



06/18/12

Technical Report for

XTO Energy

FRU 297-17A

1180-13A

Accutest Job Number: D35285

Sampling Date: 06/07/12

Report to:

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Total number of pages in report: 69



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.

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Sample Summary

XTO Energy

Job No: D35285

FRU 297-17A
Project No: 1180-13A

Sample Number	Collected		Time By	Received	Matrix		Client Sample ID
	Date				Code	Type	
D35285-1	06/07/12	13:20	CB	06/09/12	SO	Soil	CUT 1+ 2 MB DAY 7 (6/7/12)

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



CASE NARRATIVE / CONFORMANCE SUMMARY

Client: XTO Energy

Job No D35285

Site: FRU 297-17A

Report Date 6/15/2012 4:07:13 PM

On 06/09/2012, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 4.0 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D35285 was assigned to the project. The lab sample ID, client sample ID, and date 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

Matrix SO

Batch ID: V5V1333

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D35289-1MS, D35289-1MSD were used as the QC samples indicated.

Volatiles by GC By Method SW846 8015B

Matrix SO

Batch ID: GGB906

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D35276-12MS, D35276-12MSD were used as the QC samples indicated.

Extractables by GC By Method SW846-8015B

Matrix SO

Batch ID: OP6034

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D35261-1MS, D35261-1MSD were used as the QC samples indicated.

Wet Chemistry By Method SM19 2540B M

Matrix SO

Batch ID: GN15369

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

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 Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Page 1 of 1

Client Sample ID:	CUT 1+ 2 MB DAY 7 (6/7/12)	
Lab Sample ID:	D35285-1	Date Sampled: 06/07/12
Matrix:	SO - Soil	Date Received: 06/09/12
Method:	SW846 8260B	Percent Solids: 87.4
Project:	FRU 297-17A	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V21821.D	1	06/11/12	BD	n/a	n/a	V5V1333
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.05 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.0482	0.064	0.024	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	90%		61-130%
460-00-4	4-Bromofluorobenzene	94%		53-131%
17060-07-0	1,2-Dichloroethane-D4	100%		62-130%

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

Client Sample ID:	CUT 1+ 2 MB DAY 7 (6/7/12)	Date Sampled:	06/07/12
Lab Sample ID:	D35285-1	Date Received:	06/09/12
Matrix:	SO - Soil	Percent Solids:	87.4
Method:	SW846 8015B		
Project:	FRU 297-17A		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB16305.D	1	06/11/12	SK	n/a	n/a	GGB906
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.1 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	13	6.4	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	100%		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

Client Sample ID:	CUT 1+ 2 MB DAY 7 (6/7/12)	Date Sampled:	06/07/12
Lab Sample ID:	D35285-1	Date Received:	06/09/12
Matrix:	SO - Soil	Percent Solids:	87.4
Method:	SW846-8015B SW846 3546		
Project:	FRU 297-17A		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD14186.D	1	06/13/12	AV	06/12/12	OP6034	GFD747
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	75.1	7.6	5.0	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	65%		43-136%		

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D35285

Client: KRW CONSULTING

Immediate Client Services Action Required: No

Date / Time Received: 6/9/2012 9:15:00 AM

No. Coolers: 1

Client Service Action Required at Login: No

Project: XTO FRU 297-17A

Airbill #'s: FedEx

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"/>	
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input 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 rec'd 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

GC/MS Volatiles

5

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: D35285
Account: XTOKRWR XTO Energy
Project: FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V1333-MB	5V21812.D	1	06/11/12	BD	n/a	n/a	V5V1333

The QC reported here applies to the following samples:

Method: SW846 8260B

D35285-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	50	19	ug/kg	

CAS No.	Surrogate Recoveries	Limits
2037-26-5	Toluene-D8	91% 61-130%
460-00-4	4-Bromofluorobenzene	85% 53-131%
17060-07-0	1,2-Dichloroethane-D4	100% 62-130%

Blank Spike Summary

Page 1 of 1

Job Number: D35285
Account: XTOKRWR XTO Energy
Project: FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V1333-BS	5V21815.D	1	06/11/12	BD	n/a	n/a	V5V1333

The QC reported here applies to the following samples:

Method: SW846 8260B

D35285-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	47.2	94	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	96%	61-130%
460-00-4	4-Bromofluorobenzene	102%	53-131%
17060-07-0	1,2-Dichloroethane-D4	104%	62-130%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D35285
Account: XTOKRWR XTO Energy
Project: FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D35289-1MS	5V21817.D	1	06/11/12	BD	n/a	n/a	V5V1333
D35289-1MSD	5V21818.D	1	06/11/12	BD	n/a	n/a	V5V1333
D35289-1	5V21819.D	1	06/11/12	BD	n/a	n/a	V5V1333

The QC reported here applies to the following samples:

Method: SW846 8260B

D35285-1

CAS No.	Compound	D35289-1 ug/kg	Spike Q	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	57.1	2700	2900	105	2860	104	1	70-134/30

CAS No.	Surrogate Recoveries	MS	MSD	D35289-1	Limits
2037-26-5	Toluene-D8	95%	95%	93%	61-130%
460-00-4	4-Bromofluorobenzene	109%	111%	97%	53-131%
17060-07-0	1,2-Dichloroethane-D4	103%	102%	102%	62-130%

GC/MS Volatiles

Raw Data



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5061112.S\
 Data File : 5V21821.D
 Acq On : 11 Jun 2012 5:51 pm
 Operator : BRETD
 Sample : D35285-1
 Misc : MS4076,V5V1333,5.051,,100,5,1
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jun 12 09:06:02 2012
 Quant Method : C:\msdchem\1\METHODS\V5AP1304TVH1304.M
 Quant Title : 8260
 QLast Update : Thu May 24 07:55:17 2012
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	11.647	168	216430	50.00	ug/l	0.00
35) 1,4-Difluorobenzene	12.446	114	333268	50.00	ug/l	0.00
53) Chlorobenzene-d5	15.095	117	406057	50.00	ug/l	0.00
74) 1,4-Dichlorobenzene-d4	17.070	152	277480	50.00	ug/l	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4	12.035	102	33286	50.17	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	100.34%
61) Toluene-d8	13.850	98	620325	45.20	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	90.40%
69) 4-Bromofluorobenzene	16.043	95	263240	46.83	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	93.66%

Target Compounds

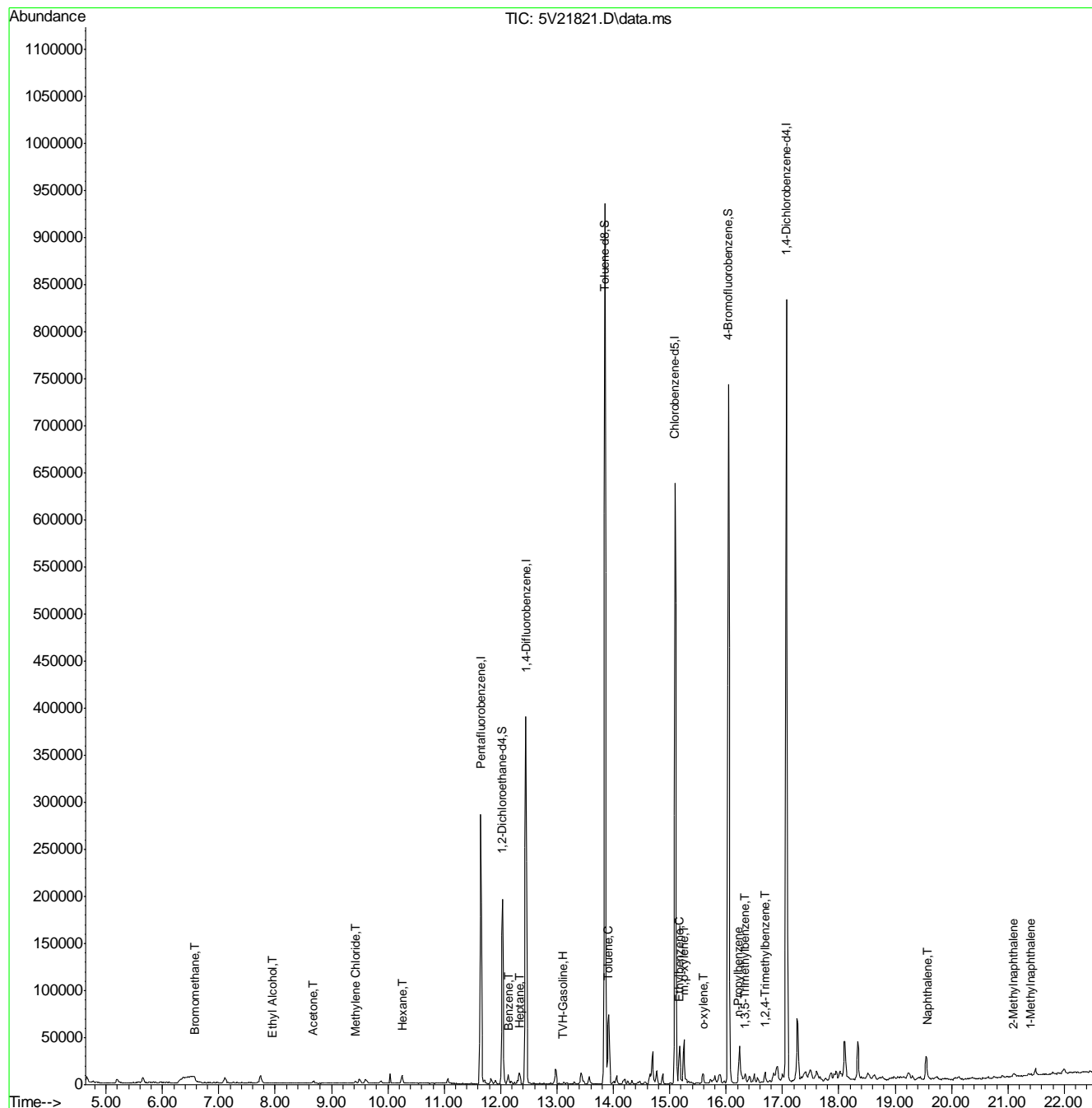
					Qvalue
1) TVH-Gasoline	13.102	TIC	522344m	27.46	ug/l
6) Bromomethane	6.578	94	1869	0.30	ug/l # 29
9) Ethyl Alcohol	7.959	45	192	7.61	ug/l # 37
15) Acetone	8.679	58	991	1.00	ug/l 96
17) Methylene Chloride	9.421	84	1139	0.31	ug/l 85
41) Hexane	10.254	57	4190	0.91	ug/l 100
43) Heptane	12.332	43	4555	0.92	ug/l 90
50) Benzene	12.138	78	10457	0.76	ug/l 100
62) Toluene	13.908	92	24574	2.33	ug/l 100
66) Ethylbenzene	15.175	91	8108	0.41	ug/l 98
72) m,p-xylene	15.255	106	15234	1.95	ug/l 97
73) o-xylene	15.597	106	2201	0.29	ug/l 99
77) n-Propylbenzene	16.225	91	3704	0.15	ug/l # 82
80) 1,3,5-Trimethylbenzene	16.339	105	3510m	0.20	ug/l
82) 1,2,4-Trimethylbenzene	16.693	105	6506	0.36	ug/l 94
91) Naphthalene	19.570	128	6683	1.06	ug/l 100
94) 2-Methylnaphthalene	21.100	142	2647	1.80	ug/l 96
95) 1-Methylnaphthalene	21.408	142	1312	1.42	ug/l 95

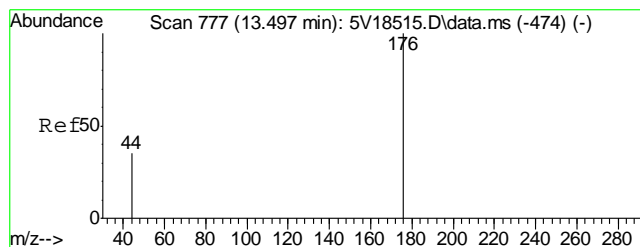
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5061112.S\
Data File : 5V21821.D
Acq On : 11 Jun 2012 5:51 pm
Operator : BRETD
Sample : D35285-1
Misc : MS4076,V5V1333,5.051,,100,5,1
ALS Vial : 13 Sample Multiplier: 1

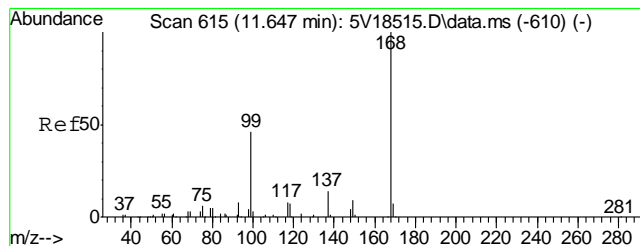
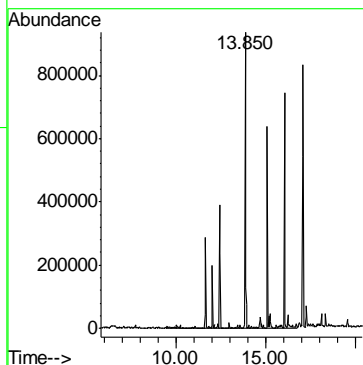
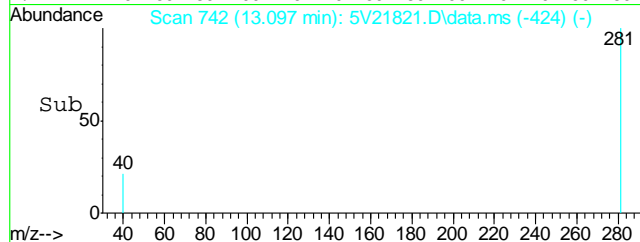
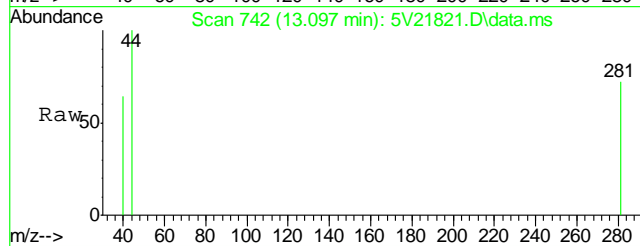
Quant Time: Jun 12 09:06:02 2012
Quant Method : C:\msdchem\1\METHODS\V5AP1304TVH1304.M
Quant Title : 8260
QLast Update : Thu May 24 07:55:17 2012
Response via : Initial Calibration





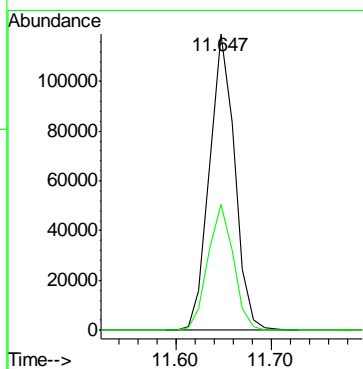
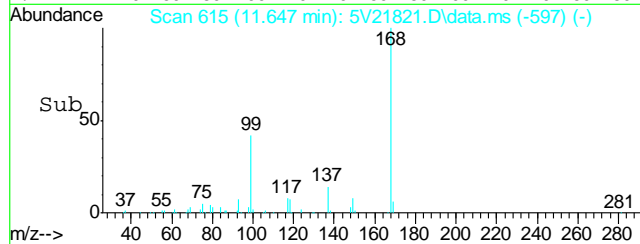
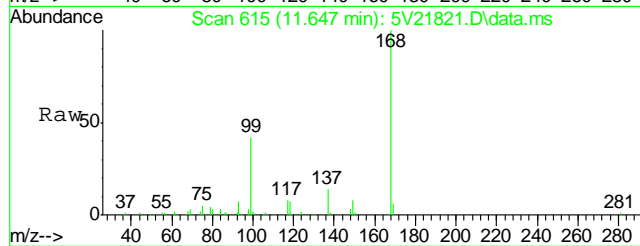
#1
TVH-Gasoline
Concen: 27.46 ug/l m
RT: 13.102 min Scan# 742
Delta R.T. 0.000 min
Lab File: 5V21821.D
Acq: 11 Jun 2012 5:51 pm

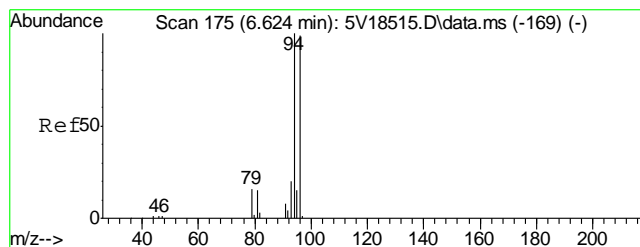
Tgt Ion:TIC Resp: 522344



#2
Pentafluorobenzene
Concen: 50.00 ug/l
RT: 11.647 min Scan# 615
Delta R.T. -0.000 min
Lab File: 5V21821.D
Acq: 11 Jun 2012 5:51 pm

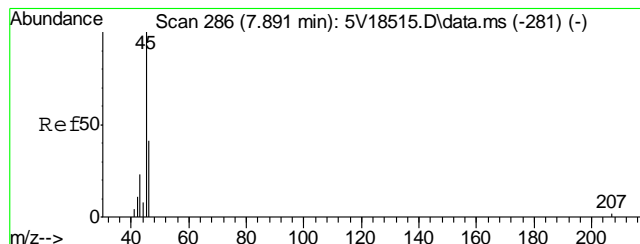
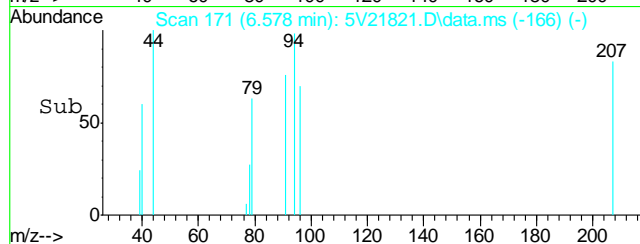
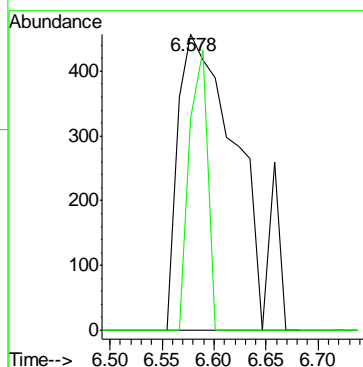
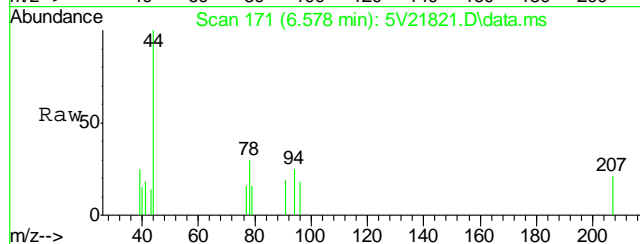
Tgt Ion:168 Resp: 216430
Ion Ratio Lower Upper
168 100
99 42.7 37.4 56.2





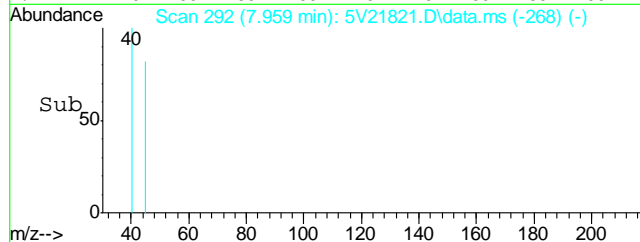
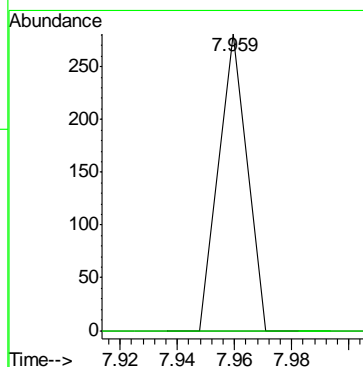
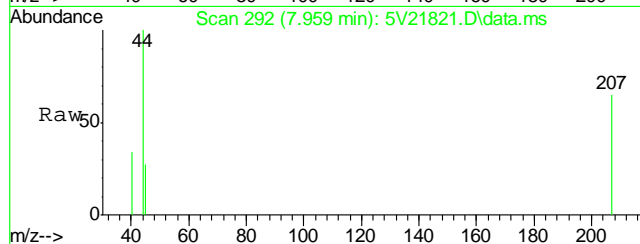
#6
Bromomethane
Concen: 0.30 ug/l
RT: 6.578 min Scan# 171
Delta R.T. -0.045 min
Lab File: 5V21821.D
Acq: 11 Jun 2012 5:51 pm

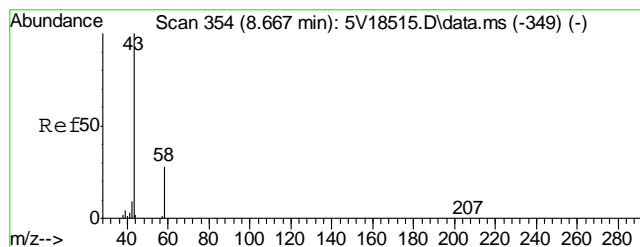
Tgt Ion: 94 Resp: 1869
Ion Ratio Lower Upper
94 100
96 27.9 78.0 118.0#



#9
Ethyl Alcohol
Concen: 7.61 ug/l
RT: 7.959 min Scan# 292
Delta R.T. 0.068 min
Lab File: 5V21821.D
Acq: 11 Jun 2012 5:51 pm

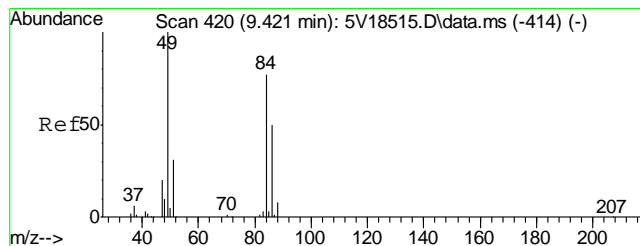
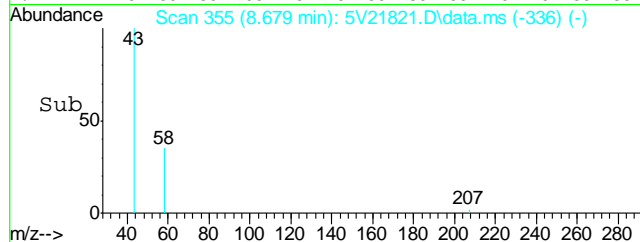
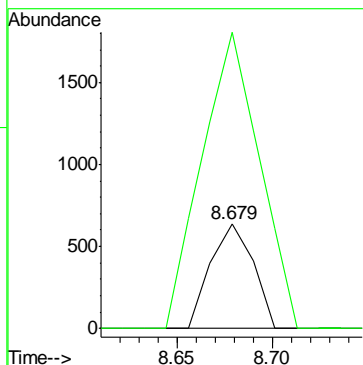
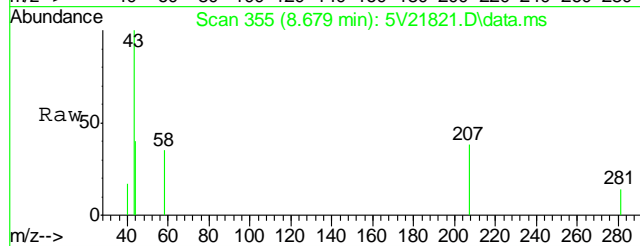
Tgt Ion: 45 Resp: 192
Ion Ratio Lower Upper
45 100
46 0.0 30.5 45.7#





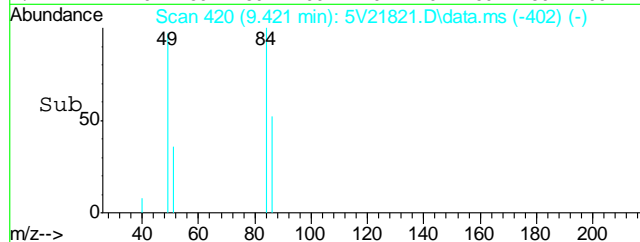
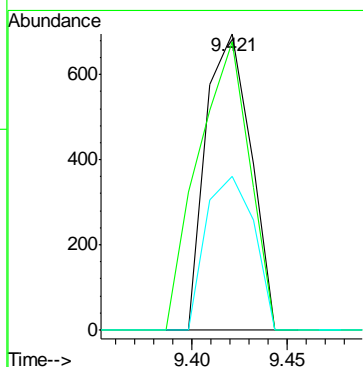
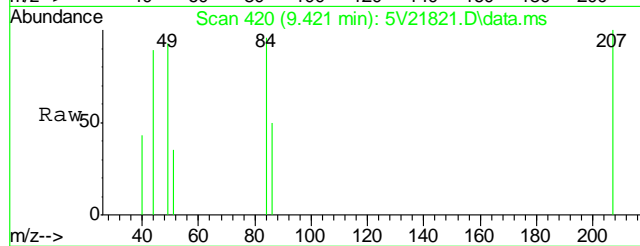
#15
Acetone
Concen: 1.00 ug/l
RT: 8.679 min Scan# 355
Delta R.T. 0.012 min
Lab File: 5V21821.D
Acq: 11 Jun 2012 5:51 pm

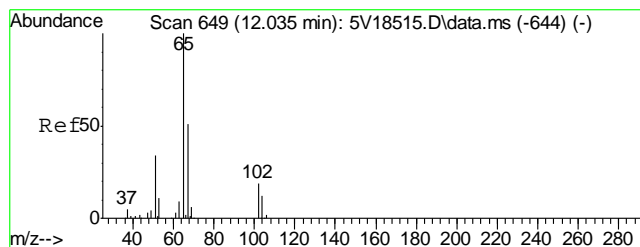
Tgt Ion: 58 Resp: 991
Ion Ratio Lower Upper
58 100
43 383.8 353.6 393.6



#17
Methylene Chloride
Concen: 0.31 ug/l
RT: 9.421 min Scan# 420
Delta R.T. -0.000 min
Lab File: 5V21821.D
Acq: 11 Jun 2012 5:51 pm

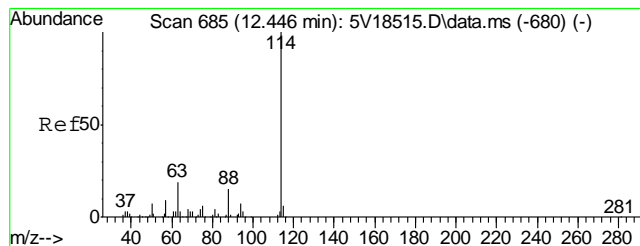
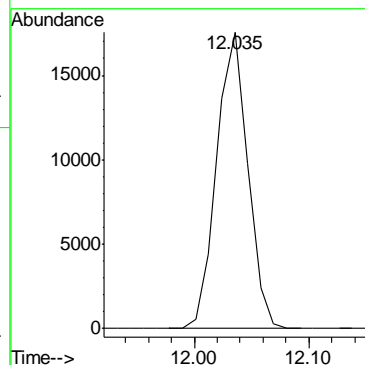
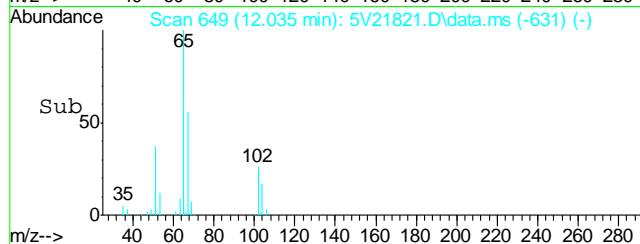
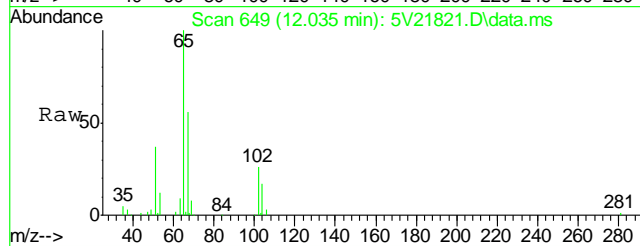
Tgt Ion: 84 Resp: 1139
Ion Ratio Lower Upper
84 100
49 111.2 110.4 150.4
86 55.6 44.0 84.0





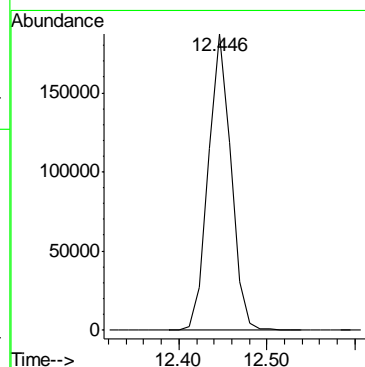
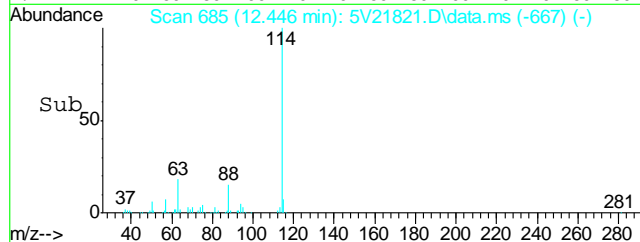
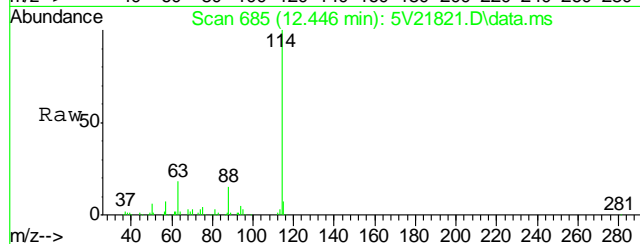
#33
1,2-Dichloroethane-d4
Concen: 50.17 ug/l
RT: 12.035 min Scan# 649
Delta R.T. 0.000 min
Lab File: 5V21821.D
Acq: 11 Jun 2012 5:51 pm

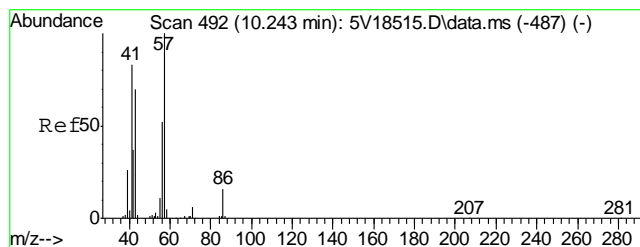
Tgt Ion:102 Resp: 33286



#35
1,4-Difluorobenzene
Concen: 50.00 ug/l
RT: 12.446 min Scan# 685
Delta R.T. -0.000 min
Lab File: 5V21821.D
Acq: 11 Jun 2012 5:51 pm

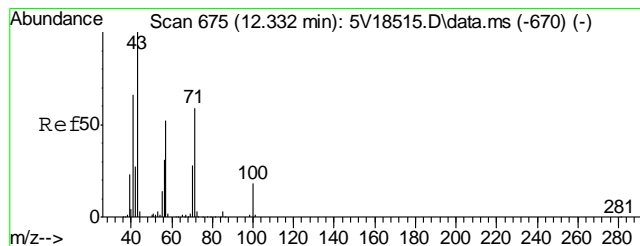
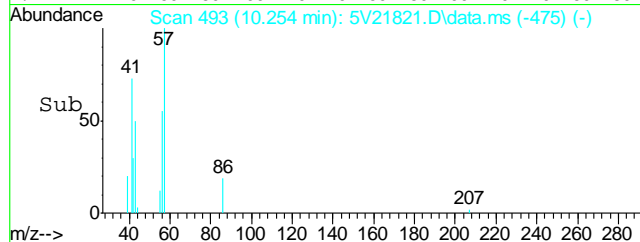
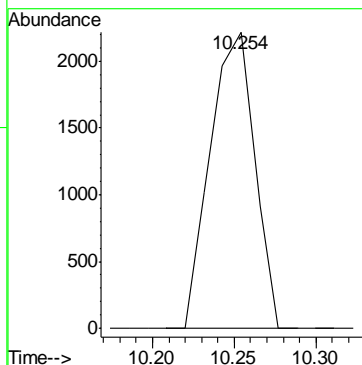
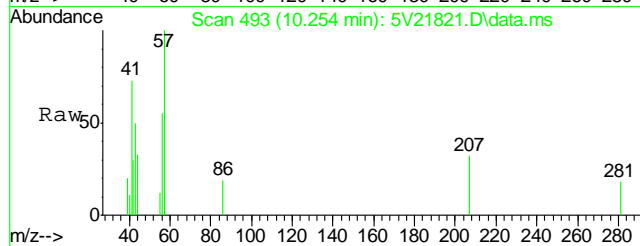
Tgt Ion:114 Resp: 333268





#41
Hexane
Concen: 0.91 ug/l
RT: 10.254 min Scan# 493
Delta R.T. -0.000 min
Lab File: 5V21821.D
Acq: 11 Jun 2012 5:51 pm

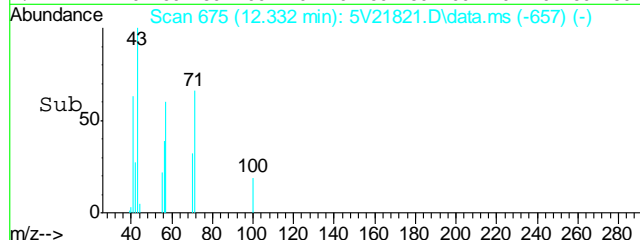
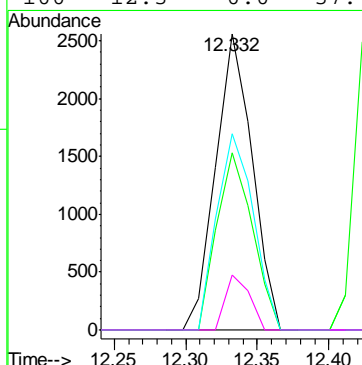
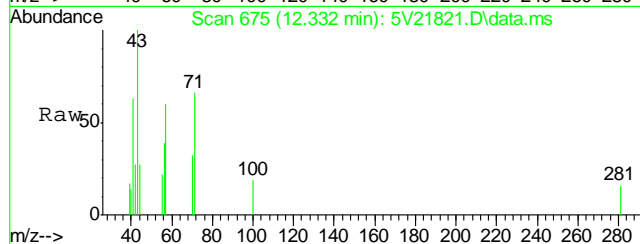
Tgt Ion: 57 Resp: 4190

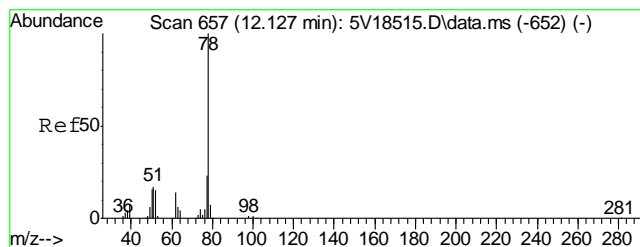


#43
Heptane
Concen: 0.92 ug/l
RT: 12.332 min Scan# 675
Delta R.T. -0.000 min
Lab File: 5V21821.D
Acq: 11 Jun 2012 5:51 pm

Tgt Ion: 43 Resp: 4555

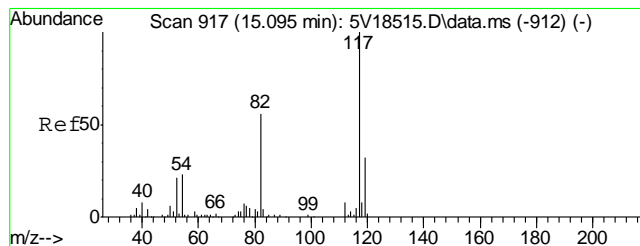
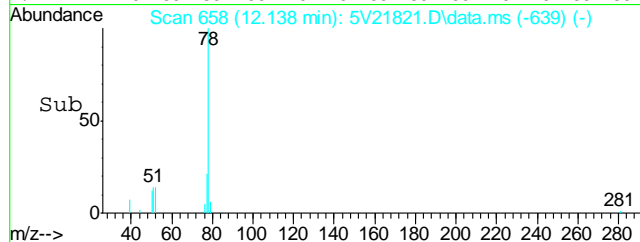
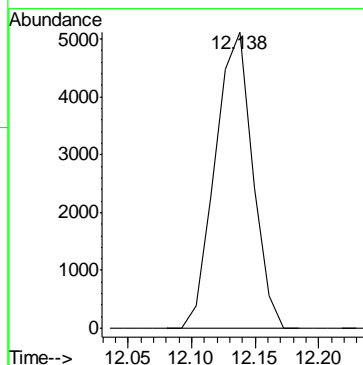
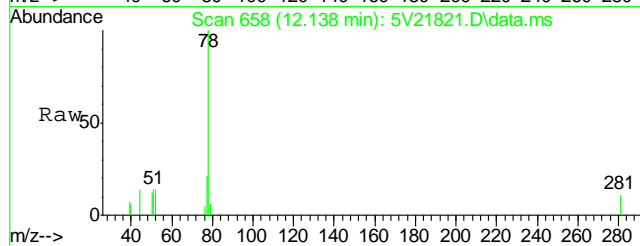
Ion	Ratio	Lower	Upper
43	100		
57	58.2	30.6	70.6
71	65.9	38.9	78.9
100	12.3	0.0	37.4





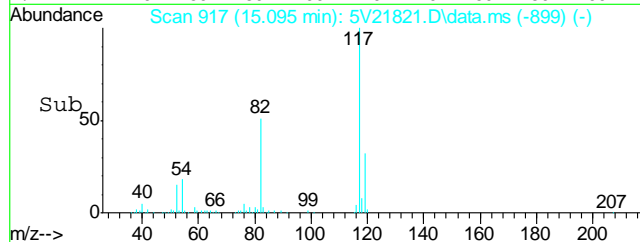
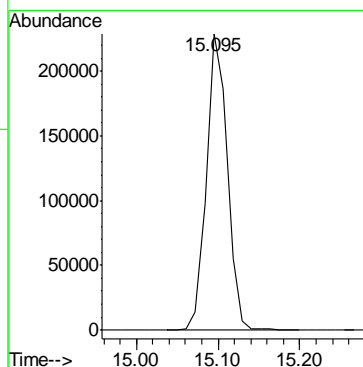
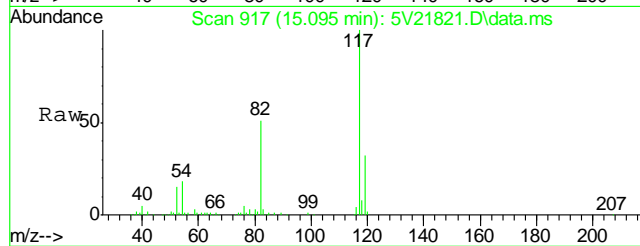
#50
Benzene
Concen: 0.76 ug/l
RT: 12.138 min Scan# 658
Delta R.T. 0.011 min
Lab File: 5V21821.D
Acq: 11 Jun 2012 5:51 pm

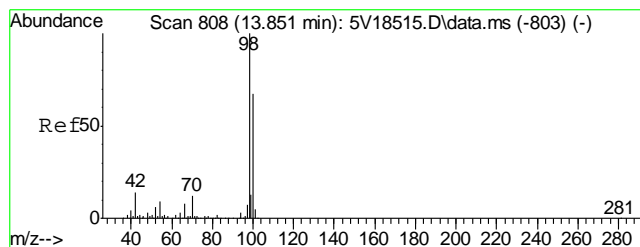
Tgt Ion: 78 Resp: 10457



#53
Chlorobenzene-d5
Concen: 50.00 ug/l
RT: 15.095 min Scan# 917
Delta R.T. -0.000 min
Lab File: 5V21821.D
Acq: 11 Jun 2012 5:51 pm

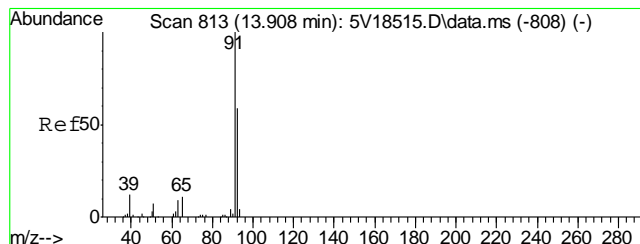
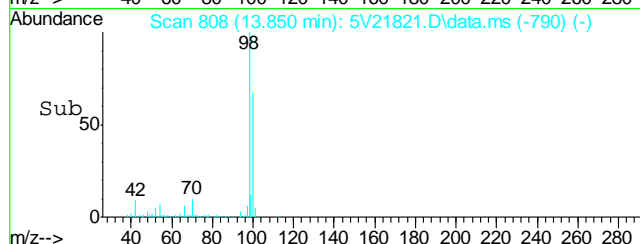
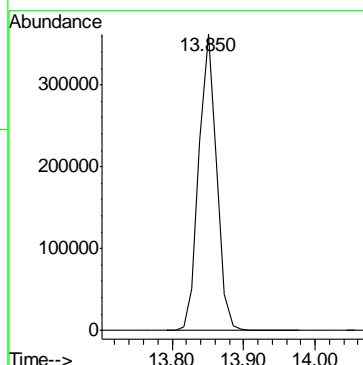
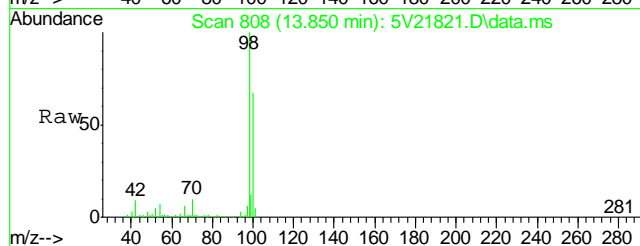
Tgt Ion: 117 Resp: 406057





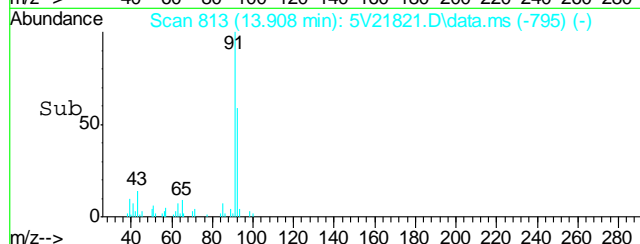
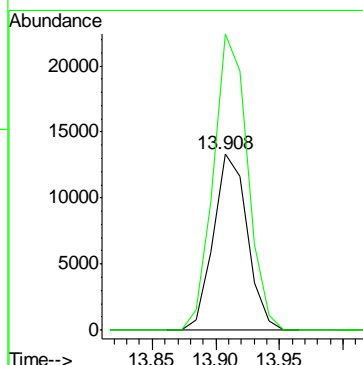
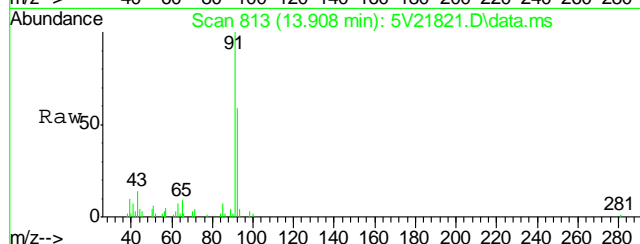
#61
Toluene-d8
Concen: 45.20 ug/l
RT: 13.850 min Scan# 808
Delta R.T. -0.000 min
Lab File: 5V21821.D
Acq: 11 Jun 2012 5:51 pm

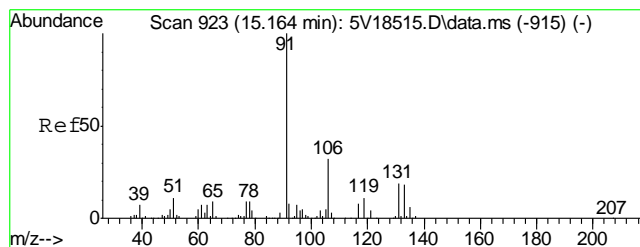
Tgt Ion: 98 Resp: 620325



#62
Toluene
Concen: 2.33 ug/l
RT: 13.908 min Scan# 813
Delta R.T. -0.000 min
Lab File: 5V21821.D
Acq: 11 Jun 2012 5:51 pm

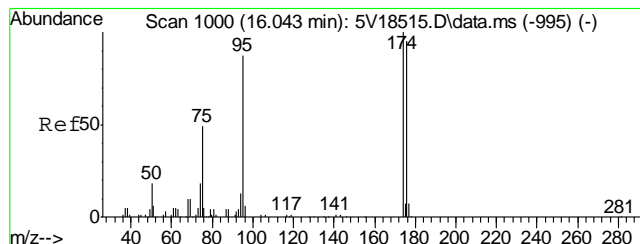
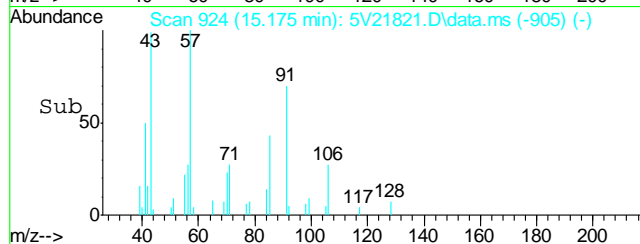
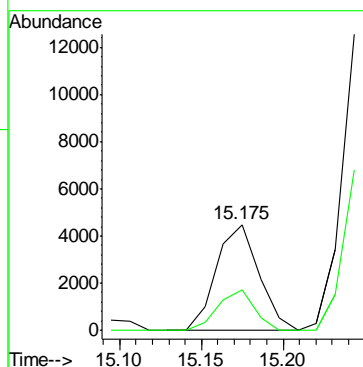
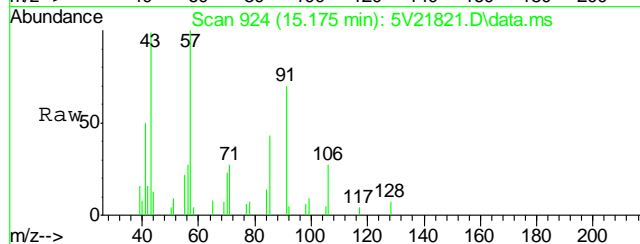
Tgt Ion: 92 Resp: 24574
Ion Ratio Lower Upper
92 100
91 169.6 149.8 189.8





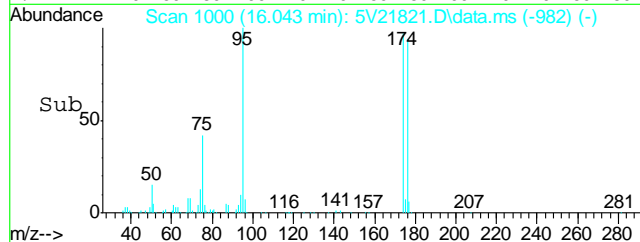
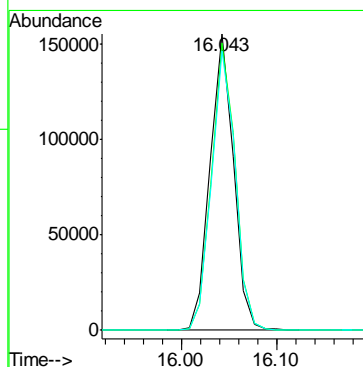
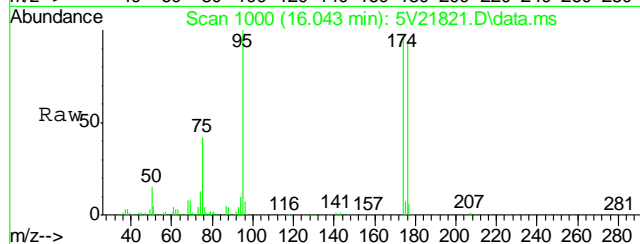
#66
Ethylbenzene
Concen: 0.41 ug/l
RT: 15.175 min Scan# 924
Delta R.T. 0.011 min
Lab File: 5V21821.D
Acq: 11 Jun 2012 5:51 pm

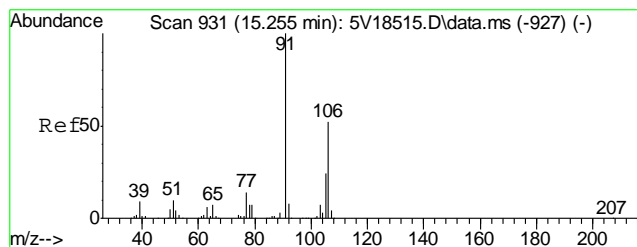
Tgt Ion: 91 Resp: 8108
Ion Ratio Lower Upper
91 100
106 32.6 11.7 51.7



#69
4-Bromofluorobenzene
Concen: 46.83 ug/l
RT: 16.043 min Scan# 1000
Delta R.T. -0.000 min
Lab File: 5V21821.D
Acq: 11 Jun 2012 5:51 pm

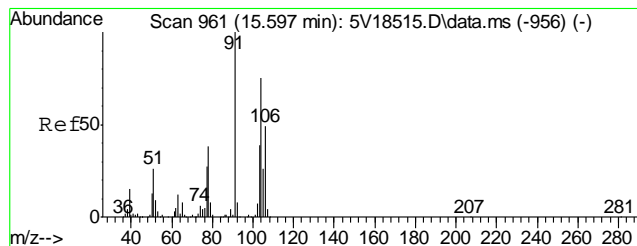
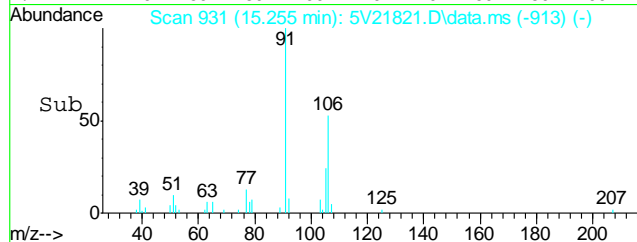
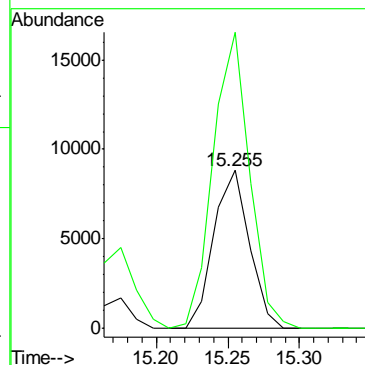
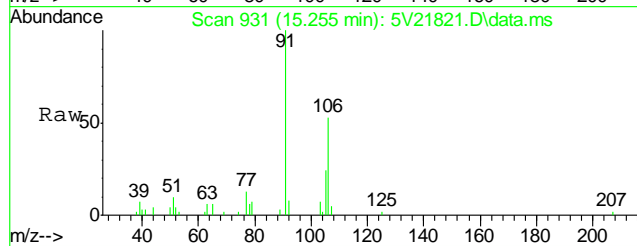
Tgt Ion: 95 Resp: 263240
Ion Ratio Lower Upper
95 100
174 97.9 77.1 117.1
176 95.9 73.4 113.4





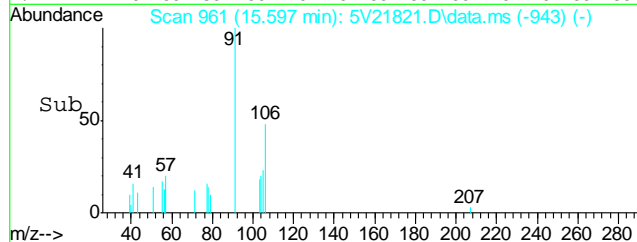
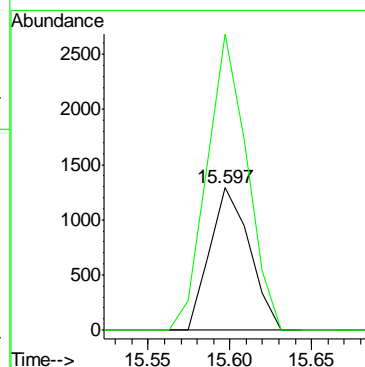
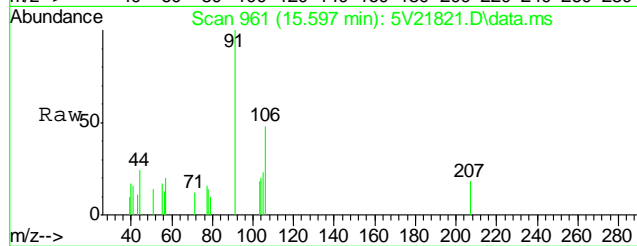
#72
m,p-xylene
Concen: 1.95 ug/l
RT: 15.255 min Scan# 931
Delta R.T. -0.000 min
Lab File: 5V21821.D
Acq: 11 Jun 2012 5:51 pm

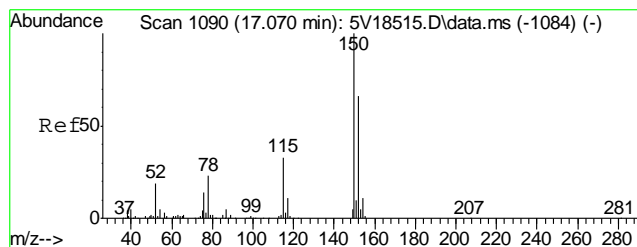
Tgt Ion:106 Resp: 15234
Ion Ratio Lower Upper
106 100
91 192.1 177.1 217.1



#73
o-xylene
Concen: 0.29 ug/l
RT: 15.597 min Scan# 961
Delta R.T. -0.000 min
Lab File: 5V21821.D
Acq: 11 Jun 2012 5:51 pm

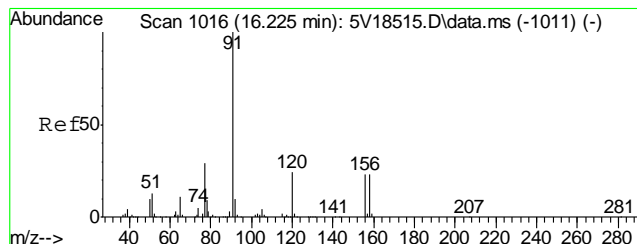
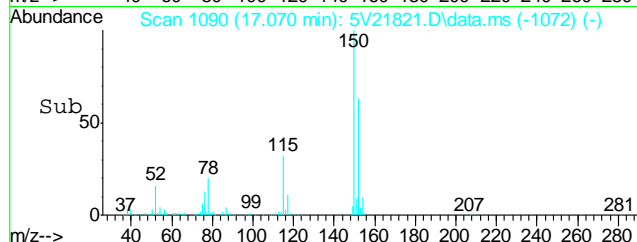
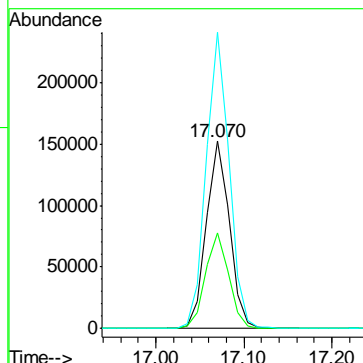
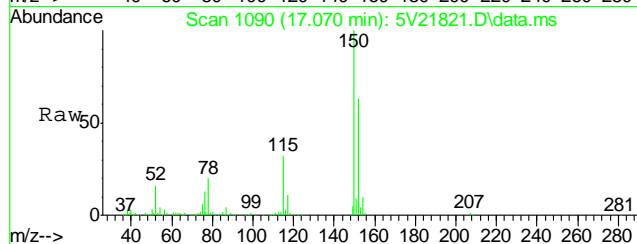
Tgt Ion:106 Resp: 2201
Ion Ratio Lower Upper
106 100
91 209.1 166.6 249.8





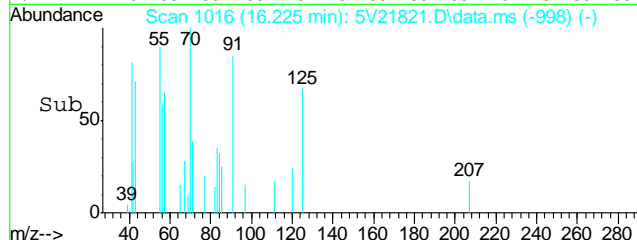
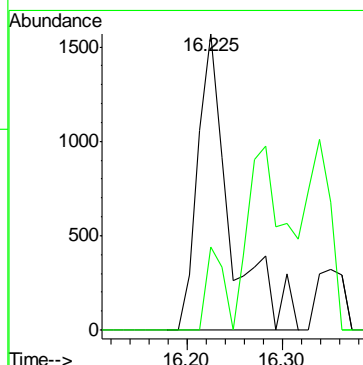
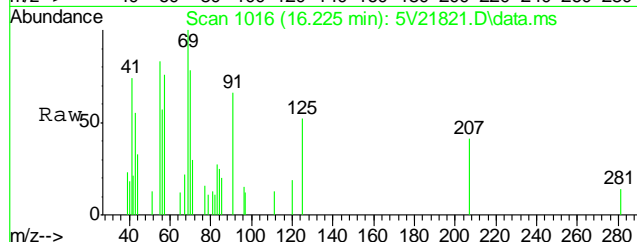
#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ug/l
RT: 17.070 min Scan# 1090
Delta R.T. -0.000 min
Lab File: 5V21821.D
Acq: 11 Jun 2012 5:51 pm

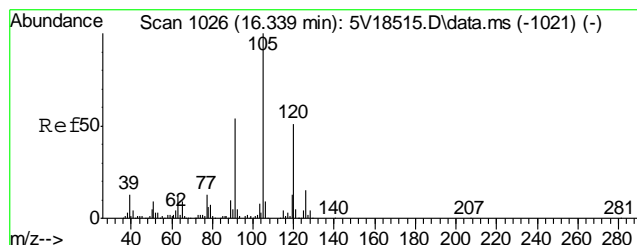
Tgt Ion	Ratio	Lower	Upper
152	100		
115	51.1	41.4	62.0
150	156.9	153.9	230.9



#77
n-Propylbenzene
Concen: 0.15 ug/l
RT: 16.225 min Scan# 1016
Delta R.T. -0.000 min
Lab File: 5V21821.D
Acq: 11 Jun 2012 5:51 pm

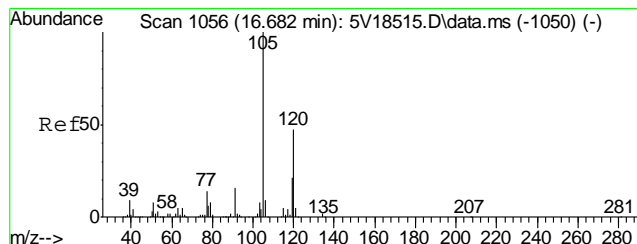
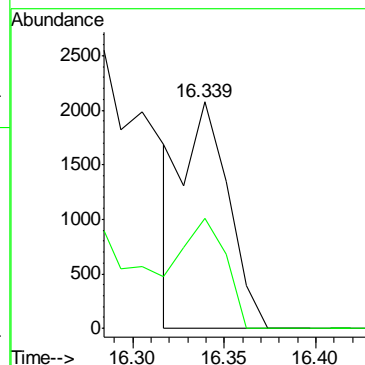
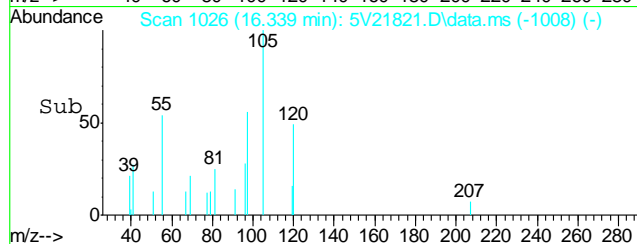
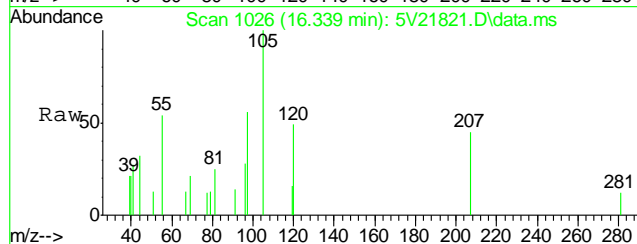
Tgt Ion	Ratio	Lower	Upper
91	100		
120	14.4	18.6	27.8#





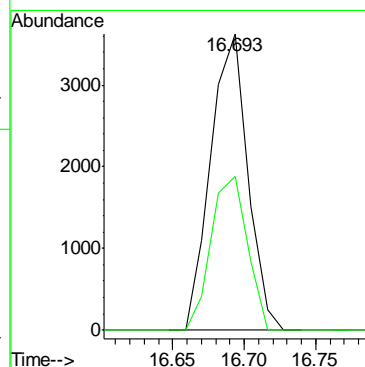
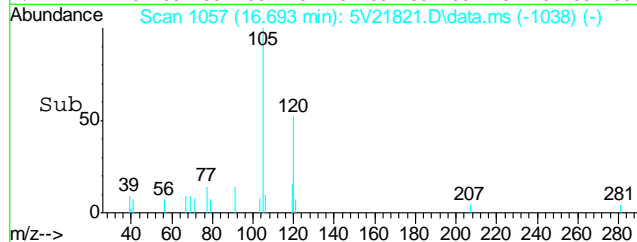
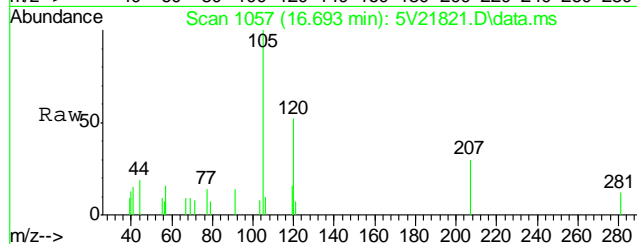
#80
1,3,5-Trimethylbenzene
Concen: 0.20 ug/l m
RT: 16.339 min Scan# 1026
Delta R.T. -0.000 min
Lab File: 5V21821.D
Acq: 11 Jun 2012 5:51 pm

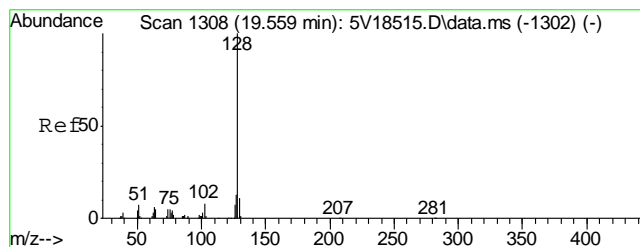
Tgt Ion:105 Resp: 3510
Ion Ratio Lower Upper
105 100
120 75.3 40.1 60.1#



#82
1,2,4-Trimethylbenzene
Concen: 0.36 ug/l
RT: 16.693 min Scan# 1057
Delta R.T. 0.011 min
Lab File: 5V21821.D
Acq: 11 Jun 2012 5:51 pm

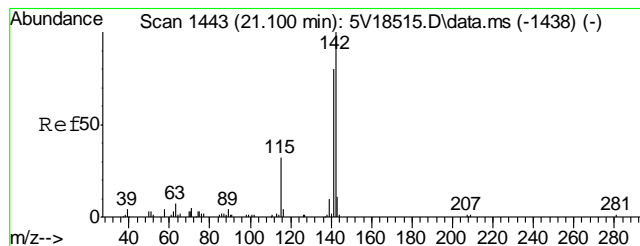
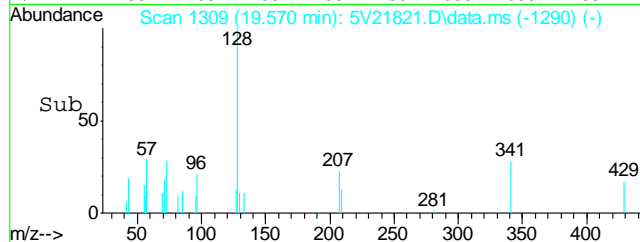
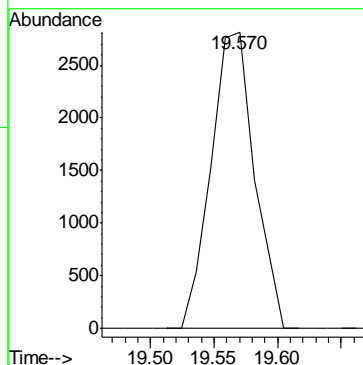
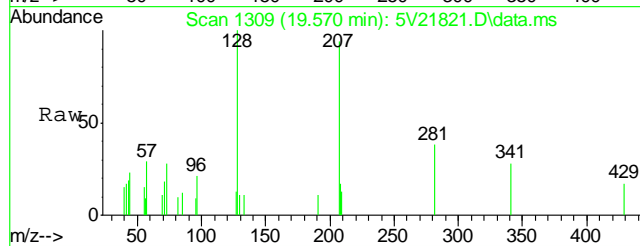
Tgt Ion:105 Resp: 6506
Ion Ratio Lower Upper
105 100
120 50.7 43.8 65.8





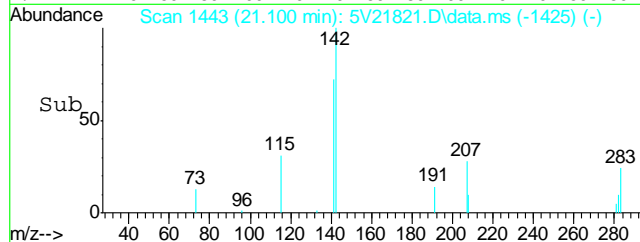
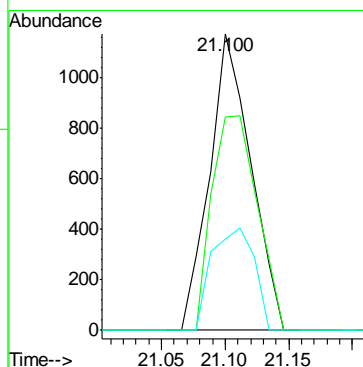
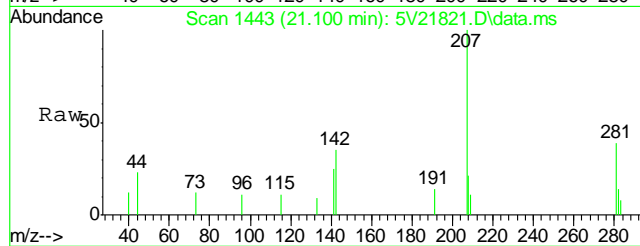
#91
Naphthalene
Concen: 1.06 ug/l
RT: 19.570 min Scan# 1309
Delta R.T. 0.012 min
Lab File: 5V21821.D
Acq: 11 Jun 2012 5:51 pm

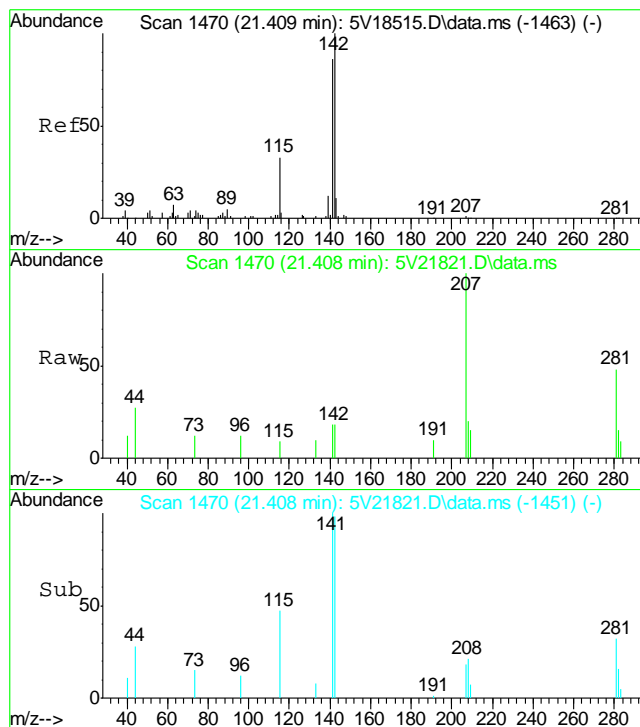
Tgt Ion:128 Resp: 6683



#94
2-Methylnaphthalene
Concen: 1.80 ug/l
RT: 21.100 min Scan# 1443
Delta R.T. 0.000 min
Lab File: 5V21821.D
Acq: 11 Jun 2012 5:51 pm

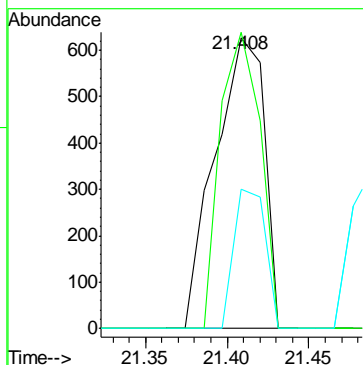
Tgt Ion:142 Resp: 2647
Ion Ratio Lower Upper
142 100
141 79.4 66.2 99.4
115 35.5 25.9 38.9





#95
 1-Methylnaphthalene
 Concen: 1.42 ug/l
 RT: 21.408 min Scan# 1470
 Delta R.T. 0.011 min
 Lab File: 5V21821.D
 Acq: 11 Jun 2012 5:51 pm

Tgt Ion:142	Resp:	1312
Ion Ratio	Lower	Upper
142	100	
141	82.3	68.9 103.3
115	30.5	27.3 40.9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5061112.S\
 Data File : 5V21812.D
 Acq On : 11 Jun 2012 1:00 pm
 Operator : BRETD
 Sample : MB
 Misc : MS4076,V5V1333,5.00,,100,5,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 12 08:54:01 2012
 Quant Method : C:\msdchem\1\METHODS\V5AP1304TVH1304.M
 Quant Title : 8260
 QLast Update : Thu May 24 07:55:17 2012
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	11.647	168	241691	50.00	ug/l	0.00
35) 1,4-Difluorobenzene	12.446	114	366098	50.00	ug/l	0.00
53) Chlorobenzene-d5	15.095	117	430572	50.00	ug/l	0.00
74) 1,4-Dichlorobenzene-d4	17.070	152	270594	50.00	ug/l	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4	12.035	102	37077	50.04	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	100.08%
61) Toluene-d8	13.850	98	660548	45.39	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	90.78%
69) 4-Bromofluorobenzene	16.043	95	253543	42.53	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	85.06%

Target Compounds

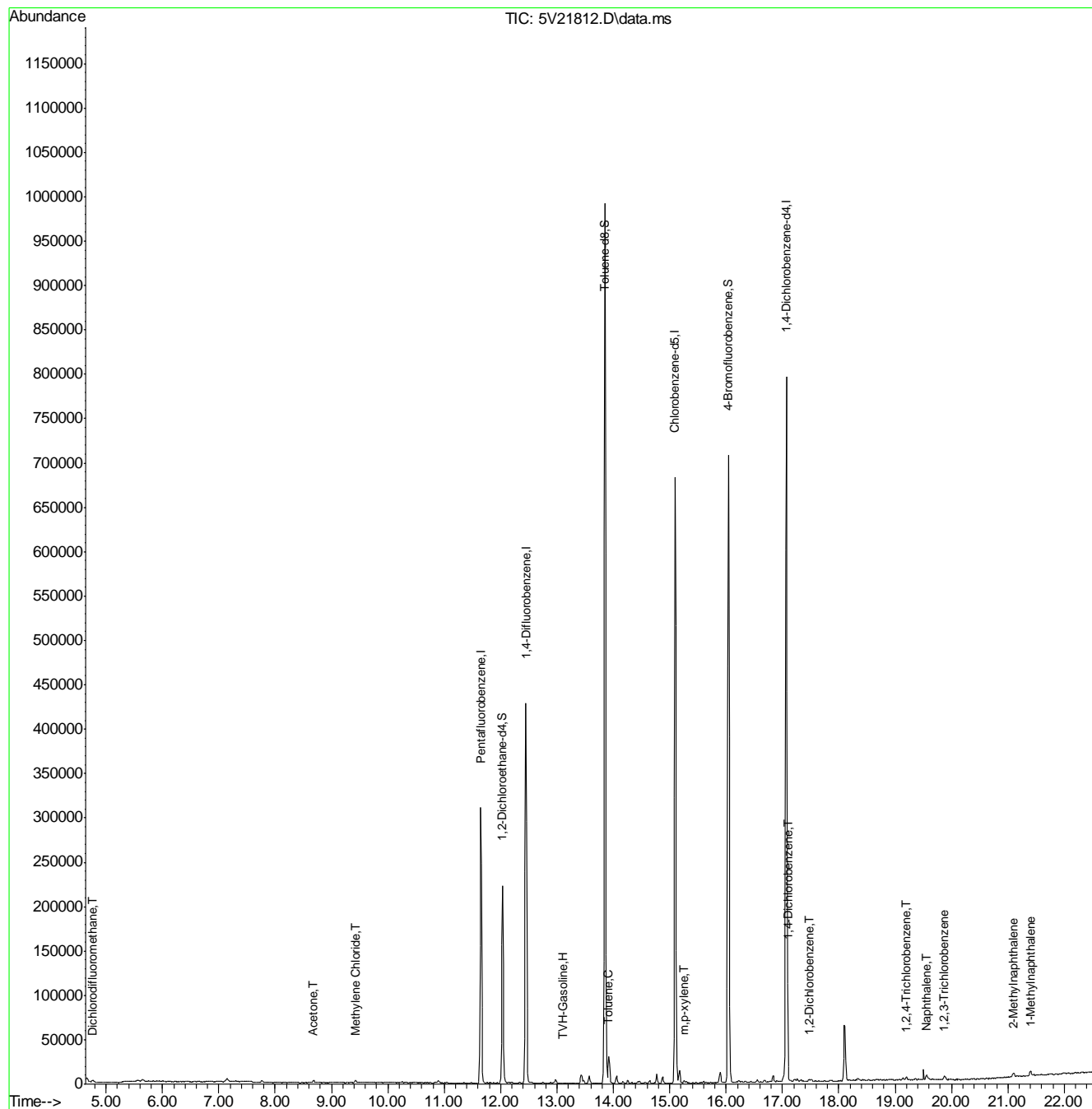
					Qvalue
1) TVH-Gasoline	13.102	TIC	40540m	3.43	ug/l
3) Dichlorodifluoromethane	4.763	85	1667	0.79	ug/l
15) Acetone	8.679	58	1034	0.80	ug/l
17) Methylene Chloride	9.421	84	1267	0.31	ug/l
62) Toluene	13.908	92	2728	0.24	ug/l #
72) m,p-xylene	15.255	106	1272	0.15	ug/l #
85) 1,4-Dichlorobenzene	17.093	146	1450	0.13	ug/l #
87) 1,2-Dichlorobenzene	17.470	146	1075	0.10	ug/l #
90) 1,2,4-Trichlorobenzene	19.194	180	2163	0.30	ug/l #
91) Naphthalene	19.559	128	7697	1.14	ug/l
93) 1,2,3-Trichlorobenzene	19.867	180	2860	0.43	ug/l #
94) 2-Methylnaphthalene	21.100	142	3972	2.05	ug/l
95) 1-Methylnaphthalene	21.397	142	5161	2.11	ug/l

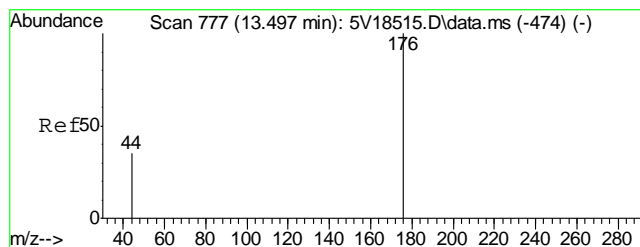
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5061112.S\
Data File : 5V21812.D
Acq On : 11 Jun 2012 1:00 pm
Operator : BRETD
Sample : MB
Misc : MS4076,V5V1333,5.00,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

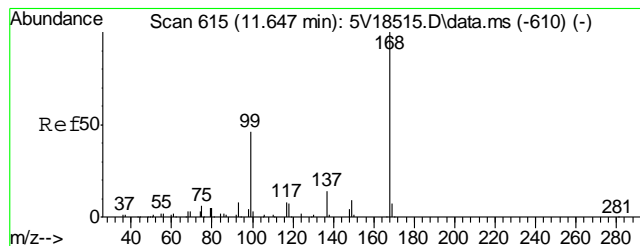
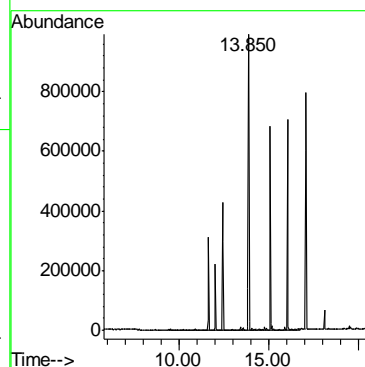
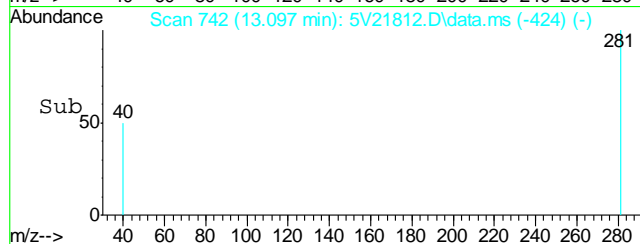
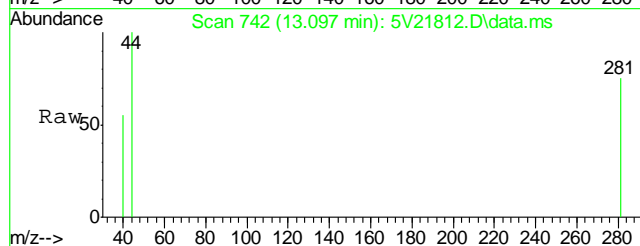
Quant Time: Jun 12 08:54:01 2012
Quant Method : C:\msdchem\1\METHODS\V5AP1304TVH1304.M
Quant Title : 8260
QLast Update : Thu May 24 07:55:17 2012
Response via : Initial Calibration





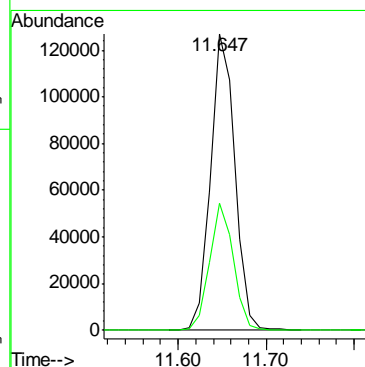
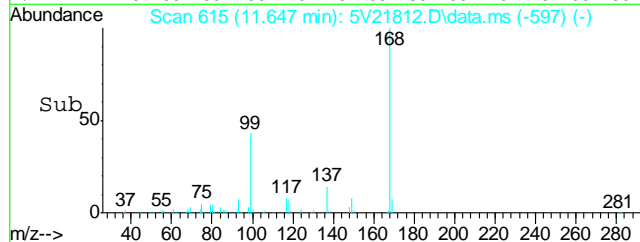
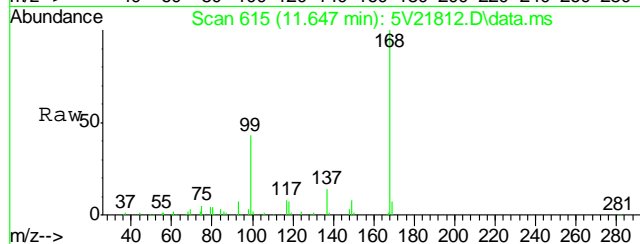
#1
TVH-Gasoline
Concen: 3.43 ug/l m
RT: 13.102 min Scan# 742
Delta R.T. 0.000 min
Lab File: 5V21812.D
Acq: 11 Jun 2012 1:00 pm

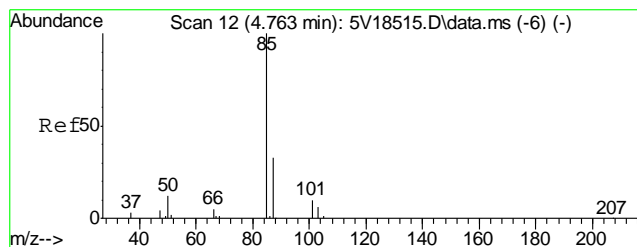
Tgt Ion:TIC Resp: 40540



#2
Pentafluorobenzene
Concen: 50.00 ug/l
RT: 11.647 min Scan# 615
Delta R.T. -0.000 min
Lab File: 5V21812.D
Acq: 11 Jun 2012 1:00 pm

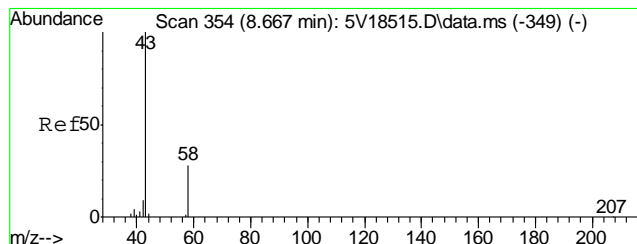
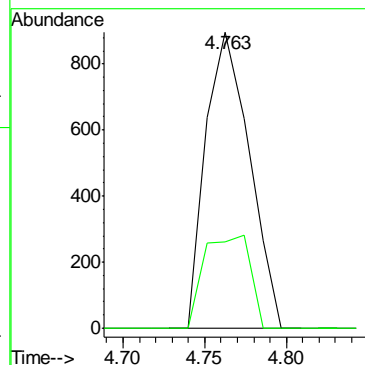
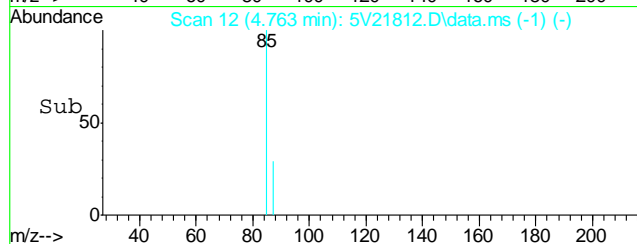
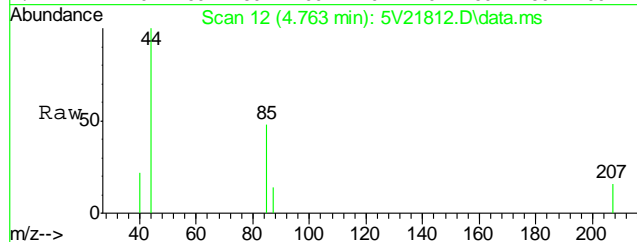
Tgt Ion:168 Resp: 241691
Ion Ratio Lower Upper
168 100
99 41.9 37.4 56.2





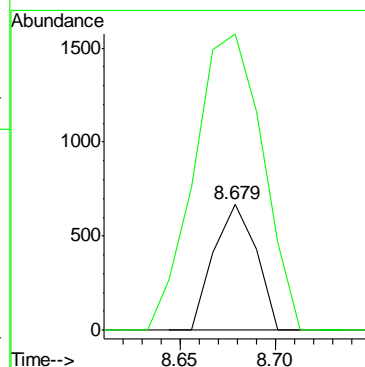
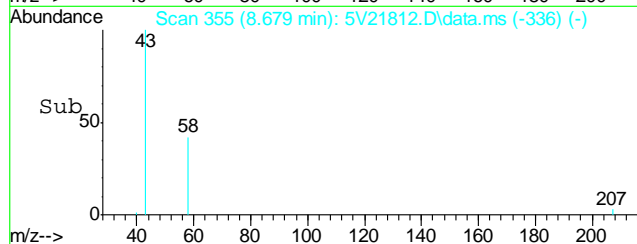
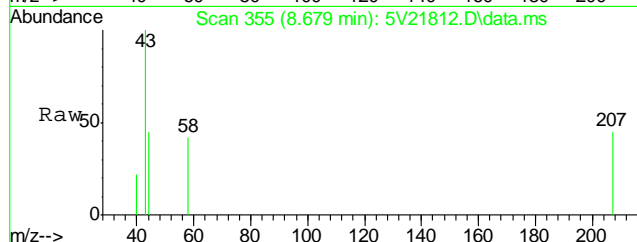
#3
Dichlorodifluoromethane
Concen: 0.79 ug/l
RT: 4.763 min Scan# 12
Delta R.T. 0.001 min
Lab File: 5V21812.D
Acq: 11 Jun 2012 1:00 pm

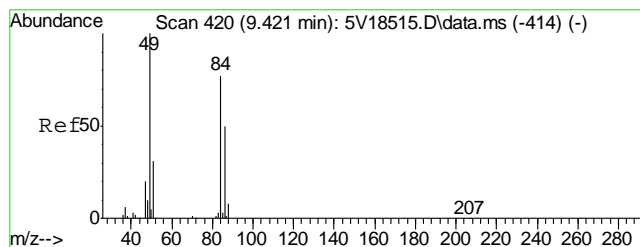
Tgt Ion: 85 Resp: 1667
Ion Ratio Lower Upper
85 100
87 32.9 12.9 52.9



#15
Acetone
Concen: 0.80 ug/l
RT: 8.679 min Scan# 355
Delta R.T. 0.012 min
Lab File: 5V21812.D
Acq: 11 Jun 2012 1:00 pm

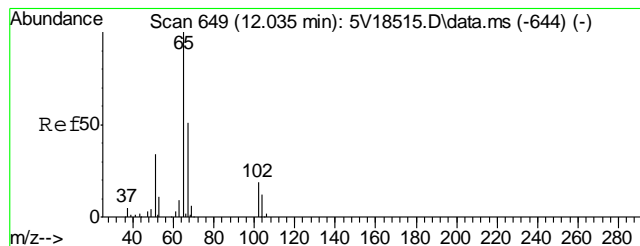
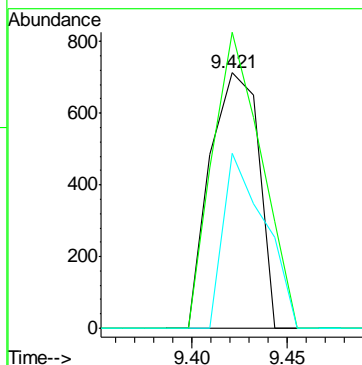
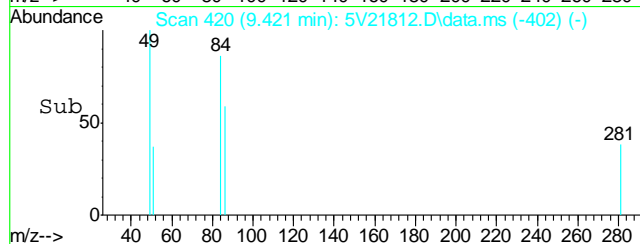
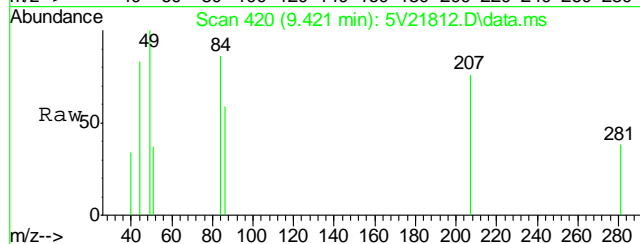
Tgt Ion: 58 Resp: 1034
Ion Ratio Lower Upper
58 100
43 379.7 353.6 393.6





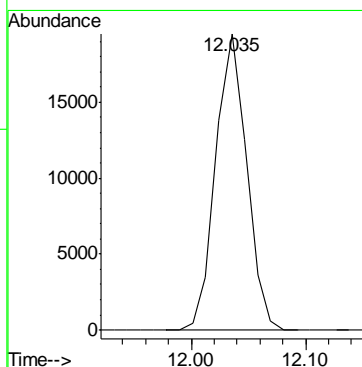
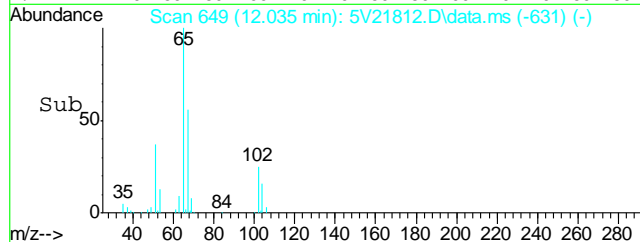
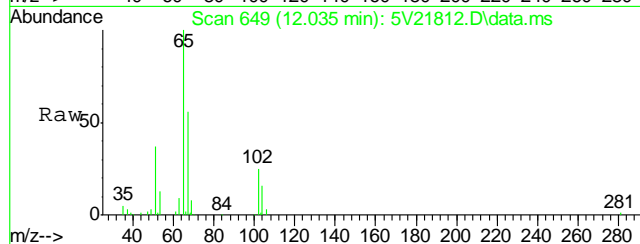
#17
Methylene Chloride
Concen: 0.31 ug/l
RT: 9.421 min Scan# 420
Delta R.T. -0.000 min
Lab File: 5V21812.D
Acq: 11 Jun 2012 1:00 pm

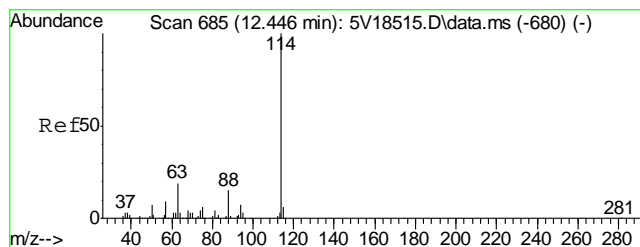
Tgt Ion:	84	Resp:	1267
Ion Ratio	Lower	Upper	
84	100		
49	116.7	110.4	150.4
86	58.8	44.0	84.0



#33
1,2-Dichloroethane-d4
Concen: 50.04 ug/l
RT: 12.035 min Scan# 649
Delta R.T. 0.000 min
Lab File: 5V21812.D
Acq: 11 Jun 2012 1:00 pm

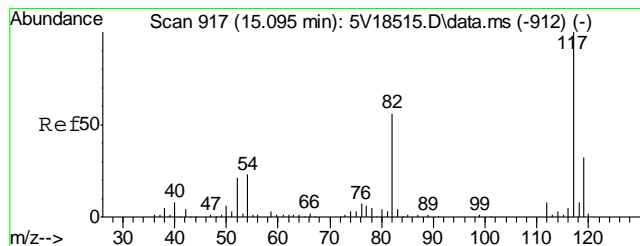
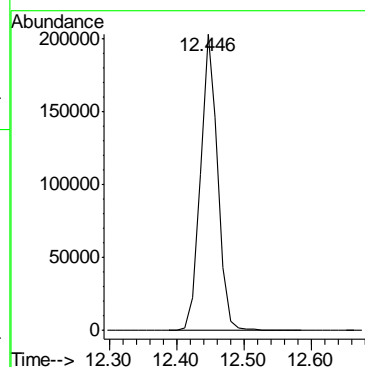
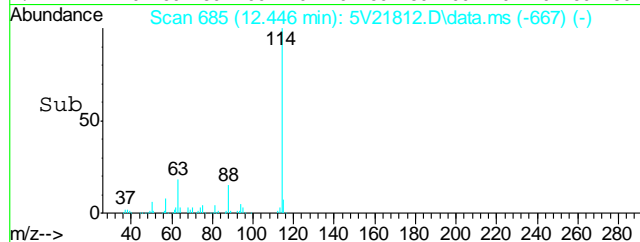
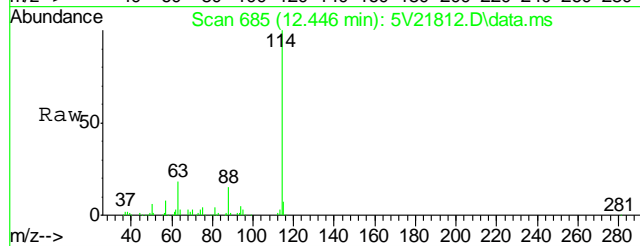
Tgt Ion: 102 Resp: 37077





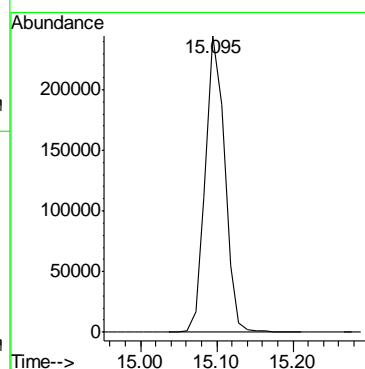
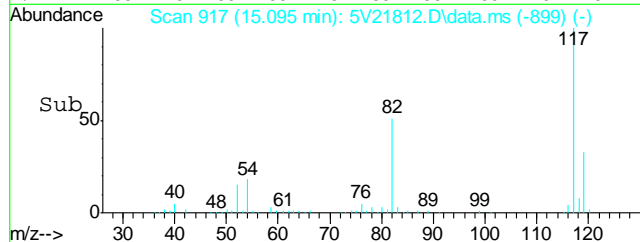
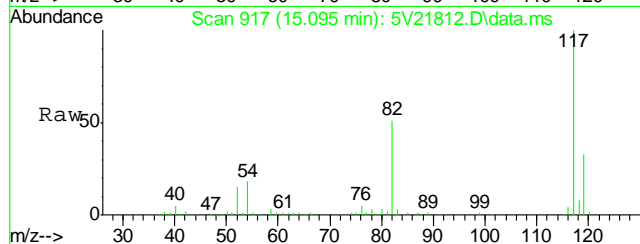
#35
1,4-Difluorobenzene
Concen: 50.00 ug/l
RT: 12.446 min Scan# 685
Delta R.T. -0.000 min
Lab File: 5V21812.D
Acq: 11 Jun 2012 1:00 pm

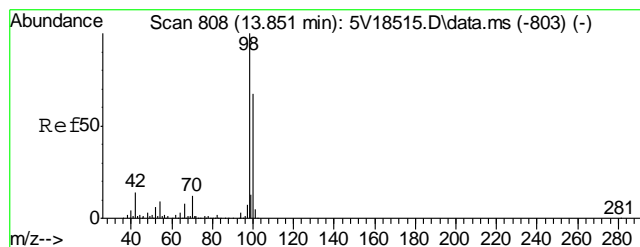
Tgt Ion:114 Resp: 366098



#53
Chlorobenzene-d5
Concen: 50.00 ug/l
RT: 15.095 min Scan# 917
Delta R.T. -0.000 min
Lab File: 5V21812.D
Acq: 11 Jun 2012 1:00 pm

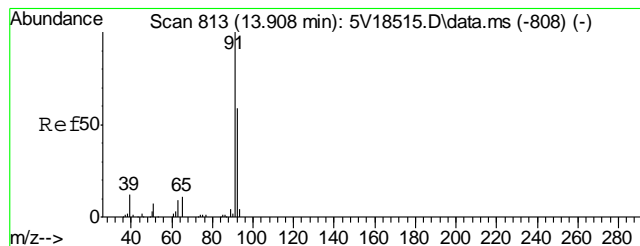
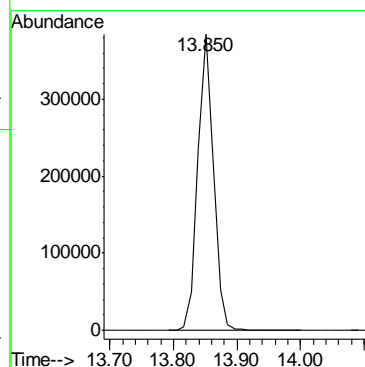
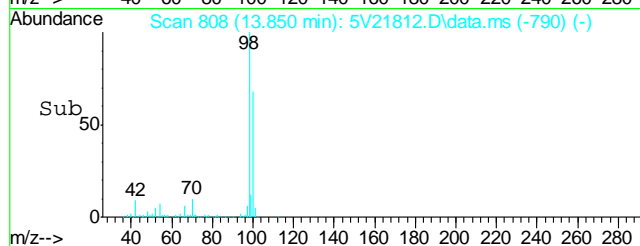
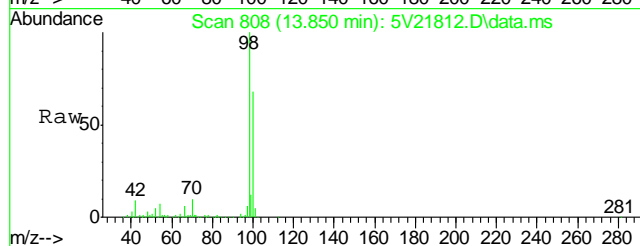
Tgt Ion:117 Resp: 430572





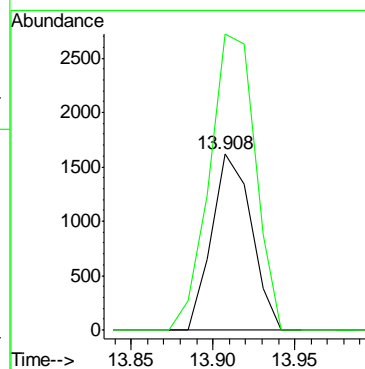
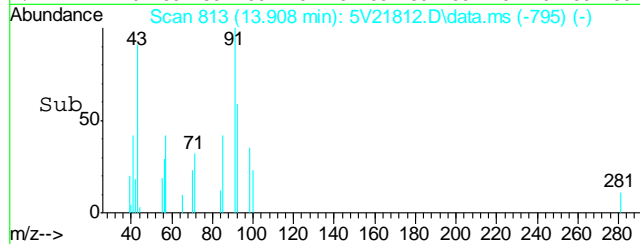
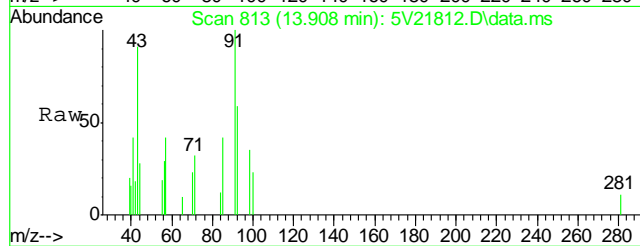
#61
Toluene-d8
Concen: 45.39 ug/l
RT: 13.850 min Scan# 808
Delta R.T. -0.000 min
Lab File: 5V21812.D
Acq: 11 Jun 2012 1:00 pm

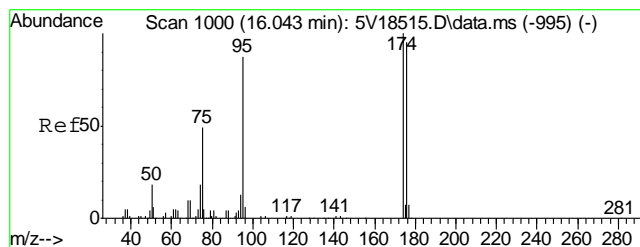
Tgt Ion: 98 Resp: 660548



#62
Toluene
Concen: 0.24 ug/l
RT: 13.908 min Scan# 813
Delta R.T. -0.000 min
Lab File: 5V21812.D
Acq: 11 Jun 2012 1:00 pm

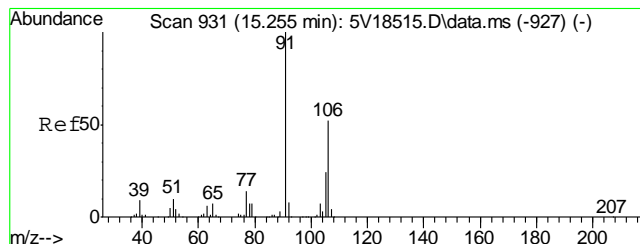
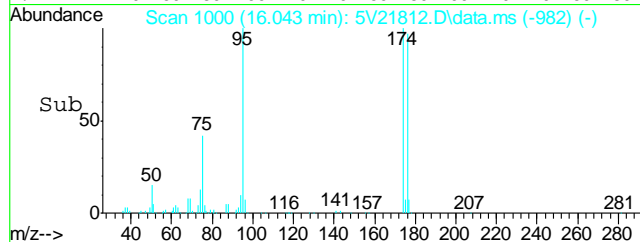
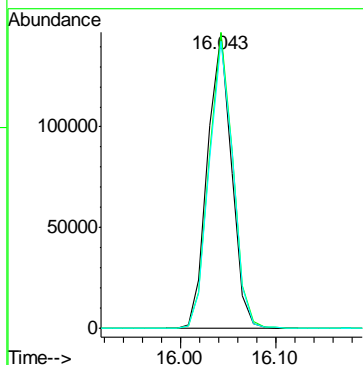
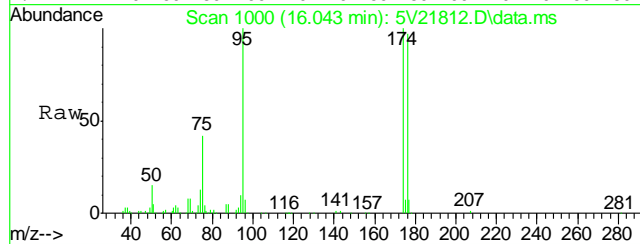
Tgt Ion: 92 Resp: 2728
Ion Ratio Lower Upper
92 100
91 194.4 149.8 189.8#





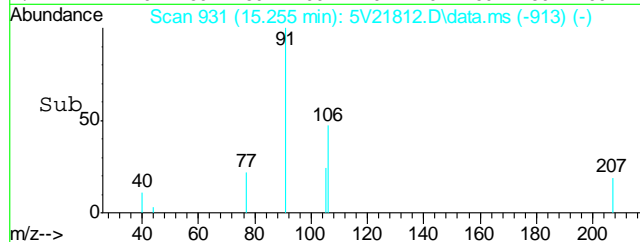
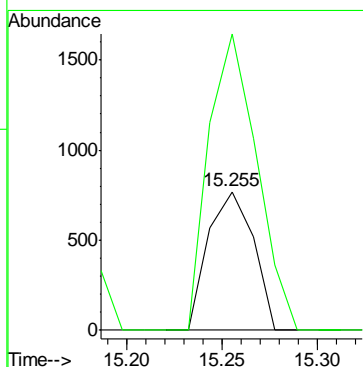
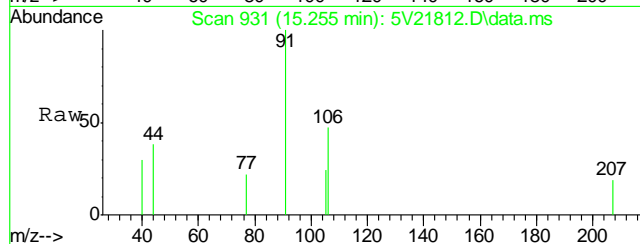
#69
4-Bromofluorobenzene
Concen: 42.53 ug/l
RT: 16.043 min Scan# 1000
Delta R.T. -0.000 min
Lab File: 5V21812.D
Acq: 11 Jun 2012 1:00 pm

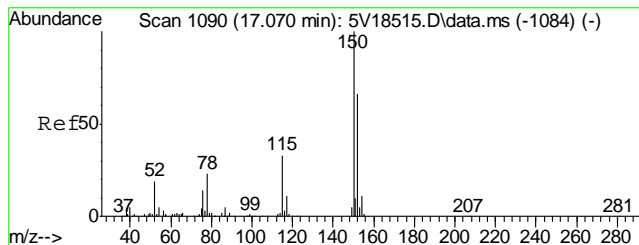
Tgt Ion:	95	Resp:	253543
Ion Ratio	Lower	Upper	
95	100		
174	99.2	77.1	117.1
176	96.7	73.4	113.4



#72
m,p-xylene
Concen: 0.15 ug/l
RT: 15.255 min Scan# 931
Delta R.T. -0.000 min
Lab File: 5V21812.D
Acq: 11 Jun 2012 1:00 pm

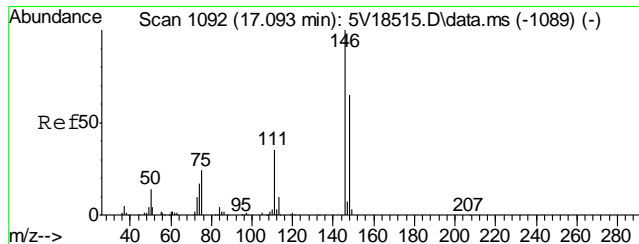
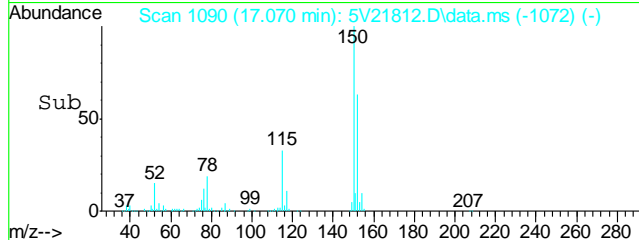
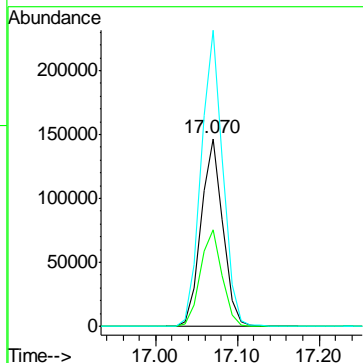
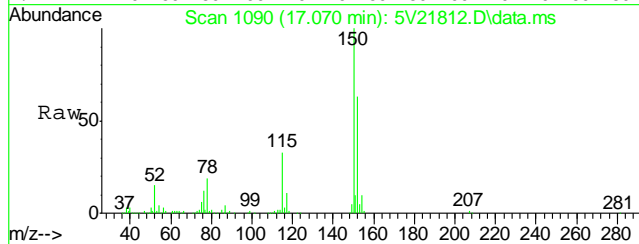
Tgt Ion:	106	Resp:	1272
Ion Ratio	Lower	Upper	
106	100		
91	227.6	177.1	217.1#





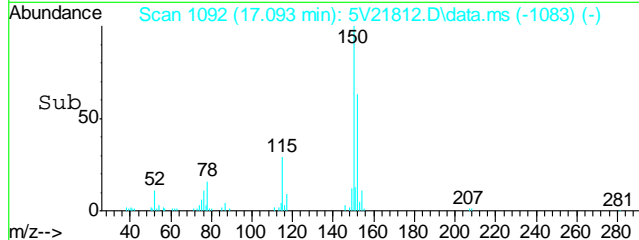
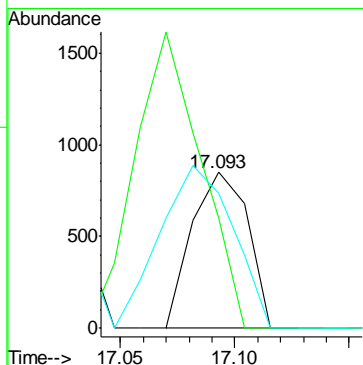
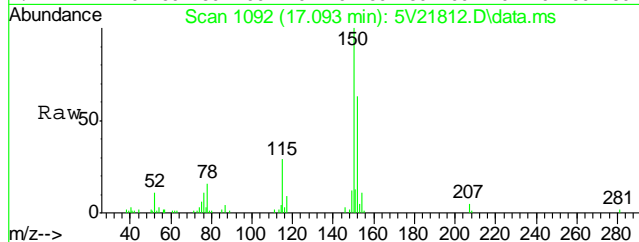
#74
1,4-Dichlorobenzene-d4
Concen: 50.00 ug/l
RT: 17.070 min Scan# 1090
Delta R.T. -0.000 min
Lab File: 5V21812.D
Acq: 11 Jun 2012 1:00 pm

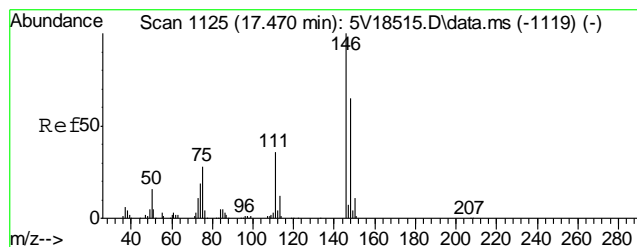
Tgt Ion:	152	Resp:	270594
Ion Ratio	Lower	Upper	
152	100		
115	51.4	41.4	62.0
150	157.5	153.9	230.9



#85
1,4-Dichlorobenzene
Concen: 0.13 ug/l
RT: 17.093 min Scan# 1092
Delta R.T. -0.000 min
Lab File: 5V21812.D
Acq: 11 Jun 2012 1:00 pm

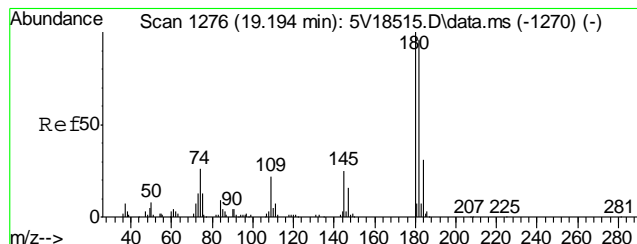
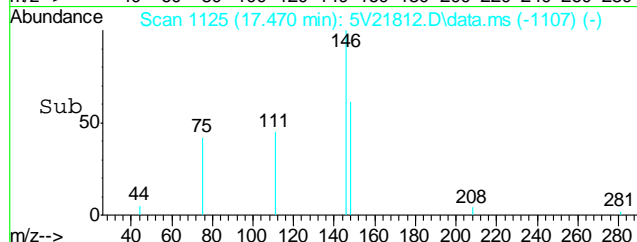
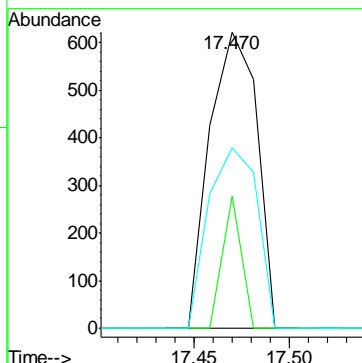
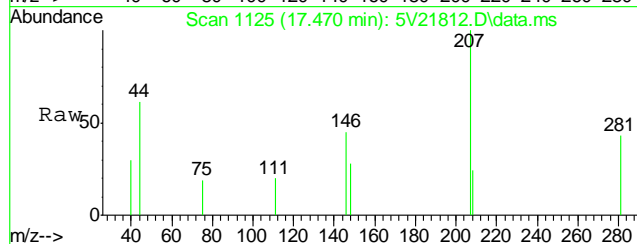
Tgt Ion:	146	Resp:	1450
Ion Ratio	Lower	Upper	
146	100		
111	223.7	28.6	43.0#
148	136.7	51.9	77.9#





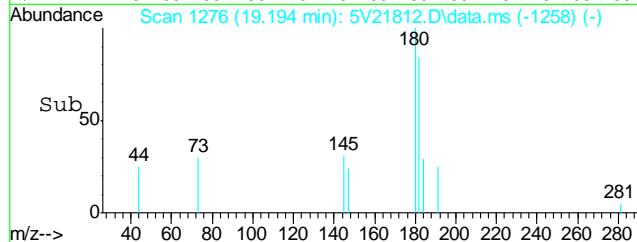
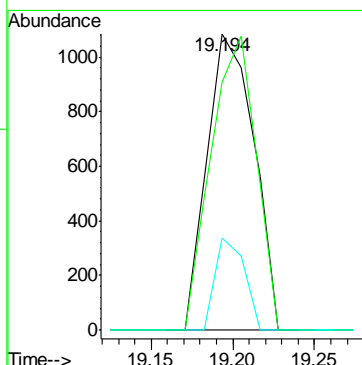
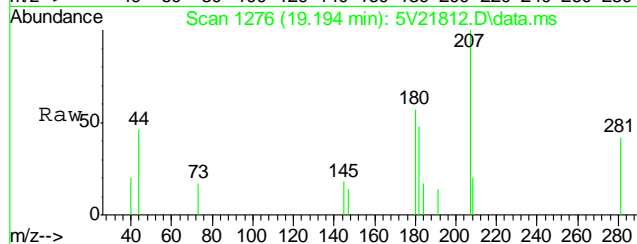
#87
1,2-Dichlorobenzene
Concen: 0.10 ug/l
RT: 17.470 min Scan# 1125
Delta R.T. -0.000 min
Lab File: 5V21812.D
Acq: 11 Jun 2012 1:00 pm

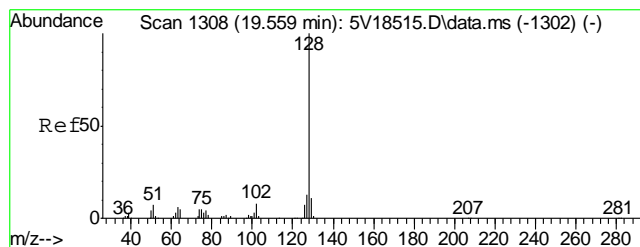
Tgt Ion	Ratio	Lower	Upper
146	100		
111	17.7	29.9	44.9#
148	63.0	51.9	77.9



#90
1,2,4-Trichlorobenzene
Concen: 0.30 ug/l
RT: 19.194 min Scan# 1276
Delta R.T. -0.000 min
Lab File: 5V21812.D
Acq: 11 Jun 2012 1:00 pm

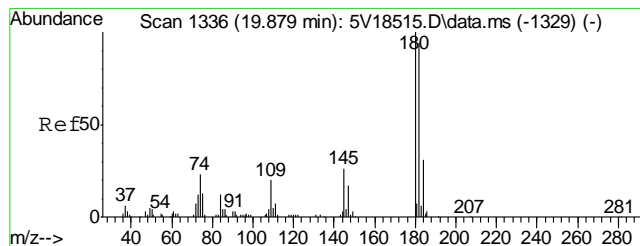
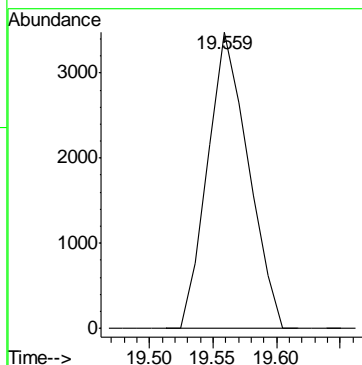
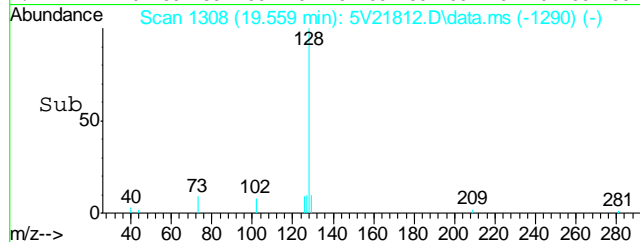
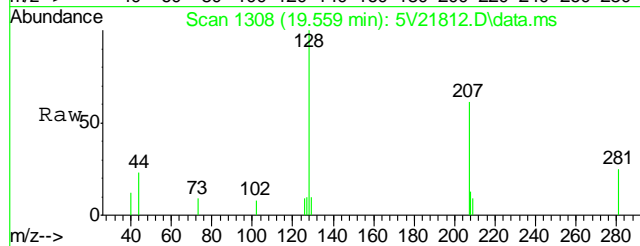
Tgt Ion	Ratio	Lower	Upper
180	100		
182	95.1	76.2	114.4
145	19.3	20.1	30.1#





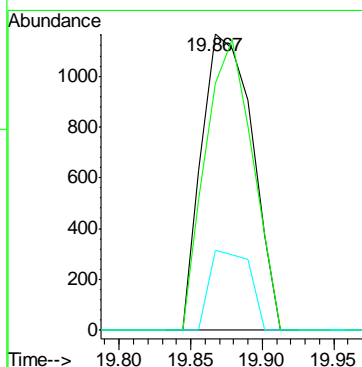
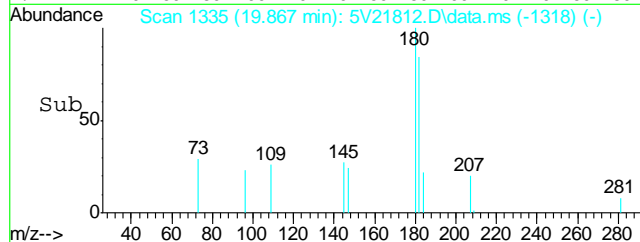
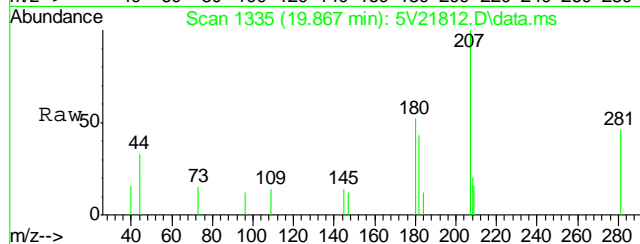
#91
Naphthalene
Concen: 1.14 ug/l
RT: 19.559 min Scan# 1308
Delta R.T. 0.001 min
Lab File: 5V21812.D
Acq: 11 Jun 2012 1:00 pm

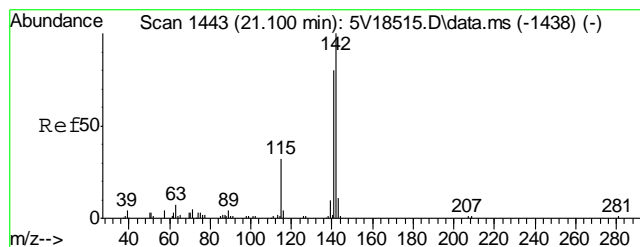
Tgt Ion:128 Resp: 7697



#93
1,2,3-Trichlorobenzene
Concen: 0.43 ug/l
RT: 19.867 min Scan# 1335
Delta R.T. -0.011 min
Lab File: 5V21812.D
Acq: 11 Jun 2012 1:00 pm

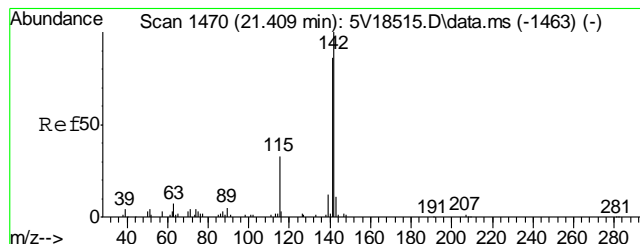
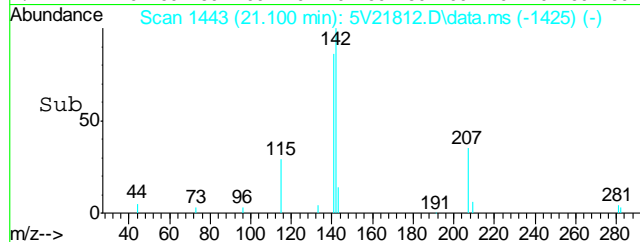
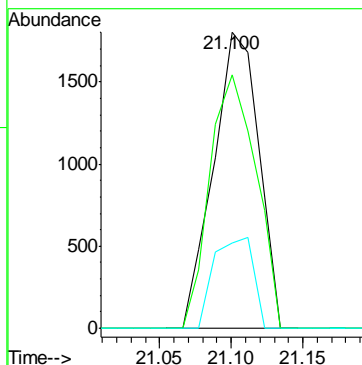
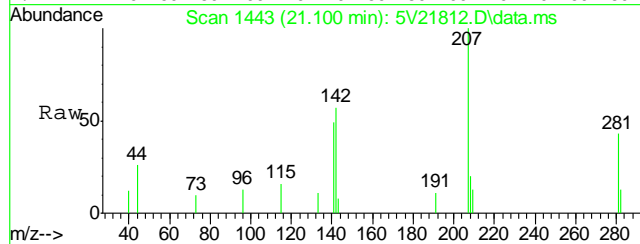
Tgt Ion:180 Resp: 2860
Ion Ratio Lower Upper
180 100
182 91.2 76.0 114.0
145 21.3 21.4 32.0#





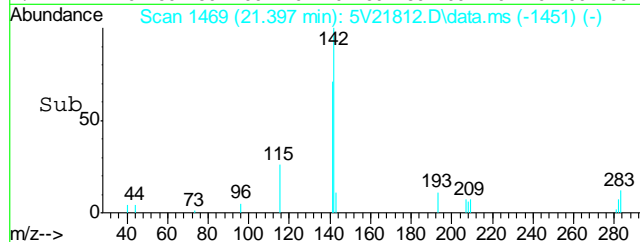
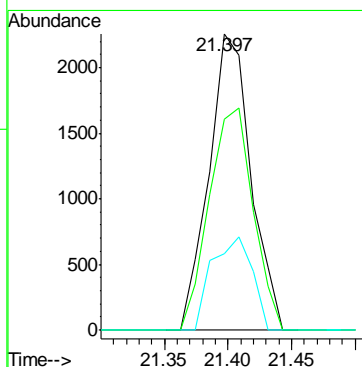
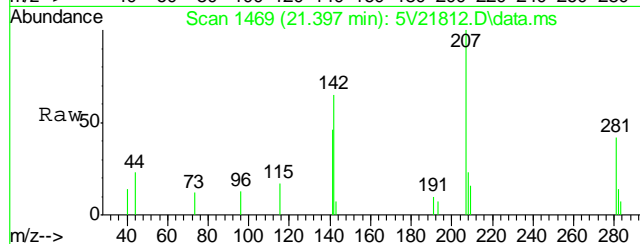
#94
2-Methylnaphthalene
Concen: 2.05 ug/l
RT: 21.100 min Scan# 1443
Delta R.T. 0.000 min
Lab File: 5V21812.D
Acq: 11 Jun 2012 1:00 pm

Tgt Ion	Ratio	Lower	Upper
142	100		
141	87.2	66.2	99.4
115	26.4	25.9	38.9



#95
1-Methylnaphthalene
Concen: 2.11 ug/l
RT: 21.397 min Scan# 1469
Delta R.T. 0.000 min
Lab File: 5V21812.D
Acq: 11 Jun 2012 1:00 pm

Tgt Ion	Ratio	Lower	Upper
142	100		
141	78.5	68.9	103.3
115	30.1	27.3	40.9



GC 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: D35285
Account: XTOKRWR XTO Energy
Project: FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB906-MB	GB16294.D	1	06/11/12	SK	n/a	n/a	GGB906

The QC reported here applies to the following samples:

Method: SW846 8015B

D35285-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	10	5.0	mg/kg	

CAS No.	Surrogate Recoveries	Limits
120-82-1	1,2,4-Trichlorobenzene	104% 60-140%

Blank Spike Summary

Page 1 of 1

Job Number: D35285
Account: XTOKRWR XTO Energy
Project: FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB906-BS	GB16295.D	1	06/11/12	SK	n/a	n/a	GGB906

The QC reported here applies to the following samples:

Method: SW846 8015B

D35285-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	123	112	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	121%	60-140%

7.2.1

7

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D35285
Account: XTOKRWR XTO Energy
Project: FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D35276-12MS	GB16297.D	1	06/11/12	SK	n/a	n/a	GGB906
D35276-12MSD	GB16298.D	1	06/11/12	SK	n/a	n/a	GGB906
D35276-12	GB16296.D	1	06/11/12	SK	n/a	n/a	GGB906

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

D35285-1

CAS No.	Compound	D35276-12 mg/kg	Spike Q	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	170	184	108	194	114	5	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D35276-12	Limits
120-82-1	1,2,4-Trichlorobenzene	108%	110%	103%	60-140%

7.3.1
7

GC Volatiles

Raw Data

∞

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\061112\GB16305.D\FID1A.CH Vial: 16
Signal #2 : Y:\1\DATA\061112\GB16305.D\FID2B.CH
Acq On : 11 Jun 2012 7:19 pm Operator: StephK
Sample : D35285-1, 50X Inst : GC/MS Ins
Misc : GC2904,GGB906,5.051,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Jun 12 08:46:00 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Tue Jun 12 08:45:42 2012
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

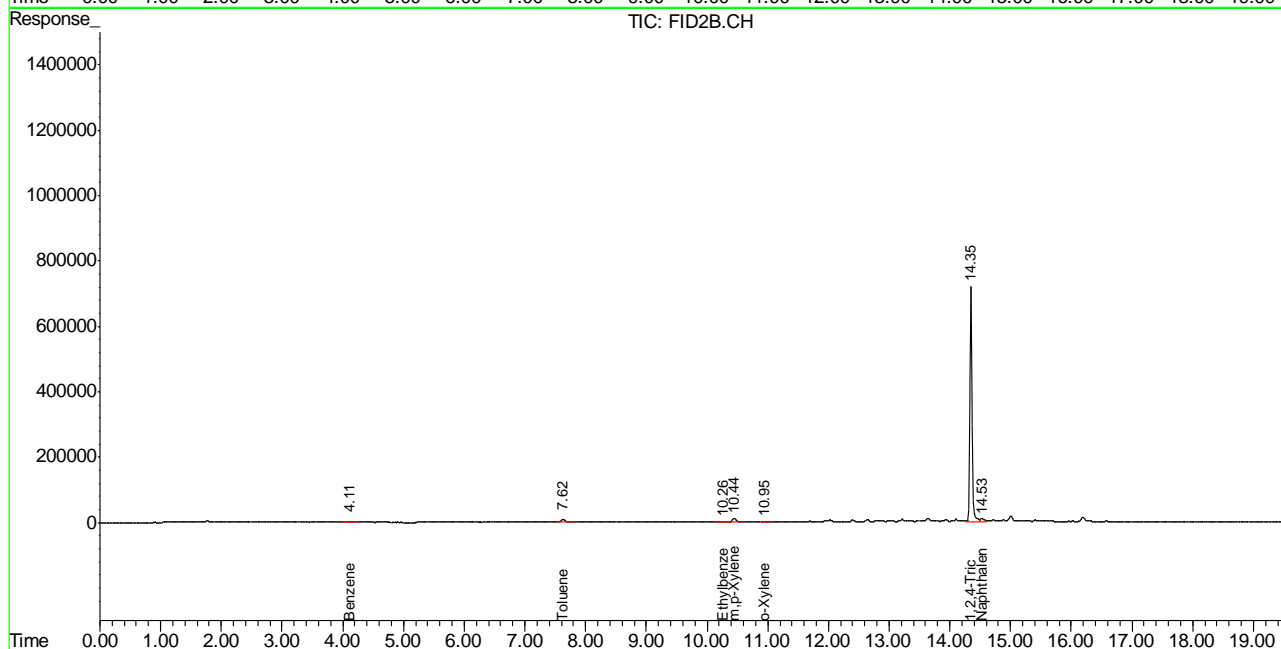
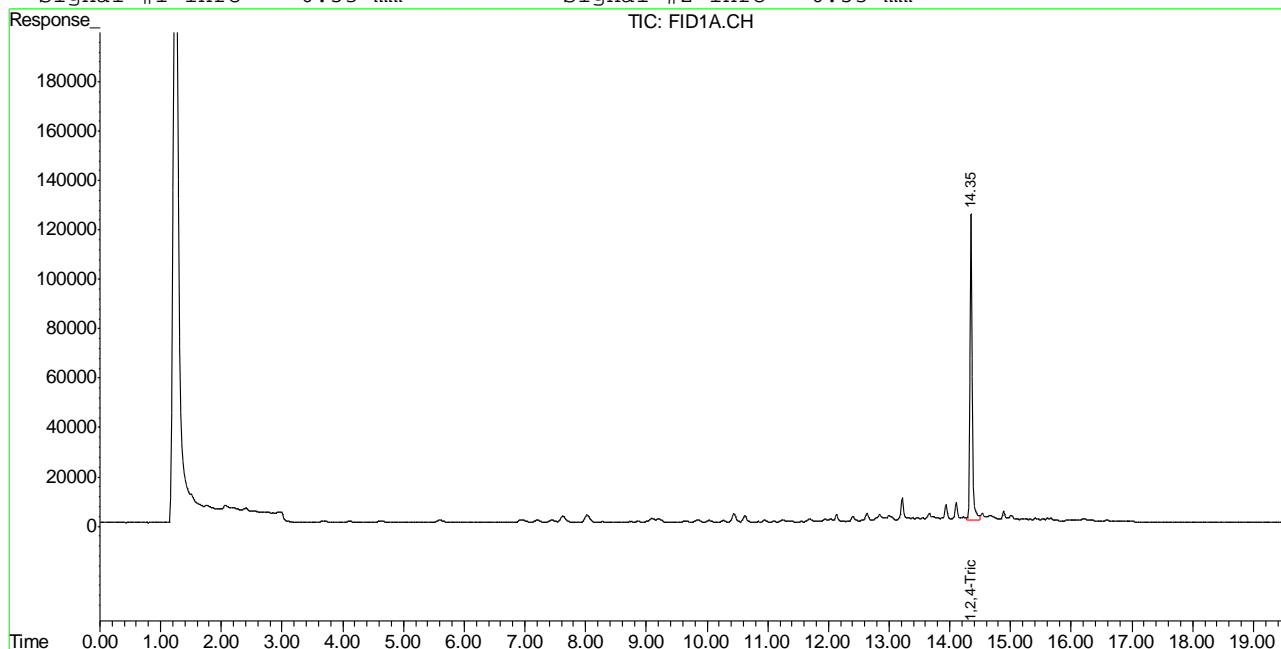
System Monitoring Compounds				
2) S 1,2,4-Trichlorobenzene	14.35	3123438	99.682 %	m
10) S 1,2,4-Trichlorobenzene (P)	14.35	17644438	108.563 %	
Target Compounds				
1) H TVH-Gasoline	7.23	6359799	<MDL	mg/L
4) T Methyl-t-butyl-ether	0.00	0	N.D.	ug/L d
5) T Benzene	4.11	124760	0.310	ug/L
6) T Toluene	7.62	551268	1.391	ug/L
7) T Ethylbenzene	10.26	118697	0.351	ug/L
8) T m,p-Xylene	10.44	565286	1.175	ug/L
9) T o-Xylene	10.95	101628	0.309	ug/L
11) T Naphthalene	14.53	366921	1.860	ug/L

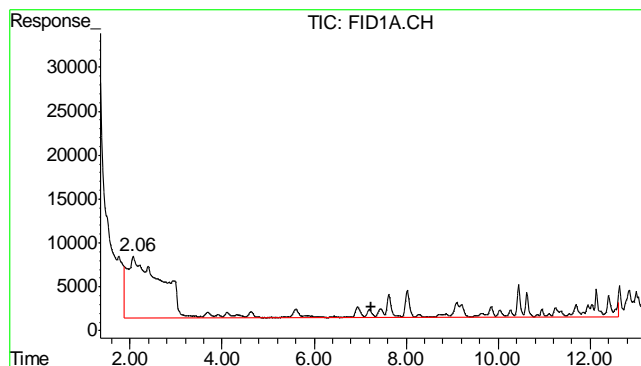
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\061112\GB16305.D\FID1A.CH Vial: 16
 Signal #2 : Y:\1\DATA\061112\GB16305.D\FID2B.CH
 Acq On : 11 Jun 2012 7:19 pm Operator: StephK
 Sample : D35285-1, 50X Inst : GC/MS Ins
 Misc : GC2904,GGB906,5.051,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Jun 12 7:50 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Tue Jun 12 08:45:42 2012
 Response via : Multiple Level Calibration
 DataAcq Meth : TVB4.M

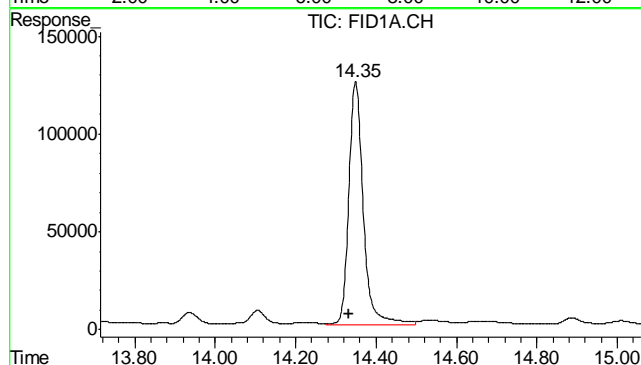
Volume Inj. :
 Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
 Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





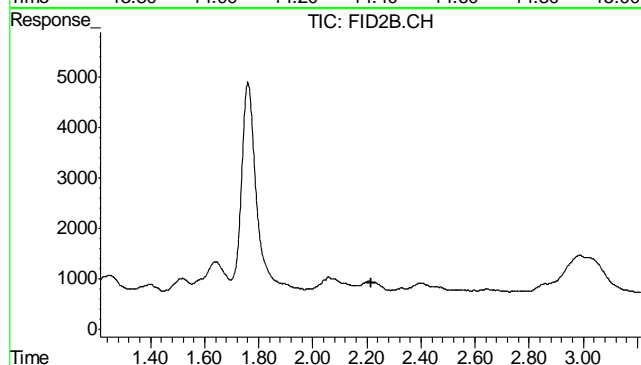
#1 TVH-Gasoline

R.T.: 7.230 min
Delta R.T.: 0.000 min
Response: 6359799
Conc: N.D.



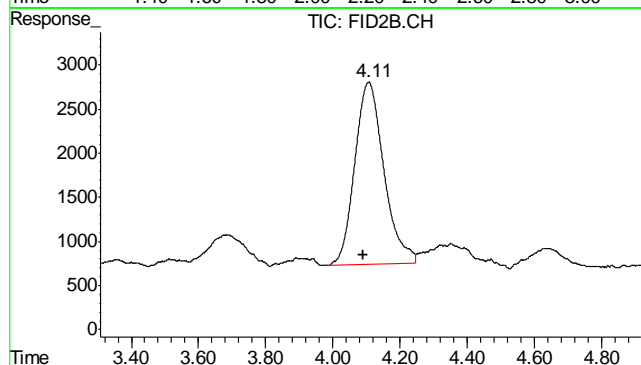
#2 1,2,4-Trichlorobenzene

R.T.: 14.349 min
Delta R.T.: 0.018 min
Response: 3123438
Conc: 99.68 % m



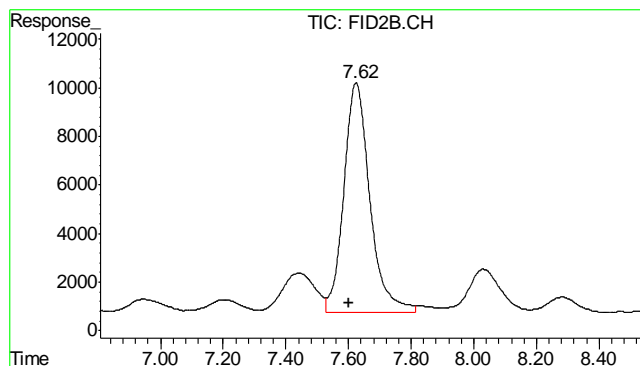
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T.: 2.215 min
Response: 0
Conc: N.D.

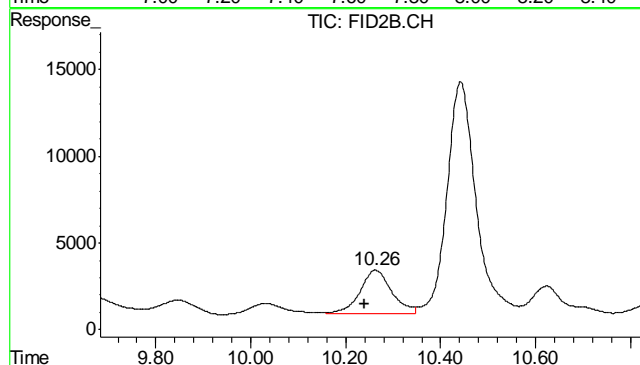


#5 Benzene

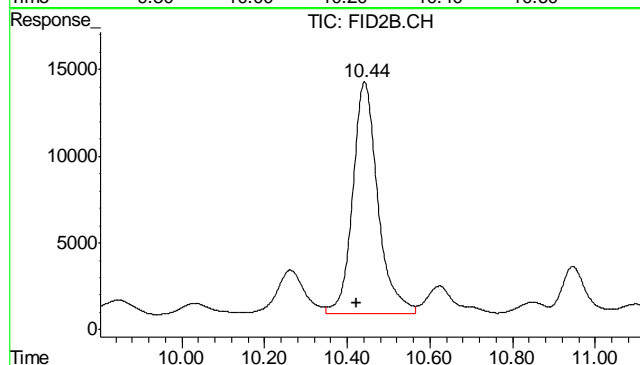
R.T.: 4.108 min
Delta R.T.: 0.017 min
Response: 124760
Conc: 0.31 ug/L



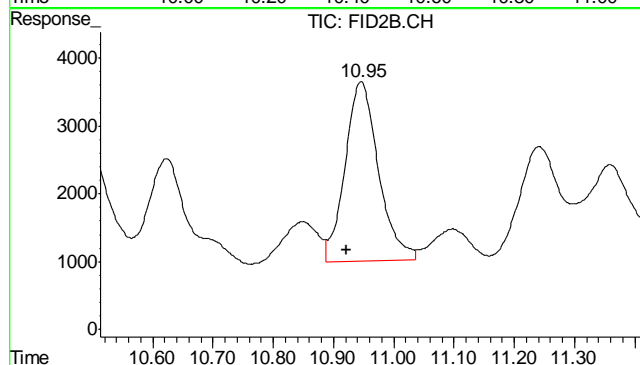
#6 Toluene
 R.T.: 7.624 min
 Delta R.T.: 0.022 min
 Response: 551268
 Conc: 1.39 ug/L



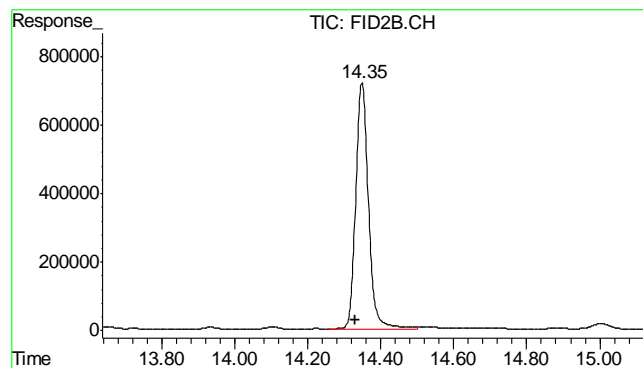
#7 Ethylbenzene
 R.T.: 10.262 min
 Delta R.T.: 0.023 min
 Response: 118697
 Conc: 0.35 ug/L



#8 m,p-Xylene
 R.T.: 10.442 min
 Delta R.T.: 0.020 min
 Response: 565286
 Conc: 1.18 ug/L

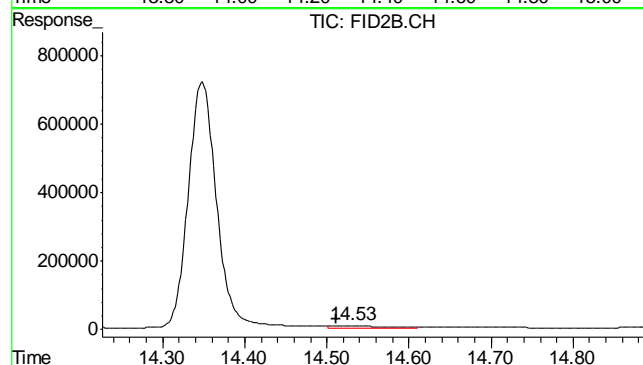


#9 o-Xylene
 R.T.: 10.946 min
 Delta R.T.: 0.023 min
 Response: 101628
 Conc: 0.31 ug/L



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

R.T.: 14.348 min
Delta R.T.: 0.018 min
Response: 17644438
Conc: 108.56 %



#11 Naphthalene

R.T.: 14.531 min
Delta R.T.: 0.019 min
Response: 366921
Conc: 1.86 ug/L

8.1.1

8

Judy Melson
06/12/12 09:24

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\061112\GB16294.D\FID1A.CH Vial: 5
Signal #2 : Y:\1\DATA\061112\GB16294.D\FID2B.CH
Acq On : 11 Jun 2012 12:51 pm Operator: StephK
Sample : MB Inst : GC/MS Ins
Misc : GC2904,GGB906,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Jun 11 13:08:10 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon Jun 11 13:03:48 2012
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	14.35	3244057	103.531 %	m
10) S	1,2,4-Trichlorobenzene (P)	14.34	18276099	112.449 %	
Target Compounds					
1) H	TVH-Gasoline	7.23	4675842	<MDL	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	7.63	181555	0.458	ug/L
7) T	Ethylbenzene	0.00	0	N.D.	ug/L d
8) T	m,p-Xylene	10.44	181324	0.123	ug/L
9) T	o-Xylene	0.00	0	N.D.	ug/L d
11) T	Naphthalene	14.52	215354	1.091	ug/L

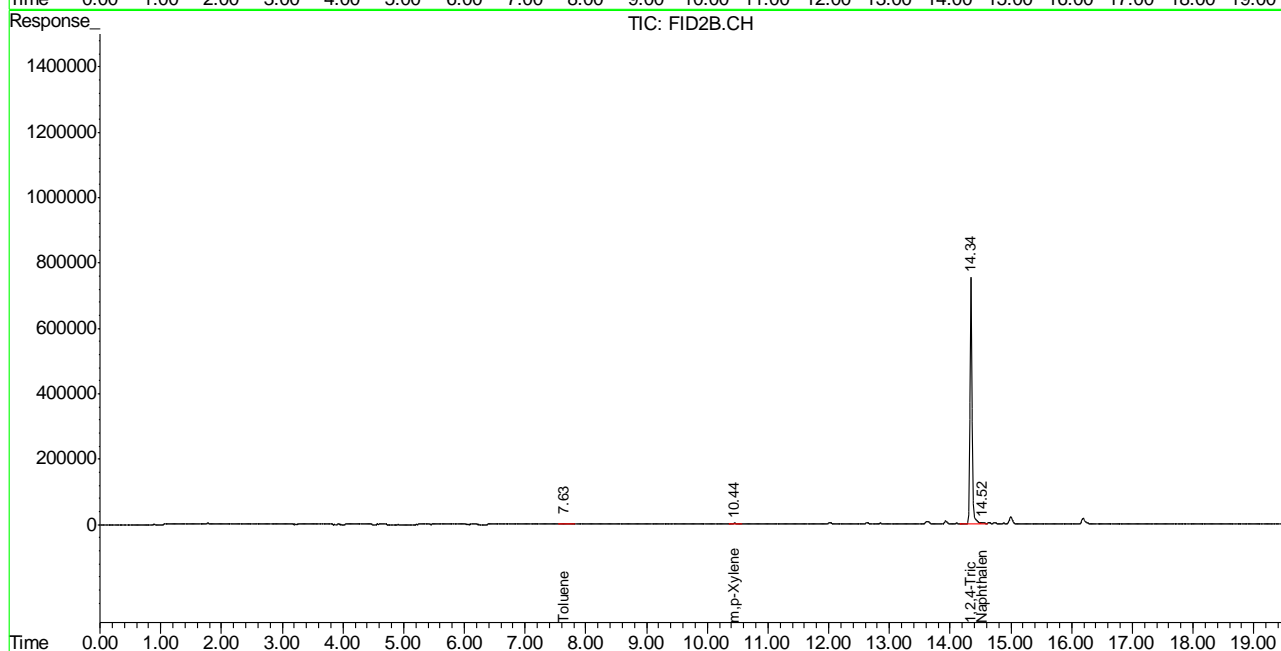
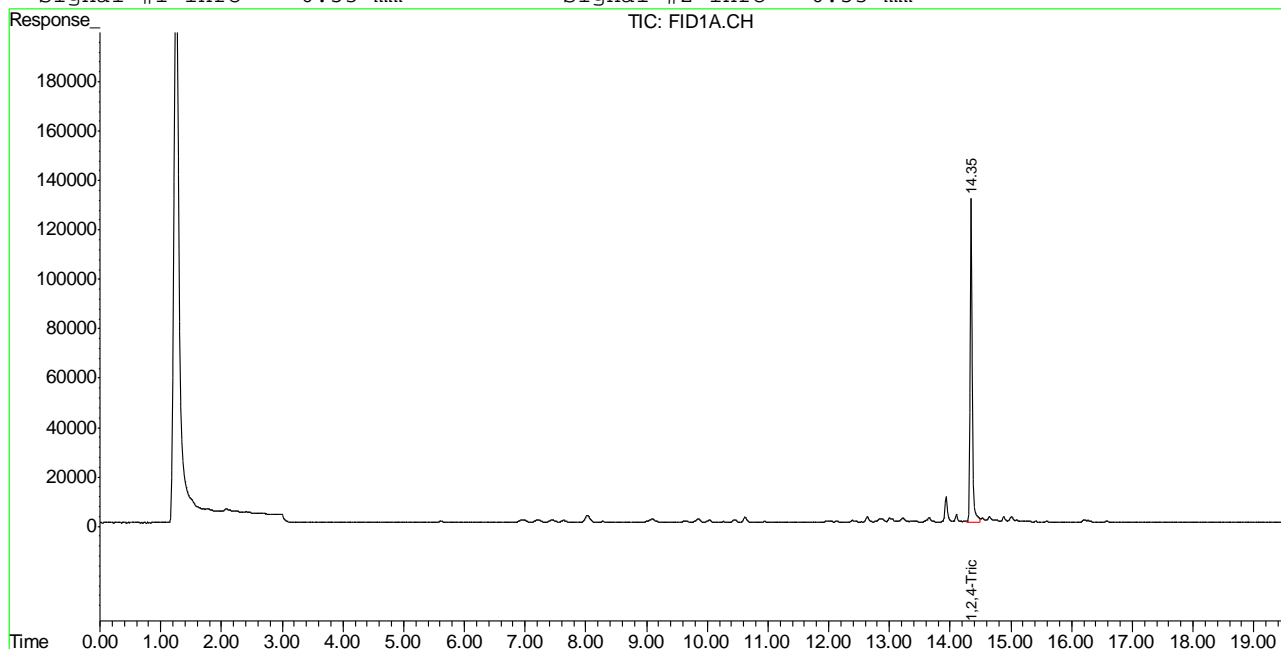
(f)=RT Delta > 1/2 Window (m)=manual int.
GB16294.D TB868GB868SOIL.M Tue Jun 12 08:49:59 2012 GC

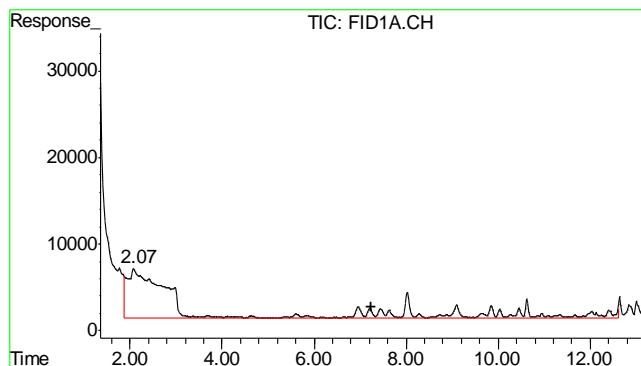
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\061112\GB16294.D\FID1A.CH Vial: 5
Signal #2 : Y:\1\DATA\061112\GB16294.D\FID2B.CH
Acq On : 11 Jun 2012 12:51 pm Operator: StephK
Sample : MB Inst : GC/MS Ins
Misc : GC2904,GGB906,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Jun 11 12:11 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon Jun 11 13:03:48 2012
Response via : Multiple Level Calibration
DataAcq Meth : TVB4.M

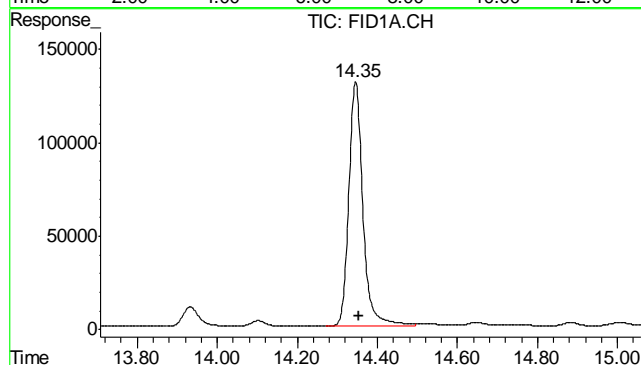
Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





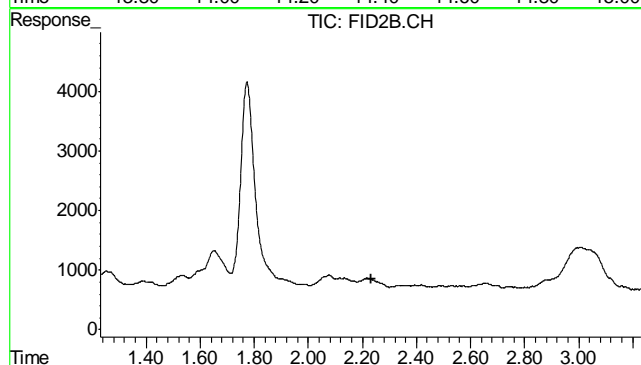
#1 TVH-Gasoline

R.T.: 7.230 min
Delta R.T.: 0.000 min
Response: 4675842
Conc: N.D.



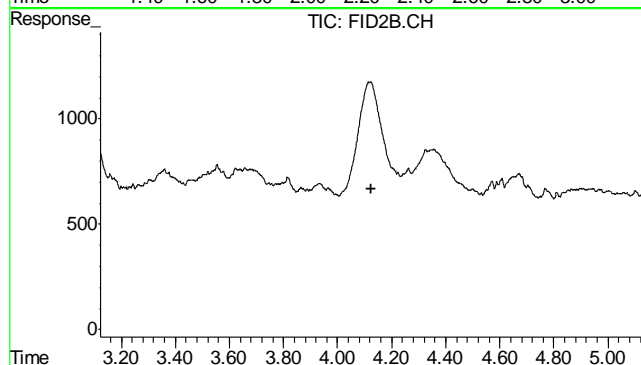
#2 1,2,4-Trichlorobenzene

R.T.: 14.345 min
Delta R.T.: -0.008 min
Response: 3244057
Conc: 103.53 % m



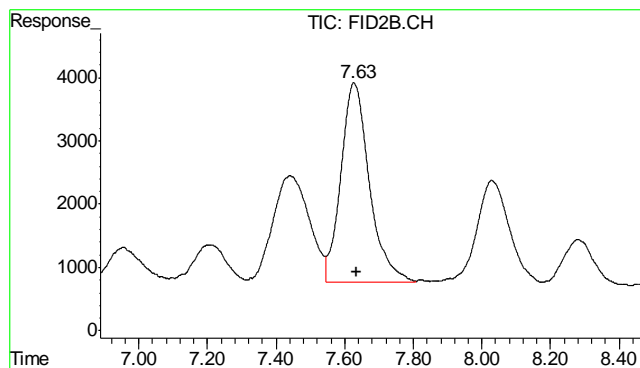
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T.: 2.231 min
Response: 0
Conc: N.D.



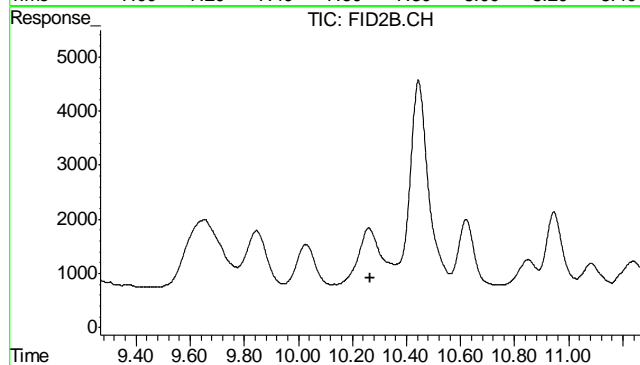
#5 Benzene

R.T.: 0.000 min
Exp R.T.: 4.123 min
Response: 0
Conc: N.D.



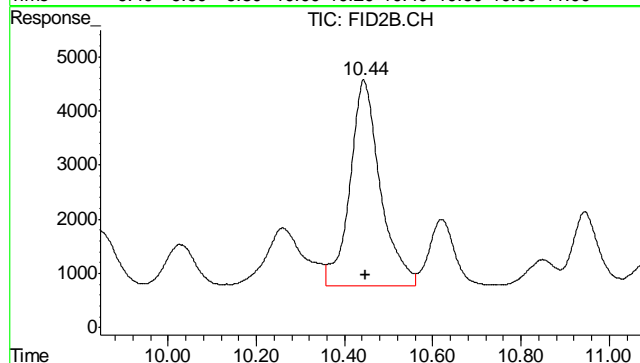
#6 Toluene

R.T.: 7.627 min
Delta R.T.: -0.009 min
Response: 181555
Conc: 0.46 ug/L



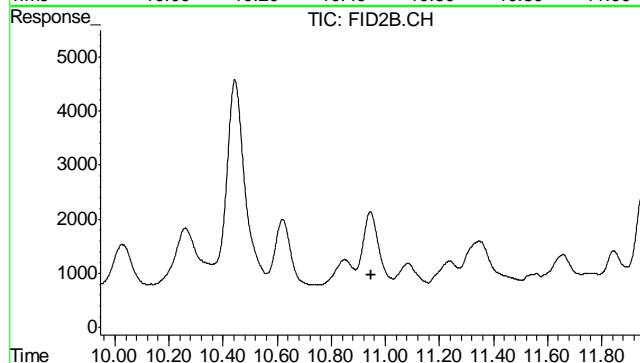
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T.: 10.267 min
Response: 0
Conc: N.D.



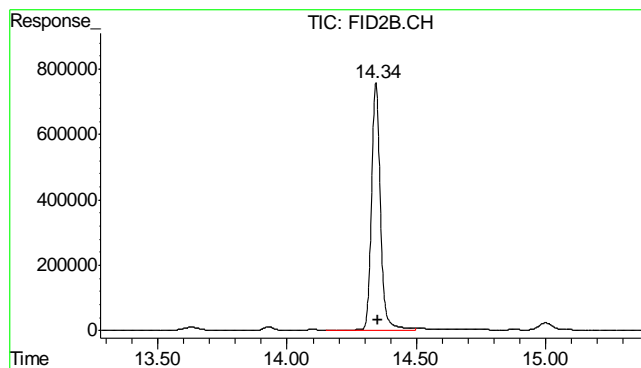
#8 m,p-Xylene

R.T.: 10.444 min
Delta R.T.: -0.004 min
Response: 181324
Conc: 0.12 ug/L



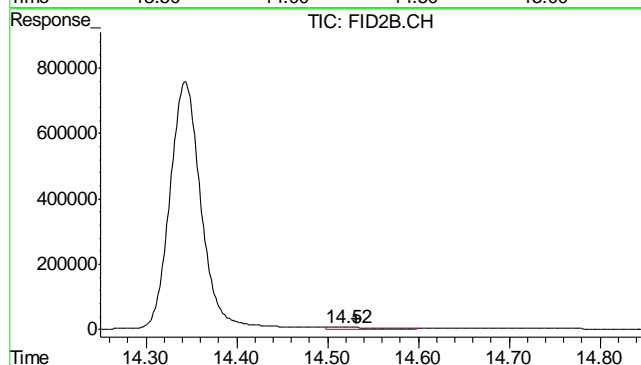
#9 o-Xylene

R.T.: 0.000 min
Exp R.T.: 10.946 min
Response: 0
Conc: N.D.



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

R.T.: 14.344 min
Delta R.T.: -0.007 min
Response: 18276099
Conc: 112.45 %



#11 Naphthalene

R.T.: 14.521 min
Delta R.T.: -0.011 min
Response: 215354
Conc: 1.09 ug/L

8.2.1

8

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: D35285
Account: XTOKRWR XTO Energy
Project: FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6034-MB	FD14170.D	1	06/13/12	AV	06/12/12	OP6034	GFD747

The QC reported here applies to the following samples:

Method: SW846-8015B

D35285-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	6.7	4.3	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	89% 43-136%

9.1.1

9

Blank Spike Summary

Job Number: D35285
Account: XTOKRWR XTO Energy
Project: FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6034-BS	FD14172.D	1	06/13/12	AV	06/12/12	OP6034	GFD747

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

D35285-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	485	73	58-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	87%	43-136%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D35285
Account: XTOKRWR XTO Energy
Project: FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6034-MS	FD14174.D	2	06/13/12	AV	06/12/12	OP6034	GFD747
OP6034-MSD	FD14176.D	2	06/13/12	AV	06/12/12	OP6034	GFD747
D35261-1	FD14178.D	2	06/13/12	AV	06/12/12	OP6034	GFD747

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

D35285-1

CAS No.	Compound	D35261-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	155		772	601	58	548	51	9	20-183/43

CAS No.	Surrogate Recoveries	MS	MSD	D35261-1	Limits
84-15-1	o-Terphenyl	72%	65%	74%	43-136%

9.3.1
6

GC Semi-volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\JUNE\FD061312.SEC\FD14186.D Vial: 61
Acq On : 6-13-2012 08:18:42 PM Operator: ashleyv
Sample : D35285-1 Inst : FID5
Misc : OP6034,GFD747,30.00,,,1,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 14 10:44:25 2012 Quant Results File: DRO-GFD743R.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD743R.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Tue Jun 12 11:16:41 2012
Response via : Initial Calibration
DataAcq Meth : DRODUAL.M

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

Compound	R.T.	Response	Conc Units

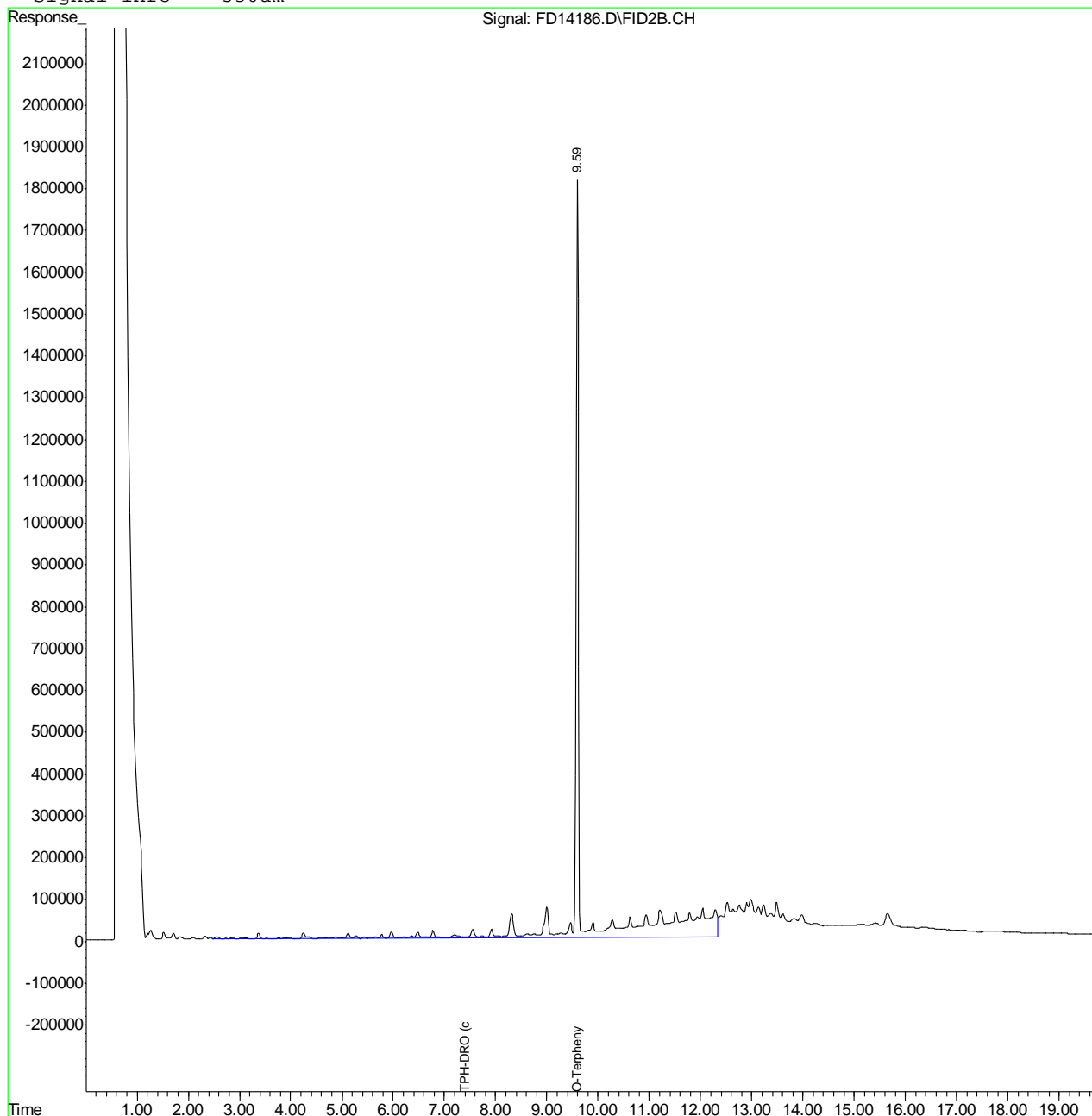
System Monitoring Compounds			
1) S O-Terphenyl	9.60	56757322	1307.281 mg/L
Target Compounds			
2) H TPH-DRO (c10-c28)	7.40	81792369	1969.690 mg/L

Quantitation Report (QT Reviewed)

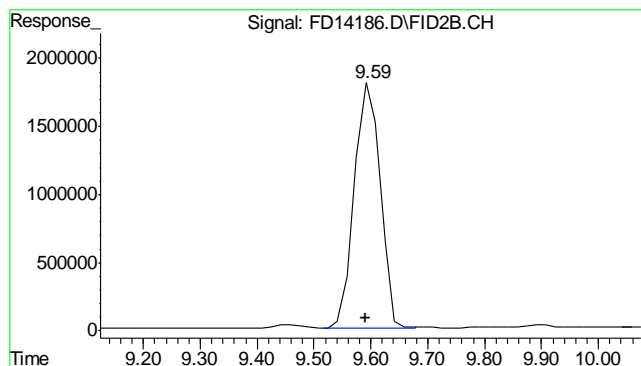
Data File : C:\MSDCHEM\2\DATA\2012\JUNE\FD061312.SEC\FD14186.D Vial: 61
 Acq On : 6-13-2012 08:18:42 PM Operator: ashleyv
 Sample : D35285-1 Inst : FID5
 Misc : OP6034,GFD747,30.00,,,1,1 Multiplr: 1.00
 IntFile : autoint1.e
 Quant Time: Jun 14 10:44 2012 Quant Results File: DRO-GFD743R.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD743R.M (Chemstation Integrator)
 Title : 8015B TEH
 Last Update : Tue Jun 12 11:16:41 2012
 Response via : Multiple Level Calibration
 DataAcq Meth : DRODUAL.M

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

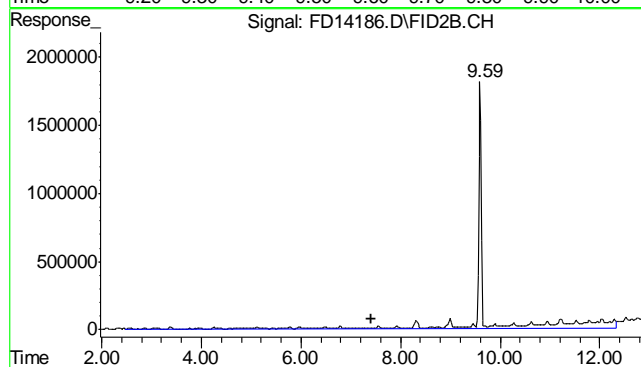


10.1.1
10



#1 O-Terphenyl

R.T.: 9.601 min
 Delta R.T.: 0.011 min
 Response: 56757322
 Conc: 1307.28 mg/L



#2 TPH-DRO (c10-c28)

R.T.: 7.400 min
 Delta R.T.: 0.000 min
 Response: 81792369
 Conc: 1969.69 mg/L m

10.1.1
10

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\JUNE\FD061312.SEC\FD14170.D Vial: 53
Acq On : 6-13-2012 04:47:59 PM Operator: ashleyv
Sample : OP6034-MB Inst : FID5
Misc : OP6034,GFD747,30.00,,,1,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 14 09:46:50 2012 Quant Results File: DRO-GFD743R.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD743R.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Tue Jun 12 11:16:41 2012
Response via : Initial Calibration
DataAcq Meth : DRODUAL.M

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

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) S O-Terphenyl	9.60	77628815	1788.010 mg/L
Target Compounds			
2) H TPH-DRO (c10-c28)	7.40	3071240	73.960 mg/L

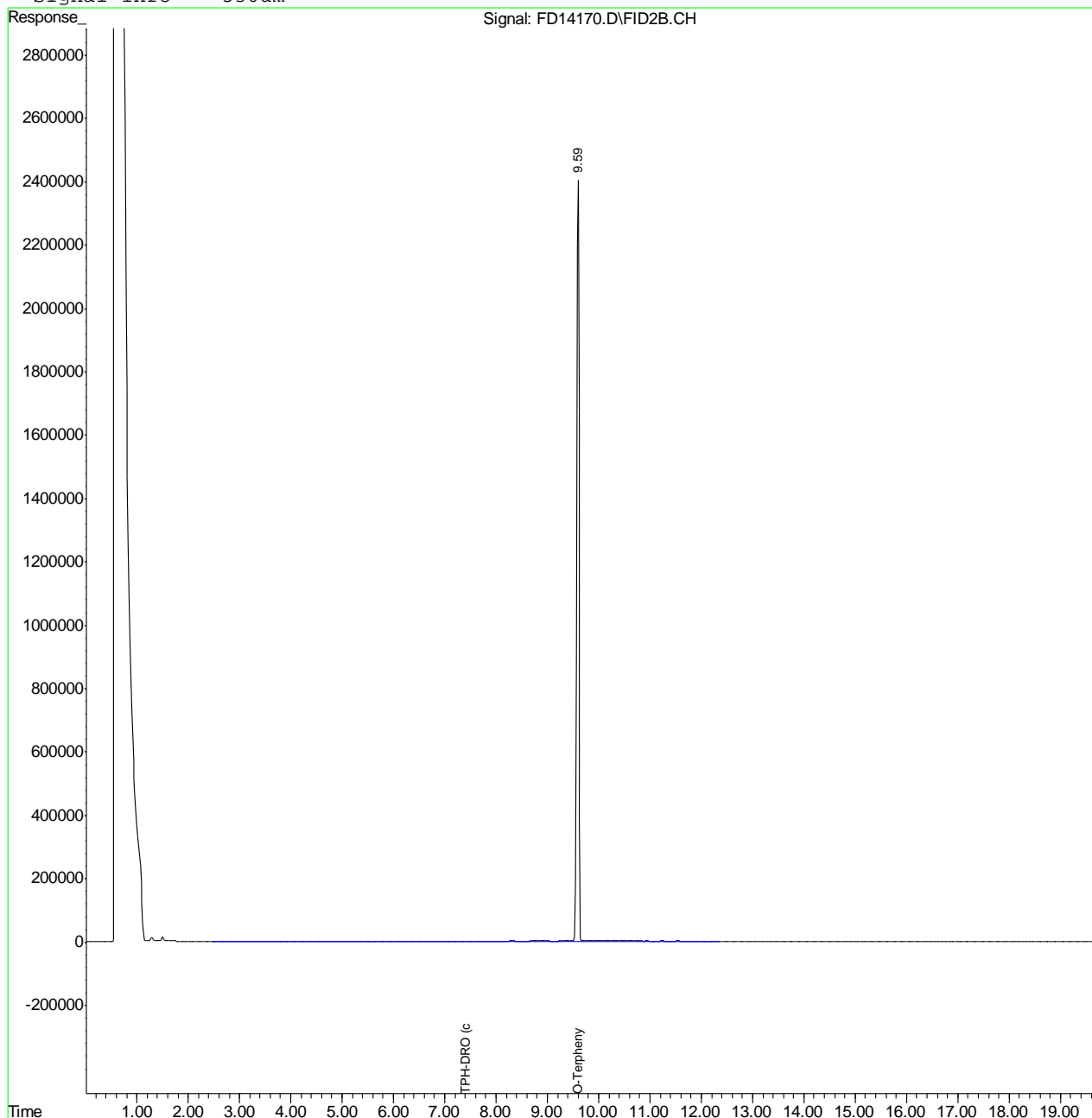
(f)=RT Delta > 1/2 Window (m)=manual int.
FD14170.D DRO-GFD743R.M Thu Jun 14 11:05:36 2012 GC

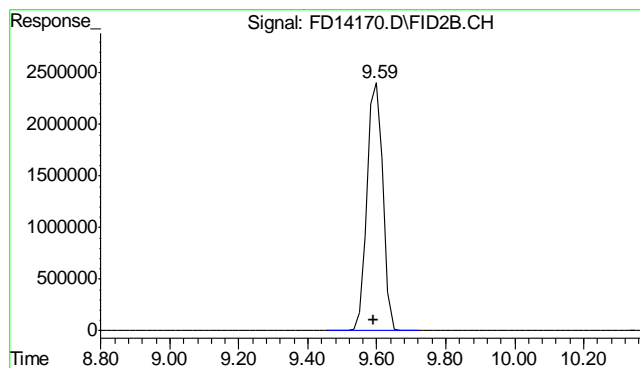
Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\JUNE\FD061312.SEC\FD14170.D Vial: 53
Acq On : 6-13-2012 04:47:59 PM Operator: ashleyv
Sample : OP6034-MB Inst : FID5
Misc : OP6034,GFD747,30.00,,,1,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 14 9:46 2012 Quant Results File: DRO-GFD743R.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD743R.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Tue Jun 12 11:16:41 2012
Response via : Multiple Level Calibration
DataAcq Meth : DRODUAL.M

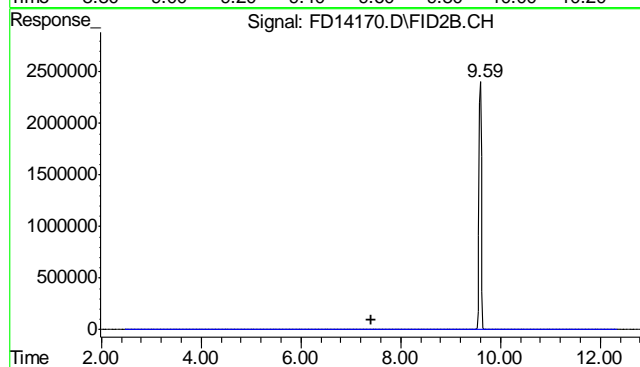
Volume Inj. : 1ul
Signal Phase : RTX-5
Signal Info : 530um





#1 O-Terphenyl

R.T.: 9.601 min
Delta R.T.: 0.011 min
Response: 77628815
Conc: 1788.01 mg/L



#2 TPH-DRO (c10-c28)

R.T.: 7.400 min
Delta R.T.: 0.000 min
Response: 3071240
Conc: 73.96 mg/L m

10.2.1
10