



06/04/12

Technical Report for

XTO Energy

FRU 297-8B

1106-06

Accutest Job Number: D34861

Sampling Date: 05/25/12

Report to:

KRW Consulting, Inc.
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Lakewood, CO 80214
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ATTN: Dwayne Knudson

Total number of pages in report: 46



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)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.

Test results relate only to samples analyzed.

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Sample Summary

XTO Energy

Job No: D34861

FRU 297-8B

Project No: 1106-06

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
D34861-1	05/25/12	09:00 DS	05/26/12	SO	Soil	CUT 2 MB DAY 1 (5/23)
D34861-2	05/25/12	08:50 DS	05/26/12	SO	Soil	CUT 2 MB DAY 2 (5/24)

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



CASE NARRATIVE / CONFORMANCE SUMMARY

Client: XTO Energy

Job No D34861

Site: FRU 297-8B

Report Date 6/4/2012 8:19:42 AM

On 05/26/2012, 2 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 3.2 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D34861 was assigned to the project. The lab sample IDs, client sample IDs, 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 GC By Method SW846 8015B

Matrix SO

Batch ID: GGB897

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D34781-1MS, D34781-1MSD were used as the QC samples indicated.

Extractables by GC By Method SW846-8015B

Matrix SO

Batch ID: OP5972

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D34860-2MS, D34860-2MSD were used as the QC samples indicated.

Wet Chemistry By Method SM19 2540B M

Matrix SO

Batch ID: GN15150

- 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 2 MB DAY 1 (5/23)	
Lab Sample ID:	D34861-1	Date Sampled: 05/25/12
Matrix:	SO - Soil	Date Received: 05/26/12
Method:	SW846 8015B	Percent Solids: 87.0
Project:	FRU 297-8B	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB16146.D	1	05/30/12	BR	n/a	n/a	GGB897
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)	65.1	13	6.4	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	95%		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 2 MB DAY 1 (5/23)	Date Sampled:	05/25/12
Lab Sample ID:	D34861-1	Date Received:	05/26/12
Matrix:	SO - Soil	Percent Solids:	87.0
Method:	SW846-8015B SW846 3546		
Project:	FRU 297-8B		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD13797.D	1	05/31/12	AV	05/29/12	OP5972	GFD730
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	196	15	10	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	69%		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

Accutest Laboratories

Report of Analysis

Page 1 of 1

Client Sample ID:	CUT 2 MB DAY 2 (5/24)	
Lab Sample ID:	D34861-2	Date Sampled: 05/25/12
Matrix:	SO - Soil	Date Received: 05/26/12
Method:	SW846 8015B	Percent Solids: 85.9
Project:	FRU 297-8B	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB16147.D	1	05/30/12	BR	n/a	n/a	GGB897
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)	53.6	13	6.6	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	87%		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 2 MB DAY 2 (5/24)	Date Sampled:	05/25/12
Lab Sample ID:	D34861-2	Date Received:	05/26/12
Matrix:	SO - Soil	Percent Solids:	85.9
Method:	SW846-8015B SW846 3546		
Project:	FRU 297-8B		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD13798.D	1	05/31/12	AV	05/29/12	OP5972	GFD730
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	344	16	10	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	69%		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 Mountain States
4036 Youngfield Street Wheat Ridge, Co 80033
TEL. 303-425-6021 877-737-4521
FAX 303-425-6021

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job # D34861

[illegible]

D34861: Chain of Custody

Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D34861

Client: KRW CONSULTING

Immediate Client Services Action Required: No

Date / Time Received: 5/26/2012 10:45:00 AM

No. Coolers: 1

Client Service Action Required at Login: No

Project: XTO FRU 297-8B

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 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: D34861
Account: XTOKRWR XTO Energy
Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB897-MB	GB16124.D	1	05/29/12	BR	n/a	n/a	GGB897

The QC reported here applies to the following samples:

Method: SW846 8015B

D34861-1, D34861-2

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	110% 60-140%

Blank Spike Summary

Page 1 of 1

Job Number: D34861
Account: XTOKRWR XTO Energy
Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB897-BS	GB16125.D	1	05/29/12	BR	n/a	n/a	GGB897

The QC reported here applies to the following samples:

Method: SW846 8015B

D34861-1, D34861-2

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	113	103	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	116%	60-140%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D34861
Account: XTOKRWR XTO Energy
Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D34781-1MS	GB16127.D	1	05/29/12	BR	n/a	n/a	GGB897
D34781-1MSD	GB16128.D	1	05/29/12	BR	n/a	n/a	GGB897
D34781-1	GB16126.D	1	05/29/12	BR	n/a	n/a	GGB897

The QC reported here applies to the following samples:

Method: SW846 8015B

D34861-1, D34861-2

CAS No.	Compound	D34781-1 mg/kg	Spike Q	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	258	277	107	272	106	2	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D34781-1	Limits
120-82-1	1,2,4-Trichlorobenzene	107%	110%	108%	60-140%

GC Volatiles

Raw Data



Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\052912\GB16146.D\FID1A.CH Vial: 31
Signal #2 : Y:\1\DATA\052912\GB16146.D\FID2B.CH
Acq On : 30 May 2012 5:21 am Operator: BRIANR
Sample : D34861-1, 50X Inst : GC/MS Ins
Misc : GC2865,GGB897,5.065,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: May 30 09:46:50 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Wed May 30 09:46:04 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	

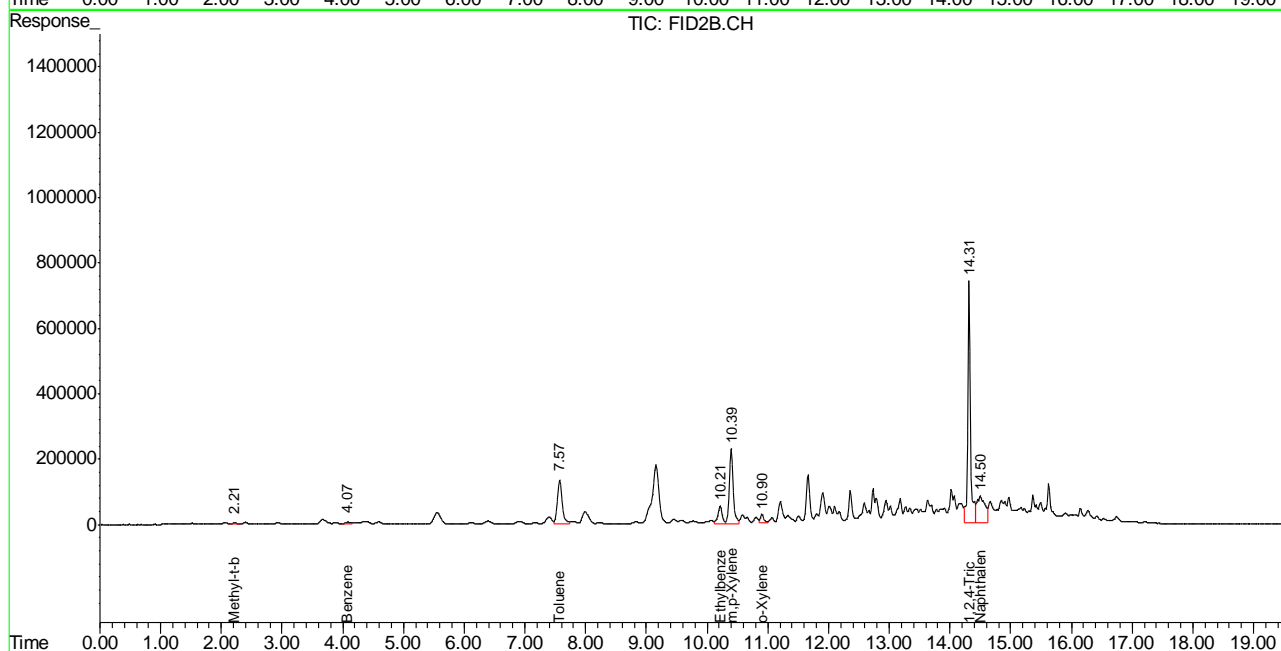
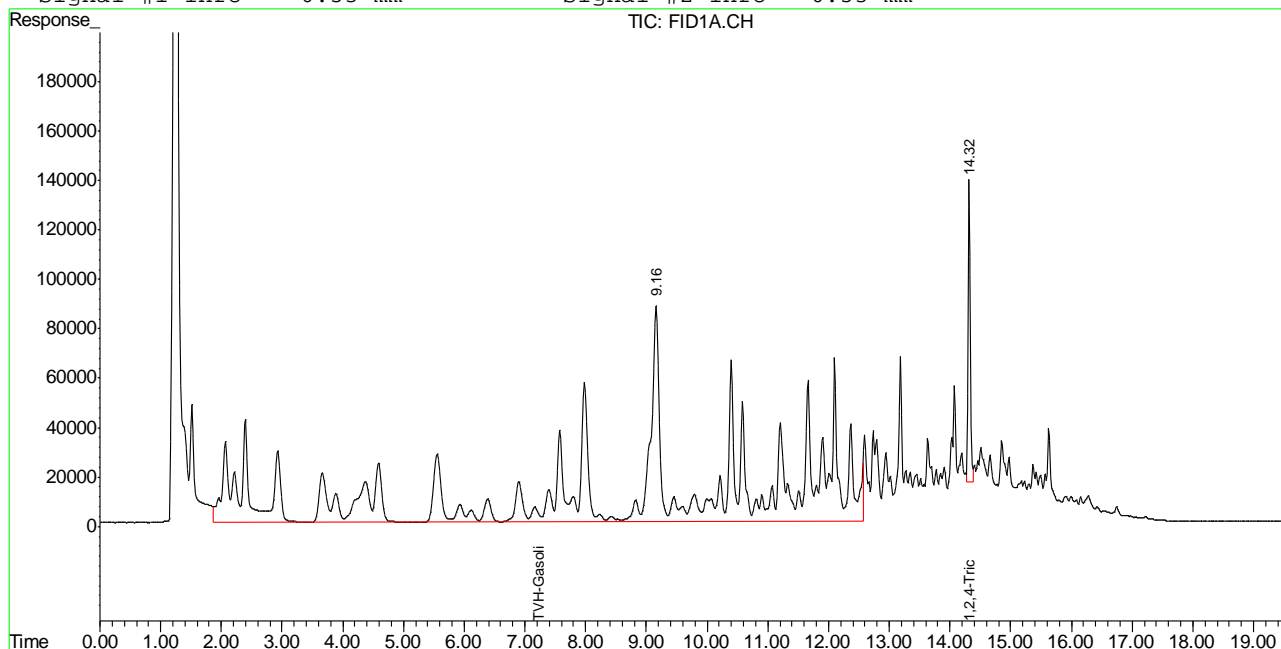
System Monitoring Compounds						
2) S	1,2,4-Trichlorobenzene	14.32	2978632	95.061 %	m	
10) S	1,2,4-Trichlorobenzene (P)	14.31	22074745	135.822 %		
Target Compounds						
1) H	TVH-Gasoline	7.23	65848940	1.014 mg/L		
4) T	Methyl-t-butyl-ether	2.21	213268	1.642 ug/L		
5) T	Benzene	4.07	452860	1.124 ug/L		
6) T	Toluene	7.57	7673119	19.363 ug/L		
7) T	Ethylbenzene	10.21	2597026	7.677 ug/L		
8) T	m,p-Xylene	10.40	10047580	27.155 ug/L		
9) T	o-Xylene	10.90	1245783	3.794 ug/L		
11) T	Naphthalene	14.50	7111483	36.042 ug/L		

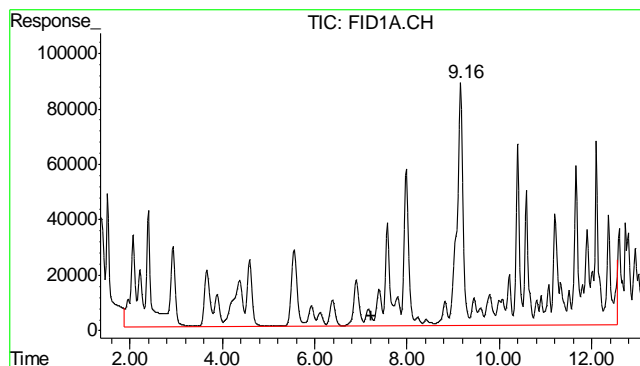
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\052912\GB16146.D\FID1A.CH Vial: 31
 Signal #2 : Y:\1\DATA\052912\GB16146.D\FID2B.CH
 Acq On : 30 May 2012 5:21 am Operator: BRIANR
 Sample : D34861-1, 50X Inst : GC/MS Ins
 Misc : GC2865,GGB897,5.065,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: May 30 9:15 2012 Quant Results File: TB868GB868SOIL.RES

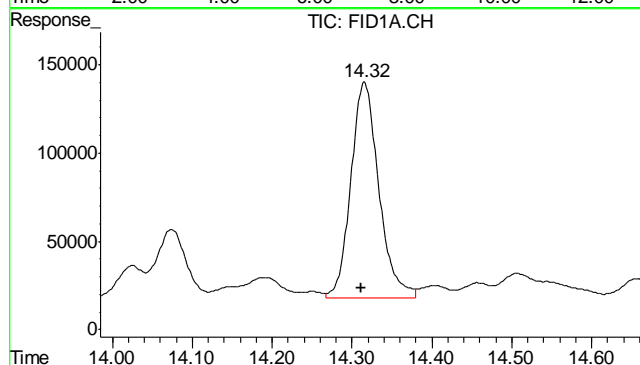
Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Wed May 30 09:46:04 2012
 Response via : Multiple Level Calibration
 DataAcq Meth : TVB4.M

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

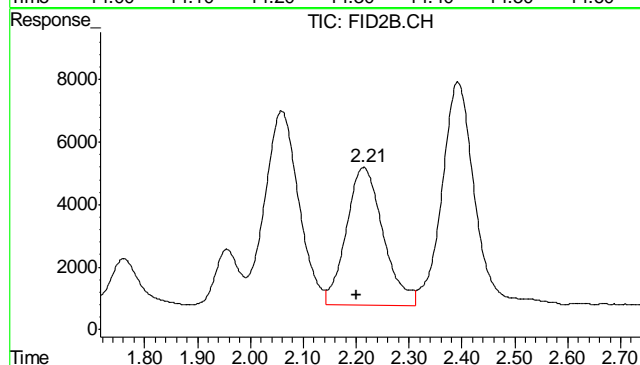




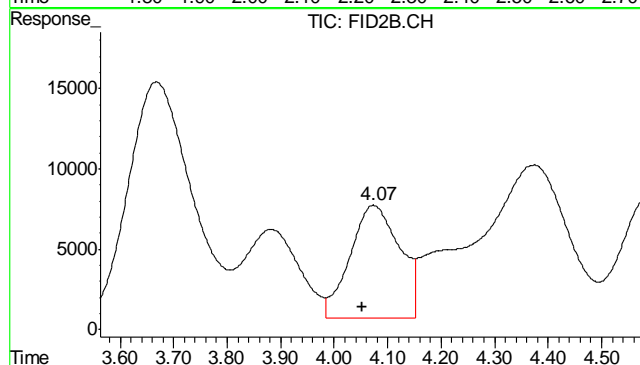
#1 TVH-Gasoline
 R.T.: 7.230 min
 Delta R.T.: 0.000 min
 Response: 65848940
 Conc: 1.01 mg/L m



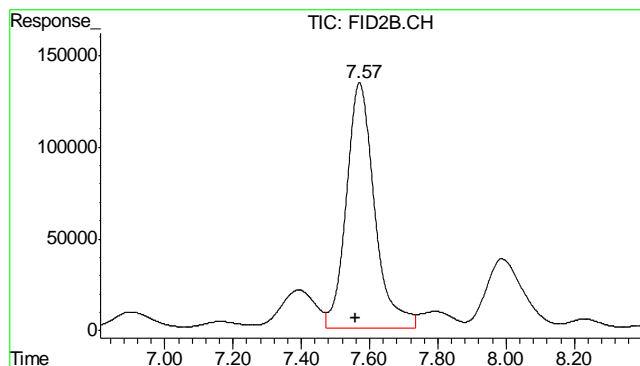
#2 1,2,4-Trichlorobenzene
 R.T.: 14.315 min
 Delta R.T.: 0.003 min
 Response: 2978632
 Conc: 95.06 % m



#4 Methyl-t-butyl-ether
 R.T.: 2.214 min
 Delta R.T.: 0.014 min
 Response: 213268
 Conc: 1.64 ug/L

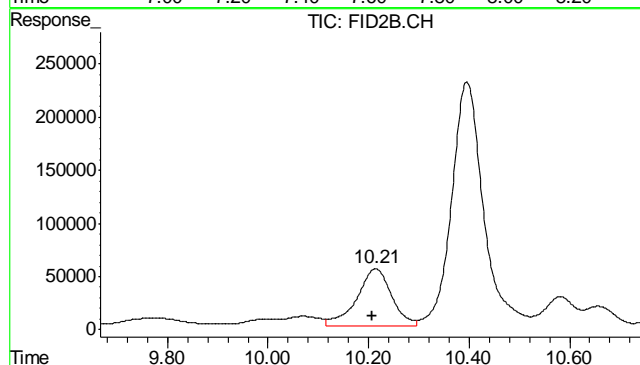


#5 Benzene
 R.T.: 4.073 min
 Delta R.T.: 0.020 min
 Response: 452860
 Conc: 1.12 ug/L



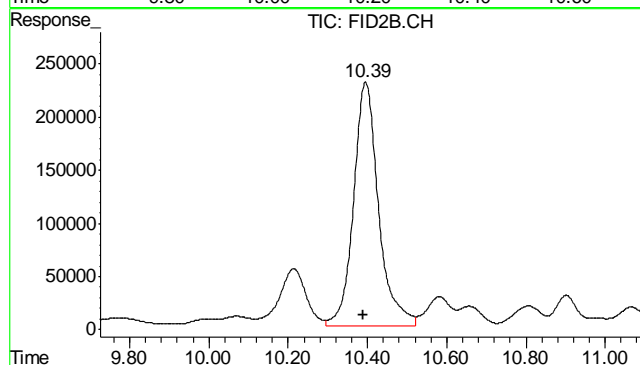
#6 Toluene

R.T.: 7.571 min
Delta R.T.: 0.011 min
Response: 7673119
Conc: 19.36 ug/L



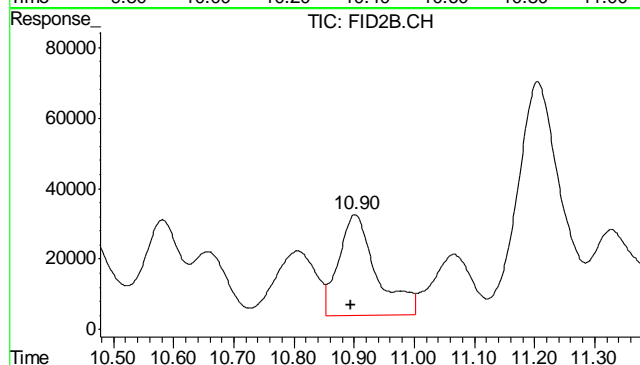
#7 Ethylbenzene

R.T.: 10.214 min
Delta R.T.: 0.007 min
Response: 2597026
Conc: 7.68 ug/L



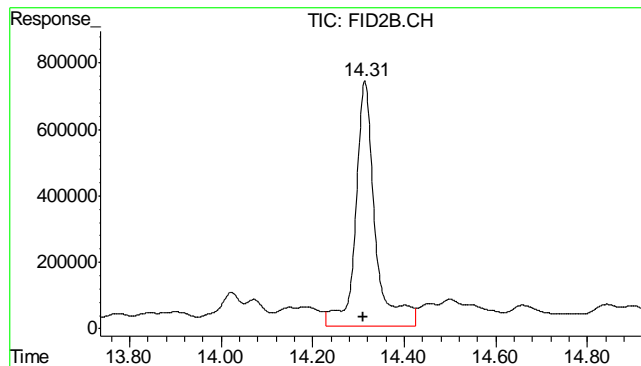
#8 m,p-Xylene

R.T.: 10.396 min
Delta R.T.: 0.005 min
Response: 10047580
Conc: 27.15 ug/L



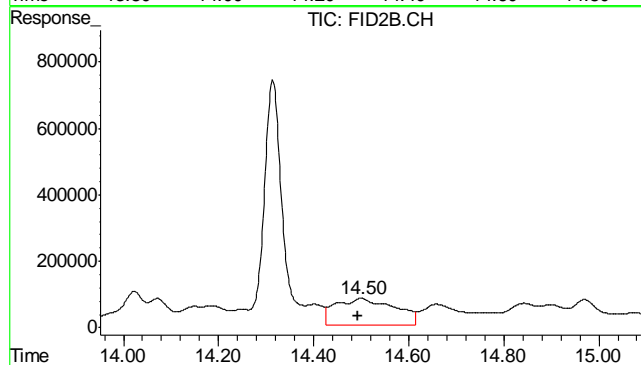
#9 o-Xylene

R.T.: 10.902 min
Delta R.T.: 0.007 min
Response: 1245783
Conc: 3.79 ug/L



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

R.T.: 14.314 min
Delta R.T.: 0.004 min
Response: 22074745
Conc: 135.82 %



#11 Naphthalene

R.T.: 14.500 min
Delta R.T.: 0.009 min
Response: 7111483
Conc: 36.04 ug/L

6.1.1

6

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\052912\GB16147.D\FID1A.CH Vial: 32
Signal #2 : Y:\1\DATA\052912\GB16147.D\FID2B.CH
Acq On : 30 May 2012 5:56 am Operator: BRIANR
Sample : D34861-2, 50X Inst : GC/MS Ins
Misc : GC2865,GGB897,5.077,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: May 30 09:46:54 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Wed May 30 09:46:04 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	

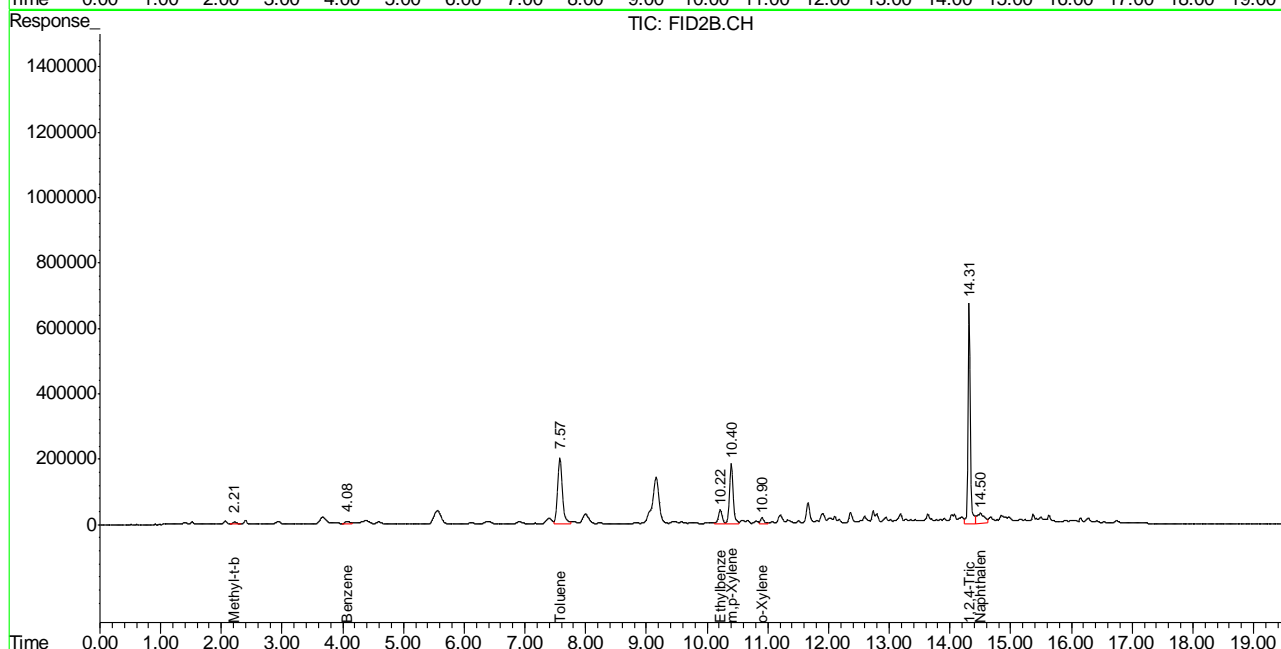
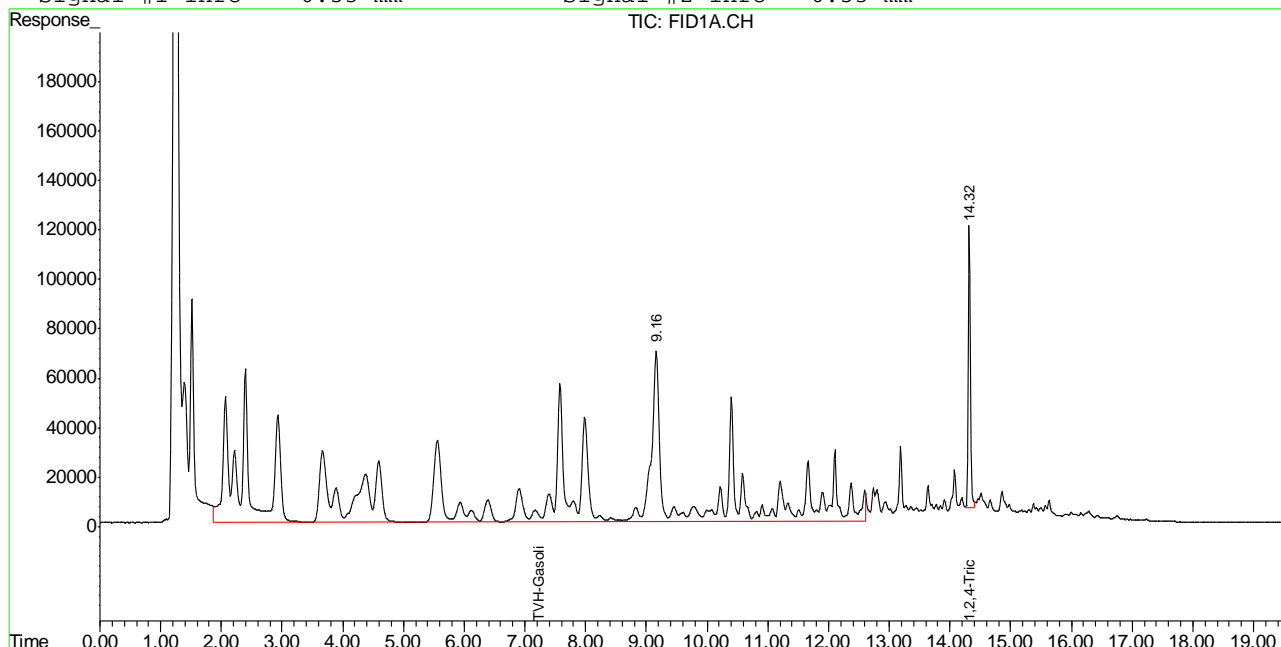
System Monitoring Compounds						
2) S	1,2,4-Trichlorobenzene	14.32	2712434	86.565 %	m	
10) S	1,2,4-Trichlorobenzene (P)	14.32	17242018	106.087 %		
Target Compounds						
1) H	TVH-Gasoline	7.23	53495242	0.818 mg/L		
4) T	Methyl-t-butyl-ether	2.21	332067	2.557 ug/L		
5) T	Benzene	4.08	649920	1.613 ug/L		
6) T	Toluene	7.57	11372977	28.700 ug/L		
7) T	Ethylbenzene	10.22	1962369	5.801 ug/L		
8) T	m,p-Xylene	10.40	7724538	20.790 ug/L		
9) T	o-Xylene	10.90	799972	2.436 ug/L		
11) T	Naphthalene	14.50	2557821	12.964 ug/L		

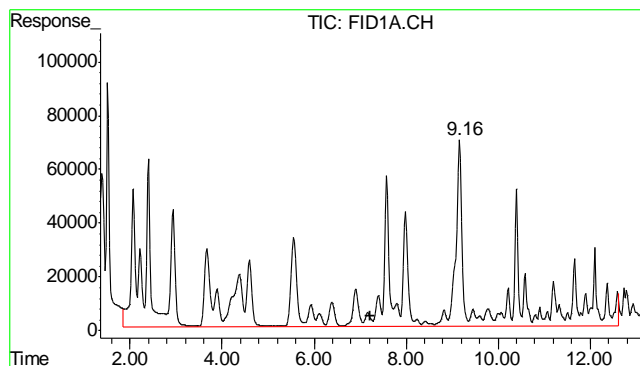
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\052912\GB16147.D\FID1A.CH Vial: 32
 Signal #2 : Y:\1\DATA\052912\GB16147.D\FID2B.CH
 Acq On : 30 May 2012 5:56 am Operator: BRIANR
 Sample : D34861-2, 50X Inst : GC/MS Ins
 Misc : GC2865,GGB897,5.077,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: May 30 9:15 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Wed May 30 09:46:04 2012
 Response via : Multiple Level Calibration
 DataAcq Meth : TVB4.M

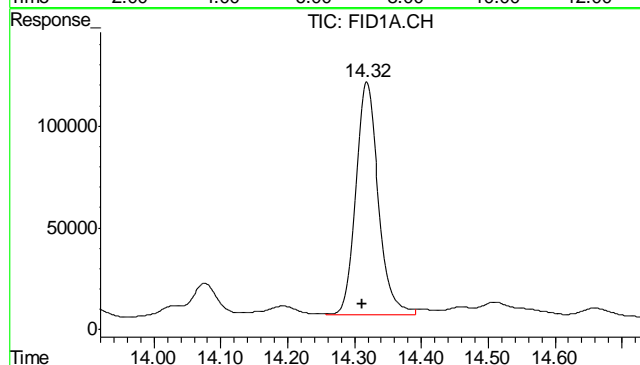
Volume Inj. :
 Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
 Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





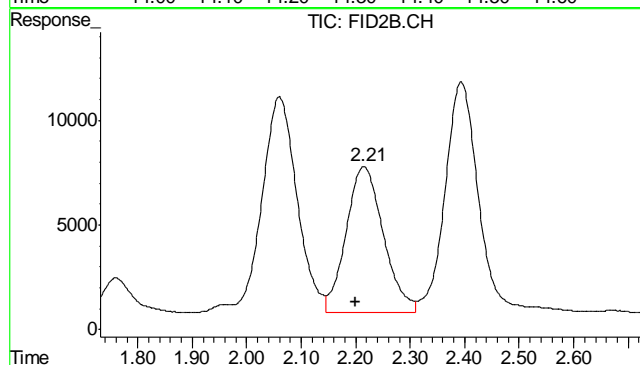
#1 TVH-Gasoline

R.T.: 7.230 min
Delta R.T.: 0.000 min
Response: 53495242
Conc: 0.82 mg/L m



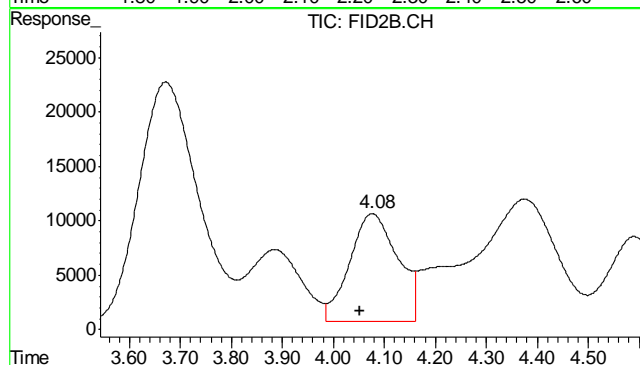
#2 1,2,4-Trichlorobenzene

R.T.: 14.317 min
Delta R.T.: 0.005 min
Response: 2712434
Conc: 86.57 % m



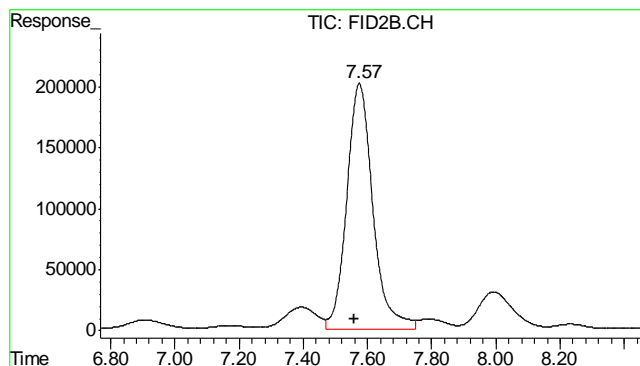
#4 Methyl-t-butyl-ether

R.T.: 2.214 min
Delta R.T.: 0.014 min
Response: 332067
Conc: 2.56 ug/L



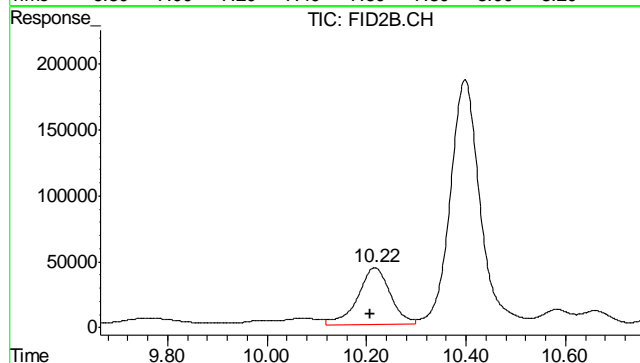
#5 Benzene

R.T.: 4.076 min
Delta R.T.: 0.023 min
Response: 649920
Conc: 1.61 ug/L



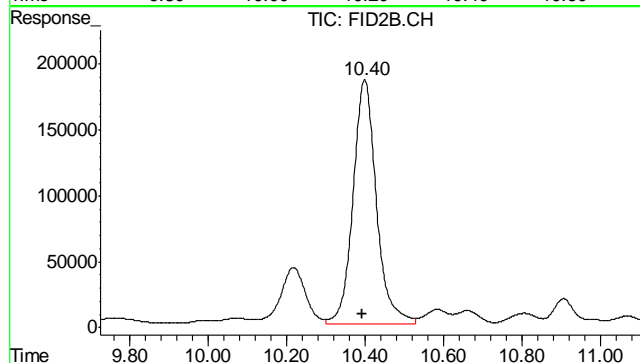
#6 Toluene

R.T.: 7.575 min
Delta R.T.: 0.015 min
Response: 11372977
Conc: 28.70 ug/L



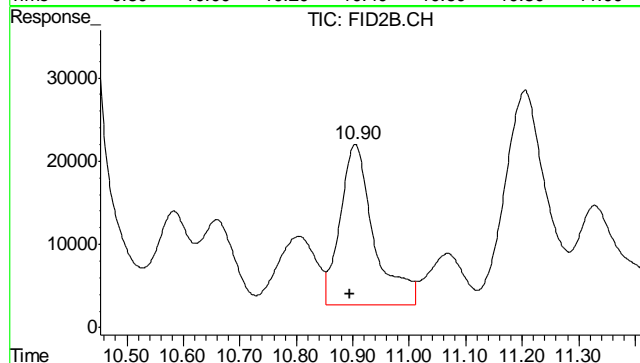
#7 Ethylbenzene

R.T.: 10.217 min
Delta R.T.: 0.010 min
Response: 1962369
Conc: 5.80 ug/L



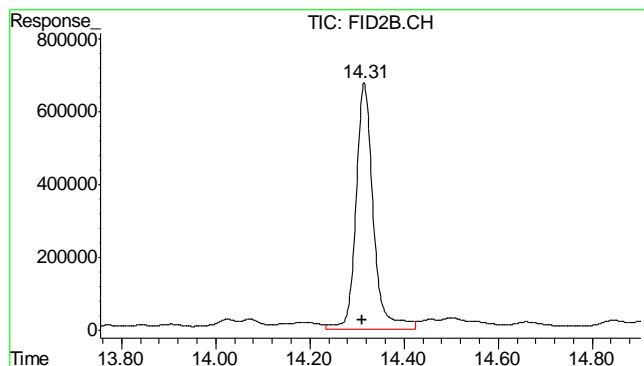
#8 m,p-Xylene

R.T.: 10.398 min
Delta R.T.: 0.007 min
Response: 7724538
Conc: 20.79 ug/L



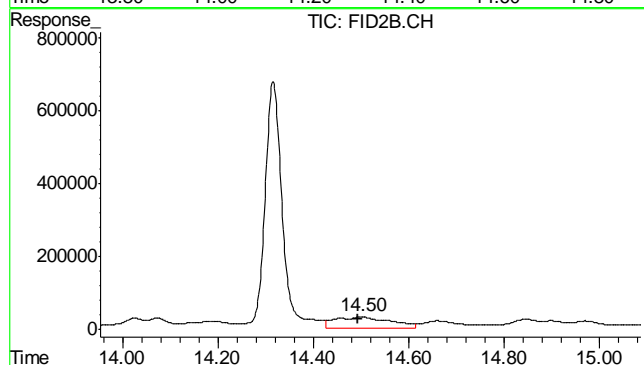
#9 o-Xylene

R.T.: 10.904 min
Delta R.T.: 0.010 min
Response: 799972
Conc: 2.44 ug/L



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

R.T.: 14.316 min
 Delta R.T.: 0.005 min
 Response: 17242018
 Conc: 106.09 %



#11 Naphthalene

R.T.: 14.501 min
 Delta R.T.: 0.010 min
 Response: 2557821
 Conc: 12.96 ug/L

6.1.2
6

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\052912\GB16124.D\FID1A.CH Vial: 9
Signal #2 : Y:\1\DATA\052912\GB16124.D\FID2B.CH
Acq On : 29 May 2012 4:29 pm Operator: BRIANR
Sample : MB, S Inst : GC/MS Ins
Misc : GC2865,GGB897,5.008,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: May 30 09:41:46 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Wed May 30 09:40:15 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	14.29	3451884	110.164	%
10) S	1,2,4-Trichlorobenzene (P)	14.29	18860464	116.045	%
Target Compounds					
1) H	TVH-Gasoline	7.23	4169148	<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	7.53	153406	0.387	ug/L
7) T	Ethylbenzene	0.00	0	N.D.	ug/L d
8) T	m,p-Xylene	0.00	0	N.D.	ug/L d
9) T	o-Xylene	0.00	0	N.D.	ug/L d
11) T	Naphthalene	14.46	240602	1.219	ug/L

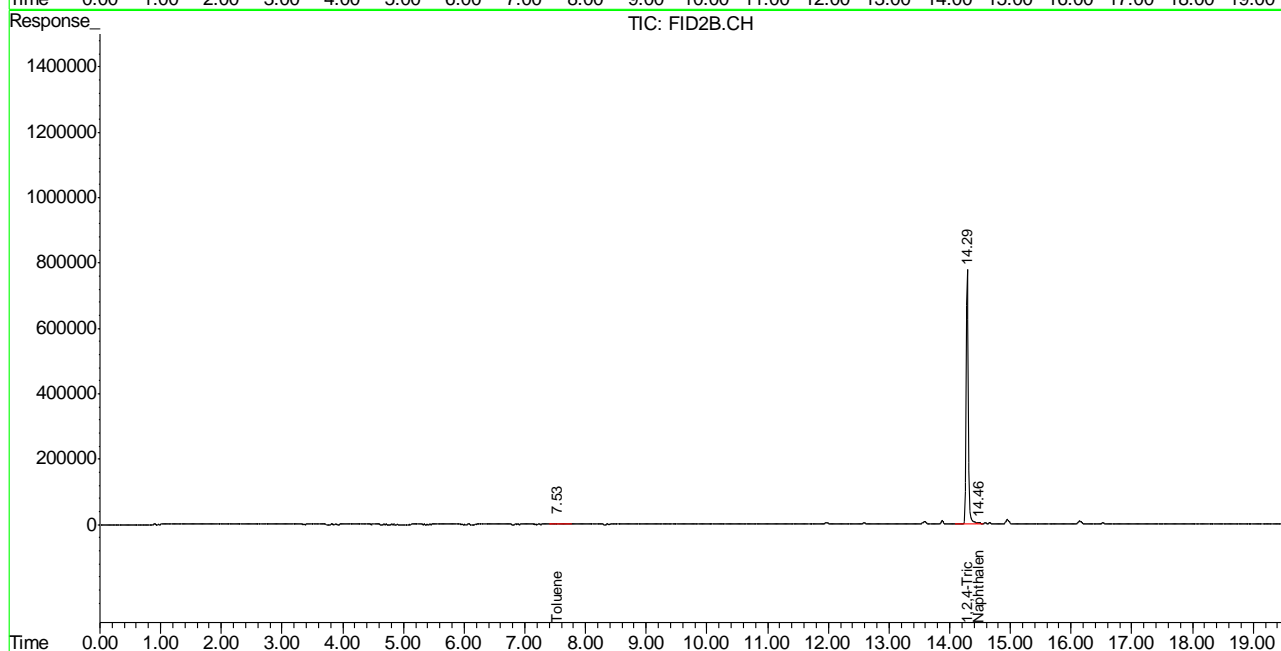
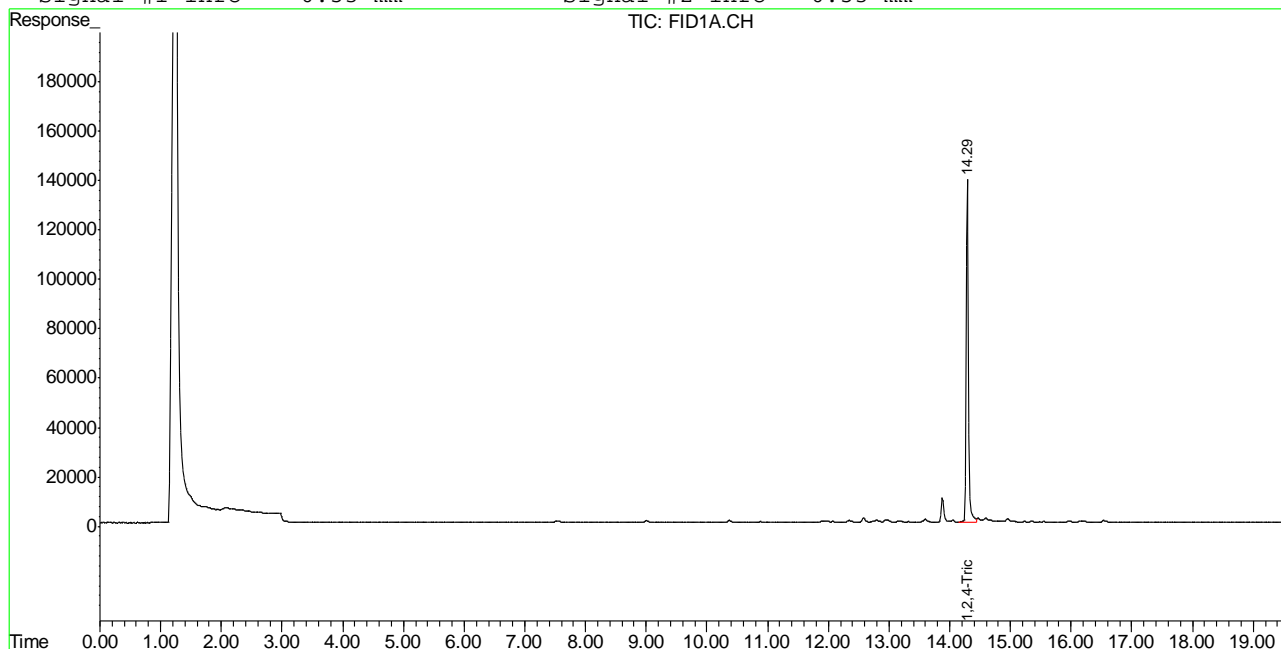
(f)=RT Delta > 1/2 Window (m)=manual int.
GB16124.D TB868GB868SOIL.M Wed May 30 10:13:50 2012 GC

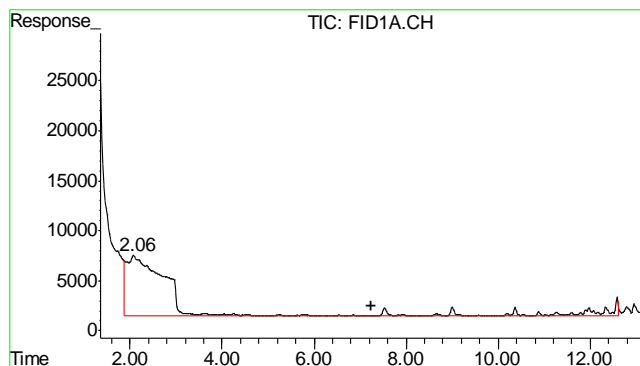
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\052912\GB16124.D\FID1A.CH Vial: 9
Signal #2 : Y:\1\DATA\052912\GB16124.D\FID2B.CH
Acq On : 29 May 2012 4:29 pm Operator: BRIANR
Sample : MB, S Inst : GC/MS Ins
Misc : GC2865,GGB897,5.008,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: May 30 9:02 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Wed May 30 09:40:15 2012
Response via : Multiple Level Calibration
DataAcq Meth : TVB4.M

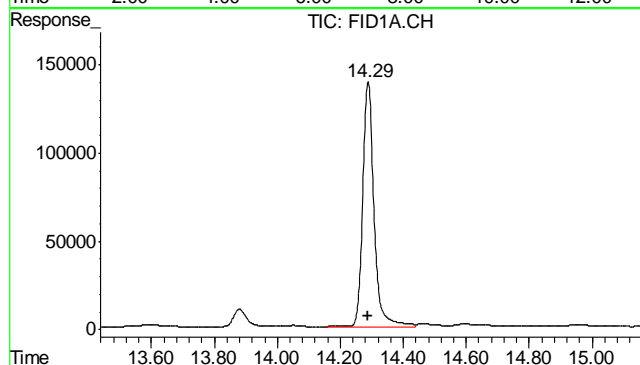
Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





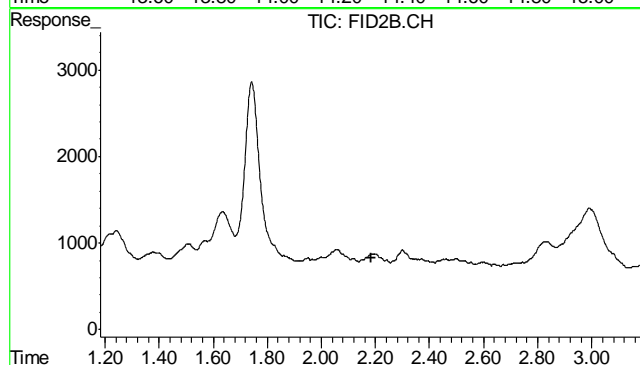
#1 TVH-Gasoline

R.T.: 7.230 min
Delta R.T.: 0.000 min
Response: 4169148
Conc: N.D.



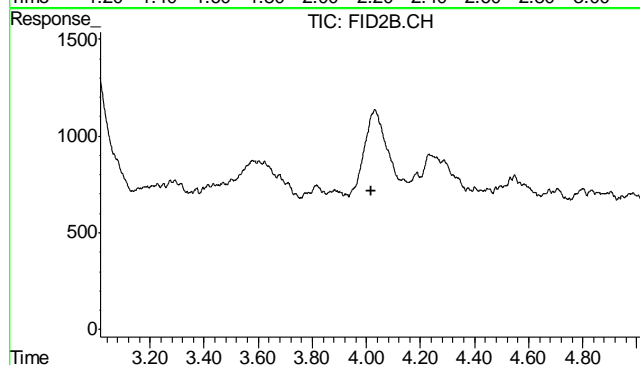
#2 1,2,4-Trichlorobenzene

R.T.: 14.289 min
Delta R.T.: 0.000 min
Response: 3451884
Conc: 110.16 %



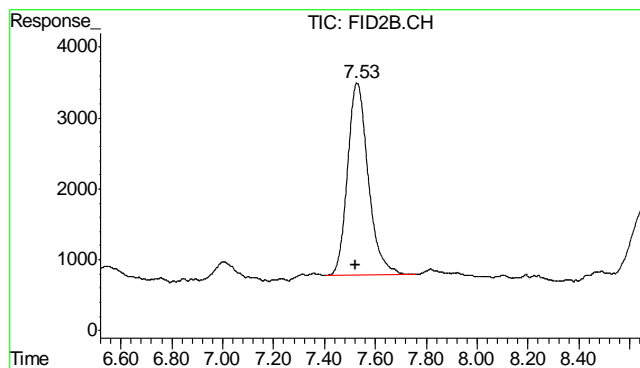
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T.: 2.183 min
Response: 0
Conc: N.D.



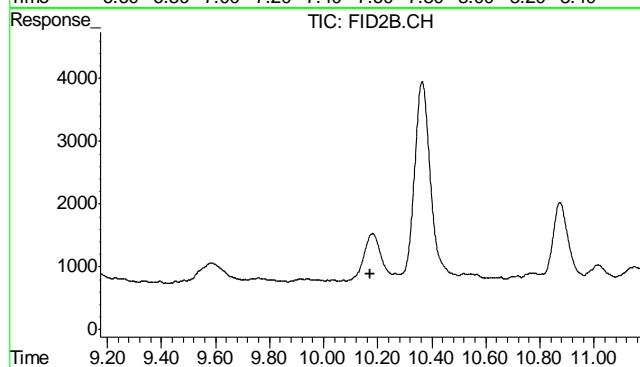
#5 Benzene

R.T.: 0.000 min
Exp R.T.: 4.016 min
Response: 0
Conc: N.D.



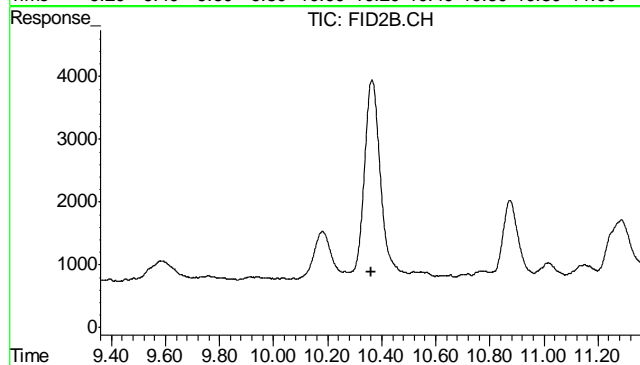
#6 Toluene

R.T.: 7.528 min
Delta R.T.: 0.008 min
Response: 153406
Conc: 0.39 ug/L



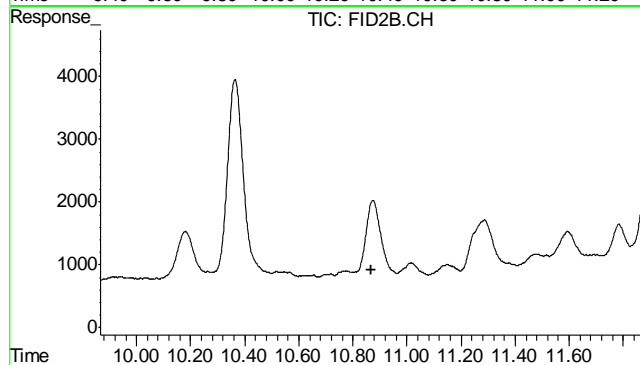
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T. : 10.174 min
Response: 0
Conc: N.D.



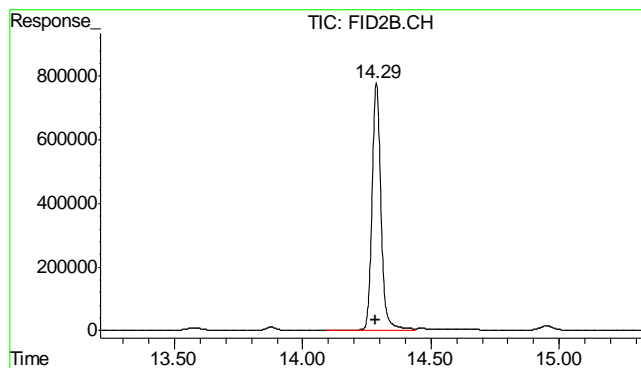
#8 m,p-Xylene

R.T.: 0.000 min
Exp R.T. : 10.360 min
Response: 0
Conc: N.D.



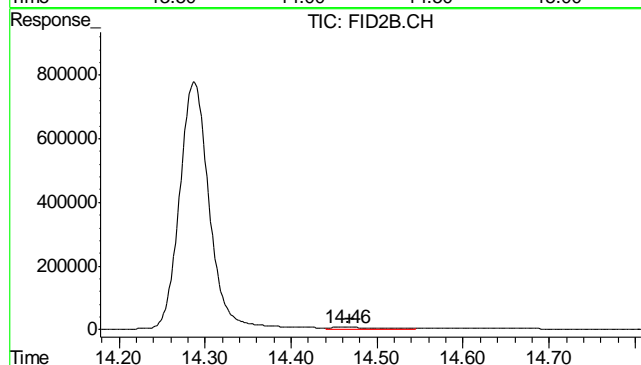
#9 o-Xylene

R.T.: 0.000 min
Exp R.T. : 10.867 min
Response: 0
Conc: N.D.



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

R.T.: 14.287 min
Delta R.T.: 0.000 min
Response: 18860464
Conc: 116.04 %



#11 Naphthalene

R.T.: 14.464 min
Delta R.T.: -0.003 min
Response: 240602
Conc: 1.22 ug/L

6.2.1

6

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: D34861
Account: XTOKRWR XTO Energy
Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5972-MB	FD13781.D	1	05/31/12	AV	05/29/12	OP5972	GFD730

The QC reported here applies to the following samples:

Method: SW846-8015B

D34861-1, D34861-2

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	77% 43-136%

Blank Spike Summary

Page 1 of 1

Job Number: D34861
Account: XTOKRWR XTO Energy
Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5972-BS	FD13782.D	1	05/31/12	AV	05/29/12	OP5972	GFD730

The QC reported here applies to the following samples:

Method: SW846-8015B

D34861-1, D34861-2

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	496	74	58-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	80%	43-136%

7.2.1

7

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D34861
Account: XTOKRWR XTO Energy
Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5972-MS	FD13783.D	1	05/31/12	AV	05/29/12	OP5972	GFD730
OP5972-MSD	FD13784.D	1	05/31/12	AV	05/29/12	OP5972	GFD730
D34860-2	FD13793.D	1	05/31/12	AV	05/29/12	OP5972	GFD730

The QC reported here applies to the following samples:

Method: SW846-8015B

D34861-1, D34861-2

CAS No.	Compound	D34860-2 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	1540		744	1890	47	1720	24	9	20-183/43

CAS No.	Surrogate Recoveries	MS	MSD	D34860-2	Limits
84-15-1	o-Terphenyl	73%	65%	75%	43-136%

7.3.1

7

GC Semi-volatiles

Raw Data



Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\MAY\FD053112\FD13797.D Vial: 69
Acq On : 5-31-2012 05:16:06 PM Operator: ashleyv
Sample : D34861-1 Inst : FID5
Misc : OP5972,GFD730,30.02,,,2,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 01 08:30:14 2012 Quant Results File: DRO-GFD726R.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD726R.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Thu May 31 11:12:59 2012
Response via : Initial Calibration
DataAcq Meth : JH080911.M

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

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) S O-Terphenyl	9.55	30998061	692.439 mg/L m
Target Compounds			
2) H TPH-DRO (c10-c28)	7.29	109525546	2555.510 mg/L

8.1.1

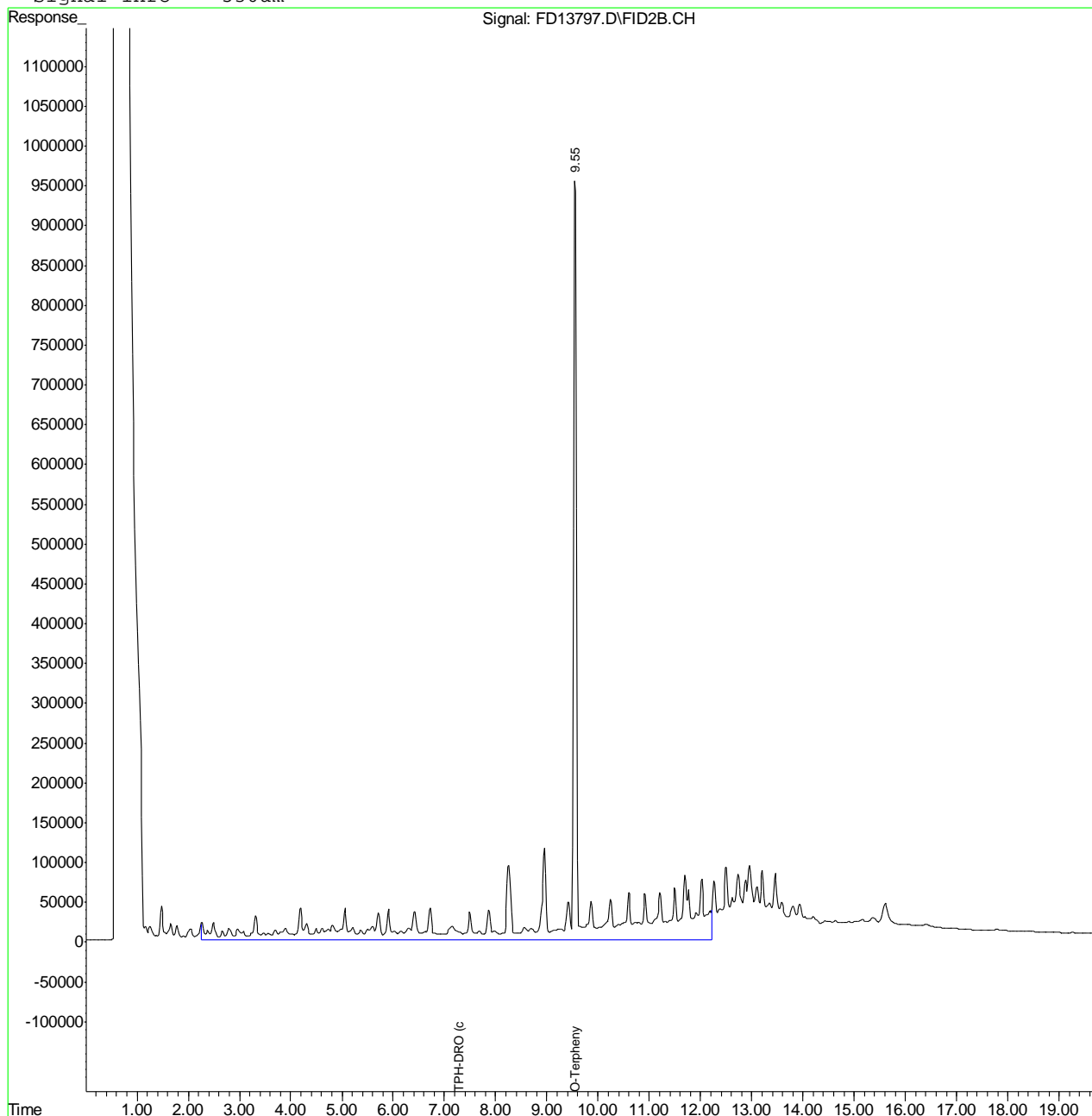
8

Quantitation Report (QT Reviewed)

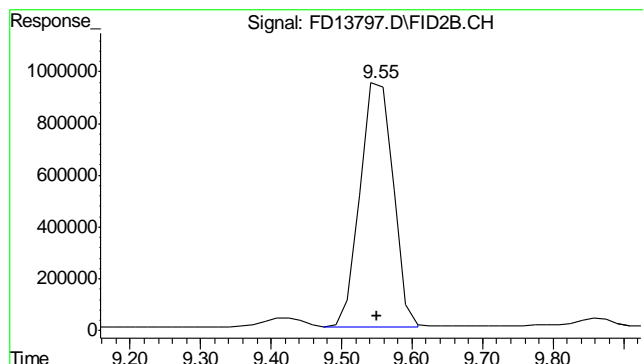
Data File : C:\MSDCHEM\2\DATA\2012\MAY\FD053112\FD13797.D Vial: 69
Acq On : 5-31-2012 05:16:06 PM Operator: ashleyv
Sample : D34861-1 Inst : FID5
Misc : OP5972,GFD730,30.02,,,2,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 1 8:31 2012 Quant Results File: DRO-GFD726R.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD726R.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Thu May 31 11:12:59 2012
Response via : Multiple Level Calibration
DataAcq Meth : JH080911.M

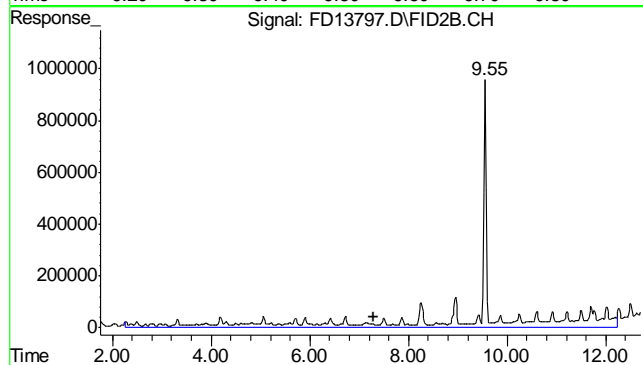
Volume Inj. : 1ul
Signal Phase : RTX-5
Signal Info : 530um



8.1.1
8



#1 O-Terphenyl
 R.T.: 9.549 min
 Delta R.T.: 0.000 min
 Response: 30998061
 Conc: 692.44 mg/L m



#2 TPH-DRO (c10-c28)
 R.T.: 7.290 min
 Delta R.T.: 0.000 min
 Response: 109525546
 Conc: 2555.51 mg/L m

8.1.1

8

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\MAY\FD053112\FD13798.D Vial: 70
Acq On : 5-31-2012 05:41:59 PM Operator: ashleyv
Sample : D34861-2 Inst : FID5
Misc : OP5972,GFD730,30.03,,,2,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 01 08:31:11 2012 Quant Results File: DRO-GFD726R.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD726R.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Thu May 31 11:12:59 2012
Response via : Initial Calibration
DataAcq Meth : JH080911.M

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

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) S O-Terphenyl	9.55	30878741	689.774 mg/L m
Target Compounds			
2) H TPH-DRO (c10-c28)	7.29	190383615	4442.134 mg/L

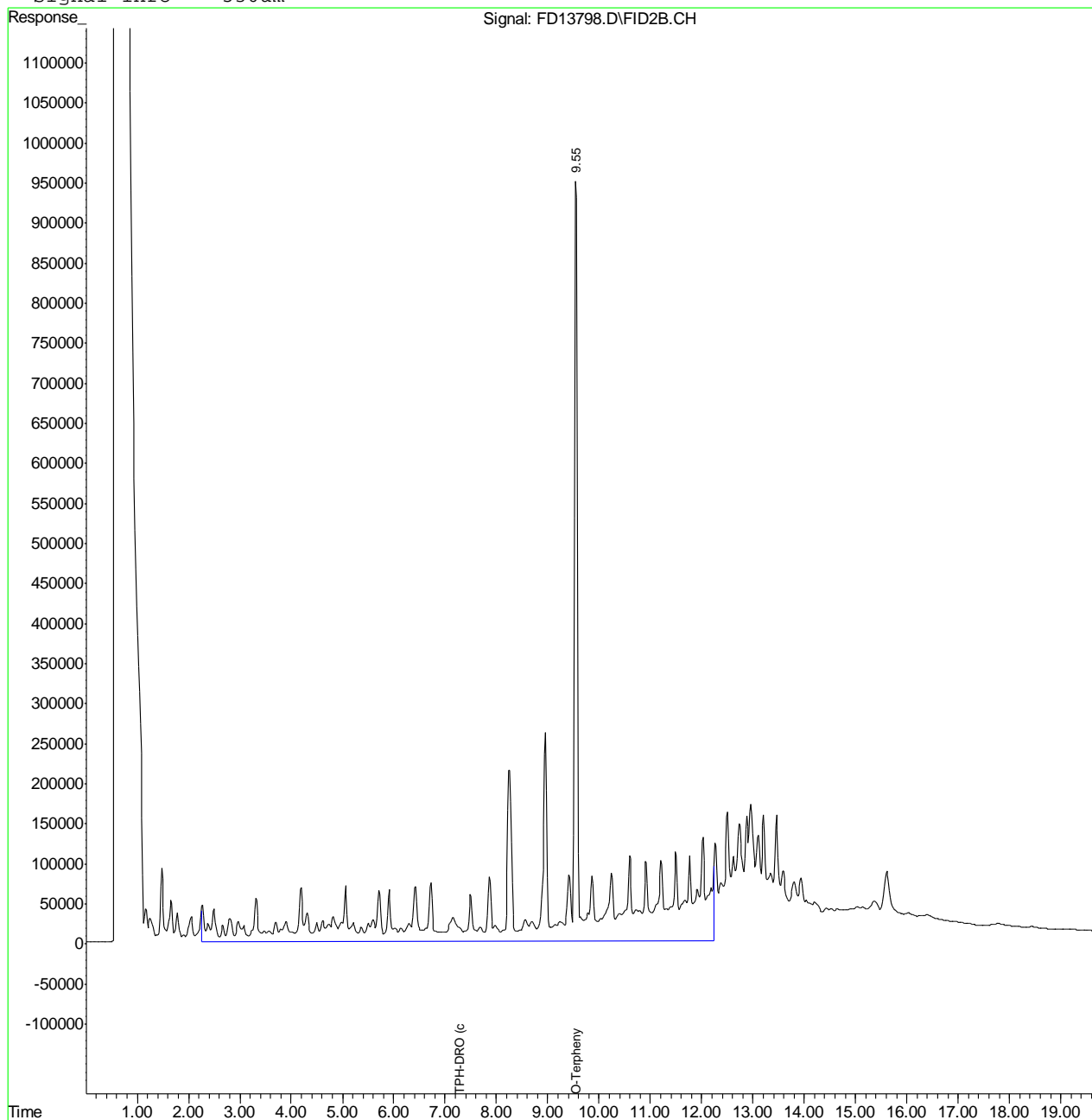
8.12
8

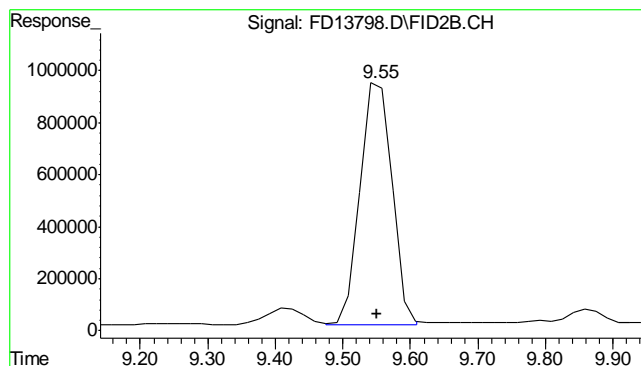
Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\MAY\FD053112\FD13798.D Vial: 70
Acq On : 5-31-2012 05:41:59 PM Operator: ashleyv
Sample : D34861-2 Inst : FID5
Misc : OP5972,GFD730,30.03,,,2,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 1 8:31 2012 Quant Results File: DRO-GFD726R.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD726R.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Thu May 31 11:12:59 2012
Response via : Multiple Level Calibration
DataAcq Meth : JH080911.M

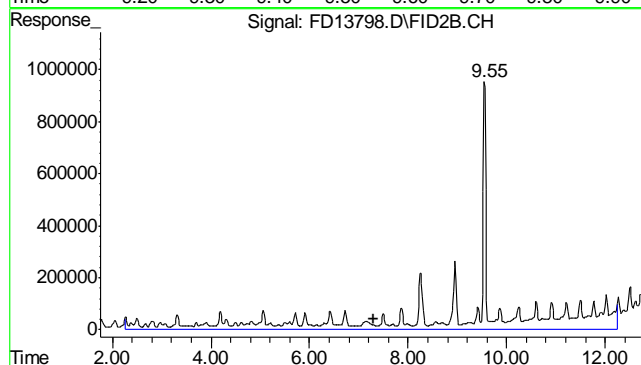
Volume Inj. : 1ul
Signal Phase : RTX-5
Signal Info : 530um





#1 O-Terphenyl

R.T.: 9.549 min
 Delta R.T.: -0.001 min
 Response: 30878741
 Conc: 689.77 mg/L m



#2 TPH-DRO (c10-c28)

R.T.: 7.290 min
 Delta R.T.: 0.000 min
 Response: 190383615
 Conc: 4442.13 mg/L m

8.12
8

Judy Melson
06/01/12 10:47

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\MAY\FD053112\FD13781.D Vial: 53
Acq On : 31 May 2012 10:21 am Operator: ashleyv
Sample : OP5972-MB Inst : FID5
Misc : OP5972,GFD730,30.00,,,2,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: May 31 11:13:07 2012 Quant Results File: DRO-GFD726R.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD726R.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Thu May 31 11:12:59 2012
Response via : Initial Calibration
DataAcq Meth : JH080911.M

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

Compound	R.T.	Response	Conc Units

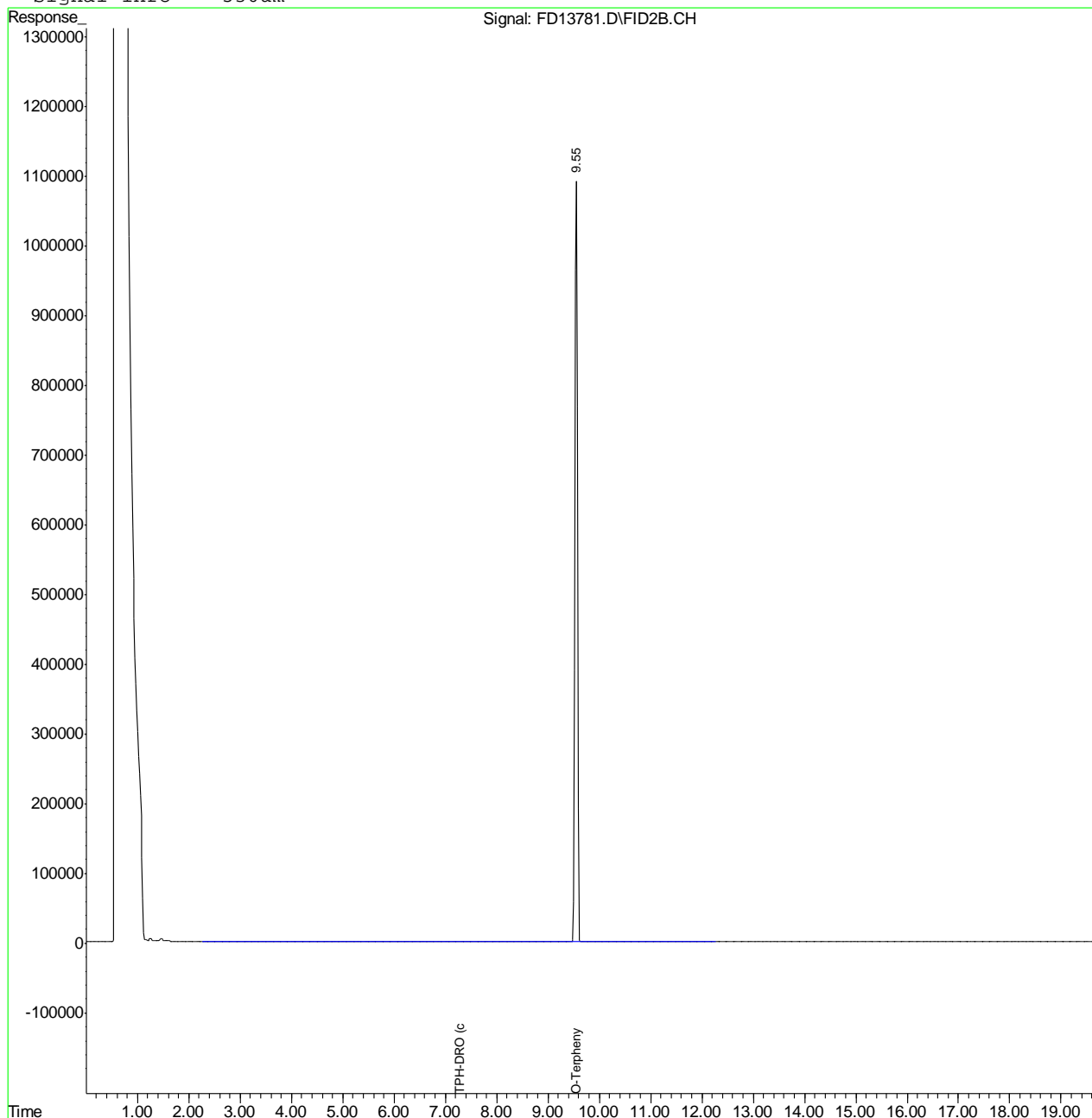
System Monitoring Compounds			
1) S O-Terphenyl	9.55	34690147	774.914 mg/L m
Target Compounds			
2) H TPH-DRO (c10-c28)	7.29	662444	15.457 mg/L

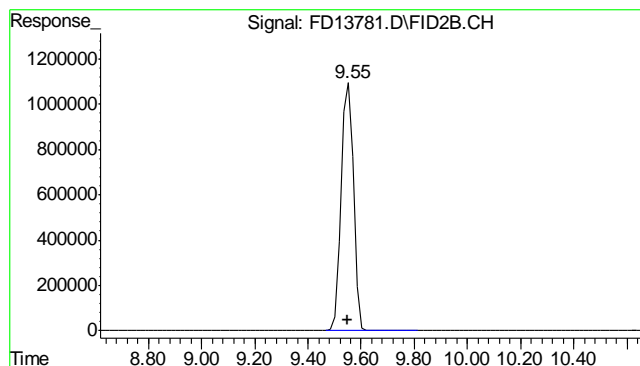
Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\MAY\FD053112\FD13781.D Vial: 53
Acq On : 31 May 2012 10:21 am Operator: ashleyv
Sample : OP5972-MB Inst : FID5
Misc : OP5972,GFD730,30.00,,,2,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: May 31 11:13 2012 Quant Results File: DRO-GFD726R.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD726R.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Thu May 31 11:12:59 2012
Response via : Multiple Level Calibration
DataAcq Meth : JH080911.M

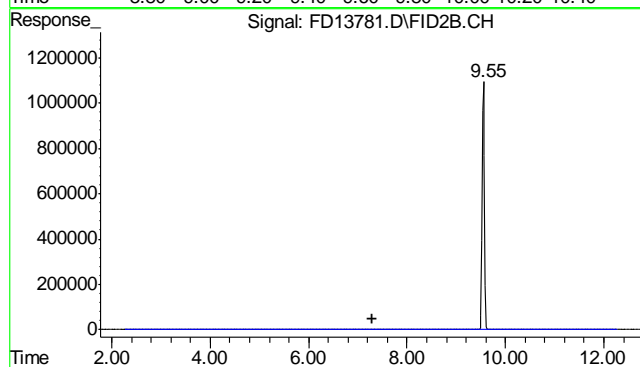
Volume Inj. : 1ul
Signal Phase : RTX-5
Signal Info : 530um





#1 O-Terphenyl

R.T.: 9.549 min
Delta R.T.: 0.000 min
Response: 34690147
Conc: 774.91 mg/L m



#2 TPH-DRO (c10-c28)

R.T.: 7.290 min
Delta R.T.: 0.000 min
Response: 662444
Conc: 15.46 mg/L m

8.2.1

8