



10/08/12

## Technical Report for

**XTO Energy**

**PCU 297-10B**

**1105-20A**

**Accutest Job Number: D39515**

**Sampling Date: 10/02/12**

### Report to:

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

**Total number of pages in report: 37**



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-

<b>Section 1: Sample Summary .....</b>	<b>3</b>
<b>Section 2: Case Narrative/Conformance Summary .....</b>	<b>4</b>
<b>Section 3: Summary of Hits .....</b>	<b>5</b>
<b>Section 4: Sample Results .....</b>	<b>6</b>
<b>4.1: D39515-1: PILE 20-25 REMIX DAY 2 .....</b>	<b>7</b>
<b>Section 5: Misc. Forms .....</b>	<b>9</b>
<b>5.1: Chain of Custody .....</b>	<b>10</b>
<b>Section 6: GC Volatiles - QC Data Summaries .....</b>	<b>12</b>
<b>6.1: Method Blank Summary .....</b>	<b>13</b>
<b>6.2: Blank Spike Summary .....</b>	<b>14</b>
<b>6.3: Matrix Spike/Matrix Spike Duplicate Summary .....</b>	<b>15</b>
<b>Section 7: GC Volatiles - Raw Data .....</b>	<b>16</b>
<b>7.1: Samples .....</b>	<b>17</b>
<b>7.2: Method Blanks .....</b>	<b>22</b>
<b>Section 8: GC Semi-volatiles - QC Data Summaries .....</b>	<b>27</b>
<b>8.1: Method Blank Summary .....</b>	<b>28</b>
<b>8.2: Blank Spike Summary .....</b>	<b>29</b>
<b>8.3: Matrix Spike/Matrix Spike Duplicate Summary .....</b>	<b>30</b>
<b>Section 9: GC Semi-volatiles - Raw Data .....</b>	<b>31</b>
<b>9.1: Samples .....</b>	<b>32</b>
<b>9.2: Method Blanks .....</b>	<b>35</b>



Sample Summary

XTO Energy

Job No: D39515

PCU 297-10B  
Project No: 1105-20A

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
D39515-1	10/02/12	12:25 DS	10/04/12	SO	Soil	PILE 20-25 REMIX DAY 2

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



## CASE NARRATIVE / CONFORMANCE SUMMARY

**Client:** XTO Energy

**Job No** D39515

**Site:** PCU 297-10B

**Report Date** 10/8/2012 11:38:59 AM

On 10/04/2012, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 3.4 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D39515 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:** GGB978

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D39146-1MS, D39146-1MSD were used as the QC samples indicated.
- Sample(s) D39146-1MS, D39146-1MSD have surrogates outside control limits. Probable cause due to matrix interference.
- D39146-1MS/MSD for 1,2,4-Trichlorobenzene: Outside control limits due to matrix interference.

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

**Matrix** SO

**Batch ID:** OP6752

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D39513-1MS, D39513-1MSD were used as the QC samples indicated.

### Wet Chemistry By Method SM19 2540B M

**Matrix** SO

**Batch ID:** GN17078

- 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.

Summary of Hits

Job Number: D39515  
Account: XTO Energy  
Project: PCU 297-10B  
Collected: 10/02/12



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
D39515-1	PILE 20-25 REMIX DAY 2					
TPH-DRO (C10-C28)		131	15	9.4	mg/kg	SW846-8015B

## Sample Results

## Report of Analysis

Accutest Laboratories

## Report of Analysis

Page 1 of 1

Client Sample ID:	PILE 20-25 REMIX DAY 2			Date Sampled:	10/02/12
Lab Sample ID:	D39515-1			Date Received:	10/04/12
Matrix:	SO - Soil			Percent Solids:	91.9
Method:	SW846 8015B				
Project:	PCU 297-10B				

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB17863.D	1	10/04/12	SK	n/a	n/a	GGB978
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	12	5.8	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	97%		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:	PILE 20-25 REMIX DAY 2				Date Sampled:	10/02/12
Lab Sample ID:	D39515-1				Date Received:	10/04/12
Matrix:	SO - Soil				Percent Solids:	91.9
Method:	SW846-8015B SW846 3546					
Project:	PCU 297-10B					

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD18256.D	1	10/05/12	AV	10/05/12	OP6752	GFD925
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)	131	15	9.4	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	84%		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

5

### Custody Documents and Other Forms

---

**Includes the following where applicable:**

- Chain of Custody

4036 Youngfield Street, Wheat Ridge, CO 80033  
TEL: 303-425-6021 FAX: 303-425-6854  
[www.acculast.com](http://www.acculast.com)

<b>ACCUTEST</b> <small>LABORATORIES</small>		4036 Youngfield Street, Wheat Ridge, CO 80033 TEL 303-425-6021 FAX: 303-425-6854 www.accutest.com		FED-EX Tracking # _____ Bottle Order Control # _____	
Client / Reporting Information		Project Information		Requested Analysis (see TEST CODE sheet)	
Company Name <b>KRW Consulting</b> Street Address <b>8000 West 14th Street; Suite 200</b> City <b>Lakewood, CO 80214</b> Project Contact <b>Dwayne Knudson</b> Phone # <b>(970) 488-1098</b> Sampler(s) Name(s) <b>DAVID SANDERSON</b>		Project Name <b>XTO PCU 297-10B</b> Street City State <b>XTO Energy</b> Street Address <b>21459 CR6</b> City <b>Rifle, CO 81650</b> Attention: <b>Jessica Dooling</b>		Matrix Codes DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OL - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WVP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank	
Accutest Sample # _____ Field ID / Point of Collection _____		Collection MECHDI Val # _____ Date _____ Time _____ Sampled by _____ Matrix _____ # of bottles _____		Number of preserved bottles HCl _____ HNO3 _____ H2SO4 _____ NONE _____ DI Water _____ MESH _____ ENCORE _____	
FILE 2025 REMIX MAY 2		10-2-12 1225 DS SO 2		X	
Turnaround Time (Business days) <input type="checkbox"/> Std. 10 Business Days <input checked="" type="checkbox"/> Std. 5 Business Days <input type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 3 Day Emergency <input type="checkbox"/> 2 Day Emergency <input type="checkbox"/> 1 Day Emergency <input type="checkbox"/> Emergency & Rush T/A rates available VIA Lablink		Approved By (Accutest PM) / Date: _____ _____ _____ _____ _____		Data Deliverable Information <input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> COMMBN <input type="checkbox"/> COMMBN+ <input type="checkbox"/> State Forms Required <input type="checkbox"/> Send Forms to State <input type="checkbox"/> Report by Fax <input checked="" type="checkbox"/> Report by PDF ONLY <input type="checkbox"/> EDD Format Commercial "A" = Results Only Commercial "B" = Results + QC Summary Commercial BN = Results/QC Narrative (+ = chromatograms)	
Sample Custody must be documented below each time samples change possession, including courier delivery.		Relinquished by: 1 <b>David Sanderson</b> Date Time: 10/3/12 12:00 Relinquished by: 3 _____ Date Time: _____ Relinquished by: 5 _____ Date Time: _____		Relinquished by: 2 _____ Date Time: _____ Relinquished by: 4 _____ Date Time: 10/4/12 1:00 Custody Seal # <b>H100</b> <input checked="" type="checkbox"/> Not Intact Preserved where applicable On Ice _____ Cooler Temp. <b>34</b>	

### D39515: Chain of Custody

Page 1 of 2

## Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** D39515

**Client:** KRW CONSULTING

**Immediate Client Services Action Required:** No

**Date / Time Received:** 10/4/2012 1:00:00 PM

**No. Coolers:** 1

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

**Project:** XTO PCU 297-10B

**Airbill #'s:** HDCO

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

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

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

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

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

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

## 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: D39515  
Account: XTOKRWR XTO Energy  
Project: PCU 297-10B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB978-MB	GB17848.D	1	10/04/12	SK	n/a	n/a	GGB978

The QC reported here applies to the following samples:

Method: SW846 8015B

D39515-1

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	95% 60-140%

## Blank Spike Summary

Page 1 of 1

Job Number: D39515  
Account: XTOKRWR XTO Energy  
Project: PCU 297-10B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB978-BS	GB17849.D	1	10/04/12	SK	n/a	n/a	GGB978

The QC reported here applies to the following samples:

Method: SW846 8015B

D39515-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	124	113	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	101%	60-140%

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D39515  
Account: XTOKRWR XTO Energy  
Project: PCU 297-10B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D39146-1MS	GB17851.D	1	10/04/12	SK	n/a	n/a	GGB978
D39146-1MSD	GB17852.D	1	10/04/12	SK	n/a	n/a	GGB978
D39146-1	GB17850.D	1	10/04/12	SK	n/a	n/a	GGB978

The QC reported here applies to the following samples:

Method: SW846 8015B

D39515-1

CAS No.	Compound	D39146-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	150		147	306	106	299	101	2	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D39146-1	Limits
120-82-1	1,2,4-Trichlorobenzene	189%* b	188%* b	189%* a	60-140%

(a) Outside control limits due to matrix interference. Confirmed by MS/MSD.

(b) Outside control limits due to matrix interference.

\* = Outside of Control Limits.

## GC Volatiles

## Raw Data

7



Judy Melson  
10/05/12 16:14

## Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\100412\GB17863.D\FID1A.CH Vial: 18  
 Signal #2 : Y:\1\DATA\100412\GB17863.D\FID2B.CH  
 Acq On : 4 Oct 2012 7:49 pm Operator: StephK  
 Sample : D39515-1, 50X Inst : GC/MS Ins  
 Misc : GC3153,GGB978,5.037,,100,5,1 Multiplr: 1.00  
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
 Quant Time: Oct 05 08:20:34 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)  
 Title : 8015B/8021B TVH/BTEX  
 Last Update : Fri Oct 05 08:20:15 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	14.40	3048559	97.292 %	m
10) S 1,2,4-Trichlorobenzene (P)	14.40	15683194	96.496 %	
Target Compounds				
1) H TVH-Gasoline	7.23	4055841	<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	7.71	135575	0.342	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	14.61	955409	4.842	ug/L

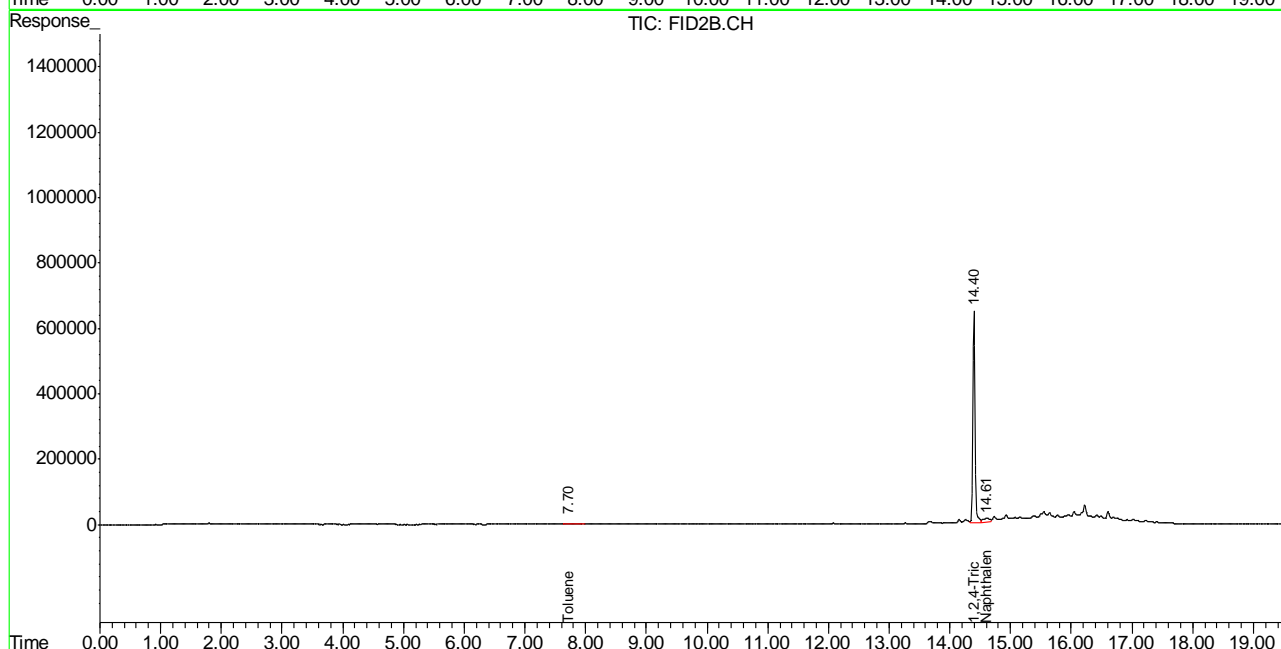
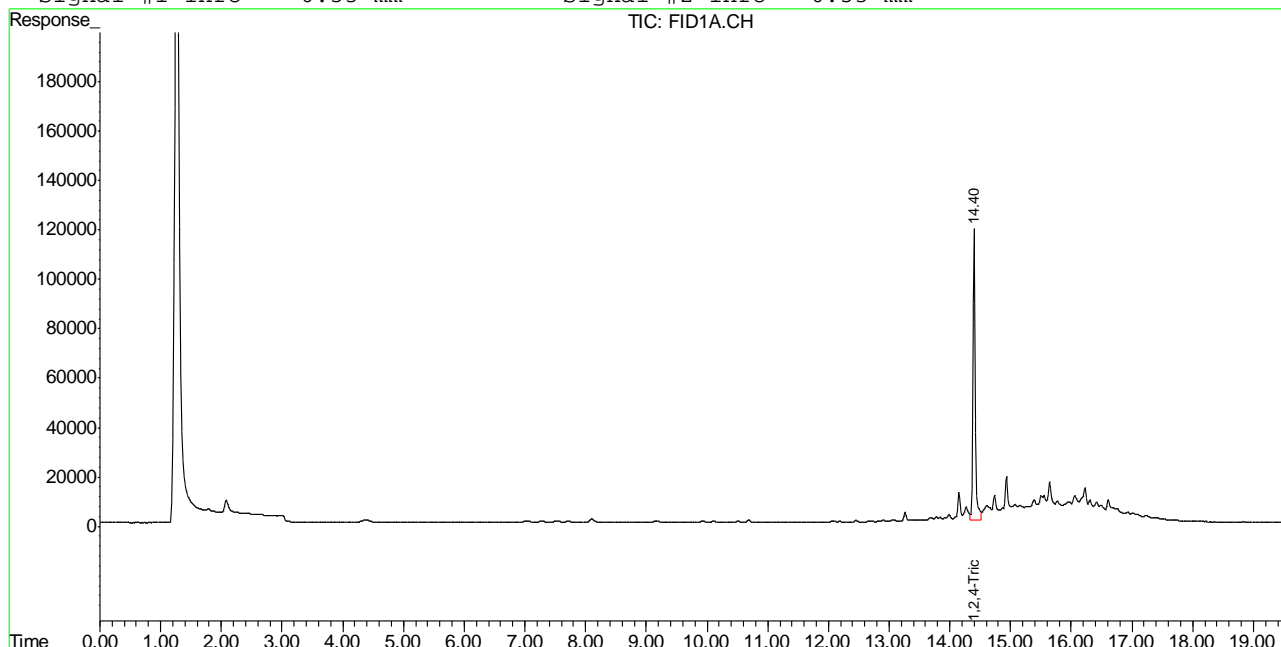
(f)=RT Delta > 1/2 Window (m)=manual int.  
 GB17863.D TB868GB868SOIL.M Fri Oct 05 08:23:55 2012 GC

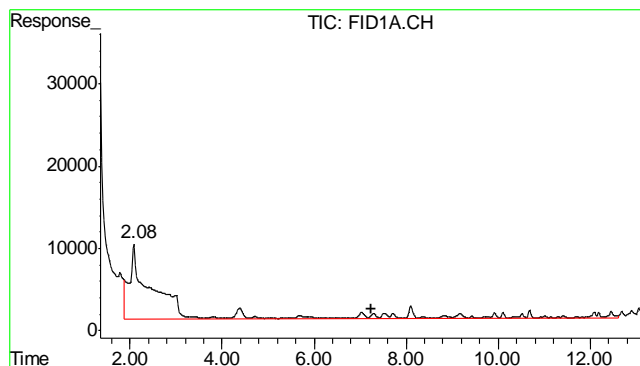
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\100412\GB17863.D\FID1A.CH Vial: 18  
 Signal #2 : Y:\1\DATA\100412\GB17863.D\FID2B.CH  
 Acq On : 4 Oct 2012 7:49 pm Operator: StephK  
 Sample : D39515-1, 50X Inst : GC/MS Ins  
 Misc : GC3153,GGB978,5.037,,100,5,1 Multiplr: 1.00  
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
 Quant Time: Oct 5 7:31 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)  
 Title : 8015B/8021B TVH/BTEX  
 Last Update : Fri Oct 05 08:20:15 2012  
 Response via : Multiple Level Calibration  
 DataAcq Meth : TVB4.M

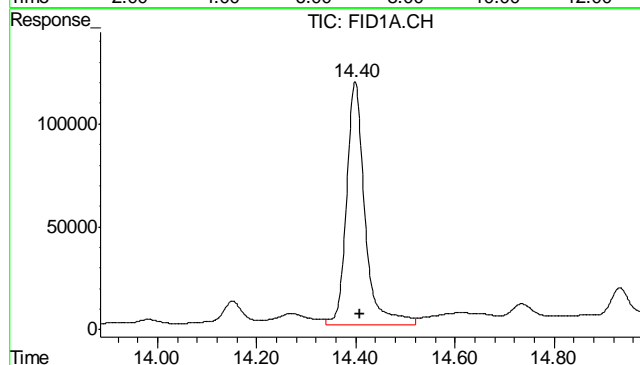
Volume Inj. :  
 Signal #1 Phase : DB-624 Signal #2 Phase: DB-624  
 Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





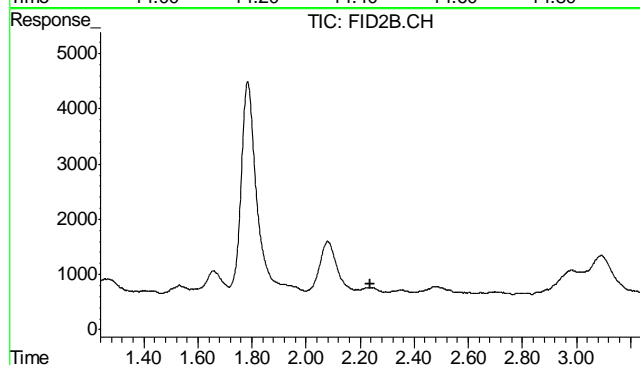
#1 TVH-Gasoline

R.T.: 7.230 min  
Delta R.T.: 0.000 min  
Response: 4055841  
Conc: N.D.



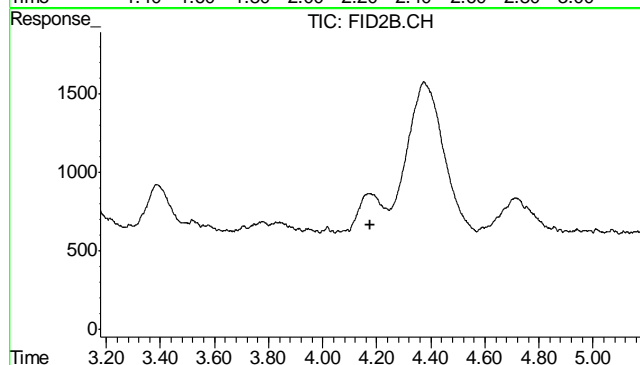
#2 1,2,4-Trichlorobenzene

R.T.: 14.398 min  
Delta R.T.: -0.010 min  
Response: 3048559  
Conc: 97.29 % m



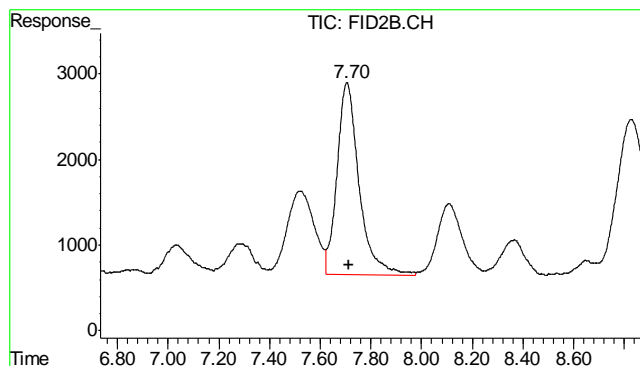
#4 Methyl-t-butyl-ether

R.T.: 0.000 min  
Exp R.T.: 2.239 min  
Response: 0  
Conc: N.D.



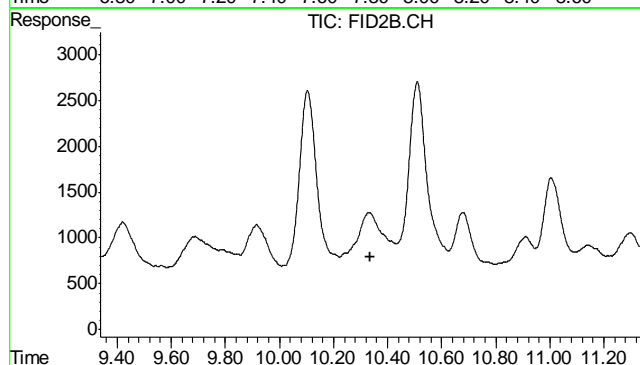
#5 Benzene

R.T.: 0.000 min  
Exp R.T.: 4.177 min  
Response: 0  
Conc: N.D.



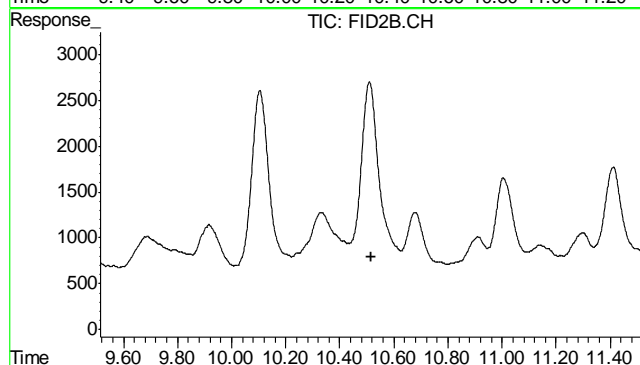
#6 Toluene

R.T.: 7.706 min  
Delta R.T.: -0.009 min  
Response: 135575  
Conc: 0.34 ug/L



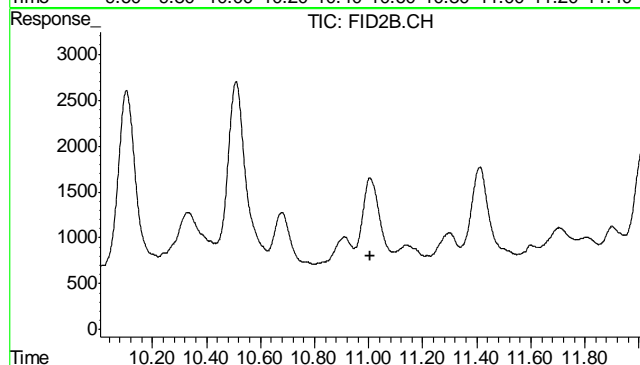
#7 Ethylbenzene

R.T.: 0.000 min  
Exp R.T.: 10.337 min  
Response: 0  
Conc: N.D.



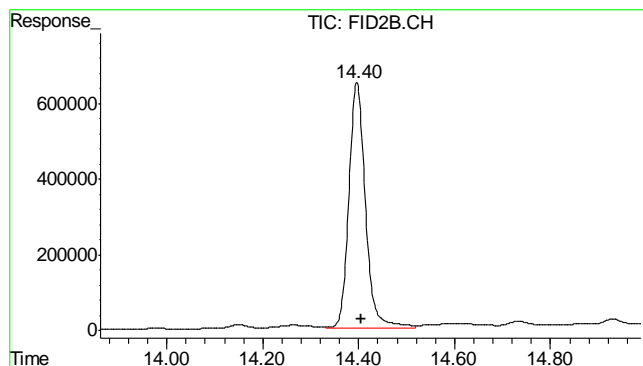
#8 m,p-Xylene

R.T.: 0.000 min  
Exp R.T.: 10.515 min  
Response: 0  
Conc: N.D.



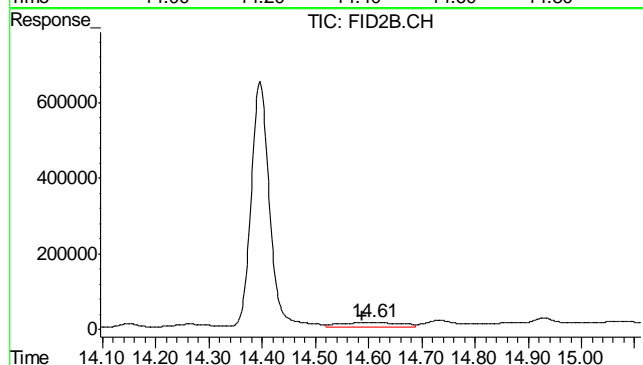
#9 o-Xylene

R.T.: 0.000 min  
Exp R.T.: 11.007 min  
Response: 0  
Conc: N.D.



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

R.T.: 14.397 min  
 Delta R.T.: -0.009 min  
 Response: 15683194  
 Conc: 96.50 %



#11 Naphthalene

R.T.: 14.609 min  
 Delta R.T.: 0.021 min  
 Response: 955409  
 Conc: 4.84 ug/L

7.1.1  
7

## Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\100412\GB17848.D\FID1A.CH Vial: 3  
Signal #2 : Y:\1\DATA\100412\GB17848.D\FID2B.CH  
Acq On : 4 Oct 2012 10:58 am Operator: StephK  
Sample : MB Inst : GC/MS Ins  
Misc : GC3153,GGB978,5.000,,100,5,1 Multiplr: 1.00  
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
Quant Time: Oct 04 11:08:39 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)  
Title : 8015B/8021B TVH/BTEX  
Last Update : Thu Oct 04 10:42:45 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	14.40	2984422	95.245	%
10) S 1,2,4-Trichlorobenzene (P)	14.39	16537688	101.753	%
Target Compounds				
1) H TVH-Gasoline	7.23	4064519	<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	7.70	132521	0.334	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	0.00	0	N.D.	ug/L d

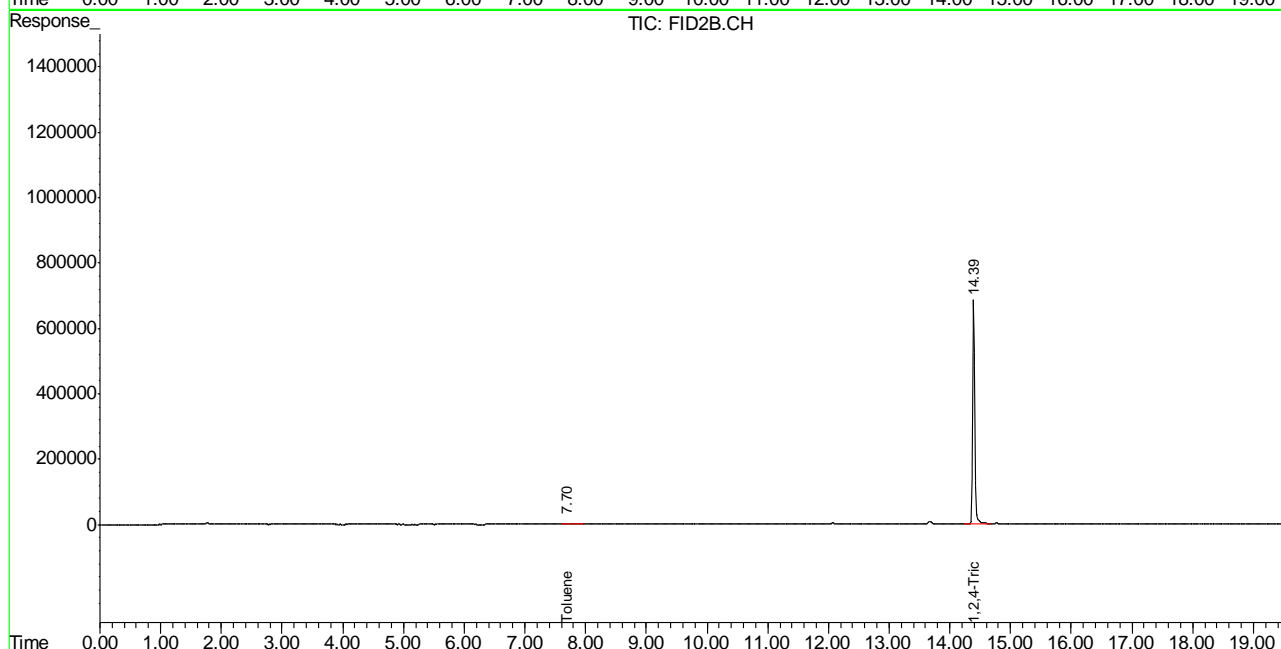
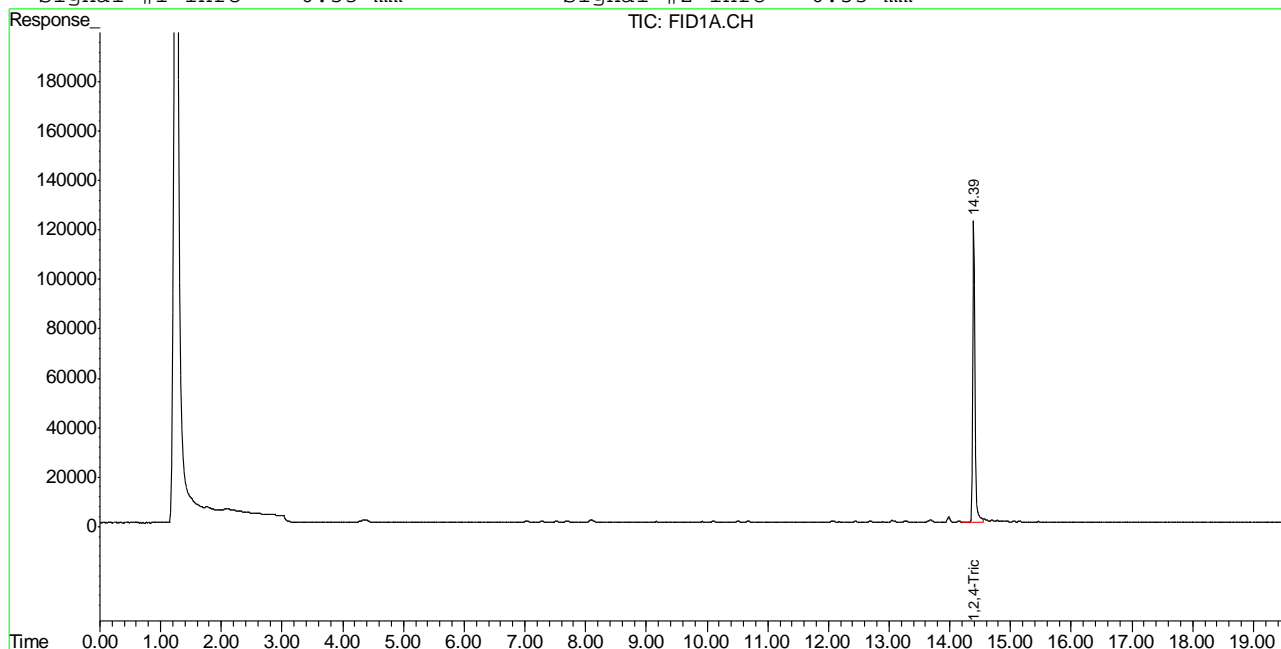
-----  
(f)=RT Delta > 1/2 Window (m)=manual int.  
GB17848.D TB868GB868SOIL.M Fri Oct 05 08:23:08 2012 GC

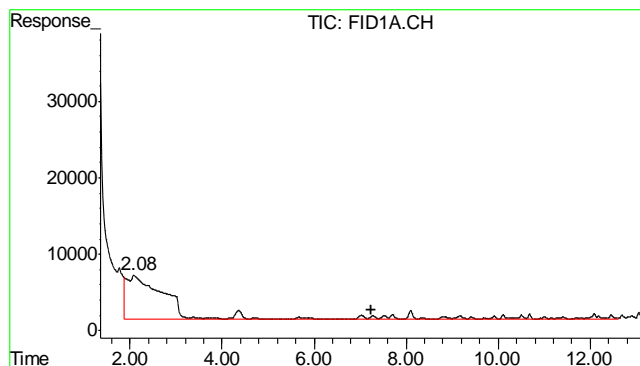
## Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\100412\GB17848.D\FID1A.CH Vial: 3  
Signal #2 : Y:\1\DATA\100412\GB17848.D\FID2B.CH  
Acq On : 4 Oct 2012 10:58 am Operator: StephK  
Sample : MB Inst : GC/MS Ins  
Misc : GC3153,GGB978,5.000,,100,5,1 Multiplr: 1.00  
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
Quant Time: Oct 4 10:18 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)  
Title : 8015B/8021B TVH/BTEX  
Last Update : Thu Oct 04 10:42:45 2012  
Response via : Multiple Level Calibration  
DataAcq Meth : TVB4.M

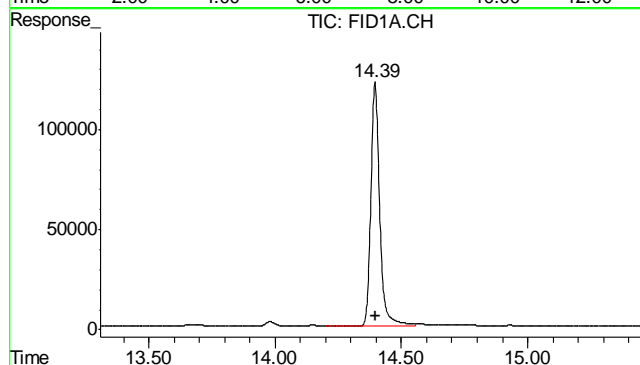
Volume Inj. :  
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624  
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





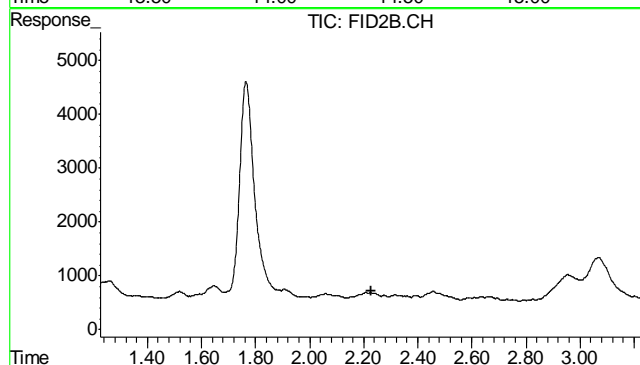
#1 TVH-Gasoline

R.T.: 7.230 min  
Delta R.T.: 0.000 min  
Response: 4064519  
Conc: N.D.



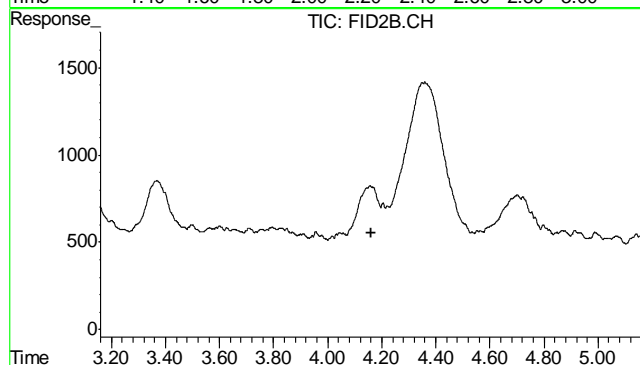
#2 1,2,4-Trichlorobenzene

R.T.: 14.395 min  
Delta R.T.: -0.005 min  
Response: 2984422  
Conc: 95.25 %



#4 Methyl-t-butyl-ether

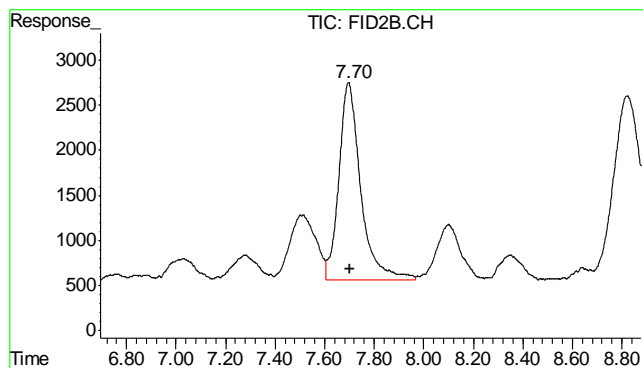
R.T.: 0.000 min  
Exp R.T. : 2.226 min  
Response: 0  
Conc: N.D.



#5 Benzene

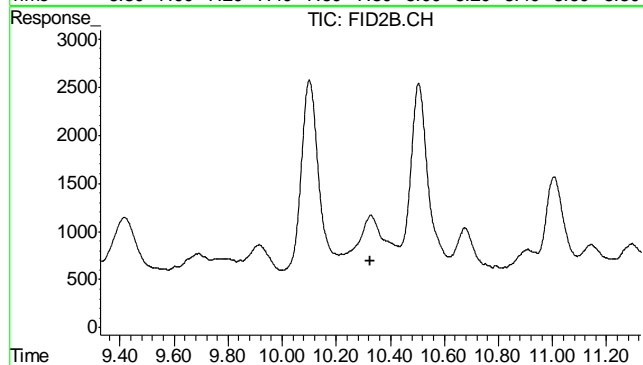
R.T.: 0.000 min  
Exp R.T. : 4.160 min  
Response: 0  
Conc: N.D.





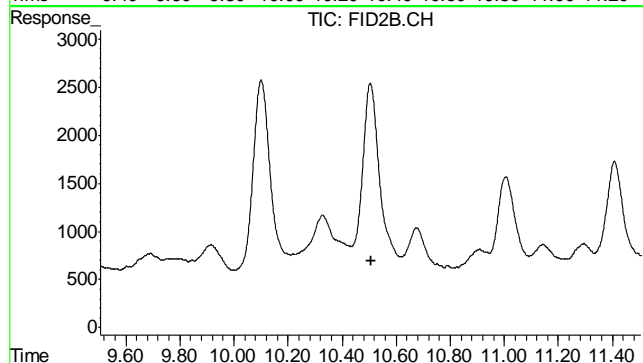
#6 Toluene

R.T.: 7.696 min  
Delta R.T.: -0.005 min  
Response: 132521  
Conc: 0.33 ug/L



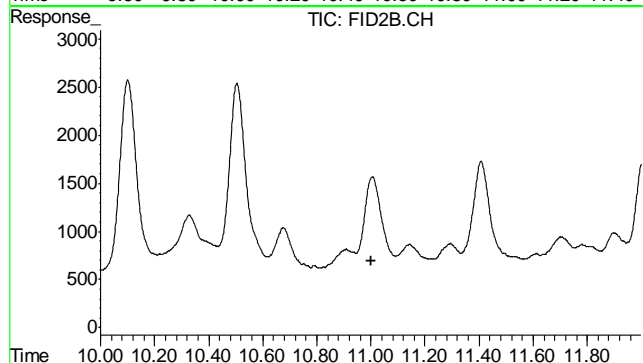
#7 Ethylbenzene

R.T.: 0.000 min  
Exp R.T.: 10.328 min  
Response: 0  
Conc: N.D.



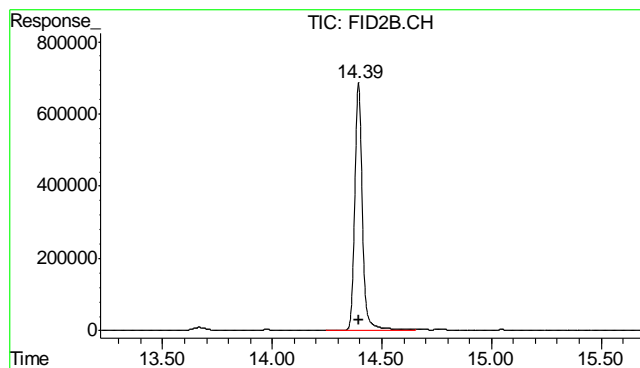
#8 m,p-Xylene

R.T.: 0.000 min  
Exp R.T.: 10.506 min  
Response: 0  
Conc: N.D.



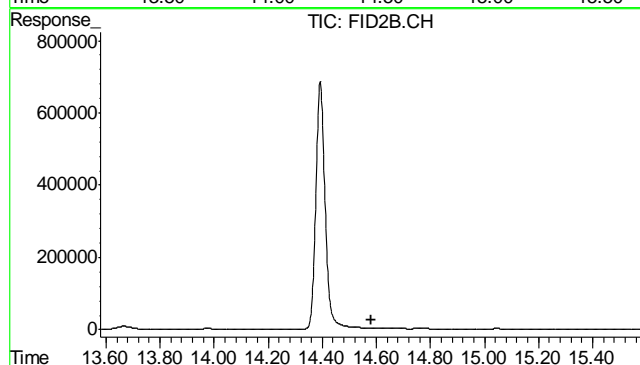
#9 o-Xylene

R.T.: 0.000 min  
Exp R.T.: 10.999 min  
Response: 0  
Conc: N.D.



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

R.T.: 14.393 min  
Delta R.T.: -0.004 min  
Response: 16537688  
Conc: 101.75 %



#11 Naphthalene

R.T.: 0.000 min  
Exp R.T. : 14.580 min  
Response: 0  
Conc: N.D.

7.2.1

7

## 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: D39515  
Account: XTOKRWR XTO Energy  
Project: PCU 297-10B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6752-MB	FD18238.D	1	10/05/12	AV	10/05/12	OP6752	GFD925

The QC reported here applies to the following samples:

Method: SW846-8015B

D39515-1

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	76% 43-136%

8.1.1

8

## Blank Spike Summary

Page 1 of 1

Job Number: D39515  
Account: XTOKRWR XTO Energy  
Project: PCU 297-10B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6752-BS	FD18240.D	1	10/05/12	AV	10/05/12	OP6752	GFD925

The QC reported here applies to the following samples:

Method: SW846-8015B

D39515-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	529	79	58-130

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

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D39515  
Account: XTOKRWR XTO Energy  
Project: PCU 297-10B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6752-MS	FD18242.D	1	10/05/12	AV	10/05/12	OP6752	GFD925
OP6752-MSD	FD18244.D	1	10/05/12	AV	10/05/12	OP6752	GFD925
D39513-1	FD18250.D	1	10/05/12	AV	10/05/12	OP6752	GFD925

The QC reported here applies to the following samples:

Method: SW846-8015B

D39515-1

CAS No.	Compound	D39513-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	1600		707	1970	52	2390	112	19	20-183/43

CAS No.	Surrogate Recoveries	MS	MSD	D39513-1	Limits
84-15-1	o-Terphenyl	59%	60%	65%	43-136%

\* = Outside of Control Limits.

## GC Semi-volatiles

### Raw Data

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\OCT\FD100512\FD18256.D Vial: 19  
Acq On : 10-5-2012 09:14:26 PM Operator: ashleyv  
Sample : D39515-1 Inst : FID5  
Misc : OP6752,GFD925,30.00,,,2,1 Multiplr: 1.00  
IntFile : autoint1.e  
Quant Time: Oct 08 09:24:01 2012 Quant Results File: DRO-GFD823F.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD823F.M (Chemstation Integrator)  
Title : 8015B TEH  
Last Update : Wed Oct 03 09:30:33 2012  
Response via : Initial Calibration  
DataAcq Meth : DRODUAL.M

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

Compound	R.T.	Response	Conc Units
-----			
System Monitoring Compounds			
1) S O-Terphenyl	9.04	39600914	838.318 mg/L
Target Compounds			
2) H TPH-DRO (c10-c28)	7.08	69276974	1799.155 mg/L

9.1.1  
9

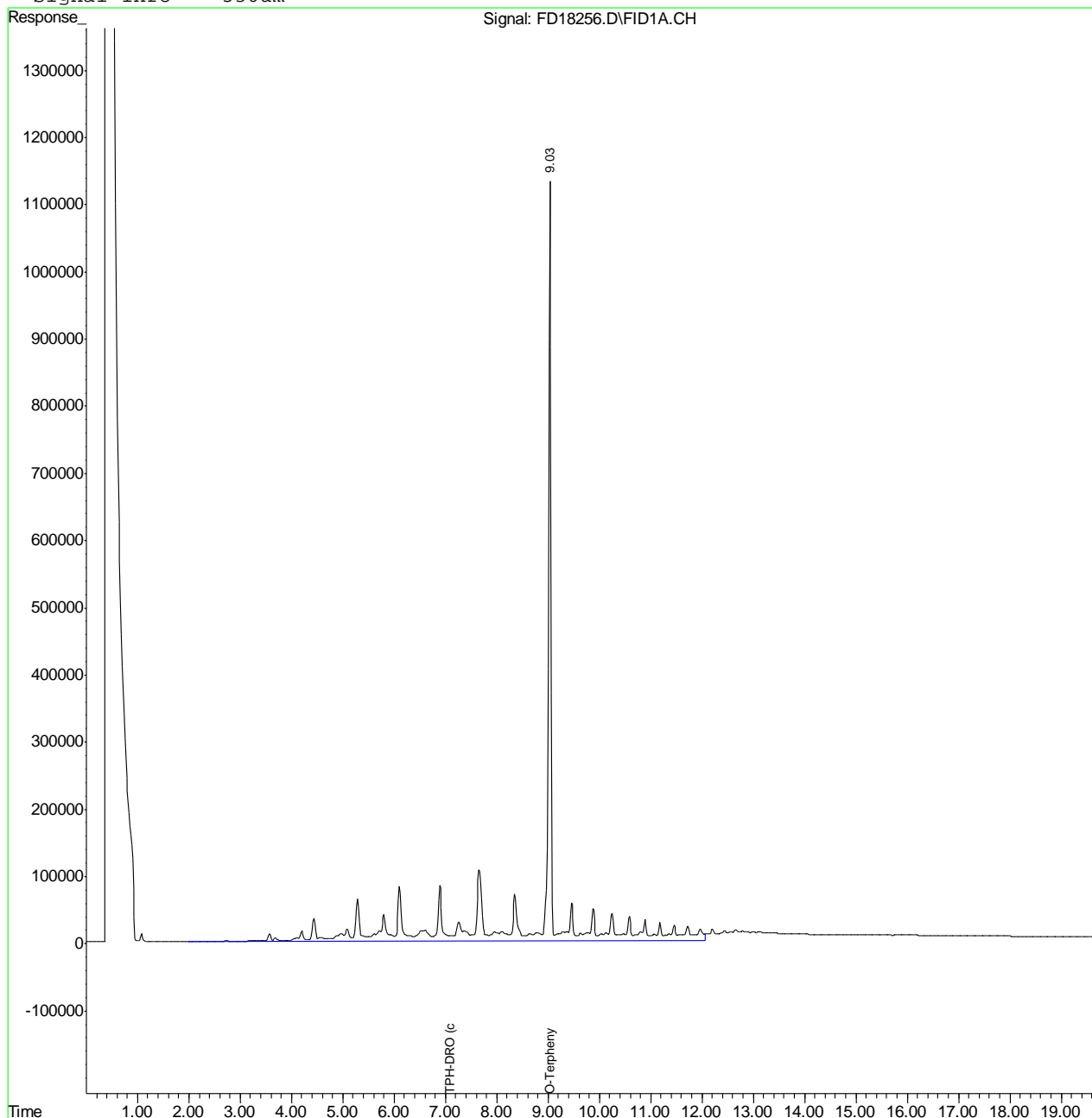


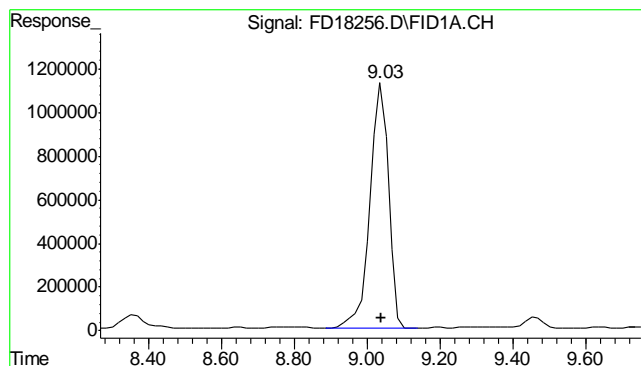
## Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\OCT\FD100512\FD18256.D Vial: 19  
Acq On : 10-5-2012 09:14:26 PM Operator: ashleyv  
Sample : D39515-1 Inst : FID5  
Misc : OP6752,GFD925,30.00,,,2,1 Multiplr: 1.00  
IntFile : autoint1.e  
Quant Time: Oct 8 9:40 2012 Quant Results File: DRO-GFD823F.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD823F.M (Chemstation Integrator)  
Title : 8015B TEH  
Last Update : Wed Oct 03 09:30:33 2012  
Response via : Multiple Level Calibration  
DataAcq Meth : DRODUAL.M

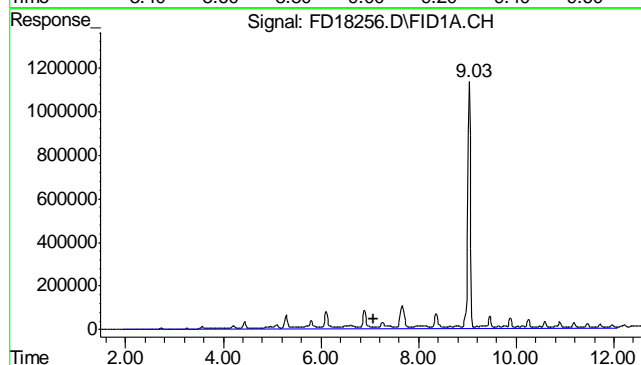
Volume Inj. : 1ul  
Signal Phase : RTX-5  
Signal Info : 530um





#1 O-Terphenyl

R.T.: 9.041 min  
 Delta R.T.: 0.000 min  
 Response: 39600914  
 Conc: 838.32 mg/L



#2 TPH-DRO (c10-c28)

R.T.: 7.075 min  
 Delta R.T.: 0.000 min  
 Response: 69276974  
 Conc: 1799.16 mg/L m

9.1.1  
**9**

## Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\OCT\FD100512\FD18238.D Vial: 10  
Acq On : 10-5-2012 05:21:36 PM Operator: ashleyv  
Sample : OP6752-MB Inst : FID5  
Misc : OP6752,GFD925,30.00,,,2,1 Multiplr: 1.00  
IntFile : autoint1.e  
Quant Time: Oct 08 09:23:52 2012 Quant Results File: DRO-GFD823F.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD823F.M (Chemstation Integrator)  
Title : 8015B TEH  
Last Update : Wed Oct 03 09:30:33 2012  
Response via : Initial Calibration  
DataAcq Meth : DRODUAL.M

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

Compound	R.T.	Response	Conc Units
-----			
System Monitoring Compounds			
1) S O-Terphenyl	9.06	35753423	756.870 mg/L
Target Compounds			
2) H TPH-DRO (c10-c28)	7.08	827872	21.500 mg/L

9.2.1

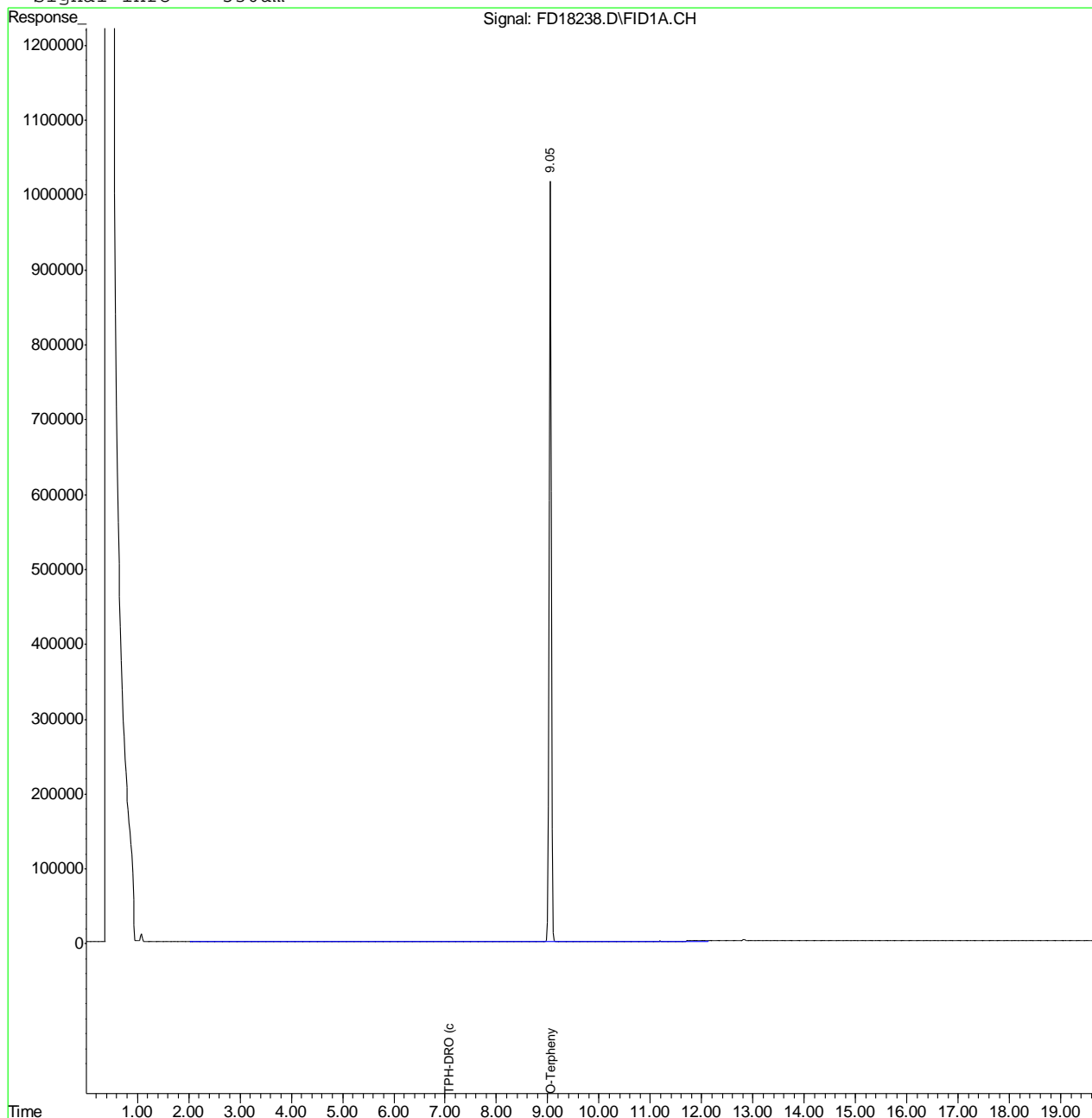
9

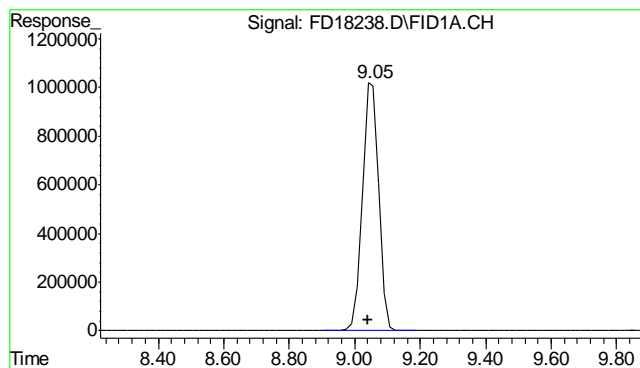
## Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\OCT\FD100512\FD18238.D Vial: 10  
Acq On : 10-5-2012 05:21:36 PM Operator: ashleyv  
Sample : OP6752-MB Inst : FID5  
Misc : OP6752,GFD925,30.00,,,2,1 Multiplr: 1.00  
IntFile : autoint1.e  
Quant Time: Oct 8 9:23 2012 Quant Results File: DRO-GFD823F.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD823F.M (Chemstation Integrator)  
Title : 8015B TEH  
Last Update : Wed Oct 03 09:30:33 2012  
Response via : Multiple Level Calibration  
DataAcq Meth : DRODUAL.M

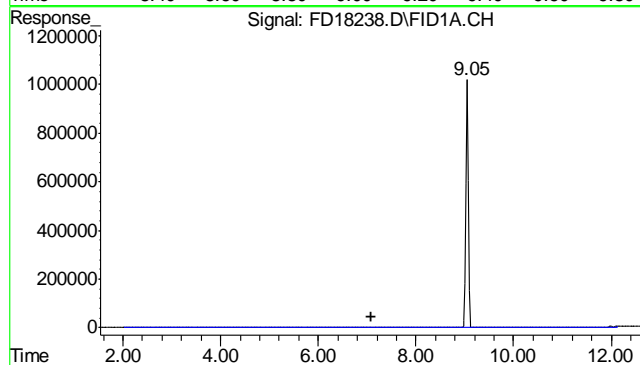
Volume Inj. : 1ul  
Signal Phase : RTX-5  
Signal Info : 530um





#1 O-Terphenyl

R.T.: 9.055 min  
Delta R.T.: 0.015 min  
Response: 35753423  
Conc: 756.87 mg/L



#2 TPH-DRO (c10-c28)

R.T.: 7.075 min  
Delta R.T.: 0.000 min  
Response: 827872  
Conc: 21.50 mg/L m

9.2.1  
9