



03/21/12

Technical Report for

XTO Energy

PCU 296-7A

1007-02

Accutest Job Number: D32748

Sampling Date: 03/13/12

Report to:

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

Total number of pages in report: 76



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.


Brad Madadian
Laboratory Director

Client Service contact: Renea Jackson 303-425-6021

Certifications: CO, ID, NE, NM, ND (R-027) (PW) UT (NELAP CO00049)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.
Test results relate only to samples analyzed.

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Sample Summary

XTO Energy

Job No: D32748

PCU 296-7A
Project No: 1007-02

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
D32748-1	03/13/12	13:50 CB	03/15/12	SO	Soil	RP SUBLINER-6' CENTER CTP-5
D32748-2	03/13/12	14:00 CB	03/15/12	SO	Soil	RP SUBLINER SIDEWALL EAST
D32748-3	03/13/12	14:10 CB	03/15/12	SO	Soil	RP SUBLINER SIDEWALL WEST
D32748-4	03/13/12	14:20 CB	03/15/12	SO	Soil	RP SUBLINER SIDEWALL SOUTH
D32748-5	03/13/12	14:30 CB	03/15/12	SO	Soil	RP SUBLINER COMP. 6 INCHES

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

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: XTO Energy**Job No** D32748**Site:** PCU 296-7A**Report Date** 3/21/2012 12:06:57 PM

On 03/15/2012, 5 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 D32748 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:** GGB859

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D32747-1MS, D32747-1MSD were used as the QC samples indicated.

Extractables by GC By Method SW846-8015B

Matrix SO**Batch ID:** OP5560

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D32747-1MS, D32747-1MSD were used as the QC samples indicated.

Wet Chemistry By Method SM19 2540B M

Matrix SO**Batch ID:** GN14097

- The data for SM19 2540B M meets quality control requirements.

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Page 1 of 1

Client Sample ID:	RP SUBLINER-6' CENTER CTP-5			Date Sampled:	03/13/12
Lab Sample ID:	D32748-1			Date Received:	03/15/12
Matrix:	SO - Soil			Percent Solids:	87.6
Method:	SW846 8015B				
Project:	PCU 296-7A				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB15311.D	1	03/15/12	SK	n/a	n/a	GGB859
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.1 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	13	6.3	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	100%		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 SUBLINER-6' CENTER CTP-5			Date Sampled:	03/13/12
Lab Sample ID:	D32748-1			Date Received:	03/15/12
Matrix:	SO - Soil			Percent Solids:	87.6
Method:	SW846-8015B SW846 3546				
Project:	PCU 296-7A				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH002341.D	1	03/20/12	TR	03/19/12	OP5560	GFH123
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)	48.9	15	9.9	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	61%		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

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Report of Analysis

Page 1 of 1

Client Sample ID:	RP SUBLINER SIDEWALL EAST			Date Sampled:	03/13/12
Lab Sample ID:	D32748-2			Date Received:	03/15/12
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	GB15312.D	1	03/15/12	SK	n/a	n/a	GGB859
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	13	6.3	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	100%		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 SIDEWALL EAST			Date Sampled:	03/13/12
Lab Sample ID:	D32748-2			Date Received:	03/15/12
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	FH002343.D	1	03/20/12	TR	03/19/12	OP5560	GFH123
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)	39.2	15	9.8	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	71%		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

Page 1 of 1

Client Sample ID:	RP SUBLINER SIDEWALL WEST					Date Sampled:	03/13/12
Lab Sample ID:	D32748-3					Date Received:	03/15/12
Matrix:	SO - Soil					Percent Solids:	88.6
Method:	SW846 8015B						
Project:	PCU 296-7A						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB15313.D	1	03/16/12	SK	n/a	n/a	GGB859
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.1 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	12	6.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	96%		60-140%		

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

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

Accutest Laboratories

Report of Analysis

Page 1 of 1

Client Sample ID:	RP SUBLINER SIDEWALL WEST				
Lab Sample ID:	D32748-3			Date Sampled:	03/13/12
Matrix:	SO - Soil			Date Received:	03/15/12
Method:	SW846-8015B	SW846	3546	Percent Solids:	88.6
Project:	PCU 296-7A				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH002345.D	1	03/20/12	TR	03/19/12	OP5560	GFH123
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	96.0	15	9.7	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	70%		43-136%		

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

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

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Report of Analysis

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Client Sample ID:	RP SUBLINER SIDEWALL SOUTH			Date Sampled:	03/13/12
Lab Sample ID:	D32748-4			Date Received:	03/15/12
Matrix:	SO - Soil			Percent Solids:	87.4
Method:	SW846 8015B				
Project:	PCU 296-7A				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB15314.D	1	03/16/12	SK	n/a	n/a	GGB859
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.1 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	13	6.4	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	103%		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 SIDEWALL SOUTH			Date Sampled:	03/13/12
Lab Sample ID:	D32748-4			Date Received:	03/15/12
Matrix:	SO - Soil			Percent Solids:	87.4
Method:	SW846-8015B SW846 3546				
Project:	PCU 296-7A				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH002347.D	1	03/20/12	TR	03/19/12	OP5560	GFH123
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)	ND	15	9.9	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	67%		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

Page 1 of 1

Client Sample ID:	RP SUBLINER COMP. 6 INCHES	
Lab Sample ID:	D32748-5	Date Sampled: 03/13/12
Matrix:	SO - Soil	Date Received: 03/15/12
Method:	SW846 8015B	Percent Solids: 91.4
Project:	PCU 296-7A	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB15315.D	1	03/16/12	SK	n/a	n/a	GGB859
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	12	5.9	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	103%		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 COMP. 6 INCHES				
Lab Sample ID:	D32748-5			Date Sampled:	03/13/12
Matrix:	SO - Soil			Date Received:	03/15/12
Method:	SW846-8015B	SW846	3546	Percent Solids:	91.4
Project:	PCU 296-7A				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH002349.D	1	03/20/12	TR	03/19/12	OP5560	GFH123
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)	809	15	9.5	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	66%		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 #
Accutest Quote #
Bottle Order Control #
Accutest Job # **D32748**

Client / Reporting Information		Project Information		Requested Analysis (see TEST CODE sheet)												Matrix Codes																																	
Company Name KRW Consulting Inc		Project Name XTD PCU 296-7A		<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 5px; margin-right: 10px;"> TPH (600/100) </div> <div style="border: 1px solid black; padding: 5px;"> <table border="1"> <tr><td>DW - Drinking Water</td><td></td></tr> <tr><td>GW - Ground Water</td><td></td></tr> <tr><td>WW - Water</td><td></td></tr> <tr><td>SW - Surface Water</td><td></td></tr> <tr><td>SO - Soil</td><td></td></tr> <tr><td>SL - Sludge</td><td></td></tr> <tr><td>SED - Sediment</td><td></td></tr> <tr><td>OL - Oil</td><td></td></tr> <tr><td>LIO - Other Liquid</td><td></td></tr> <tr><td>AIR - Air</td><td></td></tr> <tr><td>SOL - Other Solid</td><td></td></tr> <tr><td>WP - Wipe</td><td></td></tr> <tr><td>FB - Field Blank</td><td></td></tr> <tr><td>ES - Equipment Blank</td><td></td></tr> <tr><td>RB - Rinse Blank</td><td></td></tr> <tr><td>TB - Trip Blank</td><td></td></tr> </table> </div> </div>												DW - Drinking Water		GW - Ground Water		WW - Water		SW - Surface Water		SO - Soil		SL - Sludge		SED - Sediment		OL - Oil		LIO - Other Liquid		AIR - Air		SOL - Other Solid		WP - Wipe		FB - Field Blank		ES - Equipment Blank		RB - Rinse Blank		TB - Trip Blank		DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OL - Oil LIO - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank ES - Equipment Blank RB - Rinse Blank TB - Trip Blank	
DW - Drinking Water																																																	
GW - Ground Water																																																	
WW - Water																																																	
SW - Surface Water																																																	
SO - Soil																																																	
SL - Sludge																																																	
SED - Sediment																																																	
OL - Oil																																																	
LIO - Other Liquid																																																	
AIR - Air																																																	
SOL - Other Solid																																																	
WP - Wipe																																																	
FB - Field Blank																																																	
ES - 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 Vincent Knudson		Project# 1007-02																																															
Phone # Fax # 970 488 1098		Client PO#																																															
Sampler(s) Name(s) Craig Burger		Project Manager Joe Hess		Company Name XTD Energy		Street Address 21459 CR 5		City State Zip Rifle CO 81650		Attention: Jessica Dooling		PO#																																					
Field ID / Point of Collection		MEQ/HDI Vial #		Date		Time		Sampled by		Matrix		# of bottles		Number of preserved bottles		LAB USE ONLY																																	
RP Subliner - 6' Center etc-5		3-13-12		13:50		CAB		SD		2		2				01																																	
RP Subliner Sidewall East				14:00												02																																	
RP Subliner Sidewall West				14:10												03																																	
RP Subliner Sidewall South				14:20												04																																	
RP Subliner Comp. - 6 inches				14:30												05																																	
<div style="display: flex; justify-content: space-between;"> <div> <p>Turnaround Time (Business days)</p> <p><input type="checkbox"/> Std. 10 Business Days</p> <p><input type="checkbox"/> Std. 5 Business Days (By Contract only)</p> <p><input checked="" type="checkbox"/> 5 Day PH SH</p> <p><input type="checkbox"/> 3 Day EMERGENCY</p> <p><input type="checkbox"/> 2 Day EMERGENCY</p> <p><input type="checkbox"/> 1 Day EMERGENCY</p> <p>Emergency & Rush T/A data available VIA Lablink</p> </div> <div> <p>Approved By (Accutest PM): / Date:</p> <p>_____</p> <p>_____</p> <p>_____</p> </div> <div> <p><input type="checkbox"/> Commercial "A" (Level 1)</p> <p><input type="checkbox"/> Commercial "B" (Level 2)</p> <p><input type="checkbox"/> Commercial "B" + Narrative</p> <p><input type="checkbox"/> FULLT1 (Level 3-4)</p> <p>Commercial "A" = Results Only</p> <p>Commercial "B" = Results + QC Summary</p> </div> <div> <p><input type="checkbox"/> State Forms</p> <p><input type="checkbox"/> EDD Format</p> <p><input checked="" type="checkbox"/> PDF</p> </div> </div>																																																	
<p>Sample Custody must be documented below each time samples change possession, including courier delivery.</p>																																																	
Relinquished By Sampler 1		Date Time: 3/14/12		Received By: 1 Rifle Service Center		Relinquished By: 2		Date Time: 3/14/12		Received By: 2 American Courier		Relinquished By: 3		Date Time: 3/15/12		Received By: 4																																	
Relinquished by Sampler: 3		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:		Relinquished by:		Date Time:		Received By:																																	
Relinquished by:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:		Relinquished by:		Date Time:		Received By:																																	
5				5		5						5				5																																	

D32748: Chain of Custody

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Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D32748

Client: KRW

Immediate Client Services Action Required: No

Date / Time Received: 3/15/2012 12:00:00 PM

No. Coolers: 1

Client Service Action Required at Login: No

Project: XTO

Airbill #'s: CO

Cooler Security

Y or N

Y or N

- | | | | | | |
|---------------------------|-------------------------------------|--------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. COC Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Smpl Dates/Time OK | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Cooler Temperature

Y or N

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

Quality Control Preservation

Y or N

N/A

- | | | | |
|---------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| 1. Trip Blank present / cooler: | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Trip Blank listed on COC: | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3. Samples preserved properly: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. VOCs headspace free: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Sample Integrity - Documentation

Y or N

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

Sample Integrity - Condition

Y or N

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

Sample Integrity - Instructions

Y or N N/A

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

Comments

Accutest Laboratories
V:(303) 425-6021

4036 Youngfield Street
F: (303) 425-6854

Wheat Ridge, CO
www.accutest.com

GC Volatiles

5

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: D32748
Account: XTOKRWR XTO Energy
Project: PCU 296-7A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB859-MB	GB15306.D	1	03/15/12	SK	n/a	n/a	GGB859

The QC reported here applies to the following samples:

Method: SW846 8015B

D32748-1, D32748-2, D32748-3, D32748-4, D32748-5

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	104% 60-140%

Blank Spike Summary

Job Number: D32748
Account: XTOKRWR XTO Energy
Project: PCU 296-7A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB859-BS	GB15307.D	1	03/15/12	SK	n/a	n/a	GGB859

The QC reported here applies to the following samples:

Method: SW846 8015B

D32748-1, D32748-2, D32748-3, D32748-4, D32748-5

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	114	104	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	115%	60-140%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D32748
Account: XTOKRWR XTO Energy
Project: PCU 296-7A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D32747-1MS	GB15309.D	1	03/15/12	SK	n/a	n/a	GGB859
D32747-1MSD	GB15310.D	1	03/15/12	SK	n/a	n/a	GGB859
D32747-1	GB15308.D	1	03/15/12	SK	n/a	n/a	GGB859

The QC reported here applies to the following samples:

Method: SW846 8015B

D32748-1, D32748-2, D32748-3, D32748-4, D32748-5

CAS No.	Compound	D32747-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		124	126	101	128	103	2	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D32747-1	Limits
120-82-1	1,2,4-Trichlorobenzene	109%	109%	96%	60-140%

GC Volatiles

Raw Data



Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\031512\GB15311.D\FID1A.CH Vial: 9
 Signal #2 : Y:\1\DATA\031512\GB15311.D\FID2B.CH
 Acq On : 15 Mar 2012 11:14 pm Operator: StephK
 Sample : D32748-1, 50X Inst : GC/MS Ins
 Misc : GC2679,GGB859,5.075,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Mar 16 07:16:13 2012 Quant Results File: TB851GB851SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB851GB851SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Fri Mar 16 07:15:36 2012
 Response via : Initial Calibration
 DataAcq Meth : TVB4.M

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

	Compound	R.T.	Response	Conc	Units

System Monitoring Compounds					
2) S	1,2,4-Trichlorobenzene	14.34	3006435	99.659	%
10) S	1,2,4-Trichlorobenzene (P)	14.33	24012053	103.180	%
Target Compounds					
1) H	TVH-Gasoline	7.26	5460046	<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	7.61	341480	0.624	ug/L
7) T	Ethylbenzene	0.00	0	N.D.	ug/L d
8) T	m,p-Xylene	10.43	330563	0.590	ug/L
9) T	o-Xylene	10.93	99405	0.217	ug/L
11) T	Naphthalene	14.52	1245102	4.765	ug/L

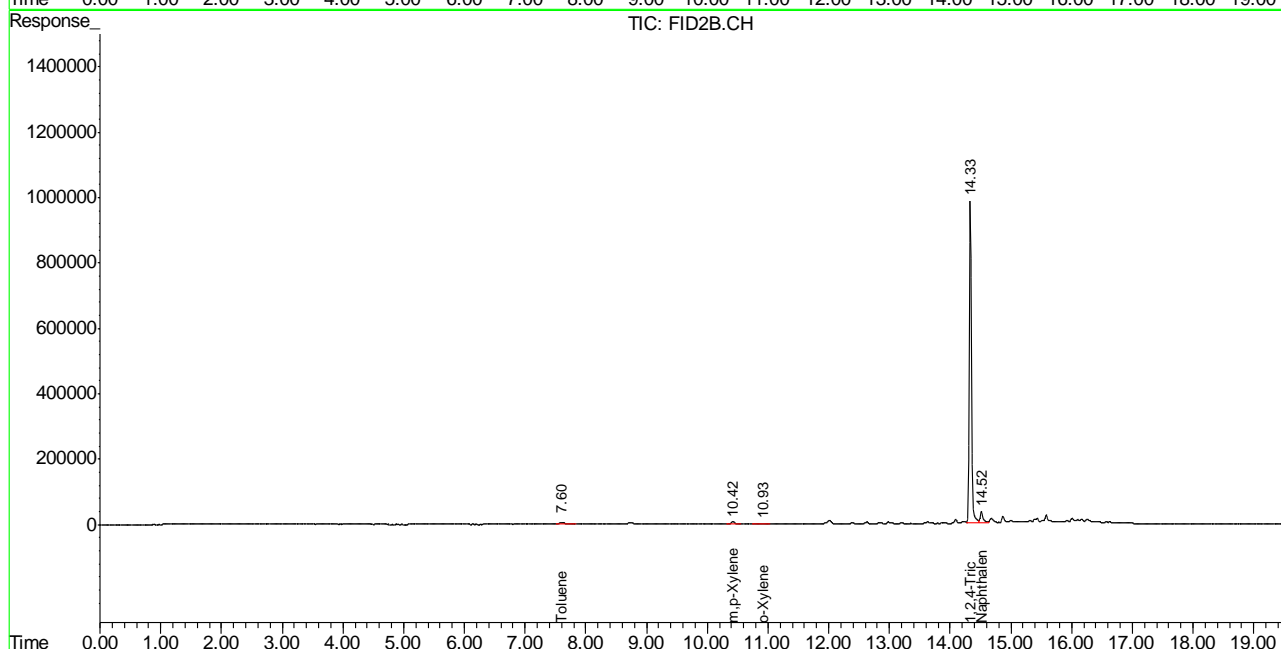
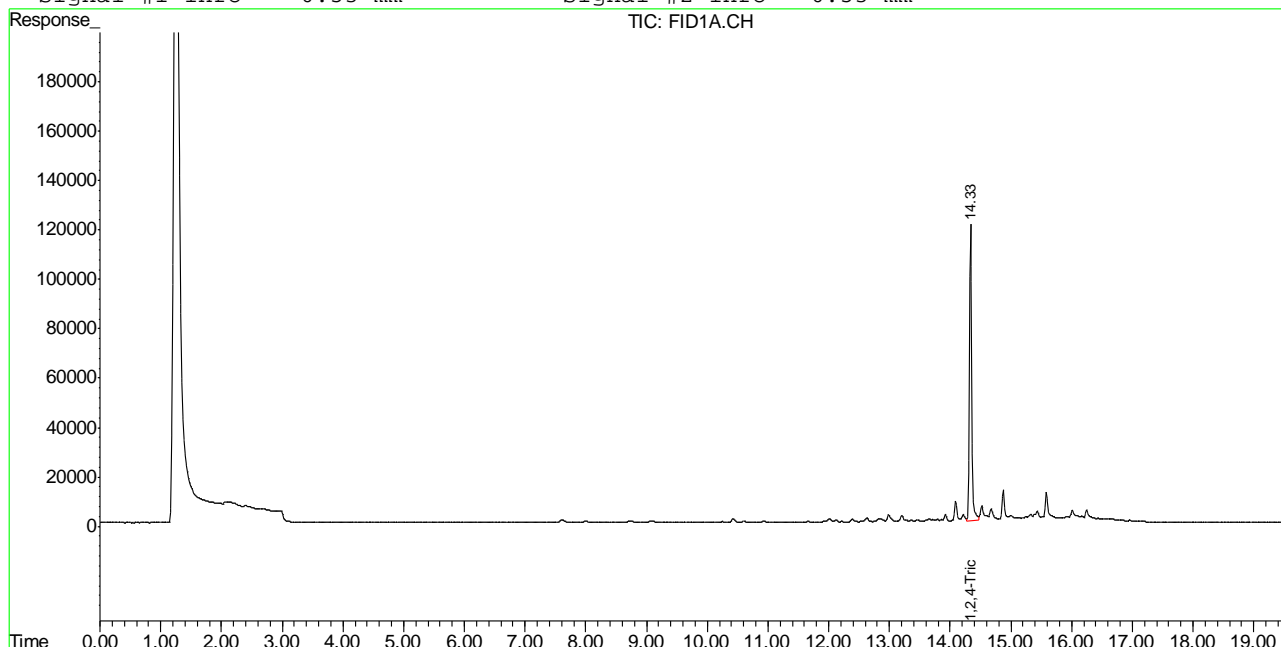
 (f)=RT Delta > 1/2 Window (m)=manual int.
 GB15311.D TB851GB851SOIL.M Fri Mar 16 07:20:42 2012 GC

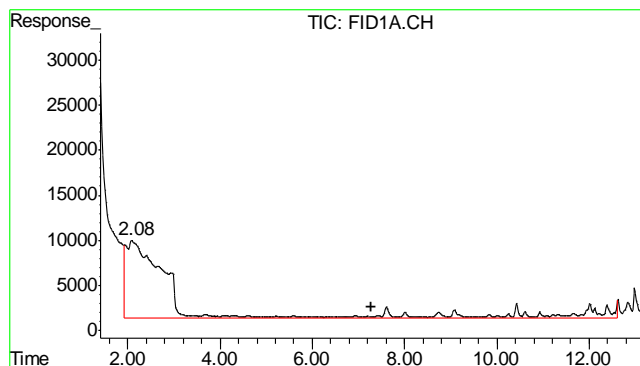
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\031512\GB15311.D\FID1A.CH Vial: 9
 Signal #2 : Y:\1\DATA\031512\GB15311.D\FID2B.CH
 Acq On : 15 Mar 2012 11:14 pm Operator: StephK
 Sample : D32748-1, 50X Inst : GC/MS Ins
 Misc : GC2679,GGB859,5.075,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Mar 16 7:19 2012 Quant Results File: TB851GB851SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB851GB851SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Fri Mar 16 07:15:36 2012
 Response via : Multiple Level Calibration
 DataAcq Meth : TVB4.M

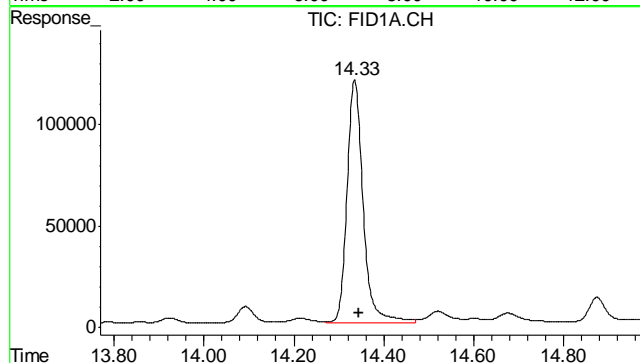
Volume Inj. :
 Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
 Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





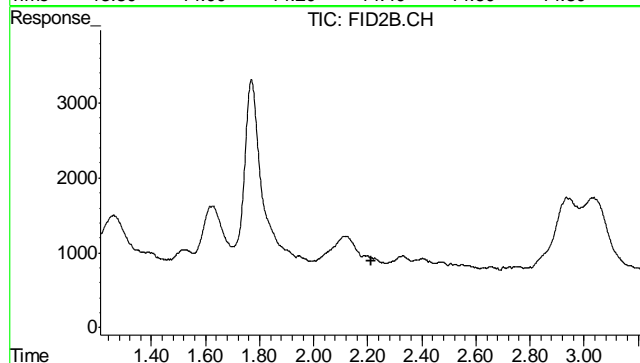
#1 TVH-Gasoline

R.T.: 7.265 min
Delta R.T.: 0.000 min
Response: 5460046
Conc: N.D.



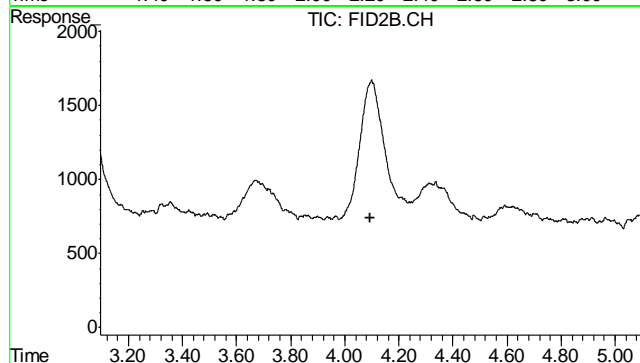
#2 1,2,4-Trichlorobenzene

R.T.: 14.335 min
Delta R.T.: -0.009 min
Response: 3006435
Conc: 99.66 %



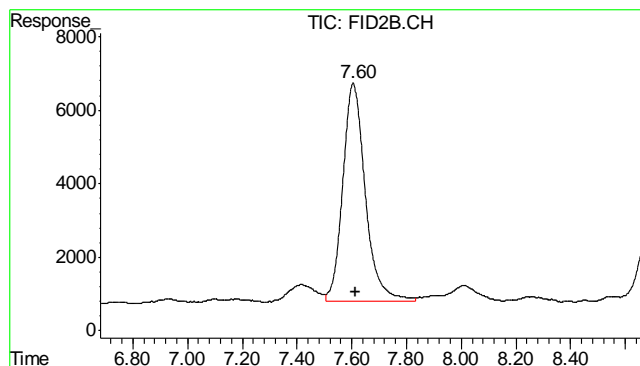
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T.: 2.211 min
Response: 0
Conc: N.D.



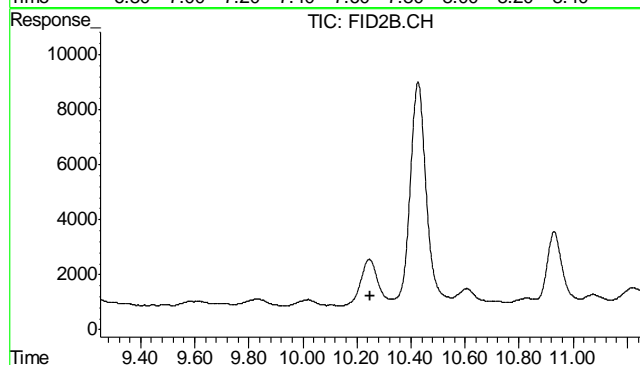
#5 Benzene

R.T.: 0.000 min
Exp R.T.: 4.096 min
Response: 0
Conc: N.D.



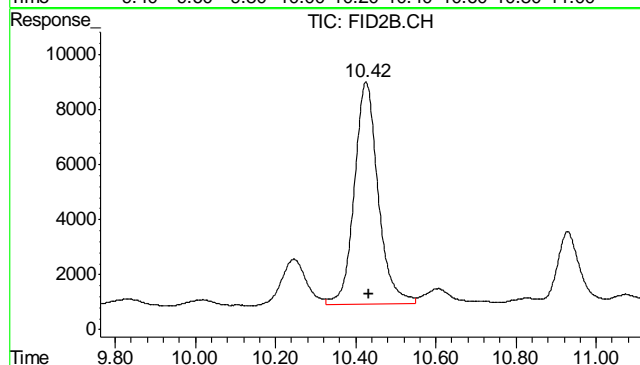
#6 Toluene

R.T.: 7.605 min
Delta R.T.: -0.007 min
Response: 341480
Conc: 0.62 ug/L



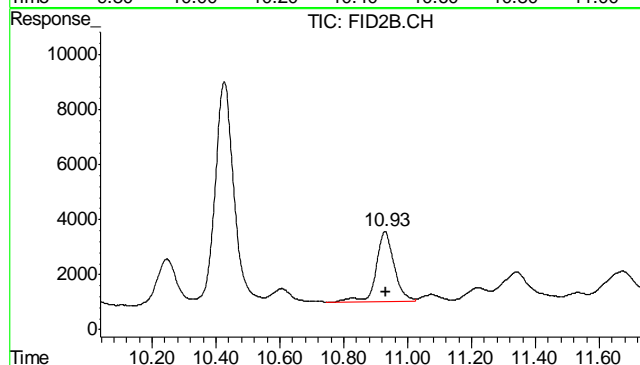
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T.: 10.251 min
Response: 0
Conc: N.D.



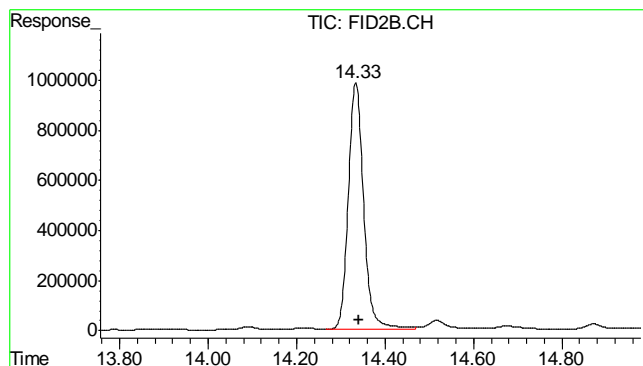
#8 m,p-Xylene

R.T.: 10.426 min
Delta R.T.: -0.007 min
Response: 330563
Conc: 0.59 ug/L



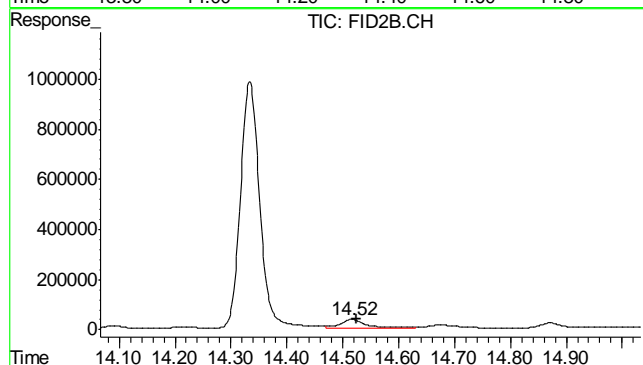
#9 o-Xylene

R.T.: 10.929 min
Delta R.T.: -0.004 min
Response: 99405
Conc: 0.22 ug/L



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

R.T.: 14.334 min
Delta R.T.: -0.008 min
Response: 24012053
Conc: 103.18 %



#11 Naphthalene

R.T.: 14.517 min
Delta R.T.: -0.007 min
Response: 1245102
Conc: 4.77 ug/L

6.1.1

6

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\031512\GB15312.D\FID1A.CH Vial: 10
 Signal #2 : Y:\1\DATA\031512\GB15312.D\FID2B.CH
 Acq On : 15 Mar 2012 11:49 pm Operator: StephK
 Sample : D32748-2, 50X Inst : GC/MS Ins
 Misc : GC2679,GGB859,5.026,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Mar 16 07:16:17 2012 Quant Results File: TB851GB851SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB851GB851SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Fri Mar 16 07:15:36 2012
 Response via : Initial Calibration
 DataAcq Meth : TVB4.M

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

	Compound	R.T.	Response	Conc	Units

System Monitoring Compounds					
2) S	1,2,4-Trichlorobenzene	14.34	3020707	100.132	%
10) S	1,2,4-Trichlorobenzene (P)	14.34	24229683	104.115	%
Target Compounds					
1) H	TVH-Gasoline	7.26	4952795	<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	177533	0.324	ug/L
7) T	Ethylbenzene	0.00	0	N.D.	ug/L d
8) T	m,p-Xylene	10.44	152368	0.272	ug/L
9) T	o-Xylene	0.00	0	N.D.	ug/L d
11) T	Naphthalene	14.53	513788	1.966	ug/L

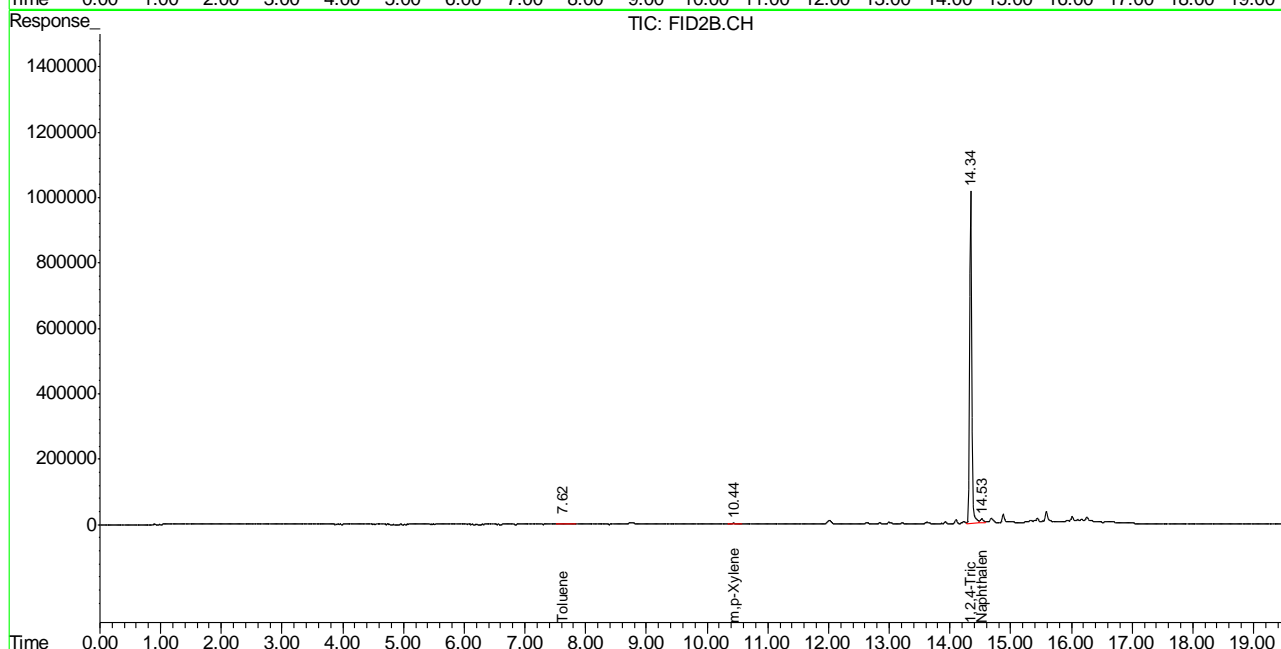
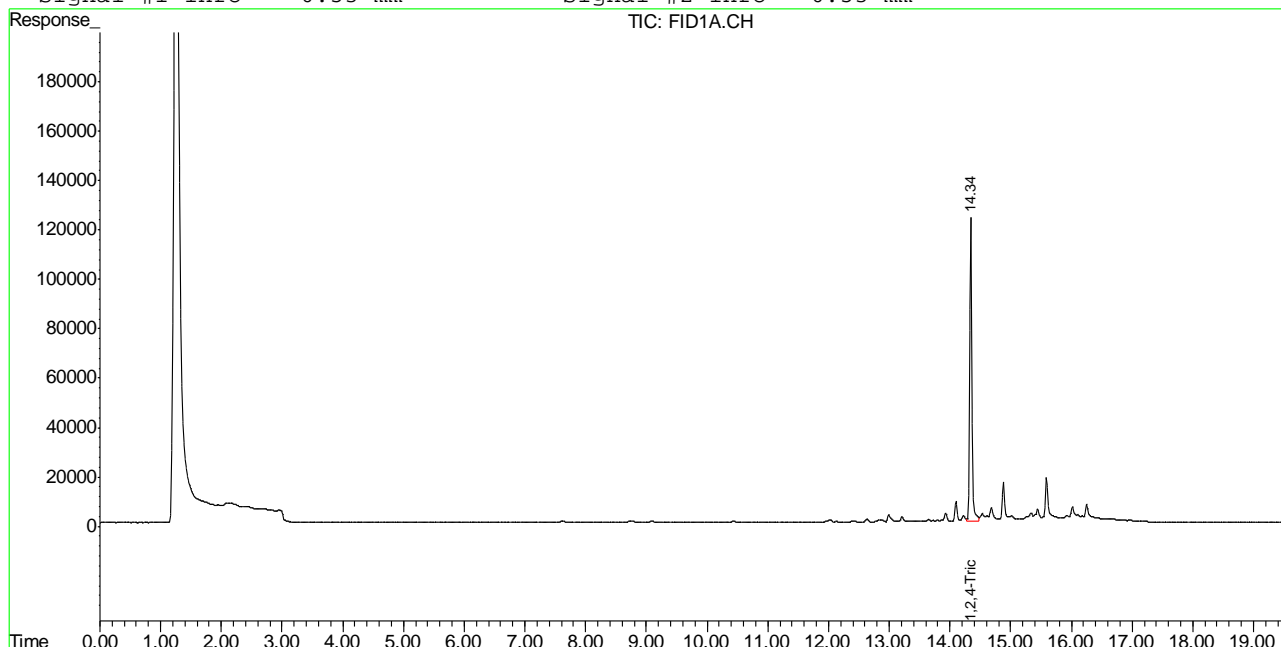
(f)=RT Delta > 1/2 Window (m)=manual int.
 GB15312.D TB851GB851SOIL.M Fri Mar 16 07:20:45 2012 GC

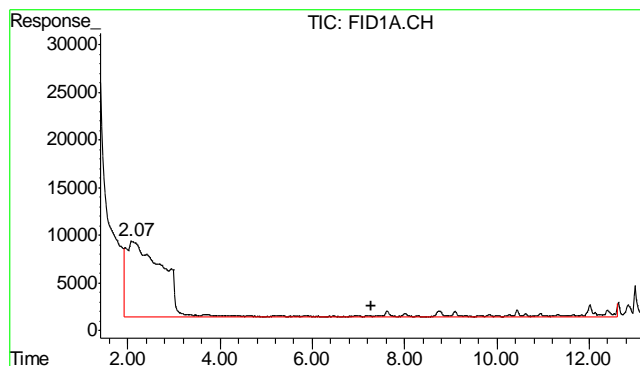
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\031512\GB15312.D\FID1A.CH Vial: 10
 Signal #2 : Y:\1\DATA\031512\GB15312.D\FID2B.CH
 Acq On : 15 Mar 2012 11:49 pm Operator: StephK
 Sample : D32748-2, 50X Inst : GC/MS Ins
 Misc : GC2679,GGB859,5.026,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Mar 16 7:19 2012 Quant Results File: TB851GB851SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB851GB851SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Fri Mar 16 07:15:36 2012
 Response via : Multiple Level Calibration
 DataAcq Meth : TVB4.M

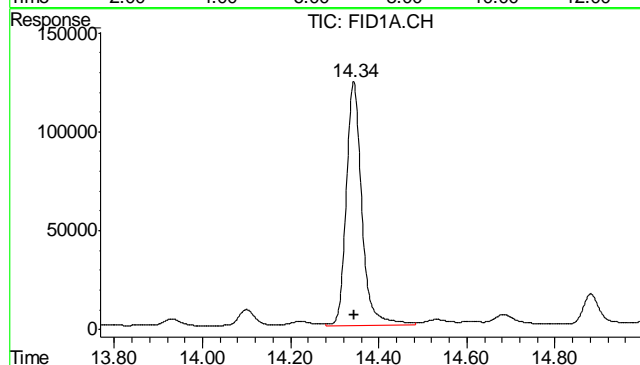
Volume Inj. :
 Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
 Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





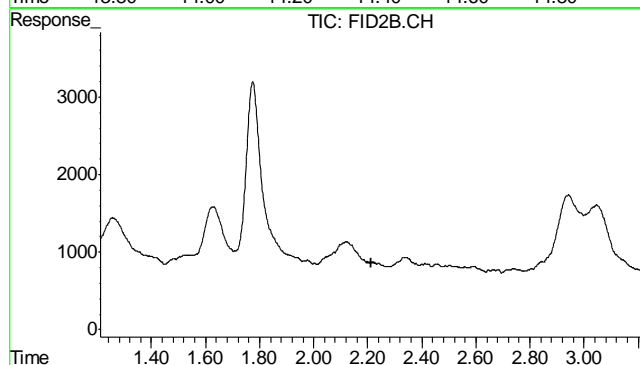
#1 TVH-Gasoline

R.T.: 7.265 min
Delta R.T.: 0.000 min
Response: 4952795
Conc: N.D.



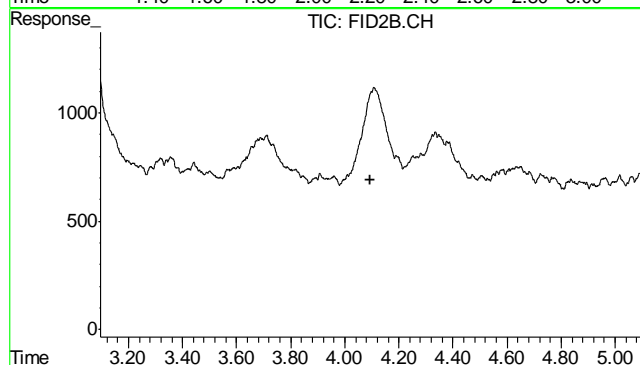
#2 1,2,4-Trichlorobenzene

R.T.: 14.343 min
Delta R.T.: -0.001 min
Response: 3020707
Conc: 100.13 %



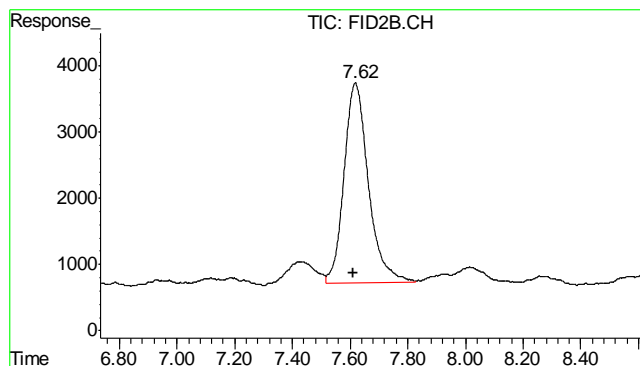
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T.: 2.211 min
Response: 0
Conc: N.D.



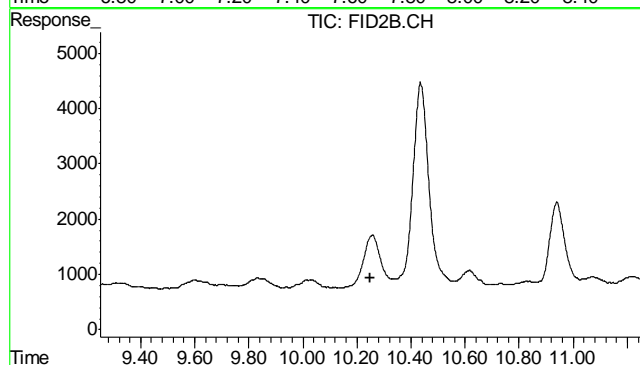
#5 Benzene

R.T.: 0.000 min
Exp R.T.: 4.096 min
Response: 0
Conc: N.D.



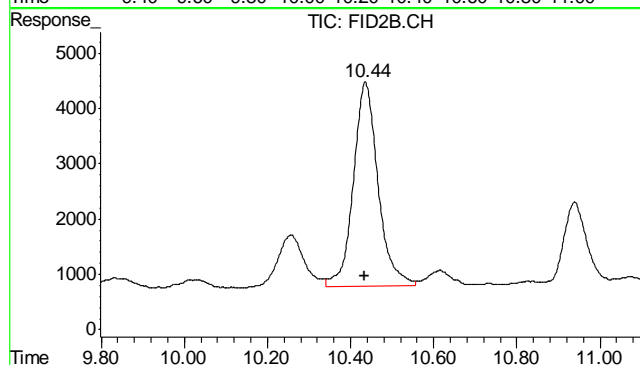
#6 Toluene

R.T.: 7.619 min
Delta R.T.: 0.007 min
Response: 177533
Conc: 0.32 ug/L



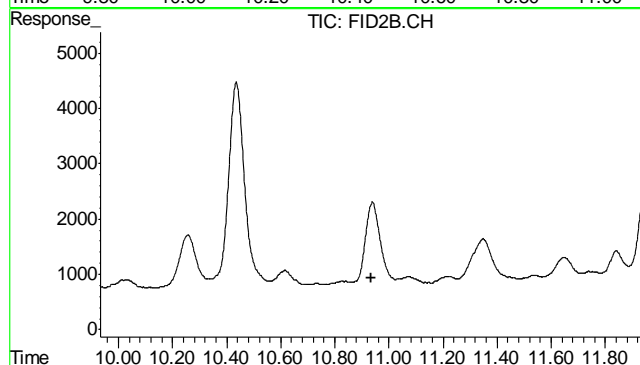
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T.: 10.251 min
Response: 0
Conc: N.D.



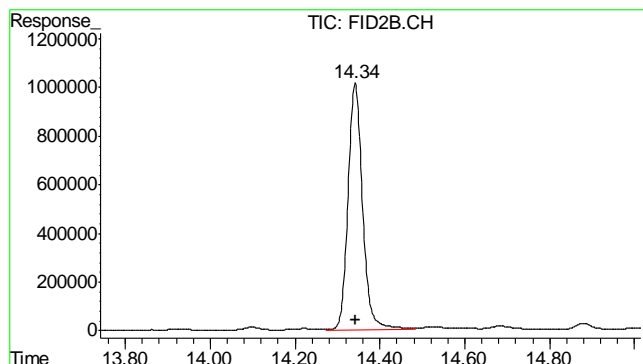
#8 m,p-Xylene

R.T.: 10.436 min
Delta R.T.: 0.002 min
Response: 152368
Conc: 0.27 ug/L



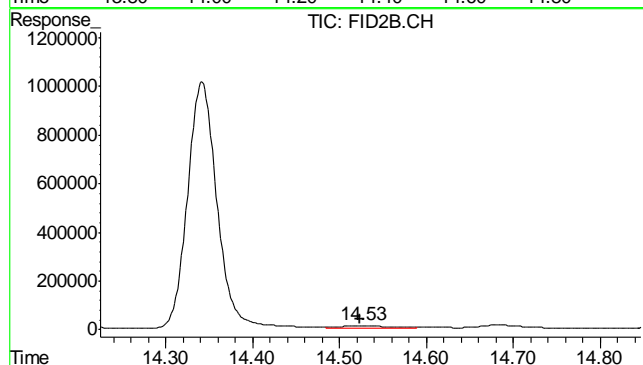
#9 o-Xylene

R.T.: 0.000 min
Exp R.T.: 10.933 min
Response: 0
Conc: N.D.



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

R.T.: 14.342 min
 Delta R.T.: 0.000 min
 Response: 24229683
 Conc: 104.11 %



#11 Naphthalene

R.T.: 14.526 min
 Delta R.T.: 0.002 min
 Response: 513788
 Conc: 1.97 ug/L

6.12
6

Judy Melson
03/16/12 13:47

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\031512\GB15313.D\FID1A.CH Vial: 11
 Signal #2 : Y:\1\DATA\031512\GB15313.D\FID2B.CH
 Acq On : 16 Mar 2012 12:25 am Operator: StephK
 Sample : D32748-3, 50X Inst : GC/MS Ins
 Misc : GC2679,GGB859,5.079,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Mar 16 07:16:21 2012 Quant Results File: TB851GB851SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB851GB851SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Fri Mar 16 07:15:36 2012
 Response via : Initial Calibration
 DataAcq Meth : TVB4.M

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

Compound	R.T.	Response	Conc	Units

System Monitoring Compounds				
2) S 1,2,4-Trichlorobenzene	14.34	2900927	96.162 %	m
10) S 1,2,4-Trichlorobenzene (P)	14.34	24367427	104.707 %	
Target Compounds				
1) H TVH-Gasoline	7.26	5539189	<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	7.61	167624	0.306	ug/L
7) T Ethylbenzene	0.00	0	N.D.	ug/L d
8) T m,p-Xylene	10.43	145357	0.260	ug/L
9) T o-Xylene	0.00	0	N.D.	ug/L d
11) T Naphthalene	14.53	2002888	7.665	ug/L

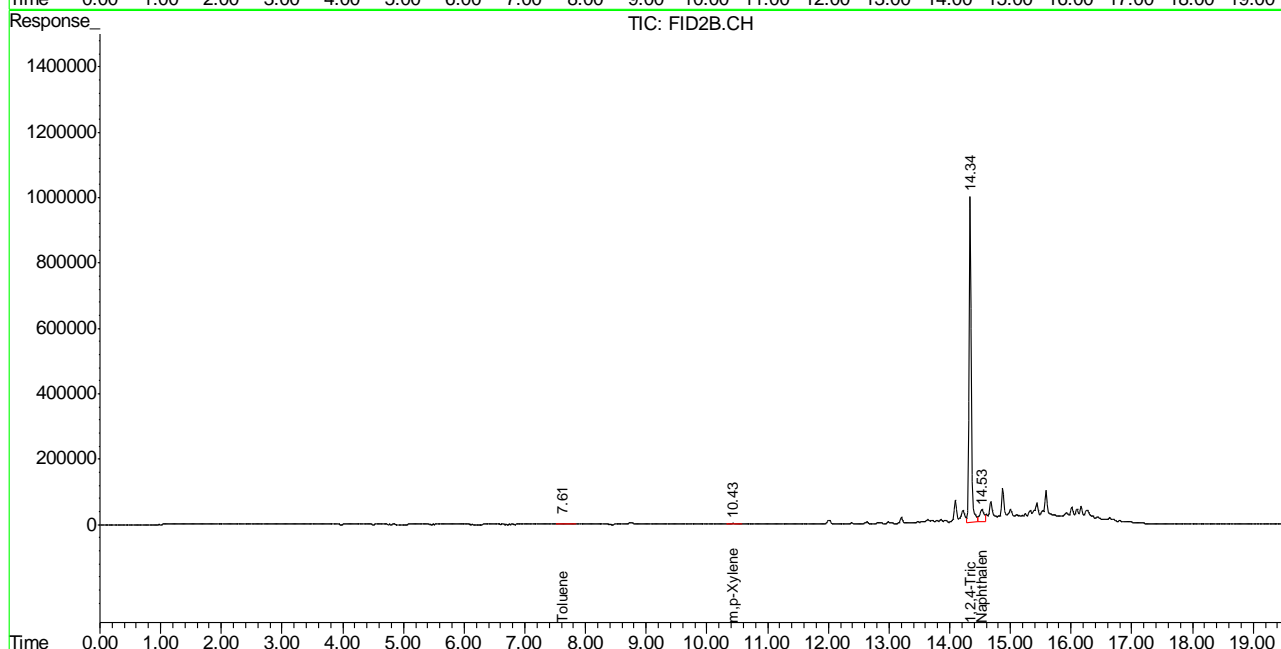
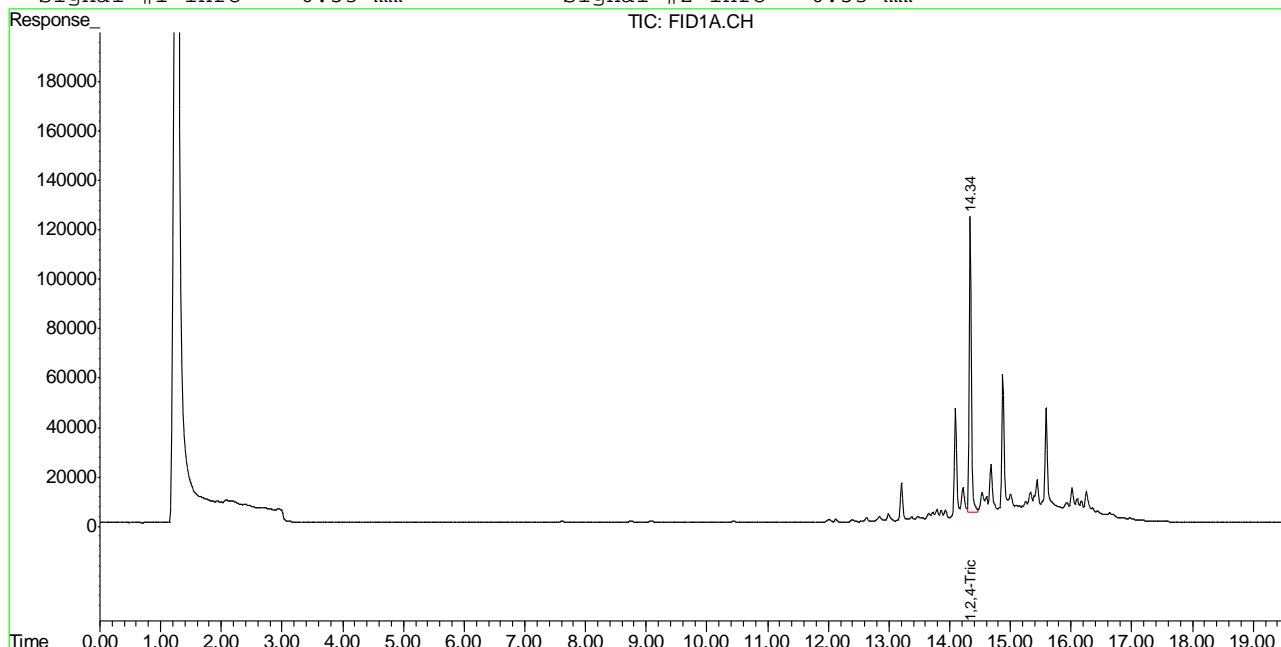
(f)=RT Delta > 1/2 Window (m)=manual int.
 GB15313.D TB851GB851SOIL.M Fri Mar 16 07:20:48 2012 GC

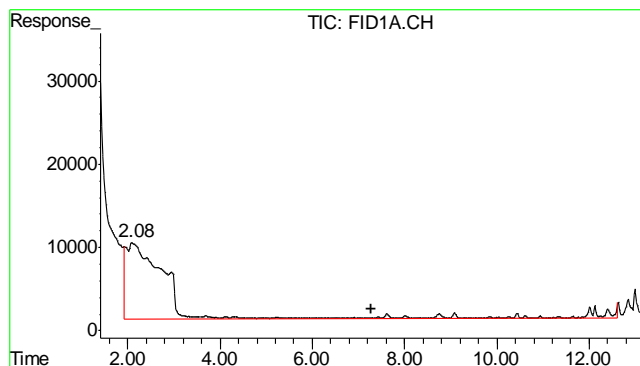
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\031512\GB15313.D\FID1A.CH Vial: 11
 Signal #2 : Y:\1\DATA\031512\GB15313.D\FID2B.CH
 Acq On : 16 Mar 2012 12:25 am Operator: StephK
 Sample : D32748-3, 50X Inst : GC/MS Ins
 Misc : GC2679,GGB859,5.079,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Mar 16 7:20 2012 Quant Results File: TB851GB851SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB851GB851SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Fri Mar 16 07:15:36 2012
 Response via : Multiple Level Calibration
 DataAcq Meth : TVB4.M

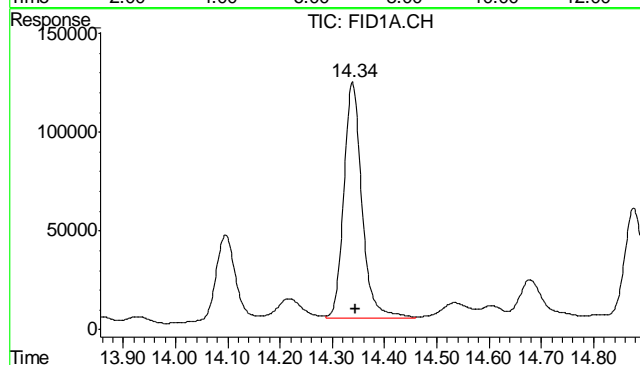
Volume Inj. :
 Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
 Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





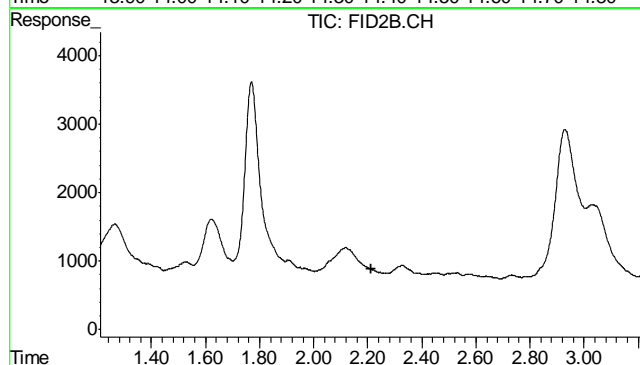
#1 TVH-Gasoline

R.T.: 7.265 min
Delta R.T.: 0.000 min
Response: 5539189
Conc: N.D.



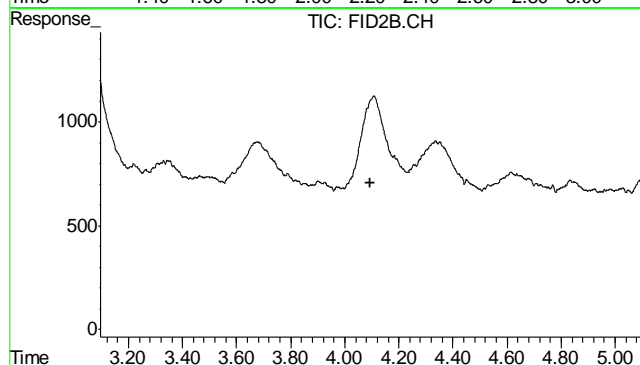
#2 1,2,4-Trichlorobenzene

R.T.: 14.338 min
Delta R.T.: -0.006 min
Response: 2900927
Conc: 96.16 % m



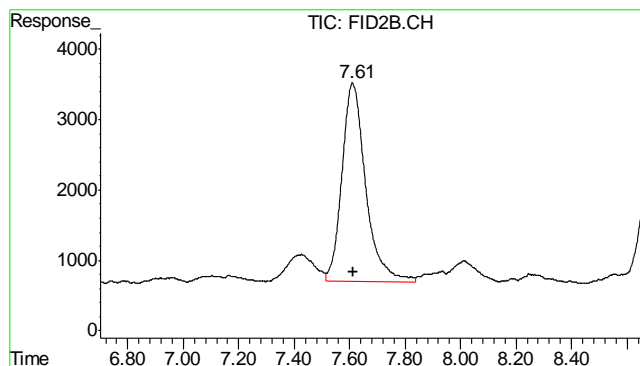
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T.: 2.211 min
Response: 0
Conc: N.D.



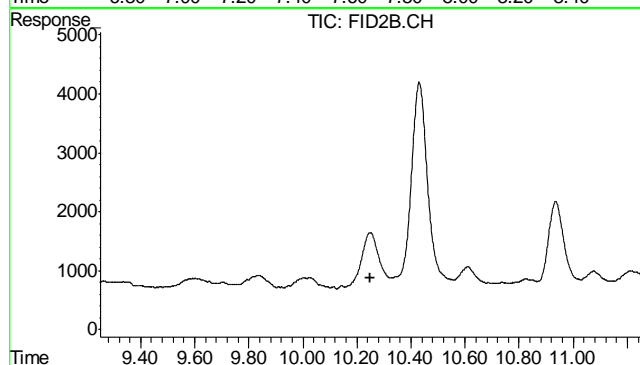
#5 Benzene

R.T.: 0.000 min
Exp R.T.: 4.096 min
Response: 0
Conc: N.D.



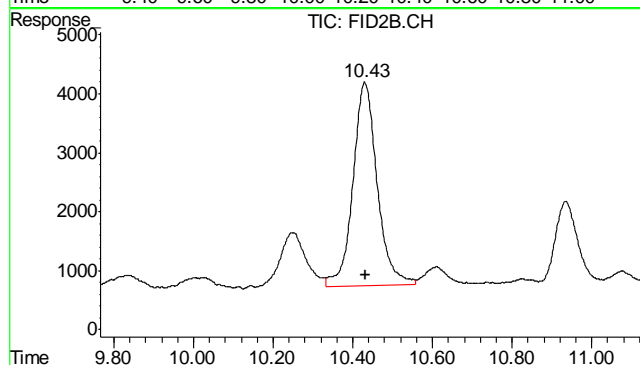
#6 Toluene

R.T.: 7.610 min
Delta R.T.: -0.002 min
Response: 167624
Conc: 0.31 ug/L



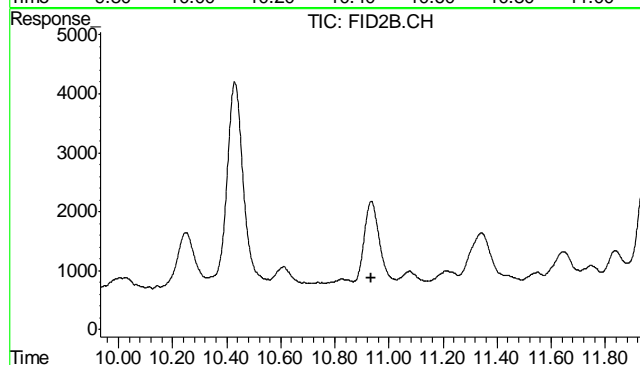
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T.: 10.251 min
Response: 0
Conc: N.D.



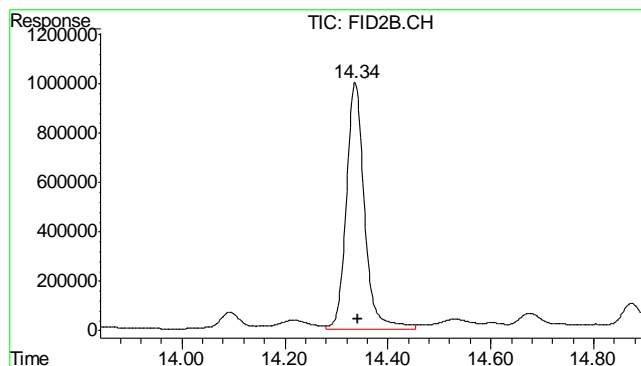
#8 m,p-Xylene

R.T.: 10.430 min
Delta R.T.: -0.003 min
Response: 145357
Conc: 0.26 ug/L



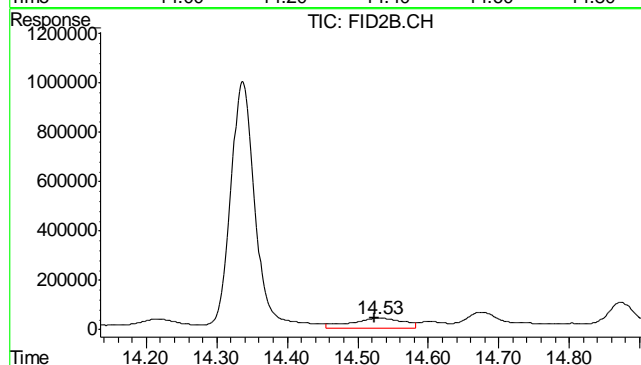
#9 o-Xylene

R.T.: 0.000 min
Exp R.T.: 10.933 min
Response: 0
Conc: N.D.



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

R.T.: 14.337 min
Delta R.T.: -0.005 min
Response: 24367427
Conc: 104.71 %



#11 Naphthalene

R.T.: 14.530 min
Delta R.T.: 0.006 min
Response: 2002888
Conc: 7.67 ug/L

6.13

6

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\031512\GB15314.D\FID1A.CH Vial: 12
 Signal #2 : Y:\1\DATA\031512\GB15314.D\FID2B.CH
 Acq On : 16 Mar 2012 1:01 am Operator: StephK
 Sample : D32748-4, 50X Inst : GC/MS Ins
 Misc : GC2679,GGB859,5.065,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Mar 16 07:16:25 2012 Quant Results File: TB851GB851SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB851GB851SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Fri Mar 16 07:15:36 2012
 Response via : Initial Calibration
 DataAcq Meth : TVB4.M

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

	Compound	R.T.	Response	Conc	Units

System Monitoring Compounds					
2) S	1,2,4-Trichlorobenzene	14.34	3094267	102.571	%
10) S	1,2,4-Trichlorobenzene (P)	14.34	24848066	106.772	%
Target Compounds					
1) H	TVH-Gasoline	7.26	4927553	<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	153733	0.281	ug/L
7) T	Ethylbenzene	0.00	0	N.D.	ug/L d
8) T	m,p-Xylene	10.44	131112	0.234	ug/L
9) T	o-Xylene	0.00	0	N.D.	ug/L d
11) T	Naphthalene	14.52	301903	1.155	ug/L

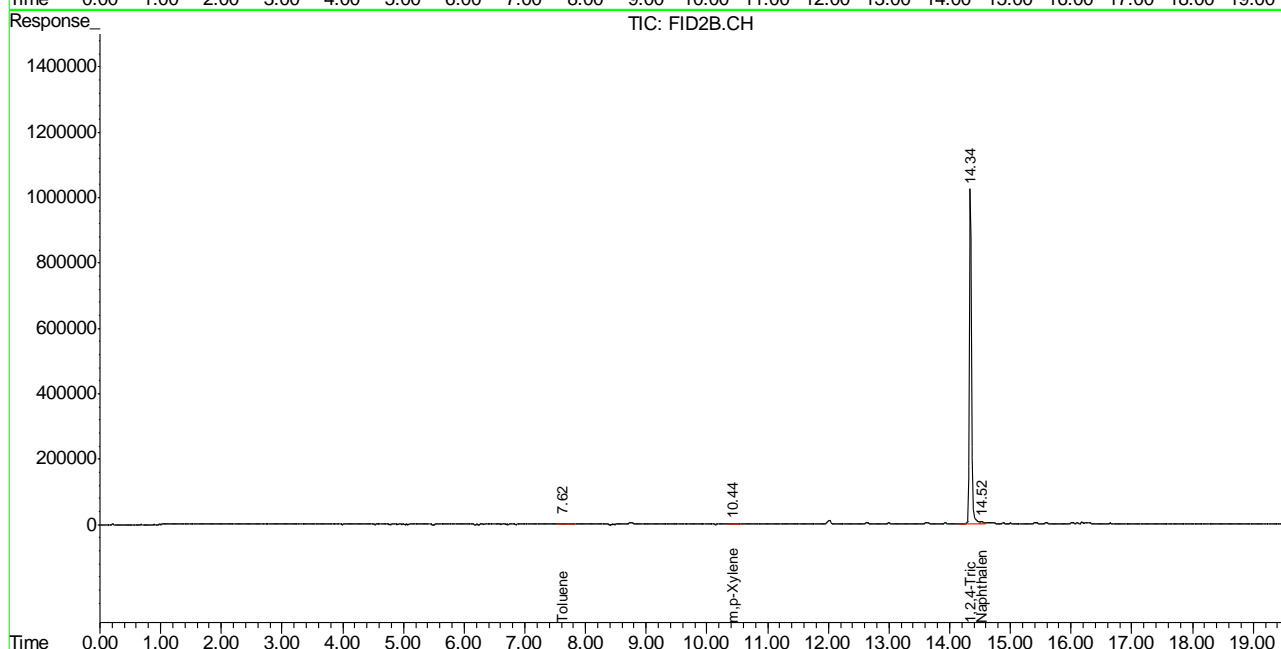
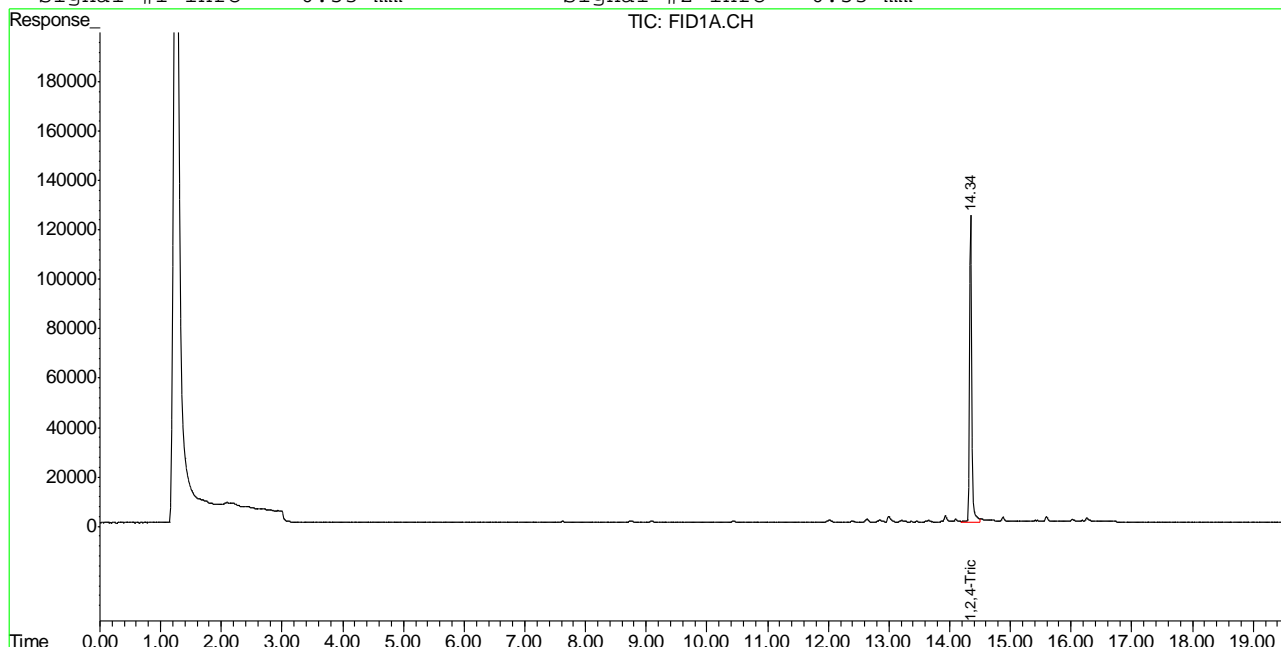
 (f)=RT Delta > 1/2 Window (m)=manual int.
 GB15314.D TB851GB851SOIL.M Fri Mar 16 07:20:51 2012 GC

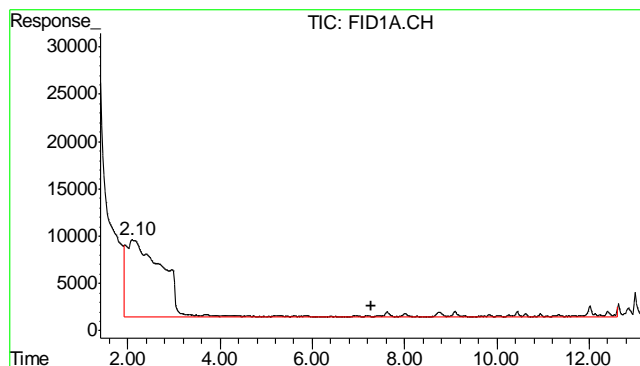
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\031512\GB15314.D\FID1A.CH Vial: 12
 Signal #2 : Y:\1\DATA\031512\GB15314.D\FID2B.CH
 Acq On : 16 Mar 2012 1:01 am Operator: StephK
 Sample : D32748-4, 50X Inst : GC/MS Ins
 Misc : GC2679,GGB859,5.065,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Mar 16 7:20 2012 Quant Results File: TB851GB851SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB851GB851SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Fri Mar 16 07:15:36 2012
 Response via : Multiple Level Calibration
 DataAcq Meth : TVB4.M

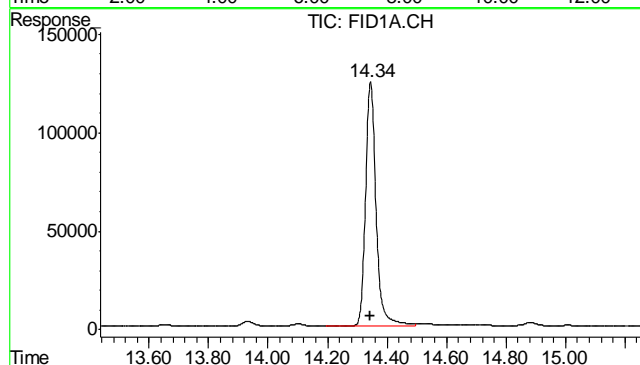
Volume Inj. :
 Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
 Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





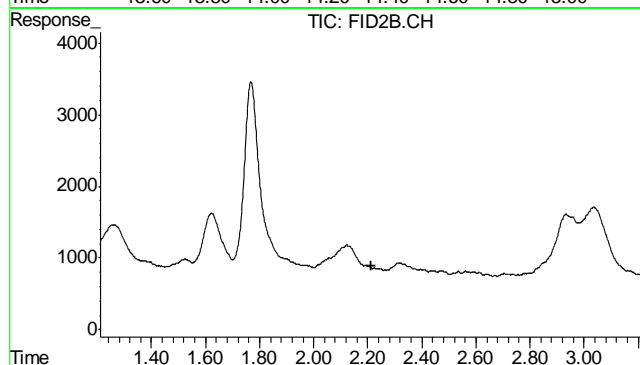
#1 TVH-Gasoline

R.T.: 7.265 min
Delta R.T.: 0.000 min
Response: 4927553
Conc: N.D.



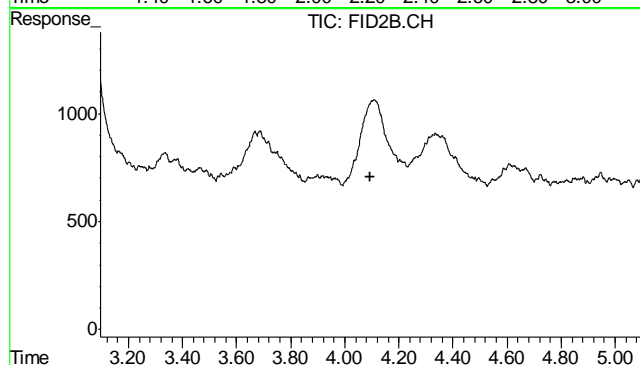
#2 1,2,4-Trichlorobenzene

R.T.: 14.345 min
Delta R.T.: 0.000 min
Response: 3094267
Conc: 102.57 %



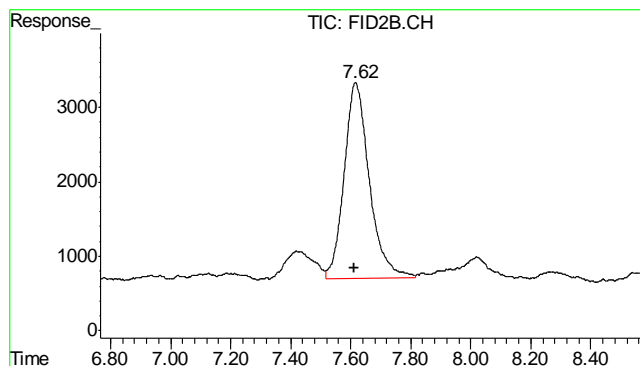
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T.: 2.211 min
Response: 0
Conc: N.D.



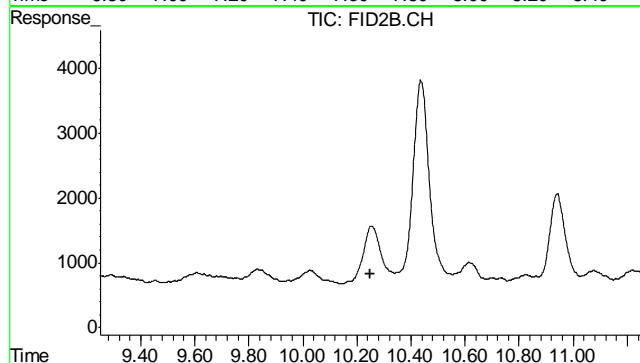
#5 Benzene

R.T.: 0.000 min
Exp R.T.: 4.096 min
Response: 0
Conc: N.D.



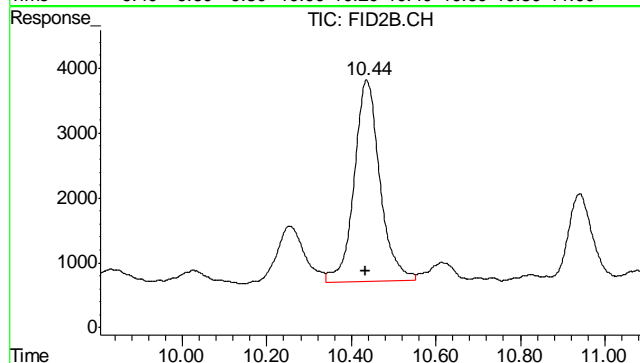
#6 Toluene

R.T.: 7.617 min
Delta R.T.: 0.005 min
Response: 153733
Conc: 0.28 ug/L



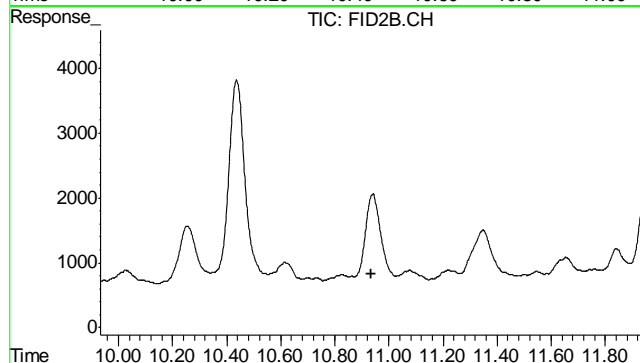
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T.: 10.251 min
Response: 0
Conc: N.D.



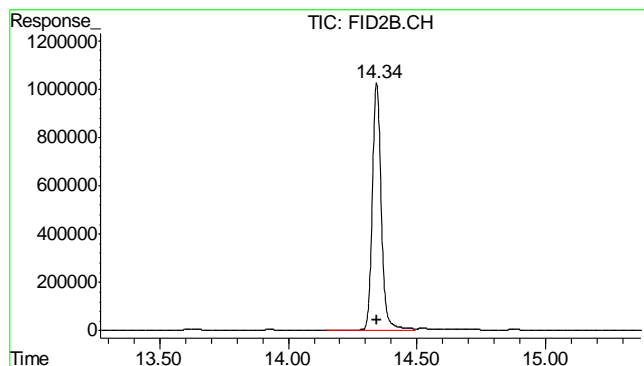
#8 m,p-Xylene

R.T.: 10.437 min
Delta R.T.: 0.004 min
Response: 131112
Conc: 0.23 ug/L



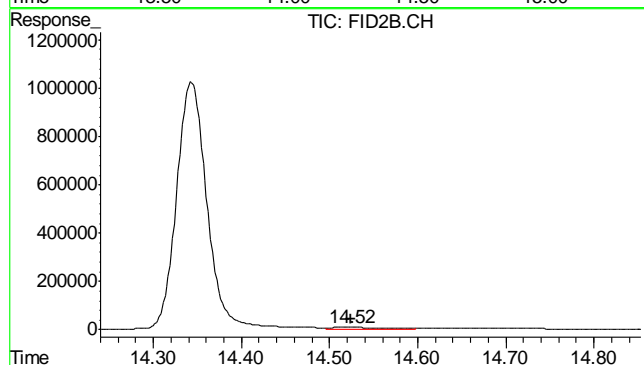
#9 o-Xylene

R.T.: 0.000 min
Exp R.T.: 10.933 min
Response: 0
Conc: N.D.



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

R.T.: 14.343 min
 Delta R.T.: 0.001 min
 Response: 24848066
 Conc: 106.77 %



#11 Naphthalene

R.T.: 14.523 min
 Delta R.T.: -0.001 min
 Response: 301903
 Conc: 1.16 ug/L

6.1.4
6

Judy Melson
03/16/12 13:47

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\031512\GB15315.D\FID1A.CH Vial: 13
Signal #2 : Y:\1\DATA\031512\GB15315.D\FID2B.CH
Acq On : 16 Mar 2012 1:37 am Operator: StephK
Sample : D32748-5, 50X Inst : GC/MS Ins
Misc : GC2679,GGB859,5.042,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Mar 16 07:16:29 2012 Quant Results File: TB851GB851SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB851GB851SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Fri Mar 16 07:15:36 2012
Response via : Initial Calibration
DataAcq Meth : TVB4.M

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

Compound		R.T.	Response	Conc	Units

System Monitoring Compounds					
2) S	1,2,4-Trichlorobenzene	14.34	3101826	102.821 %	m
10) S	1,2,4-Trichlorobenzene (P)	14.34	25728458	110.555 %	
Target Compounds					
1) H	TVH-Gasoline	7.26	5997534	<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	155368	0.284	ug/L
7) T	Ethylbenzene	0.00	0	N.D.	ug/L d
8) T	m,p-Xylene	10.43	169876	0.303	ug/L
9) T	o-Xylene	0.00	0	N.D.	ug/L d
11) T	Naphthalene	14.54	2532807	9.693	ug/L

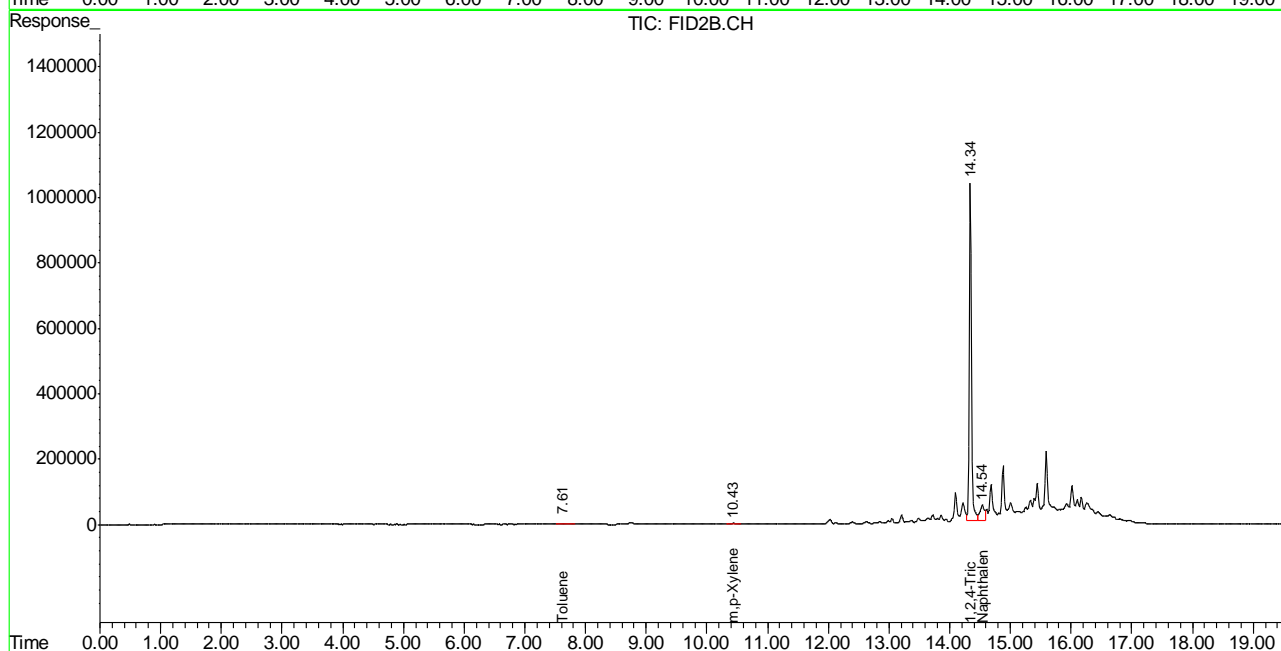
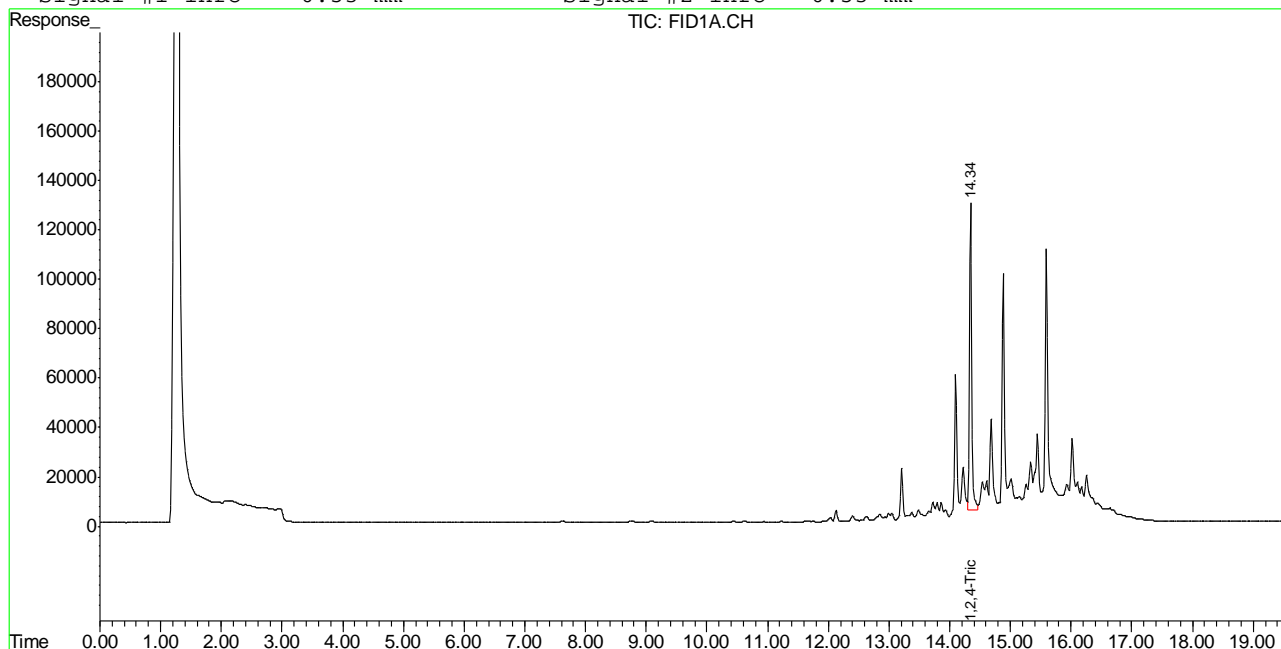
(f)=RT Delta > 1/2 Window (m)=manual int.
GB15315.D TB851GB851SOIL.M Fri Mar 16 07:20:54 2012 GC

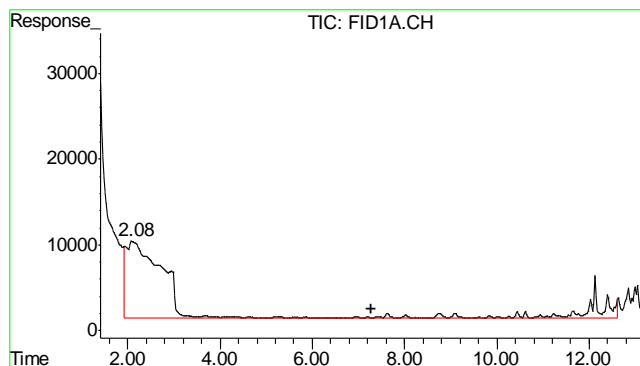
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\031512\GB15315.D\FID1A.CH Vial: 13
 Signal #2 : Y:\1\DATA\031512\GB15315.D\FID2B.CH
 Acq On : 16 Mar 2012 1:37 am Operator: StephK
 Sample : D32748-5, 50X Inst : GC/MS Ins
 Misc : GC2679,GGB859,5.042,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Mar 16 7:20 2012 Quant Results File: TB851GB851SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB851GB851SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Fri Mar 16 07:15:36 2012
 Response via : Multiple Level Calibration
 DataAcq Meth : TVB4.M

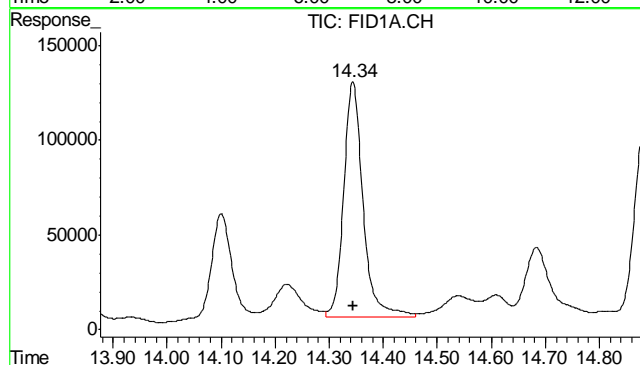
Volume Inj. :
 Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
 Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





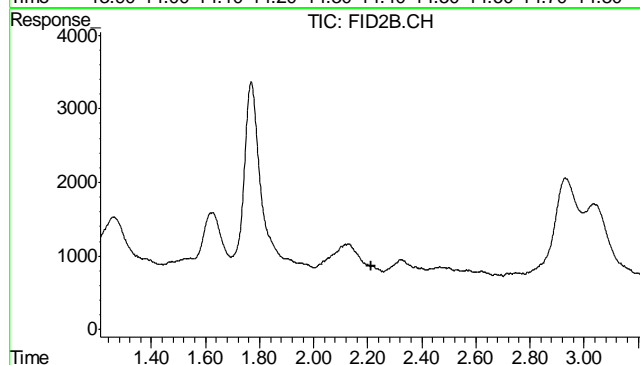
#1 TVH-Gasoline

R.T.: 7.265 min
Delta R.T.: 0.000 min
Response: 5997534
Conc: N.D.



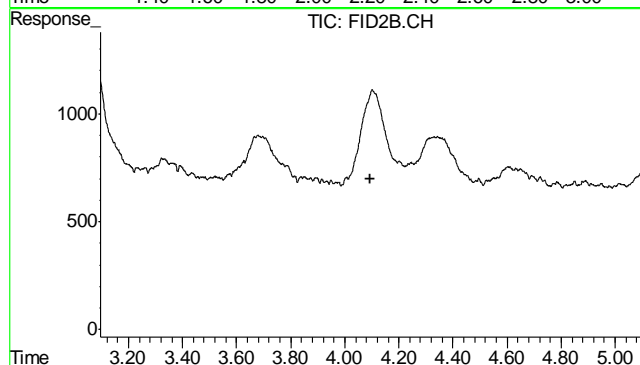
#2 1,2,4-Trichlorobenzene

R.T.: 14.343 min
Delta R.T.: -0.001 min
Response: 3101826
Conc: 102.82 % m



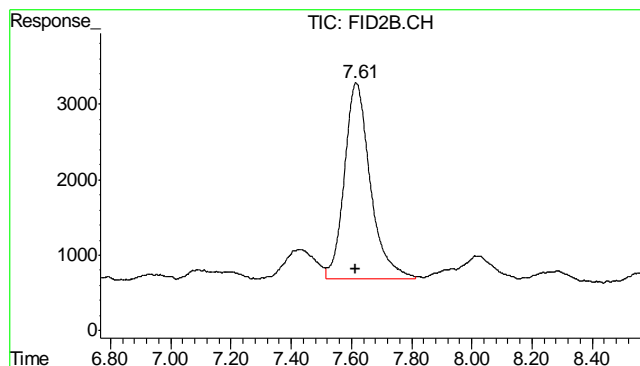
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T.: 2.211 min
Response: 0
Conc: N.D.



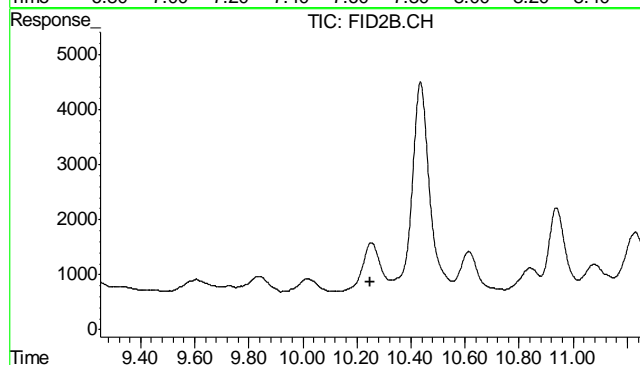
#5 Benzene

R.T.: 0.000 min
Exp R.T.: 4.096 min
Response: 0
Conc: N.D.



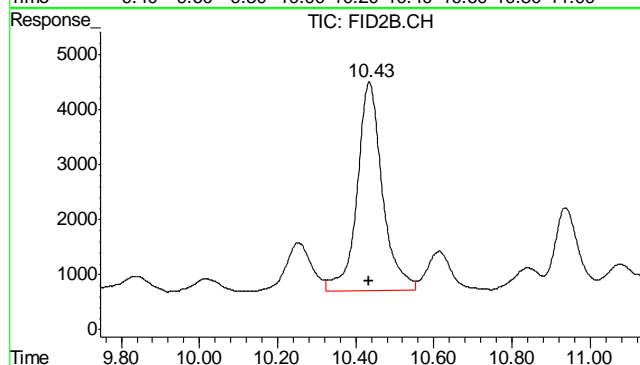
#6 Toluene

R.T.: 7.615 min
Delta R.T.: 0.003 min
Response: 155368
Conc: 0.28 ug/L



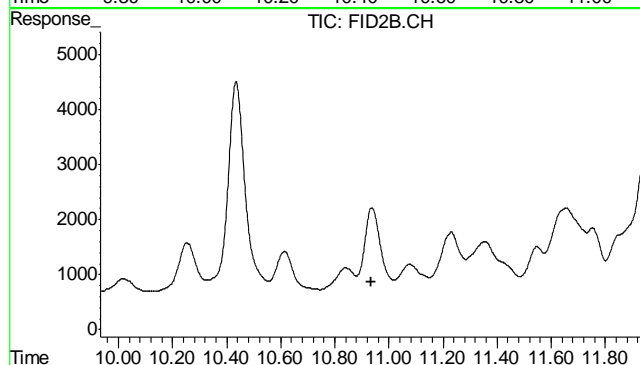
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T.: 10.251 min
Response: 0
Conc: N.D.



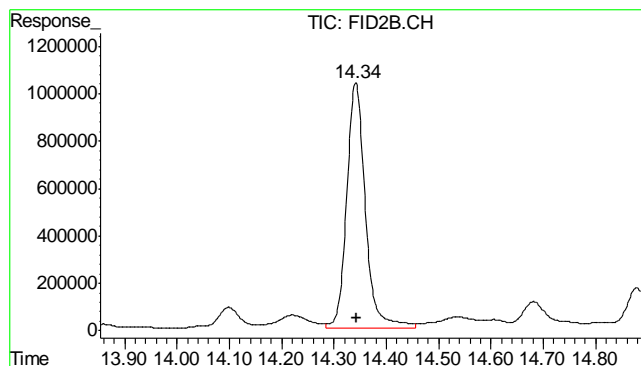
#8 m,p-Xylene

R.T.: 10.435 min
Delta R.T.: 0.002 min
Response: 169876
Conc: 0.30 ug/L



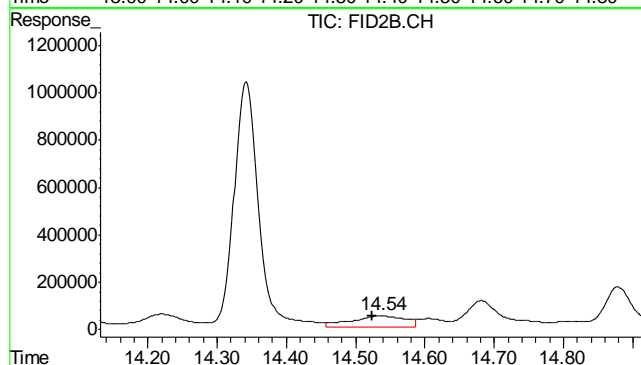
#9 o-Xylene

R.T.: 0.000 min
Exp R.T.: 10.933 min
Response: 0
Conc: N.D.



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

R.T.: 14.342 min
 Delta R.T.: 0.000 min
 Response: 25728458
 Conc: 110.56 %



#11 Naphthalene

R.T.: 14.537 min
 Delta R.T.: 0.012 min
 Response: 2532807
 Conc: 9.69 ug/L

6.15

6

Judy Melson
03/16/12 13:47

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\031512\GB15306.D\FID1A.CH Vial: 4
Signal #2 : Y:\1\DATA\031512\GB15306.D\FID2B.CH
Acq On : 15 Mar 2012 8:15 pm Operator: StephK
Sample : MB Inst : GC/MS Ins
Misc : GC2679,GGB859,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Mar 16 07:15:53 2012 Quant Results File: TB851GB851SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB851GB851SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Fri Mar 16 07:15:36 2012
Response via : Initial Calibration
DataAcq Meth : TVB4.M

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

Compound		R.T.	Response	Conc	Units

System Monitoring Compounds					
2) S	1,2,4-Trichlorobenzene	14.34	3134910	103.918 %	m
10) S	1,2,4-Trichlorobenzene (P)	14.33	25016008	107.494 %	
Target Compounds					
1) H	TVH-Gasoline	7.26	5799283	<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	7.61	268803	0.491	ug/L
7) T	Ethylbenzene	0.00	0	N.D.	ug/L d
8) T	m,p-Xylene	10.43	247992	0.443	ug/L
9) T	o-Xylene	10.93	88682	0.193	ug/L
11) T	Naphthalene	14.51	335362	1.283	ug/L

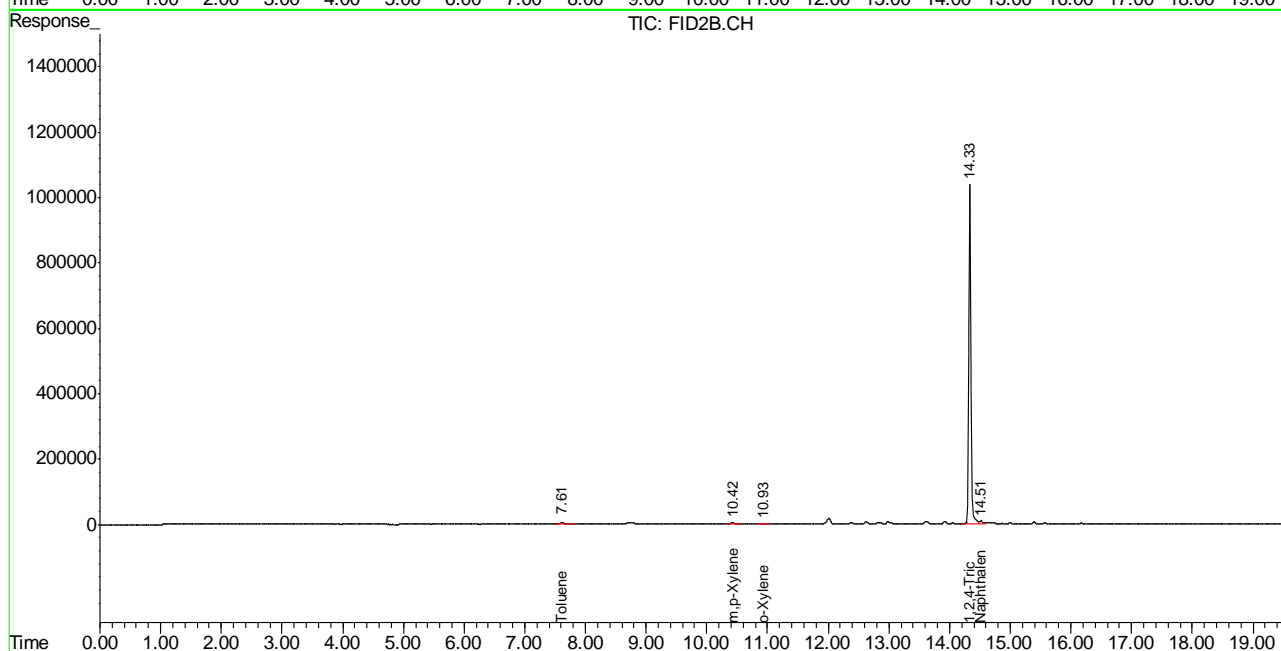
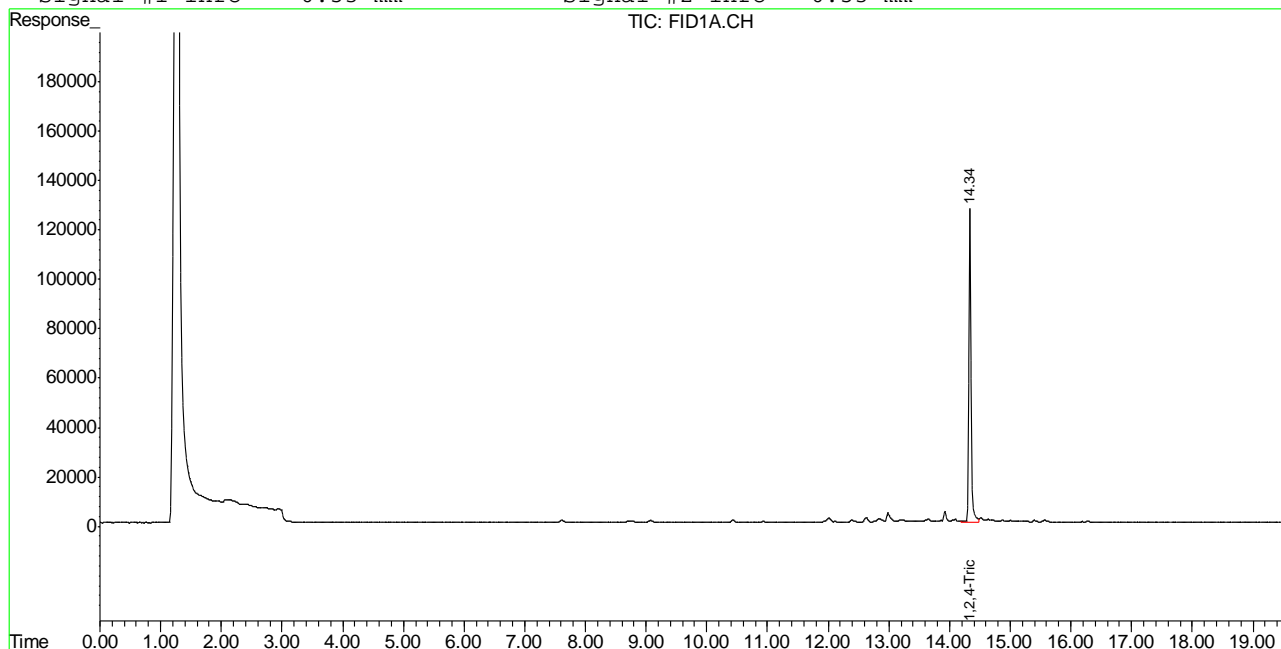
(f)=RT Delta > 1/2 Window (m)=manual int.
GB15306.D TB851GB851SOIL.M Fri Mar 16 07:20:27 2012 GC

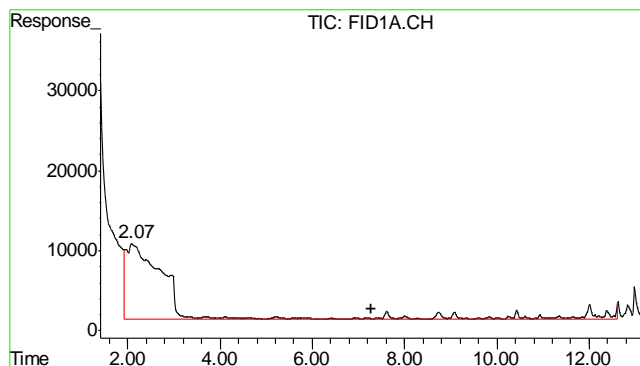
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\031512\GB15306.D\FID1A.CH Vial: 4
Signal #2 : Y:\1\DATA\031512\GB15306.D\FID2B.CH
Acq On : 15 Mar 2012 8:15 pm Operator: StephK
Sample : MB Inst : GC/MS Ins
Misc : GC2679,GGB859,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Mar 16 7:18 2012 Quant Results File: TB851GB851SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB851GB851SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Fri Mar 16 07:15:36 2012
Response via : Multiple Level Calibration
DataAcq Meth : TVB4.M

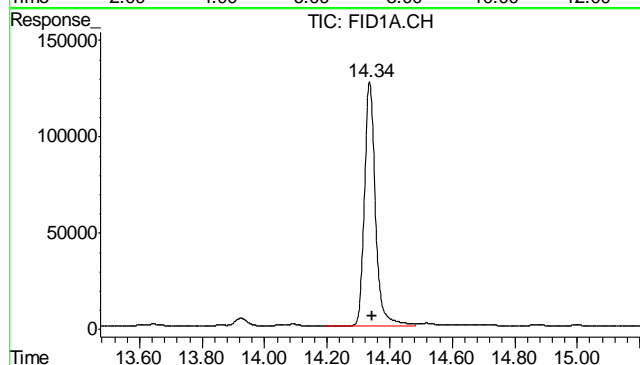
Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





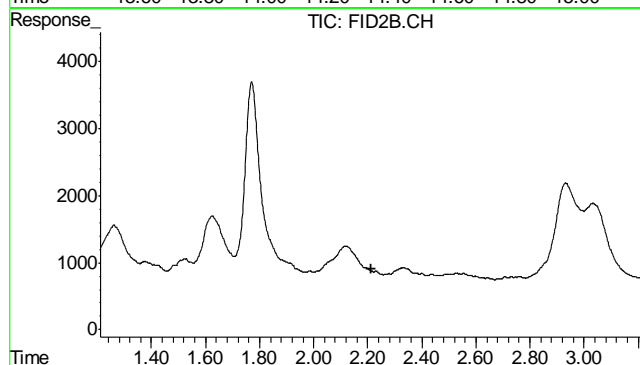
#1 TVH-Gasoline

R.T.: 7.265 min
Delta R.T.: 0.000 min
Response: 5799283
Conc: N.D.



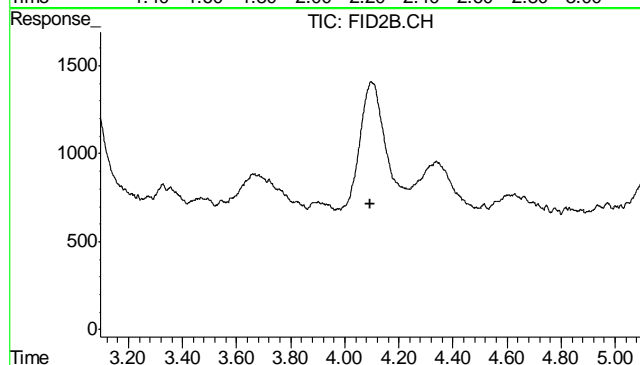
#2 1,2,4-Trichlorobenzene

R.T.: 14.335 min
Delta R.T.: -0.009 min
Response: 3134910
Conc: 103.92 % m



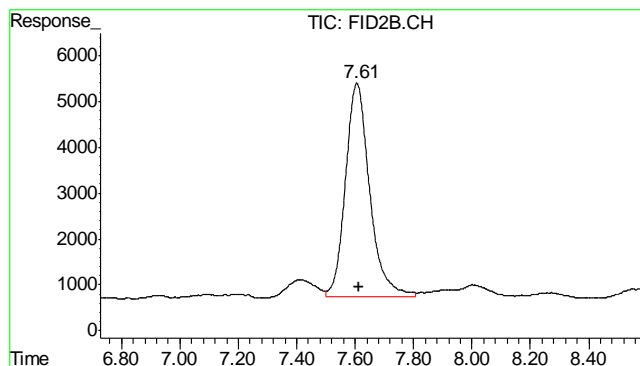
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T.: 2.211 min
Response: 0
Conc: N.D.



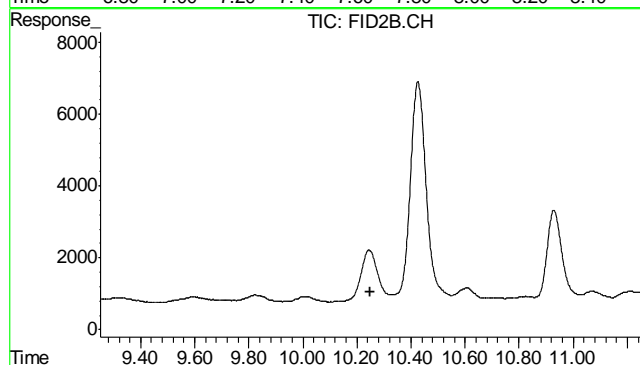
#5 Benzene

R.T.: 0.000 min
Exp R.T.: 4.096 min
Response: 0
Conc: N.D.



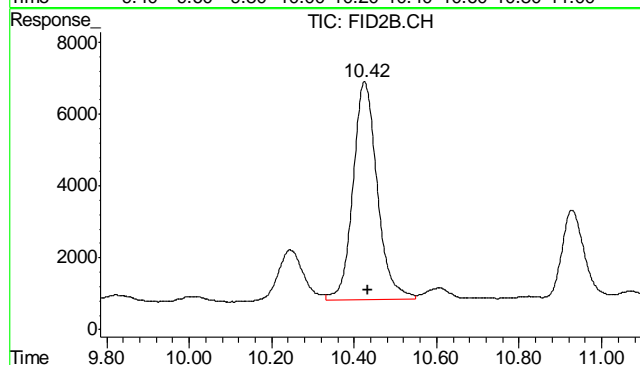
#6 Toluene

R.T.: 7.606 min
Delta R.T.: -0.006 min
Response: 268803
Conc: 0.49 ug/L



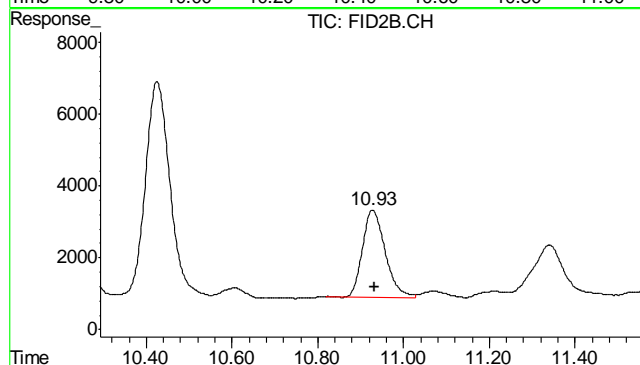
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T.: 10.251 min
Response: 0
Conc: N.D.



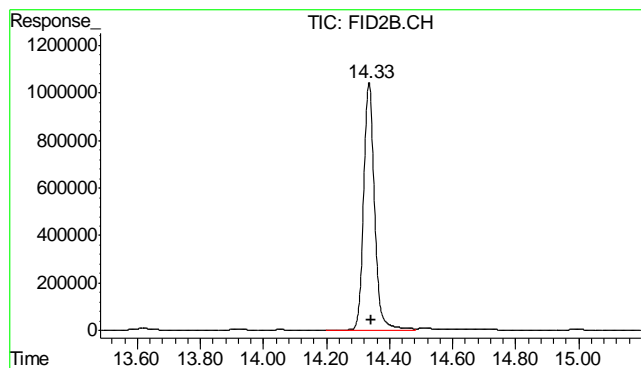
#8 m,p-Xylene

R.T.: 10.425 min
Delta R.T.: -0.008 min
Response: 247992
Conc: 0.44 ug/L



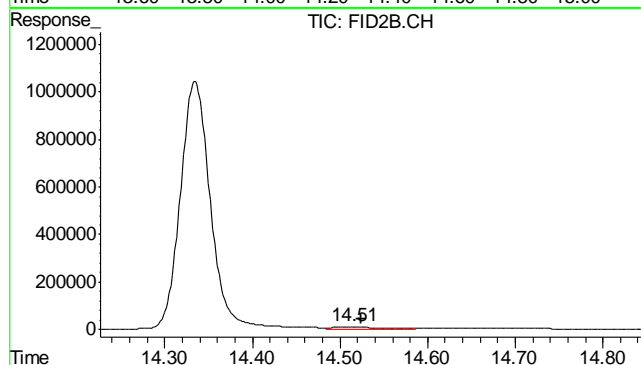
#9 o-Xylene

R.T.: 10.928 min
Delta R.T.: -0.005 min
Response: 88682
Conc: 0.19 ug/L



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

R.T.: 14.335 min
Delta R.T.: -0.007 min
Response: 25016008
Conc: 107.49 %



#11 Naphthalene

R.T.: 14.515 min
Delta R.T.: -0.009 min
Response: 335362
Conc: 1.28 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: D32748
Account: XTOKRWR XTO Energy
Project: PCU 296-7A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5560-MB	FH002331.D	1	03/20/12	TR	03/19/12	OP5560	GFH123

The QC reported here applies to the following samples:

Method: SW846-8015B

D32748-1, D32748-2, D32748-3, D32748-4, D32748-5

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	86% 43-136%

Blank Spike Summary

Page 1 of 1

Job Number: D32748
Account: XTOKRWR XTO Energy
Project: PCU 296-7A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5560-BS	FH002333.D	1	03/20/12	TR	03/19/12	OP5560	GFH123

The QC reported here applies to the following samples:

Method: SW846-8015B

D32748-1, D32748-2, D32748-3, D32748-4, D32748-5

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	520	78	58-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	85%	43-136%

7.2.1

7

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D32748
Account: XTOKRWR XTO Energy
Project: PCU 296-7A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5560-MS	FH002335.D	1	03/20/12	TR	03/19/12	OP5560	GFH123
OP5560-MSD	FH002337.D	1	03/20/12	TR	03/19/12	OP5560	GFH123
D32747-1	FH002339.D	1	03/20/12	TR	03/19/12	OP5560	GFH123

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

D32748-1, D32748-2, D32748-3, D32748-4, D32748-5

CAS No.	Compound	D32747-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	31.1		710	518	69	483	64	7	20-183/43

CAS No.	Surrogate Recoveries	MS	MSD	D32747-1	Limits
84-15-1	o-Terphenyl	68%	68%	64%	43-136%

GC Semi-volatiles

Raw Data

∞

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH032012.SEC\
Data File : FH002341.D
Signal(s) : FID2B.ch
Acq On : 20 Mar 2012 6:36 pm
Operator : tedr
Sample : D32748-1
Misc : OP5560,GFH123,30.01,,,2,1
ALS Vial : 58 Sample Multiplier: 1

Integration File: events.e
Quant Time: Mar 21 08:17:54 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH95R.M
Quant Title : DRO-ORO REAR
QLast Update : Sun Mar 04 19:15:40 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	12.342	1040196714	607.464 ug/ml
Target Compounds			
1) H TPH-DRO (C10-C28)	9.832	992084127	642.860 ug/ml

(f)=RT Delta > 1/2 Window

(m)=manual int.

8.1.1

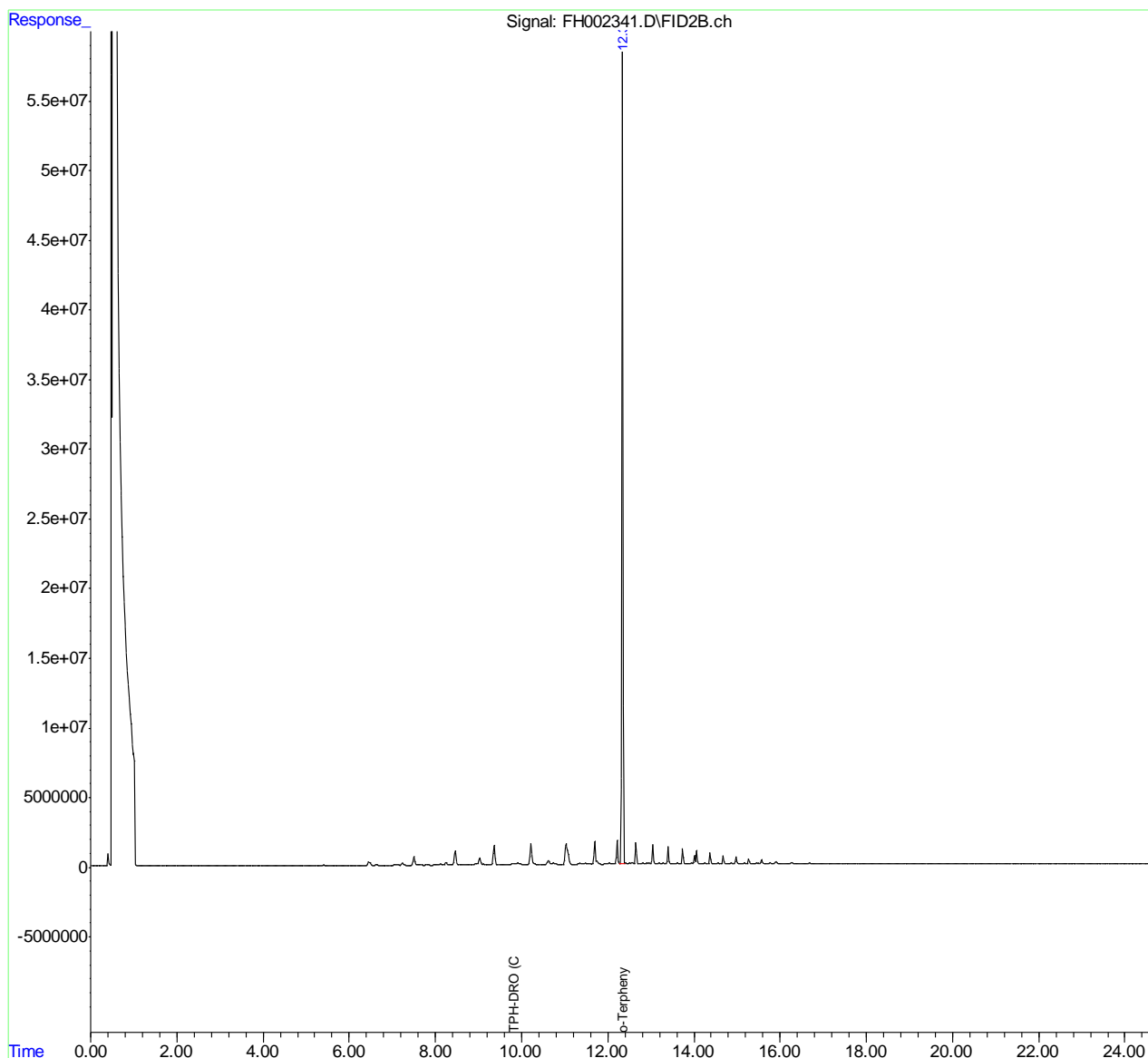
8

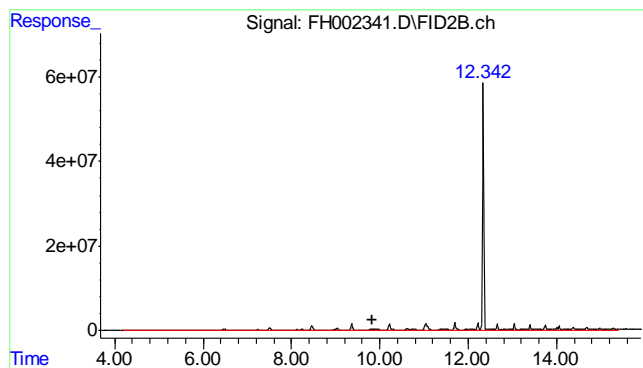
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH032012.SEC\
Data File : FH002341.D
Signal(s) : FID2B.ch
Acq On : 20 Mar 2012 6:36 pm
Operator : tedr
Sample : D32748-1
Misc : OP5560,GFH123,30.01,,,2,1
ALS Vial : 58 Sample Multiplier: 1

Integration File: events.e
Quant Time: Mar 21 08:17:54 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH95R.M
Quant Title : DRO-ORO REAR
QLast Update : Sun Mar 04 19:15:40 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :





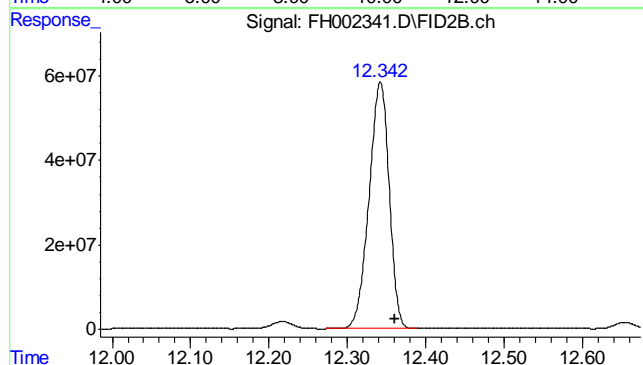
#1 TPH-DRO (C10-C28)

R.T.: 9.832 min

Delta R.T.: 0.000 min

Response: 992084127

Conc: 642.86 ug/ml m



#2 o-Terphenyl

R.T.: 12.342 min

Delta R.T.: -0.018 min

Response: 1040196714

Conc: 607.46 ug/ml

8.1.1

8

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH032012.SEC\
 Data File : FH002343.D
 Signal(s) : FID2B.ch
 Acq On : 20 Mar 2012 7:11 pm
 Operator : tedr
 Sample : D32748-2
 Misc : OP5560,GFH123,30.01,,,2,1
 ALS Vial : 59 Sample Multiplier: 1

Integration File: events.e
 Quant Time: Mar 21 08:18:31 2012
 Quant Method : C:\msdchem\1\METHODS\DRO-GFH95R.M
 Quant Title : DRO-ORO REAR
 QLast Update : Sun Mar 04 19:15:40 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	12.344	1207571534	705.209 ug/ml
Target Compounds			
1) H TPH-DRO (C10-C28)	9.832	800261210	518.561 ug/ml

(f)=RT Delta > 1/2 Window

(m)=manual int.

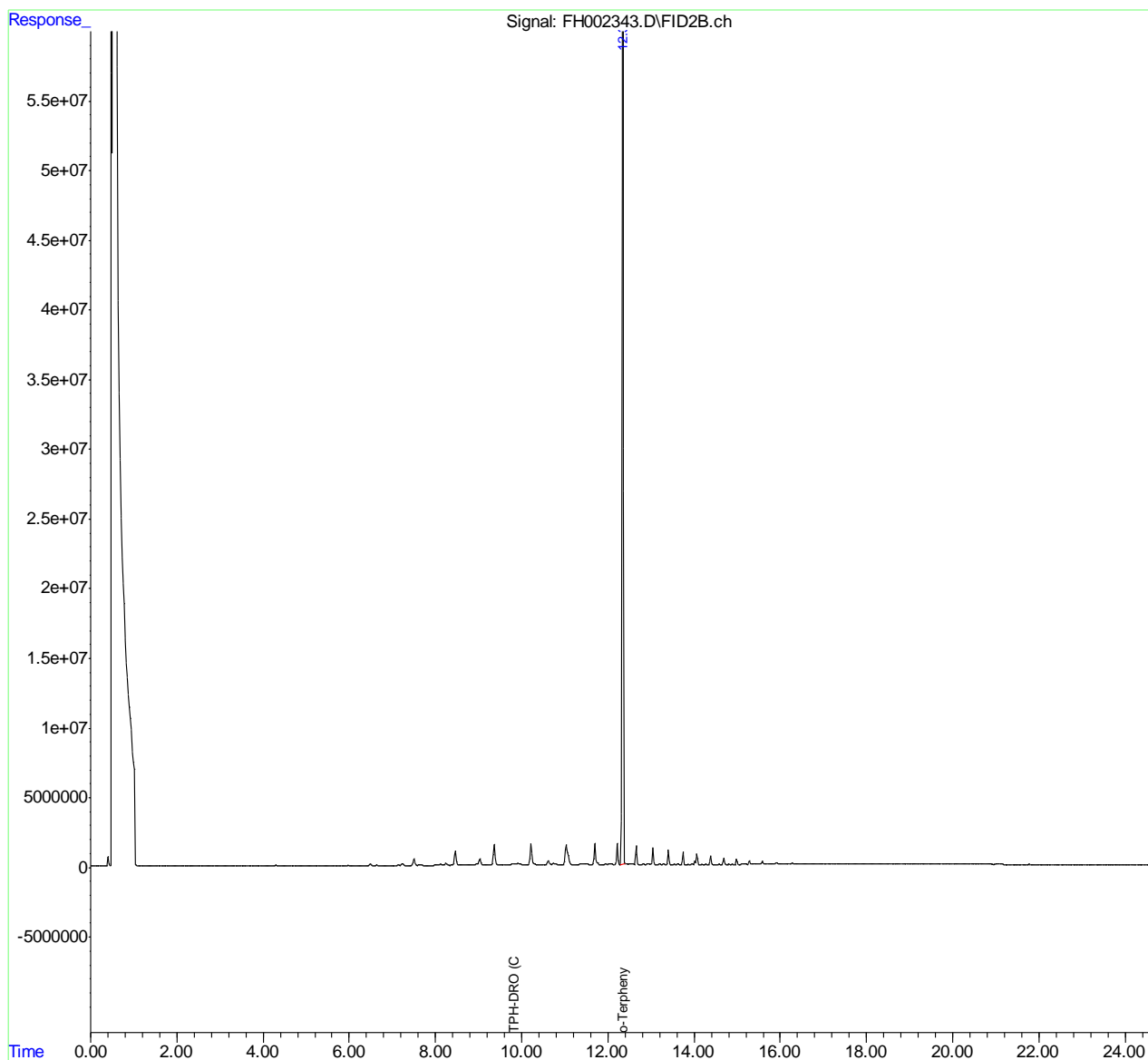
8.12
8

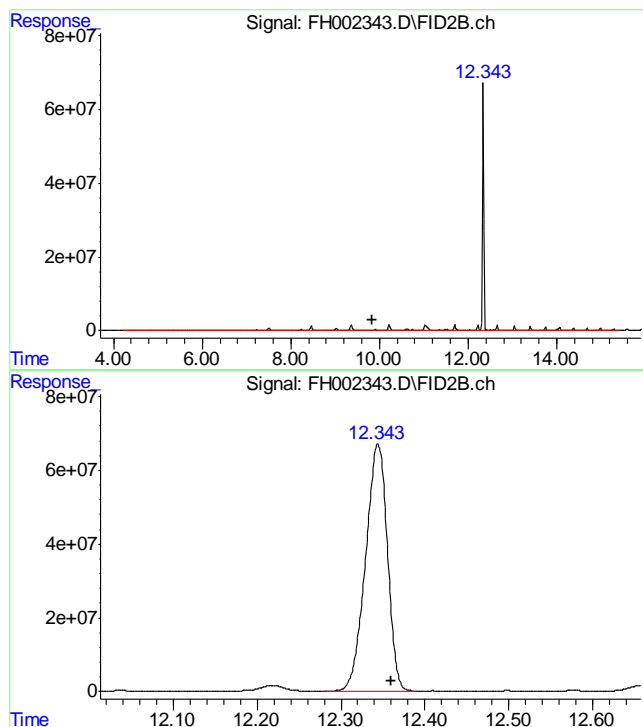
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH032012.SEC\
Data File : FH002343.D
Signal(s) : FID2B.ch
Acq On : 20 Mar 2012 7:11 pm
Operator : tedr
Sample : D32748-2
Misc : OP5560,GFH123,30.01,,,2,1
ALS Vial : 59 Sample Multiplier: 1

Integration File: events.e
Quant Time: Mar 21 08:18:31 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH95R.M
Quant Title : DRO-ORO REAR
QLast Update : Sun Mar 04 19:15:40 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :





#1 TPH-DRO (C10-C28)

R.T.: 9.832 min

Delta R.T.: 0.000 min

Response: 800261210

Conc: 518.56 ug/ml m

#2 o-Terphenyl

R.T.: 12.344 min

Delta R.T.: -0.016 min

Response: 1207571534

Conc: 705.21 ug/ml

8.12
8

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH032012.SEC\
Data File : FH002345.D
Signal(s) : FID2B.ch
Acq On : 20 Mar 2012 7:46 pm
Operator : tedr
Sample : D32748-3
Misc : OP5560,GFH123,30.20,,,2,1
ALS Vial : 60 Sample Multiplier: 1

Integration File: events.e
Quant Time: Mar 21 08:19:02 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH95R.M
Quant Title : DRO-ORO REAR
QLast Update : Sun Mar 04 19:15:40 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	12.343	1197060608	699.070 ug/ml
Target Compounds			
1) H TPH-DRO (C10-C28)	9.832	1983020780	1284.977 ug/ml

(f)=RT Delta > 1/2 Window

(m)=manual int.

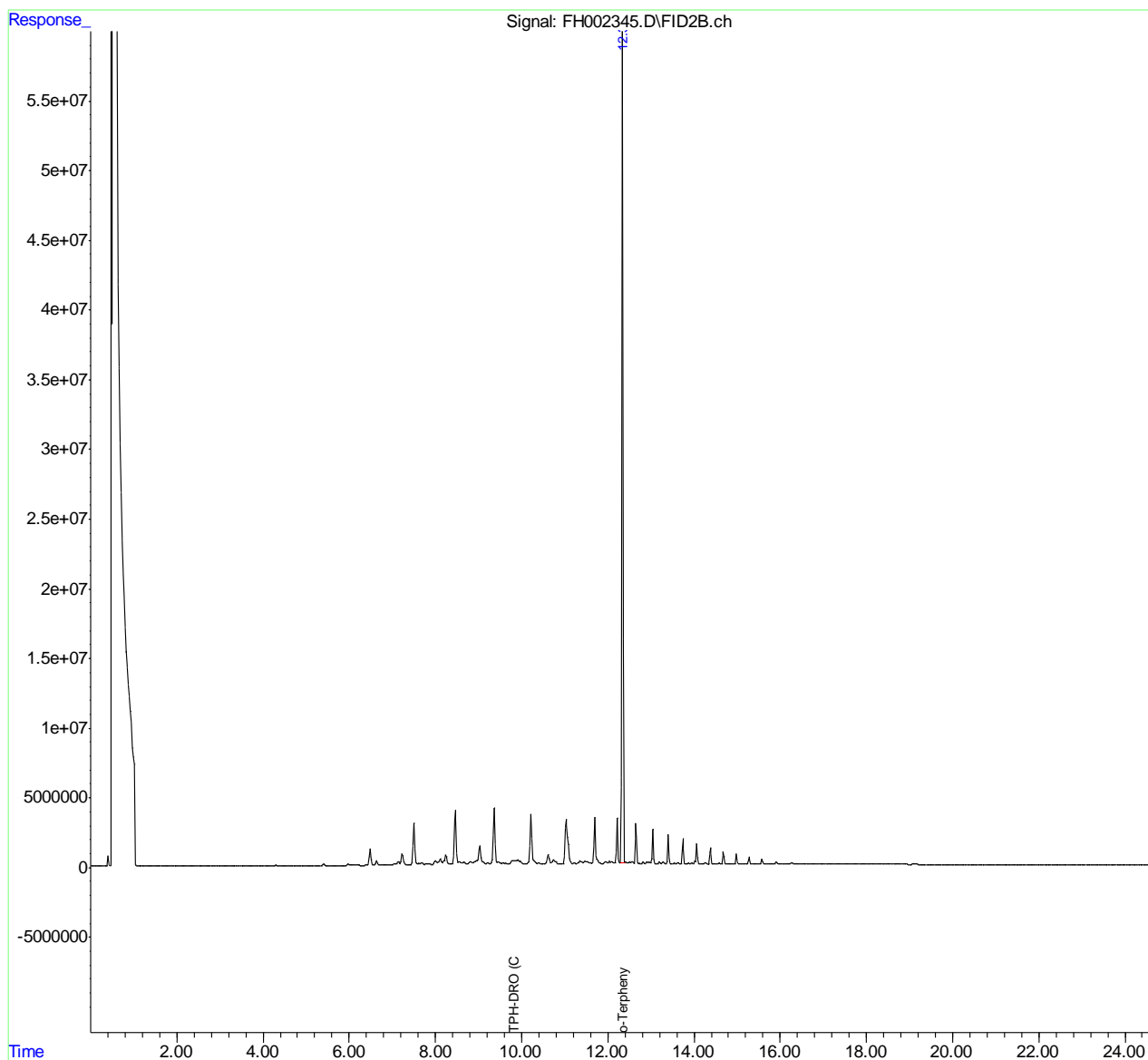
8.1.3
8

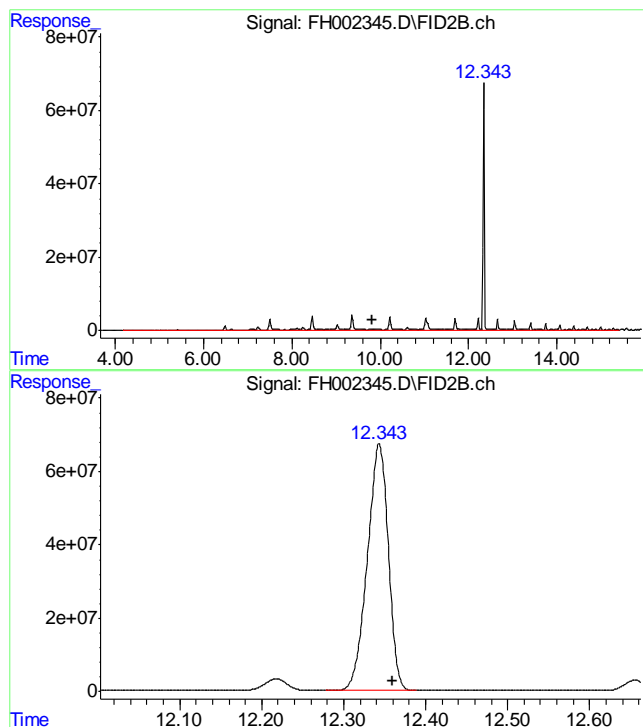
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH032012.SEC\
Data File : FH002345.D
Signal(s) : FID2B.ch
Acq On : 20 Mar 2012 7:46 pm
Operator : tedr
Sample : D32748-3
Misc : OP5560,GFH123,30.20,,,2,1
ALS Vial : 60 Sample Multiplier: 1

Integration File: events.e
Quant Time: Mar 21 08:19:02 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH95R.M
Quant Title : DRO-ORO REAR
QLast Update : Sun Mar 04 19:15:40 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :





#1 TPH-DRO (C10-C28)

R.T.: 9.832 min

Delta R.T.: 0.000 min

Response: 1983020780

Conc: 1284.98 ug/ml m

#2 o-Terphenyl

R.T.: 12.343 min

Delta R.T.: -0.017 min

Response: 1197060608

Conc: 699.07 ug/ml

8.1.3

8

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH032012.SEC\
Data File : FH002347.D
Signal(s) : FID2B.ch
Acq On : 20 Mar 2012 8:22 pm
Operator : tedr
Sample : D32748-4
Misc : OP5560,GFH123,30.00,,,2,1
ALS Vial : 61 Sample Multiplier: 1

Integration File: events.e
Quant Time: Mar 21 08:19:51 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH95R.M
Quant Title : DRO-ORO REAR
QLast Update : Sun Mar 04 19:15:40 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	12.343	1149049927	671.033 ug/ml
Target Compounds			
1) H TPH-DRO (C10-C28)	9.832	79436974	51.474 ug/ml

(f)=RT Delta > 1/2 Window

(m)=manual int.

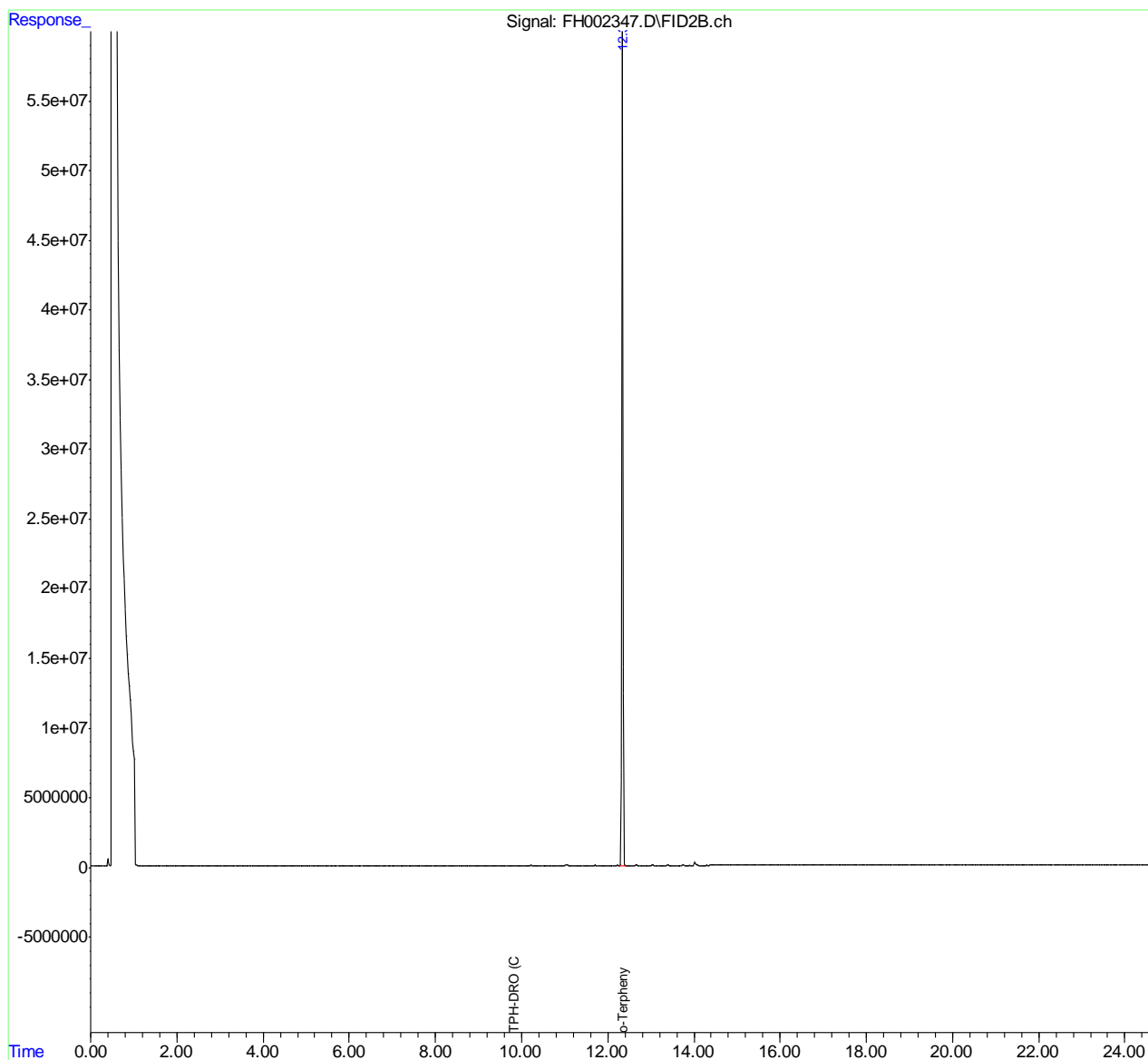
8.1.4
8

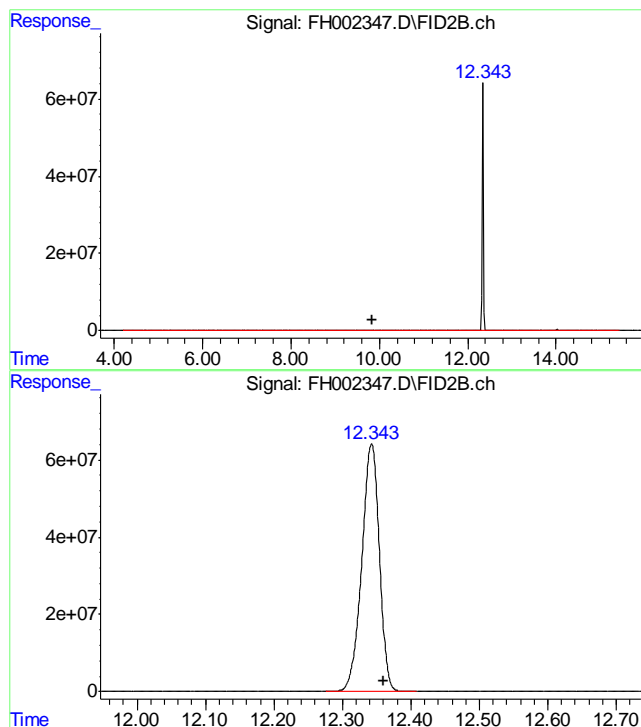
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH032012.SEC\
Data File : FH002347.D
Signal(s) : FID2B.ch
Acq On : 20 Mar 2012 8:22 pm
Operator : tedr
Sample : D32748-4
Misc : OP5560,GFH123,30.00,,,2,1
ALS Vial : 61 Sample Multiplier: 1

Integration File: events.e
Quant Time: Mar 21 08:19:51 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH95R.M
Quant Title : DRO-ORO REAR
QLast Update : Sun Mar 04 19:15:40 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :





#1 TPH-DRO (C10-C28)
R.T.: 9.832 min
Delta R.T.: 0.000 min
Response: 79436974
Conc: 51.47 ug/ml m

#2 o-Terphenyl
R.T.: 12.343 min
Delta R.T.: -0.017 min
Response: 1149049927
Conc: 671.03 ug/ml

8.1.4
8

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH032012.SEC\
Data File : FH002349.D
Signal(s) : FID2B.ch
Acq On : 20 Mar 2012 8:58 pm
Operator : tedr
Sample : D32748-5
Misc : OP5560,GFH123,30.00,,,2,1
ALS Vial : 62 Sample Multiplier: 1

Integration File: events.e
Quant Time: Mar 21 08:20:43 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH95R.M
Quant Title : DRO-ORO REAR
QLast Update : Sun Mar 04 19:15:40 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	12.342	1138089945	664.632 ug/ml
Target Compounds			
1) H TPH-DRO (C10-C28)	9.832	17111760838	11088.243 ug/ml

(f)=RT Delta > 1/2 Window

(m)=manual int.

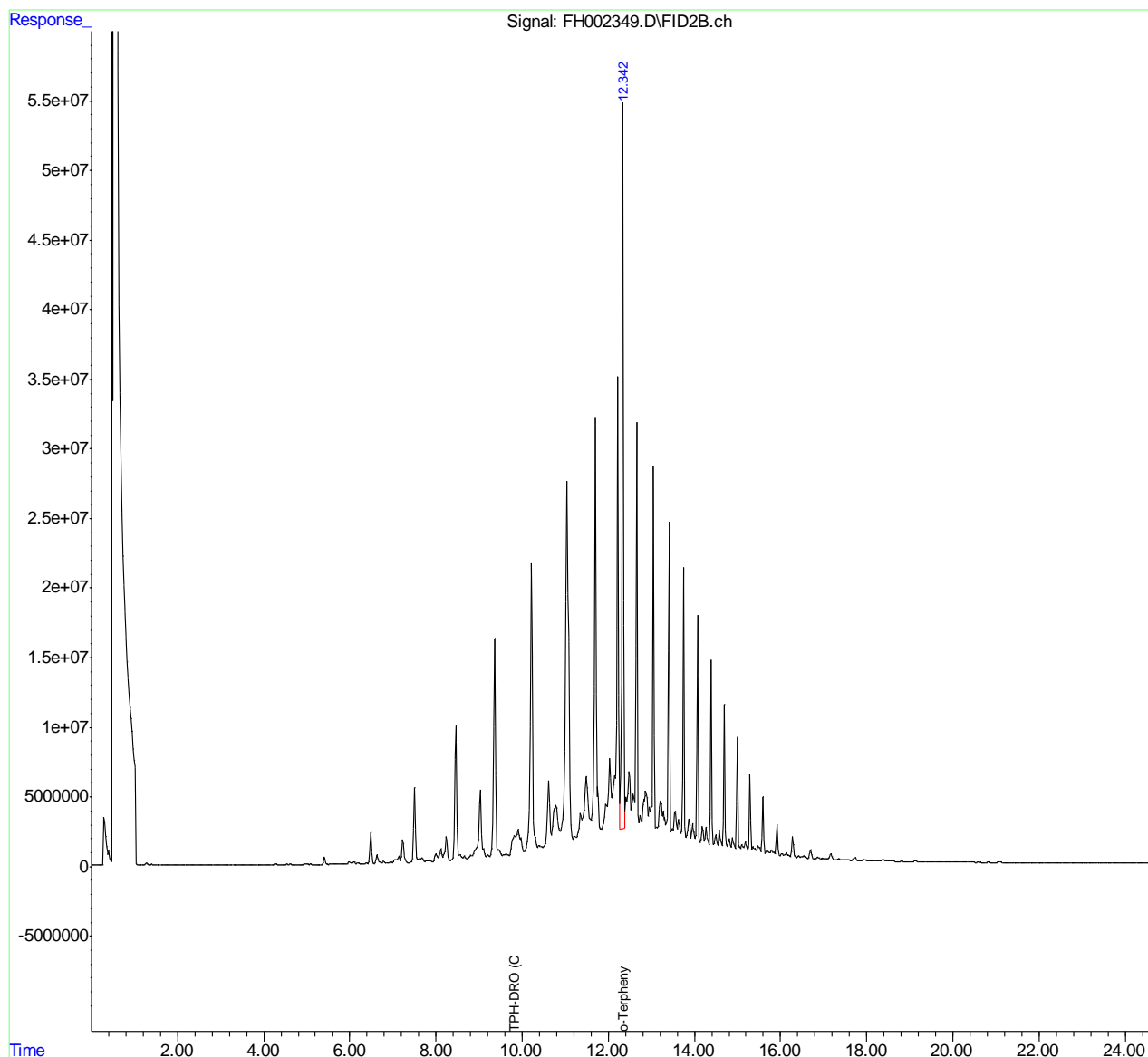
8.15
8

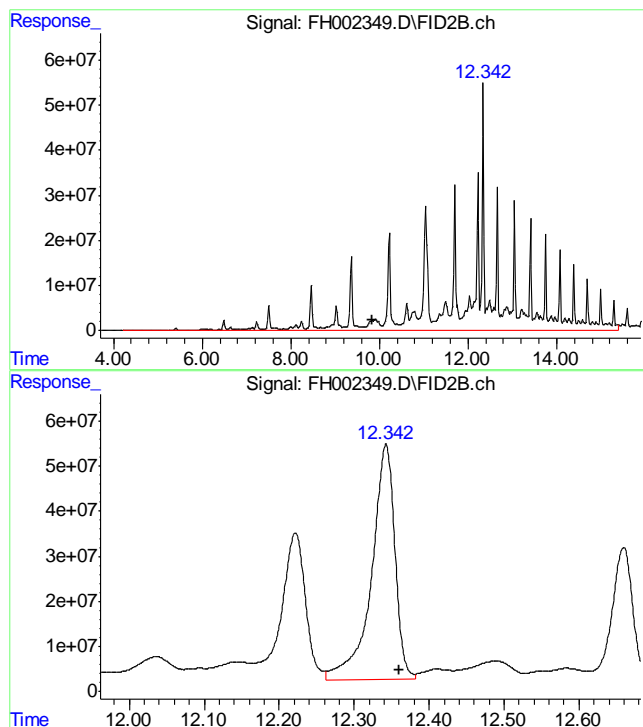
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH032012.SEC\
Data File : FH002349.D
Signal(s) : FID2B.ch
Acq On : 20 Mar 2012 8:58 pm
Operator : tedr
Sample : D32748-5
Misc : OP5560,GFH123,30.00,,,2,1
ALS Vial : 62 Sample Multiplier: 1

Integration File: events.e
Quant Time: Mar 21 08:20:43 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH95R.M
Quant Title : DRO-ORO REAR
QLast Update : Sun Mar 04 19:15:40 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :





#1 TPH-DRO (C10-C28)
 R.T.: 9.832 min
 Delta R.T.: 0.000 min
 Response: 17111760838
 Conc: 11088.24 ug/ml m

#2 o-Terphenyl
 R.T.: 12.342 min
 Delta R.T.: -0.018 min
 Response: 1138089945
 Conc: 664.63 ug/ml

8.15
8

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH032012.SEC\
Data File : FH002331.D
Signal(s) : FID2B.ch
Acq On : 20 Mar 2012 3:38 pm
Operator : tedr
Sample : OP5560-MB
Misc : OP5560,GFH123,30.00,,,2,1
ALS Vial : 53 Sample Multiplier: 1

Integration File: events.e
Quant Time: Mar 20 16:04:08 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH95R.M
Quant Title : DRO-ORO REAR
QLast Update : Sun Mar 04 19:15:40 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	12.346	1475787544	861.844 ug/ml
Target Compounds			
1) H TPH-DRO (C10-C28)	9.832	43097947	27.927 ug/ml

(f)=RT Delta > 1/2 Window

(m)=manual int.

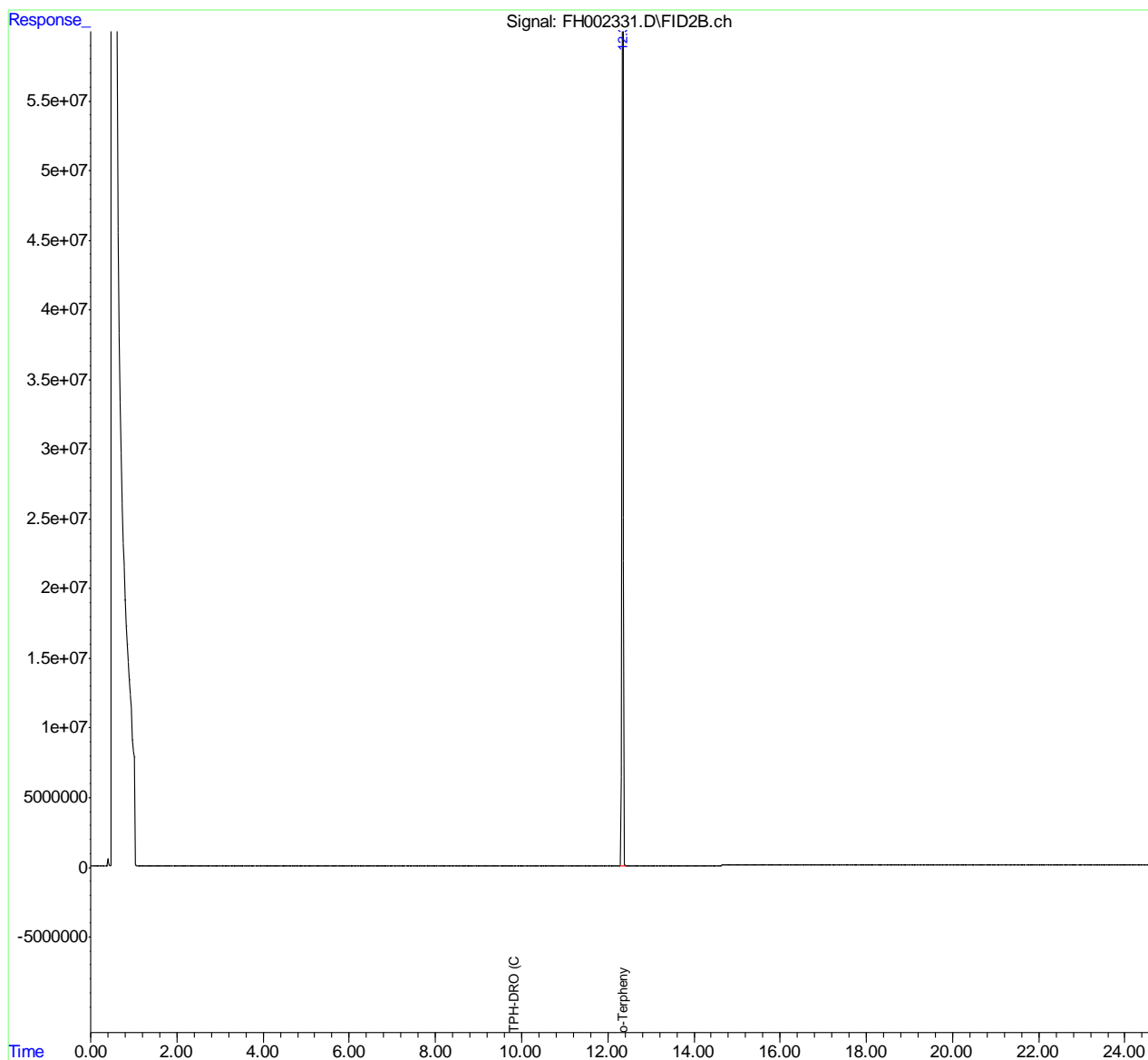
8.2.1
8

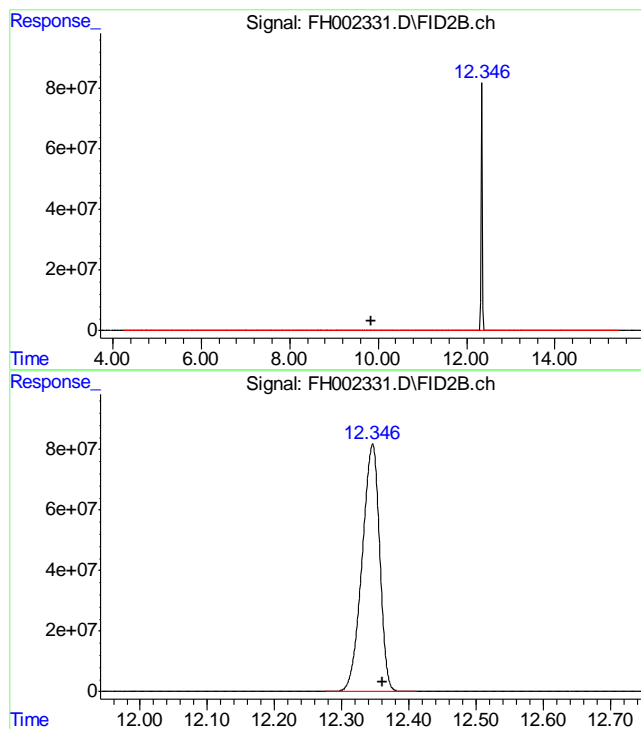
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH032012.SEC\
Data File : FH002331.D
Signal(s) : FID2B.ch
Acq On : 20 Mar 2012 3:38 pm
Operator : tedr
Sample : OP5560-MB
Misc : OP5560,GFH123,30.00,,,2,1
ALS Vial : 53 Sample Multiplier: 1

Integration File: events.e
Quant Time: Mar 20 16:04:08 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH95R.M
Quant Title : DRO-ORO REAR
QLast Update : Sun Mar 04 19:15:40 2012
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :





#1 TPH-DRO (C10-C28)

R.T.: 9.832 min
Delta R.T.: 0.000 min
Response: 43097947
Conc: 27.93 ug/ml m

#2 o-Terphenyl

R.T.: 12.346 min
Delta R.T.: -0.014 min
Response: 1475787544
Conc: 861.84 ug/ml

8.2.1

8