



04/24/12

Technical Report for

XTO Energy

PCU 296-7A

1007-02

Accutest Job Number: D33716

Sampling Date: 04/13/12

Report to:

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ATTN: Dwayne Knudson

Total number of pages in report: 66



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)

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Test results relate only to samples analyzed.

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Sample Summary

XTO Energy

Job No: D33716

PCU 296-7A
Project No: 1007-02

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
D33716-1	04/13/12	08:55 CB	04/17/12	SO	Soil	RP N. SIDWALL EXCAVATION FACE-WEST
D33716-2	04/13/12	15:15 CB	04/17/12	SO	Soil	RP N. SIDWALL EXCAVATION BOTTOM WEST
D33716-3	04/13/12	15:20 CB	04/17/12	SO	Soil	RP N. SIDWALL EXCAVATION FACE EAST
D33716-4	04/13/12	15:25 CB	04/17/12	SO	Soil	RP N. SIDWALL EXCAVATION BOTTOM-EAST

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



CASE NARRATIVE / CONFORMANCE SUMMARY

Client: XTO Energy

Job No D33716

Site: PCU 296-7A

Report Date 4/24/2012 2:08:49 PM

On 04/17/2012, 4 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 D33716 was assigned to the project. The lab sample IDs, client sample IDs, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Volatiles by GC By Method SW846 8015B

Matrix SO

Batch ID: GGB879

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D33716-1MS, D33716-1MSD were used as the QC samples indicated.

Extractables by GC By Method SW846-8015B

Matrix SO

Batch ID: OP5761

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D33836-1MSD, D33836-1MS, D33836-1MSD were used as the QC samples indicated.
- The matrix spike (MS) recovery(s) of TPH-DRO (C10-C28) are outside control limits. Recovery is below QC limit due to matrix interference.
- The matrix spike duplicate (MSD) recovery(s) of TPH-DRO (C10-C28) are outside control limits. Probable cause due to matrix interference.
- Sample(s) OP5761-MS, OP5761-MSD have surrogates outside control limits. Probable cause due to matrix interference.
- OP5761-MS/MSD for o-Terphenyl: Outside control limits due to matrix interference.

Wet Chemistry By Method SM19 2540B M

Matrix SO

Batch ID: GN14580

- 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

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Client Sample ID:	RP N. SIDWALL EXCAVATION FACE-WEST			Date Sampled:	04/13/12
Lab Sample ID:	D33716-1			Date Received:	04/17/12
Matrix:	SO - Soil			Percent Solids:	84.9
Method:	SW846 8015B				
Project:	PCU 296-7A				

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB15783.D	1	04/18/12	SK	n/a	n/a	GGB879
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	13	6.7	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

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Client Sample ID:	RP N. SIDWALL EXCAVATION FACE-WEST					Date Sampled:	04/13/12
Lab Sample ID:	D33716-1					Date Received:	04/17/12
Matrix:	SO - Soil					Percent Solids:	84.9
Method:	SW846-8015B SW846 3546						
Project:	PCU 296-7A						

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH003548.D	1	04/23/12	AV	04/23/12	OP5761	GFH192
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)	11.6	16	10	mg/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	87%		43-136%		

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

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

Accutest Laboratories

Report of Analysis

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Client Sample ID:	RP N. SIDWALL EXCAVATION BOTTOM WEST					Date Sampled:	04/13/12
Lab Sample ID:	D33716-2					Date Received:	04/17/12
Matrix:	SO - Soil					Percent Solids:	85.6
Method:	SW846 8015B						
Project:	PCU 296-7A						

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB15786.D	1	04/18/12	SK	n/a	n/a	GGB879
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	6.7	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	98%		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

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Client Sample ID:	RP N. SIDWALL EXCAVATION BOTTOM WEST					Date Sampled:	04/13/12
Lab Sample ID:	D33716-2					Date Received:	04/17/12
Matrix:	SO - Soil					Percent Solids:	85.6
Method:	SW846-8015B SW846 3546						
Project:	PCU 296-7A						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH003550.D	1	04/23/12	AV	04/23/12	OP5761	GFH192
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)	426	16	10	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	65%		43-136%		

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

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

Accutest Laboratories

Report of Analysis

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Client Sample ID:	RP N. SIDWALL EXCAVATION FACE EAST			Date Sampled:	04/13/12
Lab Sample ID:	D33716-3			Date Received:	04/17/12
Matrix:	SO - Soil			Percent Solids:	88.1
Method:	SW846 8015B				
Project:	PCU 296-7A				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB15787.D	1	04/18/12	SK	n/a	n/a	GGB879
Run #2							

	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)	63.0	13	6.3	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	104%		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

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Client Sample ID:	RP N. SIDWALL EXCAVATION FACE EAST				Date Sampled:	04/13/12
Lab Sample ID:	D33716-3				Date Received:	04/17/12
Matrix:	SO - Soil				Percent Solids:	88.1
Method:	SW846-8015B SW846 3546					
Project:	PCU 296-7A					

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH003603.D	10	04/24/12	AV	04/23/12	OP5761	GFH194
Run #2							

	Initial Weight	Final Volume
Run #1	1000 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	164	4.5	3.0	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	95%		43-136%		

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

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

Accutest Laboratories

Report of Analysis

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Client Sample ID:	RP N. SIDWALL EXCAVATION BOTTOM-EAST					Date Sampled:	04/13/12
Lab Sample ID:	D33716-4					Date Received:	04/17/12
Matrix:	SO - Soil					Percent Solids:	84.9
Method:	SW846 8015B						
Project:	PCU 296-7A						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB15788.D	1	04/18/12	SK	n/a	n/a	GGB879
Run #2							

	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	14	6.8	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	93%		60-140%		

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

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

Accutest Laboratories

Report of Analysis

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Client Sample ID:	RP N. SIDWALL EXCAVATION BOTTOM-EAST					Date Sampled:	04/13/12
Lab Sample ID:	D33716-4					Date Received:	04/17/12
Matrix:	SO - Soil					Percent Solids:	84.9
Method:	SW846-8015B SW846 3546						
Project:	PCU 296-7A						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH003554.D	1	04/23/12	AV	04/23/12	OP5761	GFH192
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	128	16	10	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	72%		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 # <u>D33716</u>

Client / Reporting Information		Project Information		Requested Analysis (see TEST CODE sheet)												Matrix Codes													
Company Name KRW Consulting Inc		Project Name XTO PCU 296-7A														DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB-Field Blank EB- Equipment Blank RB- Rinse Blank TB-Trip Blank													
Street Address 8000 W. 14th Ave Ste 200		Street:																											
City State Zip Lakewood CO 80214		City:																											
Project Contact Dwayne Kaudon		Project# 1007-02																											
Phone # 9704881098		Client PO#																											
Fax #		Project Manager Joe Hess																											
Sampler(s) Name(s) Craig Burger		Phone # 9704881098		Attention: Jessie Boaling																									
PO#		PO#																											
Accutest Sample #		Field ID / Point of Collection		MEQ/NDI Vol #		Collection		Date		Time		Sampled by		Metric		# of bottles		Number of preserved bottles										LAB USE ONLY	
		RP N. Sidewall Excavation Face West				4/13/12		8:55		CAB		50		2				2										01	
		RP N. Sidewall Excavation Bottom West				4/13/12		15:15										2										02	
		RP N. Sidewall Excavation Face East				5		15:20										2										03	
		RP N. Sidewall Excavation Bottom East				5		15:25										2										04	
																												4/17/12	

Data Deliverable Information		Comments / Special Instructions	
Turnaround Time (Business days) <input type="checkbox"/> Std. 10 Business Days <input checked="" type="checkbox"/> Std. 5 Business Days (By Contract only) <input checked="" type="checkbox"/> 5 Day R/SH <input type="checkbox"/> 3 Day EMERGENCY <input type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 1 Day EMERGENCY Emergency & Rush TIA data available VIA Lablink		Approved By (Accutest PM): / Date: <input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> Commercial "B" + Narrative <input type="checkbox"/> FULLT1 (Level 3+4) Commercial "A" = Results Only Commercial "B" = Results + QC Summary	
<input type="checkbox"/> State Forms <input type="checkbox"/> EDD Format <input checked="" type="checkbox"/> PDF		Please email results to KRW Pileline G Team	

Sample Custody must be documented below each time samples change possession, including courier delivery.							
Relinquished by:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1 [Signature]	4/16/12 1300	Rina Service Center		2 [Signature]		American Carrier	
Relinquished by:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
3		3		4		4	
Relinquished by:	Date Time:	Received By:	Date Time:	Custody Seal #	Intact	Preserved where applicable	On Ice
5		5		CO	<input checked="" type="checkbox"/>	<input type="checkbox"/> N/A	<input checked="" type="checkbox"/>
					Not intact		Cooler Temp. 4.0

D33716: Chain of Custody

Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D33716

Client: KRW CONSULTINGF INC.

Immediate Client Services Action Required: No

Date / Time Received: 4/17/2012 1:20:00 PM

No. Coolers: 1

Client Service Action Required at Login: No

Project: XTO PCU 296-7A

Airbill #'s: HD/CO

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

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

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input type="checkbox"/>	
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input type="checkbox"/>	
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:			Intact

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume rec'd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

Accutest Laboratories
V:(303) 425-6021

4036 Youngfield Street
F: (303) 425-6854

Wheat Ridge, CO
www.accutest.com

GC Volatiles

5

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: D33716
Account: XTOKRWR XTO Energy
Project: PCU 296-7A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB879-MB	GB15781.D	1	04/18/12	SK	n/a	n/a	GGB879

The QC reported here applies to the following samples:

Method: SW846 8015B

D33716-1, D33716-2, D33716-3, D33716-4

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

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Job Number: D33716
Account: XTOKRWR XTO Energy
Project: PCU 296-7A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB879-BS	GB15782.D	1	04/18/12	SK	n/a	n/a	GGB879

The QC reported here applies to the following samples:

Method: SW846 8015B

D33716-1, D33716-2, D33716-3, D33716-4

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	120	109	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	100%	60-140%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D33716
Account: XTOKRWR XTO Energy
Project: PCU 296-7A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D33716-1MS	GB15784.D	1	04/18/12	SK	n/a	n/a	GGB879
D33716-1MSD	GB15785.D	1	04/18/12	SK	n/a	n/a	GGB879
D33716-1	GB15783.D	1	04/18/12	SK	n/a	n/a	GGB879

The QC reported here applies to the following samples:

Method: SW846 8015B

D33716-1, D33716-2, D33716-3, D33716-4

CAS No.	Compound	D33716-1 mg/kg	Spike Q	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	147	169	115	169	115	0	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D33716-1	Limits
120-82-1	1,2,4-Trichlorobenzene	103%	104%	95%	60-140%

GC Volatiles

Raw Data



Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\041812\GB15783.D\FID1A.CH Vial: 5
Signal #2 : Y:\1\DATA\041812\GB15783.D\FID2B.CH
Acq On : 18 Apr 2012 5:03 pm Operator: StephK
Sample : D33716-1, 50X Inst : GC/MS Ins
Misc : GC2767,GGB879,5.071,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Apr 19 09:05:00 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Wed Apr 18 09:15:00 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

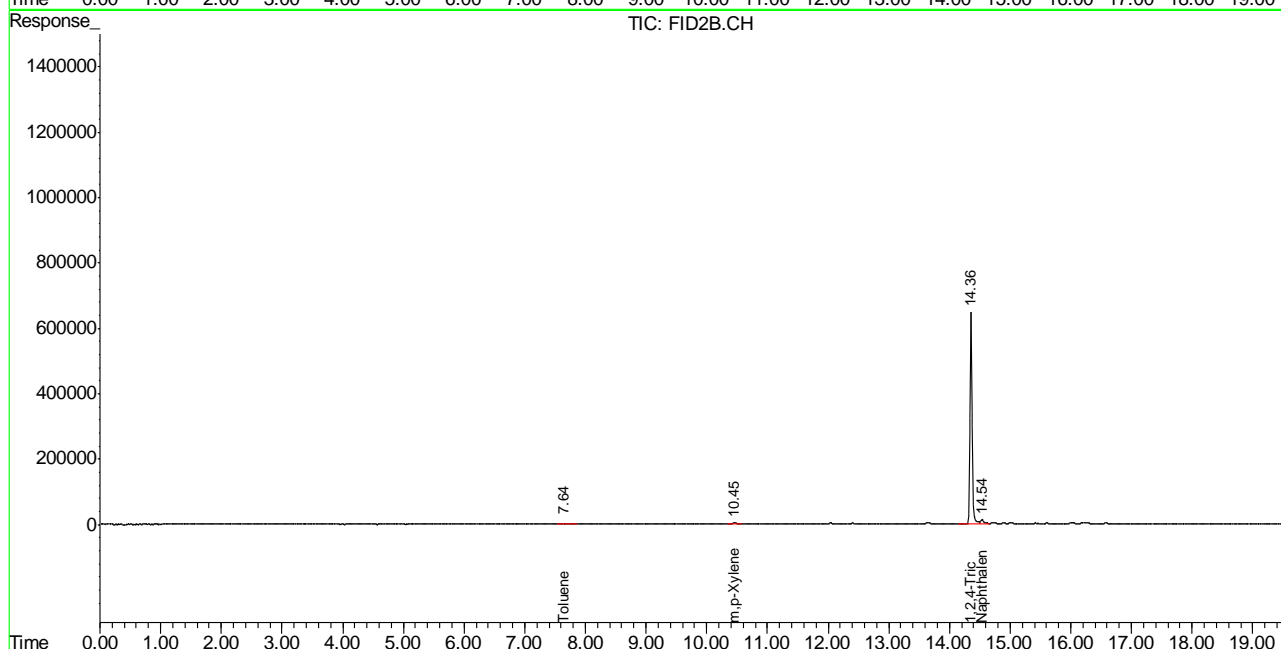
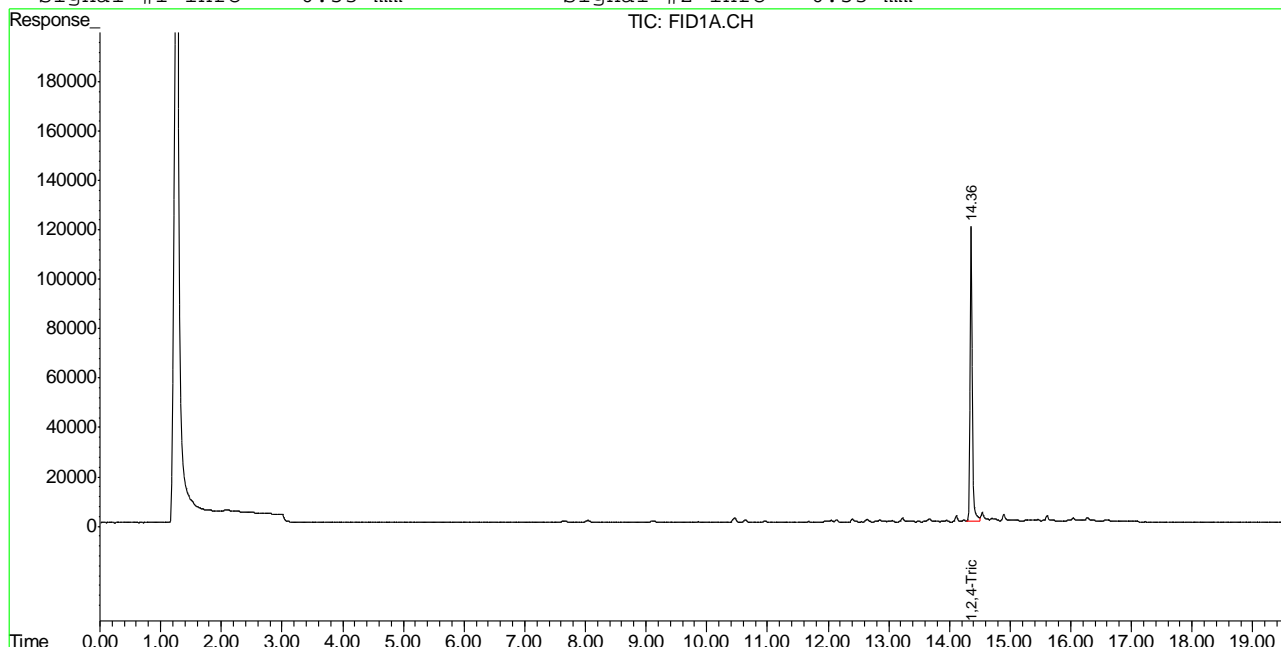
System Monitoring Compounds					
2) S	1,2,4-Trichlorobenzene	14.36	2972490	94.865	%
10) S	1,2,4-Trichlorobenzene (P)	14.36	15692601	96.554	%
Target Compounds					
1) H	TVH-Gasoline	7.23	4120486	<MDL	mg/L
4) T	Methyl-t-butyl-ether	0.00	0	N.D.	ug/L d
5) T	Benzene	0.00	0	N.D.	ug/L d
6) T	Toluene	7.64	166482	0.420	ug/L
7) T	Ethylbenzene	0.00	0	N.D.	ug/L d
8) T	m,p-Xylene	10.45	277211	0.386	ug/L
9) T	o-Xylene	0.00	0	N.D.	ug/L d
11) T	Naphthalene	14.54	532802	2.700	ug/L

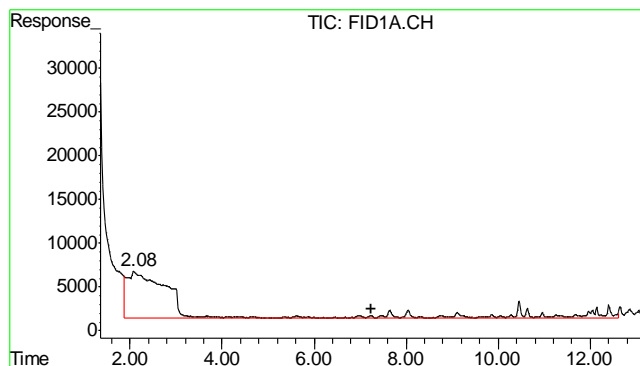
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\041812\GB15783.D\FID1A.CH Vial: 5
 Signal #2 : Y:\1\DATA\041812\GB15783.D\FID2B.CH
 Acq On : 18 Apr 2012 5:03 pm Operator: StephK
 Sample : D33716-1, 50X Inst : GC/MS Ins
 Misc : GC2767,GGB879,5.071,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Apr 19 7:10 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Wed Apr 18 09:15:00 2012
 Response via : Multiple Level Calibration
 DataAcq Meth : TVB4.M

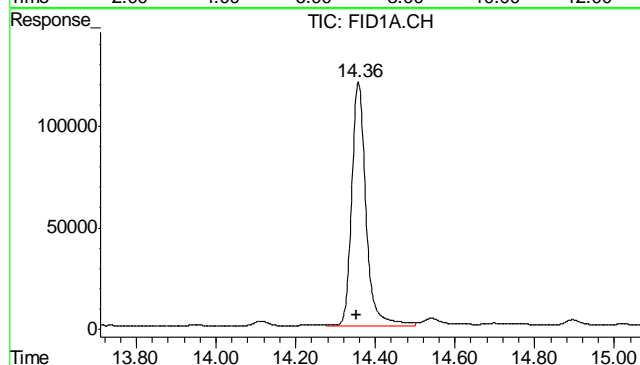
Volume Inj. :
 Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
 Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





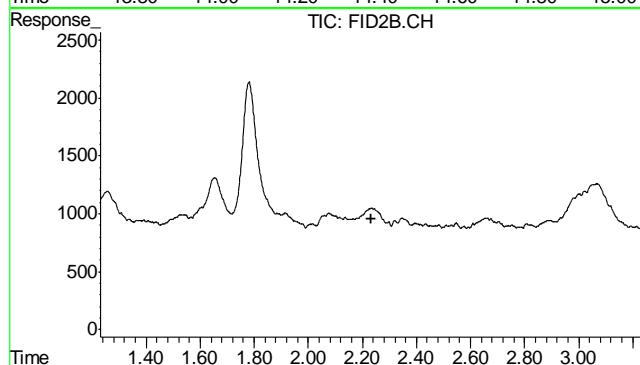
#1 TVH-Gasoline

R.T.: 7.230 min
Delta R.T.: 0.000 min
Response: 4120486
Conc: N.D.



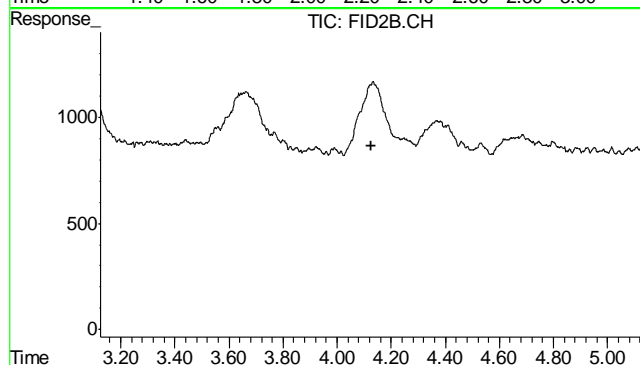
#2 1,2,4-Trichlorobenzene

R.T.: 14.358 min
Delta R.T.: 0.005 min
Response: 2972490
Conc: 94.86 %



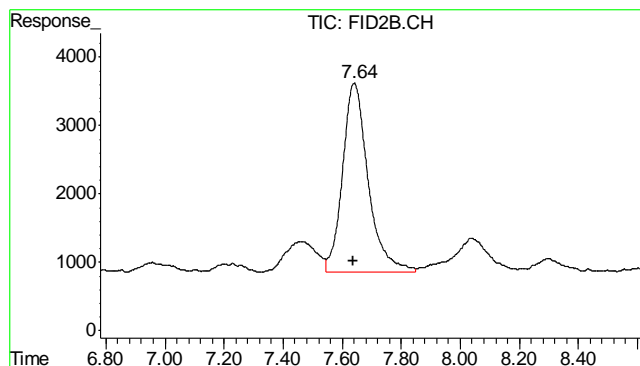
#4 Methyl-t-butyl-ether

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



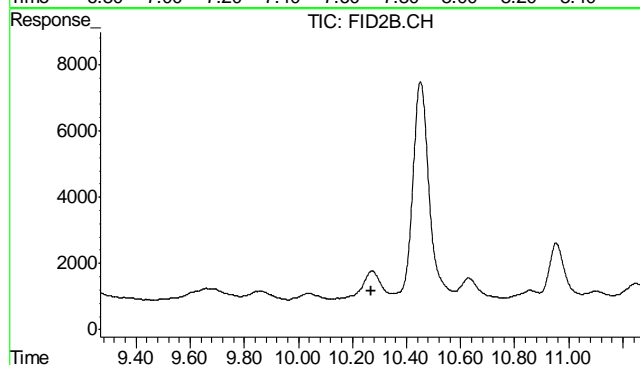
#5 Benzene

R.T.: 0.000 min
Exp R.T.: 4.125 min
Response: 0
Conc: N.D.



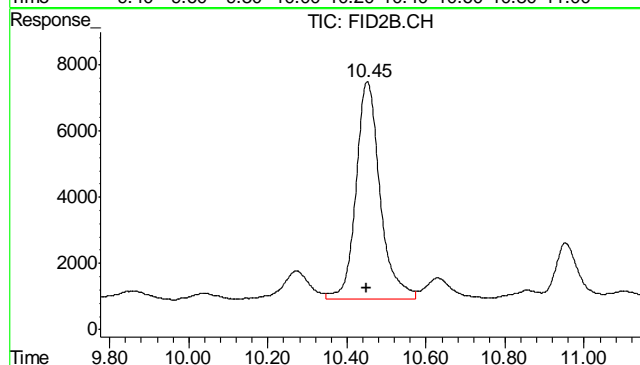
#6 Toluene

R.T.: 7.641 min
Delta R.T.: 0.004 min
Response: 166482
Conc: 0.42 ug/L



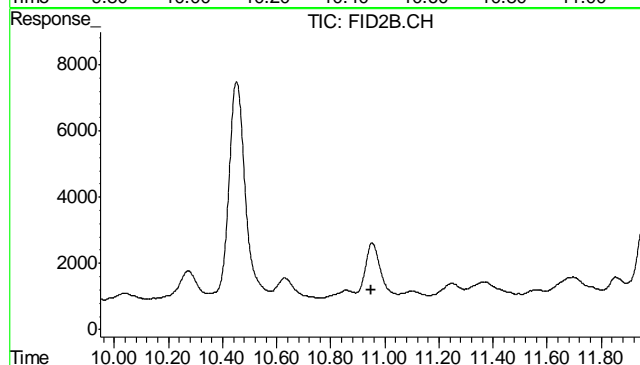
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T.: 10.268 min
Response: 0
Conc: N.D.



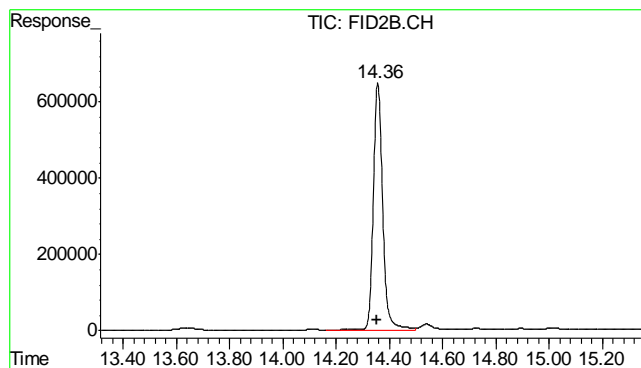
#8 m,p-Xylene

R.T.: 10.452 min
Delta R.T.: 0.002 min
Response: 277211
Conc: 0.39 ug/L



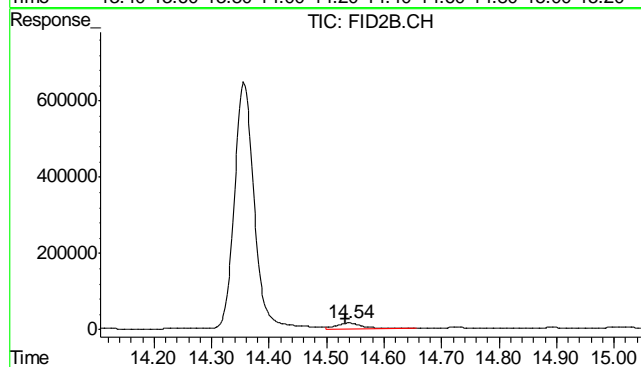
#9 o-Xylene

R.T.: 0.000 min
Exp R.T.: 10.948 min
Response: 0
Conc: N.D.



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

R.T.: 14.356 min
Delta R.T.: 0.005 min
Response: 15692601
Conc: 96.55 %



#11 Naphthalene

R.T.: 14.539 min
Delta R.T.: 0.005 min
Response: 532802
Conc: 2.70 ug/L

Judy Melson
04/19/12 12:04

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\041812\GB15786.D\FID1A.CH Vial: 8
 Signal #2 : Y:\1\DATA\041812\GB15786.D\FID2B.CH
 Acq On : 18 Apr 2012 6:48 pm Operator: StephK
 Sample : D33716-2, 50X Inst : GC/MS Ins
 Misc : GC2767,GGB879,5.002,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Apr 19 09:05:32 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Wed Apr 18 09:15:00 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

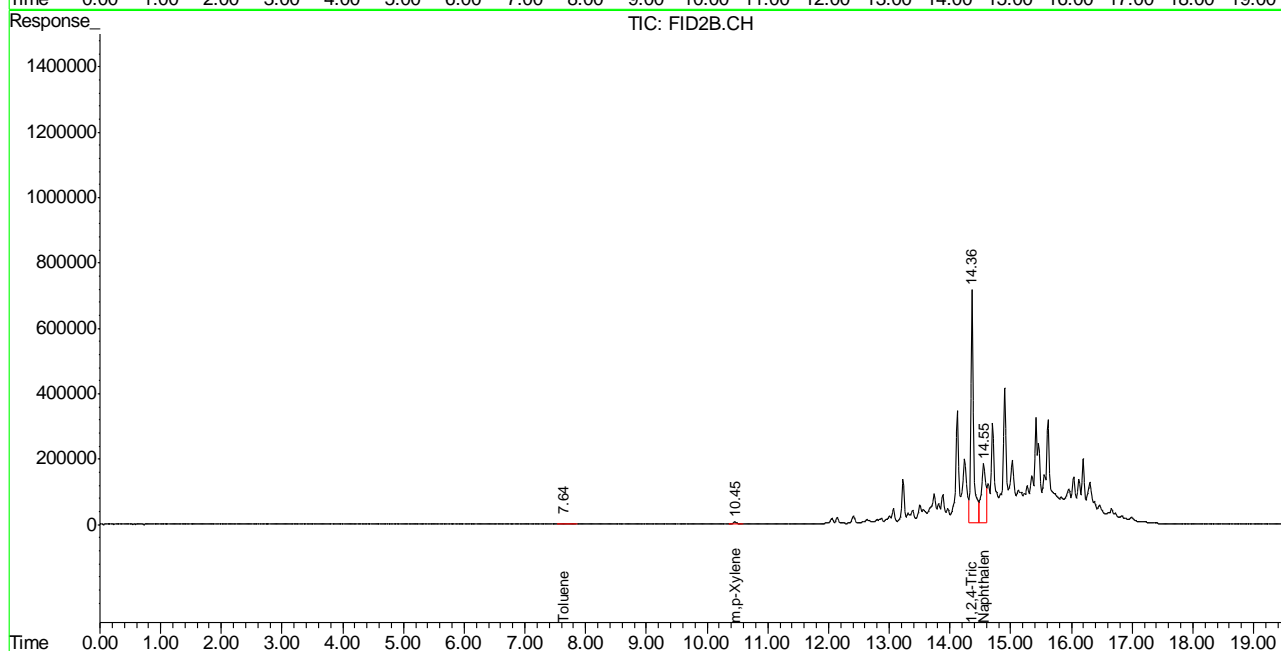
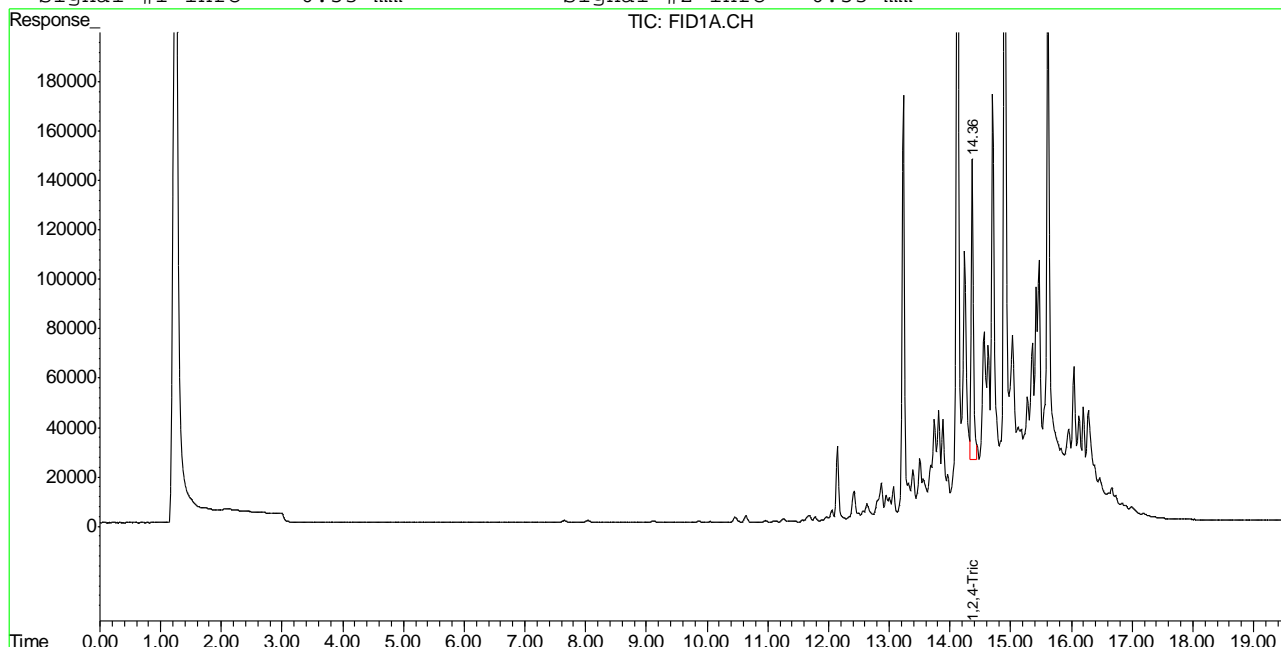
System Monitoring Compounds				
2) S 1,2,4-Trichlorobenzene	14.36	3084106	98.427 %	m
10) S 1,2,4-Trichlorobenzene (P)	14.36	21616883	133.004 %	
Target Compounds				
1) H TVH-Gasoline	7.23	6953937	<MDL	mg/L
4) T Methyl-t-butyl-ether	0.00	0	N.D.	ug/L d
5) T Benzene	0.00	0	N.D.	ug/L d
6) T Toluene	7.64	176657	0.446	ug/L
7) T Ethylbenzene	0.00	0	N.D.	ug/L d
8) T m,p-Xylene	10.46	323487	0.513	ug/L
9) T o-Xylene	0.00	0	N.D.	ug/L d
11) T Naphthalene	14.55	9385665	47.568	ug/L

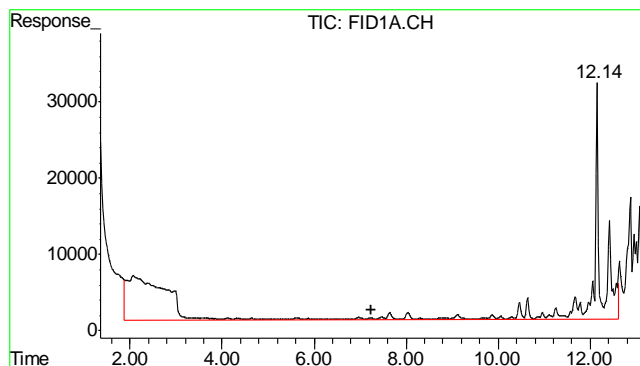
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\041812\GB15786.D\FID1A.CH Vial: 8
 Signal #2 : Y:\1\DATA\041812\GB15786.D\FID2B.CH
 Acq On : 18 Apr 2012 6:48 pm Operator: StephK
 Sample : D33716-2, 50X Inst : GC/MS Ins
 Misc : GC2767,GGB879,5.002,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Apr 19 7:10 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Wed Apr 18 09:15:00 2012
 Response via : Multiple Level Calibration
 DataAcq Meth : TVB4.M

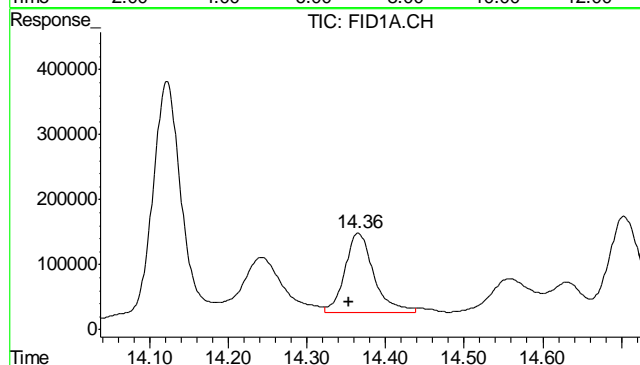
Volume Inj. :
 Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
 Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





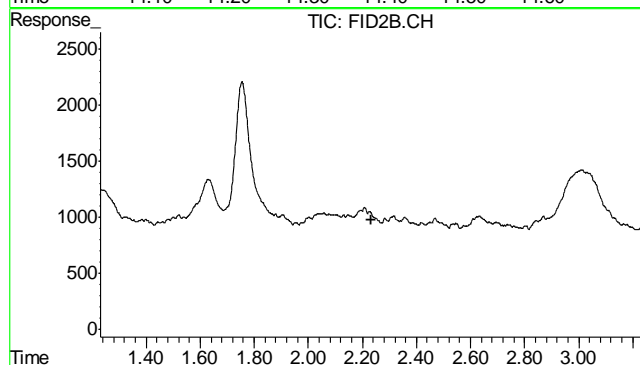
#1 TVH-Gasoline

R.T.: 7.230 min
Delta R.T.: 0.000 min
Response: 6953937
Conc: N.D.



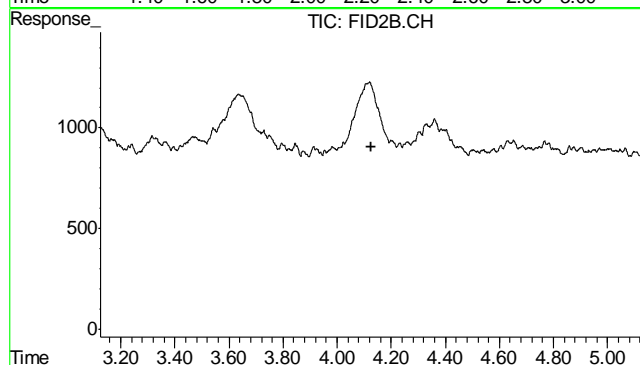
#2 1,2,4-Trichlorobenzene

R.T.: 14.364 min
Delta R.T.: 0.011 min
Response: 3084106
Conc: 98.43 % m



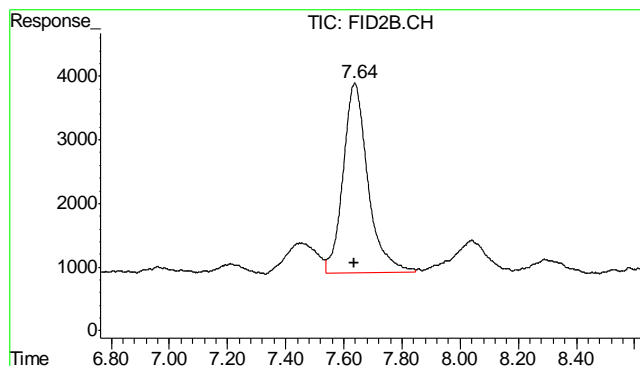
#4 Methyl-t-butyl-ether

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



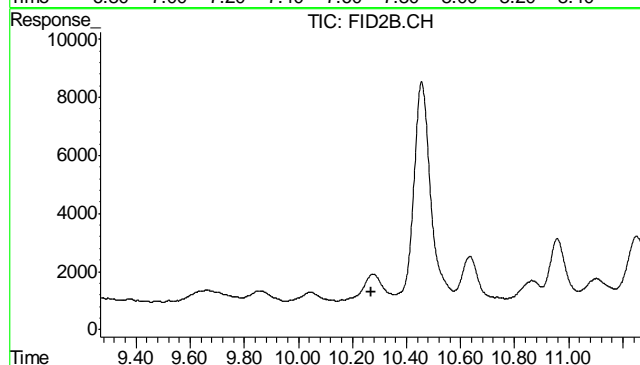
#5 Benzene

R.T.: 0.000 min
Exp R.T.: 4.125 min
Response: 0
Conc: N.D.



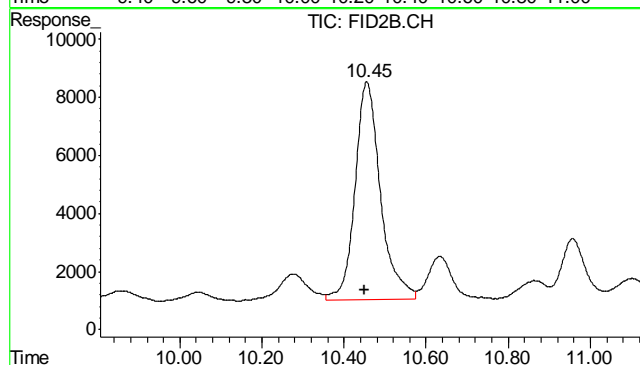
#6 Toluene

R.T.: 7.639 min
Delta R.T.: 0.002 min
Response: 176657
Conc: 0.45 ug/L



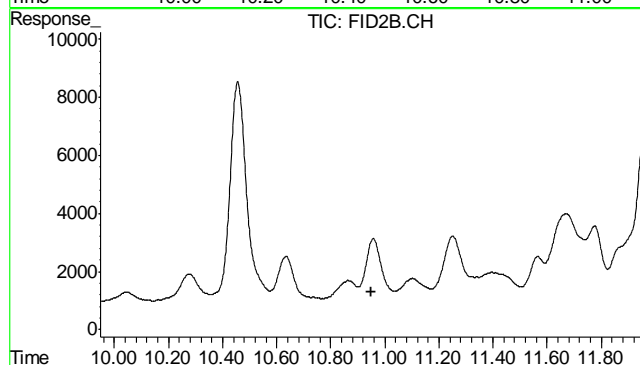
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T.: 10.268 min
Response: 0
Conc: N.D.



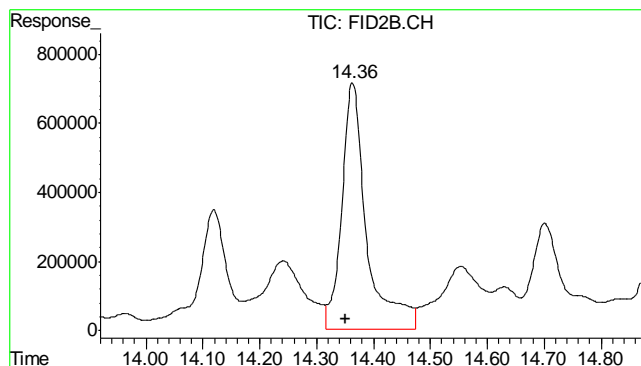
#8 m,p-Xylene

R.T.: 10.455 min
Delta R.T.: 0.006 min
Response: 323487
Conc: 0.51 ug/L



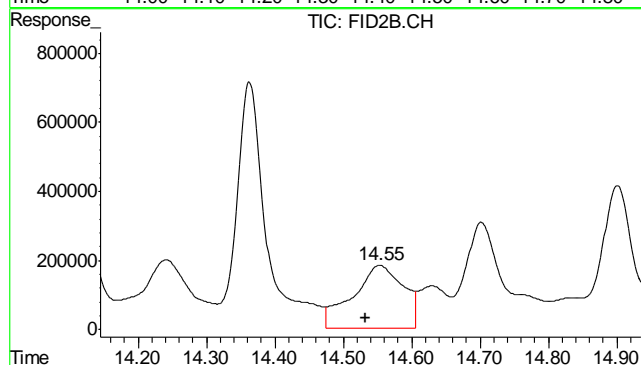
#9 o-Xylene

R.T.: 0.000 min
Exp R.T.: 10.948 min
Response: 0
Conc: N.D.



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

R.T.: 14.363 min
Delta R.T.: 0.012 min
Response: 21616883
Conc: 133.00 %



#11 Naphthalene

R.T.: 14.554 min
Delta R.T.: 0.020 min
Response: 9385665
Conc: 47.57 ug/L

6.1.2
6

Judy Melson
04/19/12 12:04

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\041812\GB15787.D\FID1A.CH Vial: 9
 Signal #2 : Y:\1\DATA\041812\GB15787.D\FID2B.CH
 Acq On : 18 Apr 2012 7:23 pm Operator: StephK
 Sample : D33716-3, 50X Inst : GC/MS Ins
 Misc : GC2767,GGB879,5.023,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Apr 19 09:05:36 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Wed Apr 18 09:15:00 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

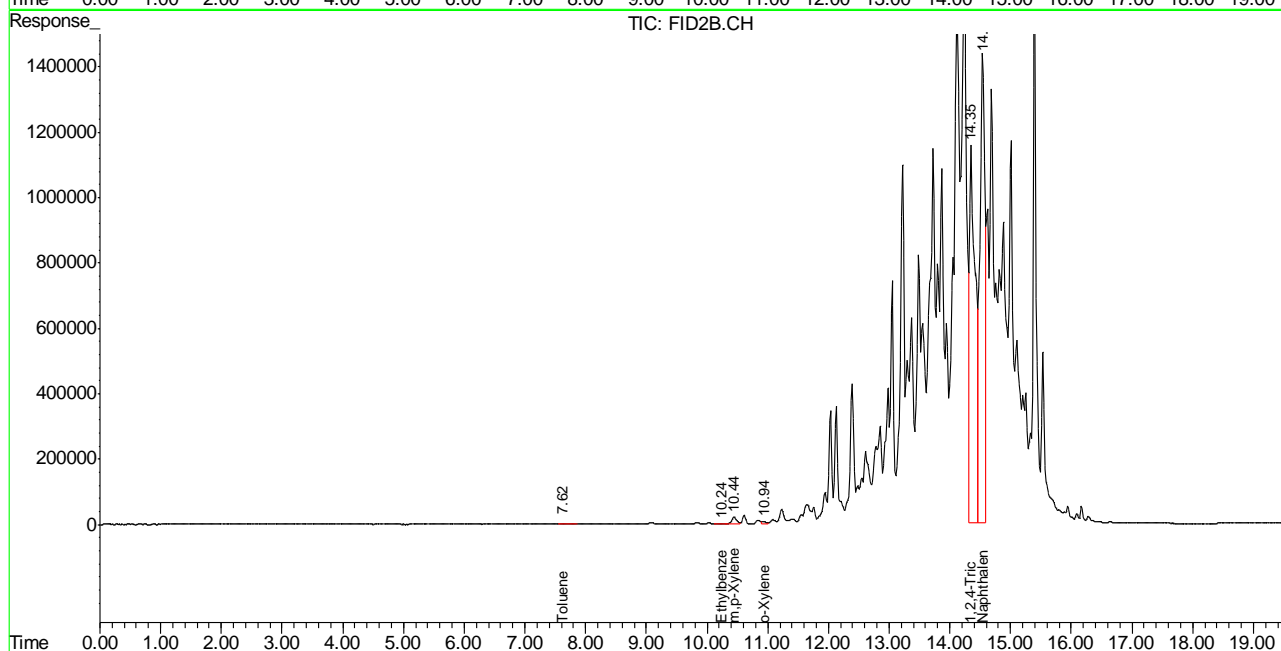
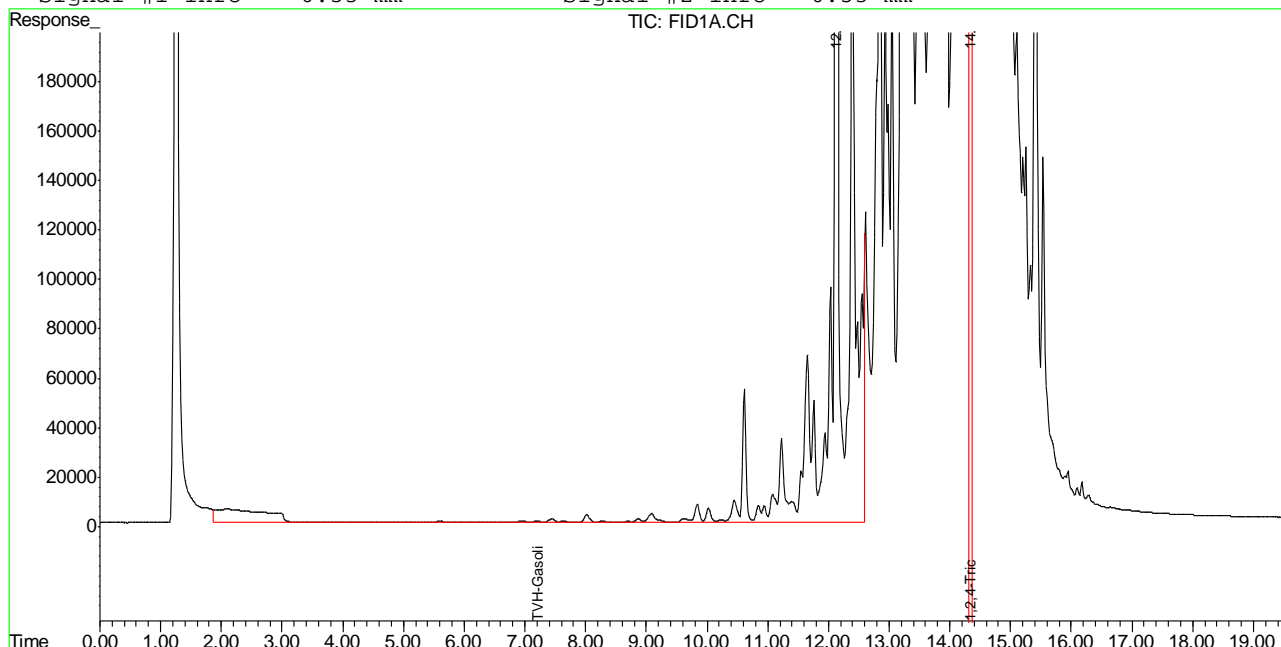
System Monitoring Compounds				
2) S 1,2,4-Trichlorobenzene	14.35	3273202	104.462 %	m
10) S 1,2,4-Trichlorobenzene (P)	14.35	77442462	476.488 %	
Target Compounds				
1) H TVH-Gasoline	7.23	64695270	0.996 mg/L	
4) T Methyl-t-butyl-ether	0.00	0	N.D. ug/L	d
5) T Benzene	0.00	0	N.D. ug/L	d
6) T Toluene	7.62	140934	0.356 ug/L	
7) T Ethylbenzene	10.24	120332	0.356 ug/L	
8) T m,p-Xylene	10.44	1310684	3.217 ug/L	
9) T o-Xylene	10.94	391419	1.192 ug/L	
11) T Naphthalene	14.54	85888429	435.300 ug/L	

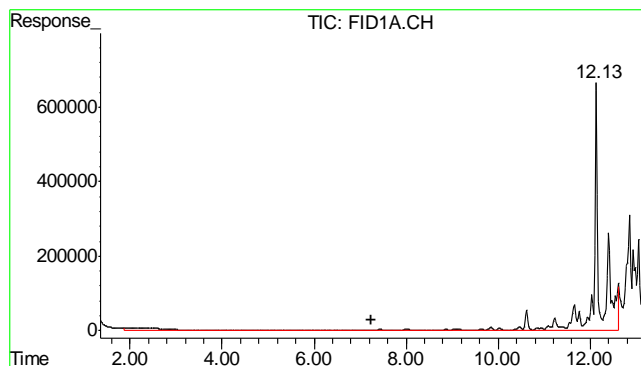
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\041812\GB15787.D\FID1A.CH Vial: 9
 Signal #2 : Y:\1\DATA\041812\GB15787.D\FID2B.CH
 Acq On : 18 Apr 2012 7:23 pm Operator: StephK
 Sample : D33716-3, 50X Inst : GC/MS Ins
 Misc : GC2767,GGB879,5.023,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Apr 19 7:11 2012 Quant Results File: TB868GB868SOIL.RES

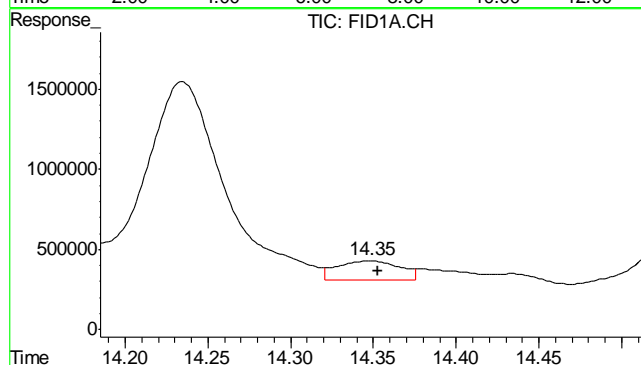
Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Wed Apr 18 09:15:00 2012
 Response via : Multiple Level Calibration
 DataAcq Meth : TVB4.M

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

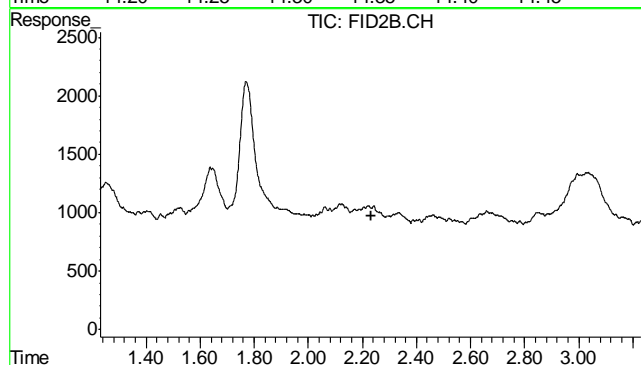




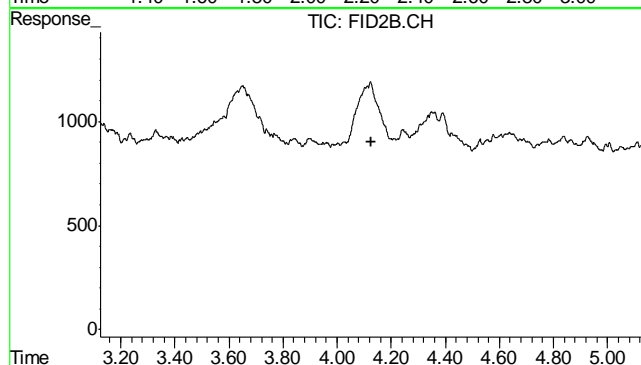
#1 TVH-Gasoline
 R.T.: 7.230 min
 Delta R.T.: 0.000 min
 Response: 64695270
 Conc: 1.00 mg/L m



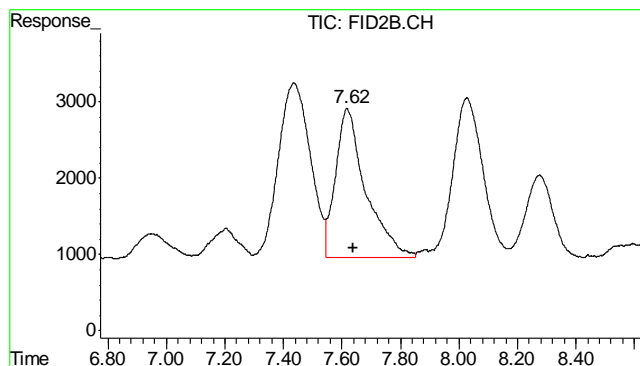
#2 1,2,4-Trichlorobenzene
 R.T.: 14.348 min
 Delta R.T.: -0.005 min
 Response: 3273202
 Conc: 104.46 % m



#4 Methyl-t-butyl-ether
 R.T.: 0.000 min
 Exp R.T.: 2.231 min
 Response: 0
 Conc: N.D.

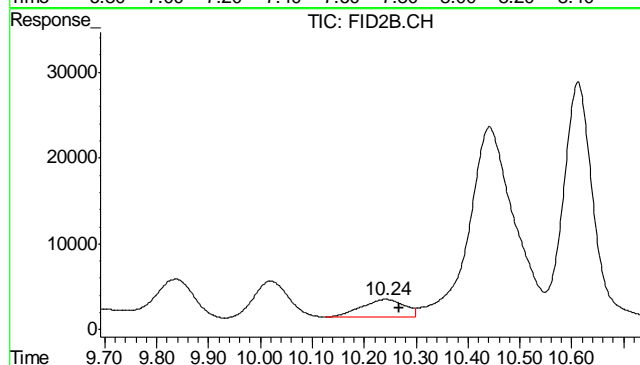


#5 Benzene
 R.T.: 0.000 min
 Exp R.T.: 4.125 min
 Response: 0
 Conc: N.D.



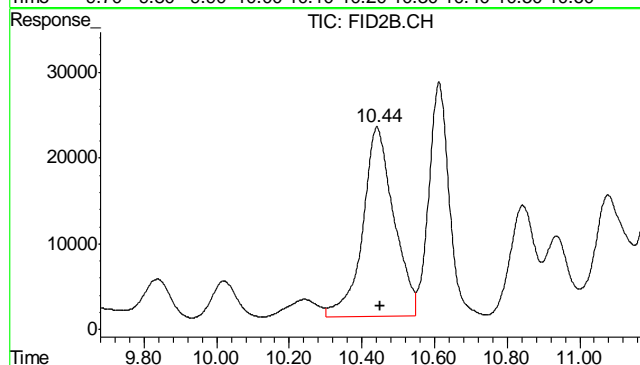
#6 Toluene

R.T.: 7.618 min
Delta R.T.: -0.020 min
Response: 140934
Conc: 0.36 ug/L



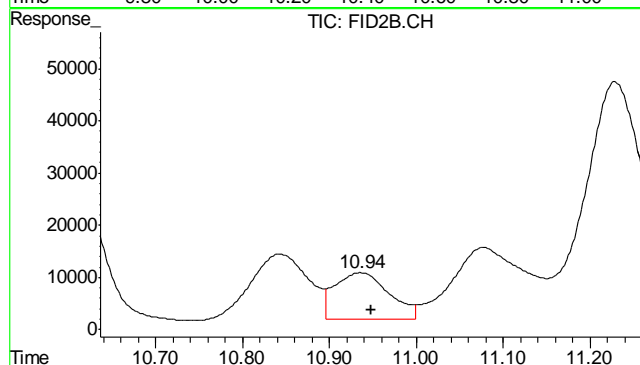
#7 Ethylbenzene

R.T.: 10.242 min
Delta R.T.: -0.026 min
Response: 120332
Conc: 0.36 ug/L



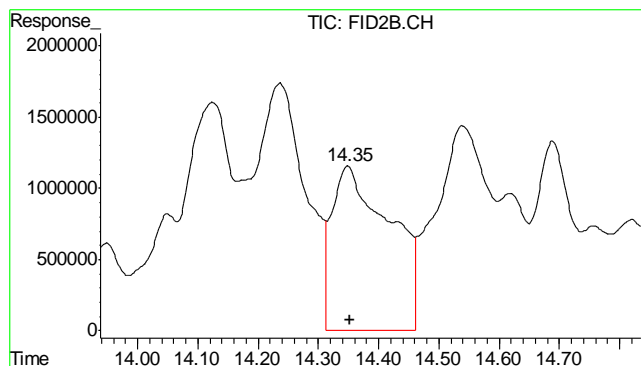
#8 m,p-Xylene

R.T.: 10.442 min
Delta R.T.: -0.008 min
Response: 1310684
Conc: 3.22 ug/L



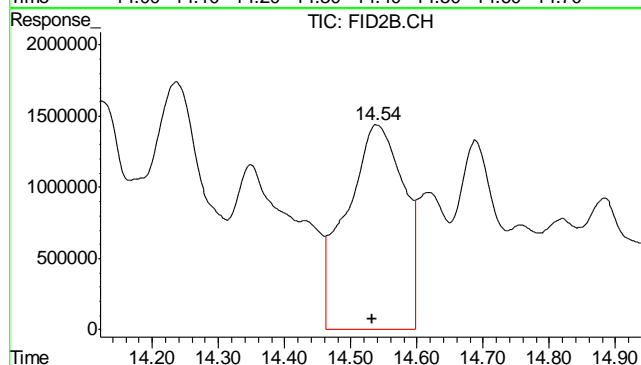
#9 o-Xylene

R.T.: 10.936 min
Delta R.T.: -0.012 min
Response: 391419
Conc: 1.19 ug/L



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

R.T.: 14.349 min
Delta R.T.: -0.003 min
Response: 77442462
Conc: 476.49 %



#11 Naphthalene

R.T.: 14.540 min
Delta R.T.: 0.006 min
Response: 85888429
Conc: 435.30 ug/L

6.1.3

6

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\041812\GB15788.D\FID1A.CH Vial: 10
Signal #2 : Y:\1\DATA\041812\GB15788.D\FID2B.CH
Acq On : 18 Apr 2012 7:59 pm Operator: StephK
Sample : D33716-4, 50X Inst : GC/MS Ins
Misc : GC2767,GGB879,5.017,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Apr 19 09:05:40 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Wed Apr 18 09:15:00 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	

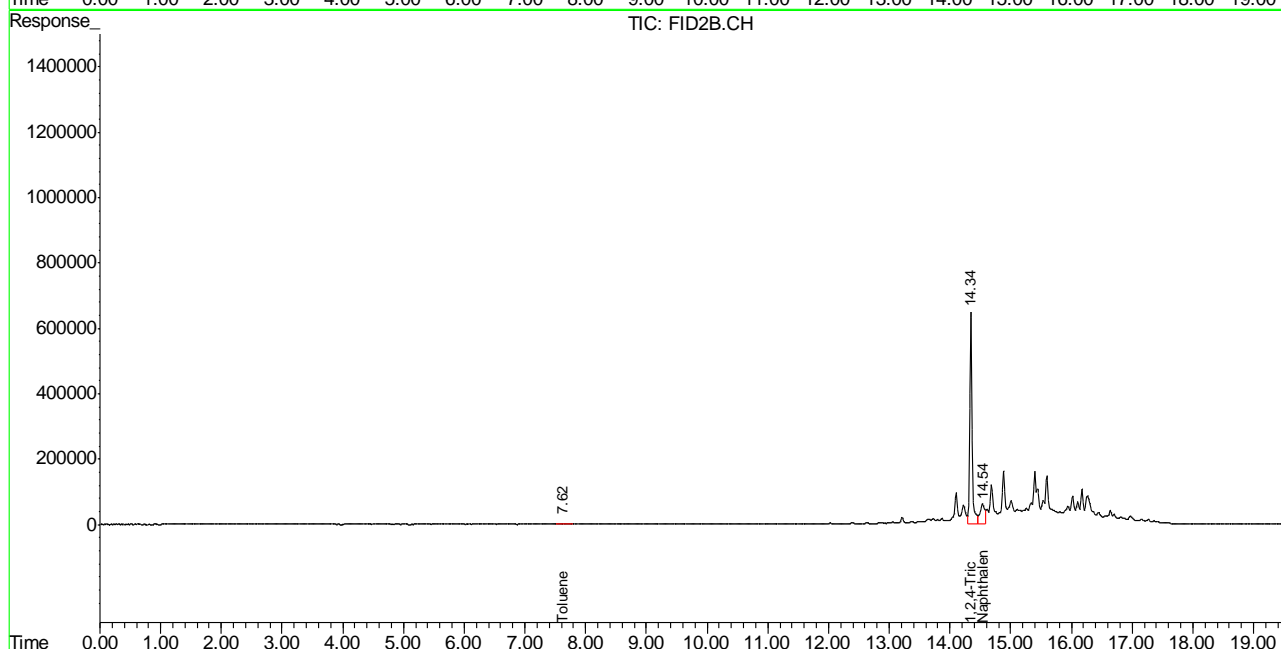
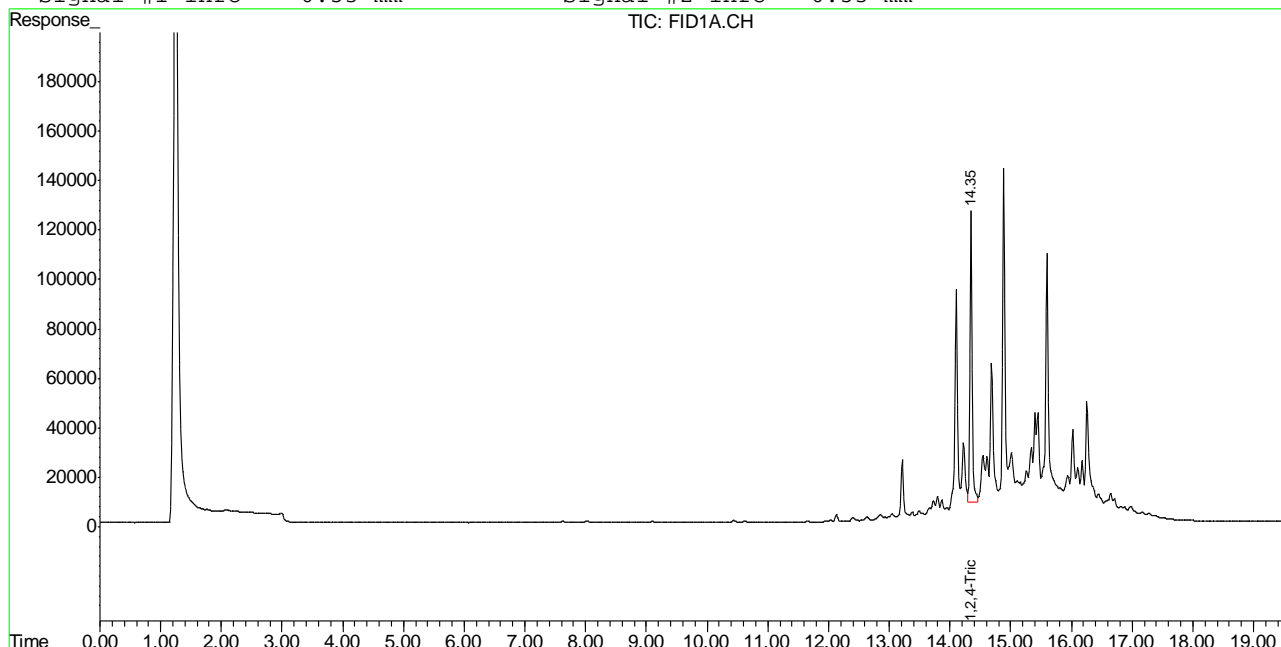
System Monitoring Compounds						
2) S	1,2,4-Trichlorobenzene	14.35	2908076	92.809 %	m	
10) S	1,2,4-Trichlorobenzene (P)	14.34	16756444	103.099 %		
Target Compounds						
1) H	TVH-Gasoline	7.23	4230381	<MDL	mg/L	
4) T	Methyl-t-butyl-ether	0.00	0	N.D.	ug/L	d
5) T	Benzene	0.00	0	N.D.	ug/L	d
6) T	Toluene	7.62	105678	0.267	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	3233831	16.390	ug/L	

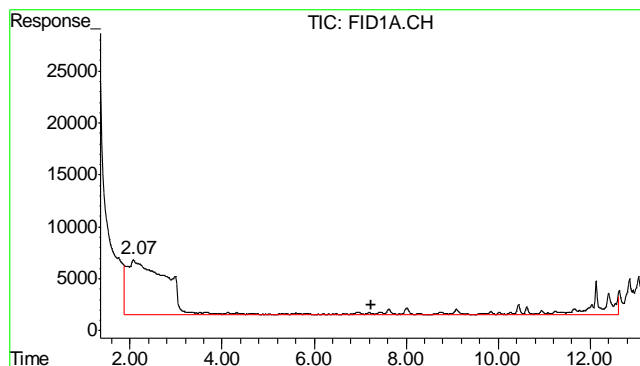
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\041812\GB15788.D\FID1A.CH Vial: 10
 Signal #2 : Y:\1\DATA\041812\GB15788.D\FID2B.CH
 Acq On : 18 Apr 2012 7:59 pm Operator: StephK
 Sample : D33716-4, 50X Inst : GC/MS Ins
 Misc : GC2767,GGB879,5.017,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Apr 19 7:11 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Wed Apr 18 09:15:00 2012
 Response via : Multiple Level Calibration
 DataAcq Meth : TVB4.M

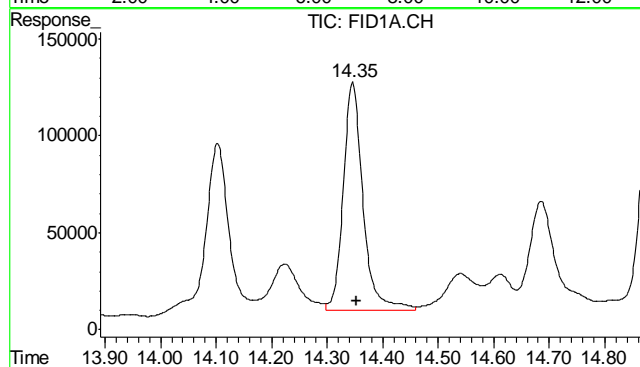
Volume Inj. :
 Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
 Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





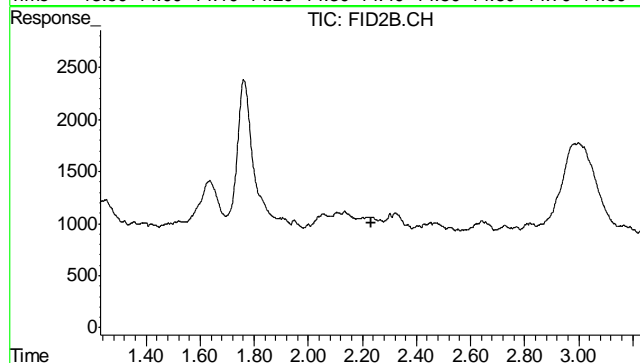
#1 TVH-Gasoline

R.T.: 7.230 min
Delta R.T.: 0.000 min
Response: 4230381
Conc: N.D.



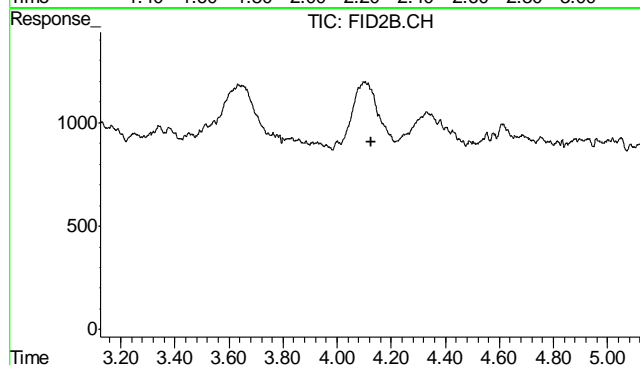
#2 1,2,4-Trichlorobenzene

R.T.: 14.345 min
Delta R.T.: -0.008 min
Response: 2908076
Conc: 92.81 % m



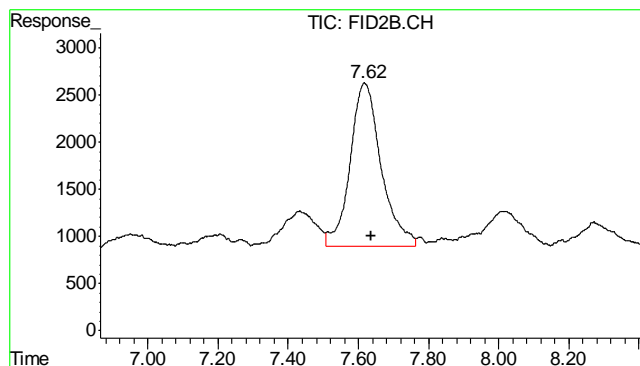
#4 Methyl-t-butyl-ether

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



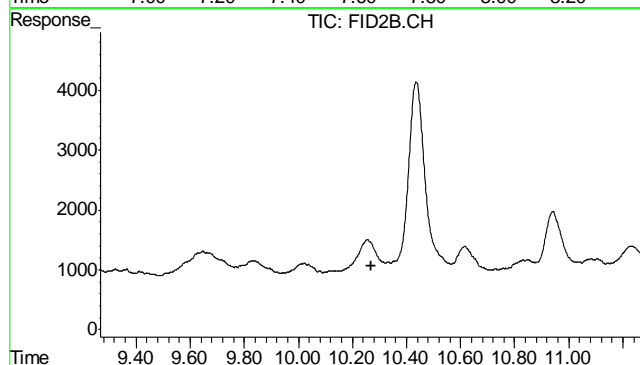
#5 Benzene

R.T.: 0.000 min
Exp R.T.: 4.125 min
Response: 0
Conc: N.D.



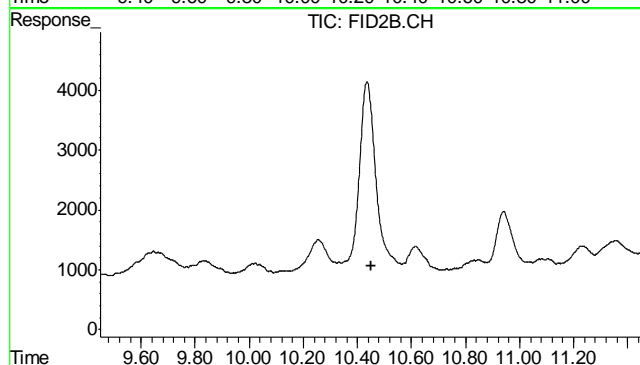
#6 Toluene

R.T.: 7.617 min
Delta R.T.: -0.020 min
Response: 105678
Conc: 0.27 ug/L



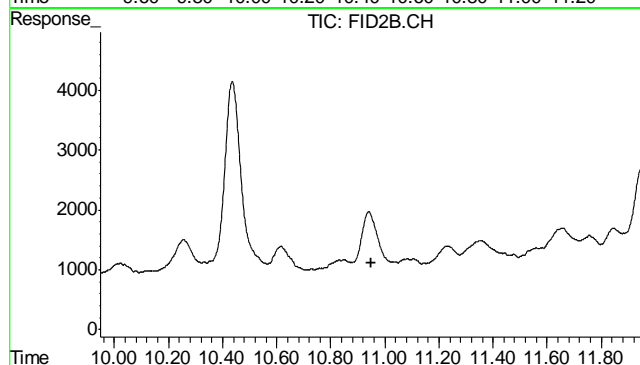
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T. : 10.268 min
Response: 0
Conc: N.D.



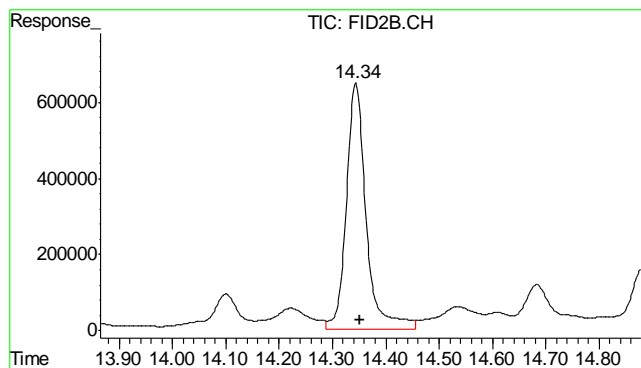
#8 m,p-Xylene

R.T.: 0.000 min
Exp R.T. : 10.450 min
Response: 0
Conc: N.D.



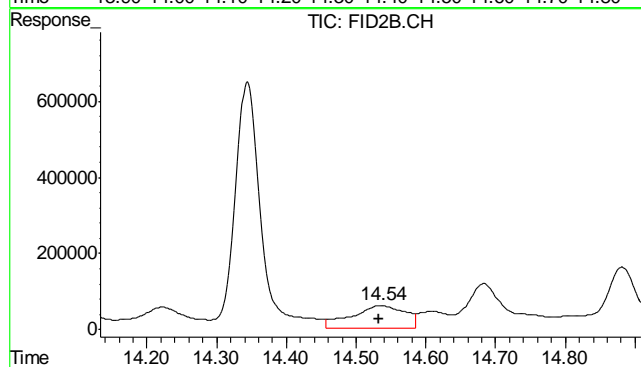
#9 o-Xylene

R.T.: 0.000 min
Exp R.T. : 10.948 min
Response: 0
Conc: N.D.



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

R.T.: 14.344 min
Delta R.T.: -0.008 min
Response: 16756444
Conc: 103.10 %



#11 Naphthalene

R.T.: 14.536 min
Delta R.T.: 0.002 min
Response: 3233831
Conc: 16.39 ug/L

6.1.4
6

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\041812\GB15781.D\FID1A.CH Vial: 3
 Signal #2 : Y:\1\DATA\041812\GB15781.D\FID2B.CH
 Acq On : 18 Apr 2012 3:52 pm Operator: StephK
 Sample : MB Inst : GC/MS Ins
 Misc : GC2767,GGB879,5.000,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Apr 19 09:04:52 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Wed Apr 18 09:15:00 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	2963897	94.590	%
10) S	1,2,4-Trichlorobenzene (P)	14.34	15434975	94.968	%
Target Compounds					
1) H	TVH-Gasoline	7.23	4308336	<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	7.62	166593	0.420	ug/L
7) T	Ethylbenzene	0.00	0	N.D.	ug/L d
8) T	m,p-Xylene	10.44	285519	0.409	ug/L
9) T	o-Xylene	0.00	0	N.D.	ug/L d
11) T	Naphthalene	14.52	263143	1.334	ug/L

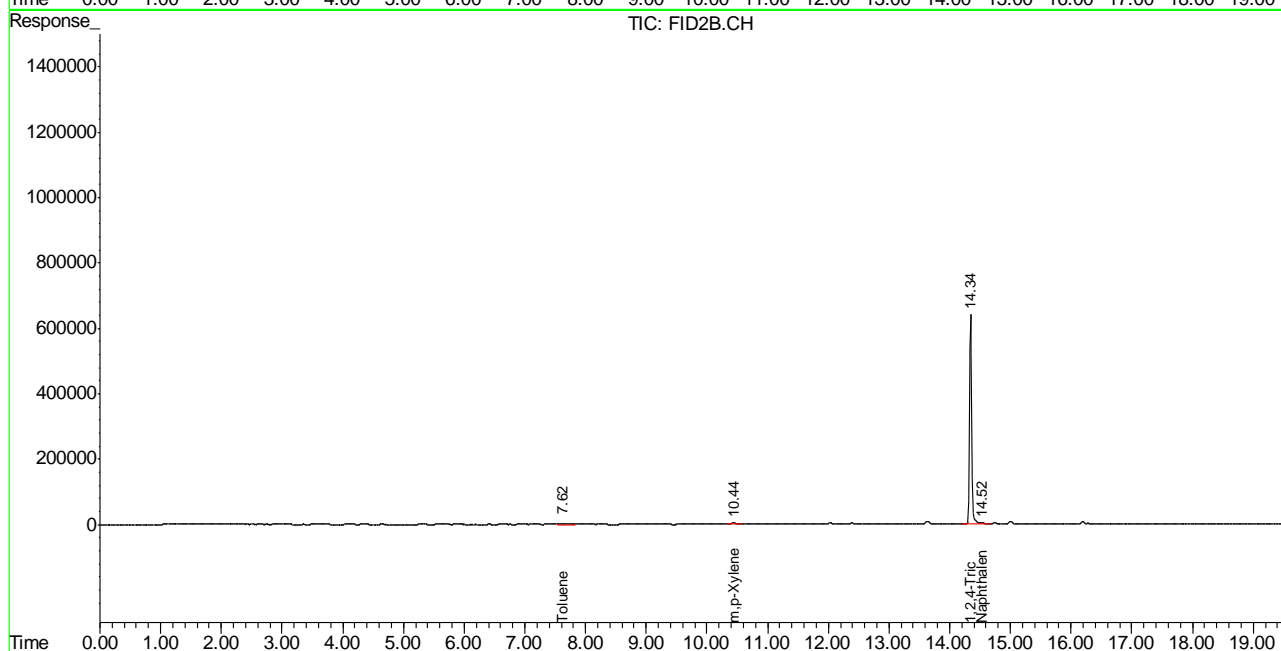
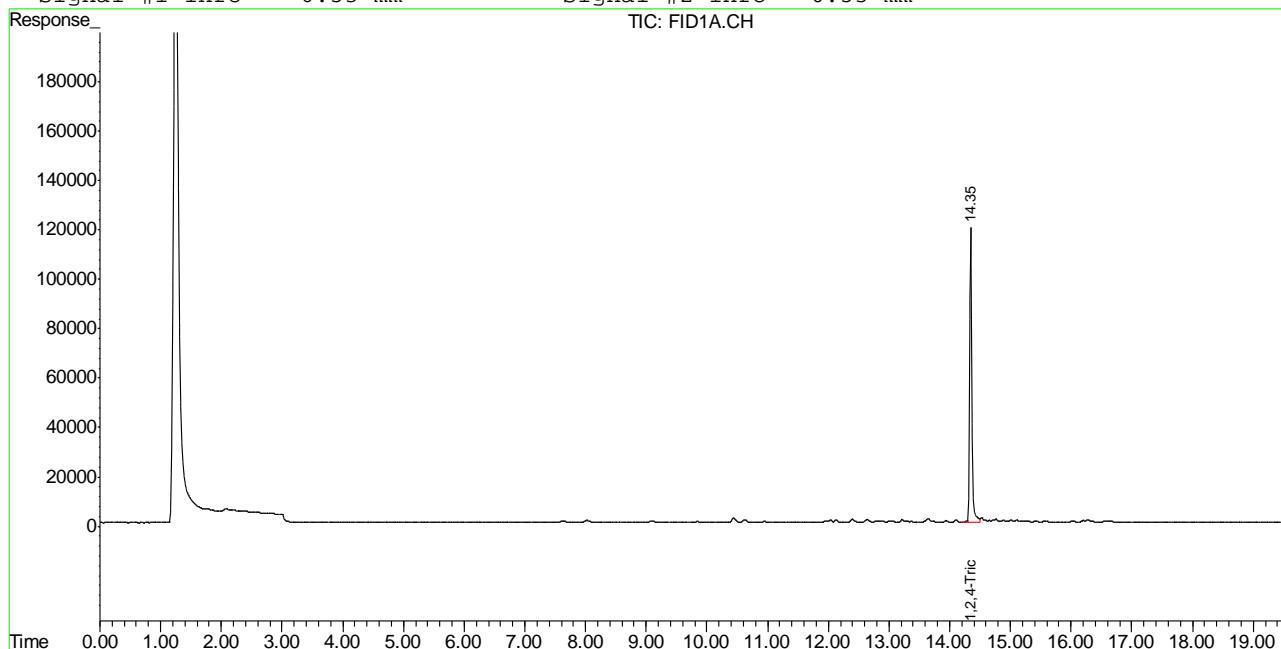
 (f)=RT Delta > 1/2 Window (m)=manual int.
 GB15781.D TB868GB868SOIL.M Thu Apr 19 09:11:30 2012 GC

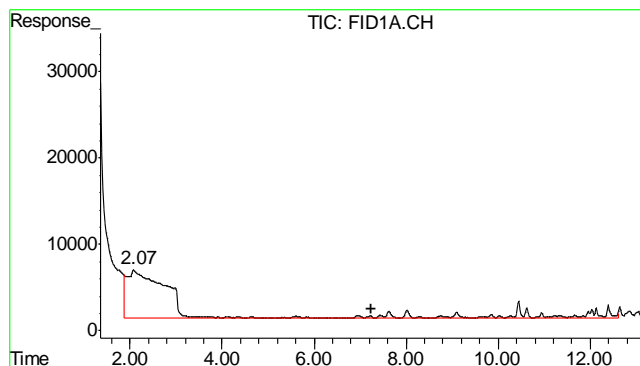
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\041812\GB15781.D\FID1A.CH Vial: 3
Signal #2 : Y:\1\DATA\041812\GB15781.D\FID2B.CH
Acq On : 18 Apr 2012 3:52 pm Operator: StephK
Sample : MB Inst : GC/MS Ins
Misc : GC2767,GGB879,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Apr 19 7:09 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Wed Apr 18 09:15:00 2012
Response via : Multiple Level Calibration
DataAcq Meth : TVB4.M

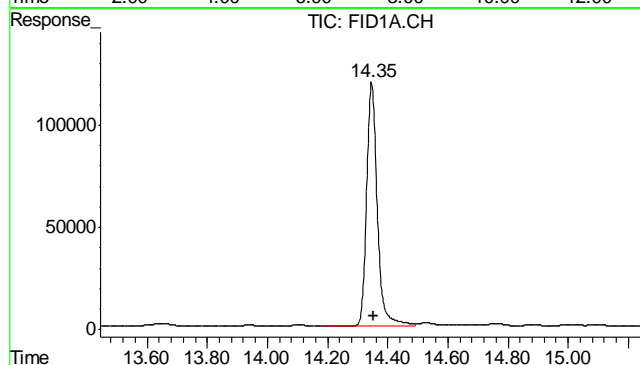
Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





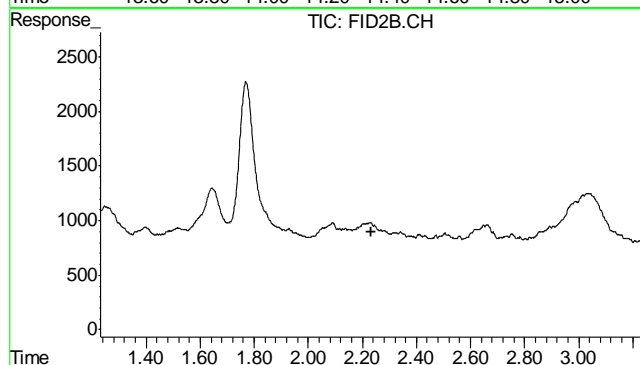
#1 TVH-Gasoline

R.T.: 7.230 min
Delta R.T.: 0.000 min
Response: 4308336
Conc: N.D.



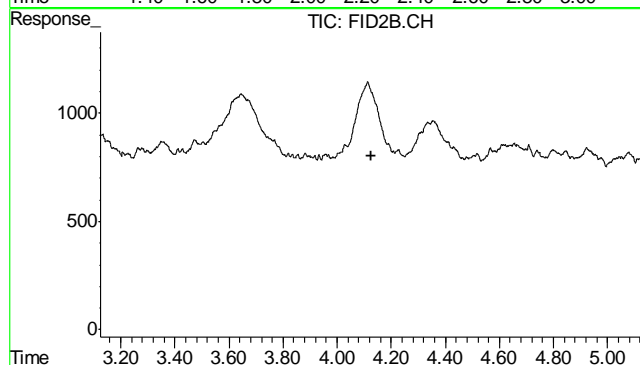
#2 1,2,4-Trichlorobenzene

R.T.: 14.347 min
Delta R.T.: -0.006 min
Response: 2963897
Conc: 94.59 %



#4 Methyl-t-butyl-ether

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

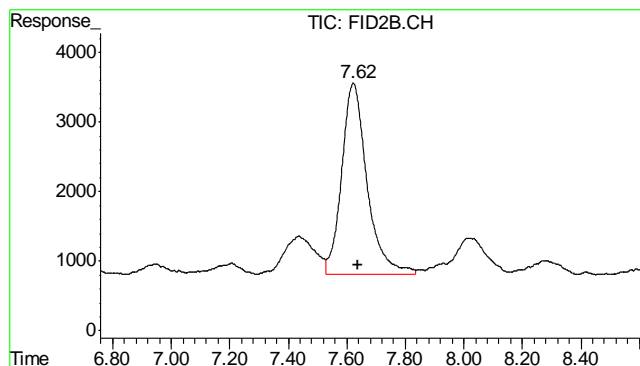


#5 Benzene

R.T.: 0.000 min
Exp R.T.: 4.125 min
Response: 0
Conc: N.D.

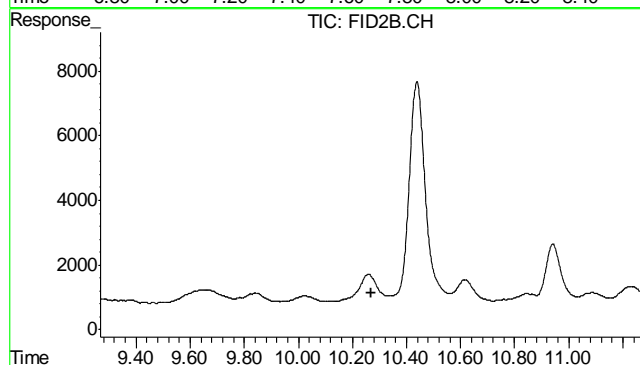
6.2.1

6



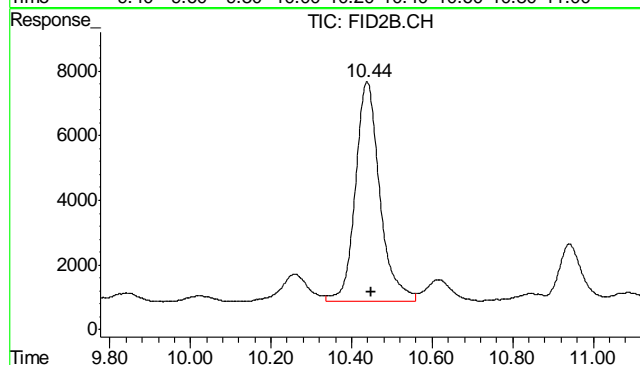
#6 Toluene

R.T.: 7.623 min
Delta R.T.: -0.014 min
Response: 166593
Conc: 0.42 ug/L



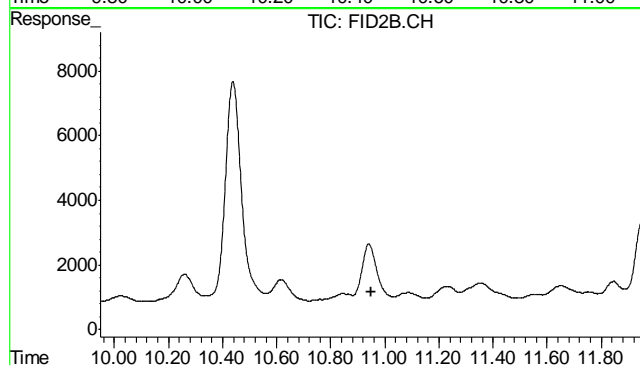
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T.: 10.268 min
Response: 0
Conc: N.D.



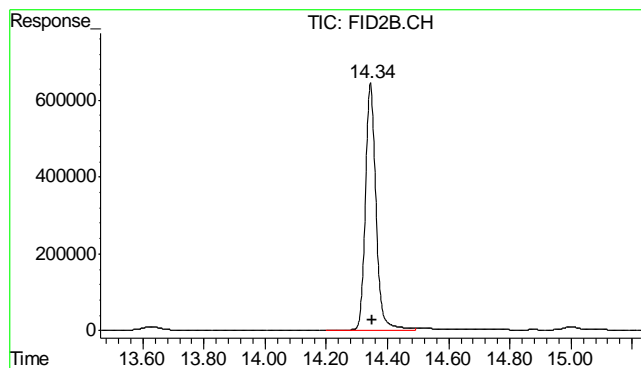
#8 m,p-Xylene

R.T.: 10.438 min
Delta R.T.: -0.011 min
Response: 285519
Conc: 0.41 ug/L



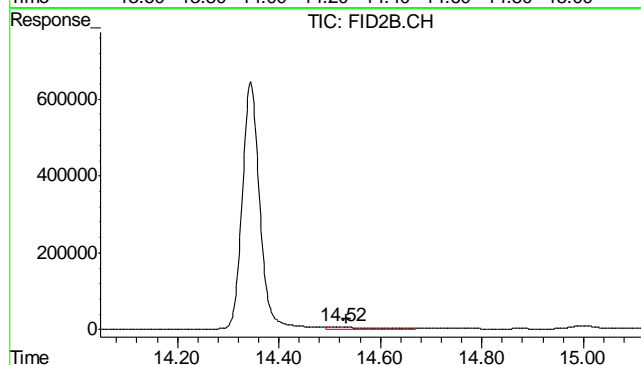
#9 o-Xylene

R.T.: 0.000 min
Exp R.T.: 10.948 min
Response: 0
Conc: N.D.



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

R.T.: 14.344 min
Delta R.T.: -0.007 min
Response: 15434975
Conc: 94.97 %



#11 Naphthalene

R.T.: 14.524 min
Delta R.T.: -0.010 min
Response: 263143
Conc: 1.33 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: D33716
Account: XTOKRWR XTO Energy
Project: PCU 296-7A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5761-MB	FH003522.D	1	04/23/12	AV	04/23/12	OP5761	GFH192

The QC reported here applies to the following samples:

Method: SW846-8015B

D33716-1, D33716-2, D33716-3, D33716-4

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	78% 43-136%

Blank Spike Summary

Page 1 of 1

Job Number: D33716
Account: XTOKRWR XTO Energy
Project: PCU 296-7A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5761-BS	FH003524.D	1	04/23/12	AV	04/23/12	OP5761	GFH192

The QC reported here applies to the following samples:

Method: SW846-8015B

D33716-1, D33716-2, D33716-3, D33716-4

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	456	68	58-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	93%	43-136%

7.2.1

7

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D33716
Account: XTOKRWR XTO Energy
Project: PCU 296-7A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5761-MS	FH003526.D	1	04/23/12	AV	04/23/12	OP5761	GFH192
OP5761-MSD	FH003528.D	1	04/23/12	AV	04/23/12	OP5761	GFH192
D33836-1	FH003532.D	1	04/23/12	AV	04/23/12	OP5761	GFH192

The QC reported here applies to the following samples:

Method: SW846-8015B

D33716-1, D33716-2, D33716-3, D33716-4

CAS No.	Compound	D33836-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	453		854	484	4* a	589	16* a	20	20-183/43

CAS No.	Surrogate Recoveries	MS	MSD	D33836-1	Limits
84-15-1	o-Terphenyl	23%* c	33%* c	26%* b	43-136%

(a) Recovery is below QC limit due to matrix interference.

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

(c) Outside control limits due to matrix interference.

GC Semi-volatiles

Raw Data



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH042312\
Data File : FH003548.D
Signal(s) : FID1A.ch
Acq On : 23 Apr 2012 9:14 pm
Operator : ashleyv
Sample : D33716-1
Misc : OP5761,GFH192,30.02,,,2.0,1
ALS Vial : 16 Sample Multiplier: 1

Integration File: events.e
Quant Time: Apr 24 09:57:34 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH160F.M
Quant Title : DRO-ORO FRONT
QLast Update : Mon Apr 09 09:27:25 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	12.365	807485108	872.694 ug/mlm
Target Compounds			
1) H TPH-DRO (C10-C28)	9.890	145299036	147.285 ug/ml

(f)=RT Delta > 1/2 Window

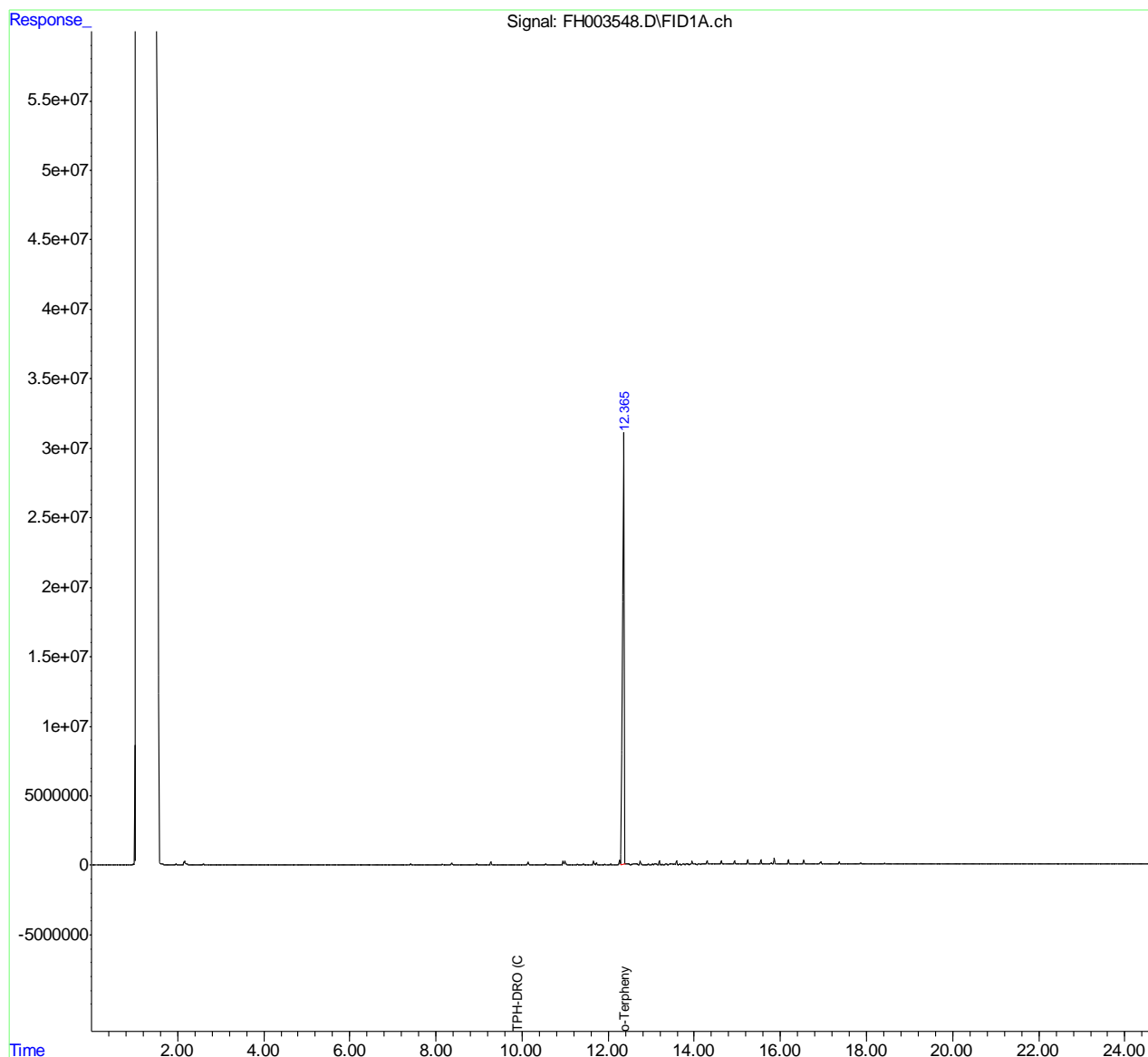
(m)=manual int.

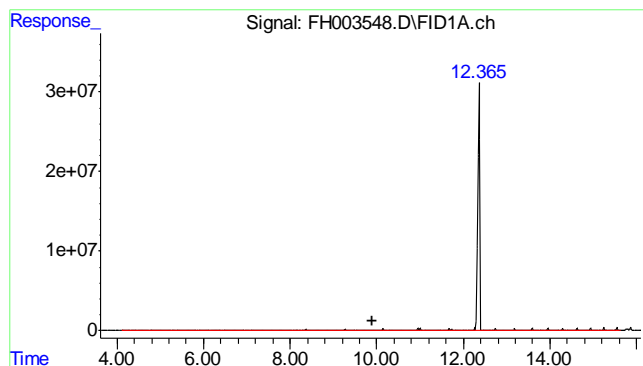
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH042312\
Data File : FH003548.D
Signal(s) : FID1A.ch
Acq On : 23 Apr 2012 9:14 pm
Operator : ashleyv
Sample : D33716-1
Misc : OP5761,GFH192,30.02,,,2.0,1
ALS Vial : 16 Sample Multiplier: 1

Integration File: events.e
Quant Time: Apr 24 09:57:34 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH160F.M
Quant Title : DRO-ORO FRONT
QLast Update : Mon Apr 09 09:27:25 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :





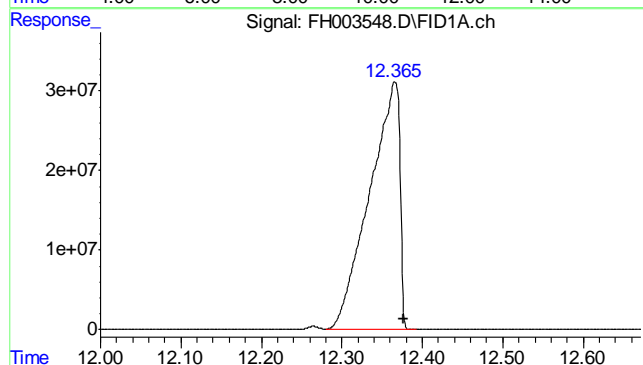
#1 TPH-DRO (C10-C28)

R.T.: 9.890 min

Delta R.T.: 0.000 min

Response: 145299036

Conc: 147.29 ug/ml m



#2 o-Terphenyl

R.T.: 12.365 min

Delta R.T.: -0.012 min

Response: 807485108

Conc: 872.69 ug/ml m

8.1.1

8

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH042312\
Data File : FH003550.D
Signal(s) : FID1A.ch
Acq On : 23 Apr 2012 9:49 pm
Operator : ashleyv
Sample : D33716-2
Misc : OP5761,GFH192,30.01,,,2.0,1
ALS Vial : 17 Sample Multiplier: 1

Integration File: events.e
Quant Time: Apr 24 09:58:38 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH160F.M
Quant Title : DRO-ORO FRONT
QLast Update : Mon Apr 09 09:27:25 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	12.358	598731176	647.082 ug/mlm
Target Compounds			
1) H TPH-DRO (C10-C28)	9.890	5401223690	5475.058 ug/ml

(f)=RT Delta > 1/2 Window

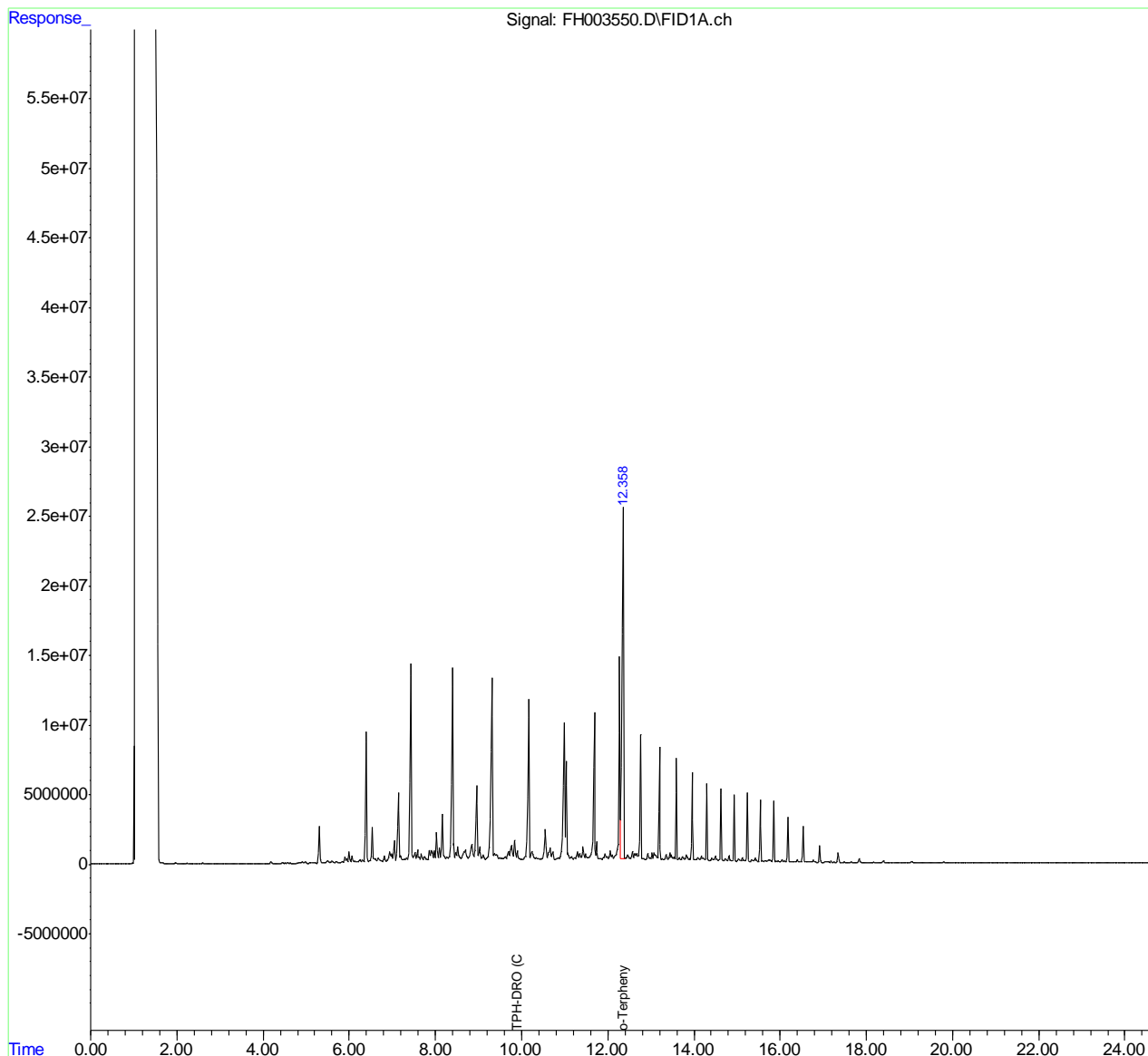
(m)=manual int.

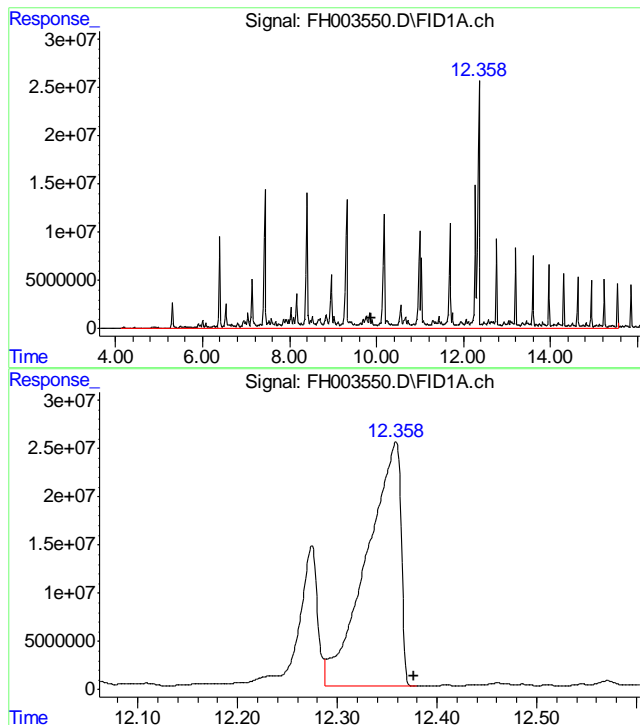
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH042312\
 Data File : FH003550.D
 Signal(s) : FID1A.ch
 Acq On : 23 Apr 2012 9:49 pm
 Operator : ashleyv
 Sample : D33716-2
 Misc : OP5761,GFH192,30.01,,,2.0,1
 ALS Vial : 17 Sample Multiplier: 1

Integration File: events.e
 Quant Time: Apr 24 09:58:38 2012
 Quant Method : C:\msdchem\1\METHODS\DRO-GFH160F.M
 Quant Title : DRO-ORO FRONT
 QLast Update : Mon Apr 09 09:27:25 2012
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :





#1 TPH-DRO (C10-C28)

R.T.: 9.890 min

Delta R.T.: 0.000 min

Response: 5401223690

Conc: 5475.06 ug/ml m

#2 o-Terphenyl

R.T.: 12.358 min

Delta R.T.: -0.019 min

Response: 598731176

Conc: 647.08 ug/ml m

8.12
8

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH042412\
 Data File : FH003603.D
 Signal(s) : FID1A.ch
 Acq On : 24 Apr 2012 11:49 am
 Operator : ashleyv
 Sample : D33716-3, 10x
 Misc : OP5761,GFH194,1000,,,2.00,10
 ALS Vial : 3 Sample Multiplier: 1

Integration File: events.e
 Quant Time: Apr 24 12:17:45 2012
 Quant Method : C:\msdchem\1\METHODS\DRO-GFH160F.M
 Quant Title : DRO-ORO FRONT
 QLast Update : Mon Apr 09 09:27:25 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	12.319	88034900	95.144 ug/ml
Target Compounds			
1) H TPH-DRO (C10-C28)	9.890	7129671062	7227.133 ug/ml

(f)=RT Delta > 1/2 Window

(m)=manual int.

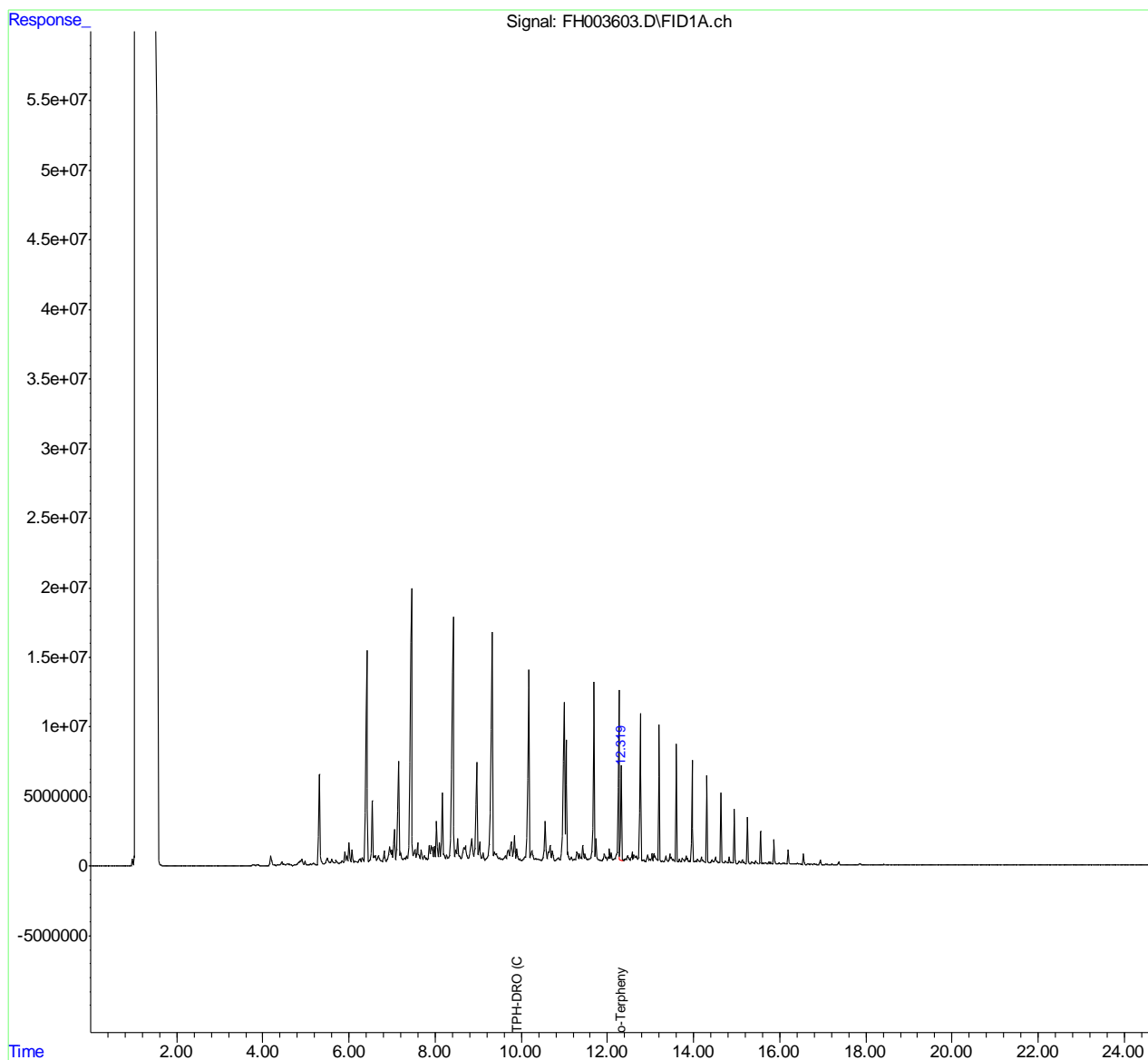
8.1.3
8

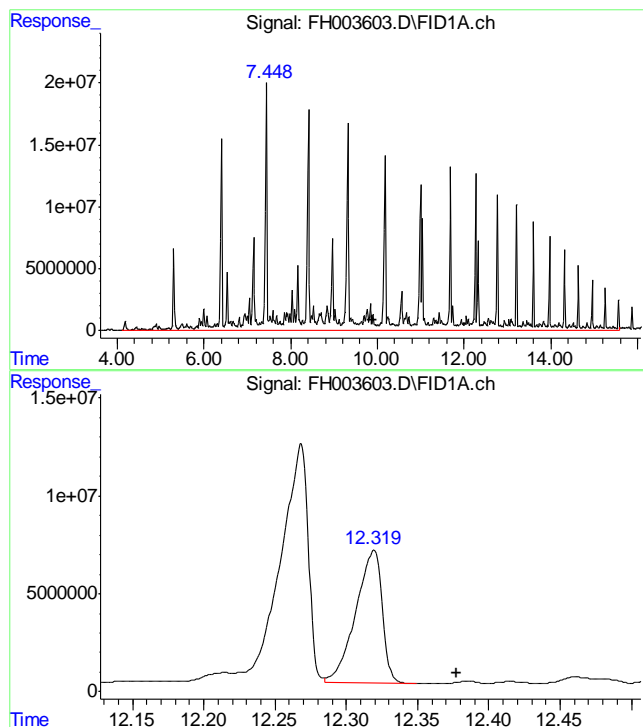
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH042412\
Data File : FH003603.D
Signal(s) : FID1A.ch
Acq On : 24 Apr 2012 11:49 am
Operator : ashleyv
Sample : D33716-3, 10x
Misc : OP5761,GFH194,1000,,,2.00,10
ALS Vial : 3 Sample Multiplier: 1

Integration File: events.e
Quant Time: Apr 24 12:17:45 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH160F.M
Quant Title : DRO-ORO FRONT
QLast Update : Mon Apr 09 09:27:25 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :





#1 TPH-DRO (C10-C28)

R.T.: 9.890 min

Delta R.T.: 0.000 min

Response: 7129671062

Conc: 7227.13 ug/ml m

#2 o-Terphenyl

R.T.: 12.319 min

Delta R.T.: -0.058 min

Response: 88034900

Conc: 95.14 ug/ml

8.1.3

8

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH042312\
Data File : FH003554.D
Signal(s) : FID1A.ch
Acq On : 23 Apr 2012 11:00 pm
Operator : ashleyv
Sample : D33716-4
Misc : OP5761,GFH192,30.08,,,2.0,1
ALS Vial : 19 Sample Multiplier: 1

Integration File: events.e
Quant Time: Apr 24 10:00:40 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH160F.M
Quant Title : DRO-ORO FRONT
QLast Update : Mon Apr 09 09:27:25 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	12.360	665664978	719.421 ug/mlm
Target Compounds			
1) H TPH-DRO (C10-C28)	9.890	1612160574	1634.199 ug/ml

(f)=RT Delta > 1/2 Window

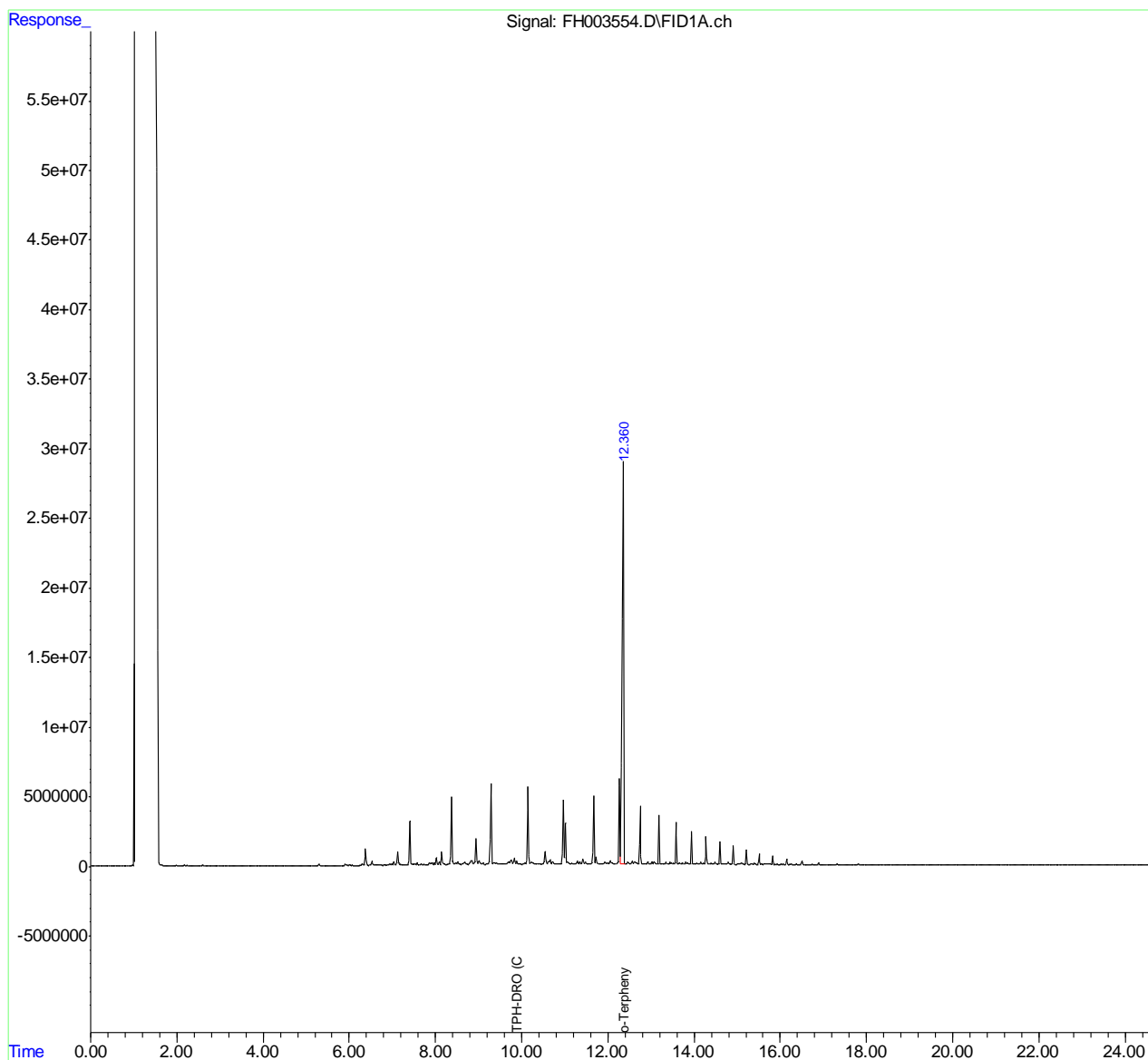
(m)=manual int.

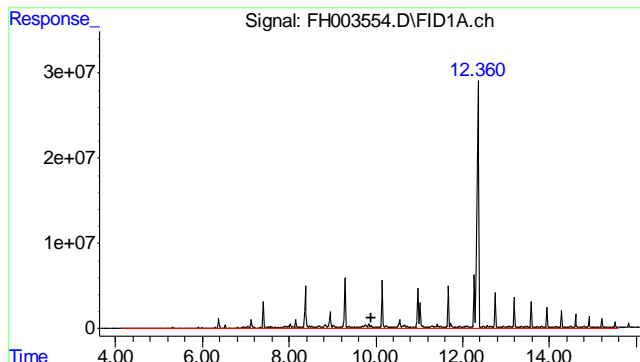
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH042312\
Data File : FH003554.D
Signal(s) : FID1A.ch
Acq On : 23 Apr 2012 11:00 pm
Operator : ashleyv
Sample : D33716-4
Misc : OP5761,GFH192,30.08,,,2.0,1
ALS Vial : 19 Sample Multiplier: 1

Integration File: events.e
Quant Time: Apr 24 10:00:40 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH160F.M
Quant Title : DRO-ORO FRONT
QLast Update : Mon Apr 09 09:27:25 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :





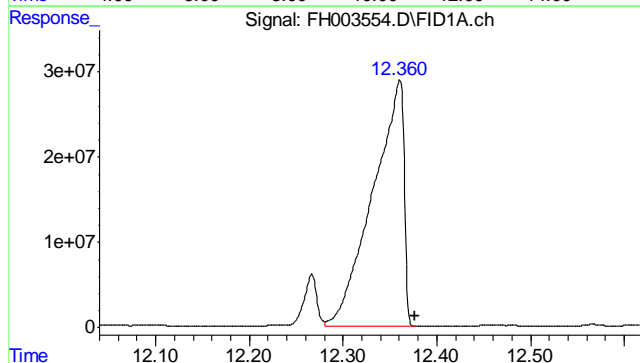
#1 TPH-DRO (C10-C28)

R.T.: 9.890 min

Delta R.T.: 0.000 min

Response: 1612160574

Conc: 1634.20 ug/ml m



#2 o-Terphenyl

R.T.: 12.360 min

Delta R.T.: -0.017 min

Response: 665664978

Conc: 719.42 ug/ml m

8.1.4
8

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH042312\
Data File : FH003522.D
Signal(s) : FID1A.ch
Acq On : 23 Apr 2012 1:27 pm
Operator : ashleyv
Sample : OP5761-MB
Misc : OP5761,GFH192,30.00,,,2.0,1
ALS Vial : 3 Sample Multiplier: 1

Integration File: events.e
Quant Time: Apr 23 13:53:54 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH160F.M
Quant Title : DRO-ORO FRONT
QLast Update : Mon Apr 09 09:27:25 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	12.364	721888371	780.184 ug/ml
Target Compounds			
1) H TPH-DRO (C10-C28)	9.890	20236602	20.513 ug/ml

(f)=RT Delta > 1/2 Window

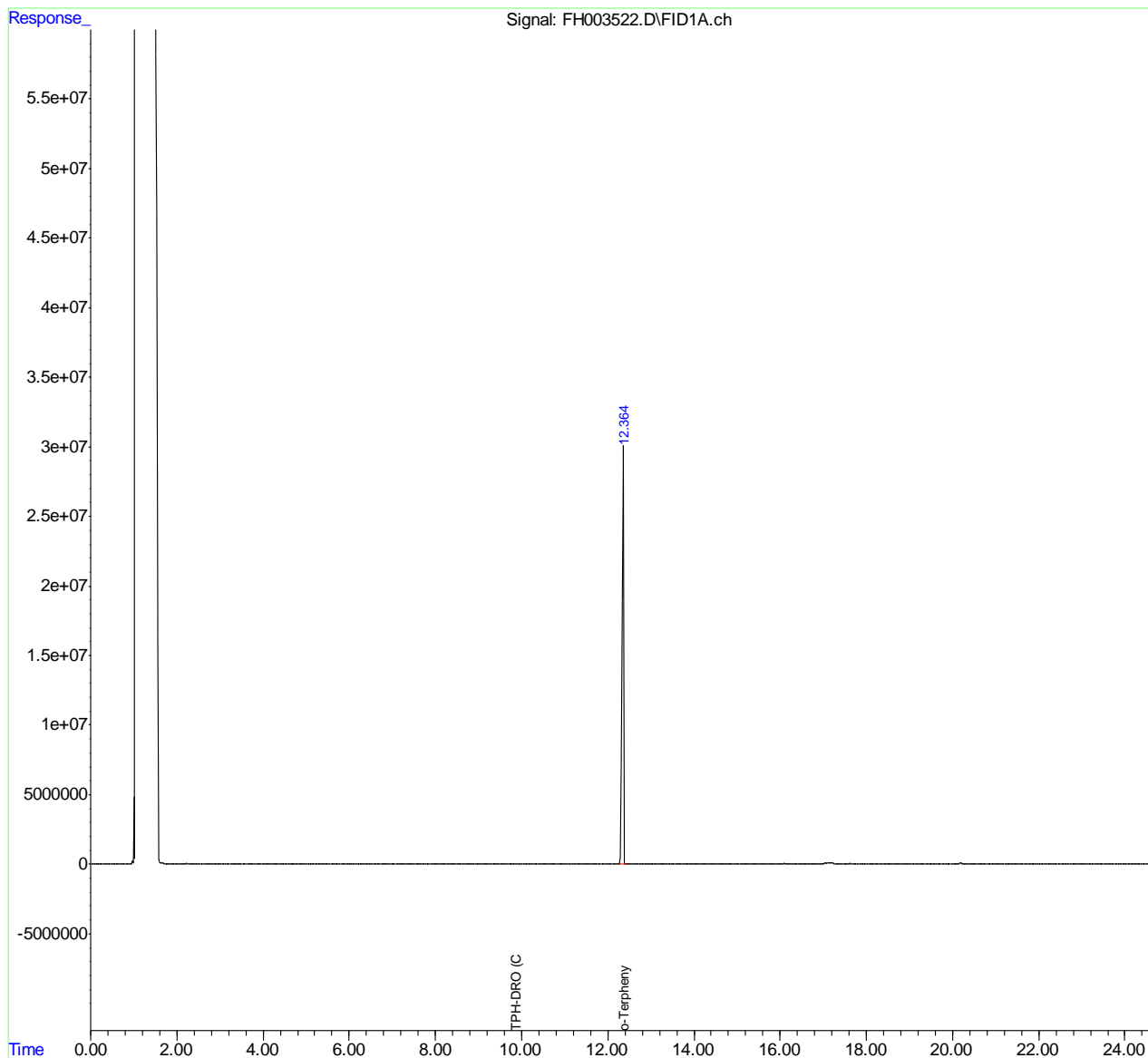
(m)=manual int.

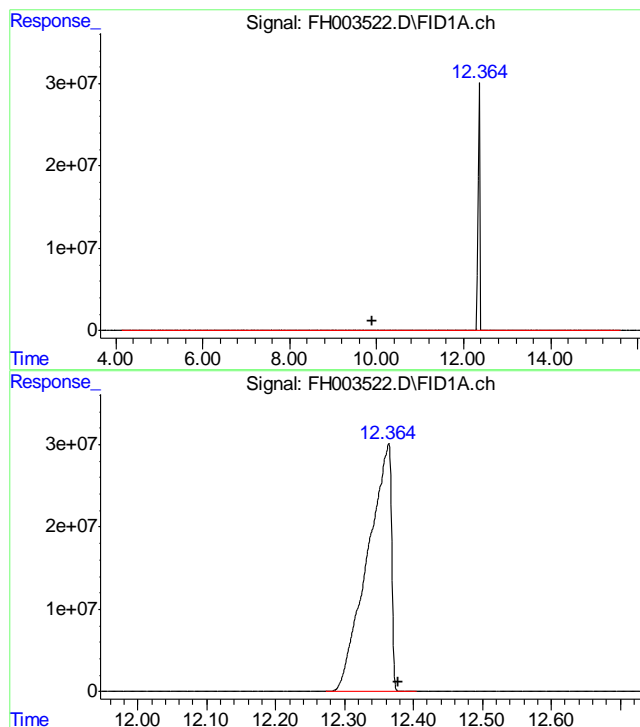
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH042312\
Data File : FH003522.D
Signal(s) : FID1A.ch
Acq On : 23 Apr 2012 1:27 pm
Operator : ashleyv
Sample : OP5761-MB
Misc : OP5761,GFH192,30.00,,,2.0,1
ALS Vial : 3 Sample Multiplier: 1

Integration File: events.e
Quant Time: Apr 23 13:53:54 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH160F.M
Quant Title : DRO-ORO FRONT
QLast Update : Mon Apr 09 09:27:25 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :





#1 TPH-DRO (C10-C28)

R.T.: 9.890 min
Delta R.T.: 0.000 min
Response: 20236602
Conc: 20.51 ug/ml m

#2 o-Terphenyl

R.T.: 12.364 min
Delta R.T.: -0.013 min
Response: 721888371
Conc: 780.18 ug/ml

8.2.1

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