



06/06/12

Technical Report for

XTO Energy

FRU 297-8B

1106-06

Accutest Job Number: D34958

Sampling Date: 05/30/12

Report to:

KRW Consulting, Inc.
8000 West 14th Avenue
Lakewood, CO 80214
cburger@krwconsulting.com; dknudson@krwconsulting.com;
jhess@krwconsulting.com; crachak@krwconsulting.com;
ATTN: Dwayne Knudson

Total number of pages in report: 36



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.

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Case Narrative/Conformance Summary	4
Section 3: Sample Results	5
3.1: D34958-1: CUT 2 MB DAY 3 (5/29)	6
Section 4: Misc. Forms	8
4.1: Chain of Custody	9
Section 5: GC Volatiles - QC Data Summaries	11
5.1: Method Blank Summary	12
5.2: Blank Spike Summary	13
5.3: Matrix Spike/Matrix Spike Duplicate Summary	14
Section 6: GC Volatiles - Raw Data	15
6.1: Samples	16
6.2: Method Blanks	21
Section 7: GC Semi-volatiles - QC Data Summaries	26
7.1: Method Blank Summary	27
7.2: Blank Spike Summary	28
7.3: Matrix Spike/Matrix Spike Duplicate Summary	29
Section 8: GC Semi-volatiles - Raw Data	30
8.1: Samples	31
8.2: Method Blanks	34



Sample Summary

XTO Energy

Job No: D34958

FRU 297-8B
Project No: 1106-06

Sample Number	Collected		Time By	Received	Matrix		Client Sample ID
	Date				Code	Type	
D34958-1	05/30/12	10:30	DS	05/31/12	SO	Soil	CUT 2 MB DAY 3 (5/29)

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



CASE NARRATIVE / CONFORMANCE SUMMARY

Client: XTO Energy

Job No D34958

Site: FRU 297-8B

Report Date 6/6/2012 12:50:55 PM

On 05/31/2012, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 4 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D34958 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 GC By Method SW846 8015B

Matrix SO

Batch ID: GGB901

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D34948-1MS, D34948-1MSD were used as the QC samples indicated.

Extractables by GC By Method SW846-8015B

Matrix SO

Batch ID: OP5989

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D34956-1MS, D34956-1MSD were used as the QC samples indicated.

Wet Chemistry By Method SM19 2540B M

Matrix SO

Batch ID: GN15209

- 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 3 (5/29)	
Lab Sample ID:	D34958-1	Date Sampled: 05/30/12
Matrix:	SO - Soil	Date Received: 05/31/12
Method:	SW846 8015B	Percent Solids: 86.3
Project:	FRU 297-8B	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB16183.D	1	05/31/12	SK	n/a	n/a	GGB901
Run #2							

	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)	21.6	13	6.5	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	93%		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 3 (5/29)	Date Sampled:	05/30/12
Lab Sample ID:	D34958-1	Date Received:	05/31/12
Matrix:	SO - Soil	Percent Solids:	86.3
Method:	SW846-8015B SW846 3546		
Project:	FRU 297-8B		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD13844.D	1	06/01/12	AV	06/01/12	OP5989	GFD733
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	326	15	10	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	70%		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

Client / Reporting Information Company Name: KRW CONSULTING Street Address: 8000 W 14TH AVE STE 200 City: LAKEMOOD CO State: 80214 Zip: 80214 Project Contact: DWAYNE KANDSON E-mail: 970 488 1098 Phone #: 970 488 1098 Fax #: 970 488 1098 Sampler(s) Name(s): DAVID SANDERS Phone #: 970 488 1098		Project Information Project Name: XTO FRA 297-8B Street: XTO ENERGY Billing Information (If different from Report to): Company Name: XTO ENERGY Street Address: 21459 CRS City: RIFLE CO State: 81660 Zip: 81660 Project#: 1106-06 Client PO#: JESSICA DOOLING Attention: JESSICA DOOLING		Requested Analysis (see TEST CODE sheet) Matrix Codes: TPH (CRO & DRO) BENZENE DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIO - Other Liquid AIR - Air SOL - Other Solid WP - Waste FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank		PED-EX Tracking # Accutest Quote # Bottle Order Control # D34958 Accutest Job #	
Field ID / Point of Collection MECH/DI Viol # Date Time Sampled by Matrix # of bottles PC NaOH HNO3 H2SO4 NONE DI Water MCH ENCORE Blankfill		Collection Date Time Sampled by Matrix # of bottles PC NaOH HNO3 H2SO4 NONE DI Water MCH ENCORE Blankfill		LAB USE ONLY G1 5/31/12			
Turnaround Time (Business days) <input type="checkbox"/> Std. 10 Business Days <input checked="" type="checkbox"/> Std. 5 Business Days (By Contract only) <input type="checkbox"/> 5 Day R/SH <input type="checkbox"/> 3 Day EMERGENCY <input type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 1 Day EMERGENCY Emergency & Rush TIA data available VIA Lablink		Approved By (Accutest PM) / Date: _____ _____ _____ _____ _____ _____		Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> Commercial "B" + Narrative <input type="checkbox"/> FULLT1 (Level 3+4) Commercial "A" = Results Only Commercial "B" = Results + QC Summary			
State Forms <input type="checkbox"/> EDD Form <input checked="" type="checkbox"/> PDF		Comments / Special Instructions PLEASE EMAIL RESULTS TO KRW PCEANCE TEAM					
Sample Custody must be documented below each time samples change possession, including courier delivery.							
Relinquished by: David Sanders Date Time: 5/30/12		Received By: Jim Green Date Time: 5/30/12		Relinquished By: CO Date Time: 5/31/12			
Relinquished by Sampler: 3 Date Time: 5/30/12		Received By: 5 Date Time: 5/30/12		Relinquished By: 4 Date Time: 5/30/12			
Relinquished by: 5 Date Time: 5/30/12		Received By: 5 Date Time: 5/30/12		Relinquished By: 4 Date Time: 5/30/12			
Custody Seal # C0		<input checked="" type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Preserved where applicable <input type="checkbox"/> On Ice <input checked="" type="checkbox"/> Cooler Temp. 4.0			

D34958: Chain of Custody

Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D34958

Client: KRW

Immediate Client Services Action Required: No

Date / Time Received: 5/31/2012 1:30:00 PM

No. Coolers: 1

Client Service Action Required at Login: No

Project: XTO

Airbill #'s: CO

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

Accutest Laboratories
V:(303) 425-6021

4036 Youngfield Street
F: (303) 425-6854

Wheat Ridge, CO
www.accutest.com

GC Volatiles

5

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: D34958
Account: XTOKRWR XTO Energy
Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB901-MB	GB16176.D	1	05/31/12	SK	n/a	n/a	GGB901

The QC reported here applies to the following samples:

Method: SW846 8015B

D34958-1

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	93% 60-140%

Blank Spike Summary

Page 1 of 1

Job Number: D34958

Account: XTOKRWR XTO Energy

Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB901-BS	GB16177.D	1	05/31/12	SK	n/a	n/a	GGB901

The QC reported here applies to the following samples:

Method: SW846 8015B

D34958-1

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

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	102%	60-140%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D34958
Account: XTOKRWR XTO Energy
Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D34948-1MS	GB16179.D	1	05/31/12	SK	n/a	n/a	GGB901
D34948-1MSD	GB16180.D	1	05/31/12	SK	n/a	n/a	GGB901
D34948-1	GB16178.D	1	05/31/12	SK	n/a	n/a	GGB901

The QC reported here applies to the following samples:

Method: SW846 8015B

D34958-1

CAS No.	Compound	D34948-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		134	140	104	138	103	1	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D34948-1	Limits
120-82-1	1,2,4-Trichlorobenzene	107%	110%	100%	60-140%

GC Volatiles

Raw Data



Judy Melson
06/04/12 09:46

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\053112\GB16183.D\FID1A.CH Vial: 9
 Signal #2 : Y:\1\DATA\053112\GB16183.D\FID2B.CH
 Acq On : 31 May 2012 6:49 pm Operator: StephK
 Sample : D34958-1, 50X Inst : GC/MS Ins
 Misc : GC2876,GGB901,5.080,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Jun 01 09:10:51 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 15:13:36 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	14.34	2909613	92.858 %	m
10) S 1,2,4-Trichlorobenzene (P)	14.34	19381877	119.253 %	
Target Compounds				
1) H TVH-Gasoline	7.23	23018196	0.333 mg/L	
4) T Methyl-t-butyl-ether	0.00	0	N.D. ug/L	d
5) T Benzene	4.10	117551	0.292 ug/L	
6) T Toluene	7.61	4056468	10.237 ug/L	
7) T Ethylbenzene	10.25	1059776	3.133 ug/L	
8) T m,p-Xylene	10.42	4647849	12.361 ug/L	
9) T o-Xylene	10.93	368610	1.123 ug/L	
11) T Naphthalene	14.53	2394833	12.137 ug/L	

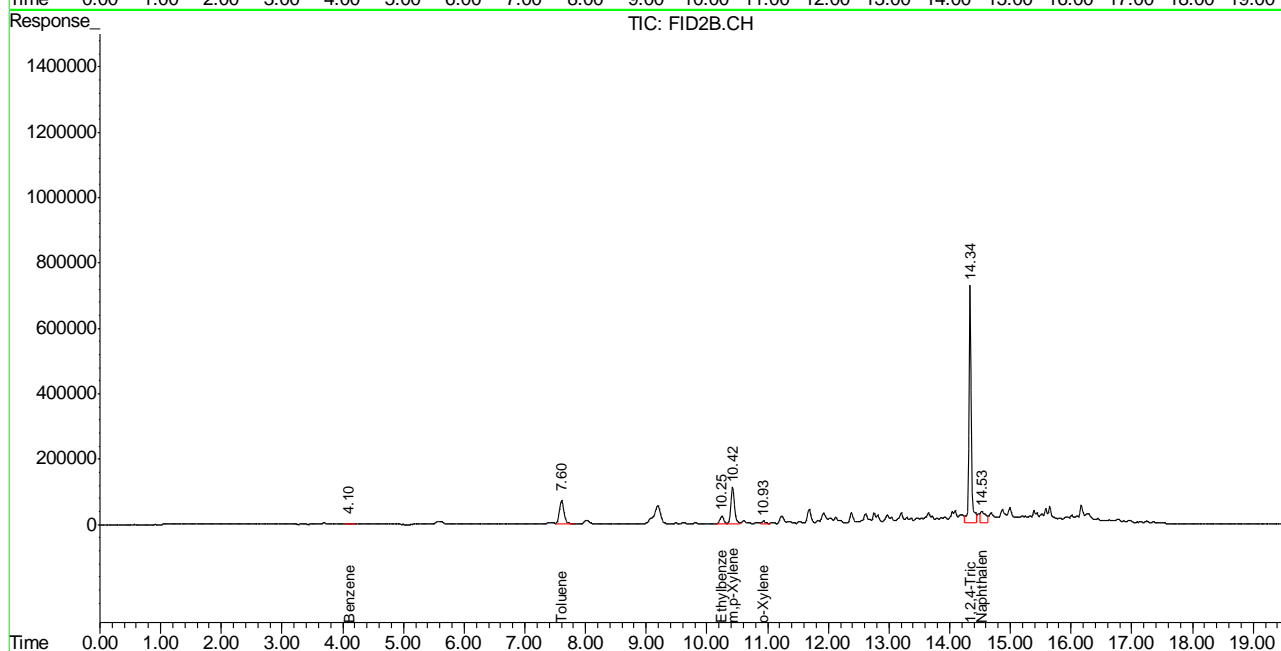
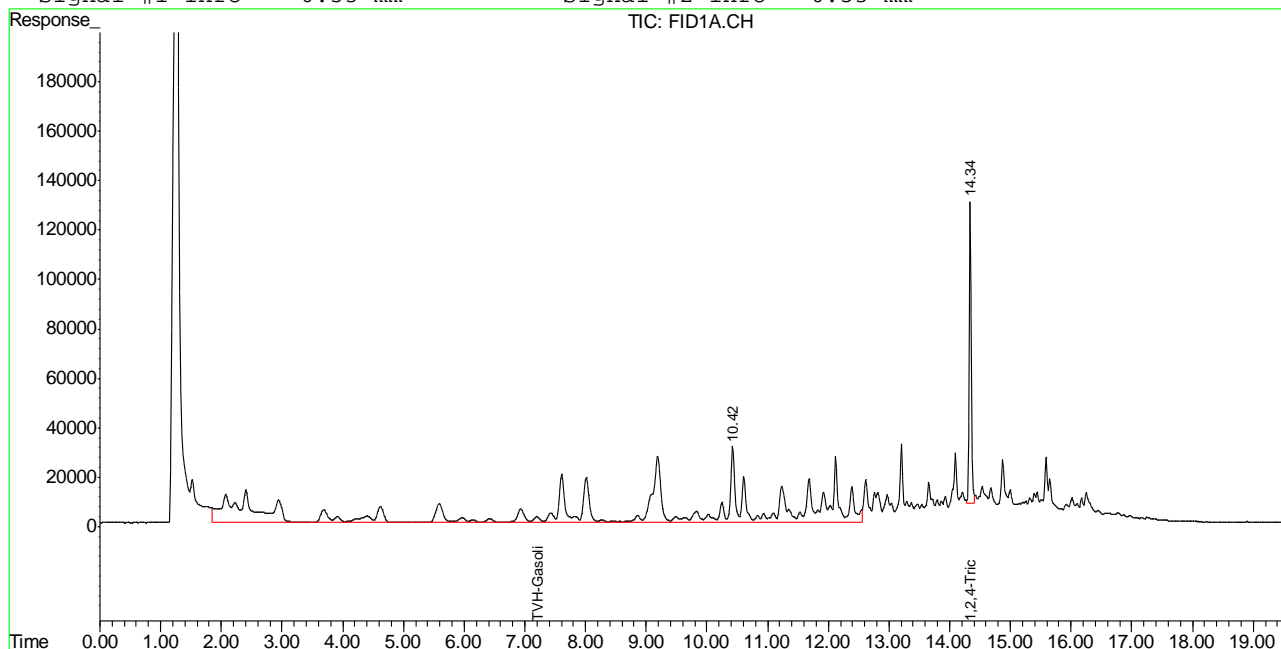
(f)=RT Delta > 1/2 Window (m)=manual int.
 GB16183.D TB868GB868SOIL.M Fri Jun 01 09:16:46 2012 GC

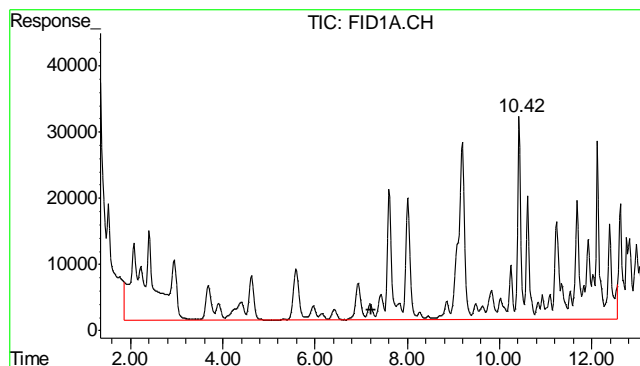
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\053112\GB16183.D\FID1A.CH Vial: 9
Signal #2 : Y:\1\DATA\053112\GB16183.D\FID2B.CH
Acq On : 31 May 2012 6:49 pm Operator: StephK
Sample : D34958-1, 50X Inst : GC/MS Ins
Misc : GC2876,GGB901,5.080,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Jun 1 8:18 2012 Quant Results File: TB868GB868SOIL.RES

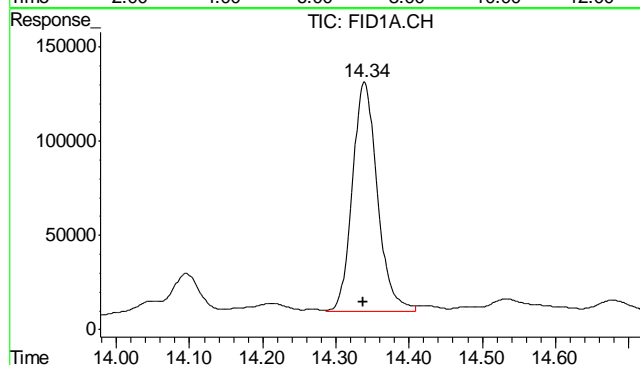
Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Wed May 30 15:13:36 2012
Response via : Multiple Level Calibration
DataAcq Meth : TVB4.M

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

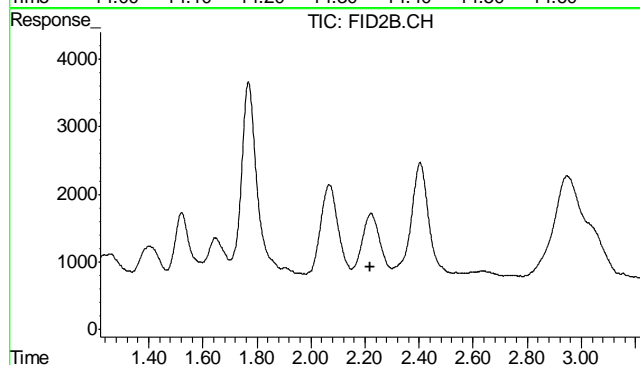




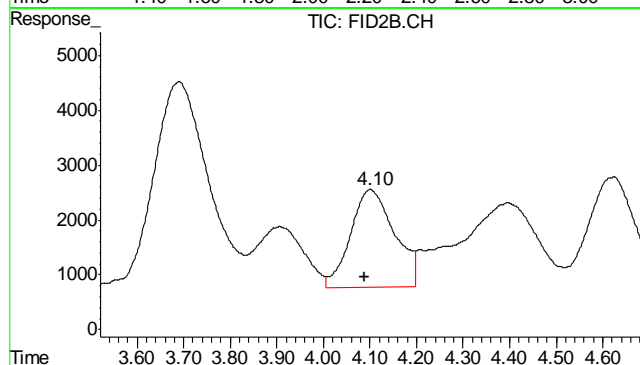
#1 TVH-Gasoline
 R.T.: 7.230 min
 Delta R.T.: 0.000 min
 Response: 23018196
 Conc: 0.33 mg/L m



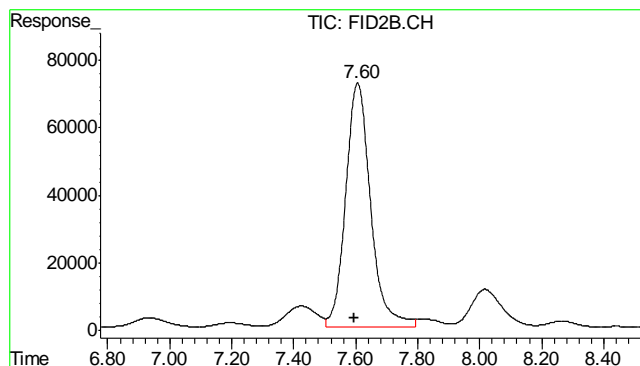
#2 1,2,4-Trichlorobenzene
 R.T.: 14.339 min
 Delta R.T.: 0.000 min
 Response: 2909613
 Conc: 92.86 % m



#4 Methyl-t-butyl-ether
 R.T.: 0.000 min
 Exp R.T.: 2.220 min
 Response: 0
 Conc: N.D.

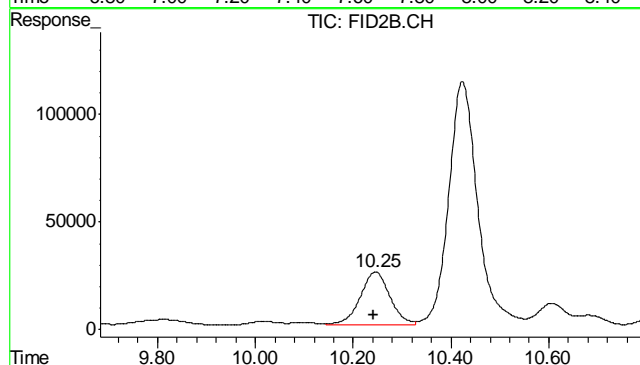


#5 Benzene
 R.T.: 4.101 min
 Delta R.T.: 0.012 min
 Response: 117551
 Conc: 0.29 ug/L



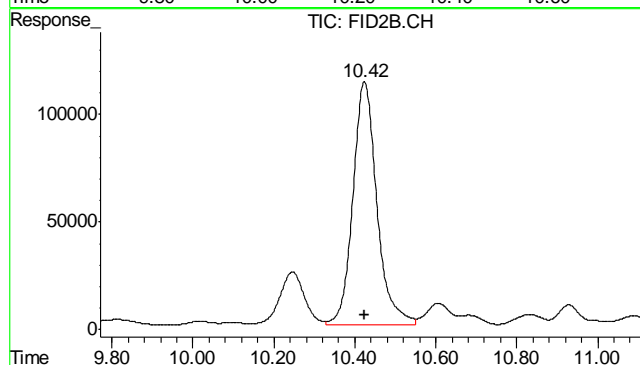
#6 Toluene

R.T.: 7.606 min
Delta R.T.: 0.009 min
Response: 4056468
Conc: 10.24 ug/L



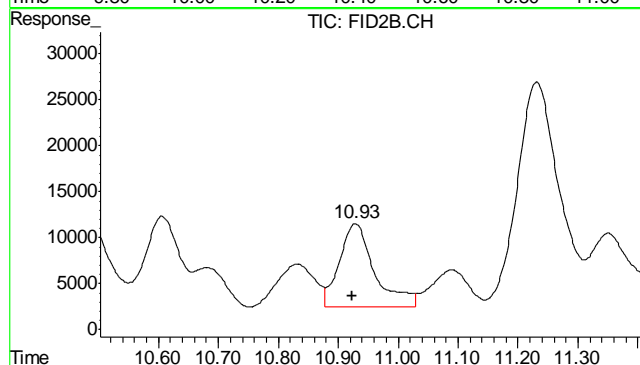
#7 Ethylbenzene

R.T.: 10.246 min
Delta R.T.: 0.005 min
Response: 1059776
Conc: 3.13 ug/L



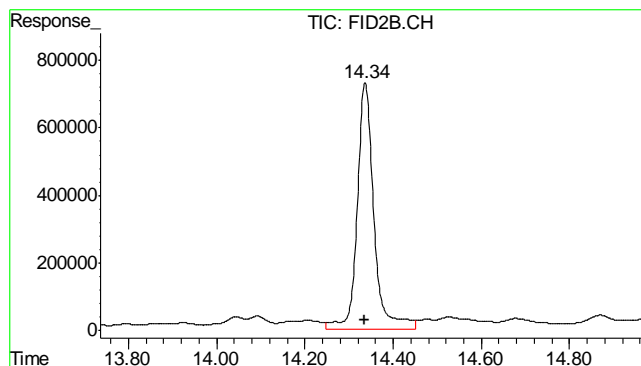
#8 m,p-Xylene

R.T.: 10.424 min
Delta R.T.: 0.000 min
Response: 4647849
Conc: 12.36 ug/L



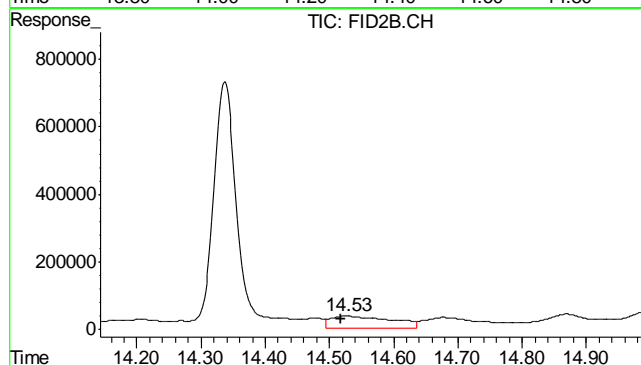
#9 o-Xylene

R.T.: 10.929 min
Delta R.T.: 0.005 min
Response: 368610
Conc: 1.12 ug/L



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

R.T.: 14.337 min
Delta R.T.: 0.000 min
Response: 19381877
Conc: 119.25 %



#11 Naphthalene

R.T.: 14.527 min
Delta R.T.: 0.009 min
Response: 2394833
Conc: 12.14 ug/L

6.1.1

6

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\053112\GB16176.D\FID1A.CH Vial: 2
 Signal #2 : Y:\1\DATA\053112\GB16176.D\FID2B.CH
 Acq On : 31 May 2012 2:42 pm Operator: StephK
 Sample : MB Inst : GC/MS Ins
 Misc : GC2876,GGB901,5.000,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: May 31 15:36:42 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 15:13:36 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	14.36	2926733	93.404	%
10) S	1,2,4-Trichlorobenzene (P)	14.36	16761274	103.129	%
Target Compounds					
1) H	TVH-Gasoline	7.23	4429047	<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	7.65	165655	0.418	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	14.54	317286	1.608	ug/L

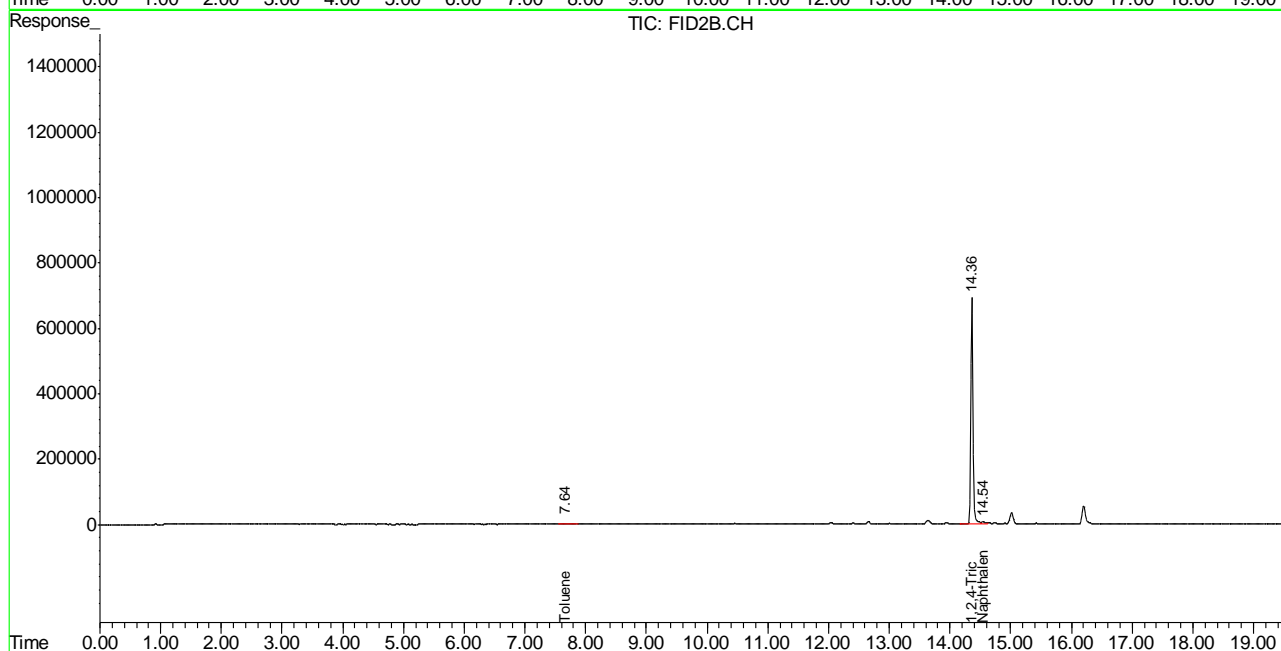
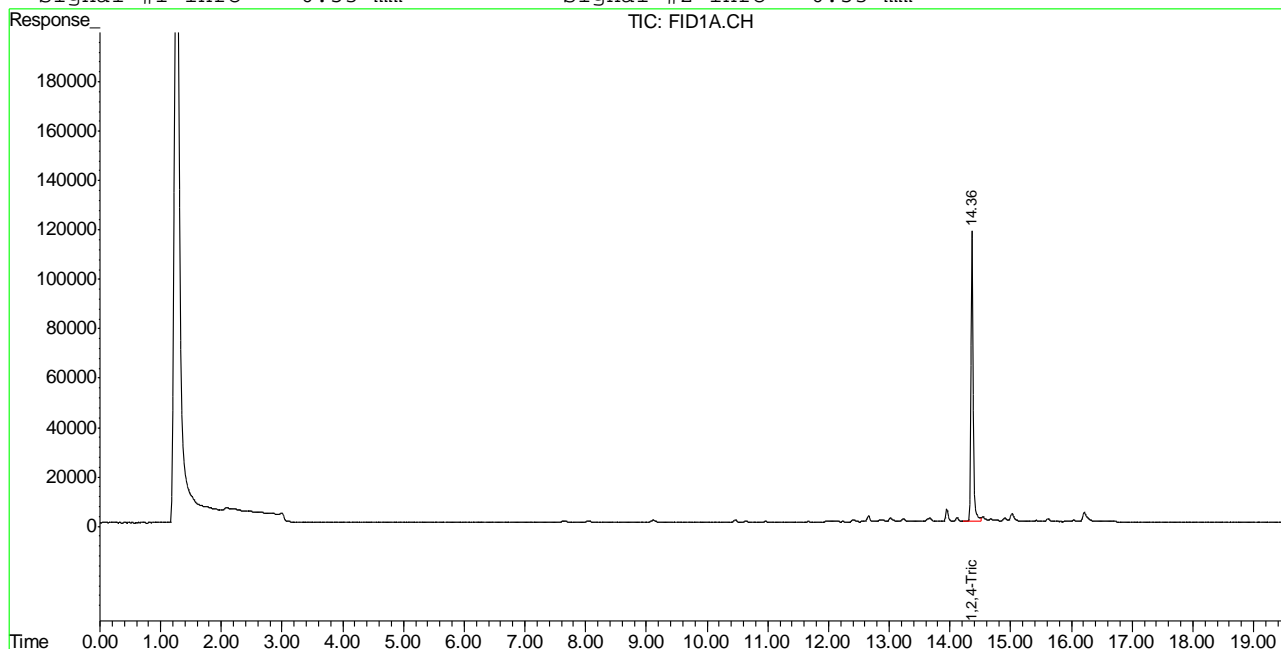
 (f)=RT Delta > 1/2 Window (m)=manual int.
 GB16176.D TB868GB868SOIL.M Fri Jun 01 09:16:25 2012 GC

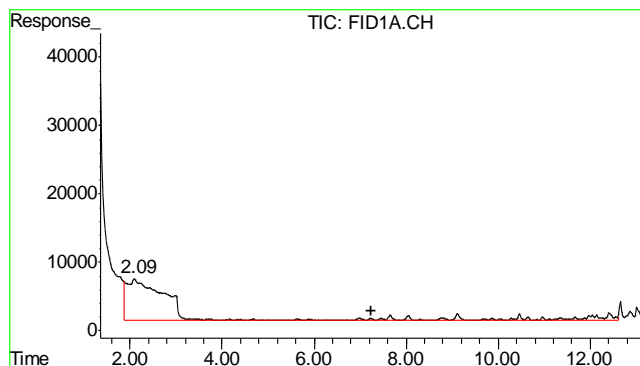
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\053112\GB16176.D\FID1A.CH Vial: 2
Signal #2 : Y:\1\DATA\053112\GB16176.D\FID2B.CH
Acq On : 31 May 2012 2:42 pm Operator: StephK
Sample : MB Inst : GC/MS Ins
Misc : GC2876,GGB901,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: May 31 14:40 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 15:13:36 2012
Response via : Multiple Level Calibration
DataAcq Meth : TVB4.M

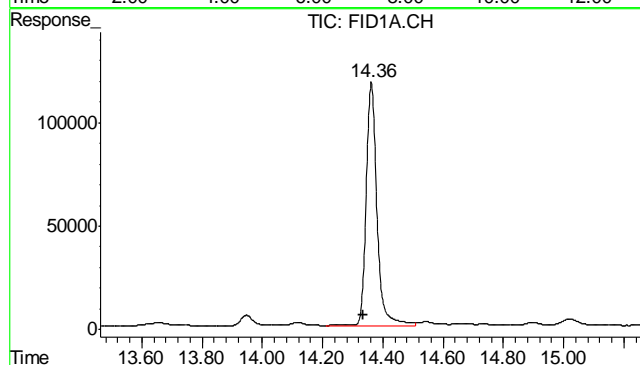
Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





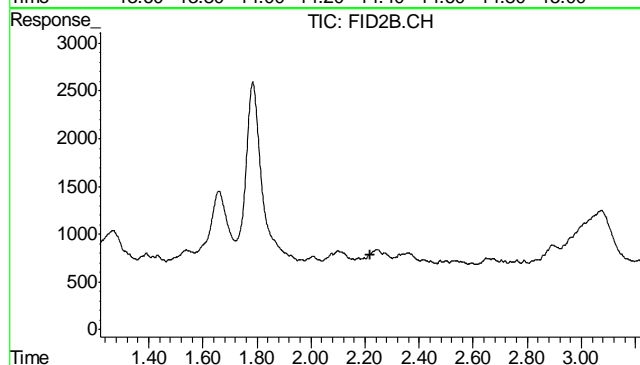
#1 TVH-Gasoline

R.T.: 7.230 min
Delta R.T.: 0.000 min
Response: 4429047
Conc: N.D.



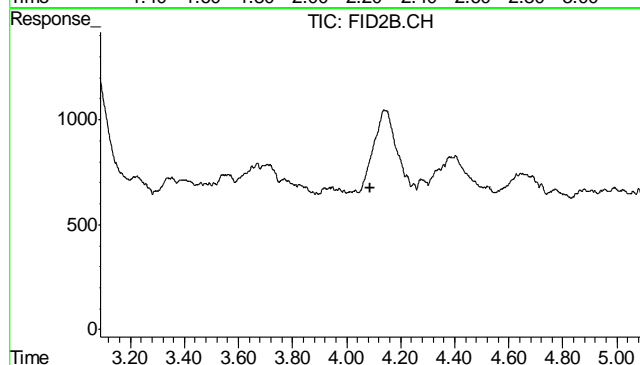
#2 1,2,4-Trichlorobenzene

R.T.: 14.362 min
Delta R.T.: 0.025 min
Response: 2926733
Conc: 93.40 %



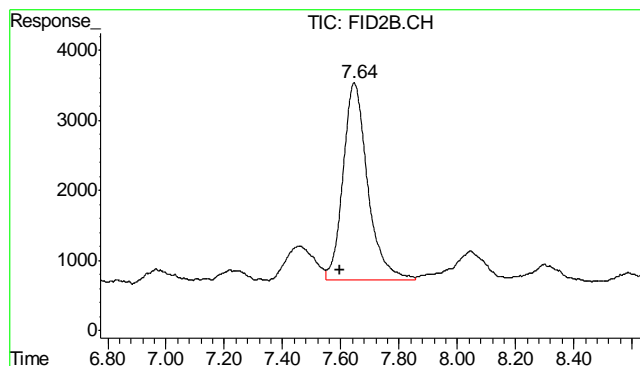
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T.: 2.220 min
Response: 0
Conc: N.D.



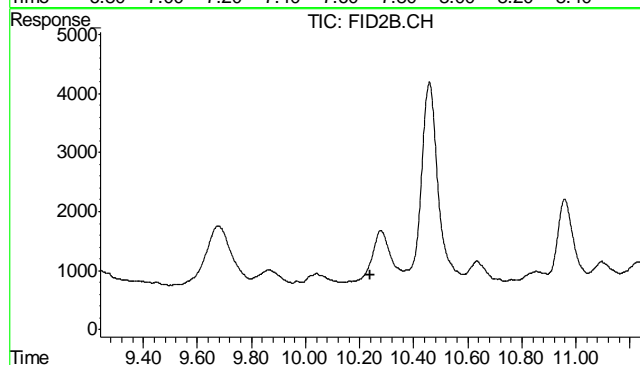
#5 Benzene

R.T.: 0.000 min
Exp R.T.: 4.089 min
Response: 0
Conc: N.D.



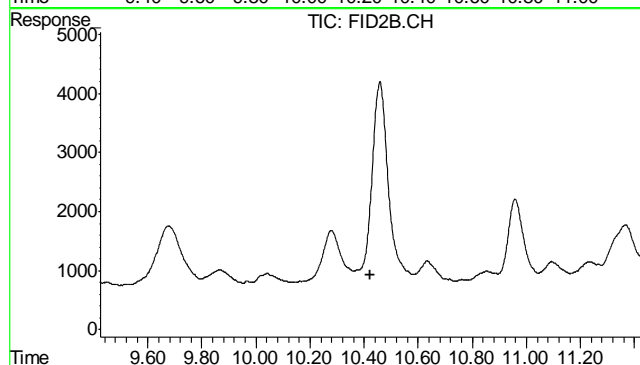
#6 Toluene

R.T.: 7.646 min
Delta R.T.: 0.049 min
Response: 165655
Conc: 0.42 ug/L



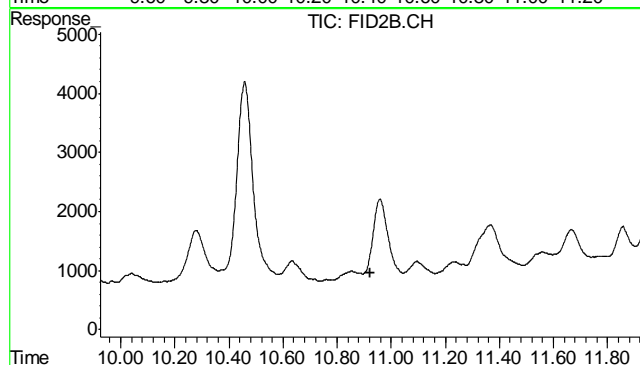
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T. : 10.241 min
Response: 0
Conc: N.D.



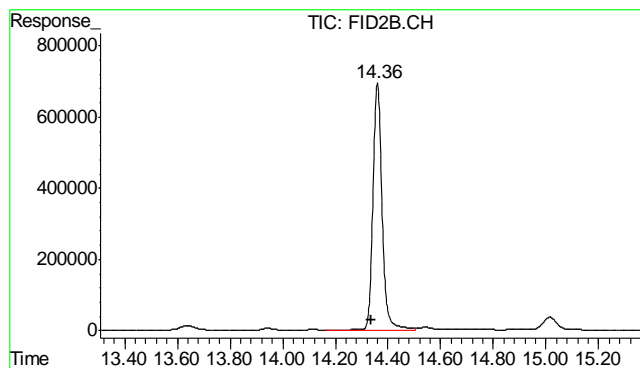
#8 m,p-Xylene

R.T.: 0.000 min
Exp R.T. : 10.424 min
Response: 0
Conc: N.D.



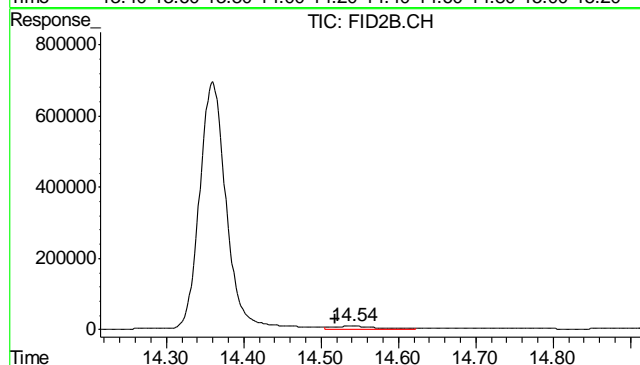
#9 o-Xylene

R.T.: 0.000 min
Exp R.T. : 10.924 min
Response: 0
Conc: N.D.



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

R.T.: 14.360 min
Delta R.T.: 0.024 min
Response: 16761274
Conc: 103.13 %



#11 Naphthalene

R.T.: 14.540 min
Delta R.T.: 0.022 min
Response: 317286
Conc: 1.61 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: D34958
Account: XTOKRWR XTO Energy
Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5989-MB	FD13840.D	1	06/01/12	AV	06/01/12	OP5989	GFD733

The QC reported here applies to the following samples:

Method: SW846-8015B

D34958-1

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	87% 43-136%

Blank Spike Summary

Page 1 of 1

Job Number: D34958

Account: XTOKRWR XTO Energy

Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5989-BS	FD13841.D	1	06/01/12	AV	06/01/12	OP5989	GFD733

The QC reported here applies to the following samples:

Method: SW846-8015B

D34958-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	436	65	58-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	77%	43-136%

7.2.1

7

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D34958
Account: XTOKRWR XTO Energy
Project: FRU 297-8B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5989-MS	FD13868.D	10	06/02/12	AW	06/01/12	OP5989	GFD735
OP5989-MSD	FD13869.D	10	06/02/12	AW	06/01/12	OP5989	GFD735
D34956-1	FD13870.D	10	06/02/12	AW	06/01/12	OP5989	GFD735

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

D34958-1

CAS No.	Compound	D34956-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	6070		728	7330	173	7210	157	2	20-183/43

CAS No.	Surrogate Recoveries	MS	MSD	D34956-1	Limits
84-15-1	o-Terphenyl	73%	67%	56%	43-136%

7.3.1
7

GC Semi-volatiles

Raw Data



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\JUNE\FD060112\FD13844.D Vial: 75
Acq On : 6-1-2012 08:05:37 PM Operator: ashleyv
Sample : D34958-1 Inst : FID5
Misc : OP5989,GFD733,30.01,,,2,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 04 11:44:02 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	9.56	31329819	699.850 mg/L
Target Compounds			
2) H TPH-DRO (c10-c28)	7.29	180720003	4216.658 mg/L

8.1.1

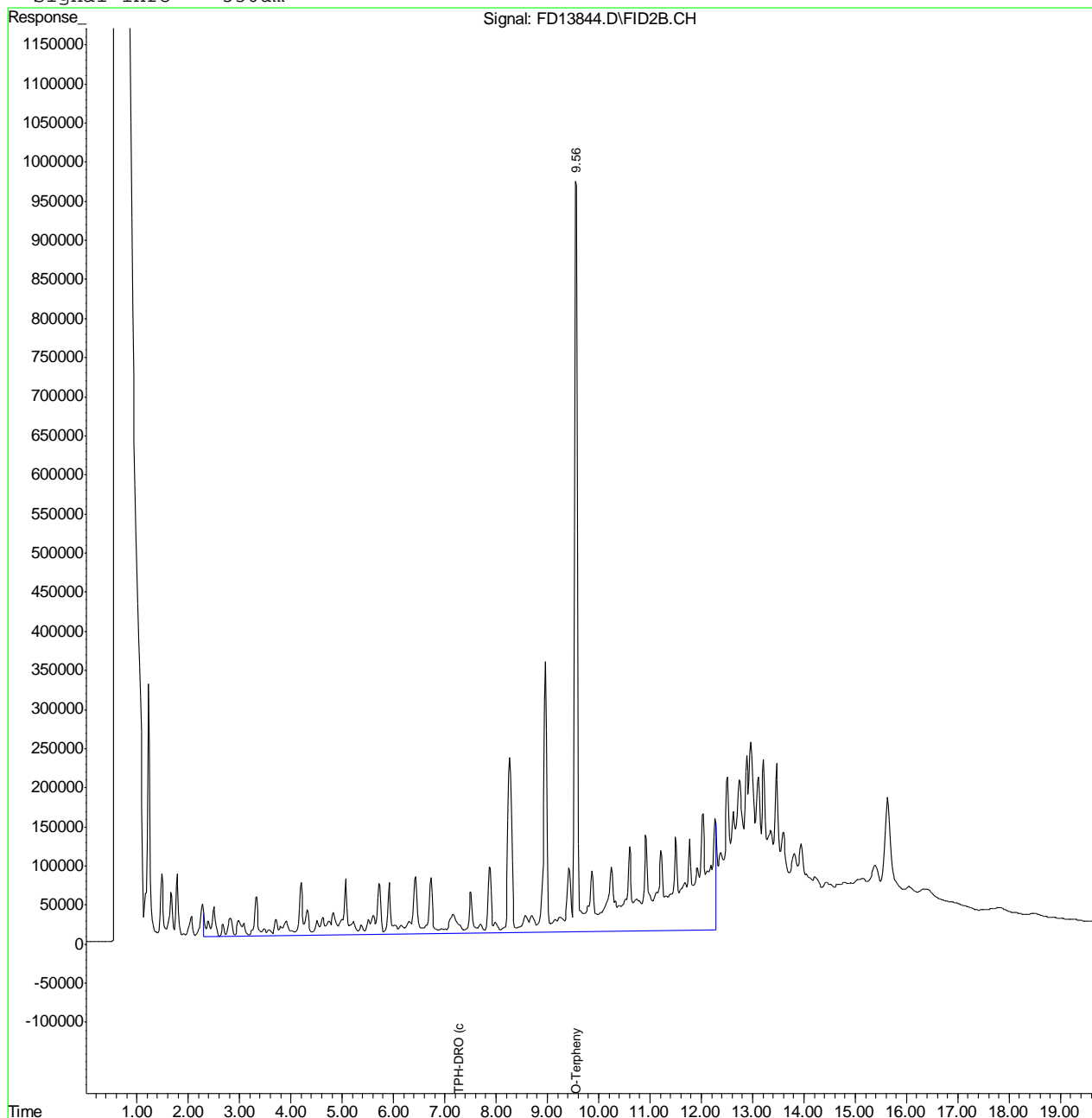
8

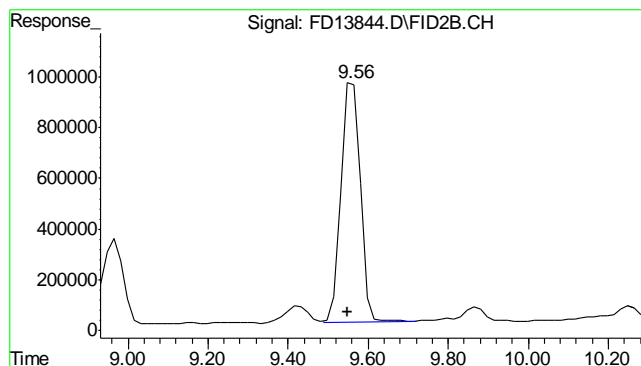
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\JUNE\FD060112\FD13844.D Vial: 75
Acq On : 6-1-2012 08:05:37 PM Operator: ashleyv
Sample : D34958-1 Inst : FID5
Misc : OP5989,GFD733,30.01,,,2,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 4 11:44 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

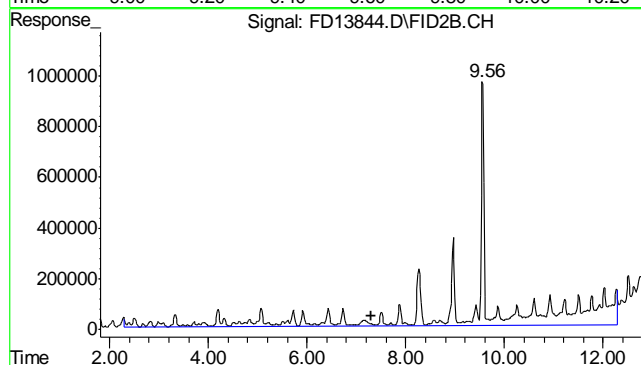
Volume Inj. : 1ul
Signal Phase : RTX-5
Signal Info : 530um





#1 O-Terphenyl

R.T.: 9.563 min
 Delta R.T.: 0.013 min
 Response: 31329819
 Conc: 699.85 mg/L



#2 TPH-DRO (c10-c28)

R.T.: 7.290 min
 Delta R.T.: 0.000 min
 Response: 180720003
 Conc: 4216.66 mg/L m

8.1.1

8

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\JUNE\FD060112\FD13840.D Vial: 71
Acq On : 6-1-2012 06:22:16 PM Operator: ashleyv
Sample : OP5989-MB Inst : FID5
Misc : OP5989,GFD733,30.00,,,2,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 02 09:12:03 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	9.57	38825526	867.290 mg/L
Target Compounds			
2) H TPH-DRO (c10-c28)	7.29	1726579	40.285 mg/L

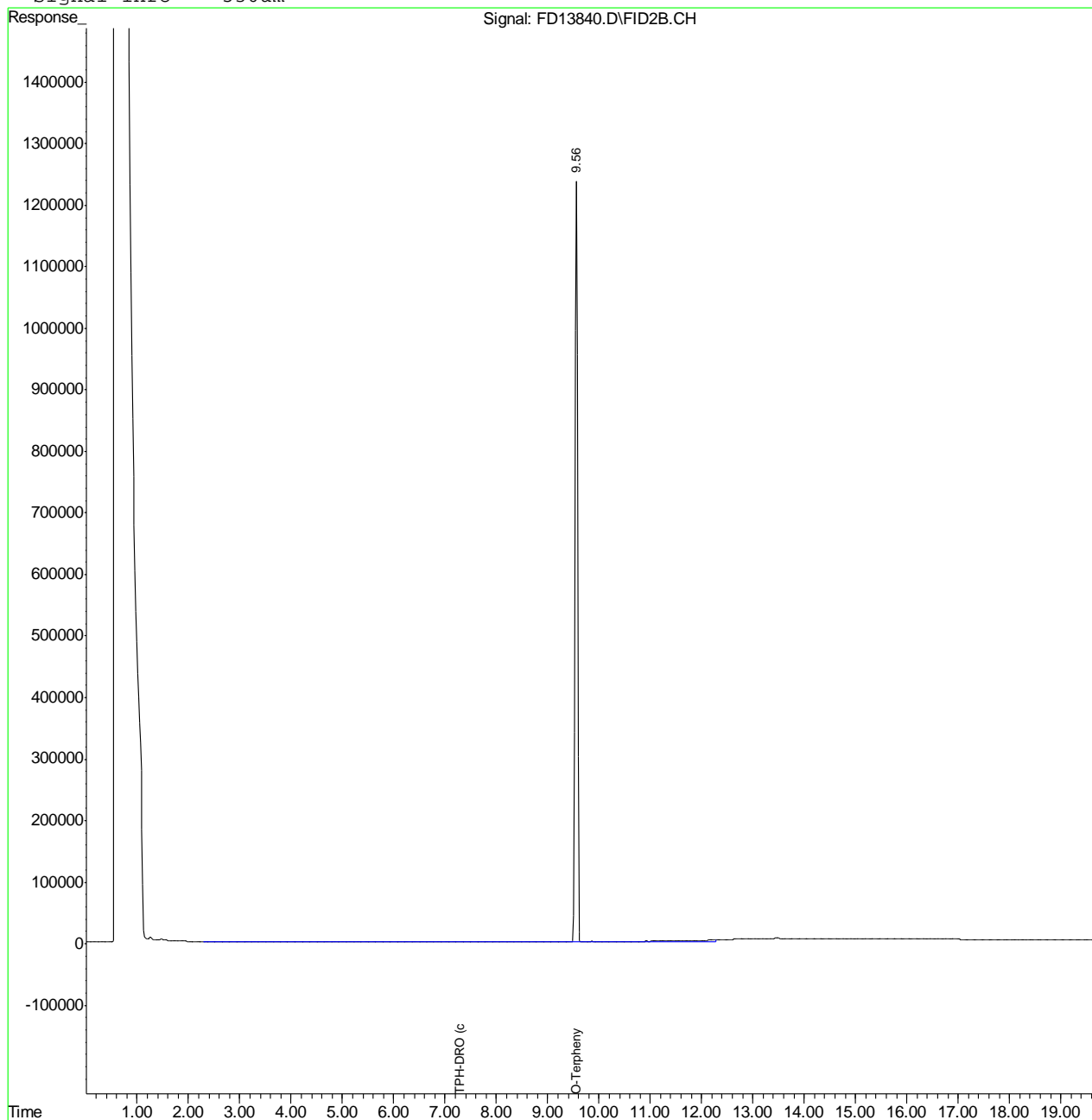
(f)=RT Delta > 1/2 Window (m)=manual int.
FD13840.D DRO-GFD726R.M Mon Jun 04 09:00:48 2012 GC

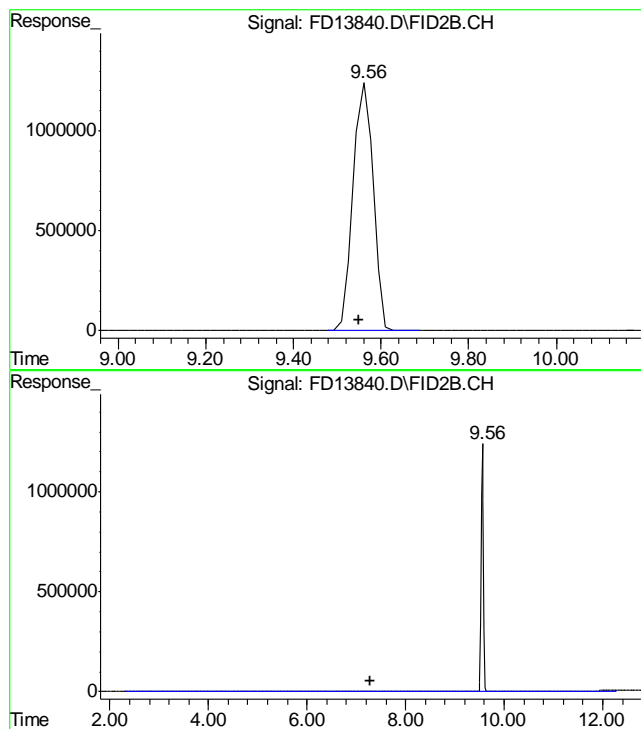
Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\JUNE\FD060112\FD13840.D Vial: 71
Acq On : 6-1-2012 06:22:16 PM Operator: ashleyv
Sample : OP5989-MB Inst : FID5
Misc : OP5989,GFD733,30.00,,,2,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 2 9:12 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.: 9.565 min
Delta R.T.: 0.015 min
Response: 38825526
Conc: 867.29 mg/L

#2 TPH-DRO (c10-c28)

R.T.: 7.290 min
Delta R.T.: 0.000 min
Response: 1726579
Conc: 40.29 mg/L m

8.2.1

8