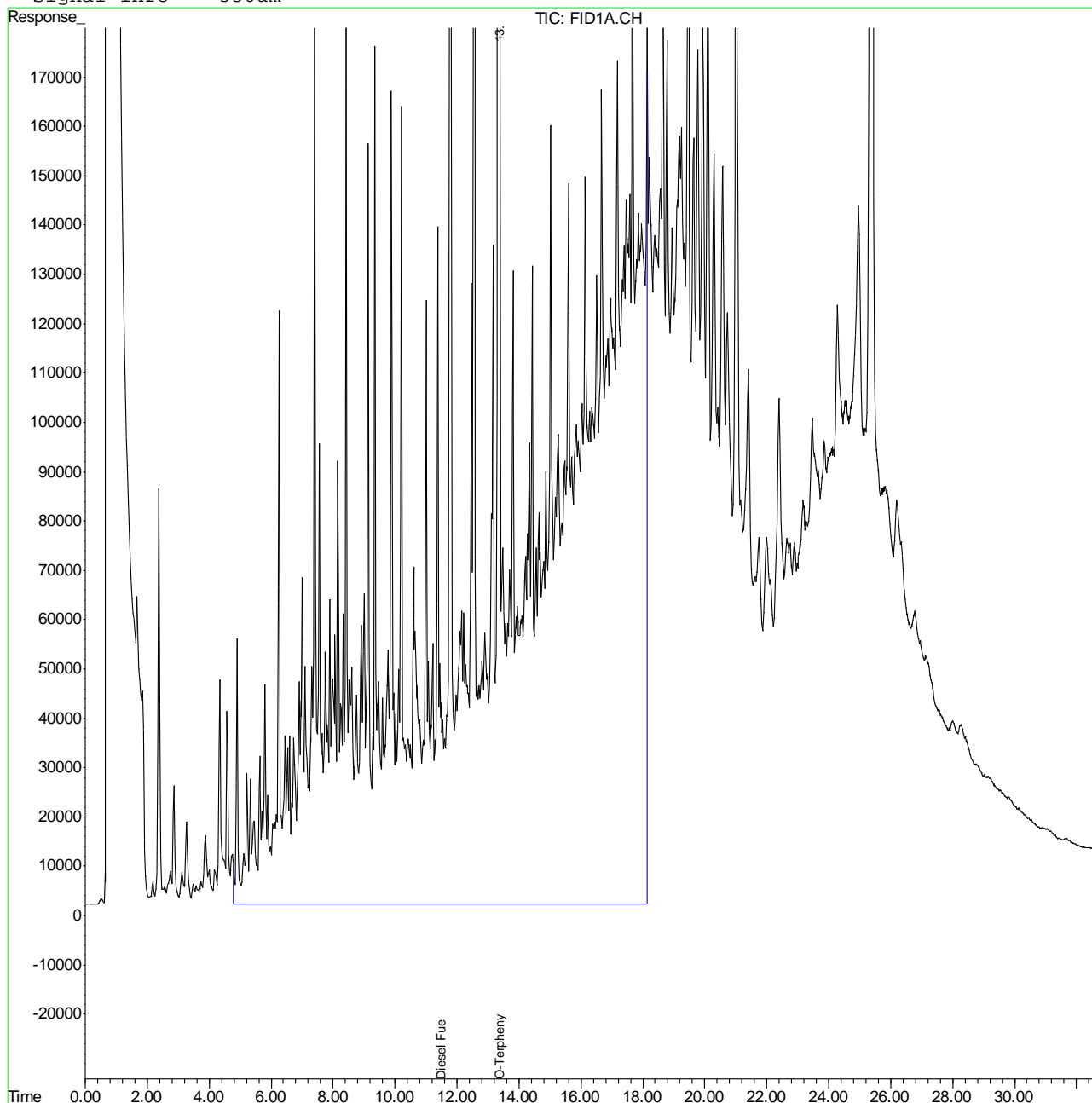


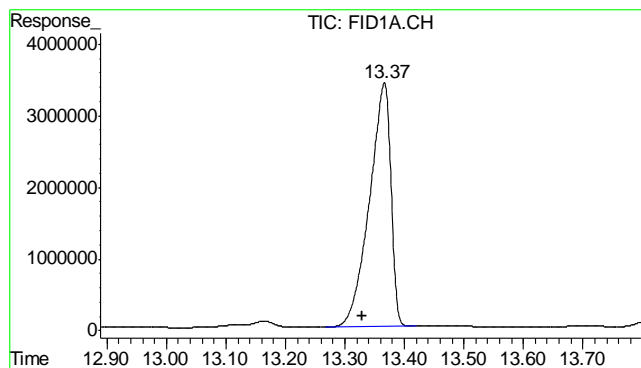
Quantitation Report (QT Reviewed)

Data File : E:\DATA\GFE284\FE5653.D Vial: 24  
 Acq On : 25 Jan 2011 9:02 am Operator: jacobbb  
 Sample : D20575-4 Inst : FID6  
 Misc : OP3054,GFE284,30.03,,,2,1 Multiplr: 1.00  
 IntFile : DF-GFE136.E  
 Quant Time: Jan 25 9:01 2011 Quant Results File: DF-GFE284.RES

Quant Method : C:\MSDCHEM\1\METHODS\DF-GFE284.M (Chemstation Integrator)  
 Title : 8015B TEH  
 Last Update : Tue Jan 25 08:39:47 2011  
 Response via : Multiple Level Calibration  
 DataAcq Meth : FR\_BASE2.M

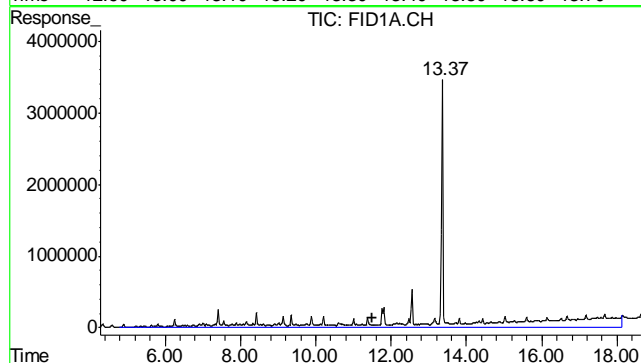
Volume Inj. : 1ul  
 Signal Phase : RTX-5  
 Signal Info : 530um





#1 O-Terphenyl

R.T.: 13.366 min  
Delta R.T.: 0.036 min  
Response: 85041300  
Conc: 1250.91 mg/L m



#2 Diesel Fuel (No. 2)

R.T.: 11.515 min  
Delta R.T.: 0.000 min  
Response: 501089444  
Conc: 7162.13 mg/L m

13.14  
13

Judy Melson  
01/25/11 13:05

## Quantitation Report (QT Reviewed)

Data File : E:\DATA\GFE284\FE5641.D Vial: 12  
Acq On : 25 Jan 2011 1:07 am Operator: jacobbb  
Sample : OP3054-MB Inst : FID6  
Misc : OP3054,GFE284,30.00,,,2,1 Multiplr: 1.00  
IntFile : DF-GFE136.E  
Quant Time: Jan 25 08:41:33 2011 Quant Results File: DF-GFE284.RES

Quant Method : C:\MSDCHEM\1\METHODS\DF-GFE284.M (Chemstation Integrator)  
Title : 8015B TEH  
Last Update : Tue Jan 25 08:39:47 2011  
Response via : Initial Calibration  
DataAcq Meth : FR\_BASE2.M

Volume Inj. : 1ul  
Signal Phase : RTX-5  
Signal Info : 530um

Compound	R.T.	Response	Conc Units
-----			
System Monitoring Compounds			
1) S O-Terphenyl	13.36	72704104	1063.464 mg/L m
Target Compounds			
2) H Diesel Fuel (No. 2)	11.52	1096236	15.395 mg/L

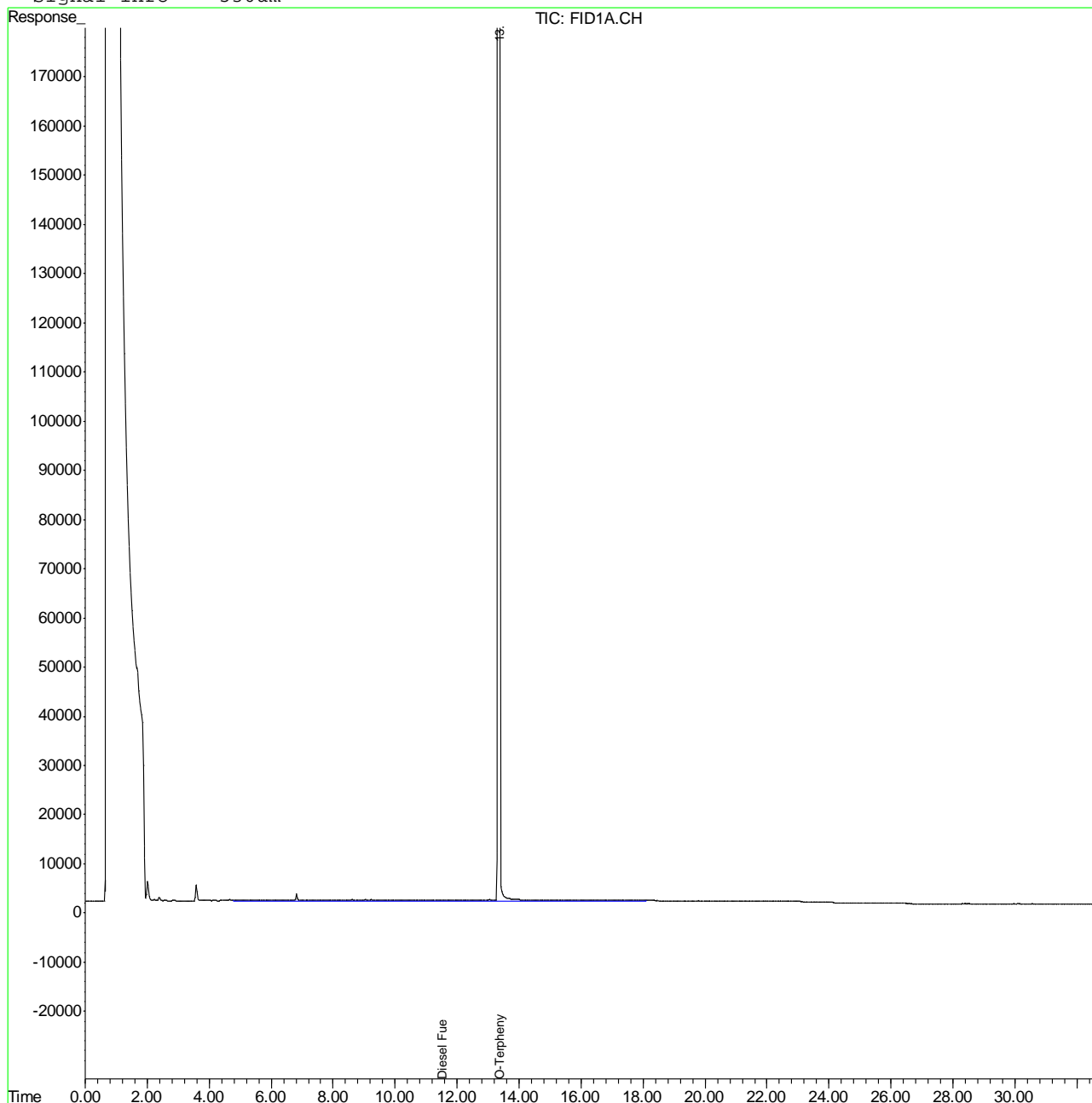
-----  
(f)=RT Delta > 1/2 Window (m)=manual int.  
FE5641.D DF-GFE284.M Tue Jan 25 08:56:49 2011 TEH

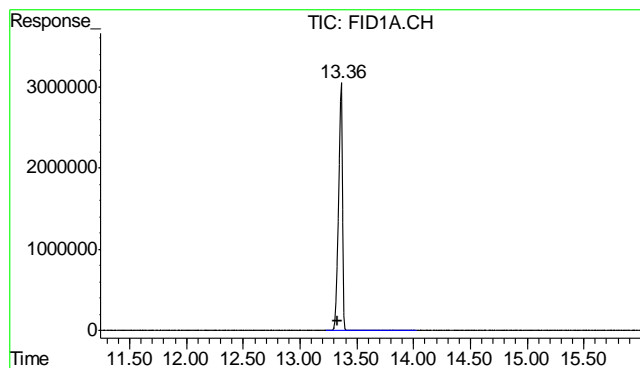
## Quantitation Report (QT Reviewed)

Data File : E:\DATA\GFE284\FE5641.D Vial: 12  
Acq On : 25 Jan 2011 1:07 am Operator: jacobbb  
Sample : OP3054-MB Inst : FID6  
Misc : OP3054,GFE284,30.00,,,2,1 Multiplr: 1.00  
IntFile : DF-GFE136.E  
Quant Time: Jan 25 7:45 2011 Quant Results File: DF-GFE284.RES

Quant Method : C:\MSDCHEM\1\METHODS\DF-GFE284.M (Chemstation Integrator)  
Title : 8015B TEH  
Last Update : Tue Jan 25 08:39:47 2011  
Response via : Multiple Level Calibration  
DataAcq Meth : FR\_BASE2.M

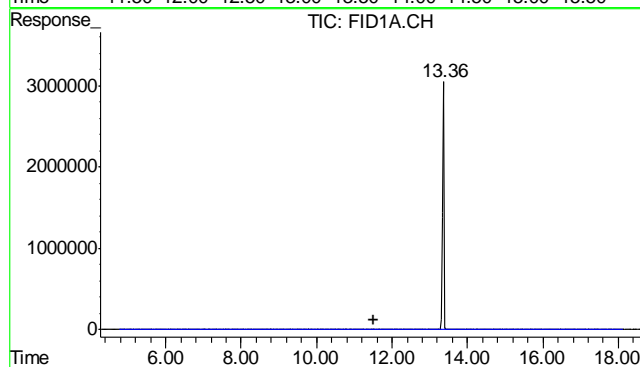
Volume Inj. : 1ul  
Signal Phase : RTX-5  
Signal Info : 530um





#1 O-Terphenyl

R.T.: 13.363 min  
Delta R.T.: 0.033 min  
Response: 72704104  
Conc: 1063.46 mg/L m



#2 Diesel Fuel (No. 2)

R.T.: 11.515 min  
Delta R.T.: 0.000 min  
Response: 1096236  
Conc: 15.39 mg/L m

## Quantitation Report (QT Reviewed)

Data File : E:\DATA\GFE284\FE5656.D Vial: 27  
Acq On : 25 Jan 2011 11:01 am Operator: jacobbb  
Sample : OP3059-MB Inst : FID6  
Misc : OP3059,GFE284,1000,,,2,1 Multiplr: 1.00  
IntFile : DF-GFE136.E  
Quant Time: Jan 25 12:25:49 2011 Quant Results File: DF-GFE284.RES

Quant Method : C:\MSDCHEM\1\METHODS\DF-GFE284.M (Chemstation Integrator)  
Title : 8015B TEH  
Last Update : Tue Jan 25 08:39:47 2011  
Response via : Initial Calibration  
DataAcq Meth : FR\_BASE2.M

Volume Inj. : 1ul  
Signal Phase : RTX-5  
Signal Info : 530um

Compound	R.T.	Response	Conc Units
-----			
System Monitoring Compounds			
1) S O-Terphenyl	13.35	49964514	723.517 mg/L
Target Compounds			
2) H Diesel Fuel (No. 2)	11.52	2667562	37.463 mg/L

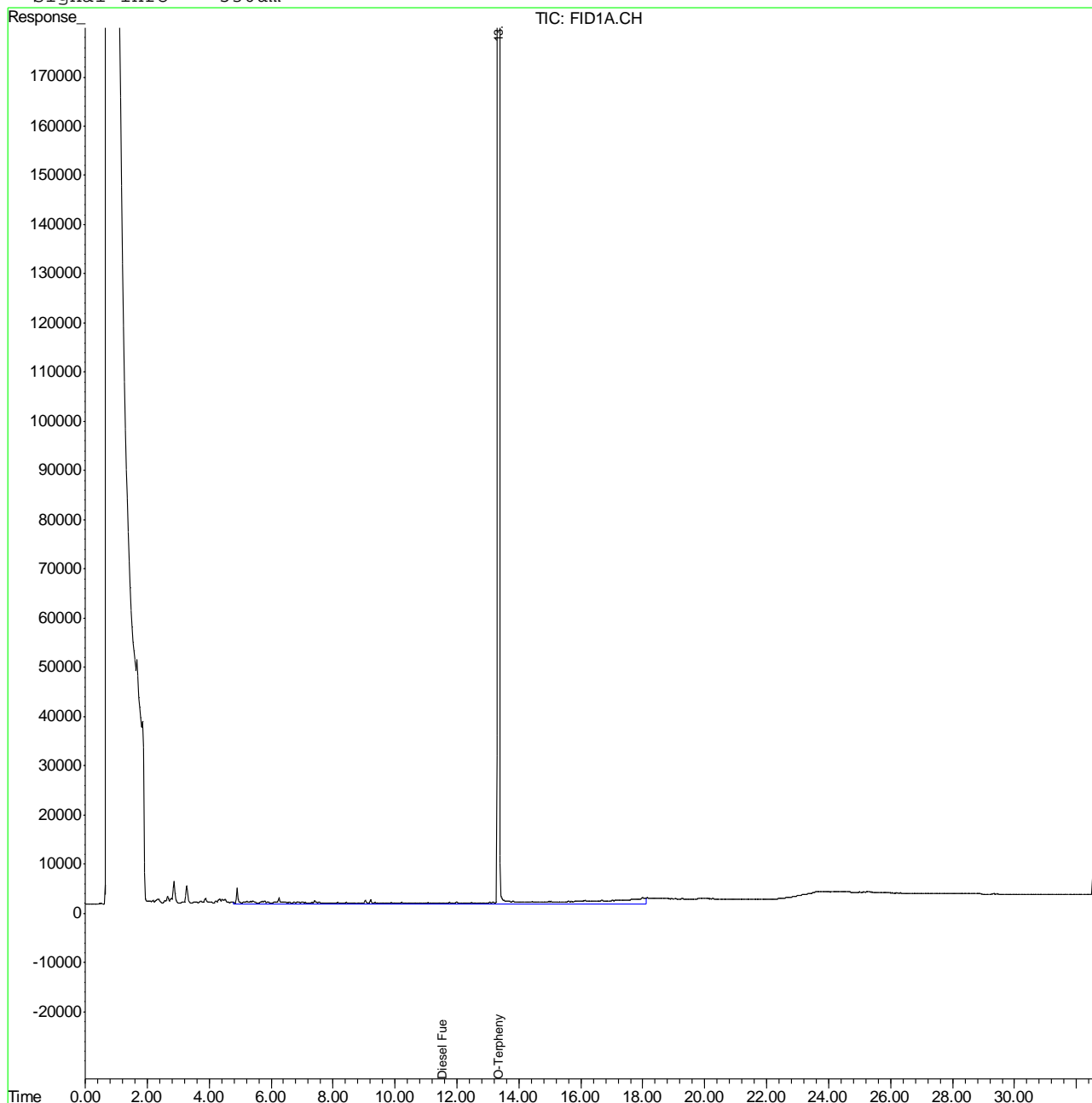
-----  
(f)=RT Delta > 1/2 Window (m)=manual int.  
FE5656.D DF-GFE284.M Wed Jan 26 11:49:26 2011 TEH

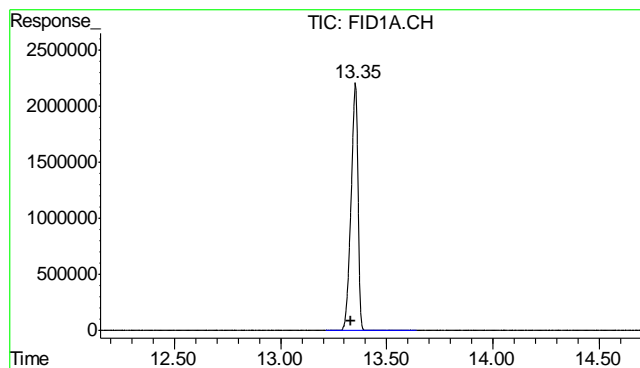
## Quantitation Report (QT Reviewed)

Data File : E:\DATA\GFE284\FE5656.D Vial: 27  
Acq On : 25 Jan 2011 11:01 am Operator: jacobbb  
Sample : OP3059-MB Inst : FID6  
Misc : OP3059,GFE284,1000,,,2,1 Multiplr: 1.00  
IntFile : DF-GFE136.E  
Quant Time: Jan 25 11:29 2011 Quant Results File: DF-GFE284.RES

Quant Method : C:\MSDCHEM\1\METHODS\DF-GFE284.M (Chemstation Integrator)  
Title : 8015B TEH  
Last Update : Tue Jan 25 08:39:47 2011  
Response via : Multiple Level Calibration  
DataAcq Meth : FR\_BASE2.M

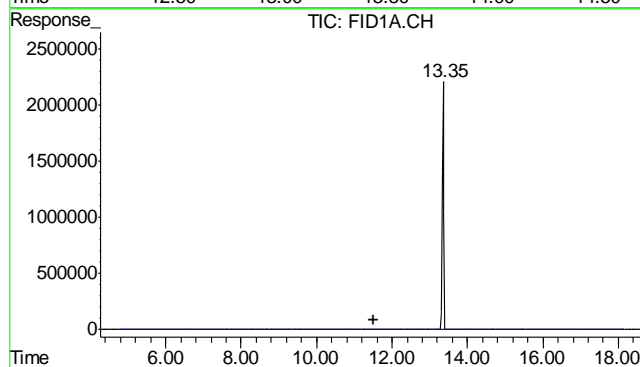
Volume Inj. : 1ul  
Signal Phase : RTX-5  
Signal Info : 530um





#1 O-Terphenyl

R.T.: 13.352 min  
Delta R.T.: 0.022 min  
Response: 49964514  
Conc: 723.52 mg/L



#2 Diesel Fuel (No. 2)

R.T.: 11.515 min  
Delta R.T.: 0.000 min  
Response: 2667562  
Conc: 37.46 mg/L m

13.22  
13



## Metals Analysis

### QC Data Summaries

---

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

QC Batch ID: MP3874  
Matrix Type: SOLID

Methods: SW846 6010B  
Units: mg/kg

Prep Date: 01/24/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	.7	2		
Antimony	3.0	.17	.5		
Arsenic	2.5	.28	.72		
Barium	1.0	.014	.05	0.47	<1.0
Beryllium	1.0	.14	.21		
Boron	5.0	.35	.91		
Cadmium	1.0	.022	.12	0.030	<1.0
Calcium	40	1.7	2.7		
Chromium	1.0	.027	.18	0.060	<1.0
Cobalt	0.50	.048	.058		
Copper	0.50	.16	.38	0.44	<0.50
Iron	7.0	.77	.91		
Lead	5.0	.13	.24	0.61	<5.0
Lithium	0.20	.076	.09		
Magnesium	20	.58	.93		
Manganese	0.50	.021	.028		
Molybdenum	1.0	.041	.16		
Nickel	3.0	.038	.075	0.010	<3.0
Phosphorus	10	1.5	3.5		
Potassium	200	38	130		
Selenium	5.0	.28	.54	0.35	<5.0
Silicon	5.0	1.2	.68		
Silver	3.0	.098	.068	0.030	<3.0
Sodium	40	23	6.3		
Strontium	5.0	.0091	.02		
Thallium	1.0	.31	.21		
Tin	5.0	1.4	.56		
Titanium	1.0	.0098	.041		
Uranium	5.0	.22	.53		
Vanadium	1.0	.027	.034		
Zinc	3.0	.076	.49	0.70	<3.0

Associated samples MP3874: D20575-2, D20575-3, D20575-4

Results < IDL are shown as zero for calculation purposes  
(\*) Outside of QC limits

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

QC Batch ID: MP3874  
Matrix Type: SOLID

Methods: SW846 6010B  
Units: mg/kg

Prep Date:

Metal

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

QC Batch ID: MP3874  
Matrix Type: SOLID

Methods: SW846 6010B  
Units: mg/kg

Prep Date: 01/24/11

Metal	D20575-2 Original MS		Spikelot MPICPAL	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	anr				
Barium	11500	14200	760	355.1(a)	75-125
Beryllium					
Boron					
Cadmium	0.0	151	190	79.4	75-125
Calcium					
Chromium	17.8	179	190	84.8	75-125
Cobalt					
Copper	37.9	209	190	90.0	75-125
Iron					
Lead	26.2	365	380	89.1	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel	15.5	165	190	78.6	75-125
Phosphorus					
Potassium					
Selenium	6.3	337	380	85.4	75-125
Silicon					
Silver	0.0	64.4	76	84.7	75-125
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc	72.2	195	190	64.6N(b)	75-125

Associated samples MP3874: D20575-2, D20575-3, D20575-4

Results < IDL are shown as zero for calculation purposes  
(\*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

QC Batch ID: MP3874  
Matrix Type: SOLID

Methods: SW846 6010B  
Units: mg/kg

Prep Date:

Metal

- (N) Matrix Spike Rec. outside of QC limits
- (anr) Analyte not requested
- (a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- (b) Spike recovery indicates possible matrix interference.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

QC Batch ID: MP3874  
Matrix Type: SOLID

Methods: SW846 6010B  
Units: mg/kg

Prep Date: 01/24/11

Metal	D20575-2 Original	MSD	Spikelot MPICPAL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	anr					
Barium	11500	12300	724	110.5	14.3	20
Beryllium						
Boron						
Cadmium	0.0	133	181	73.5N(a)	12.7	20
Calcium						
Chromium	17.8	157	181	76.9	13.1	20
Cobalt						
Copper	37.9	179	181	77.9	15.5	20
Iron						
Lead	26.2	303	362	76.4	18.6	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel	15.5	146	181	72.1N(a)	12.2	20
Phosphorus						
Potassium						
Selenium	6.3	298	362	79.0	12.3 (b)	20
Silicon						
Silver	0.0	56.6	72.4	78.2	12.9	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc	72.2	187	181	63.4N(c)	4.2	20

Associated samples MP3874: D20575-2, D20575-3, D20575-4

Results < IDL are shown as zero for calculation purposes  
(\*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

QC Batch ID: MP3874  
Matrix Type: SOLID

Methods: SW846 6010B  
Units: mg/kg

Prep Date:

Metal

- (N) Matrix Spike Rec. outside of QC limits
- (anr) Analyte not requested
- (a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
- (b) High RPD due to possible sample nonhomogeneity.
- (c) Spike recovery indicates possible matrix interference.

## SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

QC Batch ID: MP3874  
Matrix Type: SOLID

Methods: SW846 6010B  
Units: mg/kg

Prep Date: 01/24/11

Metal	BSP Result	Spikelot MPICPAL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	178	200	89.0	80-120
Beryllium				
Boron				
Cadmium	41.8	50	83.6	80-120
Calcium				
Chromium	45.6	50	91.2	80-120
Cobalt				
Copper	46.4	50	92.8	80-120
Iron				
Lead	90.9	100	90.9	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	43.1	50	86.2	80-120
Phosphorus				
Potassium				
Selenium	86.9	100	86.9	80-120
Silicon				
Silver	17.8	20	89.0	80-120
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	40.1	50	80.2	80-120

Associated samples MP3874: D20575-2, D20575-3, D20575-4

Results < IDL are shown as zero for calculation purposes  
(\*) Outside of QC limits



SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

QC Batch ID: MP3874  
Matrix Type: SOLID

Methods: SW846 6010B  
Units: mg/kg

Prep Date:

Metal

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

QC Batch ID: MP3874  
Matrix Type: SOLID

Methods: SW846 6010B  
Units: ug/l

Prep Date: 01/24/11

Metal	D20575-2 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	26600	26800	11.0*(a)	0-10
Beryllium				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium				
Chromium	46.4	39.5	17.4 (b)	0-10
Cobalt				
Copper	98.8	94.0	7.0	0-10
Iron				
Lead	68.3	68.5	12.5 (c)	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	40.3	44.5	6.6	0-10
Phosphorus				
Potassium				
Selenium	0.00	33.0	67.4 (b)	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	188	240	15.8 (a)	0-10

Associated samples MP3874: D20575-2, D20575-3, D20575-4

Results < IDL are shown as zero for calculation purposes  
(\*) Outside of QC limits

14.1.4  
14

SERIAL DILUTION RESULTS SUMMARY

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

QC Batch ID: MP3874  
Matrix Type: SOLID

Methods: SW846 6010B  
Units: ug/l

Prep Date:

Metal

- (anr) Analyte not requested  
(a) Serial dilution indicates possible matrix interference.  
(b) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).  
(c) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

QC Batch ID: MP3875  
Matrix Type: SOLID

Methods: SW846 6020  
Units: mg/kg

Prep Date: 01/24/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	25	.14	1.2		
Antimony	0.20	.001	.0095		
Arsenic	0.40	.049	.22	0.18	<0.40
Barium	1.0	.0035	.1		
Beryllium	0.10	.0075	.014		
Boron	20	.97	1		
Cadmium	0.050	.023	.048		
Calcium	200	1.8	8.2		
Chromium	1.0	.021	.24		
Cobalt	0.10	.0033	.003		
Copper	1.0	.011	.063		
Iron	20	.81	3.7		
Lead	0.25	.0012	.015		
Magnesium	50	.067	2.6		
Manganese	0.50	.007	.029		
Molybdenum	0.50	.0044	.023		
Nickel	1.0	.0029	.031		
Phosphorus	30	1.8	3.5		
Potassium	100	2	3.2		
Selenium	0.20	.075	.19		
Silver	0.050	.0008	.002		
Sodium	250	.8	4.4		
Strontium	10	.004	.04		
Thallium	0.10	.015	.02		
Tin	5.0	.006	.028		
Titanium	1.0	.035	.062		
Uranium	0.25	.00038	.0009		
Vanadium	2.0	.052	.29		
Zinc	5.0	.039	.12		

Associated samples MP3875: D20575-2, D20575-3, D20575-4

Results < IDL are shown as zero for calculation purposes  
(\*) Outside of QC limits  
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D20575  
 Account: KRWCCOL - KRW Consulting, Inc.  
 Project: FRU 297-8B

QC Batch ID: MP3875  
 Matrix Type: SOLID

Methods: SW846 6020  
 Units: mg/kg

Prep Date: 01/24/11

Metal	D20575-2 Original MS		SpikeLot MPICPALL % Rec		QC Limits
Aluminum					
Antimony					
Arsenic	7.3	359	380	92.5	60-119
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP3875: D20575-2, D20575-3, D20575-4

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (N) Matrix Spike Rec. outside of QC limits  
 (anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

QC Batch ID: MP3875  
Matrix Type: SOLID

Methods: SW846 6020  
Units: mg/kg

Prep Date: 01/24/11

Metal	D20575-2 Original	MSD	Spikelot MPICPAL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	7.3	299	362	80.6	18.2	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP3875: D20575-2, D20575-3, D20575-4

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D20575  
 Account: KRWCCOL - KRW Consulting, Inc.  
 Project: FRU 297-8B

QC Batch ID: MP3875  
 Matrix Type: SOLID

Methods: SW846 6020  
 Units: mg/kg

Prep Date: 01/24/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	95.3	100	95.3	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP3875: D20575-2, D20575-3, D20575-4

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (anr) Analyte not requested

14.2.3  
14

# SERIAL DILUTION RESULTS SUMMARY

Login Number: D20575  
 Account: KRWCCOL - KRW Consulting, Inc.  
 Project: FRU 297-8B

QC Batch ID: MP3875  
 Matrix Type: SOLID

Methods: SW846 6020  
 Units: ug/l

Prep Date: 01/24/11

Metal	D20575-2 Original SDL 5:25 %DIF			QC Limits
Aluminum				
Antimony				
Arsenic	18.9	19.1	1.2	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP3875: D20575-2, D20575-3, D20575-4

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (anr) Analyte not requested

14.2.4  
14



BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

QC Batch ID: MP3876  
Matrix Type: AQUEOUS

Methods: EPA 200.8  
Units: ug/l

Prep Date: 01/24/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	.28	5.7		
Antimony	0.40	.002	.059		
Arsenic	0.80	.098	.31	0.18	<0.80
Barium	2.0	.007	.18		
Beryllium	0.20	.015	.032		
Boron	40	1.9	1.5		
Cadmium	0.10	.045	.053		
Calcium	400	3.6	15		
Chromium	2.0	.041	.16		
Cobalt	0.20	.0065	.02		
Copper	2.0	.021	.36		
Iron	40	1.6	9.8		
Lead	0.50	.0024	.039		
Magnesium	100	.13	6.4		
Manganese	1.0	.014	.12		
Molybdenum	1.0	.0087	.018		
Nickel	2.0	.0057	.042		
Phosphorus	60	3.6	2.9		
Potassium	200	4	5.3		
Selenium	0.40	.15	.096		
Silver	0.10	.0016	.0017		
Sodium	500	1.6	12		
Strontium	20	.0079	.095		
Thallium	0.20	.029	.01		
Tin	10	.012	.12		
Titanium	2.0	.069	.2		
Uranium	0.20	.00076	.0031		
Vanadium	1.0	.1	.64		
Zinc	10	.077	.67		

Associated samples MP3876: D20575-1

Results < IDL are shown as zero for calculation purposes  
(\*) Outside of QC limits  
(anr) Analyte not requested

14.3.1  
14

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

QC Batch ID: MP3876  
Matrix Type: AQUEOUS

Methods: EPA 200.8  
Units: ug/l

Prep Date: 01/24/11

Metal	D20547-3F Original MS	Spikelot MPICPAL % Rec	QC Limits
Aluminum	anr		
Antimony			
Arsenic	0.79 209	200 104.1	70-130
Barium			
Beryllium			
Boron			
Cadmium	anr		
Calcium			
Chromium	anr		
Cobalt			
Copper	anr		
Iron	anr		
Lead	anr		
Magnesium			
Manganese	anr		
Molybdenum			
Nickel	anr		
Phosphorus			
Potassium			
Selenium	anr		
Silver	anr		
Sodium			
Strontium			
Thallium			
Tin			
Titanium			
Uranium	anr		
Vanadium			
Zinc	anr		

Associated samples MP3876: D20575-1

Results < IDL are shown as zero for calculation purposes  
(\*) Outside of QC limits  
(N) Matrix Spike Rec. outside of QC limits  
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

QC Batch ID: MP3876  
Matrix Type: AQUEOUS

Methods: EPA 200.8  
Units: ug/l

Prep Date: 01/24/11

Metal	D20547-3F Original MSD	Spikelot MPICPAL % Rec	MSD RPD	QC Limit
Aluminum	anr			
Antimony				
Arsenic	0.79	208	200	103.6
Barium				
Beryllium				
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper	anr			
Iron	anr			
Lead	anr			
Magnesium				
Manganese	anr			
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium				
Selenium	anr			
Silver	anr			
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium	anr			
Vanadium				
Zinc	anr			

Associated samples MP3876: D20575-1

Results < IDL are shown as zero for calculation purposes  
(\*) Outside of QC limits  
(N) Matrix Spike Rec. outside of QC limits  
(anr) Analyte not requested

## SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

QC Batch ID: MP3876  
Matrix Type: AQUEOUS

Methods: EPA 200.8  
Units: ug/l

Prep Date: 01/24/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum	anr			
Antimony				
Arsenic	204	200	102.0	85-115
Barium				
Beryllium				
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper	anr			
Iron	anr			
Lead	anr			
Magnesium				
Manganese	anr			
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium				
Selenium	anr			
Silver	anr			
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium	anr			
Vanadium				
Zinc	anr			

Associated samples MP3876: D20575-1

Results < IDL are shown as zero for calculation purposes  
(\*) Outside of QC limits  
(anr) Analyte not requested

14.3.3  
14

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

QC Batch ID: MP3889  
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B  
Units: ug/l

Prep Date: 01/25/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	500	35	250		
Antimony	150	8.5	65		
Arsenic	130	14	33		
Barium	50	.7	12		
Beryllium	50	7	22		
Boron	250	18	93		
Cadmium	50	1.1	6		
Calcium	2000	85	46	126	<2000
Chromium	50	1.4	8		
Cobalt	25	2.4	1.5		
Copper	25	8	14		
Iron	350	39	50		
Lead	250	6.5	16		
Lithium	10	3.8	8		
Magnesium	1000	29	62	4.0	<1000
Manganese	25	1.1	3.5		
Molybdenum	50	2.1	6		
Nickel	150	1.9	3		
Phosphorus	500	75	270		
Potassium	5000	1900	2700		
Selenium	250	14	36		
Silicon	250	60	100		
Silver	150	4.9	1.5		
Sodium	2000	1200	110	-160	<2000
Strontium	25	.46	17		
Thallium	50	16	11		
Tin	250	70	22		
Titanium	50	.49	3.5		
Uranium	250	11	20		
Vanadium	50	1.4	1.5		
Zinc	150	3.8	8.5		

Associated samples MP3889: D20575-2A, D20575-3A, D20575-4A

Results < IDL are shown as zero for calculation purposes  
(\*) Outside of QC limits

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

QC Batch ID: MP3889  
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B  
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D20575  
 Account: KRWCCOL - KRW Consulting, Inc.  
 Project: FRU 297-8B

QC Batch ID: MP3889  
 Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B  
 Units: ug/l

Prep Date: 01/25/11

Metal	D20576-3A Original MS		Spikelot MPICPALL % Rec		QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	25600	157000	125000	105.1	75-125
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Lithium					
Magnesium	101	122000	125000	97.5	75-125
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium	2010000	2160000	125000	120.0	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP3889: D20575-2A, D20575-3A, D20575-4A

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits

14.4.2  
14

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

QC Batch ID: MP3889  
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B  
Units: ug/l

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits  
(anr) Analyte not requested

14.4.2  
14



MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

QC Batch ID: MP3889  
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B  
Units: ug/l

Prep Date: 01/25/11

Metal	D20576-3A Original	MSD	Spikelot MPICPAL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium	25600	158000	125000	105.9	0.6	20
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Lithium						
Magnesium	101	122000	125000	97.5	0.0	20
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium	2010000	2130000	125000	96.0	1.4	20
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP3889: D20575-2A, D20575-3A, D20575-4A

Results < IDL are shown as zero for calculation purposes  
(\*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

QC Batch ID: MP3889  
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B  
Units: ug/l

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits  
(anr) Analyte not requested

## SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D20575

Account: KRWCCOL - KRW Consulting, Inc.

Project: FRU 297-8B

QC Batch ID: MP3889

Methods: LADNR29B, SW846 6010B

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

01/25/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	133000	125000	106.4	80-120
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	126000	125000	100.8	80-120
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	129000	125000	103.2	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP3889: D20575-2A, D20575-3A, D20575-4A

Results &lt; IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

14.4.3  
14

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

QC Batch ID: MP3889  
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B  
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

QC Batch ID: MP3911  
Matrix Type: SOLID

Methods: SW846 7471A  
Units: mg/kg

Prep Date: 01/27/11

Metal	RL	IDL	MDL	MB	
				raw	final
Mercury	0.10	.0011	.013	-0.0022	<0.10

Associated samples MP3911: D20575-2, D20575-3, D20575-4

Results < IDL are shown as zero for calculation purposes  
(\*) Outside of QC limits  
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D20575  
 Account: KRWCCOL - KRW Consulting, Inc.  
 Project: FRU 297-8B

QC Batch ID: MP3911  
 Matrix Type: SOLID

Methods: SW846 7471A  
 Units: mg/kg

Prep Date: 01/27/11

Metal	D20575-3		Spikelot		QC	
	Original	MS	HGWSR1	% Rec	Limits	
Mercury	0.023	0.42	0.495	80.3N(a)	85-115	

Associated samples MP3911: D20575-2, D20575-3, D20575-4

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D20575  
 Account: KRWCCOL - KRW Consulting, Inc.  
 Project: FRU 297-8B

QC Batch ID: MP3911  
 Matrix Type: SOLID

Methods: SW846 7471A  
 Units: mg/kg

Prep Date: 01/27/11

Metal	D20575-3 Original MSD	Spikelot HGWSR1	% Rec	MSD RPD	QC Limit
Mercury	0.023	0.48	0.504	90.6	13.3

Associated samples MP3911: D20575-2, D20575-3, D20575-4

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (N) Matrix Spike Rec. outside of QC limits  
 (anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D20575  
 Account: KRWCCOL - KRW Consulting, Inc.  
 Project: FRU 297-8B

QC Batch ID: MP3911  
 Matrix Type: SOLID

Methods: SW846 7471A  
 Units: mg/kg

Prep Date: 01/27/11

Metal	BSP Result	Spikelot HGWSR1	% Rec	QC Limits
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Mercury	0.38	0.4	95.0	80-120
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Associated samples MP3911: D20575-2, D20575-3, D20575-4

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (anr) Analyte not requested



## General Chemistry

### QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Specific Conductivity	GP3657/GN8022			umhos/cm	100.1	92.2	92.1	90-110%
Specific Conductivity	GP3658/GN8023			umhos/cm	9985	10300	102.9	90-110%
pH	GN7999			su	8.00	7.99	99.9	99.3-100.7%
pH	GN8002			su	8.00	8.01	100.1	99.3-100.7%

Associated Samples:

Batch GN7999: D20575-1

Batch GN8002: D20575-2, D20575-3, D20575-4

Batch GP3657: D20575-1

Batch GP3658: D20575-2, D20575-3, D20575-4

(\*) Outside of QC limits

DUPLICATE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: D20575  
Account: KRWCCOL - KRW Consulting, Inc.  
Project: FRU 297-8B

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Specific Conductivity	GP3657/GN8022	D20530-1	umhos/cm	1020	1010	1.1	0-20%

Associated Samples:  
Batch GP3657: D20575-1  
(\*) Outside of QC limits

## Misc. Forms

### Custody Documents and Other Forms

(Accutest Labs of New England, Inc.)

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Includes the following where applicable:

- Chain of Custody



## Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D20575

Client: AMS

Immediate Client Services Action Required: No

Date / Time Received: 1/25/2011

Delivery Method:

Client Service Action Required at Login: No

Project: N/A

No. Coolers: 1

Airbill #'s: N/A

### Cooler Security

Y or N

Y or N

- |                           |                                     |                          |                       |                                     |                          |
|---------------------------|-------------------------------------|--------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. COC Present:       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact:  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Smpl Dates/Time OK | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

### Cooler Temperature

Y or N

- |                              |                                     |                          |
|------------------------------|-------------------------------------|--------------------------|
| 1. Temp criteria achieved:   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Cooler temp verification: | Infrared gun                        |                          |
| 3. Cooler media:             | Ice (bag)                           |                          |

### Quality Control Preservation

Y or N

N/A

- |                                 |                                     |                          |                                     |
|---------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| 1. Trip Blank present / cooler: | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Trip Blank listed on COC:    | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Samples preserved properly:  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |                                     |
| 4. VOCs headspace free:         | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

### Sample Integrity - Documentation

Y or N

- |  |                                     |                          |
|--|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles:   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Container labeling complete:        | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Sample container label / COC agree: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

### Sample Integrity - Condition

Y or N

- |                                  |                                     |                          |
|----------------------------------|-------------------------------------|--------------------------|
| 1. Sample recvd within HT:       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. All containers accounted for: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Condition of sample:          | Intact                              |                          |

### Sample Integrity - Instructions

Y or N N/A

- |   |                                     |                                     |                                     |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear:           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 2. Bottles received for unspecified tests | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                                     |
| 3. Sufficient volume recvd for analysis:  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 4. Compositing instructions clear:        | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 5. Filtering instructions clear:          | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

Comments

## General Chemistry

### QC Data Summaries

(Accutest Labs of New England, Inc.)

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Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: D20575  
Account: ALMS - Accutest Mountain States  
Project: KRWCCOL: FRU 297-8A

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GP12555/GN33996	0.40	0.0	mg/kg	12	12.0	100.0	80-120%
Chromium, Hexavalent	GP12555/GN33996			mg/kg	857	848	98.9	80-120%

Associated Samples:  
Batch GP12555: D20575-2, D20575-3, D20575-4  
(\*) Outside of QC limits



DUPLICATE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: D20575  
Account: ALMS - Accutest Mountain States  
Project: KRWCCOL: FRU 297-8A

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GP12555/GN33996	D20575-4	mg/kg	0.0	0.20	200.0 (a)	0-20%
Redox Potential Vs H2	GN33999	D20575-2	mv	149	157	5.2	0-20%

Associated Samples:

Batch GN33999: D20575-2, D20575-3, D20575-4

Batch GP12555: D20575-2, D20575-3, D20575-4

(\*) Outside of QC limits

(a) RPD acceptable due to low duplicate and sample concentrations.

MATRIX SPIKE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: D20575  
Account: ALMS - Accutest Mountain States  
Project: KRWCCOL: FRU 297-8A

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chromium, Hexavalent	GP12555/GN33996	D20575-4	mg/kg	0.0	15.1	1.4	9.3(a)	75-125%
Chromium, Hexavalent	GP12555/GN33996	D20575-4	mg/kg	0.0	1510	1250	82.7	75-125%

Associated Samples:

Batch GP12555: D20575-2, D20575-3, D20575-4

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(a) Soluble spike recovery indicates possible matrix interference and/or sample nonhomogeneity. Refer to spike blank.