



11/29/11

Technical Report for

KRW Consulting, Inc.

XOM FRU 297-17A

1108-13A

Accutest Job Number: D29703

Sampling Date: 11/21/11

Report to:

KRW Consulting, Inc.
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dknudson@krwconsulting.com; jhess@krwconsulting.com;
ATTN: Dwayne Knudson

Total number of pages in report: 61



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: 303-425-6021

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

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Test results relate only to samples analyzed.

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Sample Summary

KRW Consulting, Inc.

Job No: D29703

XOM FRU 297-17A
Project No: 1108-13A

Sample Number	Collected		Matrix Code Type	Client Sample ID
	Date	Time By	Received	
D29703-1	11/21/11	15:20 CH	11/22/11 SO	RP_MIX/BLEND_19,21 NOV

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

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: KRW Consulting, Inc.

Job No D29703

Site: XOM FRU 297-17A

Report Dat 11/29/2011 2:44:50 PM

On 11/22/2011, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 2.9 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D29703 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: V5V1103
------------------	--------------------------

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D29701-1MS, D29701-1MSD were used as the QC samples indicated.

Volatiles by GC By Method SW846 8015B

Matrix SO	Batch ID: GGB795
------------------	-------------------------

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D29637-1MS, D29637-1MSD were used as the QC samples indicated.

Extractables by GC By Method SW846-8015B

Matrix SO	Batch ID: OP4897
------------------	-------------------------

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D29662-1MS, D29662-1MSD were used as the QC samples indicated.

Wet Chemistry By Method SM19 2540B M

Matrix SO	Batch ID: GN12639
------------------	--------------------------

- 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

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Client Sample ID:	RP_MIX/BLEND_19,21 NOV	Date Sampled:	11/21/11
Lab Sample ID:	D29703-1	Date Received:	11/22/11
Matrix:	SO - Soil	Percent Solids:	81.9
Method:	SW846 8260B		
Project:	XOM FRU 297-17A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V18453.D	1	11/23/11	DC	n/a	n/a	V5V1103
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.02 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	155	72	32	ug/kg	
108-88-3	Toluene	286	140	72	ug/kg	
100-41-4	Ethylbenzene	ND	140	36	ug/kg	
1330-20-7	Xylene (total)	468	290	140	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	90%		61-130%
460-00-4	4-Bromofluorobenzene	95%		53-131%
17060-07-0	1,2-Dichloroethane-D4	111%		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:	RP_MIX/BLEND_19,21 NOV			Date Sampled:	11/21/11
Lab Sample ID:	D29703-1			Date Received:	11/22/11
Matrix:	SO - Soil			Percent Solids:	81.9
Method:	SW846 8015B				
Project:	XOM FRU 297-17A				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB14020.D	1	11/22/11	SK	n/a	n/a	GGB795
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)	18.5	14	7.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	113%		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:	RP_MIX/BLEND_19,21 NOV			Date Sampled:	11/21/11
Lab Sample ID:	D29703-1			Date Received:	11/22/11
Matrix:	SO - Soil			Percent Solids:	81.9
Method:	SW846-8015B SW846 3546				
Project:	XOM FRU 297-17A				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI04573.D	1	11/23/11	CS	11/22/11	OP4897	GFI336
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)	563	16	11	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	63%		61-142%		

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 Mountain States
4036 Youngfield Street Wheat Ridge, Co 80033
TEL: 303-425-6021 877-737-4521
FAX: 303-425-6021

FED-EX Tracking #
Accutest Quote #
Bottle Order Control # **D29703**
Accutest Job #

Client / Reporting Information		Project Information		Requested Analysis (see TEST CODE sheet)										Matrix Codes	
Company Name KRW Consulting INC		Project Name XOM-FRU-297-17A		<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; margin-right: 10px;">Table 9/10</div> <div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Billing Information (If different from Report to)</div> <div> Company Name Street Address City State Zip </div> </div> </div>										DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB-Field Blank EB- Equipment Blank RB- Rinse Blank TB-Trip Blank	
Street Address 800 W. 14th Ave Ste. 200		Street:													
City Lakewood, Co 80214		City:													
Project Contact Dwayne Knudson		Project # 1108-134													
Phone # 303-239-9011		Client PO#													
Sampler(s) Name(s) Colin Hallister 303-239-9011		Project Manager Joe Hess		Attention:										PO#	
Field ID / Point of Collection RP-mix/Bld-19, 21 NOV		MECH/ID Vial #		Collection		Sampled by		Matrix		# of bottles		Number of preserved bottles		LAB USE ONLY	
				Date 11/21/11		Time 15:20		CH		So		S		<input checked="" type="checkbox"/> HCl <input type="checkbox"/> NaOH <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NONE <input type="checkbox"/> DI Water <input type="checkbox"/> MEOH <input type="checkbox"/> ENCORE <input type="checkbox"/> Blankline	
2-Day Rush on ISTEX & TPH. Hold rest of Table 9/10 until further notice															
Turnaround Time (Business days) <input type="checkbox"/> Std. 10 Business Days <input type="checkbox"/> Std. 5 Business Days (By Contract only) <input type="checkbox"/> 5 Day W/ SH <input type="checkbox"/> 3 Day EMERGENCY <input checked="" type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 1 Day EMERGENCY		Approved By (Accutest PM): / Date:		<input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> Commercial "B" -Narrative <input type="checkbox"/> FULLT1 (Level 3+4)		<input type="checkbox"/> State Forms <input type="checkbox"/> EDD Format <input checked="" type="checkbox"/> PDF		Please Email results to KRW Piceance Creek XOM Team							
Emergency & Rush T/A data available VIA Lablink		Sample Custody must be documented below each time samples change possession, including courier delivery.													
Relinquished by: C. W. H. Hess		Date Time: 11-21-11 18:00		Received By: Rite Service Center		Relinquished By: C. W. H. Hess		Date Time: 11/22/11 13:50		Received By: JAL					
Relinquished by:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:					
Relinquished by:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:					
5				5		Custody Seal # CO		<input checked="" type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Preserved where applicable <input type="checkbox"/> NA		On Ice <input checked="" type="checkbox"/>		Cooler Temp. 2.9	

D29703: Chain of Custody

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Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D29703

Client: KRW CONSULTING, INC

Immediate Client Services Action Required: No

Date / Time Received: 11/22/2011 1:50:00 PM

No. Coolers: 1

Client Service Action Required at Login: No

Project: XOM-FRU-297-17A

Airbill #'s: HDCO

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

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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: D29703**Account:** KRWCCOL KRW Consulting, Inc.**Project:** XOM FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V1103-MB	5V18443.D	1	11/23/11	DC	n/a	n/a	V5V1103

The QC reported here applies to the following samples:**Method:** SW846 8260B

D29703-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	50	22	ug/kg	
100-41-4	Ethylbenzene	ND	100	25	ug/kg	
108-88-3	Toluene	ND	100	50	ug/kg	
1330-20-7	Xylene (total)	ND	200	100	ug/kg	

CAS No.	Surrogate Recoveries	Limits
2037-26-5	Toluene-D8	94% 61-130%
460-00-4	4-Bromofluorobenzene	84% 53-131%
17060-07-0	1,2-Dichloroethane-D4	102% 62-130%

Blank Spike Summary

Page 1 of 1

Job Number: D29703

Account: KRWCCOL KRW Consulting, Inc.

Project: XOM FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V1103-BS	5V18444.D	1	11/23/11	DC	n/a	n/a	V5V1103

The QC reported here applies to the following samples:

Method: SW846 8260B

D29703-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	53.7	107	70-130
100-41-4	Ethylbenzene	50	47.7	95	70-130
108-88-3	Toluene	50	44.1	88	70-130
1330-20-7	Xylene (total)	150	152	101	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	87%	61-130%
460-00-4	4-Bromofluorobenzene	109%	53-131%
17060-07-0	1,2-Dichloroethane-D4	111%	62-130%

Blank Spike Summary

Page 1 of 1

Job Number: D29703

Account: KRWCCOL KRW Consulting, Inc.

Project: XOM FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V1103-BS	5V18445.D	1	11/23/11	DC	n/a	n/a	V5V1103

The QC reported here applies to the following samples:

Method: SW846 8260B

D29703-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
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CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	94%	61-130%
460-00-4	4-Bromofluorobenzene	93%	53-131%
17060-07-0	1,2-Dichloroethane-D4	113%	62-130%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D29703

Account: KRWCCOL KRW Consulting, Inc.

Project: XOM FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D29701-1MS	5V18447.D	1	11/23/11	DC	n/a	n/a	V5V1103
D29701-1MSD	5V18448.D	1	11/23/11	DC	n/a	n/a	V5V1103
D29701-1	5V18446.D	1	11/23/11	DC	n/a	n/a	V5V1103

The QC reported here applies to the following samples:

Method: SW846 8260B

D29703-1

CAS No.	Compound	D29701-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		3380	3550	105	3950	117	11	70-134/30
100-41-4	Ethylbenzene	ND		3380	3150	93	3590	106	13	70-137/30
108-88-3	Toluene	ND		3380	2900	86	3270	97	12	70-130/30
1330-20-7	Xylene (total)	ND		10100	10100	100	11400	113	12	61-131/30

CAS No.	Surrogate Recoveries	MS	MSD	D29701-1	Limits
2037-26-5	Toluene-D8	92%	94%	91%	61-130%
460-00-4	4-Bromofluorobenzene	114%	121%	92%	53-131%
17060-07-0	1,2-Dichloroethane-D4	114%	116%	109%	62-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D29703
Account: KRWCCOL KRW Consulting, Inc.
Project: XOM FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D29701-1MS	5V18449.D	1	11/23/11	DC	n/a	n/a	V5V1103
D29701-1MSD	5V18450.D	1	11/23/11	DC	n/a	n/a	V5V1103
D29701-1	5V18446.D	1	11/23/11	DC	n/a	n/a	V5V1103

The QC reported here applies to the following samples:

Method: SW846 8260B

D29703-1

CAS No.	Compound	D29701-1 ug/kg	Spike Q	ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
---------	----------	-------------------	------------	-------	-------------	---------	--------------	----------	-----	-------------------

CAS No.	Surrogate Recoveries	MS	MSD	D29701-1	Limits
2037-26-5	Toluene-D8	85%	88%	91%	61-130%
460-00-4	4-Bromofluorobenzene	95%	100%	92%	53-131%
17060-07-0	1,2-Dichloroethane-D4	104%	113%	109%	62-130%

GC/MS Volatiles

Raw Data



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5112311.S\
 Data File : 5V18453.D
 Acq On : 23 Nov 2011 4:08 pm
 Operator : DONC
 Sample : D29703-1, 50x
 Misc : MS2992,V5V1103,5.021,,100,5,1
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Nov 28 14:15:28 2011
 Quant Method : C:\msdchem\1\METHODS\V5AP1092TVH1092.M
 Quant Title : 8260
 QLast Update : Tue Nov 01 10:41:21 2011
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	11.647	168	204746	50.00	ug/l	0.00
35) 1,4-Difluorobenzene	12.446	114	274940	50.00	ug/l	0.00
53) Chlorobenzene-d5	15.095	117	263609	50.00	ug/l	0.00
74) 1,4-Dichlorobenzene-d4	17.070	152	192079	50.00	ug/l	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4	12.035	102	26940	55.40	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	110.80%
61) Toluene-d8	13.851	98	526503	44.93	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	89.86%
69) 4-Bromofluorobenzene	16.043	95	195830	47.39	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	94.78%

Target Compounds

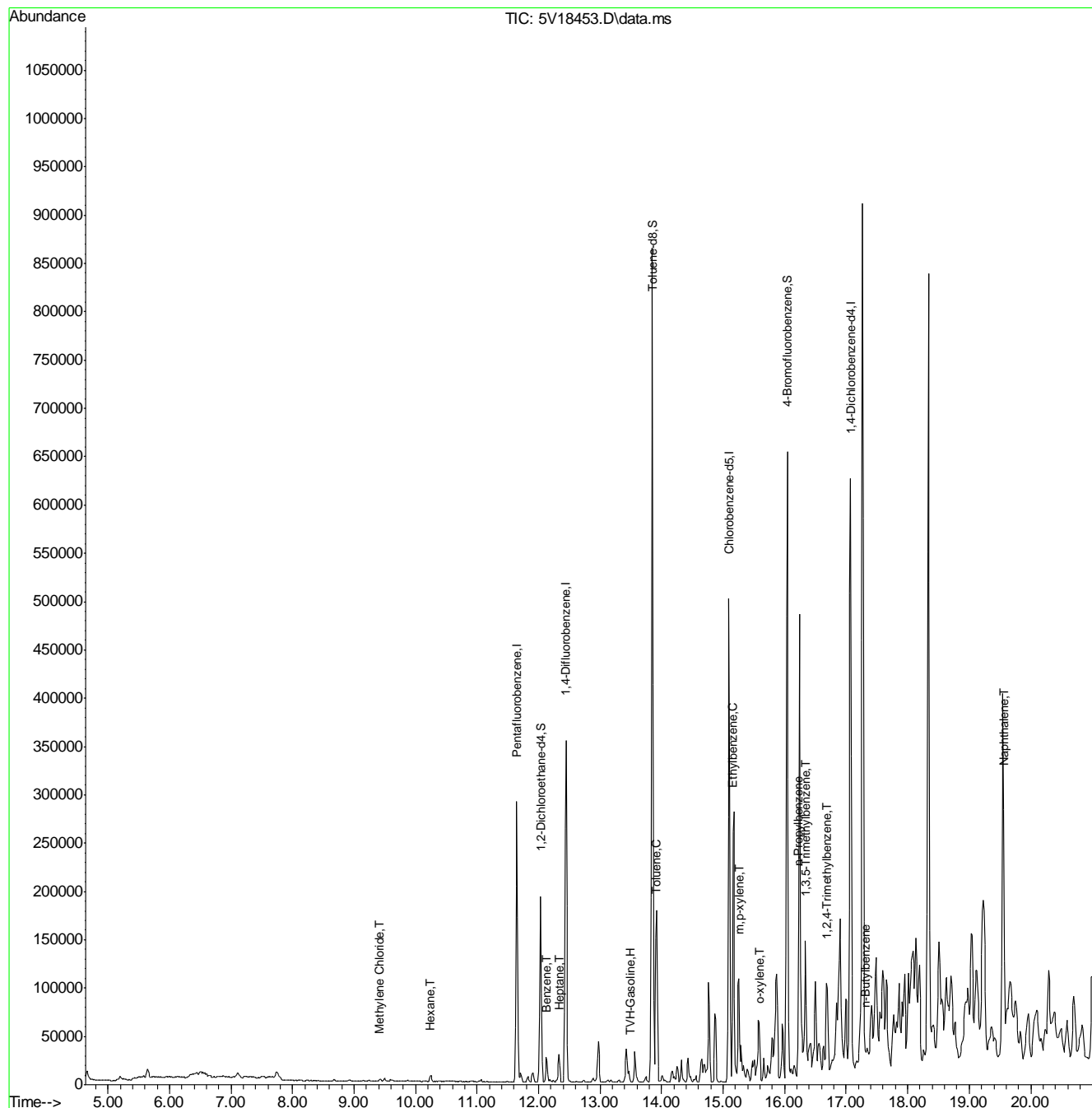
						Qvalue
1) TVH-Gasoline	13.491	TIC	4371299m	278.21	ug/l	
17) Methylene Chloride	9.421	84	1297	0.47	ug/l	93
41) Hexane	10.243	57	3106	0.82	ug/l	100
43) Heptane	12.332	43	10961	2.50	ug/l	98
50) Benzene	12.127	78	22901	2.16	ug/l	100
62) Toluene	13.908	92	31142	3.97	ug/l	96
66) Ethylbenzene	15.164	91	6036	0.42	ug/l	95
72) m,p-xylene	15.255	106	31081	5.82	ug/l	99
73) o-xylene	15.598	106	3909	0.70	ug/l	96
77) n-Propylbenzene	16.225	91	4621	0.24	ug/l #	52
80) 1,3,5-Trimethylbenzene	16.340	105	52900	3.78	ug/l	96
82) 1,2,4-Trimethylbenzene	16.682	105	50144	3.55	ug/l	88
88) n-Butylbenzene	17.321	91	6401	0.44	ug/l #	76
91) Naphthalene	19.559	128	34047	4.72	ug/l	100

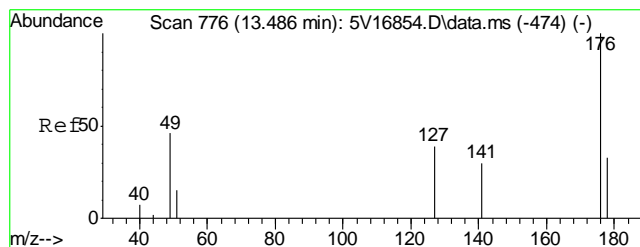
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5112311.S\
Data File : 5V18453.D
Acq On : 23 Nov 2011 4:08 pm
Operator : DONC
Sample : D29703-1, 50x
Misc : MS2992,V5V1103,5.021,,100,5,1
ALS Vial : 15 Sample Multiplier: 1

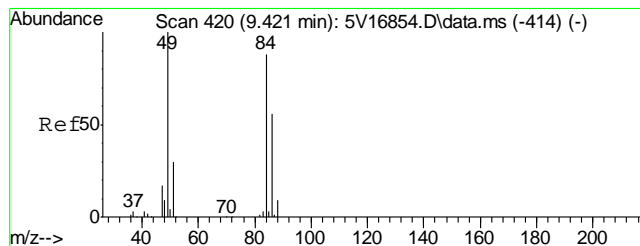
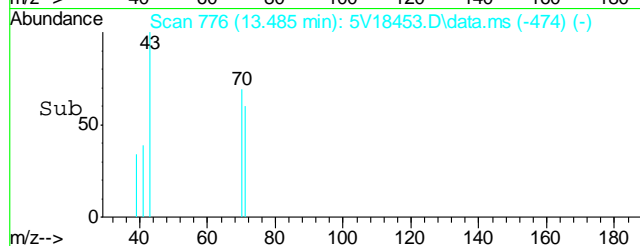
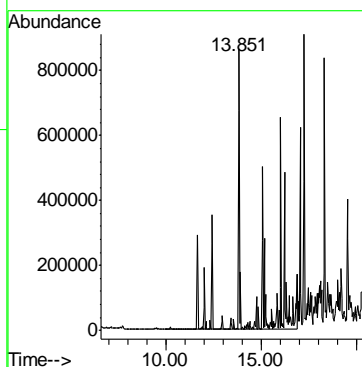
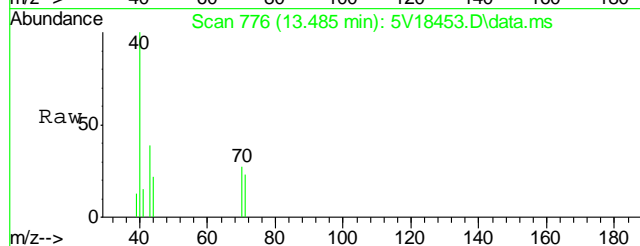
Quant Time: Nov 28 14:15:28 2011
Quant Method : C:\msdchem\1\METHODS\V5AP1092TVH1092.M
Quant Title : 8260
QLast Update : Tue Nov 01 10:41:21 2011
Response via : Initial Calibration





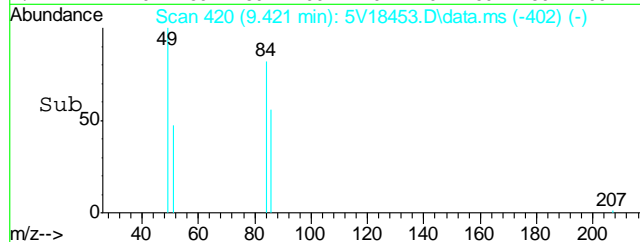
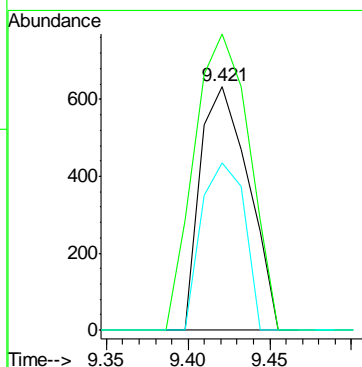
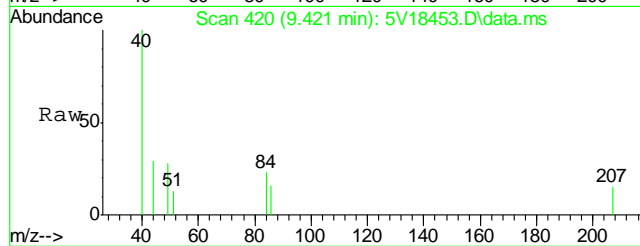
#1
TVH-Gasoline
Concen: 278.21 ug/l m
RT: 13.491 min Scan# 776
Delta R.T. 0.000 min
Lab File: 5V18453.D
Acq: 23 Nov 2011 4:08 pm

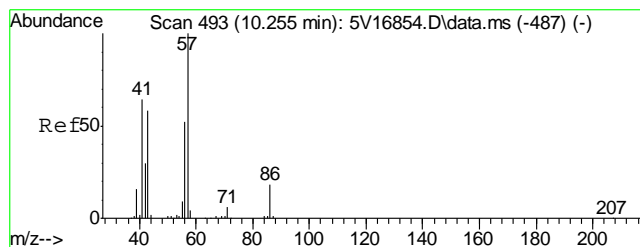
Tgt Ion:TIC Resp: 4371299



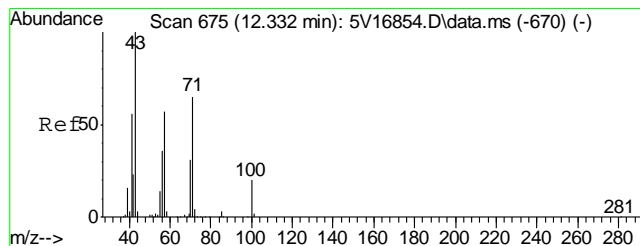
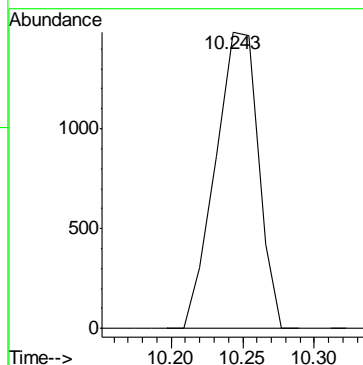
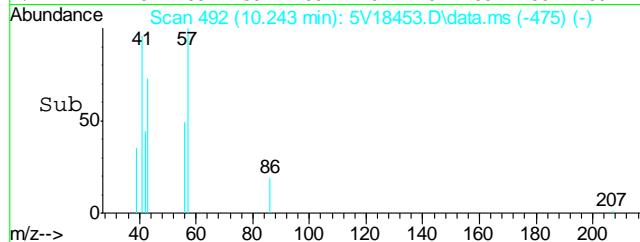
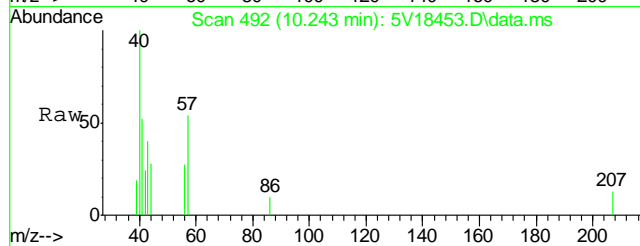
#17
Methylene Chloride
Concen: 0.47 ug/l
RT: 9.421 min Scan# 420
Delta R.T. 0.000 min
Lab File: 5V18453.D
Acq: 23 Nov 2011 4:08 pm

Tgt Ion: 84 Resp: 1297
Ion Ratio Lower Upper
84 100
49 139.5 108.8 148.8
86 61.3 43.2 83.2





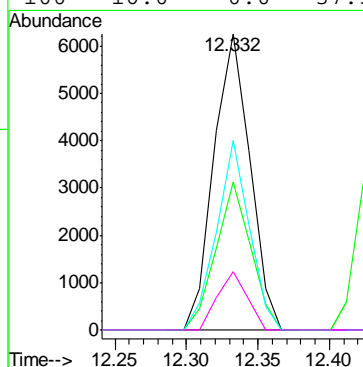
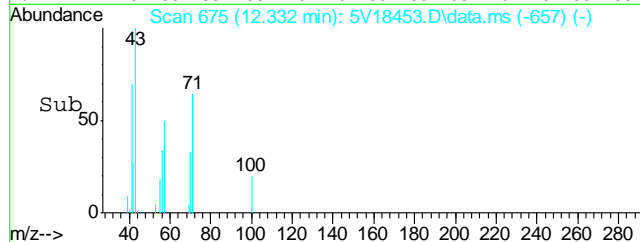
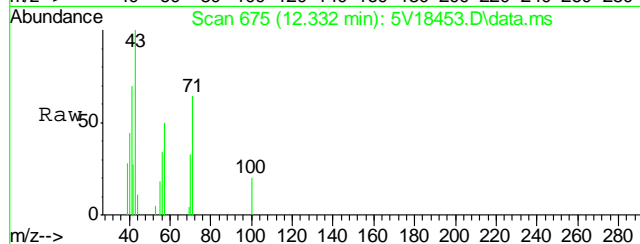
#41
Hexane
Concen: 0.82 ug/l
RT: 10.243 min Scan# 492
Delta R.T. -0.011 min
Lab File: 5V18453.D
Acq: 23 Nov 2011 4:08 pm
Tgt Ion: 57 Resp: 3106

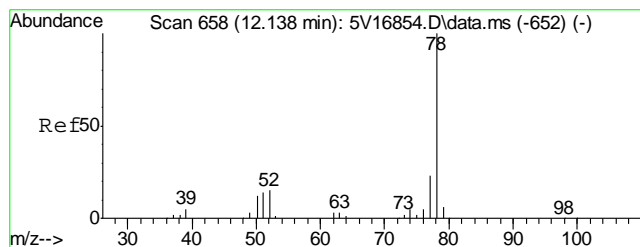


#43
Heptane
Concen: 2.50 ug/l
RT: 12.332 min Scan# 675
Delta R.T. 0.000 min
Lab File: 5V18453.D
Acq: 23 Nov 2011 4:08 pm

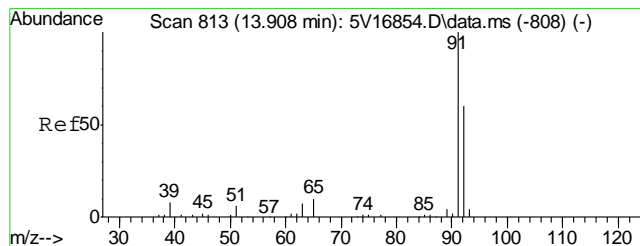
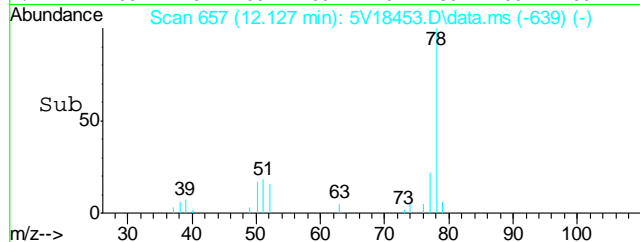
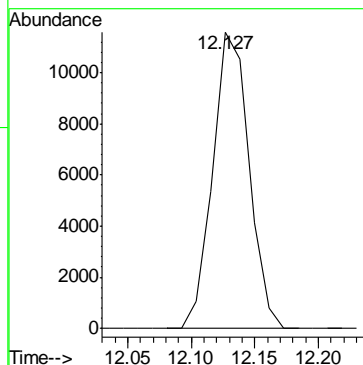
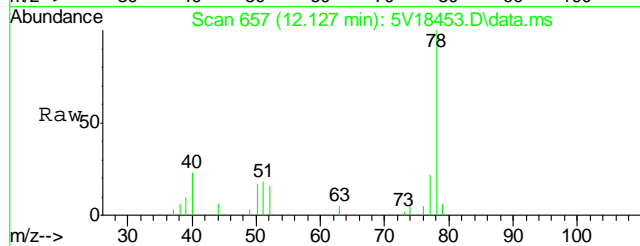
Tgt Ion: 43 Resp: 10961

Ion	Ratio	Lower	Upper
43	100		
57	48.5	30.8	70.8
71	58.3	39.2	79.2
100	16.0	0.0	37.5

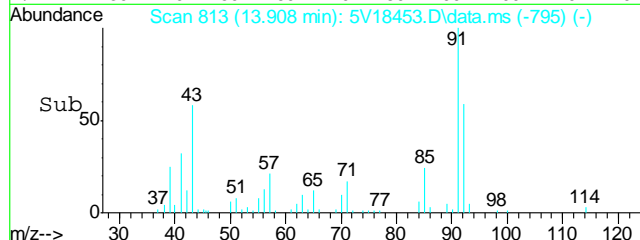
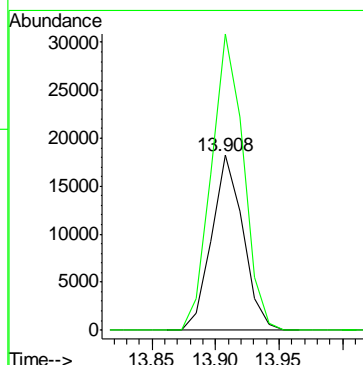
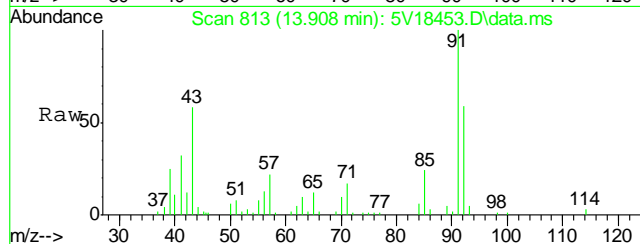


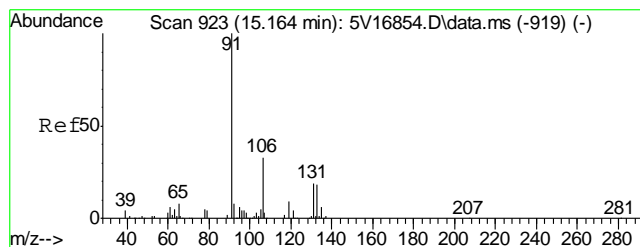


#50
Benzene
Concen: 2.16 ug/l
RT: 12.127 min Scan# 657
Delta R.T. 0.000 min
Lab File: 5V18453.D
Acq: 23 Nov 2011 4:08 pm
Tgt Ion: 78 Resp: 22901



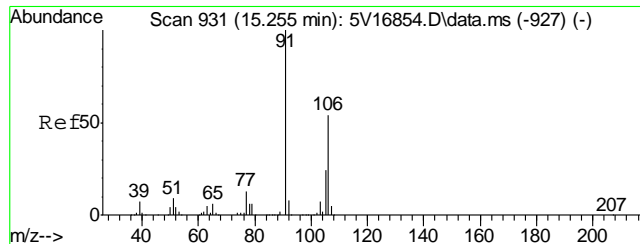
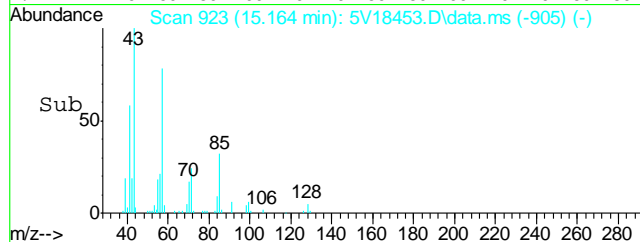
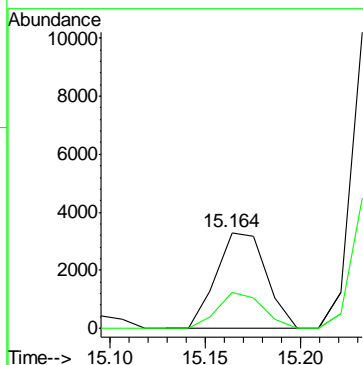
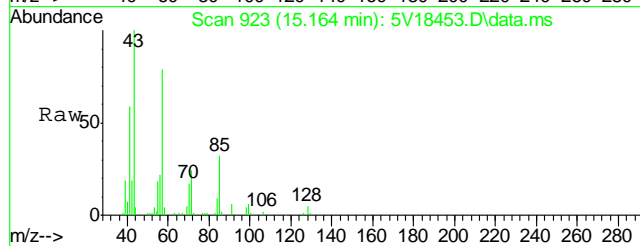
#62
Toluene
Concen: 3.97 ug/l
RT: 13.908 min Scan# 813
Delta R.T. 0.000 min
Lab File: 5V18453.D
Acq: 23 Nov 2011 4:08 pm
Tgt Ion: 92 Resp: 31142
Ion Ratio Lower Upper
92 100
91 173.5 147.5 187.5





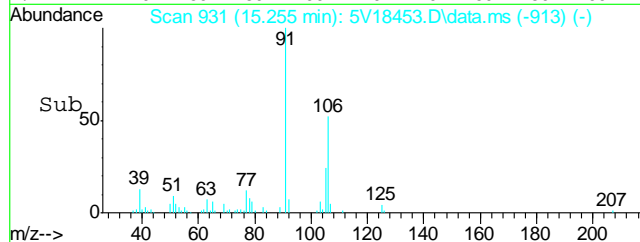
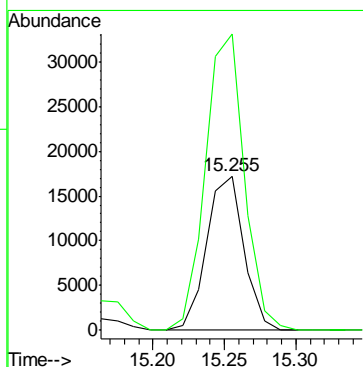
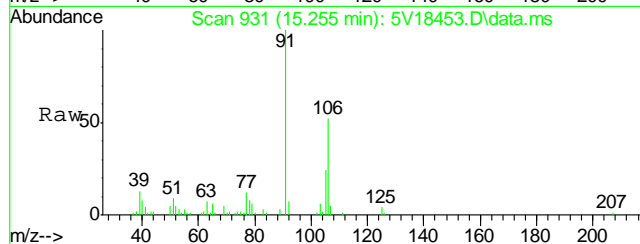
#66
Ethylbenzene
Concen: 0.42 ug/l
RT: 15.164 min Scan# 923
Delta R.T. 0.001 min
Lab File: 5V18453.D
Acq: 23 Nov 2011 4:08 pm

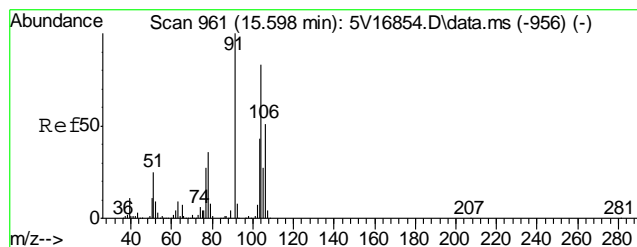
Tgt Ion: 91 Resp: 6036
Ion Ratio Lower Upper
91 100
106 34.0 11.4 51.4



#72
m,p-xylene
Concen: 5.82 ug/l
RT: 15.255 min Scan# 931
Delta R.T. 0.001 min
Lab File: 5V18453.D
Acq: 23 Nov 2011 4:08 pm

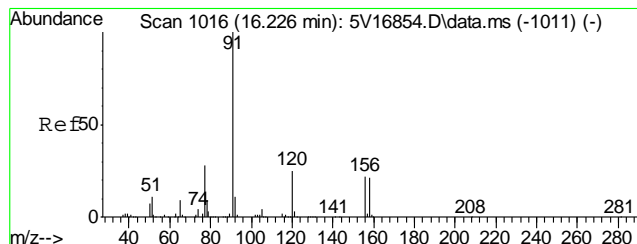
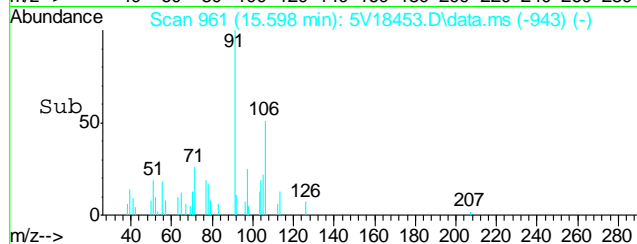
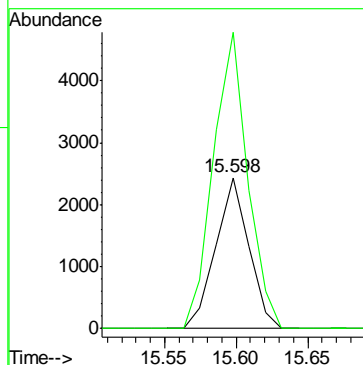
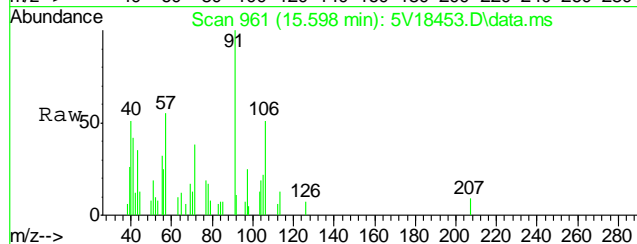
Tgt Ion: 106 Resp: 31081
Ion Ratio Lower Upper
106 100
91 199.6 178.3 218.3





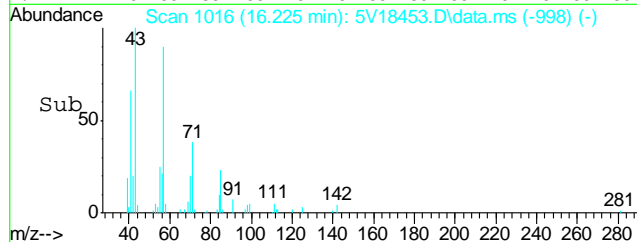
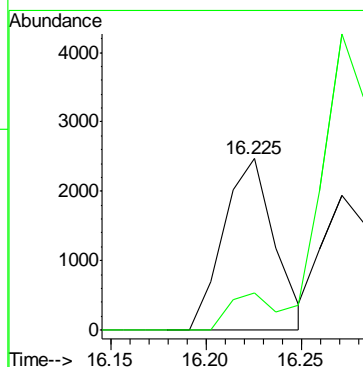
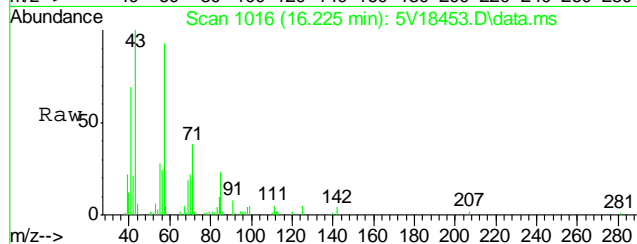
#73
o-xylene
Concen: 0.70 ug/l
RT: 15.598 min Scan# 961
Delta R.T. 0.001 min
Lab File: 5V18453.D
Acq: 23 Nov 2011 4:08 pm

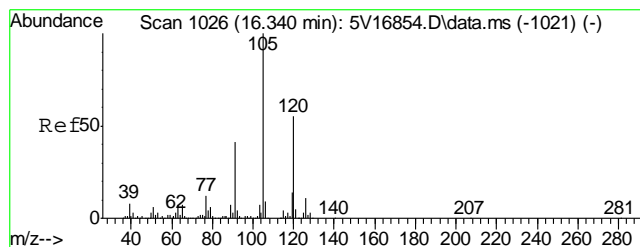
Tgt Ion: 106 Resp: 3909
Ion Ratio Lower Upper
106 100
91 203.5 167.5 251.3



#77
n-Propylbenzene
Concen: 0.24 ug/l
RT: 16.225 min Scan# 1016
Delta R.T. 0.000 min
Lab File: 5V18453.D
Acq: 23 Nov 2011 4:08 pm

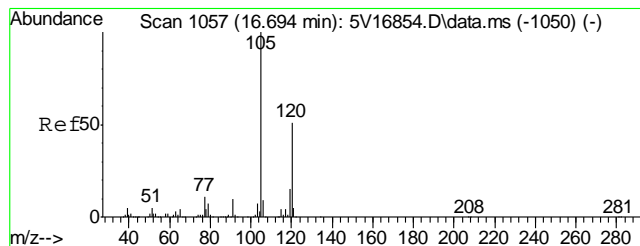
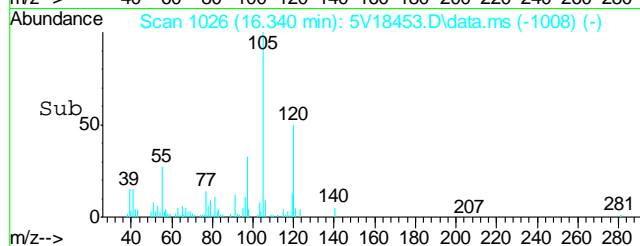
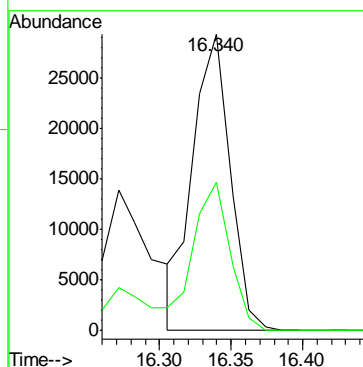
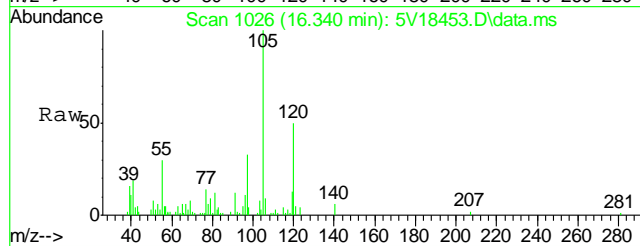
Tgt Ion: 91 Resp: 4621
Ion Ratio Lower Upper
91 100
120 0.0 18.7 28.1#





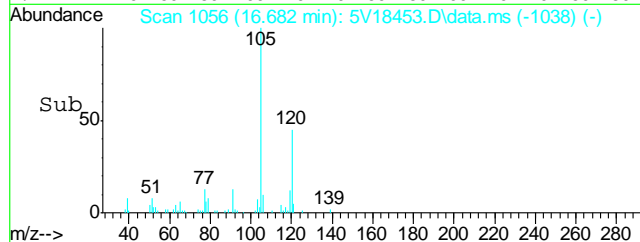
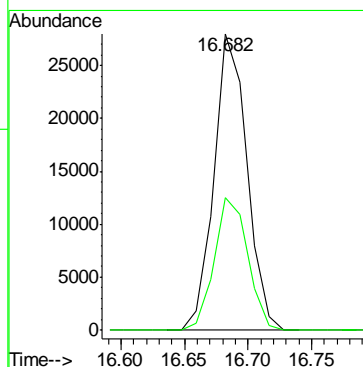
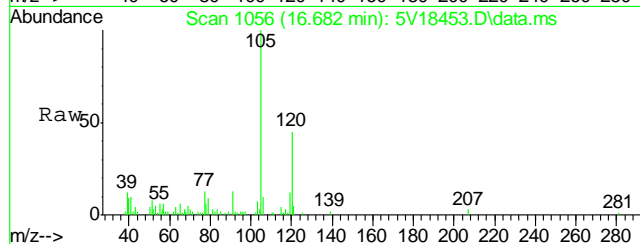
#80
1,3,5-Trimethylbenzene
Concen: 3.78 ug/l
RT: 16.340 min Scan# 1026
Delta R.T. 0.000 min
Lab File: 5V18453.D
Acq: 23 Nov 2011 4:08 pm

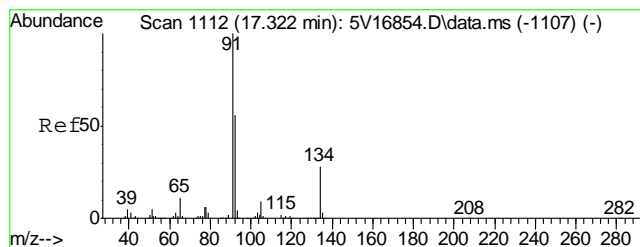
Tgt Ion	Ratio	Lower	Upper
105	100		
120	51.7	39.2	58.8



#82
1,2,4-Trimethylbenzene
Concen: 3.55 ug/l
RT: 16.682 min Scan# 1056
Delta R.T. 0.000 min
Lab File: 5V18453.D
Acq: 23 Nov 2011 4:08 pm

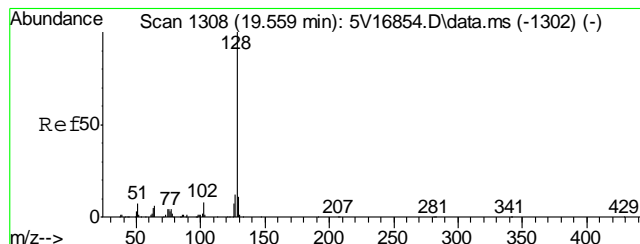
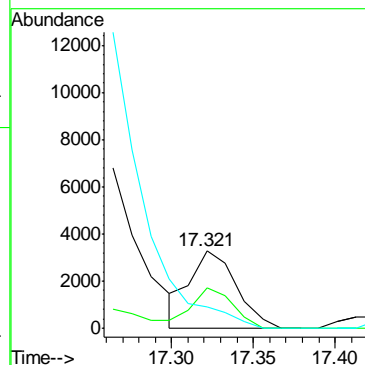
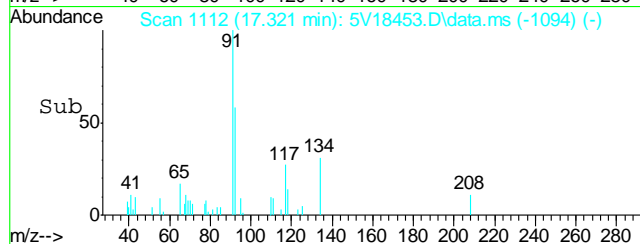
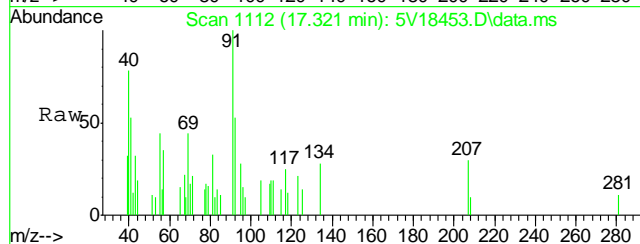
Tgt Ion	Ratio	Lower	Upper
105	100		
120	45.5	43.0	64.6





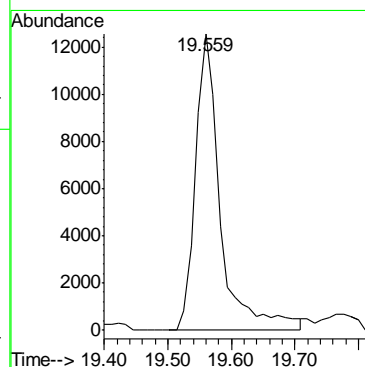
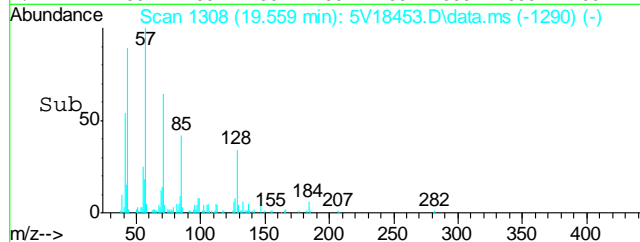
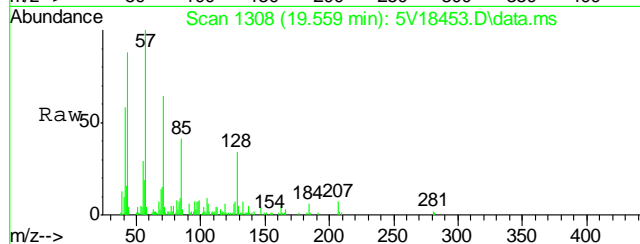
#88
n-Butylbenzene
Concen: 0.44 ug/l
RT: 17.321 min Scan# 1112
Delta R.T. 0.000 min
Lab File: 5V18453.D
Acq: 23 Nov 2011 4:08 pm

Tgt Ion:	91	Resp:	6401
Ion Ratio	Lower	Upper	
91	100		
92	46.2	42.7	64.1
134	0.0	21.7	32.5#



#91
Naphthalene
Concen: 4.72 ug/l
RT: 19.559 min Scan# 1308
Delta R.T. 0.001 min
Lab File: 5V18453.D
Acq: 23 Nov 2011 4:08 pm

Tgt Ion:	128	Resp:	34047
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Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5112311.S\
Data File : 5V18443.D
Acq On : 23 Nov 2011 10:52 am
Operator : DONC
Sample : MB, MEB112311
Misc : MS2992,V5V1103,5,,100,5,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 28 14:06:21 2011
Quant Method : C:\msdchem\1\METHODS\V5AP1092TVH1092.M
Quant Title : 8260
QLast Update : Tue Nov 01 10:41:21 2011
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	11.647	168	260562	50.00	ug/l	0.00
35) 1,4-Difluorobenzene	12.446	114	335634	50.00	ug/l	0.00
53) Chlorobenzene-d5	15.095	117	301451	50.00	ug/l	0.00
74) 1,4-Dichlorobenzene-d4	17.070	152	184641	50.00	ug/l	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4	12.035	102	31609	50.94	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	101.88%
61) Toluene-d8	13.850	98	626434	46.75	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	93.50%
69) 4-Bromofluorobenzene	16.042	95	197913	41.89	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	83.78%

Target Compounds

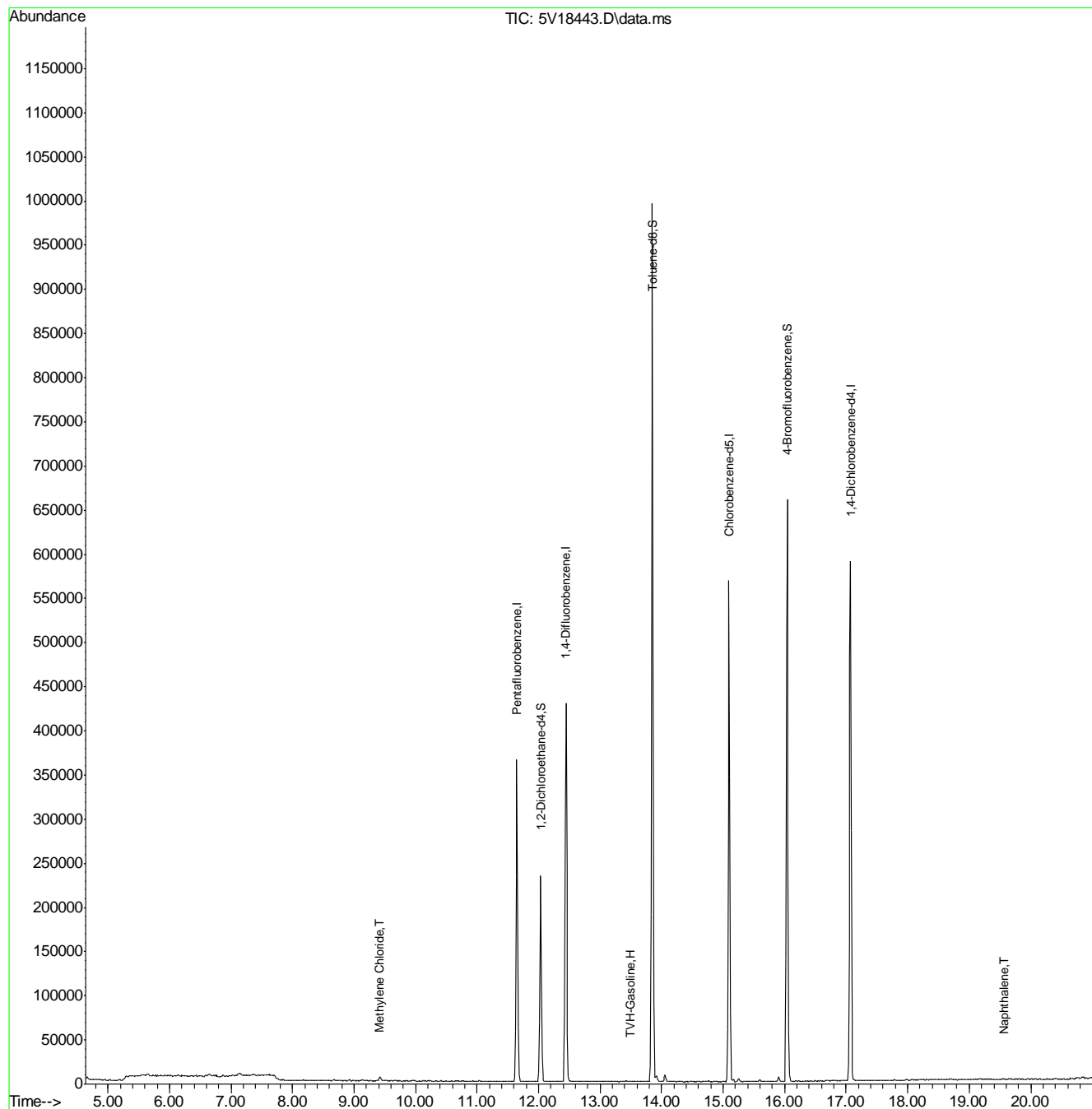
					Qvalue
1) TVH-Gasoline	13.491	TIC	12026m	37.35	ug/l
17) Methylene Chloride	9.421	84	2422	0.69	ug/l
91) Naphthalene	19.570	128	497	0.69	ug/l

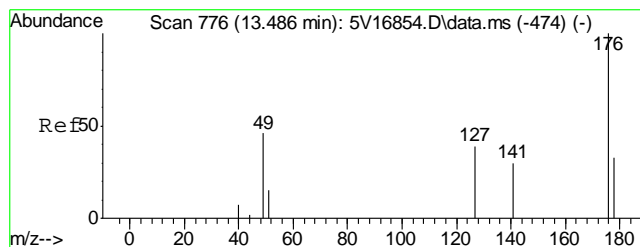
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5112311.S\
Data File : 5V18443.D
Acq On : 23 Nov 2011 10:52 am
Operator : DONC
Sample : MB, MEB112311
Misc : MS2992,V5V1103,5,,100,5,1
ALS Vial : 5 Sample Multiplier: 1

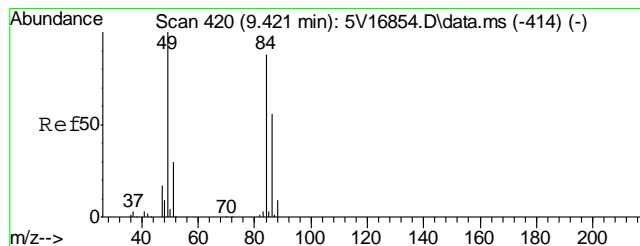
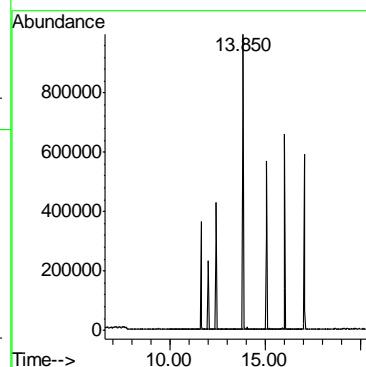
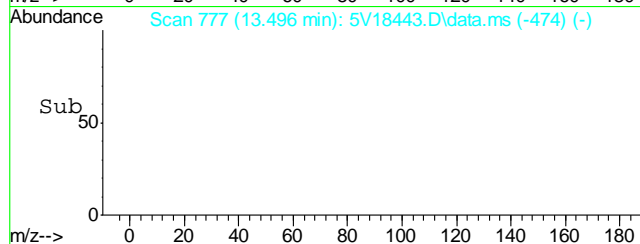
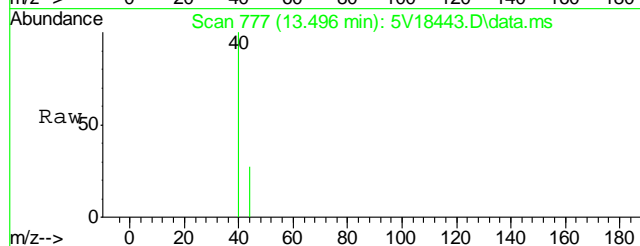
Quant Time: Nov 28 14:06:21 2011
Quant Method : C:\msdchem\1\METHODS\V5AP1092TVH1092.M
Quant Title : 8260
QLast Update : Tue Nov 01 10:41:21 2011
Response via : Initial Calibration





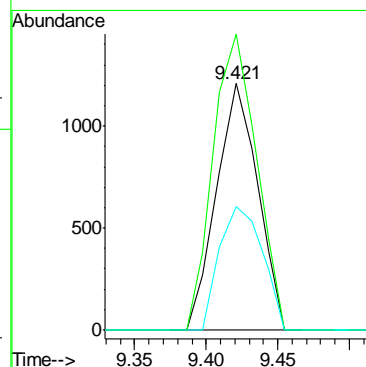
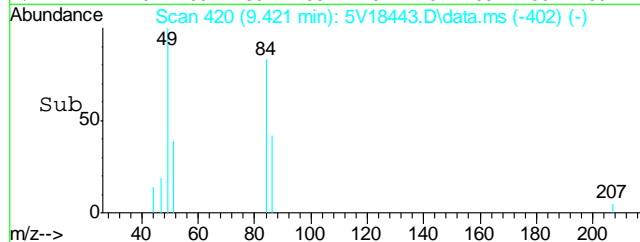
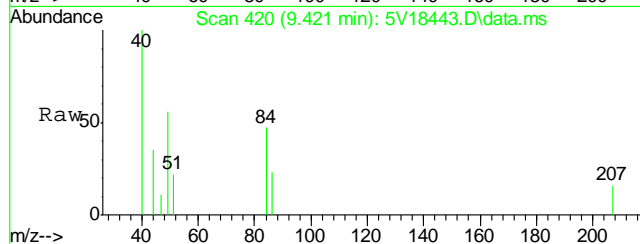
#1
TVH-Gasoline
Concen: 37.35 ug/l m
RT: 13.491 min Scan# 777
Delta R.T. 0.000 min
Lab File: 5V18443.D
Acq: 23 Nov 2011 10:52 am

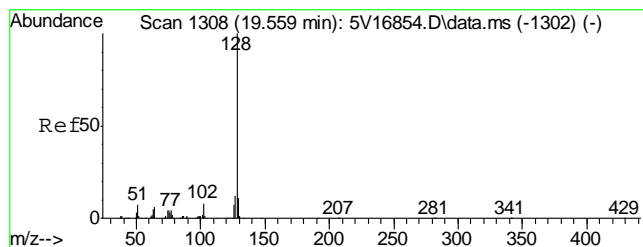
Tgt Ion:TIC Resp: 12026



#17
Methylene Chloride
Concen: 0.69 ug/l
RT: 9.421 min Scan# 420
Delta R.T. -0.000 min
Lab File: 5V18443.D
Acq: 23 Nov 2011 10:52 am

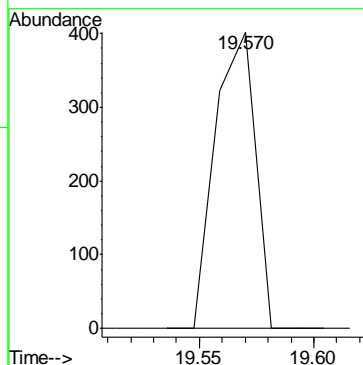
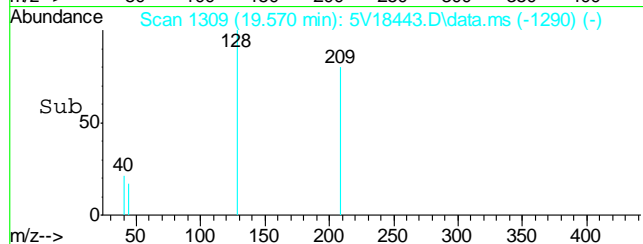
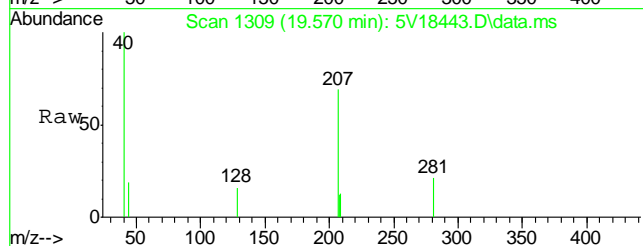
Tgt Ion: 84 Resp: 2422
Ion Ratio Lower Upper
84 100
49 126.0 108.8 148.8
86 52.1 43.2 83.2





#91
Naphthalene
Concen: 0.69 ug/l
RT: 19.570 min Scan# 1309
Delta R.T. 0.012 min
Lab File: 5V18443.D
Acq: 23 Nov 2011 10:52 am

Tgt Ion:128 Resp: 497



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: D29703**Account:** KRWCCOL KRW Consulting, Inc.**Project:** XOM FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB795-MB	GB14007.D	1	11/22/11	SK	n/a	n/a	GGB795

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

D29703-1

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	94% 60-140%

Blank Spike Summary

Job Number: D29703
Account: KRWCCOL KRW Consulting, Inc.
Project: XOM FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB795-BS	GB14008.D	1	11/22/11	SK	n/a	n/a	GGB795

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

D29703-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	111	101	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	109%	60-140%

7.2.1
7

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D29703
Account: KRWCCOL KRW Consulting, Inc.
Project: XOM FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D29637-1MS	GB14010.D	1	11/22/11	SK	n/a	n/a	GGB795
D29637-1MSD	GB14011.D	1	11/22/11	SK	n/a	n/a	GGB795
D29637-1	GB14009.D	1	11/22/11	SK	n/a	n/a	GGB795

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

D29703-1

CAS No.	Compound	D29637-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		156	163	105	160	103	2	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D29637-1	Limits
120-82-1	1,2,4-Trichlorobenzene	115%	106%	94%	60-140%

GC Volatiles

Raw Data

∞

Judy Melson
11/23/11 11:18

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\112211\GB14020.D\FID1A.CH Vial: 16
 Signal #2 : Y:\1\DATA\112211\GB14020.D\FID2B.CH
 Acq On : 22 Nov 2011 8:35 pm Operator: StephK
 Sample : D29703-1, 50X Inst : GC/MS Ins
 Misc : GC2429,GGB795,5.021,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Nov 23 08:25:14 2011 Quant Results File: TB791GB791SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB791GB791SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Tue Nov 22 15:22:25 2011
 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	14.38	3303874	112.933 %	m
10) S 1,2,4-Trichlorobenzene (P)	14.38	23804958	103.572 %	m
Target Compounds				
1) H TVH-Gasoline	7.32	18355311	0.258 mg/L	
4) T Methyl-t-butyl-ether	0.00	0	N.D. ug/L	d
5) T Benzene	4.16	101718	0.178 ug/L	
6) T Toluene	7.68	450107	0.794 ug/L	
7) T Ethylbenzene	10.30	184539	0.379 ug/L	
8) T m,p-Xylene	10.49	1940252	3.047 ug/L	
9) T o-Xylene	10.98	489536	0.762 ug/L	
11) T Naphthalene	14.57	4051486	15.740 ug/L	m

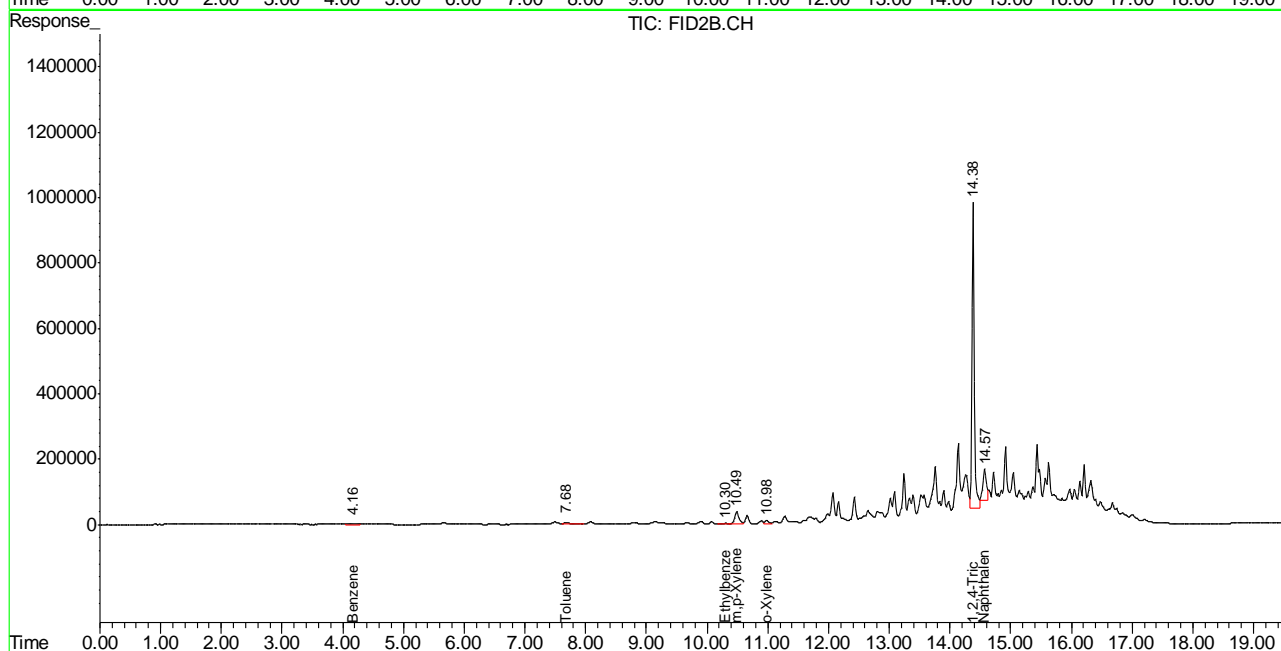
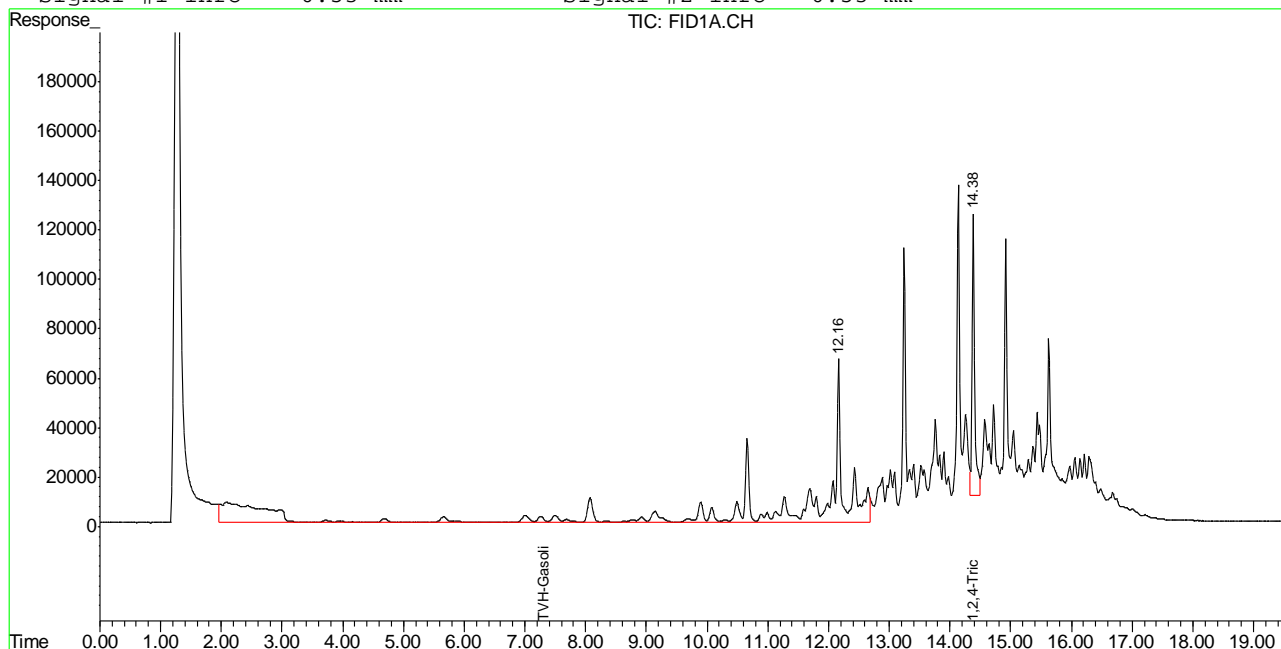
(f)=RT Delta > 1/2 Window (m)=manual int.
 GB14020.D TB791GB791SOIL.M Wed Nov 23 08:53:01 2011 GC

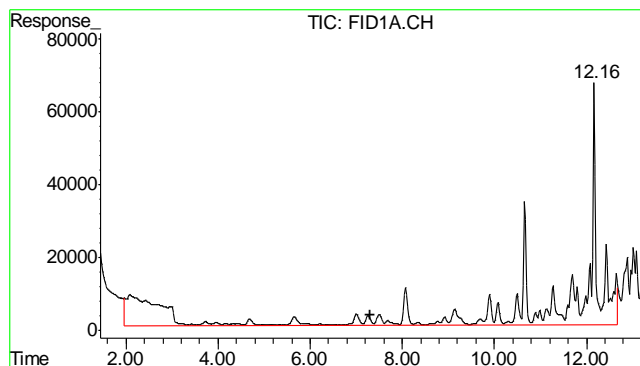
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\112211\GB14020.D\FID1A.CH Vial: 16
 Signal #2 : Y:\1\DATA\112211\GB14020.D\FID2B.CH
 Acq On : 22 Nov 2011 8:35 pm Operator: StephK
 Sample : D29703-1, 50X Inst : GC/MS Ins
 Misc : GC2429,GGB795,5.021,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Nov 23 8:30 2011 Quant Results File: TB791GB791SOIL.RES

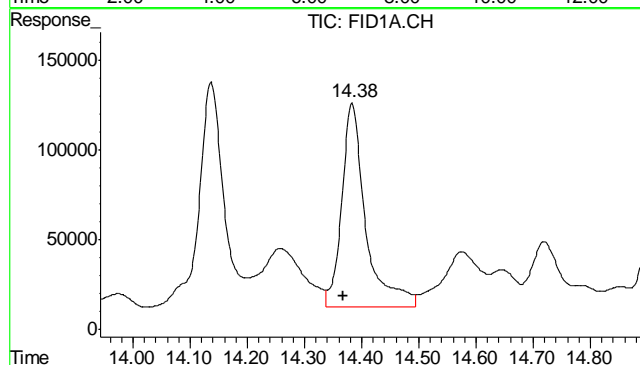
Quant Method : C:\MSDCHEM\1...\TB791GB791SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Tue Nov 22 15:22:25 2011
 Response via : Multiple Level Calibration
 DataAcq Meth : TVB4.M

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

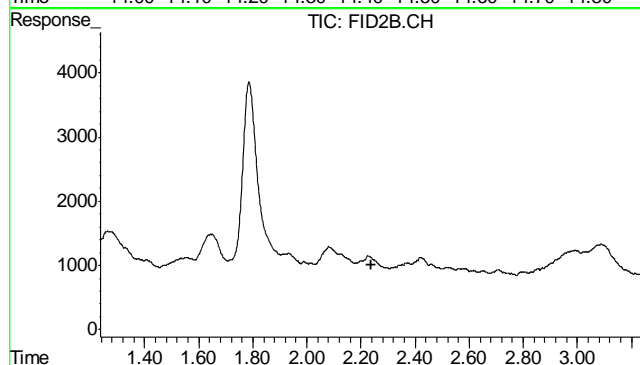




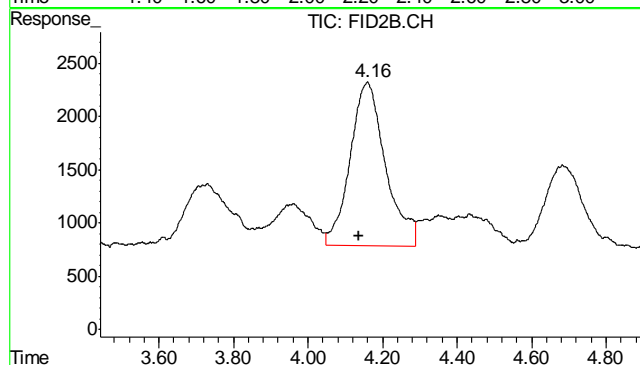
#1 TVH-Gasoline
 R.T.: 7.315 min
 Delta R.T.: 0.000 min
 Response: 18355311
 Conc: 0.26 mg/L m



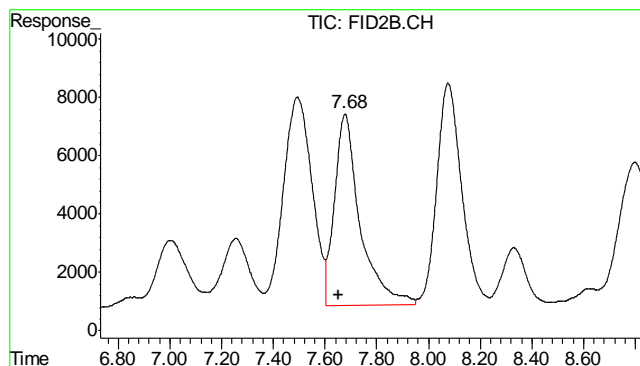
#2 1,2,4-Trichlorobenzene
 R.T.: 14.383 min
 Delta R.T.: 0.015 min
 Response: 3303874
 Conc: 112.93 % m



#4 Methyl-t-butyl-ether
 R.T.: 0.000 min
 Exp R.T.: 2.236 min
 Response: 0
 Conc: N.D.



#5 Benzene
 R.T.: 4.161 min
 Delta R.T.: 0.024 min
 Response: 101718
 Conc: 0.18 ug/L



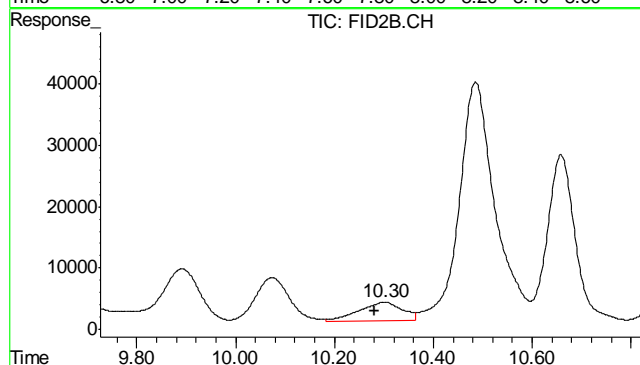
#6 Toluene

R.T.: 7.678 min

Delta R.T.: 0.026 min

Response: 450107

Conc: 0.79 ug/L



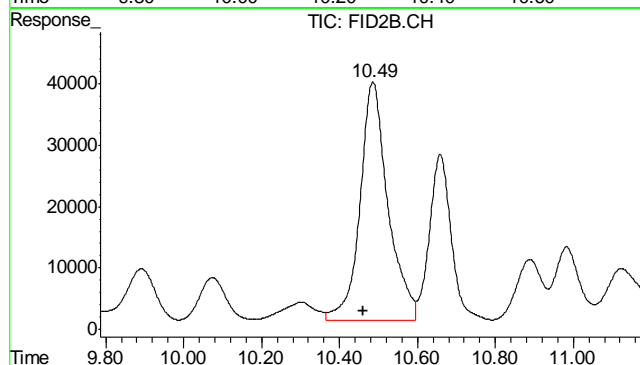
#7 Ethylbenzene

R.T.: 10.301 min

Delta R.T.: 0.019 min

Response: 184539

Conc: 0.38 ug/L



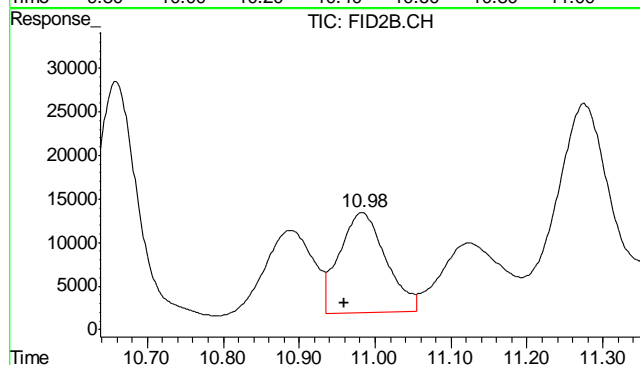
#8 m,p-Xylene

R.T.: 10.486 min

Delta R.T.: 0.023 min

Response: 1940252

Conc: 3.05 ug/L



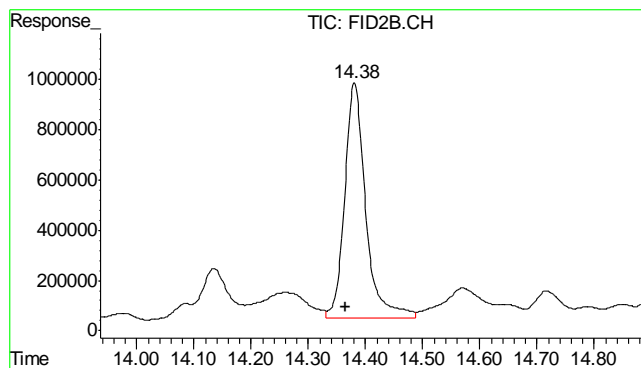
#9 o-Xylene

R.T.: 10.983 min

Delta R.T.: 0.023 min

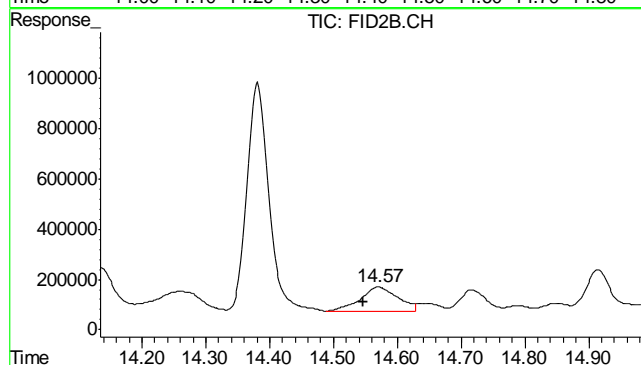
Response: 489536

Conc: 0.76 ug/L



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

R.T.: 14.380 min
Delta R.T.: 0.015 min
Response: 23804958
Conc: 103.57 % m



#11 Naphthalene

R.T.: 14.569 min
Delta R.T.: 0.023 min
Response: 4051486
Conc: 15.74 ug/L m

8.1.1

8

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\112211\GB14007.D\FID1A.CH Vial: 3
 Signal #2 : Y:\1\DATA\112211\GB14007.D\FID2B.CH
 Acq On : 22 Nov 2011 12:50 pm Operator: StephK
 Sample : MB, S Inst : GC/MS Ins
 Misc : GC2429,GGB795,5.000,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Nov 22 12:24:16 2011 Quant Results File: TB791GB791SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB791GB791SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Tue Nov 22 12:24:05 2011
 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	14.37	2750699	94.024 %
10) S 1,2,4-Trichlorobenzene (P)	14.37	22444341	97.652 %
Target Compounds			
1) H TVH-Gasoline	7.32	5422787	<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	7.67	182365	0.322 ug/L
7) T Ethylbenzene	10.29	90648	0.186 ug/L
8) T m,p-Xylene	10.47	328746	0.151 ug/L
9) T o-Xylene	10.97	181135	<MDL ug/L m
11) T Naphthalene	14.55	492714	1.914 ug/L m

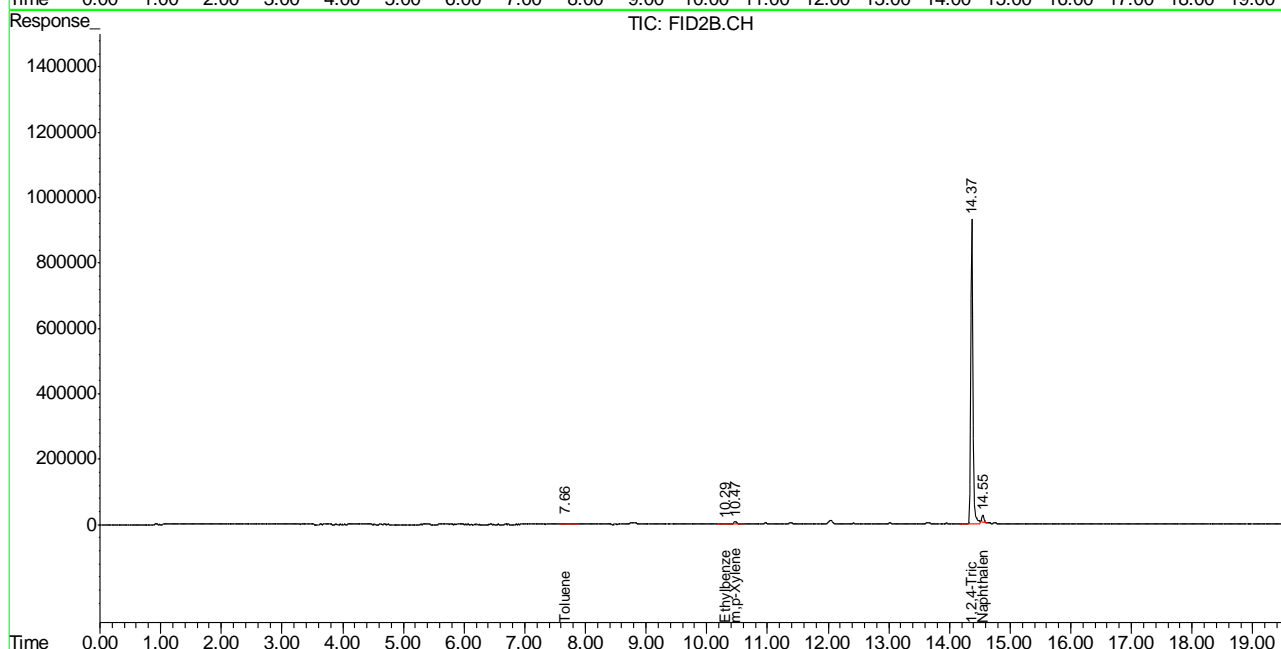
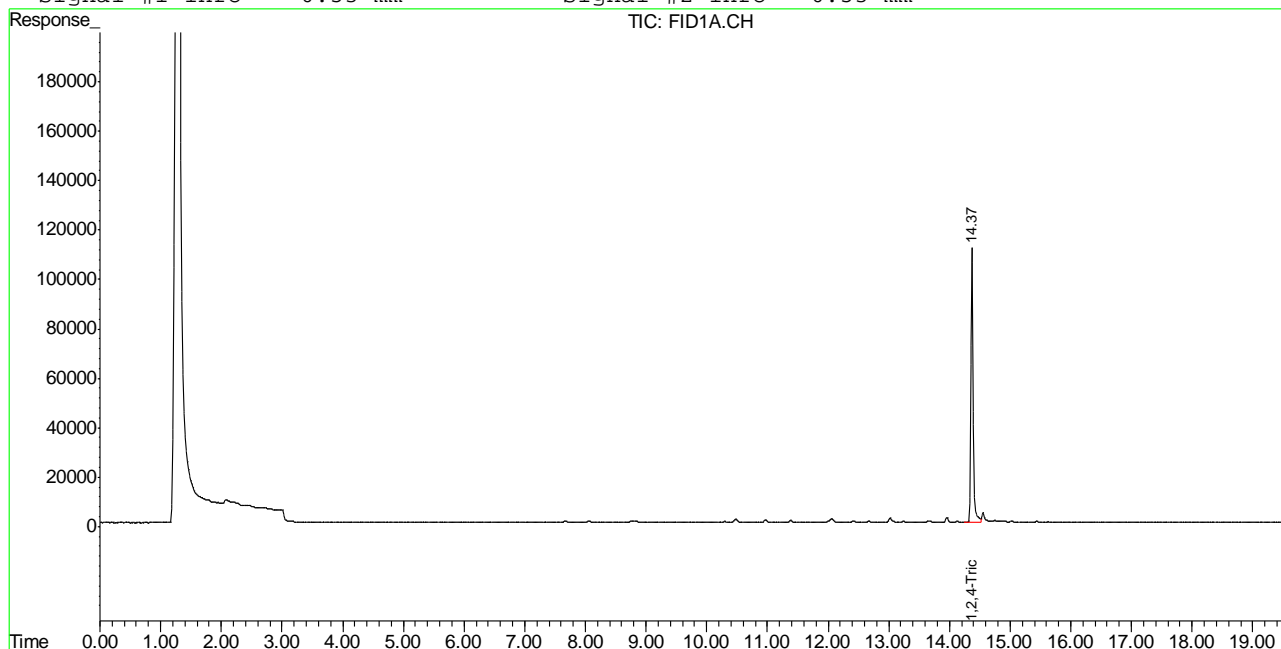
(f)=RT Delta > 1/2 Window (m)=manual int.
 GB14007.D TB791GB791SOIL.M Wed Nov 23 08:52:25 2011 GC

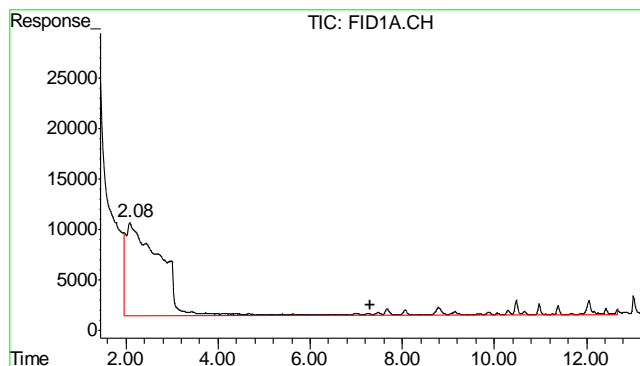
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\112211\GB14007.D\FID1A.CH Vial: 3
Signal #2 : Y:\1\DATA\112211\GB14007.D\FID2B.CH
Acq On : 22 Nov 2011 12:50 pm Operator: StephK
Sample : MB, S Inst : GC/MS Ins
Misc : GC2429,GGB795,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Nov 22 12:24 2011 Quant Results File: TB791GB791SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB791GB791SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Tue Nov 22 12:24:05 2011
Response via : Multiple Level Calibration
DataAcq Meth : TVB4.M

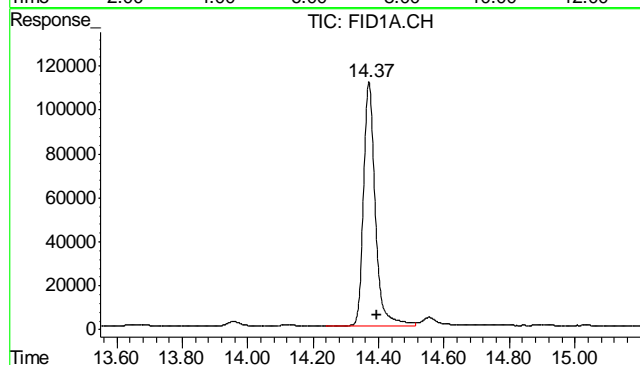
Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





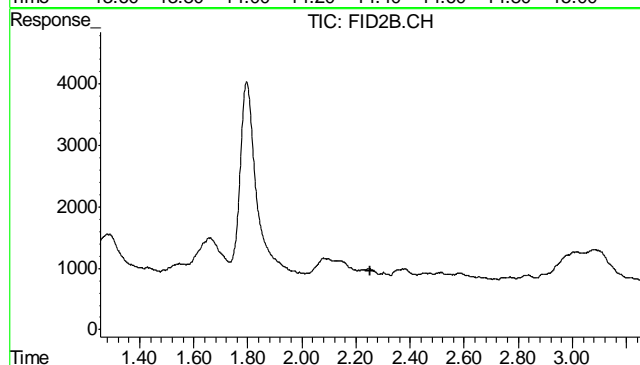
#1 TVH-Gasoline

R.T.: 7.315 min
Delta R.T.: 0.000 min
Response: 5422787
Conc: N.D.



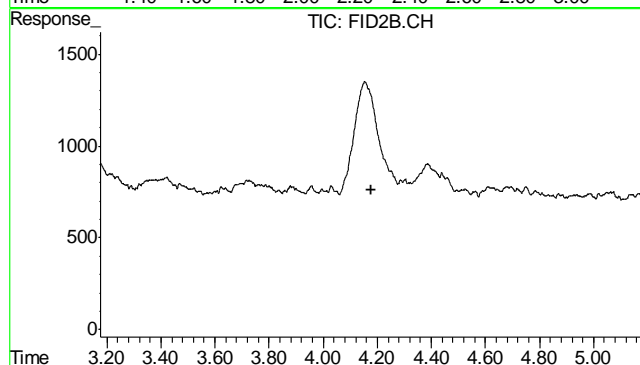
#2 1,2,4-Trichlorobenzene

R.T.: 14.371 min
Delta R.T.: -0.022 min
Response: 2750699
Conc: 94.02 %



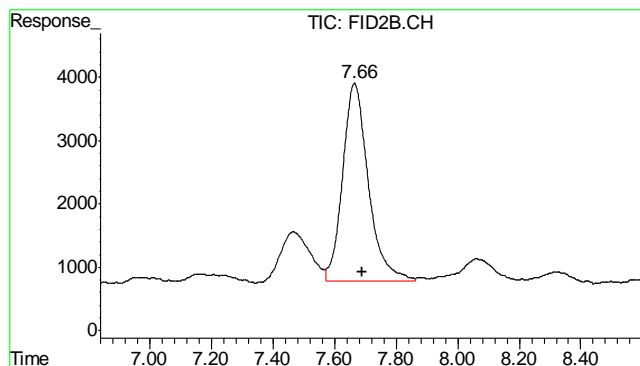
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T.: 2.254 min
Response: 0
Conc: N.D.



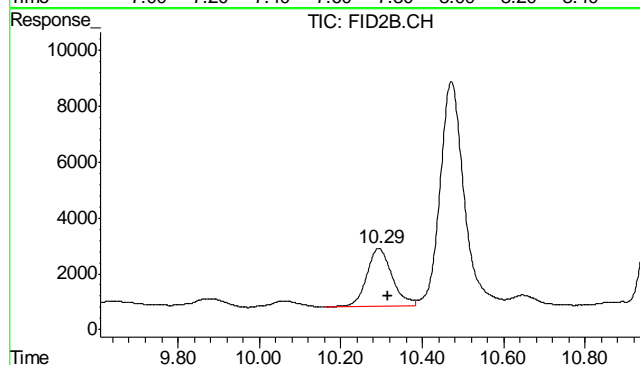
#5 Benzene

R.T.: 0.000 min
Exp R.T.: 4.176 min
Response: 0
Conc: N.D.



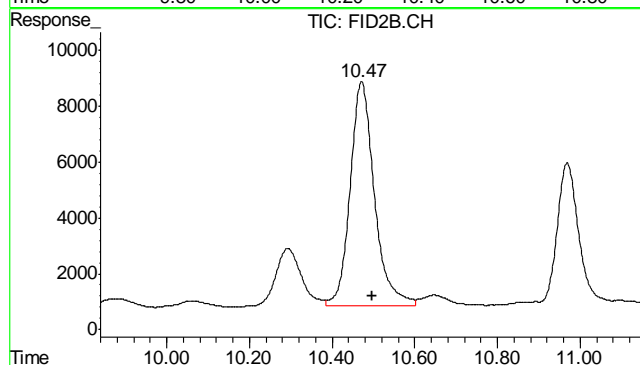
#6 Toluene

R.T.: 7.665 min
Delta R.T.: -0.026 min
Response: 182365
Conc: 0.32 ug/L



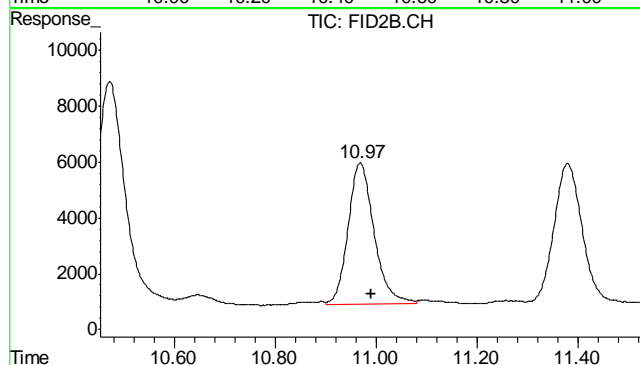
#7 Ethylbenzene

R.T.: 10.293 min
Delta R.T.: -0.024 min
Response: 90648
Conc: 0.19 ug/L



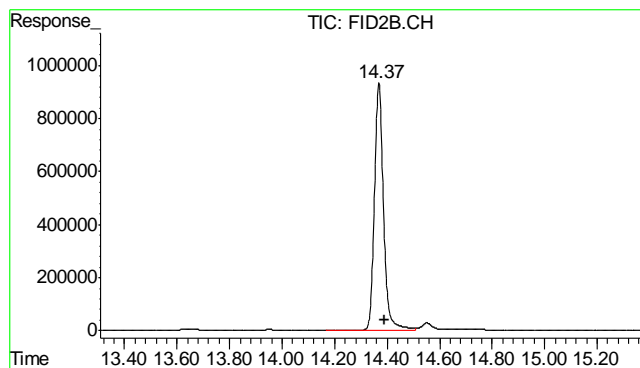
#8 m,p-Xylene

R.T.: 10.472 min
Delta R.T.: -0.025 min
Response: 328746
Conc: 0.15 ug/L



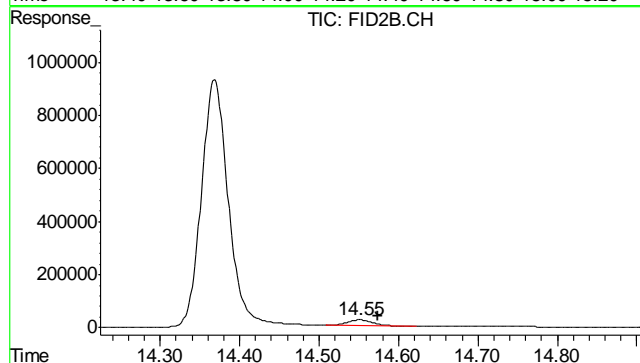
#9 o-Xylene

R.T.: 10.969 min
Delta R.T.: -0.022 min
Response: 181135
Conc: N.D.



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

R.T.: 14.369 min
Delta R.T.: -0.023 min
Response: 22444341
Conc: 97.65 %



#11 Naphthalene

R.T.: 14.550 min
Delta R.T.: -0.023 min
Response: 492714
Conc: 1.91 ug/L m

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: D29703
Account: KRWCCOL KRW Consulting, Inc.
Project: XOM FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP4897-MB	F104566.D	1	11/23/11	CS	11/22/11	OP4897	GFI336

The QC reported here applies to the following samples:

Method: SW846-8015B

D29703-1

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	125% 61-142%

9.1.1

9

Blank Spike Summary

Job Number: D29703
Account: KRWCCOL KRW Consulting, Inc.
Project: XOM FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP4897-BS	FI04567.D	1	11/23/11	CS	11/22/11	OP4897	GFI336

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

D29703-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	606	91	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	125%	61-142%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D29703
Account: KRWCCOL KRW Consulting, Inc.
Project: XOM FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP4897-MS	FI04568.D	1	11/23/11	CS	11/22/11	OP4897	GFI336
OP4897-MSD	FI04569.D	1	11/23/11	CS	11/22/11	OP4897	GFI336
D29662-1	FI04570.D	1	11/23/11	CS	11/22/11	OP4897	GFI336

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

D29703-1

CAS No.	Compound	D29662-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	132		902	737	67	764	70	4	24-157/35

CAS No.	Surrogate Recoveries	MS	MSD	D29662-1	Limits
84-15-1	o-Terphenyl	74%	93%	70%	61-142%

9.3.1
6

GC Semi-volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data File : E:\DATA\FI112211\FI04573.D Vial: 28
Acq On : 23 Nov 2011 5:26 am Operator: CHAVALIT
Sample : D29703-1 Inst : FID6
Misc : OP4897,GFI336,30.06,,,2,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Nov 29 13:36:03 2011 Quant Results File: DF-GFI308.RES

Quant Method : C:\MSDCHEM\1\METHODS\DF-GFI308.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Mon Nov 14 09:02:05 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

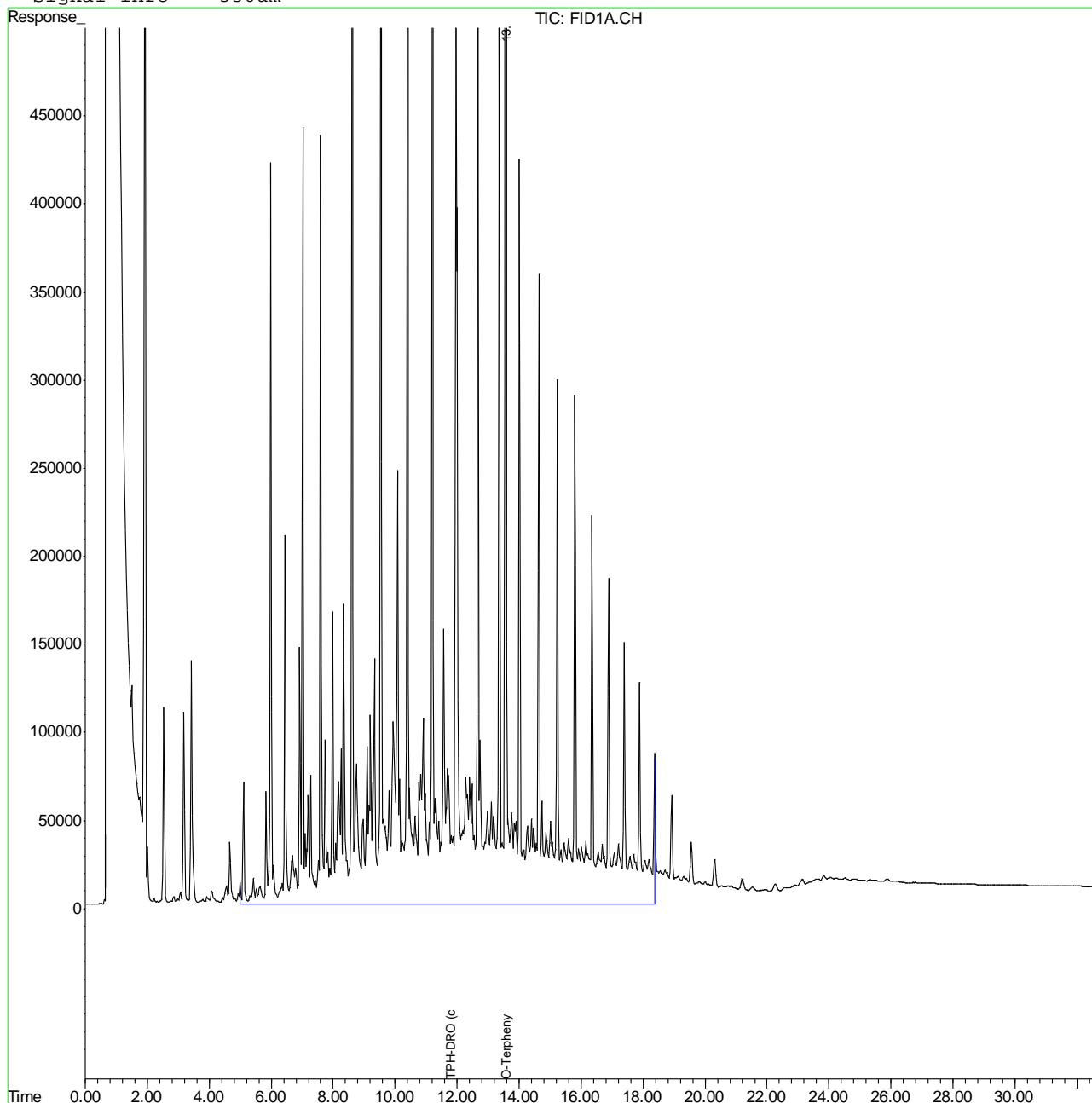
System Monitoring Compounds			
1) S O-Terphenyl	13.57	35267143	633.856 mg/L m
Target Compounds			
2) H TPH-DRO (c10-c28)	11.79	456244114	6930.936 mg/L

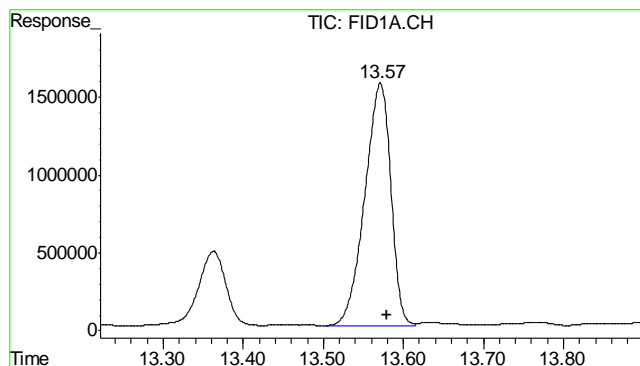
Quantitation Report (QT Reviewed)

Data File : E:\DATA\FI112211\FI04573.D Vial: 28
 Acq On : 23 Nov 2011 5:26 am Operator: CHAVALIT
 Sample : D29703-1 Inst : FID6
 Misc : OP4897,GFI336,30.06,,,2,1 Multiplr: 1.00
 IntFile : autoint1.e
 Quant Time: Nov 29 13:39 2011 Quant Results File: DF-GFI308.RES

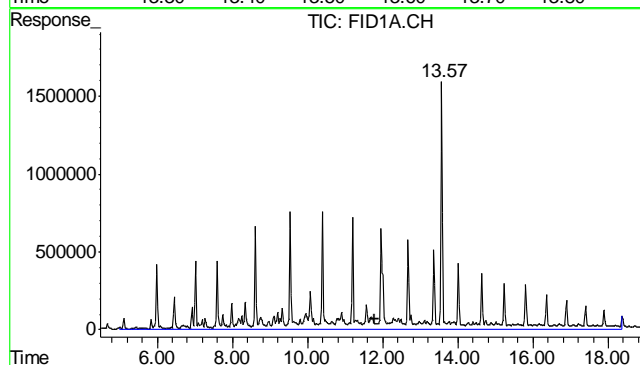
Quant Method : C:\MSDCHEM\1\METHODS\DF-GFI308.M (Chemstation Integrator)
 Title : 8015B TEH
 Last Update : Mon Nov 14 09:02:05 2011
 Response via : Multiple Level Calibration
 DataAcq Meth : FR_BASE2.M

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

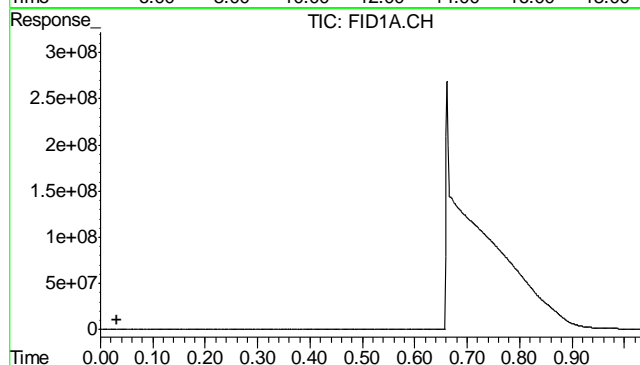




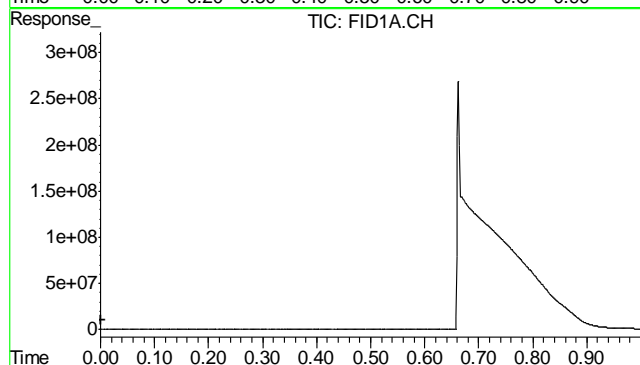
#1 O-Terphenyl
 R.T.: 13.570 min
 Delta R.T.: -0.010 min
 Response: 35267143
 Conc: 633.86 mg/L m



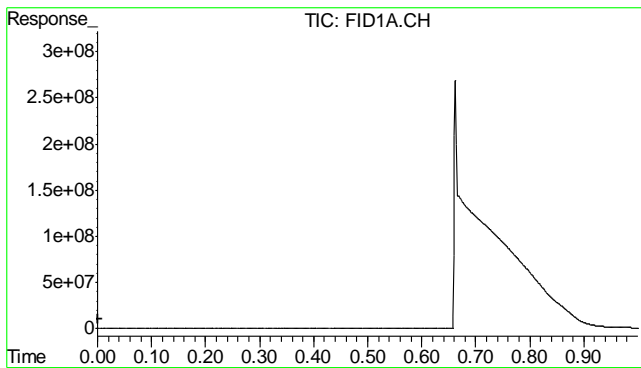
#2 TPH-DRO (c10-c28)
 R.T.: 11.790 min
 Delta R.T.: 0.000 min
 Response: 456244114
 Conc: 6930.94 mg/L m



#9 5a-Androstane
 R.T.: 0.000 min
 Exp R.T.: 0.032 min
 Response: 0
 Conc: N.D.

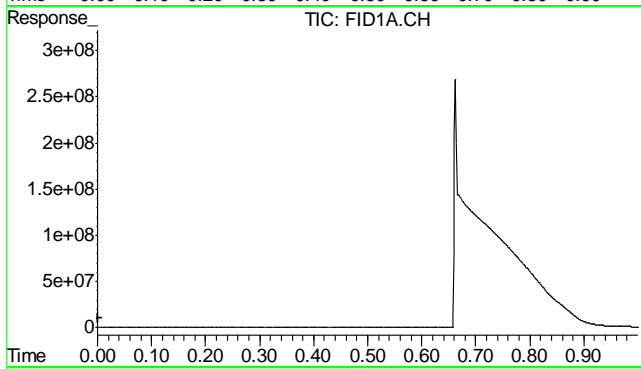


#10 2-Fluorophenol
 R.T.: 0.000 min
 Exp R.T.: 0.000 min
 Response: 0
 Conc: N.D.



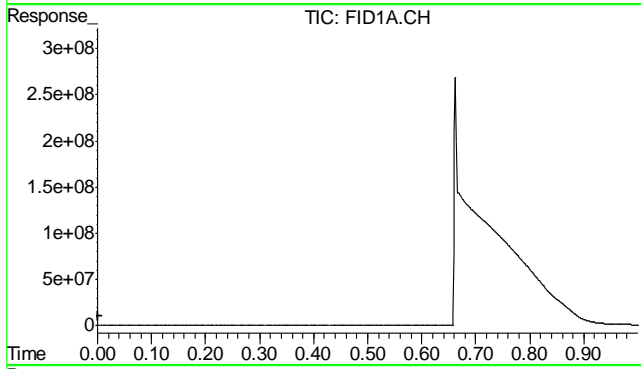
#11 Phenol-d5

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



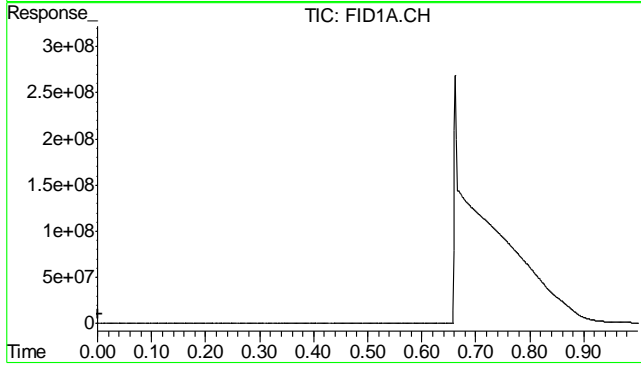
#12 Nitrobenzene-d5

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



#13 2-Fluorobiphenyl

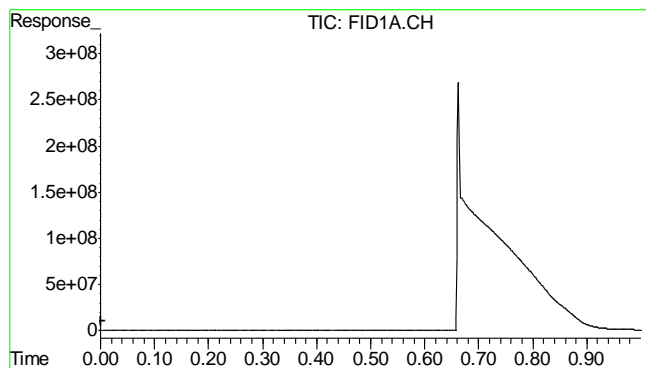
R.T.: 0.000 min
Exp R.T. : 0.000 min
Response: 0
Conc: N.D.



#14 2,4,6-Tribromophenol

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

10.1.1
10



#15 Terphenyl-d14

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

10.1.1
10

Judy Melson
11/29/11 14:15

Quantitation Report (QT Reviewed)

Data File : E:\DATA\FI112211\FI04566.D Vial: 21
Acq On : 23 Nov 2011 12:48 am Operator: CHAVALIT
Sample : OP4897-MB Inst : FID6
Misc : OP4897,GFI336,30.00,,,2,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Nov 29 13:30:32 2011 Quant Results File: DF-GFI308.RES

Quant Method : C:\MSDCHEM\1\METHODS\DF-GFI308.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Mon Nov 14 09:02:05 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	13.58	69390713	1247.158 mg/L m
Target Compounds			
2) H TPH-DRO (c10-c28)	11.79	19759235	61.422 mg/L

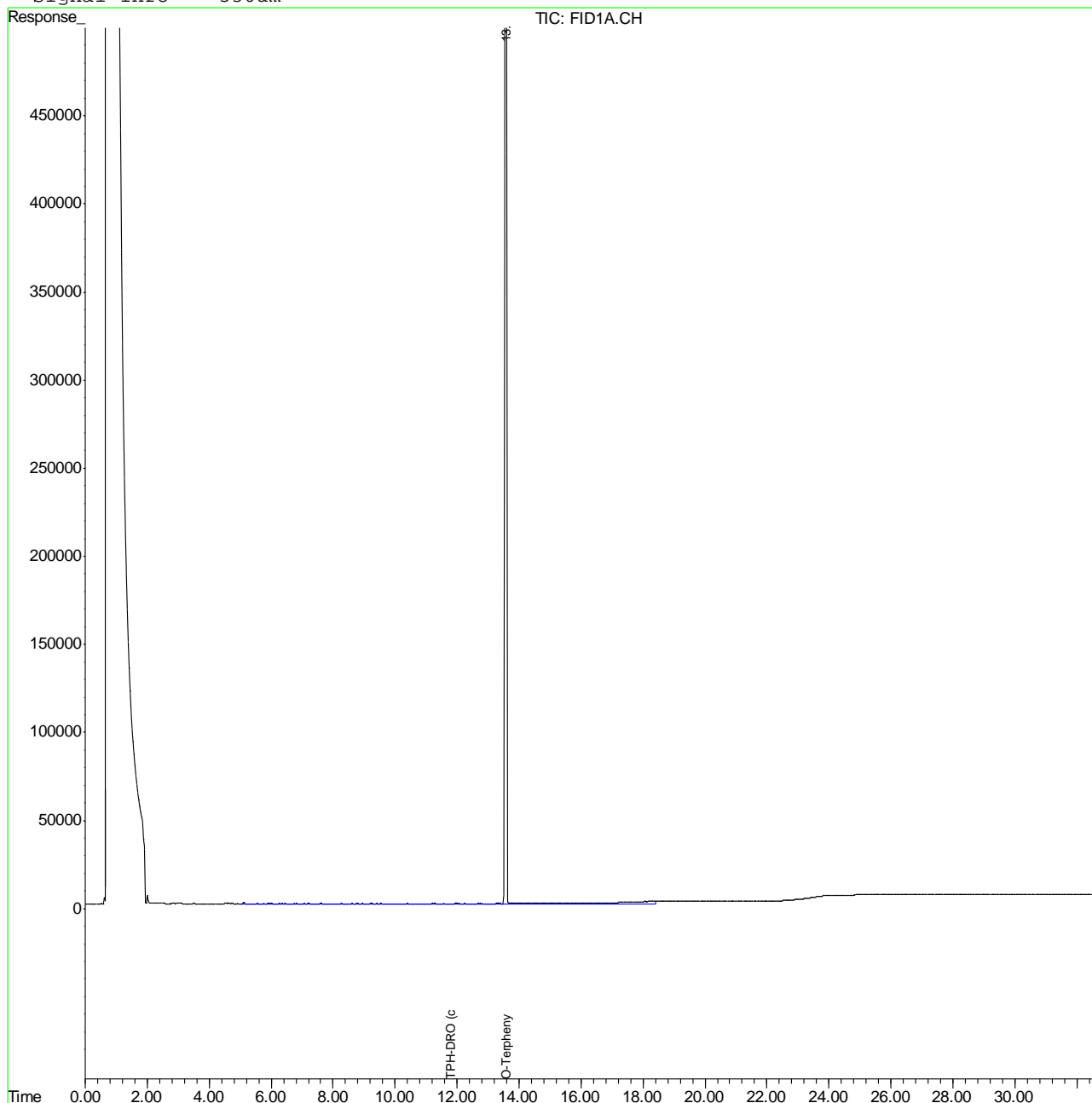
(f)=RT Delta > 1/2 Window (m)=manual int.
FI04566.D DF-GFI308.M Tue Nov 29 13:57:53 2011 TEH

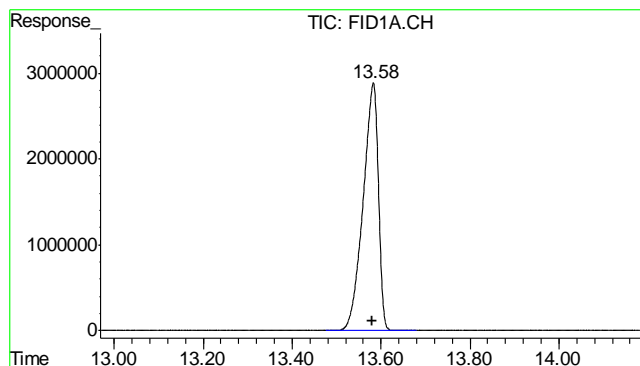
Quantitation Report (QT Reviewed)

Data File : E:\DATA\FI112211\FI04566.D Vial: 21
Acq On : 23 Nov 2011 12:48 am Operator: CHAVALIT
Sample : OP4897-MB Inst : FID6
Misc : OP4897,GFI336,30.00,,,2,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Nov 29 13:58 2011 Quant Results File: DF-GFI308.RES

Quant Method : C:\MSDCHEM\1\METHODS\DF-GFI308.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Mon Nov 14 09:02:05 2011
Response via : Multiple Level Calibration
DataAcq Meth : FR_BASE2.M

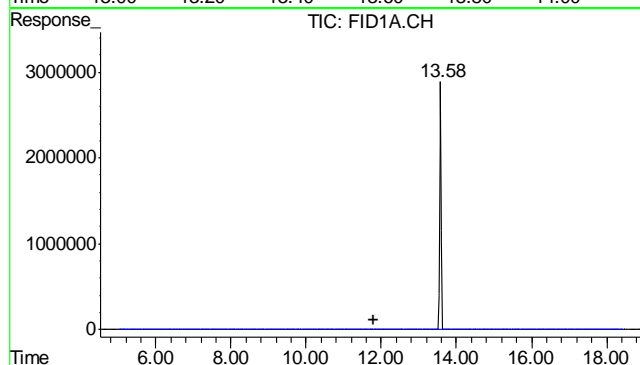
Volume Inj. : 1ul
Signal Phase : RTX-5
Signal Info : 530um





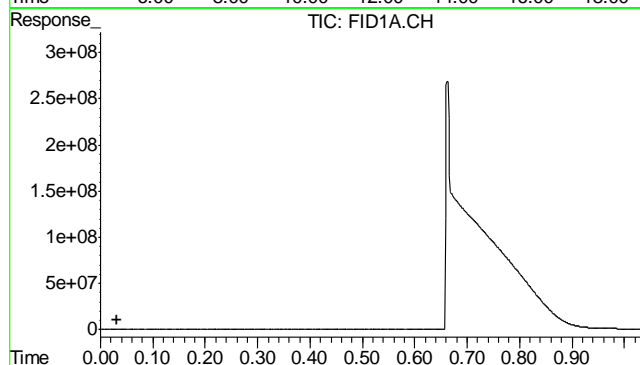
#1 O-Terphenyl

R.T.: 13.583 min
Delta R.T.: 0.003 min
Response: 69390713
Conc: 1247.16 mg/L m



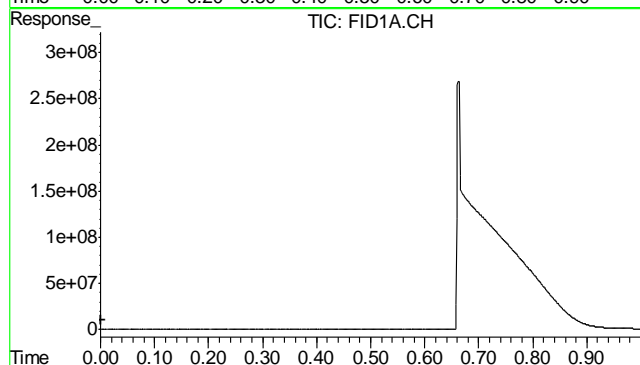
#2 TPH-DRO (c10-c28)

R.T.: 11.790 min
Delta R.T.: 0.000 min
Response: 19759235
Conc: 61.42 mg/L m



#9 5a-Androstane

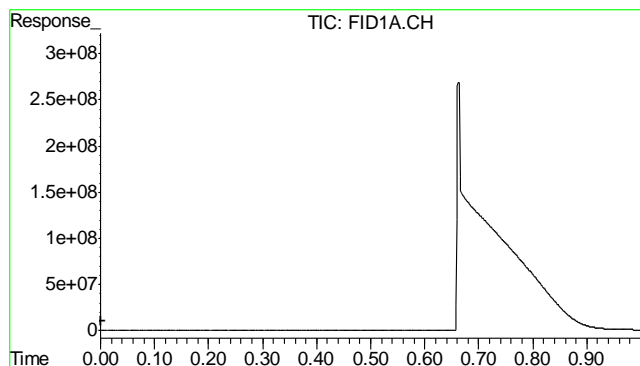
R.T.: 0.000 min
Exp R.T.: 0.032 min
Response: 0
Conc: N.D.



#10 2-Fluorophenol

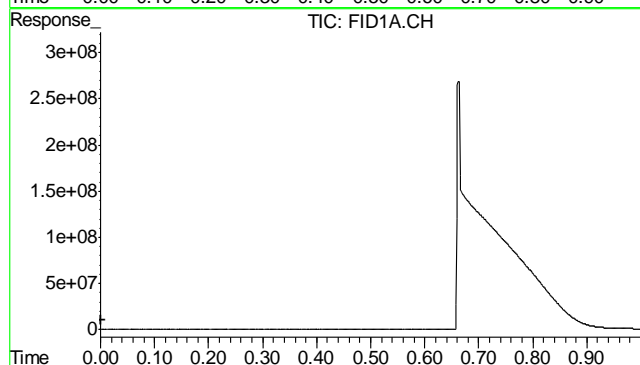
R.T.: 0.000 min
Exp R.T.: 0.000 min
Response: 0
Conc: N.D.

10.2.1
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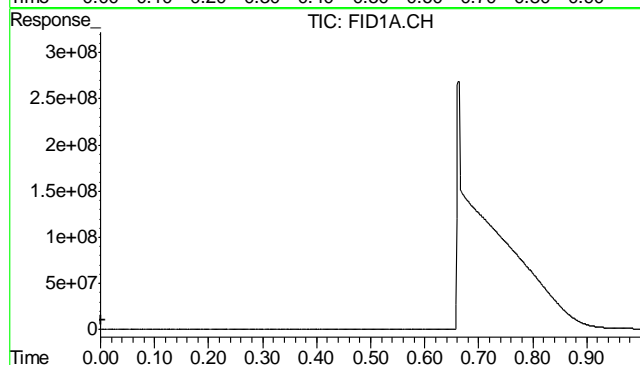
#11 Phenol-d5

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



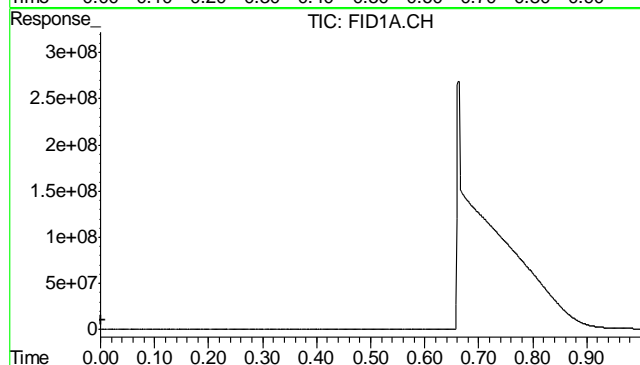
#12 Nitrobenzene-d5

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



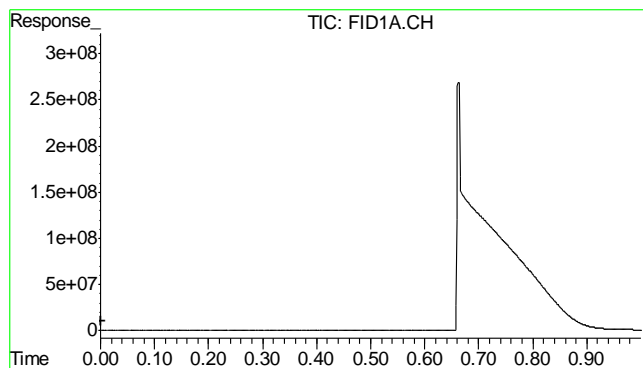
#13 2-Fluorobiphenyl

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



#14 2,4,6-Tribromophenol

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



#15 Terphenyl-d14

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

10.2.1
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