



02/28/12

## Technical Report for

**XTO Energy**

**FRU 297-28C**

**1108-08A**

**Accutest Job Number: D32208**

**Sampling Date: 02/24/12**

### Report to:

KRW Consulting, Inc.  
8000 West 14th Avenue  
Lakewood, CO 80214  
cburger@krwconsulting.com; gknell@krwconsulting.com;  
dknudson@krwconsulting.com; jhess@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)

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: D32208

FRU 297-28C  
Project No: 1108-08A

Sample Number	Collected		Time By	Received	Matrix		Client Sample ID
	Date				Code	Type	
D32208-1	02/24/12	09:10	CH	02/27/12	SO	Soil	FW SUBLINER POST M/B

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

## CASE NARRATIVE / CONFORMANCE SUMMARY

**Client:** XTO Energy**Job No** D32208**Site:** FRU 297-28C**Report Date** 2/28/2012 5:03:17 PM

On 02/27/2012, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 4.5 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D32208 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:** GGB848

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D32208-1MS, D32208-1MSD were used as the QC samples indicated.

### Extractables by GC By Method SW846-8015B

**Matrix** SO**Batch ID:** OP5440

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D32208-1MS, D32208-1MSD were used as the QC samples indicated.

### Wet Chemistry By Method SM19 2540B M

**Matrix** SO**Batch ID:** GN13861

- 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:	FW SUBLINER POST M/B			Date Sampled:	02/24/12
Lab Sample ID:	D32208-1			Date Received:	02/27/12
Matrix:	SO - Soil			Percent Solids:	87.1
Method:	SW846 8015B				
Project:	FRU 297-28C				

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB15091.D	1	02/27/12	SK	n/a	n/a	GGB848
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	13	6.4	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	96%		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

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## Report of Analysis

Page 1 of 1

Client Sample ID:	FW SUBLINER POST M/B			Date Sampled:	02/24/12
Lab Sample ID:	D32208-1			Date Received:	02/27/12
Matrix:	SO - Soil			Percent Solids:	87.1
Method:	SW846-8015B SW846 3546				
Project:	FRU 297-28C				

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH001741.D	1	02/28/12	TR	02/27/12	OP5440	GFH90
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)	29.4	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

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job # <b>D32208</b>

[illegible]

## D32208: Chain of Custody

Page 1 of 2

## Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** D32208

**Client:** KRW CONSULTING

**Immediate Client Services Action Required:** No

**Date / Time Received:** 2/27/2012 12:00:00 PM

**No. Coolers:** 1

**Client Service Action Required at Login:** No

**Project:** XTO FRU 297-28C

**Airbill #'s:** Fedex

<u>Cooler Security</u>	<u>Y</u>	<u>or</u>	<u>N</u>		<u>Y</u>	<u>or</u>	<u>N</u>
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"/>

<u>Cooler Temperature</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Cooler temp verification:			Infrared gun
3. Cooler media:			Ice (bag)

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
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"/>

<u>Sample Integrity - Documentation</u>	<u>Y</u>	<u>or</u>	<u>N</u>
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"/>

<u>Sample Integrity - Condition</u>	<u>Y</u>	<u>or</u>	<u>N</u>
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

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
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

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: D32208

Account: XTOKRWR XTO Energy

Project: FRU 297-28C

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB848-MB	GB15089.D	1	02/27/12	SK	n/a	n/a	GGB848

The QC reported here applies to the following samples:

Method: SW846 8015B

D32208-1

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	101% 60-140%

## Blank Spike Summary

Page 1 of 1

Job Number: D32208

Account: XTOKRWR XTO Energy

Project: FRU 297-28C

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB848-BS	GB15090.D	1	02/27/12	SK	n/a	n/a	GGB848

The QC reported here applies to the following samples:

Method: SW846 8015B

D32208-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	108	98	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	110%	60-140%

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D32208  
Account: XTOKRWR XTO Energy  
Project: FRU 297-28C

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D32208-1MS	GB15092.D	1	02/27/12	SK	n/a	n/a	GGB848
D32208-1MSD	GB15093.D	1	02/27/12	SK	n/a	n/a	GGB848
D32208-1	GB15091.D	1	02/27/12	SK	n/a	n/a	GGB848

The QC reported here applies to the following samples:

Method: SW846 8015B

D32208-1

CAS No.	Compound	D32208-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		142	139	98	141	99	1	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D32208-1	Limits
120-82-1	1,2,4-Trichlorobenzene	102%	106%	96%	60-140%

## GC Volatiles

## Raw Data



## Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\022712\GB15091.D\FID1A.CH Vial: 5  
 Signal #2 : Y:\1\DATA\022712\GB15091.D\FID2B.CH  
 Acq On : 27 Feb 2012 4:12 pm Operator: StephK  
 Sample : D32208-1, 50X Inst : GC/MS Ins  
 Misc : GC2638,GGB848,5.028,,100,5,1 Multiplr: 1.00  
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
 Quant Time: Feb 27 17:24:10 2012 Quant Results File: TB846GB846SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB846GB846SOIL.M (Chemstation Integrator)  
 Title : 8015B/8021B TVH/BTEX  
 Last Update : Sat Feb 25 09:47:45 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	2739293	95.646	%
10) S	1,2,4-Trichlorobenzene (P)	14.34	22228251	97.668	%
Target Compounds					
1) H	TVH-Gasoline	7.28	4970114	<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	7.60	225489	0.427	ug/L
7) T	Ethylbenzene	0.00	0	N.D.	ug/L d
8) T	m,p-Xylene	10.43	243121	0.445	ug/L
9) T	o-Xylene	10.93	85619	0.195	ug/L
11) T	Naphthalene	14.52	639681	2.662	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.  
 GB15091.D TB846GB846SOIL.M Tue Feb 28 09:25:11 2012 GC

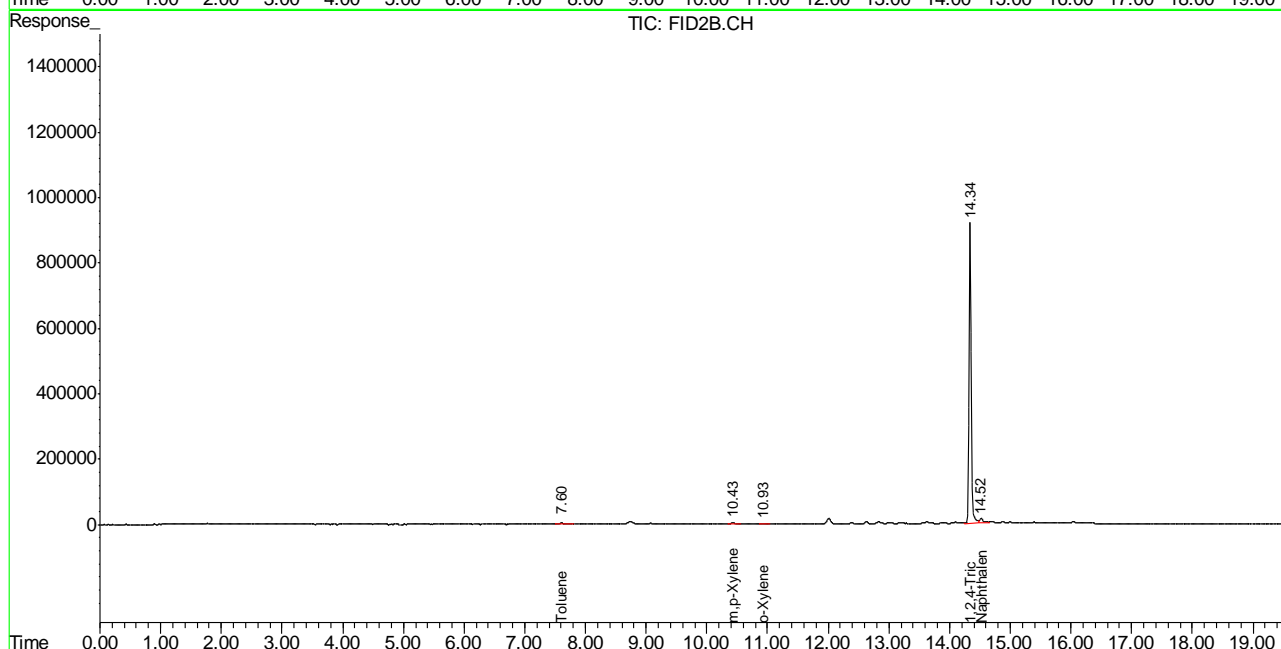
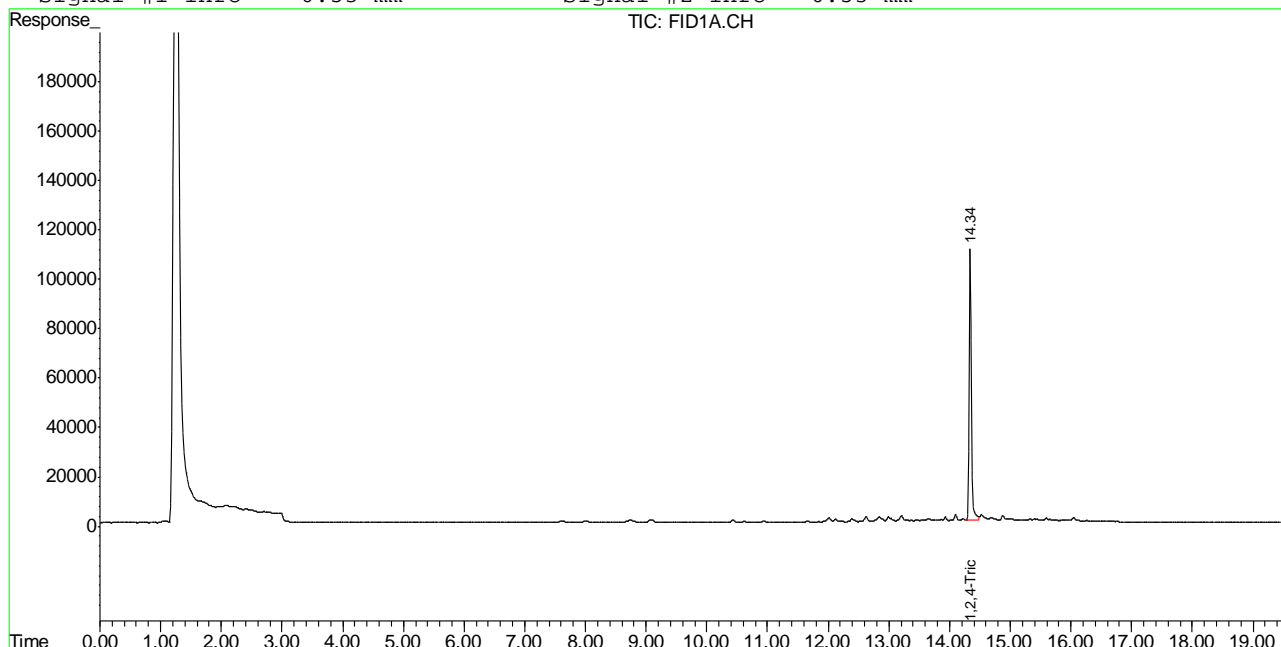


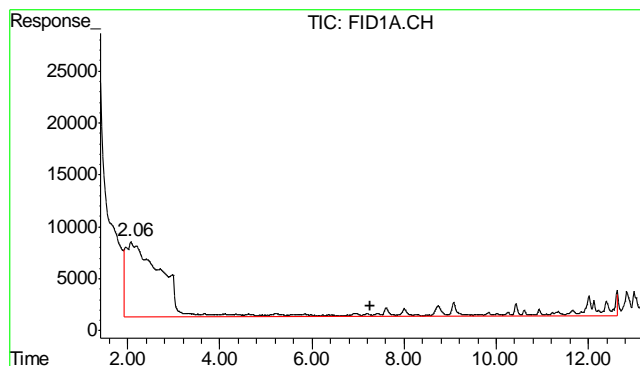
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\022712\GB15091.D\FID1A.CH Vial: 5  
 Signal #2 : Y:\1\DATA\022712\GB15091.D\FID2B.CH  
 Acq On : 27 Feb 2012 4:12 pm Operator: StephK  
 Sample : D32208-1, 50X Inst : GC/MS Ins  
 Misc : GC2638,GGB848,5.028,,100,5,1 Multiplr: 1.00  
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
 Quant Time: Feb 27 16:26 2012 Quant Results File: TB846GB846SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB846GB846SOIL.M (Chemstation Integrator)  
 Title : 8015B/8021B TVH/BTEX  
 Last Update : Sat Feb 25 09:47:45 2012  
 Response via : Multiple Level Calibration  
 DataAcq Meth : TVB4.M

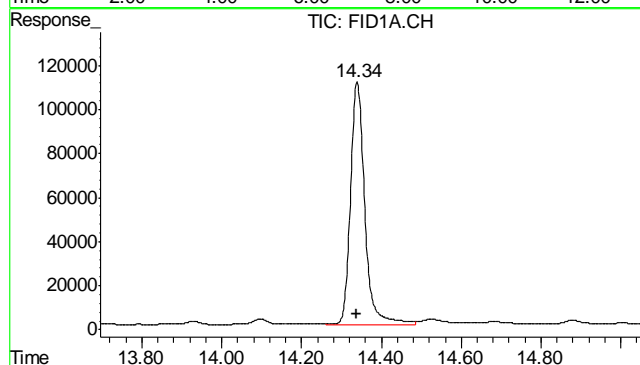
Volume Inj. :  
 Signal #1 Phase : DB-624 Signal #2 Phase: DB-624  
 Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





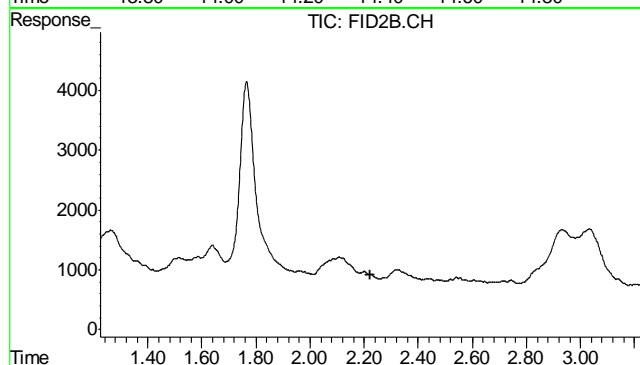
#1 TVH-Gasoline

R.T.: 7.275 min  
Delta R.T.: 0.000 min  
Response: 4970114  
Conc: N.D.



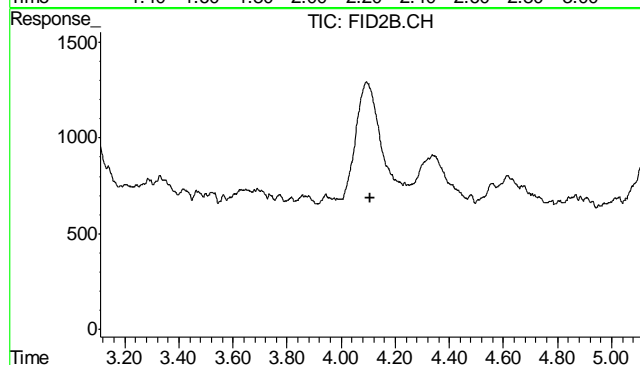
#2 1,2,4-Trichlorobenzene

R.T.: 14.340 min  
Delta R.T.: 0.002 min  
Response: 2739293  
Conc: 95.65 %



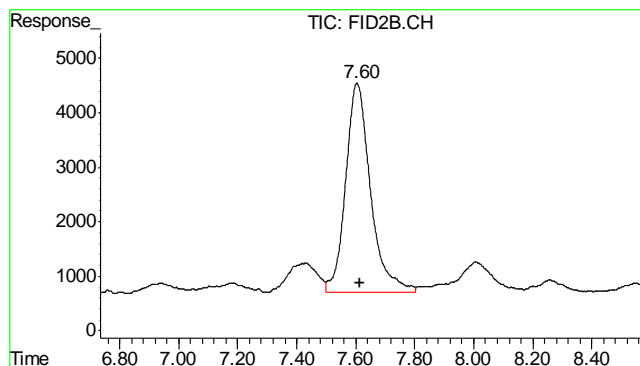
#4 Methyl-t-butyl-ether

R.T.: 0.000 min  
Exp R.T.: 2.224 min  
Response: 0  
Conc: N.D.



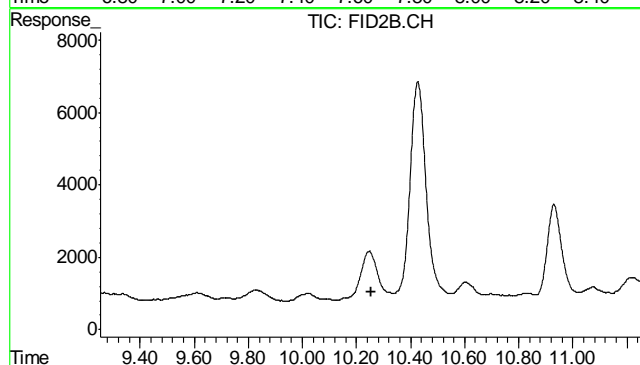
#5 Benzene

R.T.: 0.000 min  
Exp R.T.: 4.108 min  
Response: 0  
Conc: N.D.



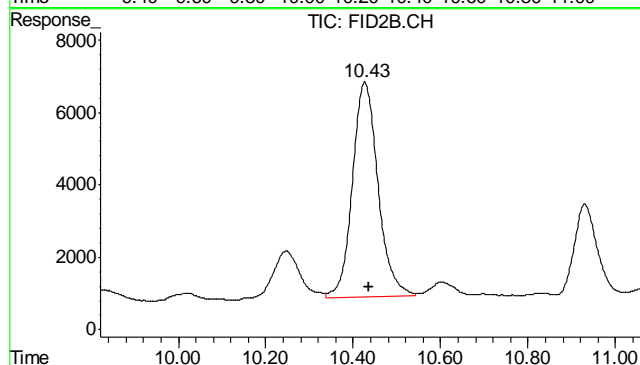
#6 Toluene

R.T.: 7.604 min  
Delta R.T.: -0.011 min  
Response: 225489  
Conc: 0.43 ug/L



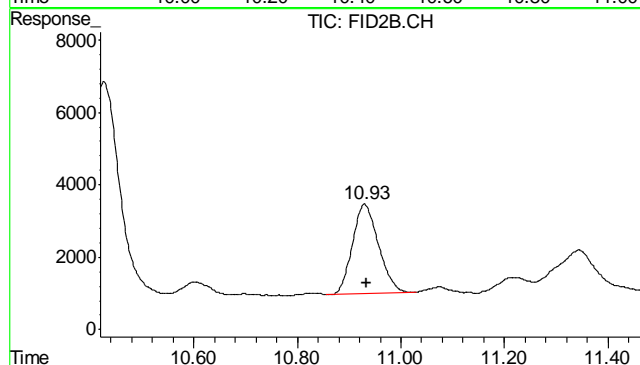
#7 Ethylbenzene

R.T.: 0.000 min  
Exp R.T.: 10.253 min  
Response: 0  
Conc: N.D.



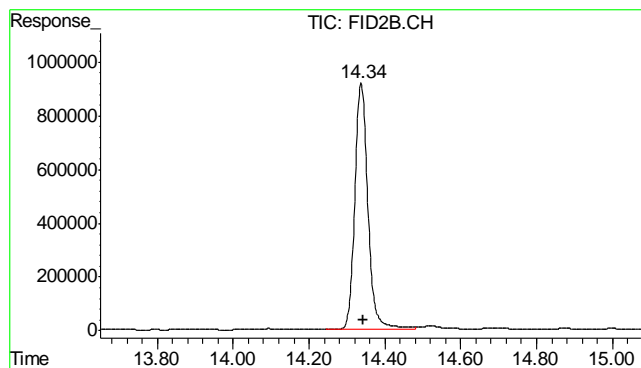
#8 m,p-Xylene

R.T.: 10.426 min  
Delta R.T.: -0.009 min  
Response: 243121  
Conc: 0.45 ug/L



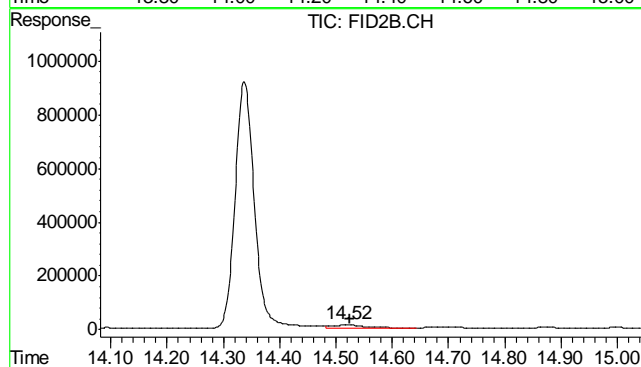
#9 o-Xylene

R.T.: 10.930 min  
Delta R.T.: -0.005 min  
Response: 85619  
Conc: 0.20 ug/L



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

R.T.: 14.338 min  
 Delta R.T.: -0.006 min  
 Response: 22228251  
 Conc: 97.67 %



#11 Naphthalene

R.T.: 14.520 min  
 Delta R.T.: -0.005 min  
 Response: 639681  
 Conc: 2.66 ug/L

6.1.1

6

## Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\022712\GB15089.D\FID1A.CH Vial: 3  
 Signal #2 : Y:\1\DATA\022712\GB15089.D\FID2B.CH  
 Acq On : 27 Feb 2012 3:00 pm Operator: StephK  
 Sample : MB Inst : GC/MS Ins  
 Misc : GC2638,GGB848,5.000,,100,5,1 Multiplr: 1.00  
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
 Quant Time: Feb 27 15:53:06 2012 Quant Results File: TB846GB846SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB846GB846SOIL.M (Chemstation Integrator)  
 Title : 8015B/8021B TVH/BTEX  
 Last Update : Sat Feb 25 09:47:45 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	14.33	2900901	101.288	%
10) S	1,2,4-Trichlorobenzene (P)	14.33	23342812	102.565	%
Target Compounds					
1) H	TVH-Gasoline	7.28	5206085	<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	7.59	182667	0.346	ug/L
7) T	Ethylbenzene	0.00	0	N.D.	ug/L d
8) T	m,p-Xylene	10.42	175469	0.321	ug/L
9) T	o-Xylene	0.00	0	N.D.	ug/L d
11) T	Naphthalene	14.51	259155	1.079	ug/L

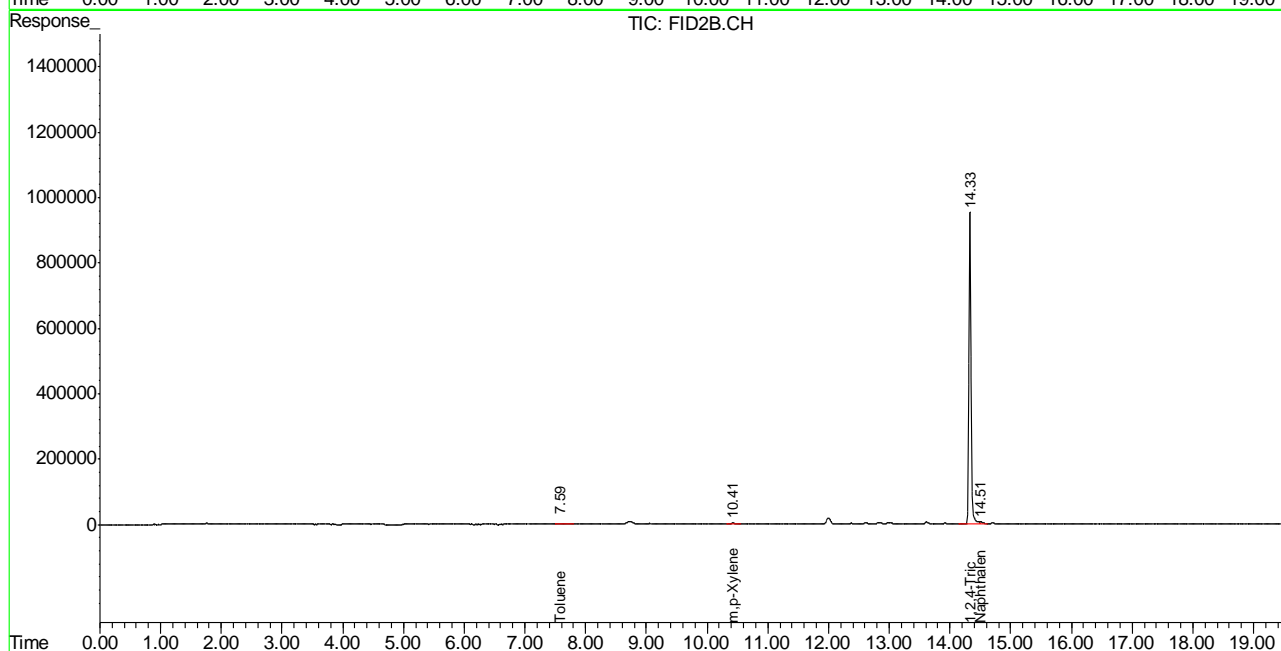
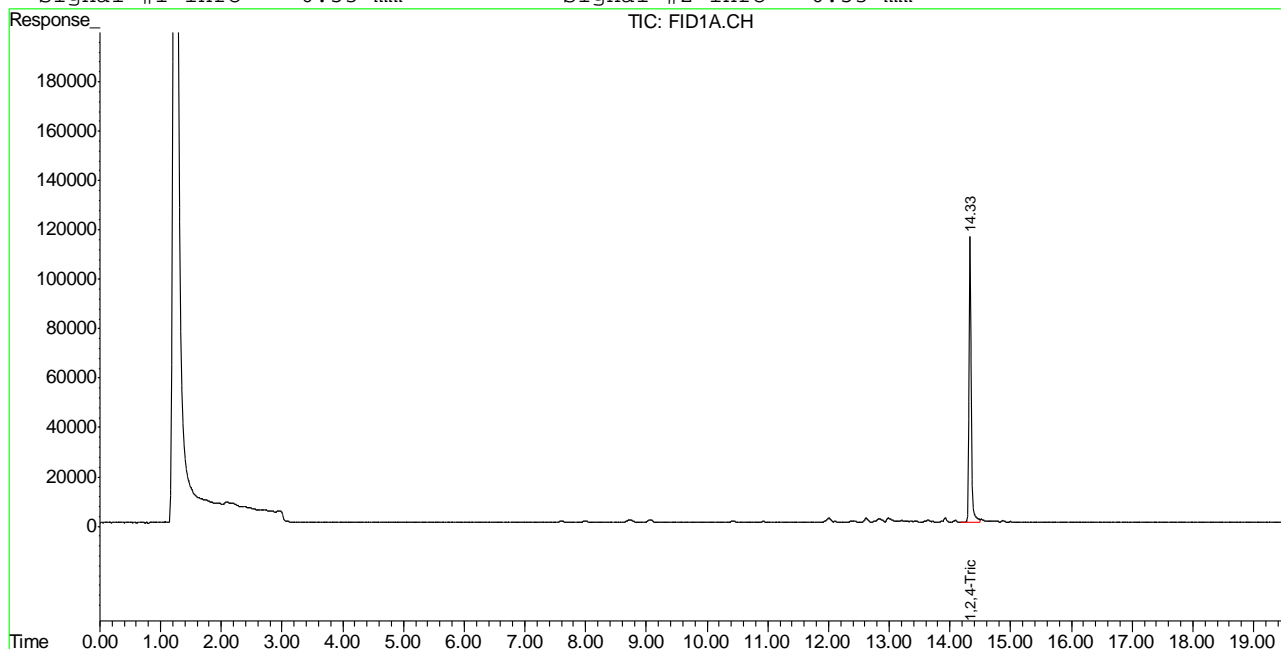
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 GB15089.D TB846GB846SOIL.M Tue Feb 28 09:25:05 2012 GC

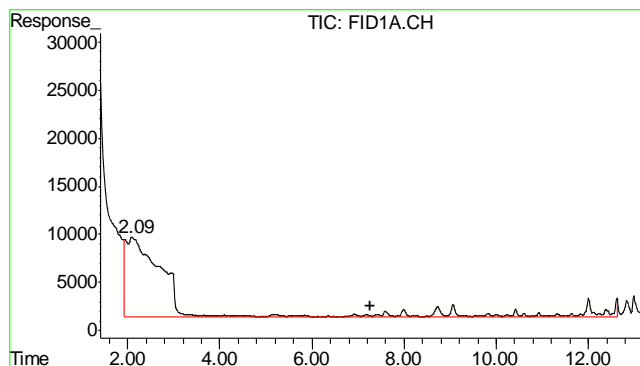
## Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\022712\GB15089.D\FID1A.CH Vial: 3  
Signal #2 : Y:\1\DATA\022712\GB15089.D\FID2B.CH  
Acq On : 27 Feb 2012 3:00 pm Operator: StephK  
Sample : MB Inst : GC/MS Ins  
Misc : GC2638,GGB848,5.000,,100,5,1 Multiplr: 1.00  
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
Quant Time: Feb 27 14:55 2012 Quant Results File: TB846GB846SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB846GB846SOIL.M (Chemstation Integrator)  
Title : 8015B/8021B TVH/BTEX  
Last Update : Sat Feb 25 09:47:45 2012  
Response via : Multiple Level Calibration  
DataAcq Meth : TVB4.M

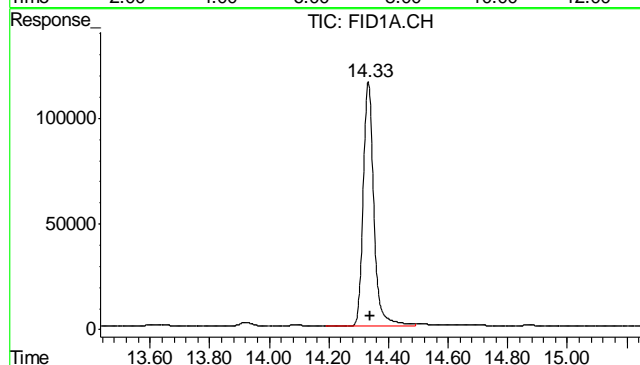
Volume Inj. :  
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624  
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





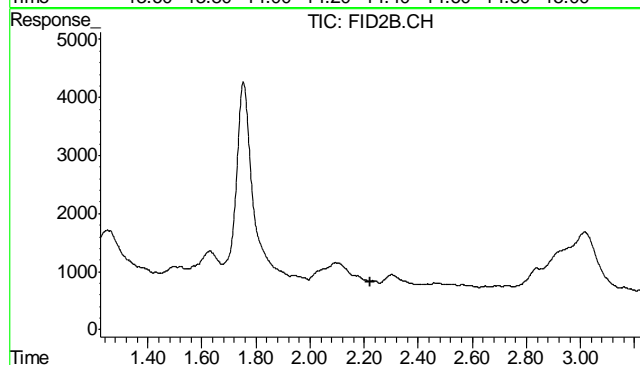
#1 TVH-Gasoline

R.T.: 7.275 min  
Delta R.T.: 0.000 min  
Response: 5206085  
Conc: N.D.



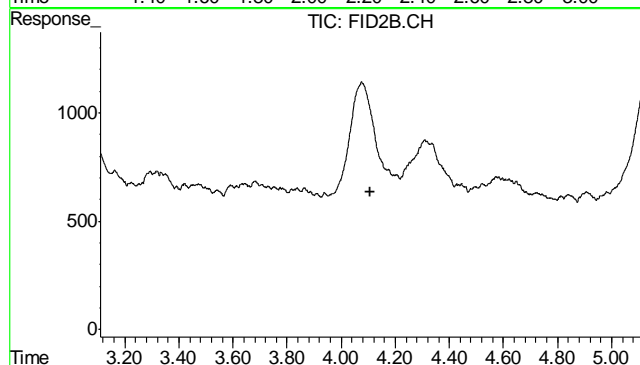
#2 1,2,4-Trichlorobenzene

R.T.: 14.332 min  
Delta R.T.: -0.006 min  
Response: 2900901  
Conc: 101.29 %



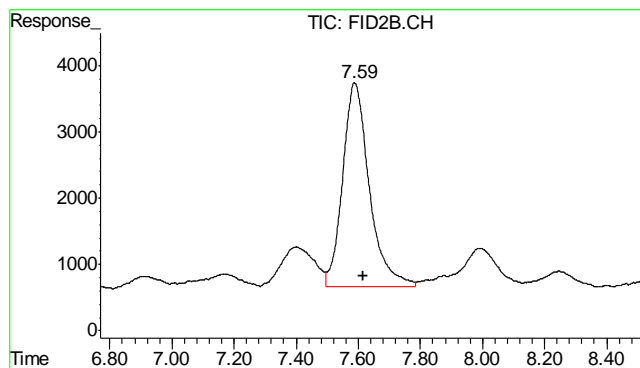
#4 Methyl-t-butyl-ether

R.T.: 0.000 min  
Exp R.T.: 2.224 min  
Response: 0  
Conc: N.D.



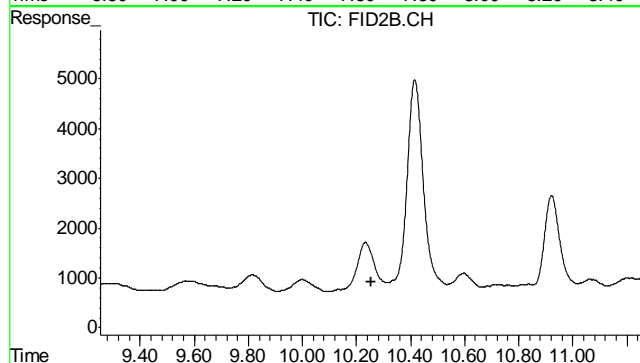
#5 Benzene

R.T.: 0.000 min  
Exp R.T.: 4.108 min  
Response: 0  
Conc: N.D.



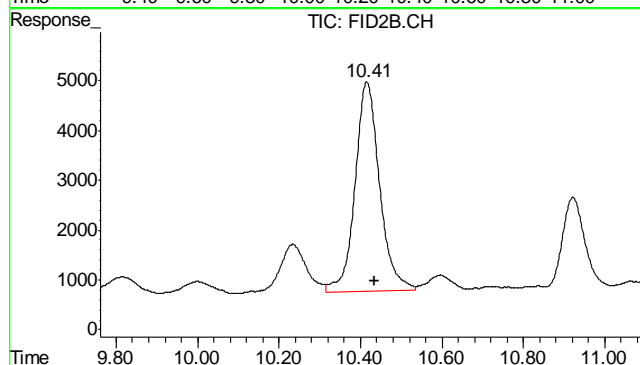
#6 Toluene

R.T.: 7.588 min  
Delta R.T.: -0.027 min  
Response: 182667  
Conc: 0.35 ug/L



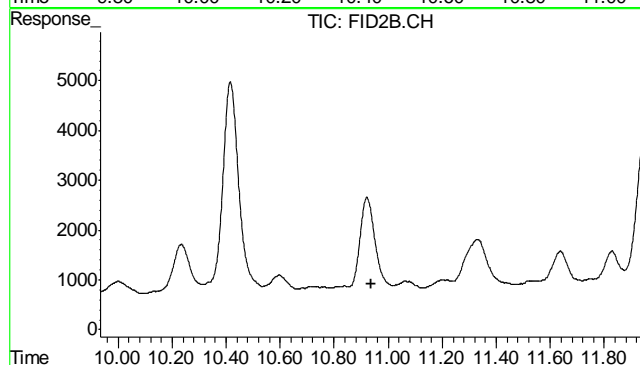
#7 Ethylbenzene

R.T.: 0.000 min  
Exp R.T.: 10.253 min  
Response: 0  
Conc: N.D.



#8 m,p-Xylene

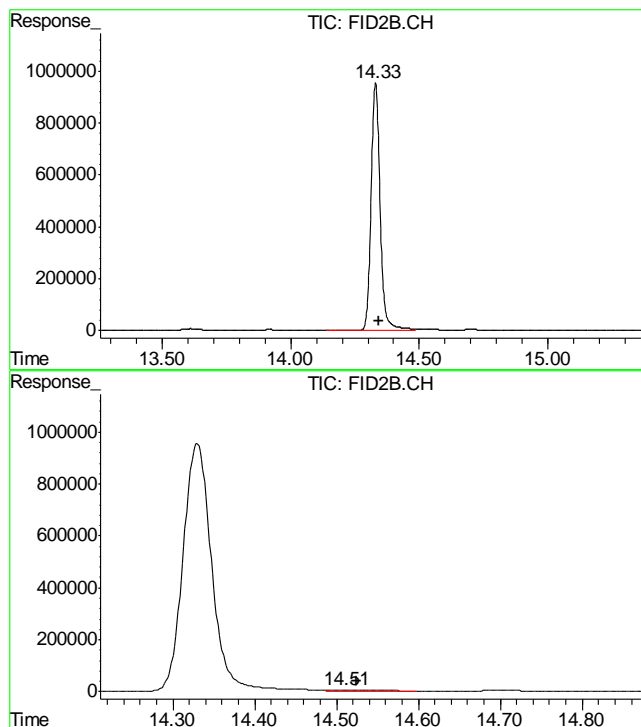
R.T.: 10.416 min  
Delta R.T.: -0.019 min  
Response: 175469  
Conc: 0.32 ug/L



#9 o-Xylene

R.T.: 0.000 min  
Exp R.T.: 10.935 min  
Response: 0  
Conc: N.D.





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

R.T.: 14.330 min  
Delta R.T.: -0.013 min  
Response: 23342812  
Conc: 102.56 %

#11 Naphthalene

R.T.: 14.508 min  
Delta R.T.: -0.017 min  
Response: 259155  
Conc: 1.08 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: D32208

Account: XTOKRWR XTO Energy

Project: FRU 297-28C

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5440-MB	FH001733.D	1	02/28/12	TR	02/27/12	OP5440	GFH90

The QC reported here applies to the following samples:

Method: SW846-8015B

D32208-1

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	81% 43-136%

## Blank Spike Summary

Page 1 of 1

Job Number: D32208

Account: XTOKRWR XTO Energy

Project: FRU 297-28C

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5440-BS	FH001735.D	1	02/28/12	TR	02/27/12	OP5440	GFH90

The QC reported here applies to the following samples:

Method: SW846-8015B

D32208-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	533	80	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: D32208  
Account: XTOKRWR XTO Energy  
Project: FRU 297-28C

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5440-MS	FH001737.D	1	02/28/12	TR	02/27/12	OP5440	GFH90
OP5440-MSD	FH001739.D	1	02/28/12	TR	02/27/12	OP5440	GFH90
D32208-1	FH001741.D	1	02/28/12	TR	02/27/12	OP5440	GFH90

The QC reported here applies to the following samples:

Method: SW846-8015B

D32208-1

CAS No.	Compound	D32208-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	29.4		765	432	53	495	61	14	20-183/43

CAS No.	Surrogate Recoveries	MS	MSD	D32208-1	Limits
84-15-1	o-Terphenyl	54%	60%	70%	43-136%

7.3.1

7

## GC Semi-volatiles

### Raw Data



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH022712\  
 Data File : FH001741.D  
 Signal(s) : FID1A.ch  
 Acq On : 28 Feb 2012 6:51 am  
 Operator : tedr  
 Sample : D32208-1  
 Misc : OP5440,GFH90,30.00,,,2,1  
 ALS Vial : 75 Sample Multiplier: 1

Integration File: events.e  
 Quant Time: Feb 28 15:30:51 2012  
 Quant Method : C:\msdchem\1\METHODS\DRO-GFH34F.M  
 Quant Title : DRO-ORO FRONT  
 QLast Update : Tue Jan 31 13:20:35 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. :  
 Signal Phase :  
 Signal Info :

Compound	R.T.	Response	Conc Units
-----			
System Monitoring Compounds			
2) s o-Terphenyl	12.444	1032584515	702.400 ug/ml
Target Compounds			
1) H TPH-DRO (C10-C28)	10.011	467556901	383.546 ug/ml
-----			

(f)=RT Delta > 1/2 Window

(m)=manual int.

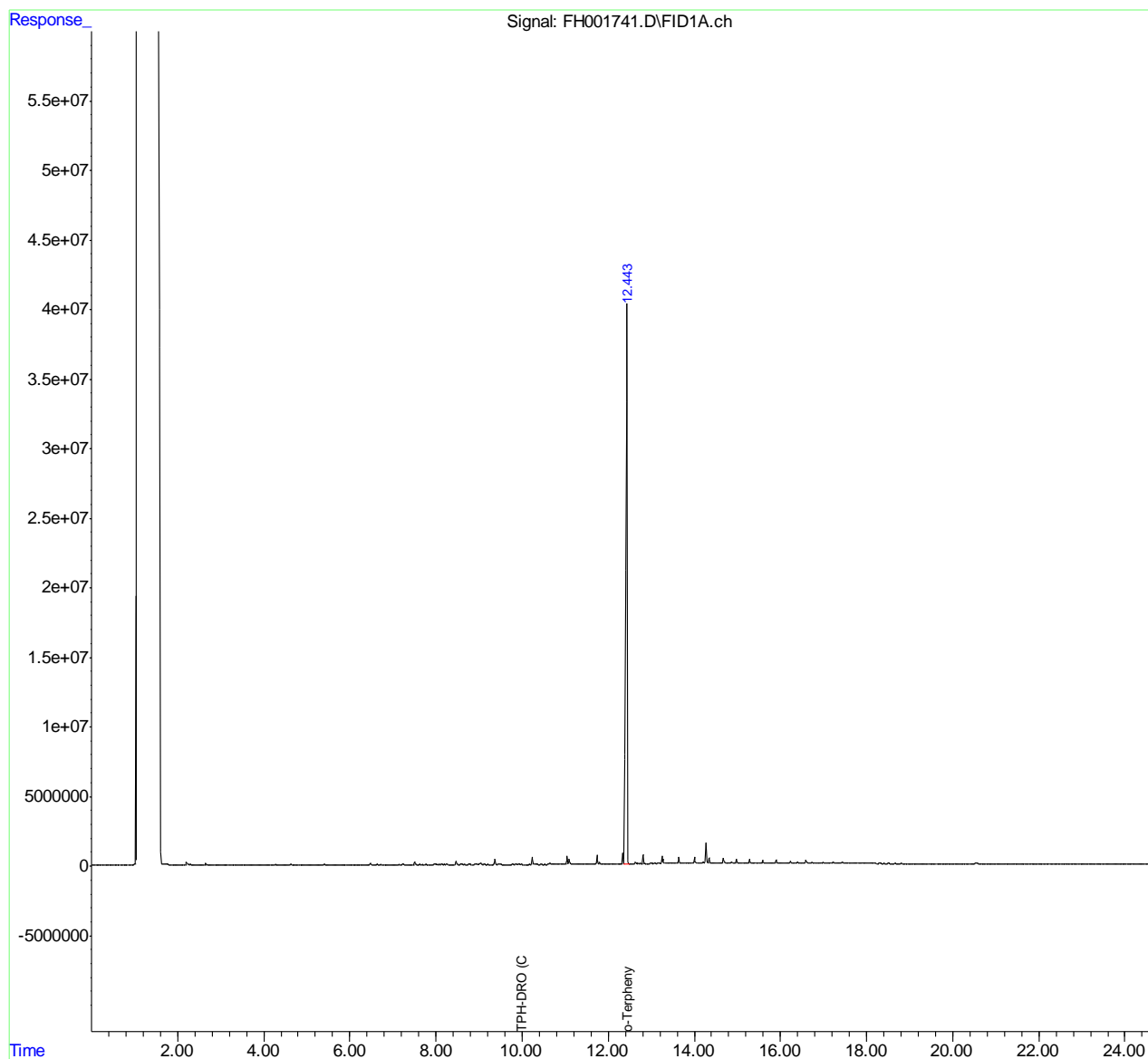
8.1.1  
8

## Quantitation Report (QT Reviewed)

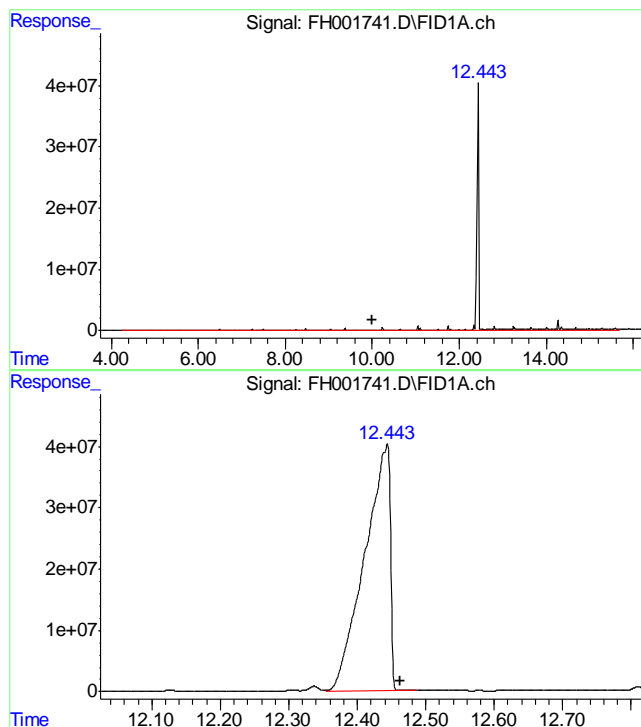
Data Path : C:\msdchem\1\DATA\FH022712\  
Data File : FH001741.D  
Signal(s) : FID1A.ch  
Acq On : 28 Feb 2012 6:51 am  
Operator : tedr  
Sample : D32208-1  
Misc : OP5440,GFH90,30.00,,,2,1  
ALS Vial : 75 Sample Multiplier: 1

Integration File: events.e  
Quant Time: Feb 28 15:30:51 2012  
Quant Method : C:\msdchem\1\METHODS\DRO-GFH34F.M  
Quant Title : DRO-ORO FRONT  
QLast Update : Tue Jan 31 13:20:35 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal Phase :  
Signal Info :







#1 TPH-DRO (C10-C28)

R.T.: 10.011 min

Delta R.T.: 0.000 min

Response: 467556901

Conc: 383.55 ug/ml m

#2 o-Terphenyl

R.T.: 12.444 min

Delta R.T.: -0.019 min

Response: 1032584515

Conc: 702.40 ug/ml

8.1.1

8

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH022712\  
Data File : FH001733.D  
Signal(s) : FID1A.ch  
Acq On : 28 Feb 2012 4:28 am  
Operator : tedr  
Sample : OP5440-MB  
Misc : OP5440,GFH90,30.00,,,2,1  
ALS Vial : 71 Sample Multiplier: 1

Integration File: events.e  
Quant Time: Feb 28 15:28:33 2012  
Quant Method : C:\msdchem\1\METHODS\DRO-GFH34F.M  
Quant Title : DRO-ORO FRONT  
QLast Update : Tue Jan 31 13:20:35 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal Phase :  
Signal Info :

Compound	R.T.	Response	Conc Units
-----			
System Monitoring Compounds			
2) s o-Terphenyl	12.450	1183505149	805.062 ug/ml
Target Compounds			
1) H TPH-DRO (C10-C28)	10.011	66589781	54.625 ug/ml
-----			

(f)=RT Delta > 1/2 Window

(m)=manual int.

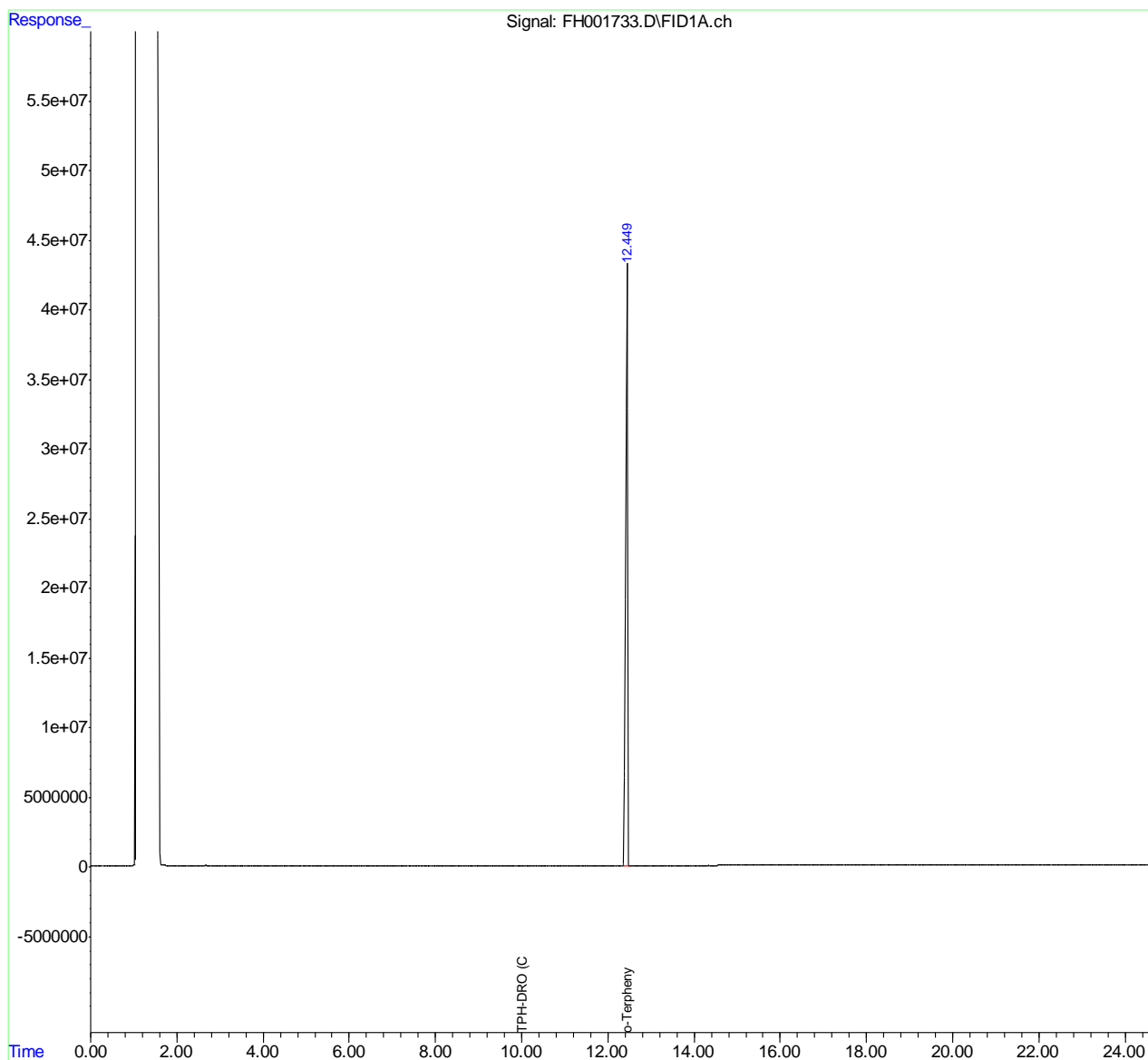
8.2.1  
8

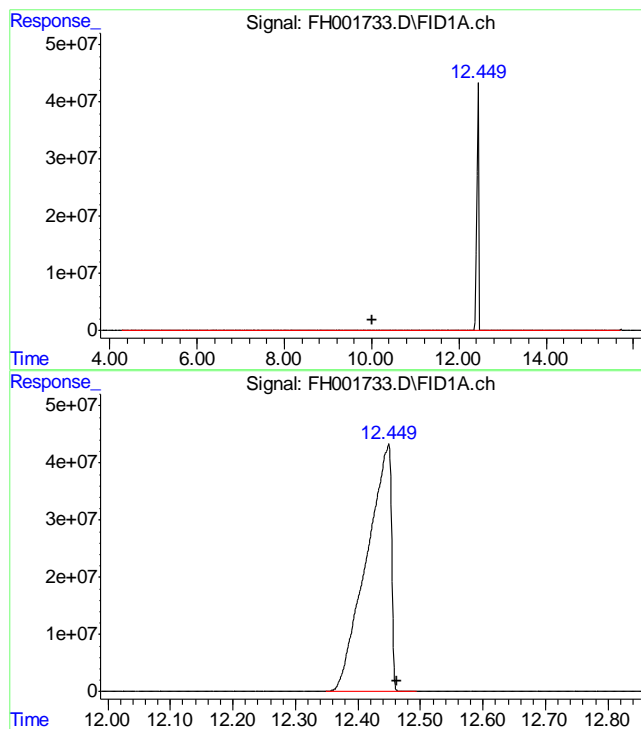
## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH022712\  
Data File : FH001733.D  
Signal(s) : FID1A.ch  
Acq On : 28 Feb 2012 4:28 am  
Operator : tedr  
Sample : OP5440-MB  
Misc : OP5440,GFH90,30.00,,,2,1  
ALS Vial : 71 Sample Multiplier: 1

Integration File: events.e  
Quant Time: Feb 28 15:28:33 2012  
Quant Method : C:\msdchem\1\METHODS\DRO-GFH34F.M  
Quant Title : DRO-ORO FRONT  
QLast Update : Tue Jan 31 13:20:35 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal Phase :  
Signal Info :





#1 TPH-DRO (C10-C28)

R.T.: 10.011 min  
Delta R.T.: 0.000 min  
Response: 66589781  
Conc: 54.62 ug/ml m

#2 o-Terphenyl

R.T.: 12.450 min  
Delta R.T.: -0.013 min  
Response: 1183505149  
Conc: 805.06 ug/ml

8.2.1

8