



12/26/12

## Technical Report for

**XTO Energy**

**NPU 196-19B**

**1202-08**

**Accutest Job Number: D41998**

**Sampling Date: 12/17/12**

### 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: 57**



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: D41998-1: RP SUBLINER SE-2' (1) .....</b>	<b>7</b>
<b>4.2: D41998-2: RP SUBLINER SE-2' (3) .....</b>	<b>9</b>
<b>4.3: D41998-3: RP SUBLINER SE-2' (5) .....</b>	<b>11</b>
<b>Section 5: Misc. Forms .....</b>	<b>13</b>
<b>5.1: Chain of Custody .....</b>	<b>14</b>
<b>Section 6: GC Volatiles - QC Data Summaries .....</b>	<b>16</b>
<b>6.1: Method Blank Summary .....</b>	<b>17</b>
<b>6.2: Blank Spike Summary .....</b>	<b>18</b>
<b>6.3: Matrix Spike/Matrix Spike Duplicate Summary .....</b>	<b>19</b>
<b>Section 7: GC Volatiles - Raw Data .....</b>	<b>20</b>
<b>7.1: Samples .....</b>	<b>21</b>
<b>7.2: Method Blanks .....</b>	<b>36</b>
<b>Section 8: GC Semi-volatiles - QC Data Summaries .....</b>	<b>41</b>
<b>8.1: Method Blank Summary .....</b>	<b>42</b>
<b>8.2: Blank Spike Summary .....</b>	<b>43</b>
<b>8.3: Matrix Spike/Matrix Spike Duplicate Summary .....</b>	<b>44</b>
<b>Section 9: GC Semi-volatiles - Raw Data .....</b>	<b>45</b>
<b>9.1: Samples .....</b>	<b>46</b>
<b>9.2: Method Blanks .....</b>	<b>55</b>



Sample Summary

XTO Energy

Job No: D41998

NPU 196-19B  
Project No: 1202-08

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
D41998-1	12/17/12	10:55 DS	12/19/12	SO	Soil	RP SUBLINER SE-2' (1)
D41998-2	12/17/12	11:05 DS	12/19/12	SO	Soil	RP SUBLINER SE-2' (3)
D41998-3	12/17/12	11:00 DS	12/19/12	SO	Soil	RP SUBLINER SE-2' (5)

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



## CASE NARRATIVE / CONFORMANCE SUMMARY

**Client:** XTO Energy

**Job No** D41998

**Site:** NPU 196-19B

**Report Date** 12/26/2012 9:56:45 AM

On 12/19/2012, 3 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 D41998 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:** GGB1031

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D41998-1MS, D41998-1MSD were used as the QC samples indicated.

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

**Matrix** SO

**Batch ID:** OP7131

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D41999-1MS, D41999-1MSD were used as the QC samples indicated.
- The RPD(s) for the MS and MSD recoveries of TPH-DRO (C10-C28) are outside control limits for sample OP7131-MSD. Variability of recovery may be due to sample matrix/homogeneity.

### Wet Chemistry By Method SM19 2540B M

**Matrix** SO

**Batch ID:** GN18178

- 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

Page 1 of 1

Job Number: D41998  
Account: XTO Energy  
Project: NPU 196-19B  
Collected: 12/17/12



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
D41998-1	RP SUBLINER SE-2' (1)					
TPH-DRO (C10-C28)		62.2	7.5	4.5	mg/kg	SW846-8015B
D41998-2	RP SUBLINER SE-2' (3)					
TPH-DRO (C10-C28)		59.1	7.5	4.5	mg/kg	SW846-8015B
D41998-3	RP SUBLINER SE-2' (5)					
TPH-DRO (C10-C28)		39.5	7.7	4.6	mg/kg	SW846-8015B

## Sample Results

## Report of Analysis

Accutest Laboratories

## Report of Analysis

Page 1 of 1

Client Sample ID:	RP SUBLINER SE-2' (1)	Date Sampled:	12/17/12
Lab Sample ID:	D41998-1	Date Received:	12/19/12
Matrix:	SO - Soil	Percent Solids:	89.0
Method:	SW846 8015B		
Project:	NPU 196-19B		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB18927.D	1	12/20/12	SK	n/a	n/a	GGB1031
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	6.2	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:	RP SUBLINER SE-2' (1)	Date Sampled:	12/17/12
Lab Sample ID:	D41998-1	Date Received:	12/19/12
Matrix:	SO - Soil	Percent Solids:	89.0
Method:	SW846-8015B SW846 3546		
Project:	NPU 196-19B		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD20707.D	1	12/20/12	AV	12/20/12	OP7131	GFD1038
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	62.2	7.5	4.5	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	42%		35-130%		

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound



Accutest Laboratories

## Report of Analysis

Page 1 of 1

Client Sample ID:	RP SUBLINER SE-2' (3)	Date Sampled:	12/17/12
Lab Sample ID:	D41998-2	Date Received:	12/19/12
Matrix:	SO - Soil	Percent Solids:	89.0
Method:	SW846 8015B		
Project:	NPU 196-19B		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB18930.D	1	12/20/12	SK	n/a	n/a	GGB1031
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)	ND	12	6.2	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:	RP SUBLINER SE-2' (3)			Date Sampled:	12/17/12
Lab Sample ID:	D41998-2			Date Received:	12/19/12
Matrix:	SO - Soil			Percent Solids:	89.0
Method:	SW846-8015B SW846 3546				
Project:	NPU 196-19B				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD20708.D	1	12/20/12	AV	12/20/12	OP7131	GFD1038
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	59.1	7.5	4.5	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	59%		35-130%		

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

Accutest Laboratories

## Report of Analysis

Page 1 of 1

Client Sample ID:	RP SUBLINER SE-2' (5)	Date Sampled:	12/17/12
Lab Sample ID:	D41998-3	Date Received:	12/19/12
Matrix:	SO - Soil	Percent Solids:	87.1
Method:	SW846 8015B		
Project:	NPU 196-19B		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB18931.D	1	12/20/12	SK	n/a	n/a	GGB1031
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	91%		60-140%		

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

Accutest Laboratories

## Report of Analysis

Page 1 of 1

Client Sample ID:	RP SUBLINER SE-2' (5)	Date Sampled:	12/17/12
Lab Sample ID:	D41998-3	Date Received:	12/19/12
Matrix:	SO - Soil	Percent Solids:	87.1
Method:	SW846-8015B SW846 3546		
Project:	NPU 196-19B		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD20709.D	1	12/20/12	AV	12/20/12	OP7131	GFD1038
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	39.5	7.7	4.6	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	60%		35-130%		

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## 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.gccutest.com](http://www.gccutest.com)

[illegible]

## 5.1

## D41998: Chain of Custody

Page 1 of 2

## Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** D41998

**Client:** KRW

**Immediate Client Services Action Required:** No

**Date / Time Received:** 12/19/2012 3:00:00 PM

**No. Coolers:** 1

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

**Project:** NPU

**Airbill #'s:** FX

**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

## 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: D41998

Account: XTOKRWR XTO Energy

Project: NPU 196-19B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB1031-MB	GB18925.D	1	12/20/12	SK	n/a	n/a	GGB1031

The QC reported here applies to the following samples:

Method: SW846 8015B

D41998-1, D41998-2, D41998-3

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	92% 60-140%

## Blank Spike Summary

Page 1 of 1

Job Number: D41998

Account: XTOKRWR XTO Energy

Project: NPU 196-19B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB1031-BS	GB18926.D	1	12/20/12	SK	n/a	n/a	GGB1031

The QC reported here applies to the following samples:

Method: SW846 8015B

D41998-1, D41998-2, D41998-3

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	122	111	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	106%	60-140%

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D41998  
Account: XTOKRWR XTO Energy  
Project: NPU 196-19B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D41998-1MS	GB18928.D	1	12/20/12	SK	n/a	n/a	GGB1031
D41998-1MSD	GB18929.D	1	12/20/12	SK	n/a	n/a	GGB1031
D41998-1	GB18927.D	1	12/20/12	SK	n/a	n/a	GGB1031

The QC reported here applies to the following samples:

Method: SW846 8015B

D41998-1, D41998-2, D41998-3

CAS No.	Compound	D41998-1 mg/kg	Spike Q	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	137	150	110	150	110	0	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D41998-1	Limits
120-82-1	1,2,4-Trichlorobenzene	96%	101%	97%	60-140%

\* = Outside of Control Limits.

## GC Volatiles

## Raw Data

7

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\122012\GB18927.D\FID1A.CH Vial: 5  
Signal #2 : Y:\1\DATA\122012\GB18927.D\FID2B.CH  
Acq On : 20 Dec 2012 12:00 pm Operator: StephK  
Sample : D41998-1, 50X Inst : GC/MS Ins  
Misc : GC3312,GGB1031,5.019,,100,5,1 Multiplr: 1.00  
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
Quant Time: Dec 21 09:46:03 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)  
Title : 8015B/8021B TVH/BTEX  
Last Update : Thu Dec 20 10:45:38 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

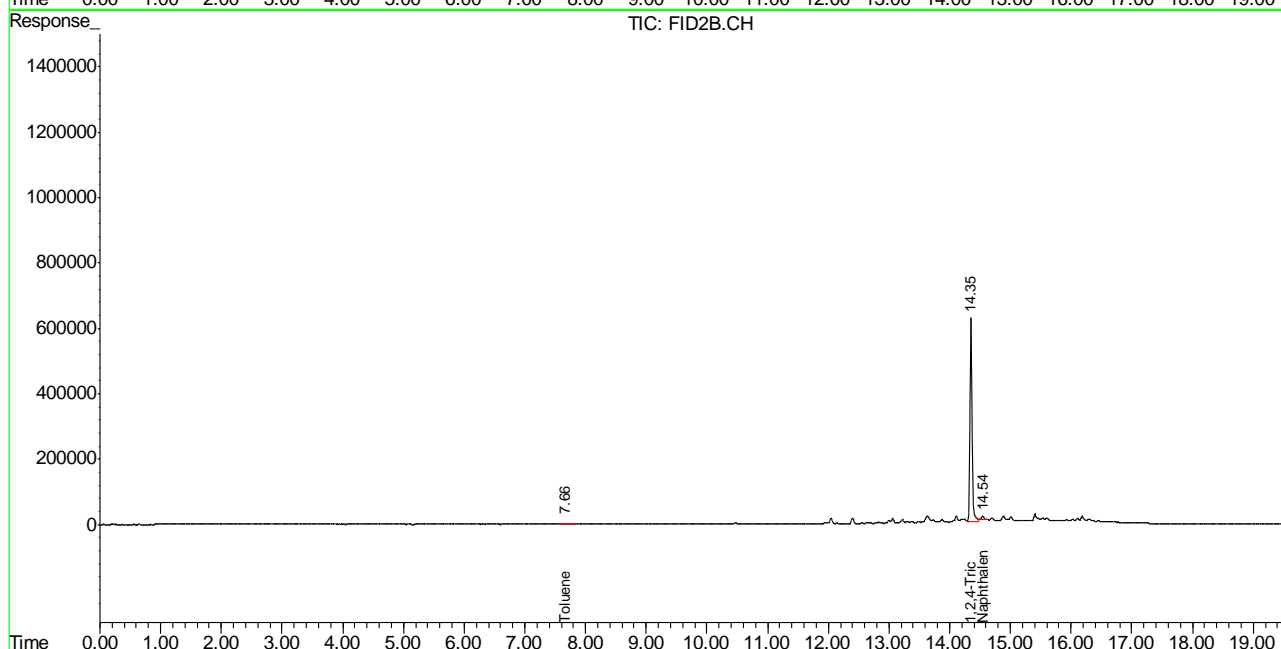
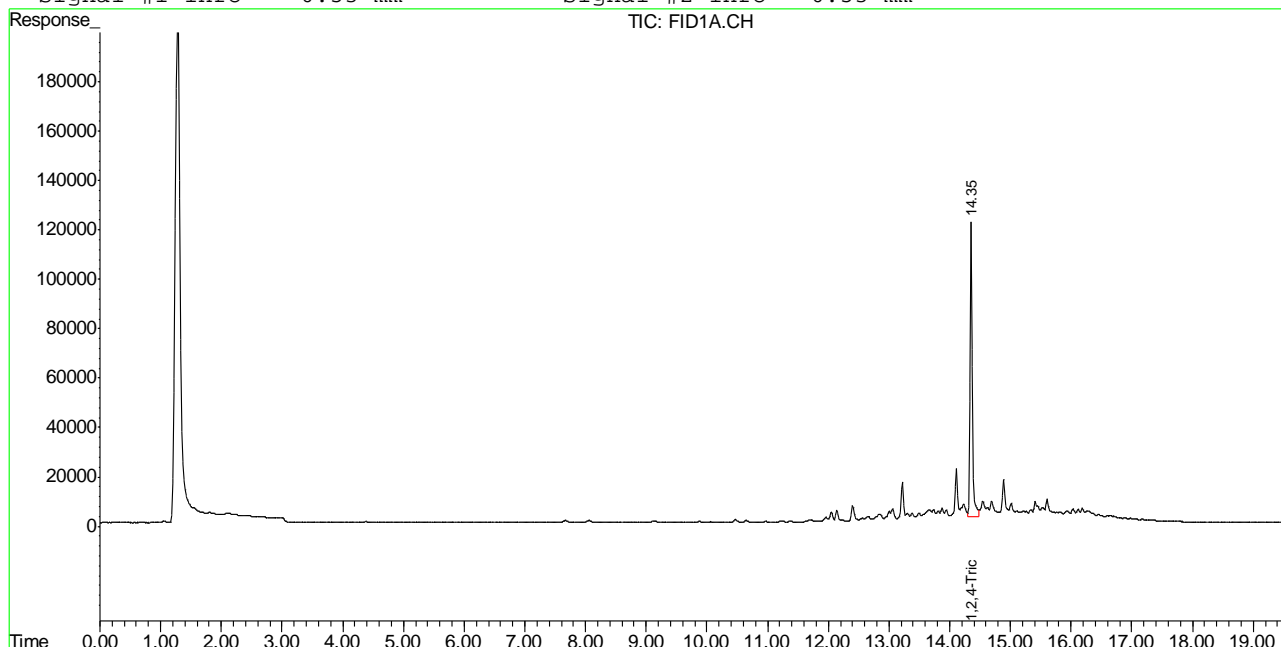
Compound		R.T.	Response	Conc	Units
-----					
System Monitoring Compounds					
2) S	1,2,4-Trichlorobenzene	14.35	3031970	96.763 %	m
10) S	1,2,4-Trichlorobenzene (P)	14.35	15086765	92.826 %	
Target Compounds					
1) H	TVH-Gasoline	7.23	3858072	<MDL	mg/L
4) T	Methyl-t-butyl-ether	0.00	0	N.D.	ug/L d
5) T	Benzene	0.00	0	N.D.	ug/L d
6) T	Toluene	7.66	164952	0.416	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	328989	1.667	ug/L m

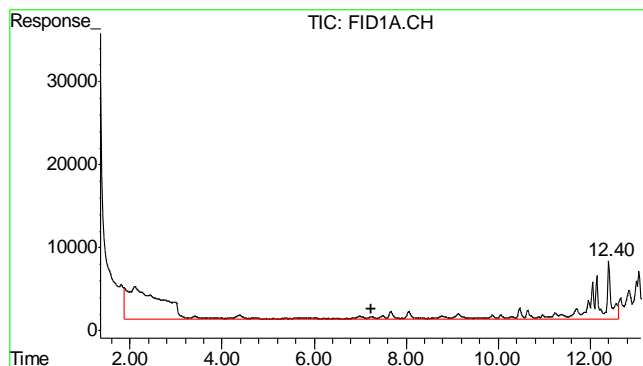
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\122012\GB18927.D\FID1A.CH Vial: 5  
 Signal #2 : Y:\1\DATA\122012\GB18927.D\FID2B.CH  
 Acq On : 20 Dec 2012 12:00 pm Operator: StephK  
 Sample : D41998-1, 50X Inst : GC/MS Ins  
 Misc : GC3312,GGB1031,5.019,,100,5,1 Multiplr: 1.00  
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
 Quant Time: Dec 21 9:47 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)  
 Title : 8015B/8021B TVH/BTEX  
 Last Update : Thu Dec 20 10:45:38 2012  
 Response via : Multiple Level Calibration  
 DataAcq Meth : TVB4.M

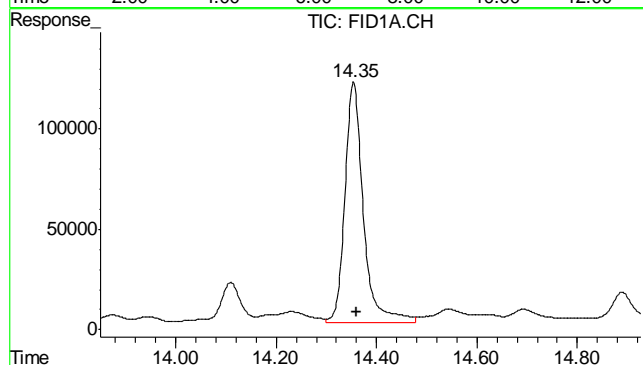
Volume Inj. :  
 Signal #1 Phase : DB-624 Signal #2 Phase: DB-624  
 Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





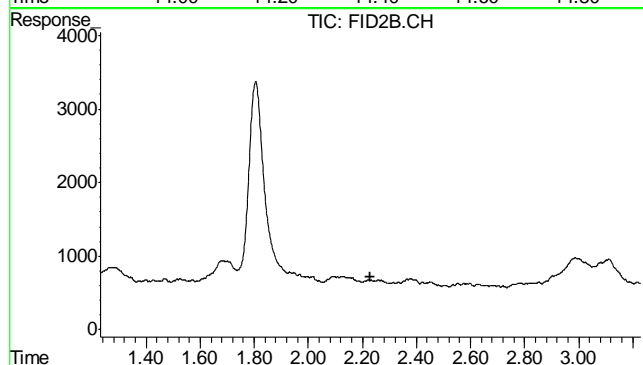
#1 TVH-Gasoline

R.T.: 7.230 min  
Delta R.T.: 0.000 min  
Response: 3858072  
Conc: N.D.



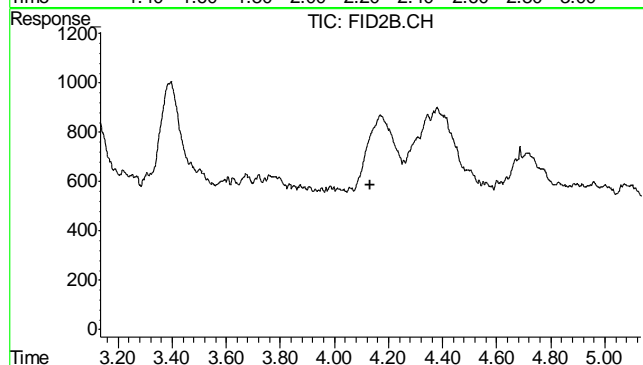
#2 1,2,4-Trichlorobenzene

R.T.: 14.353 min  
Delta R.T.: -0.006 min  
Response: 3031970  
Conc: 96.76 % m



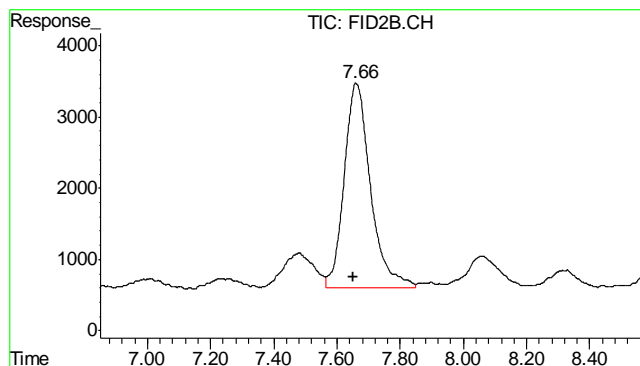
#4 Methyl-t-butyl-ether

R.T.: 0.000 min  
Exp R.T.: 2.231 min  
Response: 0  
Conc: N.D.



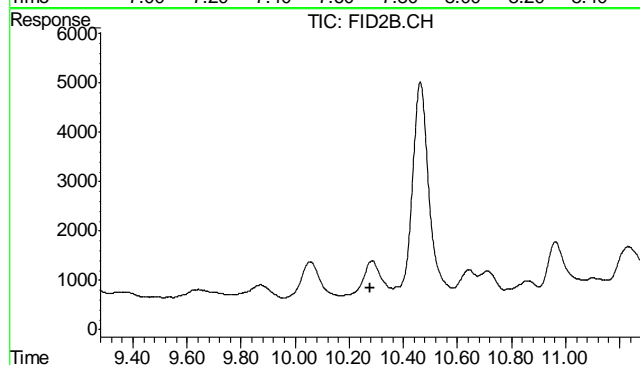
#5 Benzene

R.T.: 0.000 min  
Exp R.T.: 4.134 min  
Response: 0  
Conc: N.D.



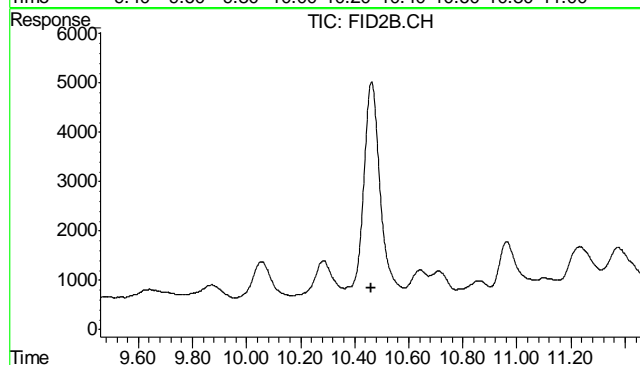
#6 Toluene

R.T.: 7.660 min  
Delta R.T.: 0.010 min  
Response: 164952  
Conc: 0.42 ug/L



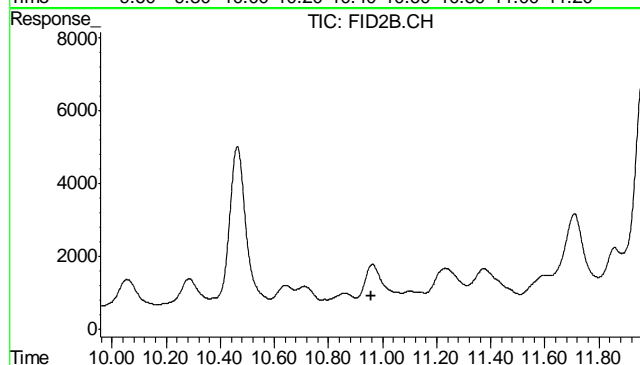
#7 Ethylbenzene

R.T.: 0.000 min  
Exp R.T.: 10.279 min  
Response: 0  
Conc: N.D.



#8 m,p-Xylene

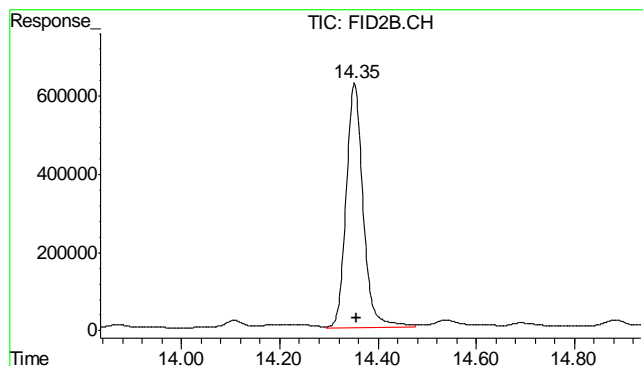
R.T.: 0.000 min  
Exp R.T.: 10.459 min  
Response: 0  
Conc: N.D.



#9 o-Xylene

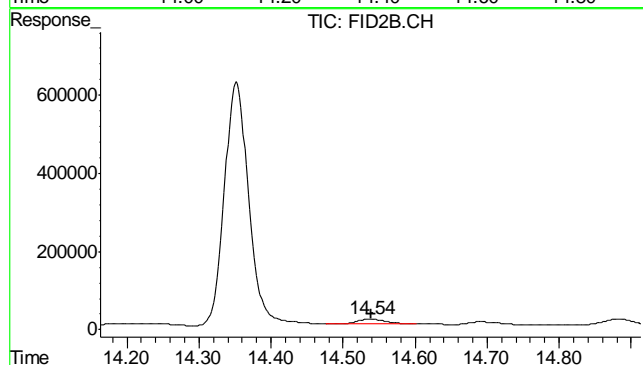
R.T.: 0.000 min  
Exp R.T.: 10.956 min  
Response: 0  
Conc: N.D.





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

R.T.: 14.352 min  
Delta R.T.: -0.005 min  
Response: 15086765  
Conc: 92.83 %



#11 Naphthalene

R.T.: 14.538 min  
Delta R.T.: -0.001 min  
Response: 328989  
Conc: 1.67 ug/L m

7.1.1  
7

Judy Melson  
12/21/12 11:53

## Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\122012\GB18930.D\FID1A.CH Vial: 8  
 Signal #2 : Y:\1\DATA\122012\GB18930.D\FID2B.CH  
 Acq On : 20 Dec 2012 1:47 pm Operator: StephK  
 Sample : D41998-2, 50X Inst : GC/MS Ins  
 Misc : GC3312,GGB1031,5.075,,100,5,1 Multiplr: 1.00  
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
 Quant Time: Dec 21 09:46:15 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)  
 Title : 8015B/8021B TVH/BTEX  
 Last Update : Thu Dec 20 10:45:38 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	14.35	2986751	95.320 %	m
10) S 1,2,4-Trichlorobenzene (P)	14.35	15112032	92.981 %	
Target Compounds				
1) H TVH-Gasoline	7.23	3390276	<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	7.66	129768	0.327	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	113797	0.577	ug/L m

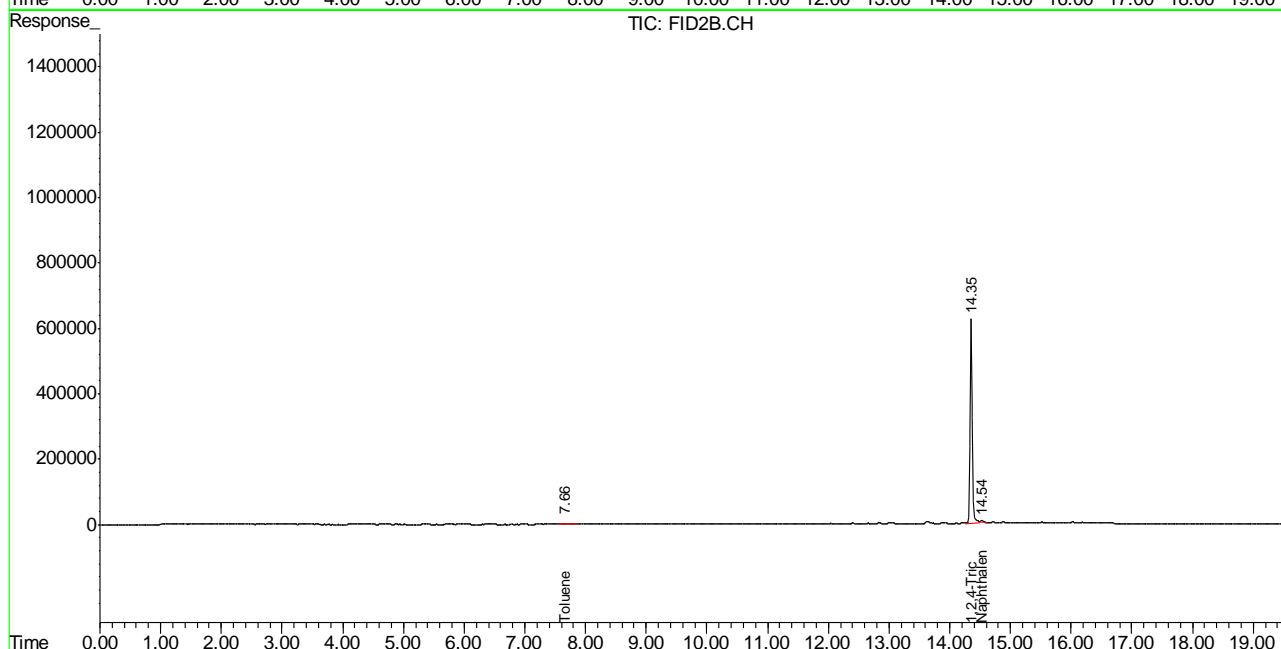
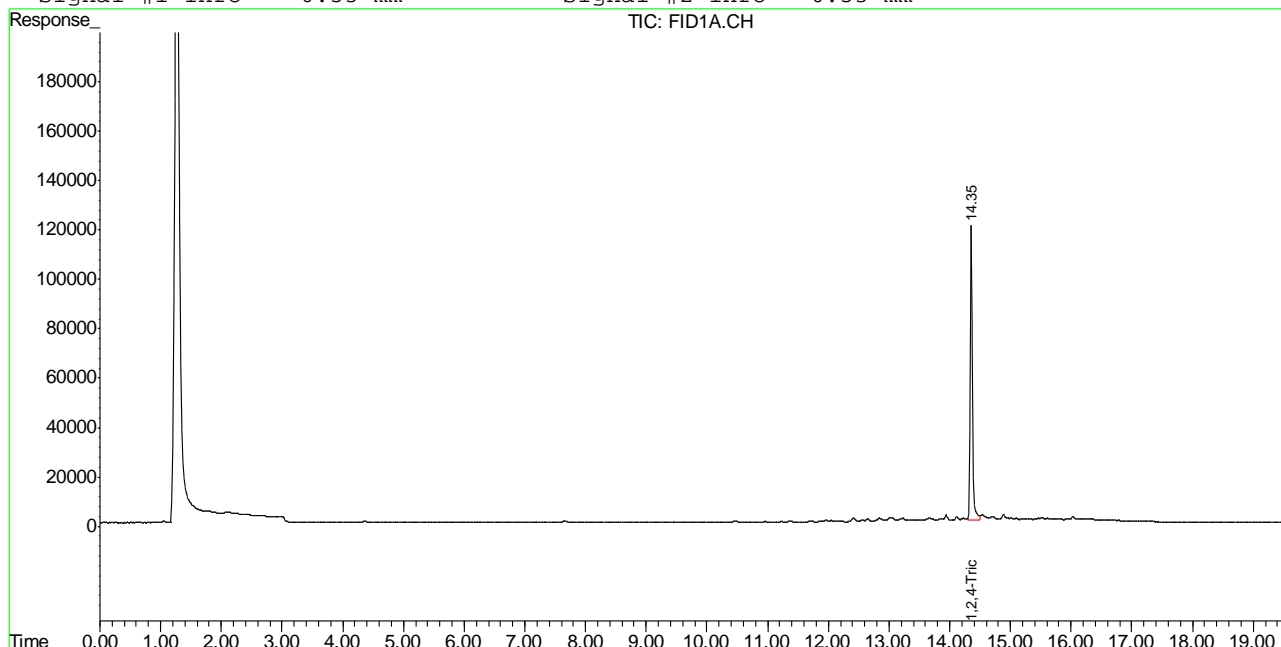
(f)=RT Delta > 1/2 Window (m)=manual int.  
 GB18930.D TB868GB868SOIL.M Fri Dec 21 11:44:38 2012 GC

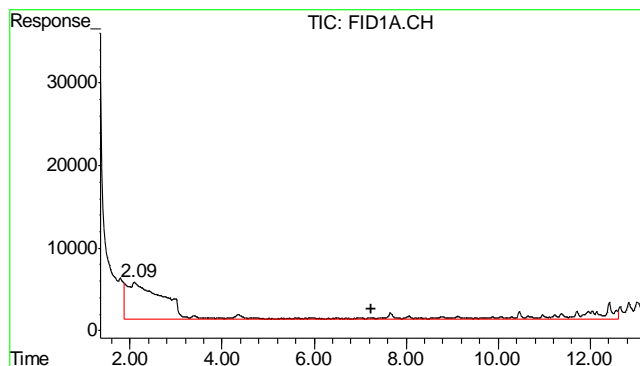
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\122012\GB18930.D\FID1A.CH Vial: 8  
 Signal #2 : Y:\1\DATA\122012\GB18930.D\FID2B.CH  
 Acq On : 20 Dec 2012 1:47 pm Operator: StephK  
 Sample : D41998-2, 50X Inst : GC/MS Ins  
 Misc : GC3312,GGB1031,5.075,,100,5,1 Multiplr: 1.00  
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
 Quant Time: Dec 21 9:48 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)  
 Title : 8015B/8021B TVH/BTEX  
 Last Update : Thu Dec 20 10:45:38 2012  
 Response via : Multiple Level Calibration  
 DataAcq Meth : TVB4.M

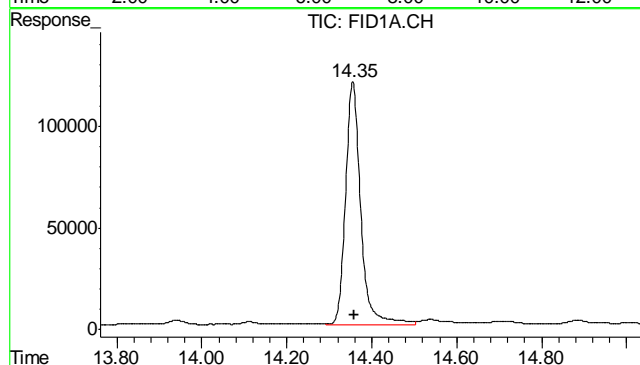
Volume Inj. :  
 Signal #1 Phase : DB-624 Signal #2 Phase: DB-624  
 Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





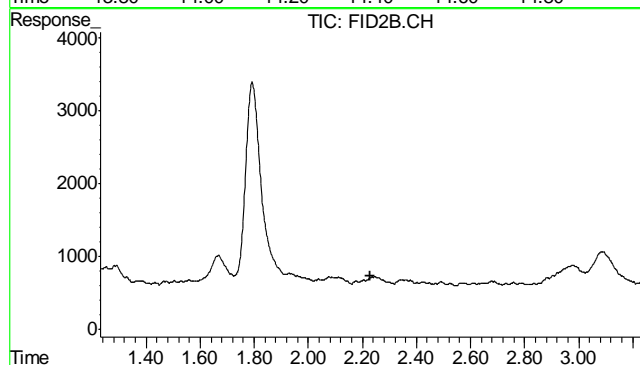
#1 TVH-Gasoline

R.T.: 7.230 min  
Delta R.T.: 0.000 min  
Response: 3390276  
Conc: N.D.



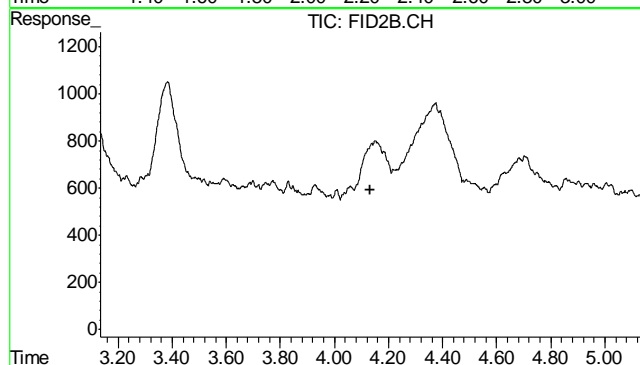
#2 1,2,4-Trichlorobenzene

R.T.: 14.355 min  
Delta R.T.: -0.005 min  
Response: 2986751  
Conc: 95.32 % m



#4 Methyl-t-butyl-ether

R.T.: 0.000 min  
Exp R.T.: 2.231 min  
Response: 0  
Conc: N.D.

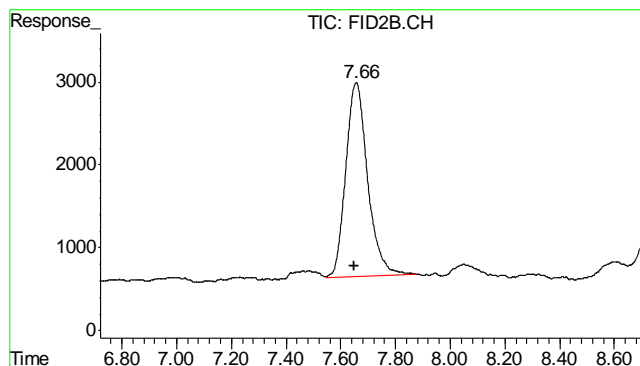


#5 Benzene

R.T.: 0.000 min  
Exp R.T.: 4.134 min  
Response: 0  
Conc: N.D.

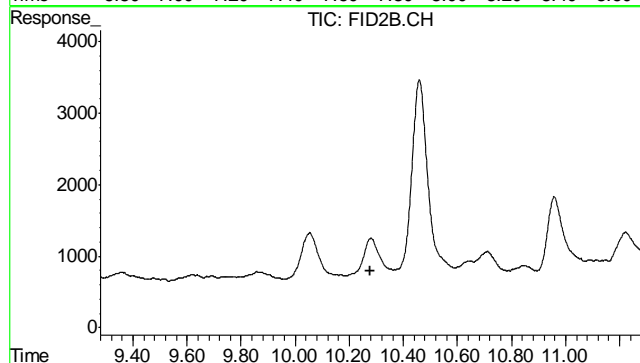
7.1.2

7



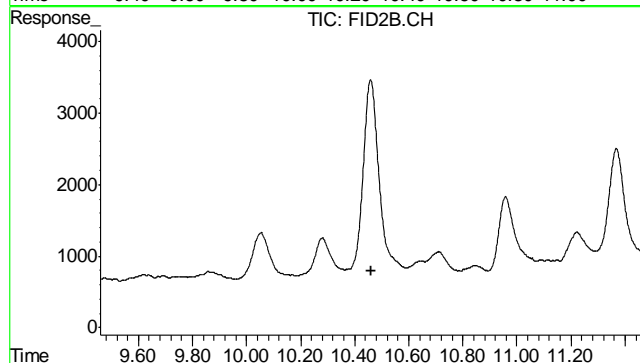
#6 Toluene

R.T.: 7.657 min  
Delta R.T.: 0.007 min  
Response: 129768  
Conc: 0.33 ug/L



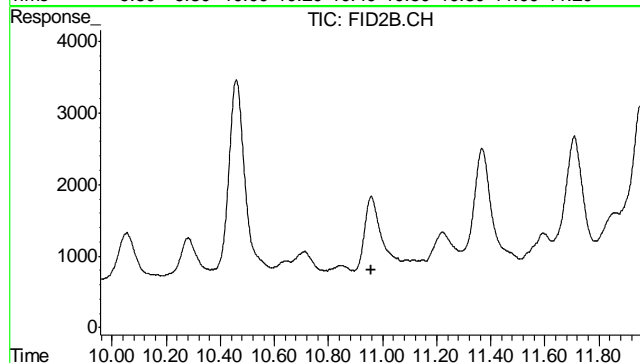
#7 Ethylbenzene

R.T.: 0.000 min  
Exp R.T.: 10.279 min  
Response: 0  
Conc: N.D.



#8 m,p-Xylene

R.T.: 0.000 min  
Exp R.T.: 10.459 min  
Response: 0  
Conc: N.D.

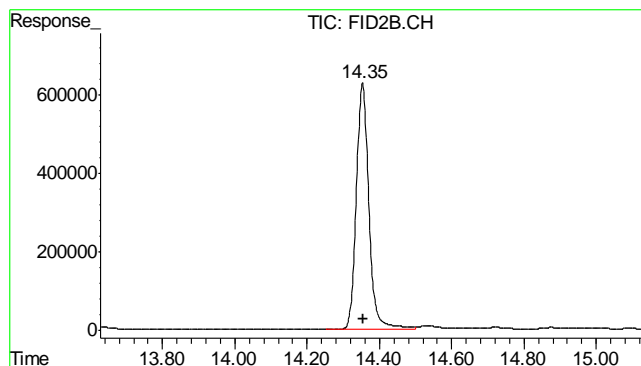


#9 o-Xylene

R.T.: 0.000 min  
Exp R.T.: 10.956 min  
Response: 0  
Conc: N.D.

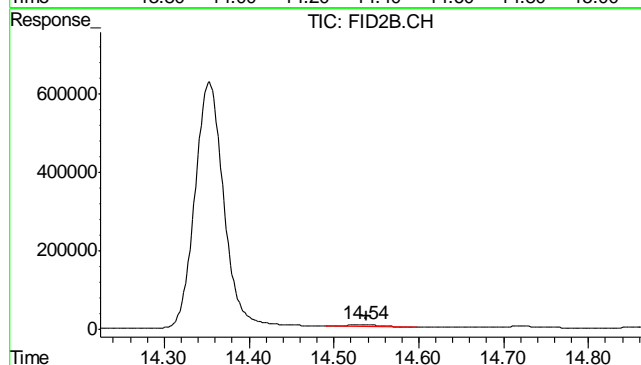
7.1.2

7



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

R.T.: 14.353 min  
 Delta R.T.: -0.004 min  
 Response: 15112032  
 Conc: 92.98 %



#11 Naphthalene

R.T.: 14.535 min  
 Delta R.T.: -0.004 min  
 Response: 113797  
 Conc: 0.58 ug/L m

7.1.2

7

Judy Melson  
12/21/12 11:53

## Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\122012\GB18931.D\FID1A.CH Vial: 9  
 Signal #2 : Y:\1\DATA\122012\GB18931.D\FID2B.CH  
 Acq On : 20 Dec 2012 2:22 pm Operator: StephK  
 Sample : D41998-3, 50X Inst : GC/MS Ins  
 Misc : GC3312,GGB1031,5.028,,100,5,1 Multiplr: 1.00  
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
 Quant Time: Dec 21 09:46:19 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)  
 Title : 8015B/8021B TVH/BTEX  
 Last Update : Thu Dec 20 10:45:38 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	2859505	91.259 %	m
10) S 1,2,4-Trichlorobenzene (P)	14.36	14568923	89.640 %	
Target Compounds				
1) H TVH-Gasoline	7.23	2928098	<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	7.66	80151	0.202	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	55311	0.280	ug/L m

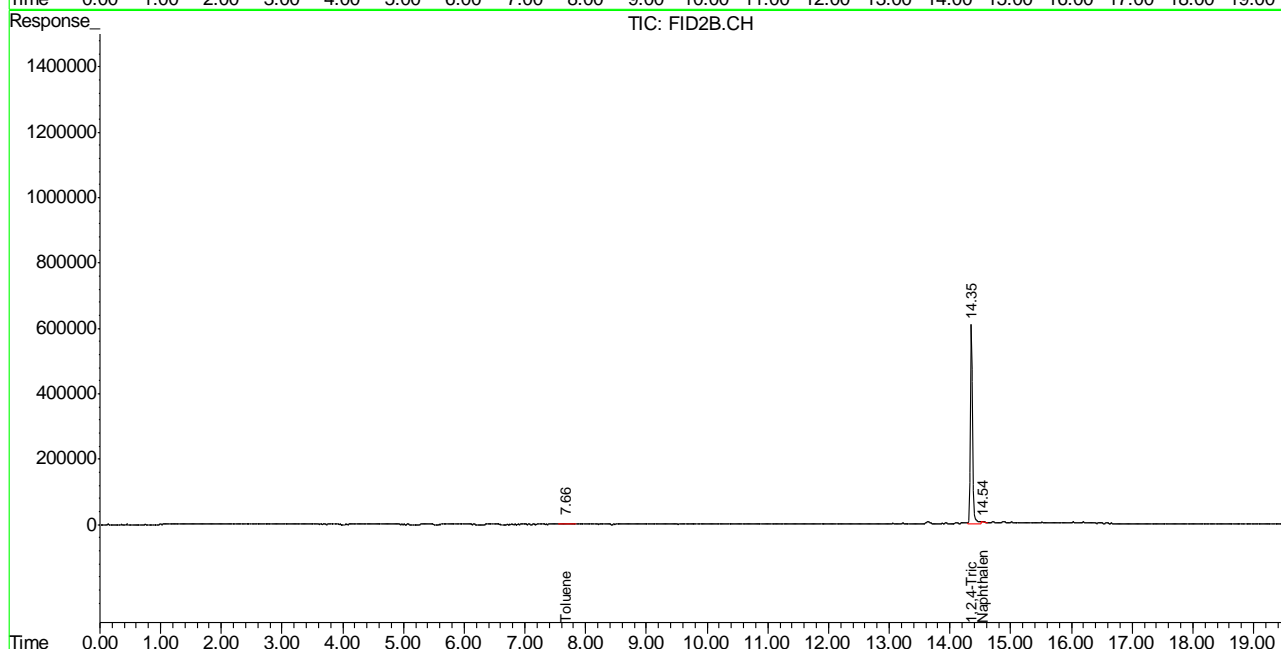
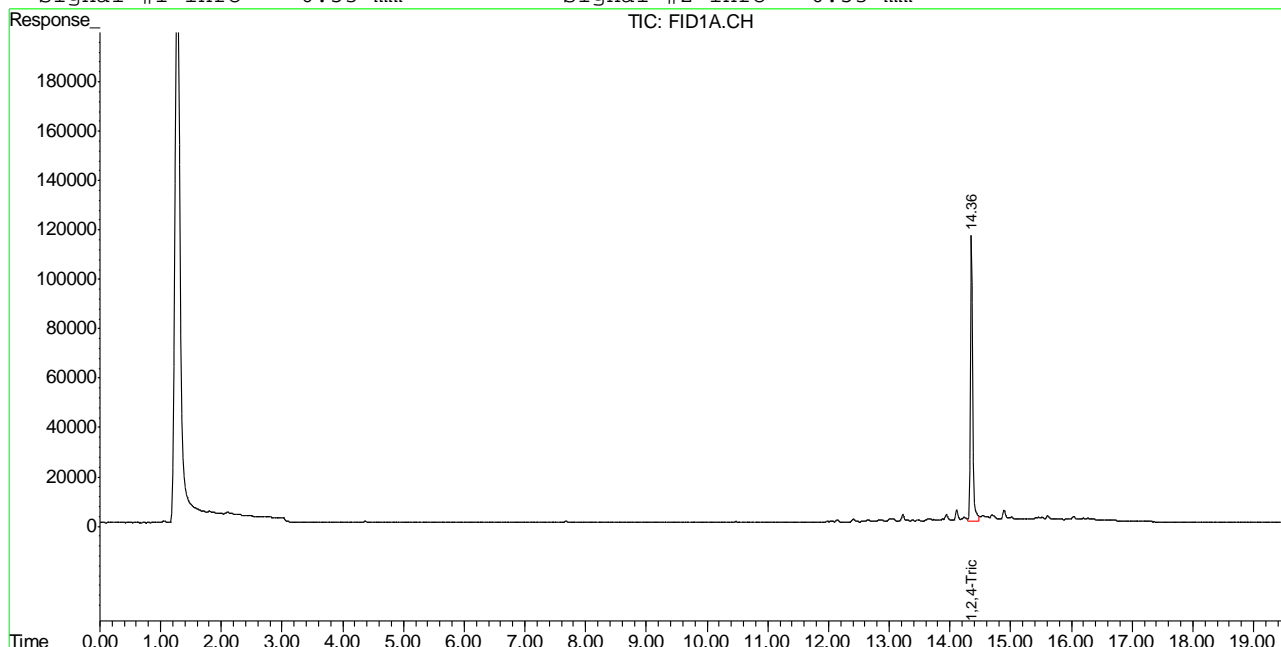
(f)=RT Delta > 1/2 Window (m)=manual int.  
 GB18931.D TB868GB868SOIL.M Fri Dec 21 11:44:41 2012 GC

Quantitation Report (QT Reviewed)

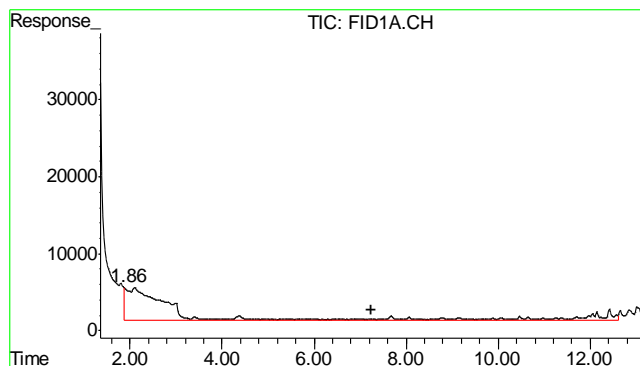
Signal #1 : Y:\1\DATA\122012\GB18931.D\FID1A.CH Vial: 9  
 Signal #2 : Y:\1\DATA\122012\GB18931.D\FID2B.CH  
 Acq On : 20 Dec 2012 2:22 pm Operator: StephK  
 Sample : D41998-3, 50X Inst : GC/MS Ins  
 Misc : GC3312,GGB1031,5.028,,100,5,1 Multiplr: 1.00  
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
 Quant Time: Dec 21 9:49 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)  
 Title : 8015B/8021B TVH/BTEX  
 Last Update : Thu Dec 20 10:45:38 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

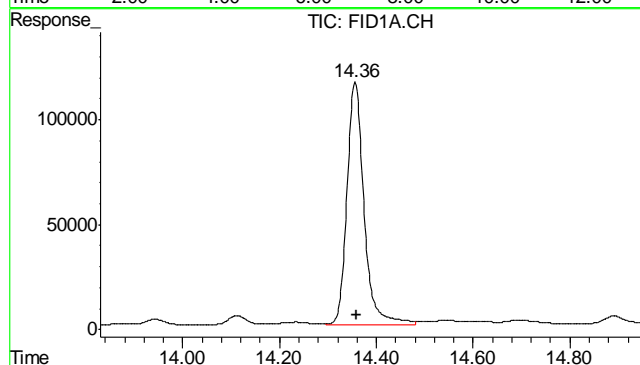






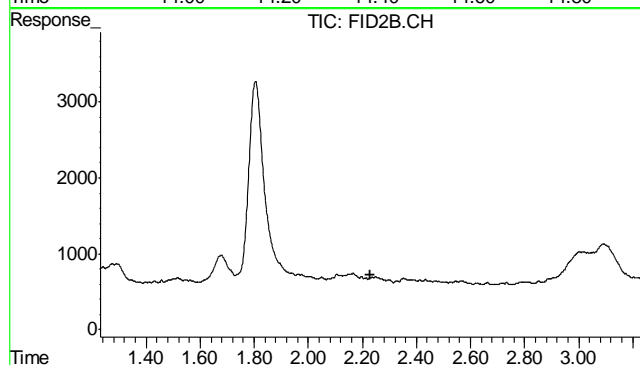
#1 TVH-Gasoline

R.T.: 7.230 min  
Delta R.T.: 0.000 min  
Response: 2928098  
Conc: N.D.



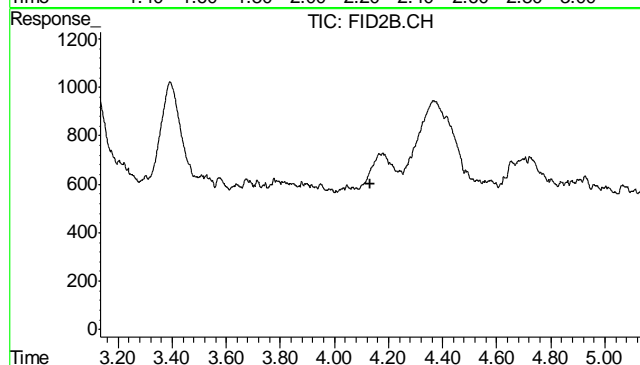
#2 1,2,4-Trichlorobenzene

R.T.: 14.356 min  
Delta R.T.: -0.004 min  
Response: 2859505  
Conc: 91.26 % m



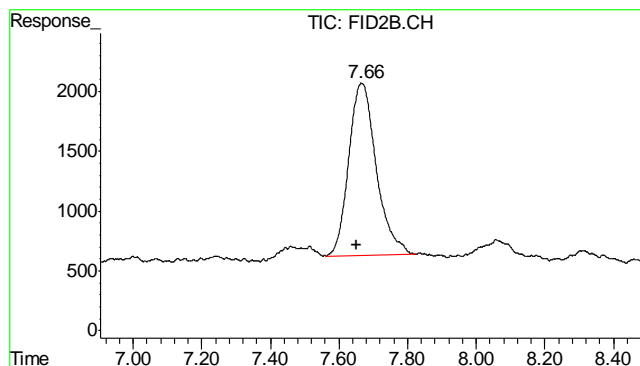
#4 Methyl-t-butyl-ether

R.T.: 0.000 min  
Exp R.T.: 2.231 min  
Response: 0  
Conc: N.D.



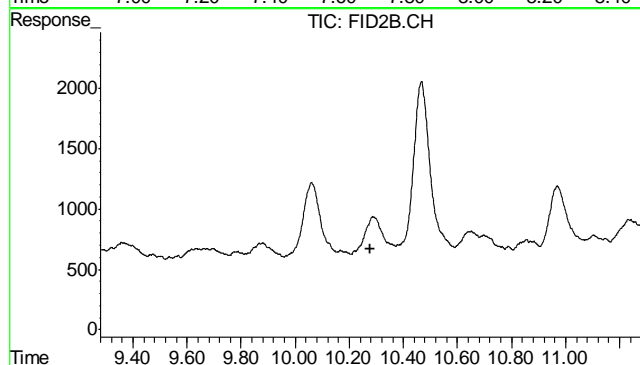
#5 Benzene

R.T.: 0.000 min  
Exp R.T.: 4.134 min  
Response: 0  
Conc: N.D.



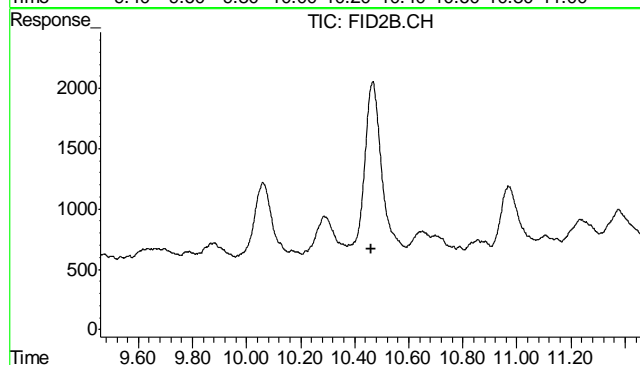
#6 Toluene

R.T.: 7.664 min  
Delta R.T.: 0.014 min  
Response: 80151  
Conc: 0.20 ug/L



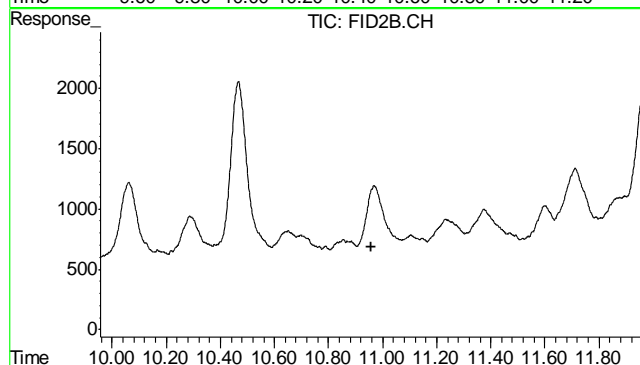
#7 Ethylbenzene

R.T.: 0.000 min  
Exp R.T.: 10.279 min  
Response: 0  
Conc: N.D.



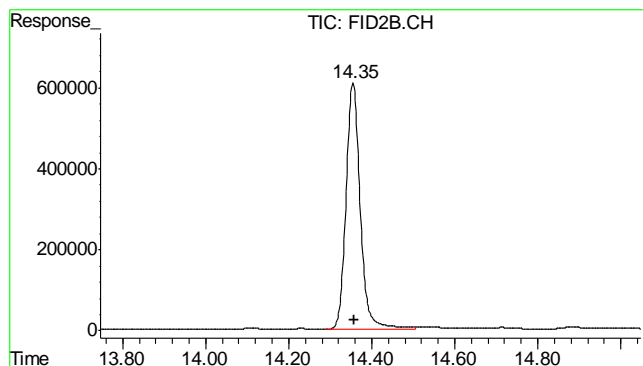
#8 m,p-Xylene

R.T.: 0.000 min  
Exp R.T.: 10.459 min  
Response: 0  
Conc: N.D.



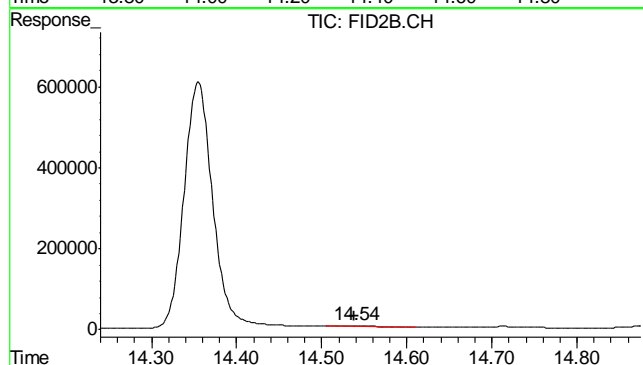
#9 o-Xylene

R.T.: 0.000 min  
Exp R.T.: 10.956 min  
Response: 0  
Conc: N.D.



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

R.T.: 14.355 min  
 Delta R.T.: -0.002 min  
 Response: 14568923  
 Conc: 89.64 %



#11 Naphthalene

R.T.: 14.538 min  
 Delta R.T.: 0.000 min  
 Response: 55311  
 Conc: 0.28 ug/L m

7.1.3  
7

Judy Melson  
12/21/12 11:53

## Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\122012\GB18925.D\FID1A.CH Vial: 3  
Signal #2 : Y:\1\DATA\122012\GB18925.D\FID2B.CH  
Acq On : 20 Dec 2012 10:49 am Operator: StephK  
Sample : MB Inst : GC/MS Ins  
Misc : GC3312,GGB1031,5.000,,100,5,1 Multiplr: 1.00  
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
Quant Time: Dec 20 11:13:14 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)  
Title : 8015B/8021B TVH/BTEX  
Last Update : Thu Dec 20 10:45:38 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	14.37	2892331	92.306 %	m
10) S 1,2,4-Trichlorobenzene (P)	14.36	14854929	91.399 %	
Target Compounds				
1) H TVH-Gasoline	7.23	3036600	<MDL	mg/L
4) T Methyl-t-butyl-ether	0.00	0	N.D.	ug/L d
5) T Benzene	0.00	0	N.D.	ug/L d
6) T Toluene	7.67	156128	0.394	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	14.55	27710	0.140	ug/L m

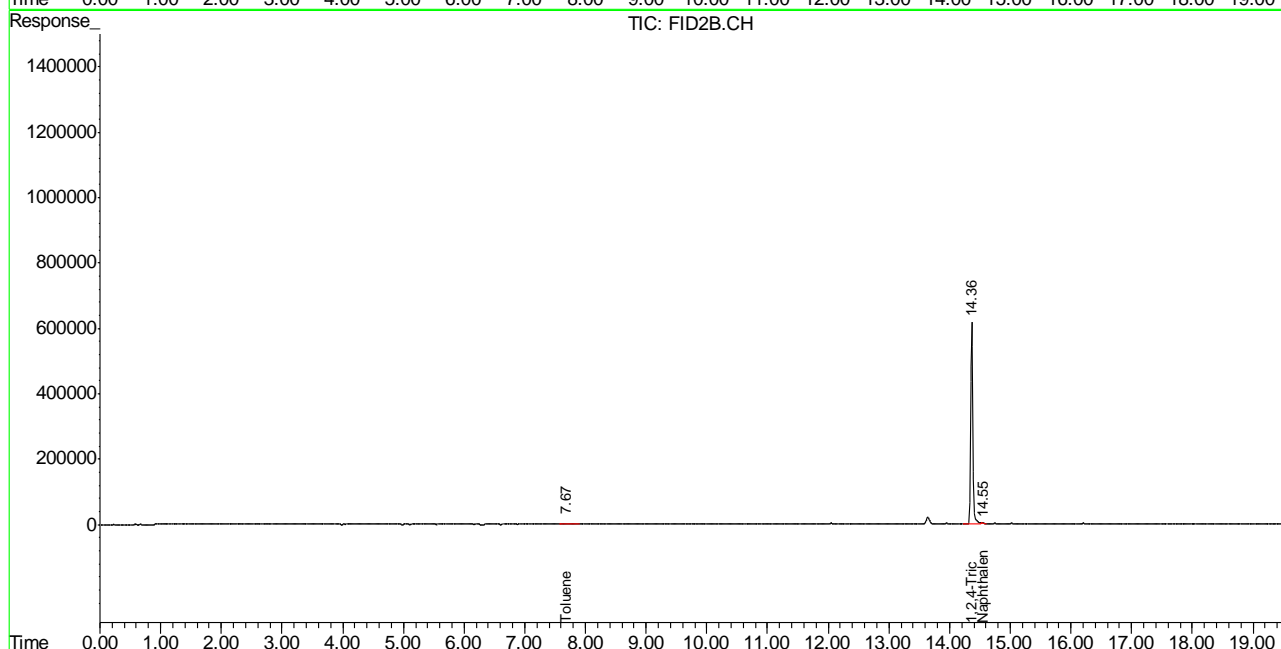
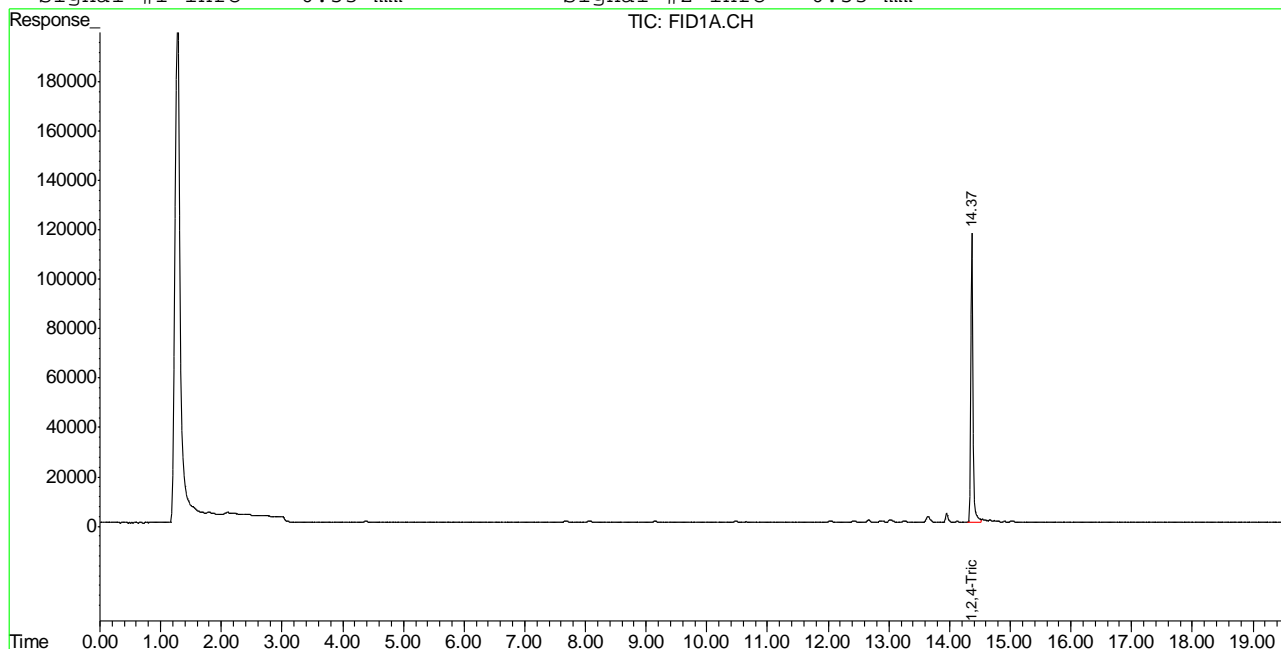
-----  
(f)=RT Delta > 1/2 Window (m)=manual int.  
GB18925.D TB868GB868SOIL.M Fri Dec 21 09:52:29 2012 GC

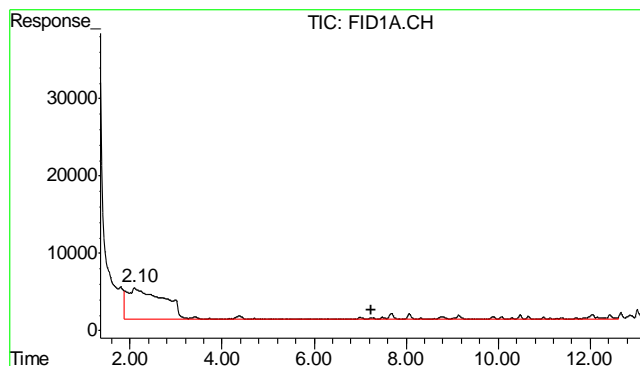
## Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\122012\GB18925.D\FID1A.CH Vial: 3  
Signal #2 : Y:\1\DATA\122012\GB18925.D\FID2B.CH  
Acq On : 20 Dec 2012 10:49 am Operator: StephK  
Sample : MB Inst : GC/MS Ins  
Misc : GC3312,GGB1031,5.000,,100,5,1 Multiplr: 1.00  
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
Quant Time: Dec 20 11:13 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)  
Title : 8015B/8021B TVH/BTEX  
Last Update : Thu Dec 20 10:45:38 2012  
Response via : Multiple Level Calibration  
DataAcq Meth : TVB4.M

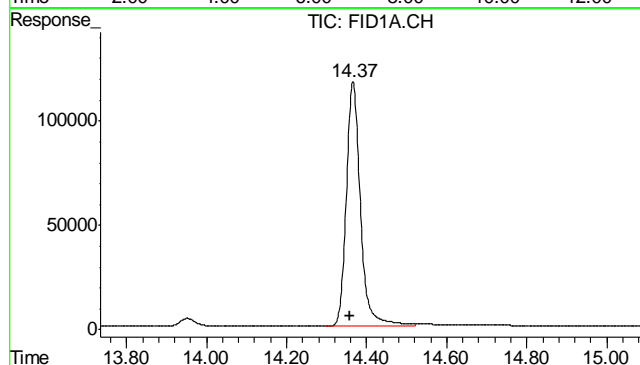
Volume Inj. :  
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624  
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





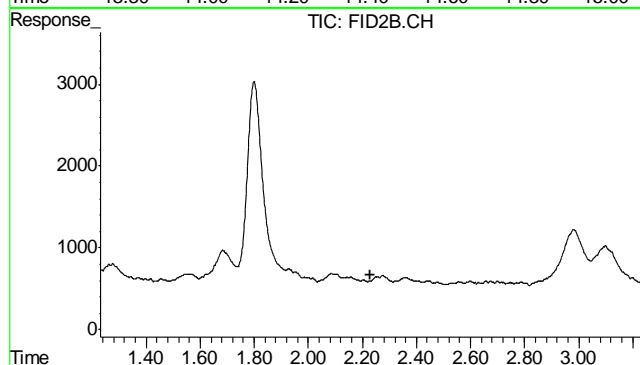
#1 TVH-Gasoline

R.T.: 7.230 min  
Delta R.T.: 0.000 min  
Response: 3036600  
Conc: N.D.



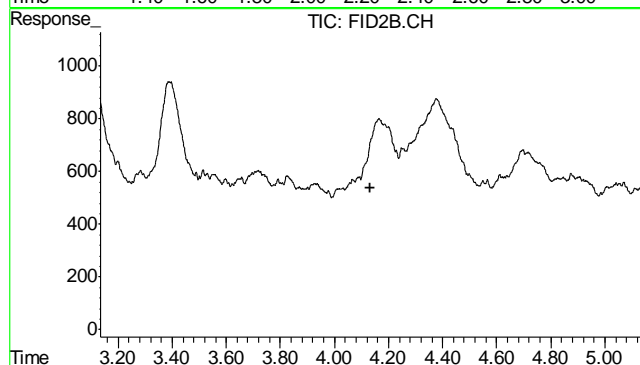
#2 1,2,4-Trichlorobenzene

R.T.: 14.365 min  
Delta R.T.: 0.006 min  
Response: 2892331  
Conc: 92.31 % m



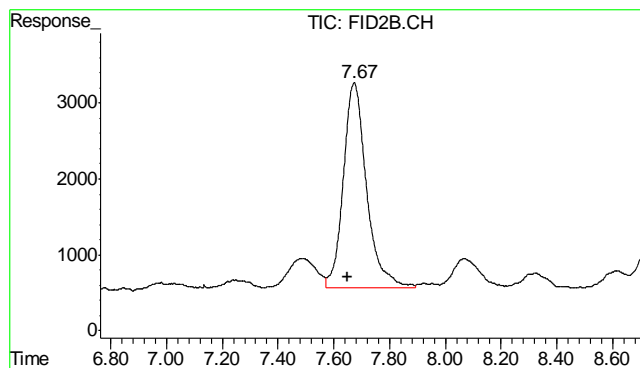
#4 Methyl-t-butyl-ether

R.T.: 0.000 min  
Exp R.T.: 2.231 min  
Response: 0  
Conc: N.D.



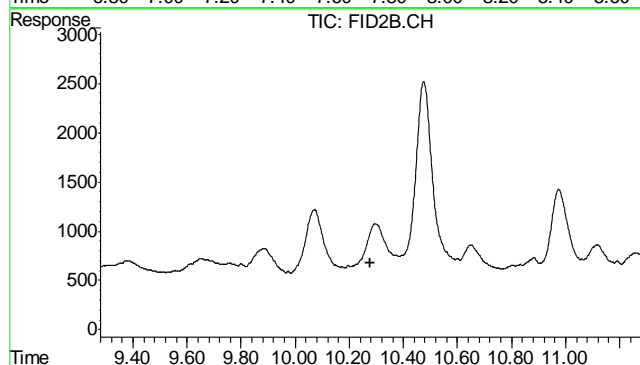
#5 Benzene

R.T.: 0.000 min  
Exp R.T.: 4.134 min  
Response: 0  
Conc: N.D.



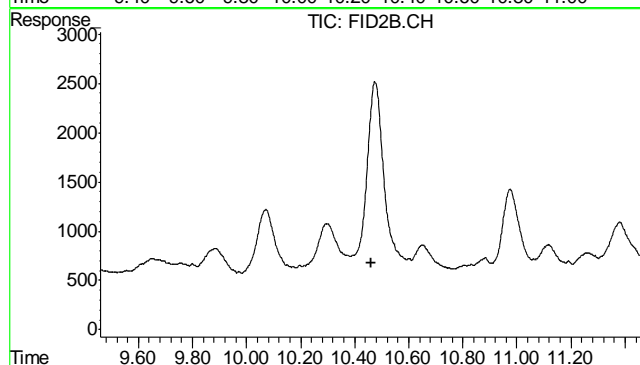
#6 Toluene

R.T.: 7.674 min  
Delta R.T.: 0.024 min  
Response: 156128  
Conc: 0.39 ug/L



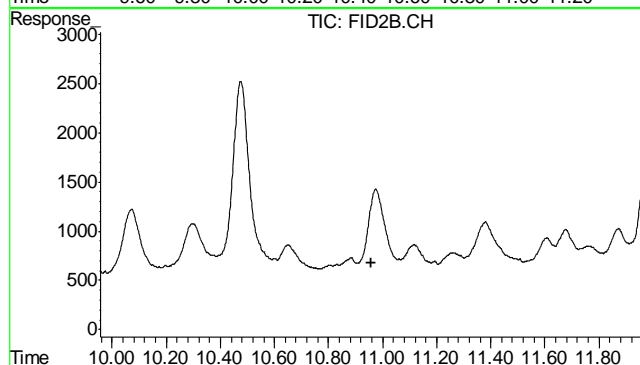
#7 Ethylbenzene

R.T.: 0.000 min  
Exp R.T.: 10.279 min  
Response: 0  
Conc: N.D.



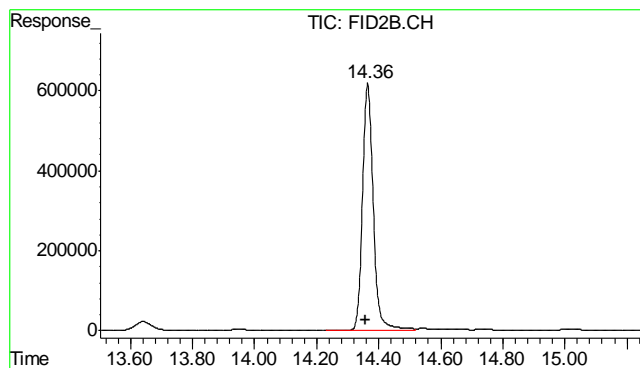
#8 m,p-Xylene

R.T.: 0.000 min  
Exp R.T.: 10.459 min  
Response: 0  
Conc: N.D.



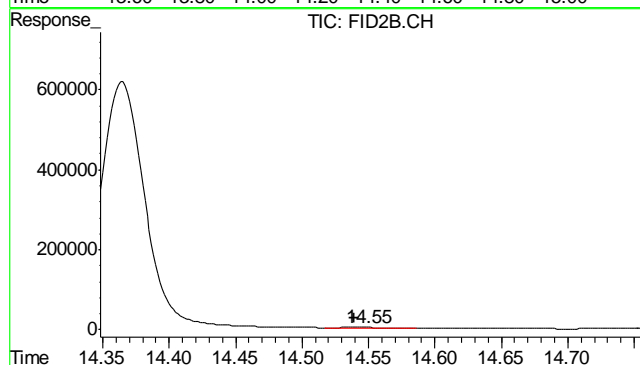
#9 o-Xylene

R.T.: 0.000 min  
Exp R.T.: 10.956 min  
Response: 0  
Conc: N.D.



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

R.T.: 14.365 min  
Delta R.T.: 0.007 min  
Response: 14854929  
Conc: 91.40 %



#11 Naphthalene

R.T.: 14.548 min  
Delta R.T.: 0.009 min  
Response: 27710  
Conc: 0.14 ug/L m

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:** D41998  
**Account:** XTOKRWR XTO Energy  
**Project:** NPU 196-19B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP7131-MB	FD20702.D	1	12/20/12	AV	12/20/12	OP7131	GFD1038

The QC reported here applies to the following samples:

Method: SW846-8015B

D41998-1, D41998-2, D41998-3

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	6.7	4.0	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	66% 35-130%

8.1.1

8

## Blank Spike Summary

Page 1 of 1

Job Number: D41998

Account: XTOKRWR XTO Energy

Project: NPU 196-19B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP7131-BS	FD20703.D	1	12/20/12	AV	12/20/12	OP7131	GFD1038

The QC reported here applies to the following samples:

Method: SW846-8015B

D41998-1, D41998-2, D41998-3

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	601	90	48-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	75%	35-130%

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D41998  
Account: XTOKRWR XTO Energy  
Project: NPU 196-19B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP7131-MS	FD20714.D	20	12/20/12	AV	12/20/12	OP7131	GFD1038
OP7131-MSD	FD20715.D	20	12/20/12	AV	12/20/12	OP7131	GFD1038
D41999-1	FD20710.D	20	12/20/12	AV	12/20/12	OP7131	GFD1038

The QC reported here applies to the following samples:

Method: SW846-8015B

D41998-1, D41998-2, D41998-3

CAS No.	Compound	D41999-1 mg/kg	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	7550	760	8090	71	5350	-289* a	41* a	20-168/30

CAS No.	Surrogate Recoveries	MS	MSD	D41999-1	Limits
84-15-1	o-Terphenyl	41%	36%	50%	35-130%

(a) Variability of recovery may be due to sample matrix/homogeneity.

\* = Outside of Control Limits.

## GC Semi-volatiles

### Raw Data

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\DEC\FD122012\FD20707.D Vial: 7  
Acq On : 12-20-2012 05:22:18 PM Operator: ashleyv  
Sample : D41998-1 Inst : FID5  
Misc : OP7131,GFD1038,30.04,,,1,1 Multiplr: 1.00  
IntFile : autoint1.e  
Quant Time: Dec 21 08:16:30 2012 Quant Results File: DRO-GFD982F.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD982F.M (Chemstation Integrator)  
Title : 8015B TEH  
Last Update : Thu Dec 20 16:48:27 2012  
Response via : Initial Calibration  
DataAcq Meth : DRO\_FR.M

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

Compound	R.T.	Response	Conc Units
-----			
System Monitoring Compounds			
1) S O-Terphenyl	8.83	46448343	839.473 mg/L
Target Compounds			
2) H TPH-DRO (c10-c28)	6.89	63192038	1664.013 mg/L

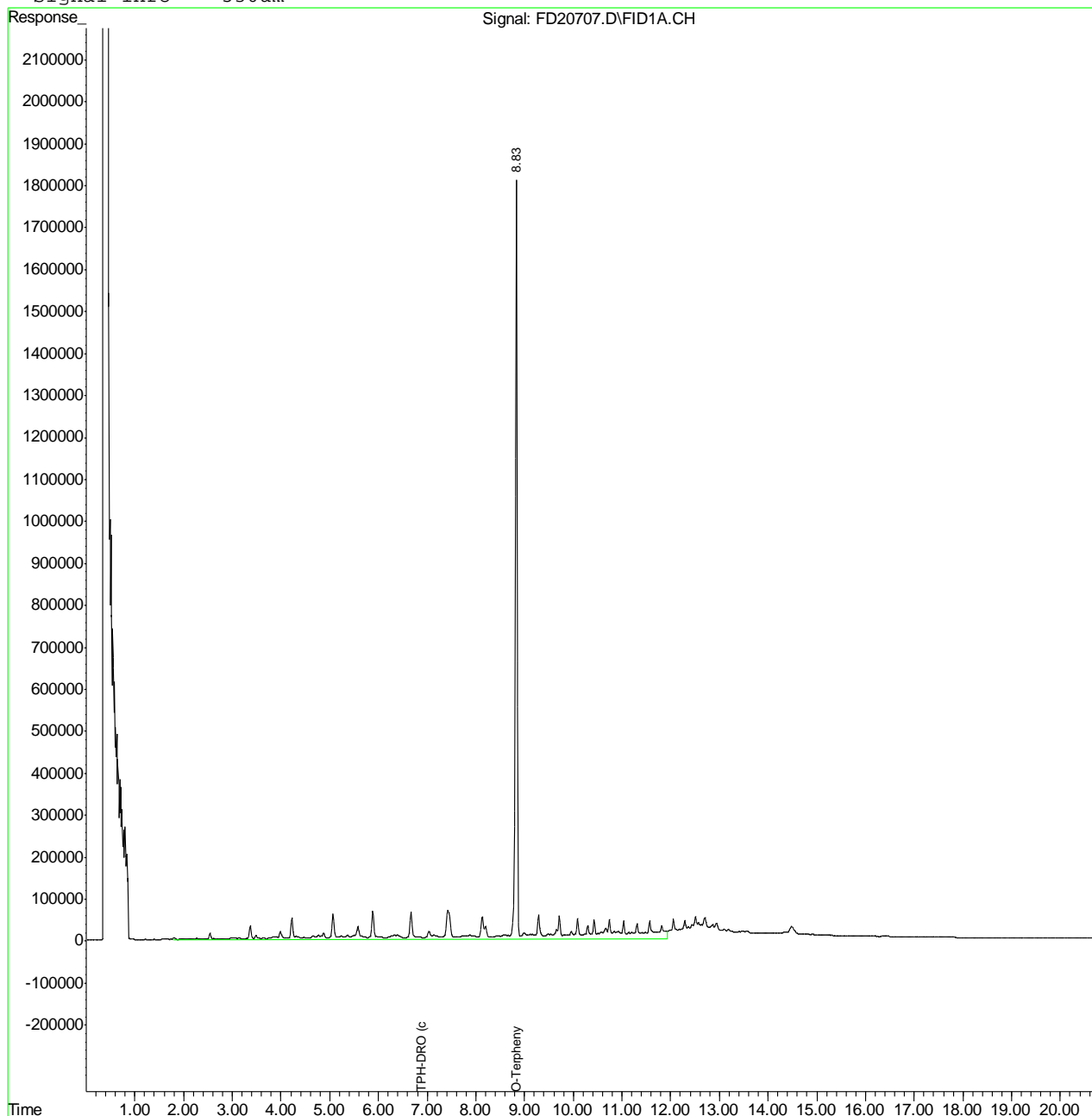
9.1.1  
9

Quantitation Report (QT Reviewed)

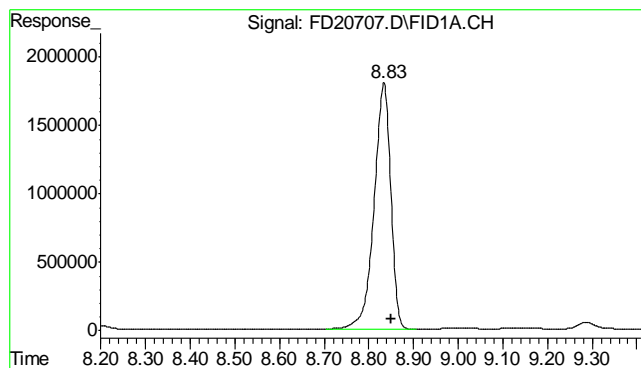
Data File : C:\MSDCHEM\2\DATA\2012\DEC\FD122012\FD20707.D Vial: 7  
 Acq On : 12-20-2012 05:22:18 PM Operator: ashleyv  
 Sample : D41998-1 Inst : FID5  
 Misc : OP7131,GFD1038,30.04,,,1,1 Multiplr: 1.00  
 IntFile : autoint1.e  
 Quant Time: Dec 21 8:23 2012 Quant Results File: DRO-GFD982F.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD982F.M (Chemstation Integrator)  
 Title : 8015B TEH  
 Last Update : Thu Dec 20 16:48:27 2012  
 Response via : Multiple Level Calibration  
 DataAcq Meth : DRO\_FR.M

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

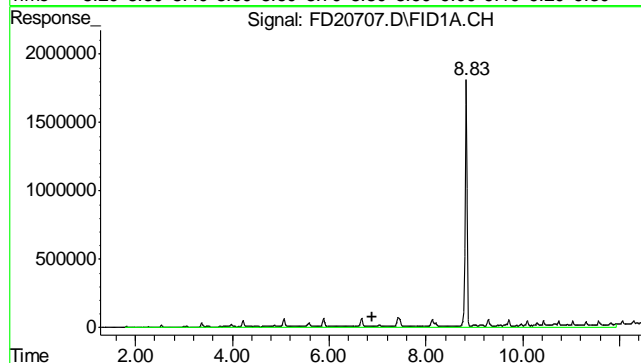


9.1.1  
**9**



#1 O-Terphenyl

R.T.: 8.834 min  
 Delta R.T.: -0.016 min  
 Response: 46448343  
 Conc: 839.47 mg/L



#2 TPH-DRO (c10-c28)

R.T.: 6.895 min  
 Delta R.T.: 0.000 min  
 Response: 63192038  
 Conc: 1664.01 mg/L m

9.1.1  
**9**



Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\DEC\FD122012\FD20708.D Vial: 8  
Acq On : 12-20-2012 05:48:47 PM Operator: ashleyv  
Sample : D41998-2 Inst : FID5  
Misc : OP7131,GFD1038,30.13,,,1,1 Multiplr: 1.00  
IntFile : autoint1.e  
Quant Time: Dec 21 08:16:31 2012 Quant Results File: DRO-GFD982F.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD982F.M (Chemstation Integrator)  
Title : 8015B TEH  
Last Update : Thu Dec 20 16:48:27 2012  
Response via : Initial Calibration  
DataAcq Meth : DRO\_FR.M

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

Compound	R.T.	Response	Conc Units
-----			
System Monitoring Compounds			
1) S O-Terphenyl	8.84	65652806	1186.560 mg/L
Target Compounds			
2) H TPH-DRO (c10-c28)	6.89	60190720	1584.981 mg/L

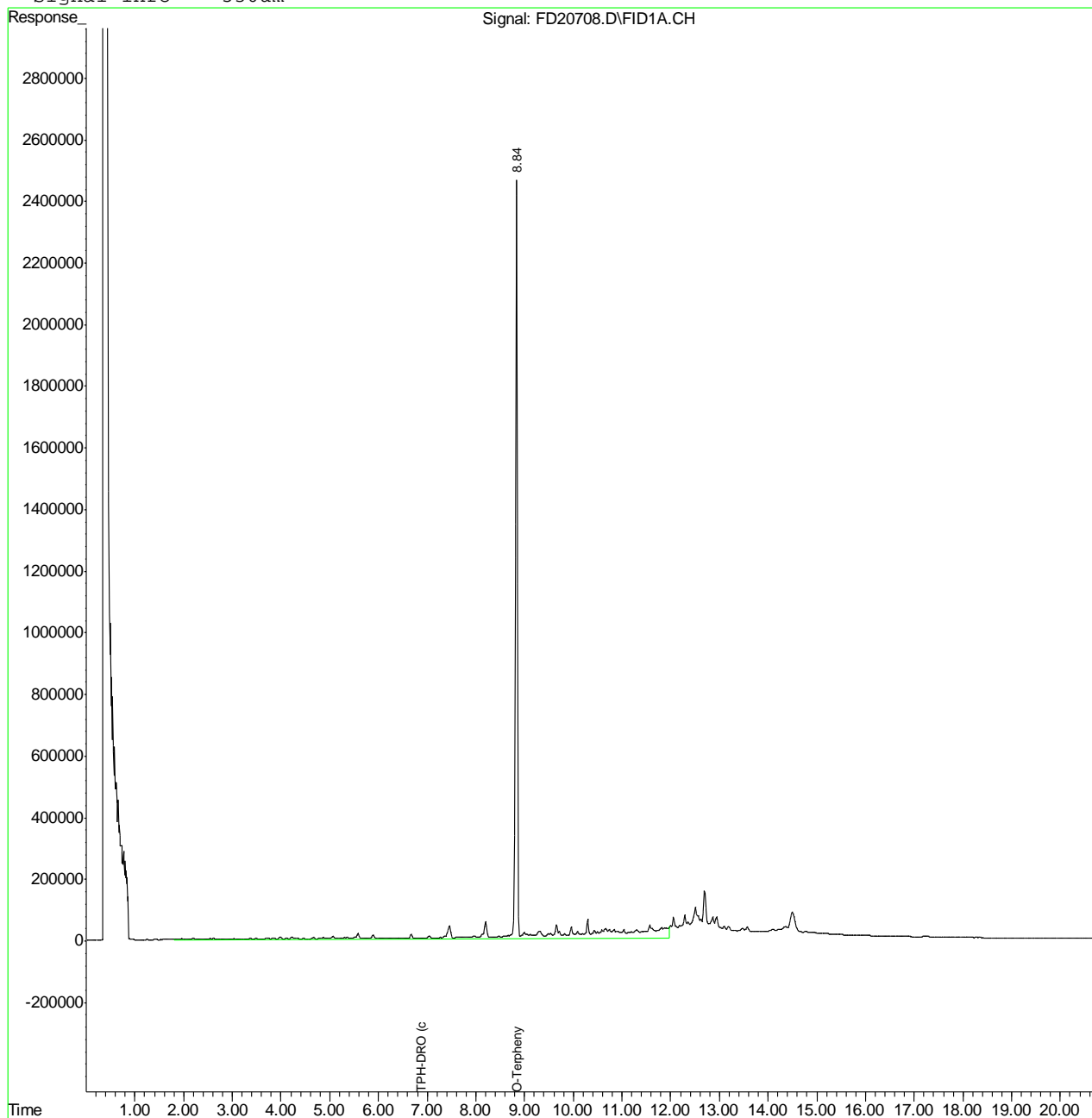
9.12  
9

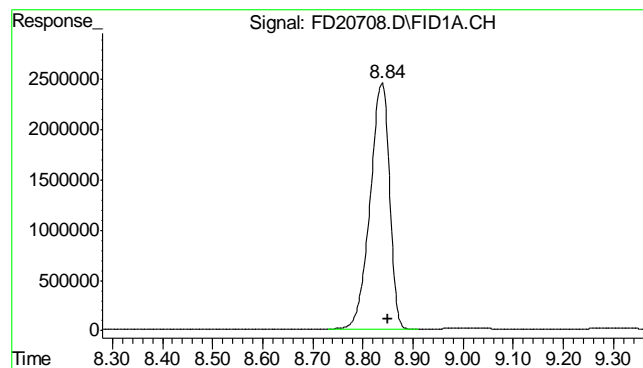
## Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\DEC\FD122012\FD20708.D Vial: 8  
Acq On : 12-20-2012 05:48:47 PM Operator: ashleyv  
Sample : D41998-2 Inst : FID5  
Misc : OP7131,GFD1038,30.13,,,1,1 Multiplr: 1.00  
IntFile : autoint1.e  
Quant Time: Dec 21 8:16 2012 Quant Results File: DRO-GFD982F.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD982F.M (Chemstation Integrator)  
Title : 8015B TEH  
Last Update : Thu Dec 20 16:48:27 2012  
Response via : Multiple Level Calibration  
DataAcq Meth : DRO\_FR.M

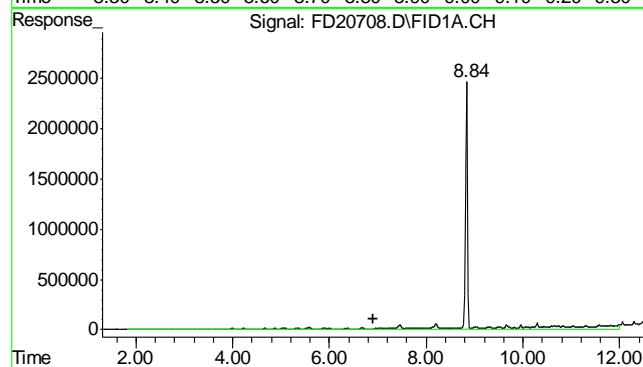
Volume Inj. : 1ul  
Signal Phase : RTX-5  
Signal Info : 530um





#1 O-Terphenyl

R.T.: 8.838 min  
Delta R.T.: -0.012 min  
Response: 65652806  
Conc: 1186.56 mg/L



#2 TPH-DRO (c10-c28)

R.T.: 6.895 min  
Delta R.T.: 0.000 min  
Response: 60190720  
Conc: 1584.98 mg/L m

9.12  
9

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\DEC\FD122012\FD20709.D Vial: 9  
Acq On : 12-20-2012 06:15:15 PM Operator: ashleyv  
Sample : D41998-3 Inst : FID5  
Misc : OP7131,GFD1038,30.01,,,1,1 Multiplr: 1.00  
IntFile : autoint1.e  
Quant Time: Dec 21 08:16:32 2012 Quant Results File: DRO-GFD982F.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD982F.M (Chemstation Integrator)  
Title : 8015B TEH  
Last Update : Thu Dec 20 16:48:27 2012  
Response via : Initial Calibration  
DataAcq Meth : DRO\_FR.M

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

Compound	R.T.	Response	Conc Units
-----			
System Monitoring Compounds			
1) S O-Terphenyl	8.84	66668818	1204.922 mg/L
Target Compounds			
2) H TPH-DRO (c10-c28)	6.89	39220348	1032.775 mg/L

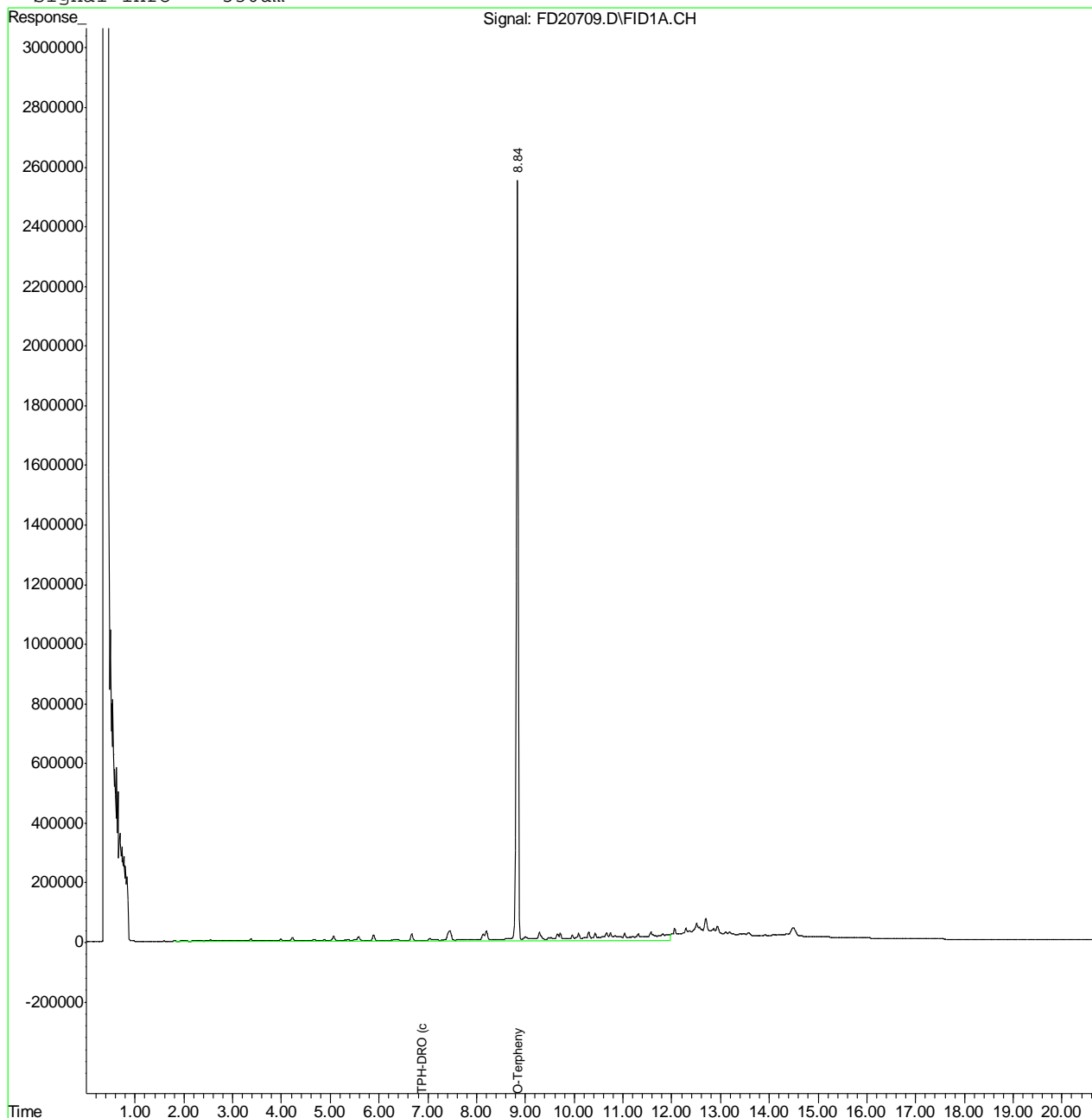
9.13  
9

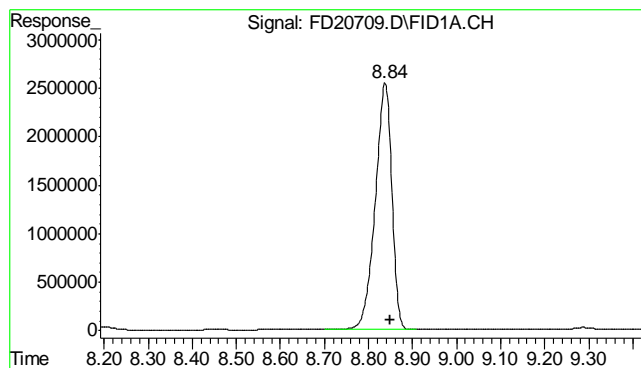
## Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\DEC\FD122012\FD20709.D Vial: 9  
Acq On : 12-20-2012 06:15:15 PM Operator: ashleyv  
Sample : D41998-3 Inst : FID5  
Misc : OP7131,GFD1038,30.01,,,1,1 Multiplr: 1.00  
IntFile : autoint1.e  
Quant Time: Dec 21 8:16 2012 Quant Results File: DRO-GFD982F.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD982F.M (Chemstation Integrator)  
Title : 8015B TEH  
Last Update : Thu Dec 20 16:48:27 2012  
Response via : Multiple Level Calibration  
DataAcq Meth : DRO\_FR.M

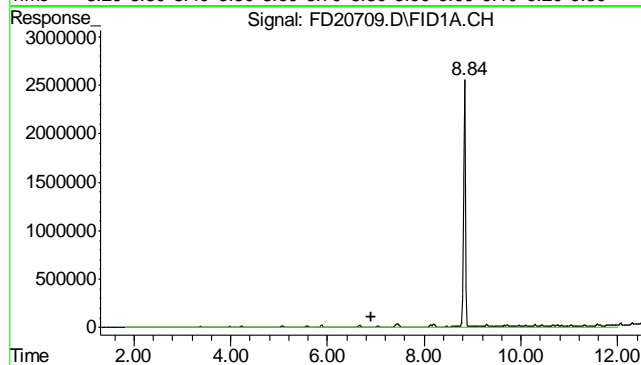
Volume Inj. : 1ul  
Signal Phase : RTX-5  
Signal Info : 530um





#1 O-Terphenyl

R.T.: 8.838 min  
 Delta R.T.: -0.012 min  
 Response: 66668818  
 Conc: 1204.92 mg/L



#2 TPH-DRO (c10-c28)

R.T.: 6.895 min  
 Delta R.T.: 0.000 min  
 Response: 39220348  
 Conc: 1032.78 mg/L m

9.1.3  
**9**

## Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\DEC\FD122012\FD20702.D Vial: 3  
Acq On : 12-20-2012 03:09:36 PM Operator: ashleyv  
Sample : OP7131-MB Inst : FID5  
Misc : OP7131,GFD1038,30.00,,,1,1 Multiplr: 1.00  
IntFile : autoint1.e  
Quant Time: Dec 20 16:48:46 2012 Quant Results File: DRO-GFD982F.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD982F.M (Chemstation Integrator)  
Title : 8015B TEH  
Last Update : Thu Dec 20 16:48:27 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	8.87	72754986	1314.919 mg/L
Target Compounds			
2) H TPH-DRO (c10-c28)	6.89	1791341	47.171 mg/L

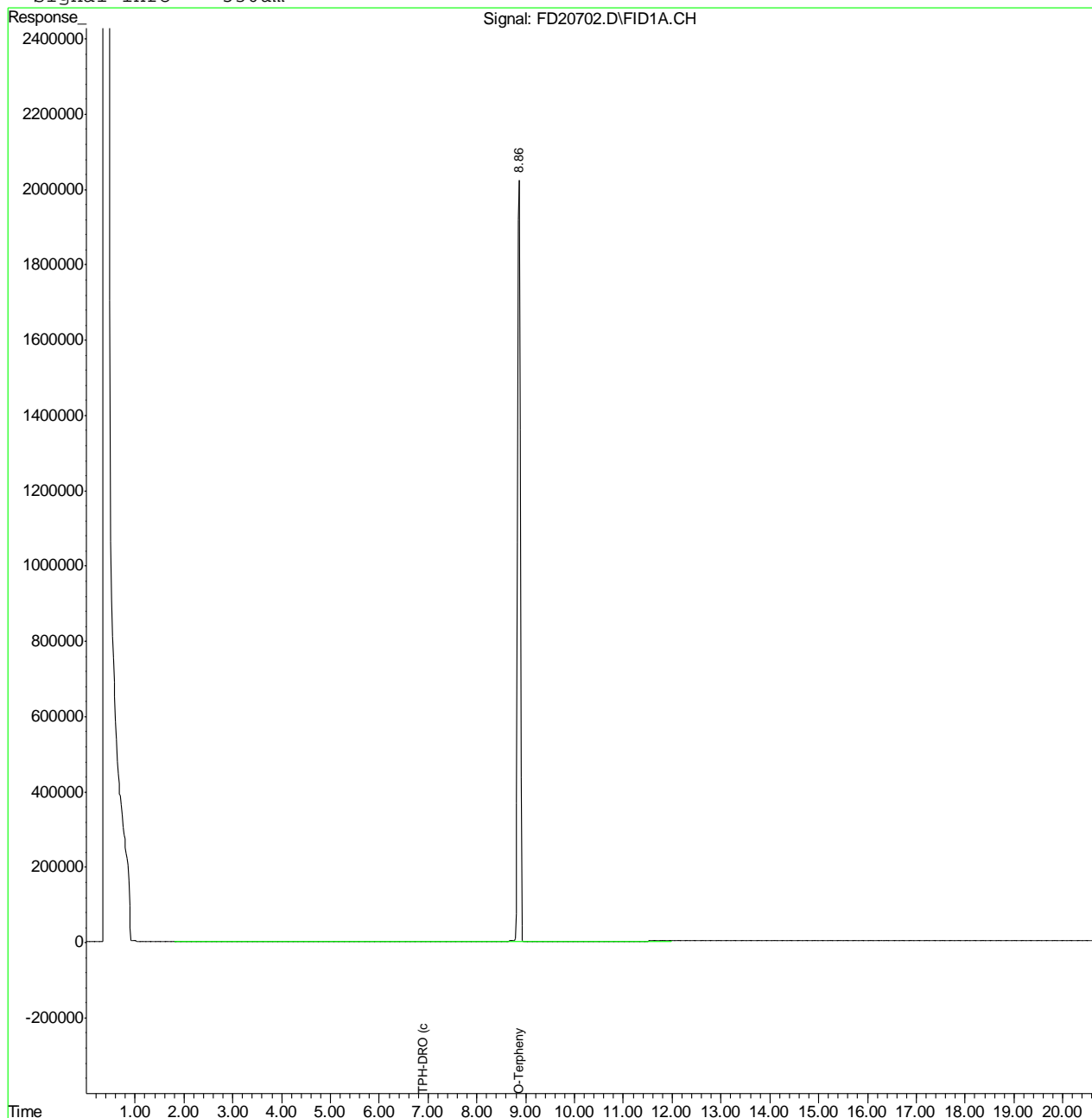
-----  
(f)=RT Delta > 1/2 Window (m)=manual int.  
FD20702.D DRO-GFD982F.M Fri Dec 21 08:34:10 2012 GC

## Quantitation Report (QT Reviewed)

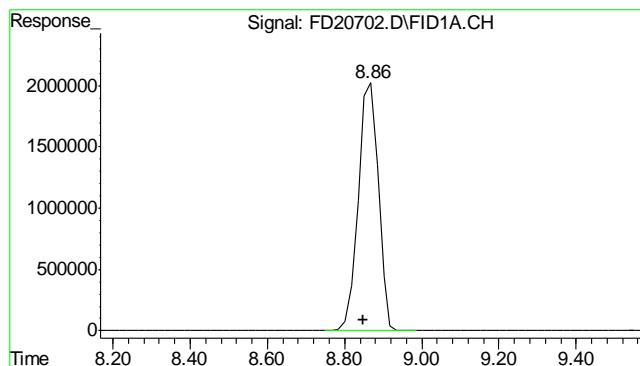
Data File : C:\MSDCHEM\2\DATA\2012\DEC\FD122012\FD20702.D Vial: 3  
Acq On : 12-20-2012 03:09:36 PM Operator: ashleyv  
Sample : OP7131-MB Inst : FID5  
Misc : OP7131,GFD1038,30.00,,,1,1 Multiplr: 1.00  
IntFile : autoint1.e  
Quant Time: Dec 20 16:48 2012 Quant Results File: DRO-GFD982F.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD982F.M (Chemstation Integrator)  
Title : 8015B TEH  
Last Update : Thu Dec 20 16:48:27 2012  
Response via : Multiple Level Calibration  
DataAcq Meth : DRODUAL.M

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

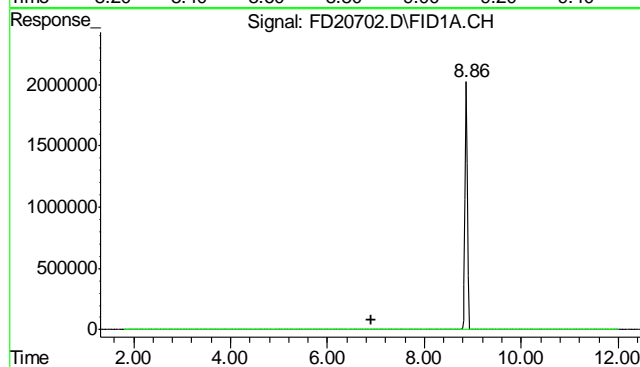






#1 O-Terphenyl

R.T.: 8.868 min  
Delta R.T.: 0.018 min  
Response: 72754986  
Conc: 1314.92 mg/L



#2 TPH-DRO (c10-c28)

R.T.: 6.895 min  
Delta R.T.: 0.000 min  
Response: 1791341  
Conc: 47.17 mg/L m

9.2.1  
9