Mountain States ACCUTEST LABORATORIES

05/25/12

Technical Report for

XTO Energy

FRU 297-17A

1108-13A

Accutest Job Number: D34639

Sampling Date: 05/16/12

Report to:

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

Total number of pages in report: **46**

ACCREDITED IN ACCORDANCE WITH nelac

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)

Test results relate only to samples analyzed.

Sections: 1 2 3 4 5 6 7 8

Table of Contents

Sample Summary

XTO Energy

Job No: D34639

FRU 297-17A
Project No: 1108-13A

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
D34639-1	05/16/12	09:40	DS	05/18/12	SO	Soil	RESERVE PIT MB 5-14
D34639-2	05/16/12	09:50	DS	05/18/12	SO	Soil	RESERVE PIT MB 5-15

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

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	XTO Energy	**Job No**	D34639
Site:	FRU 297-17A	**Report Date**	5/25/2012 8:07:11 AM

On 05/18/2012, 2 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 D34639 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:** GGB894

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D34664-1MS, D34664-1MSD were used as the QC samples indicated.

Extractables by GC By Method SW846-8015B

Matrix SO **Batch ID:** OP5922

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D34713-4MS, D34713-4MSD were used as the QC samples indicated.
- Sample(s) OP5922-MS have surrogates outside control limits. Probable cause due to matrix interference.
- OP5922-MS for o-Terphenyl: Outside control limits due to possible matrix interference.

Wet Chemistry By Method SM19 2540B M

Matrix SO **Batch ID:** GN15029

- 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.

Mountain States ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	RESERVE PIT MB 5-14		
Lab Sample ID:	D34639-1	**Date Sampled:**	05/16/12
Matrix:	SO - Soil	**Date Received:**	05/18/12
Method:	SW846 8015B	**Percent Solids:**	85.8
Project:	FRU 297-17A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB16064.D	1	05/19/12	SK	n/a	n/a	GGB894
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	6.6	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	83%		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

Client Sample ID: RESERVE PIT MB 5-14
Lab Sample ID: D34639-1
Matrix: SO - Soil
Method: SW846-8015B SW846 3546
Project: FRU 297-17A

Date Sampled: 05/16/12
Date Received: 05/18/12
Percent Solids: 85.8

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH004496.D	1	05/22/12	AW	05/21/12	OP5922	GFH247
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)	346	16	10	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	89%		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

Client Sample ID:	RESERVE PIT MB 5-15		
Lab Sample ID:	D34639-2	**Date Sampled:**	05/16/12
Matrix:	SO - Soil	**Date Received:**	05/18/12
Method:	SW846 8015B	**Percent Solids:**	87.3
Project:	FRU 297-17A		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB16065.D	1	05/19/12	SK	n/a	n/a	GGB894
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	84%		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

Client Sample ID: RESERVE PIT MB 5-15
Lab Sample ID: D34639-2
Matrix: SO - Soil
Method: SW846-8015B SW846 3546
Project: FRU 297-17A

Date Sampled: 05/16/12
Date Received: 05/18/12
Percent Solids: 87.3

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH004498.D	1	05/22/12	AW	05/21/12	OP5922	GFH247
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)	325	15	9.9	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	92%		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

Mountain States ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

PAGE ___ OF ___

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 # D34639

Client / Reporting Information

Company Name: KRW Consulting
Street Address: 8000 W. 14th Ave. Ste 200
City: Lakewood State: CO Zip: 80214
Project Contact: Duwayne Knudson E-mail:
Phone #: 970 488-1098 Fax #:
Sampler(s) Name(s): David Sanders Phone #:

Project Information

Project Name: XTO FRU 297-17A
Street:
City:
Project#: 1108-134
Client PO#:
Project Manager:

Billing Information (If different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention: PO#:

Requested Analysis (see TEST CODE sheet)

TPH (GRO/DRO)

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB- Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfate	TPH (GRO/DRO)	LAB USE ONLY
	Reserve Pit MB 5-14		5-16-12	940	DS	SO											X	01
	Reserve Pit MB ~~5-14~~ 5-15 (DS 5/4)		5-16-12	950	DS	SO											X	02

5/18/12

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] Commercial "B" +Narrative
- [ ] FULLT1 (Level 3+4)
- [ ] State Forms
- [ ] EDD Format
- [x] PDF

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

Please email results to KRW Piceance team.

Turnaround Time (Business days)

Approved By (Accutest PM): / Date:

- [ ] Std. 10 Business Days
- [x] Std. 5 Business Days (By Contract only)
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		5/17/12	5/17/12 12:55			5/18 800
2						
3						
4						
5						

Custody Seal # HD [x] Intact [ ] Not Intact | Preserved where applicable [ ] NA | On Ice [X] | Cooler Temp. 4.0

D34639: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D34639 **Client:** KRW CONSULTING **Immediate Client Services Action Required:** No

Date / Time Received: 5/18/2012 8:00:00 AM **No. Coolers:** 1 **Client Service Action Required at Login:** No

Project: XTO FRU 297-17A **Airbill #'s:** HD

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	Infared gun		
3. Cooler media:	Ice (bag)		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	
2. Trip Blank listed on COC:	☐		☐	
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume rec'd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Accutest Laboratories
V:(303) 425-6021

4036 Youngfield Street
F: (303) 425-6854

Wheat Ridge, CO
www/accutest.com

D34639: Chain of Custody
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Mountain States ACCUTEST LABORATORIES

GC Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: D34639
Account: XTOKRWR XTO Energy
Project: FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB894-MB	GB16046.D	1	05/18/12	SK	n/a	n/a	GGB894

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

D34639-1, D34639-2

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	90%	60-140%

Blank Spike Summary

Job Number: D34639
Account: XTOKRWR XTO Energy
Project: FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB894-BS	GB16047.D	1	05/18/12	SK	n/a	n/a	GGB894

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

D34639-1, D34639-2

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	127	115	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	99%	60-140%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D34639
Account: XTOKRWR XTO Energy
Project: FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D34664-1MS	GB16049.D	1	05/18/12	SK	n/a	n/a	GGB894
D34664-1MSD	GB16050.D	1	05/18/12	SK	n/a	n/a	GGB894
D34664-1	GB16048.D	1	05/18/12	SK	n/a	n/a	GGB894

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

D34639-1, D34639-2

CAS No.	Compound	D34664-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		144	167	116	166	115	1	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D34664-1	Limits
120-82-1	1,2,4-Trichlorobenzene	101%	100%	93%	60-140%

Mountain States ACCUTEST LABORATORIES

GC Volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Judy Melson
05/21/12 14:25

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\051812\GB16064.D\FID1A.CH Vial: 20
Signal #2 : Y:\1\DATA\051812\GB16064.D\FID2B.CH
Acq On : 19 May 2012 4:19 am Operator: StephK
Sample : D34639-1, 50X Inst : GC/MS Ins
Misc : GC2848,GGB894,5.020,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: May 21 08:25:08 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon May 21 08:24:34 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	14.32	2612804	83.386 %		m
10) S	1,2,4-Trichlorobenzene (P)	14.31	14750144	90.755 %		
	Target Compounds					
1) H	TVH-Gasoline	7.23	6070290	<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	7.58	151589	0.383	ug/L	
7) T	Ethylbenzene	0.00	0	N.D.	ug/L	d
8) T	m,p-Xylene	10.40	185386	0.134	ug/L	
9) T	o-Xylene	0.00	0	N.D.	ug/L	d
11) T	Naphthalene	14.51	2242877	11.367	ug/L	

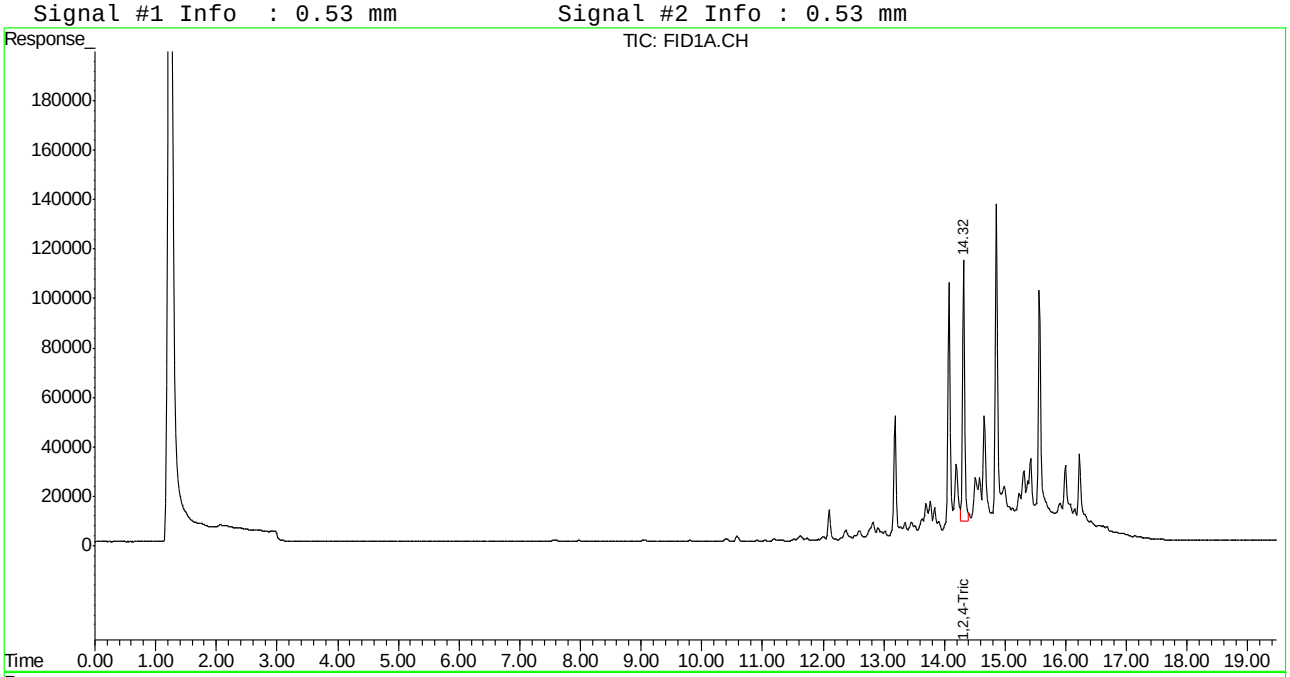
(f)=RT Delta > 1/2 Window (m)=manual int.

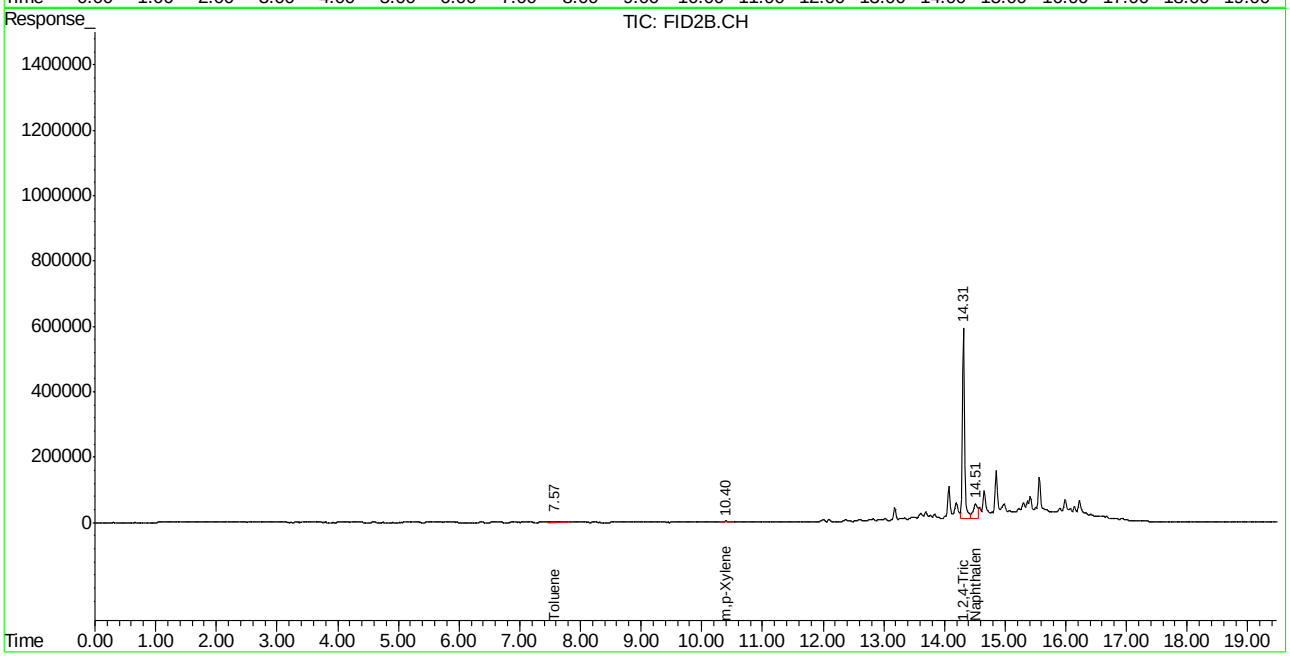
Quantitation Report (QT Reviewed)

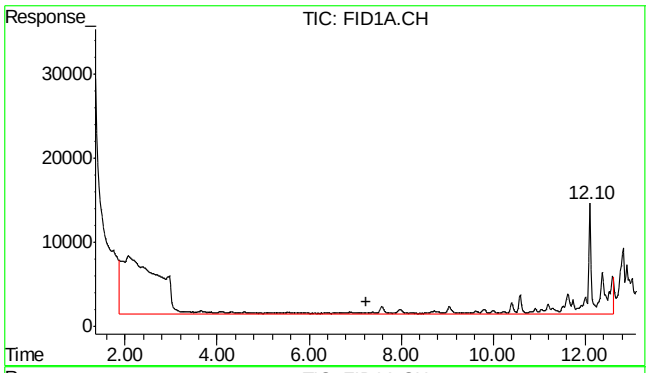
Signal #1 : Y:\1\DATA\051812\GB16064.D\FID1A.CH Vial: 20
Signal #2 : Y:\1\DATA\051812\GB16064.D\FID2B.CH
Acq On : 19 May 2012 4:19 am Operator: StephK
Sample : D34639-1, 50X Inst : GC/MS Ins
Misc : GC2848,GGB894,5.020,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: May 21 7:41 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon May 21 08:24:34 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

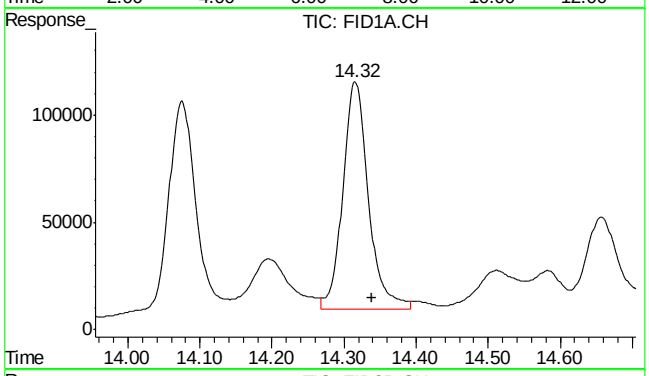






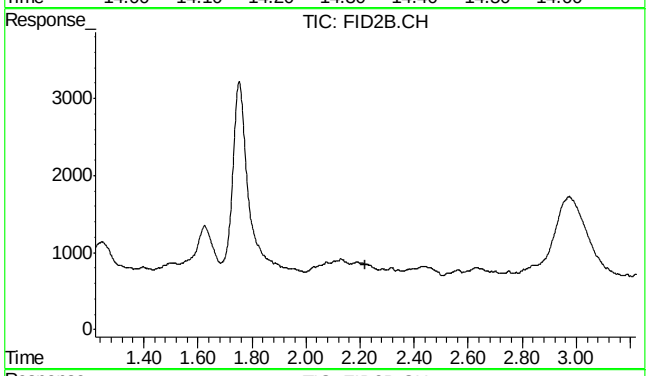
#1 TVH-Gasoline

R.T.: 7.230 min
Delta R.T.: 0.000 min
Response: 6070290
Conc: N.D.



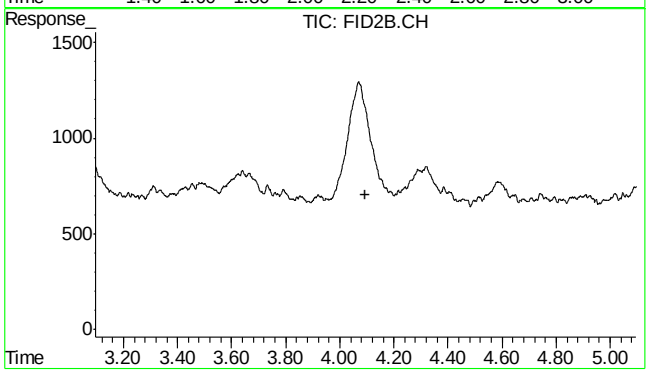
#2 1,2,4-Trichlorobenzene

R.T.: 14.315 min
Delta R.T.: -0.023 min
Response: 2612804
Conc: 83.39 % m



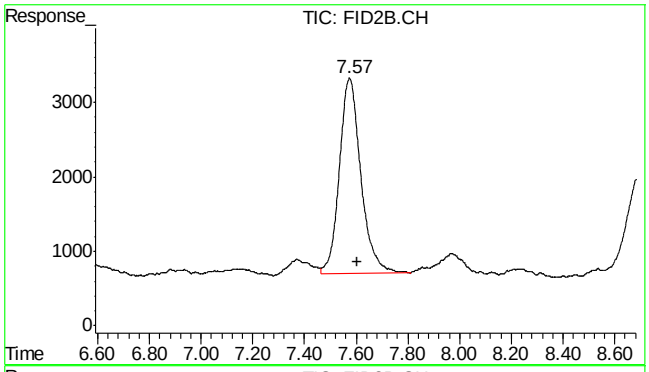
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T. : 2.220 min
Response: 0
Conc: N.D.



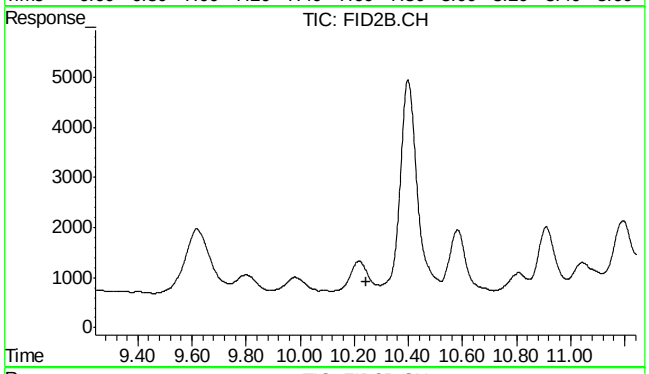
#5 Benzene

R.T.: 0.000 min
Exp R.T. : 4.095 min
Response: 0
Conc: N.D.



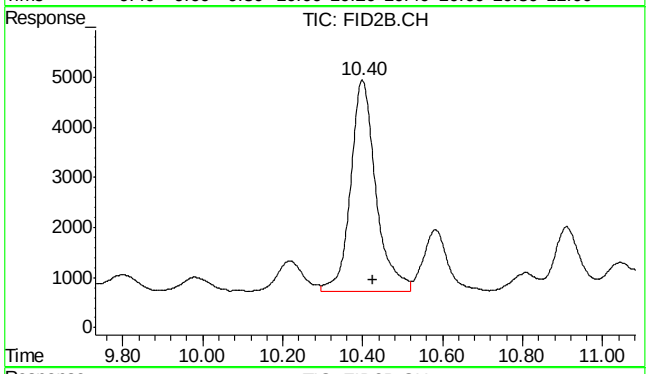
#6 Toluene

R.T.: 7.575 min
Delta R.T.: -0.030 min
Response: 151589
Conc: 0.38 ug/L



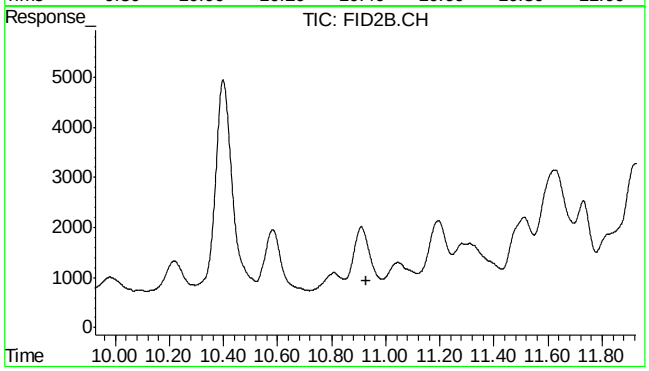
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T. : 10.243 min
Response: 0
Conc: N.D.



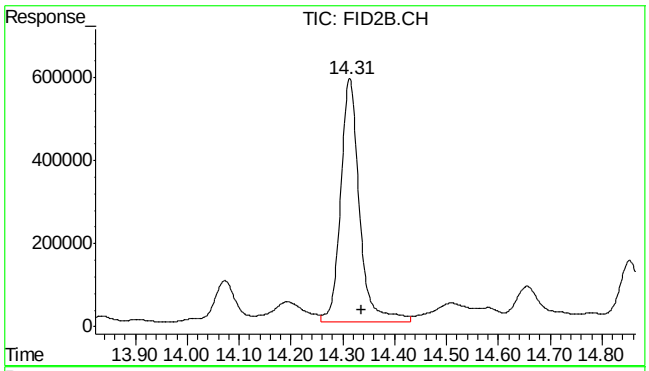
#8 m,p-Xylene

R.T.: 10.399 min
Delta R.T.: -0.026 min
Response: 185386
Conc: 0.13 ug/L



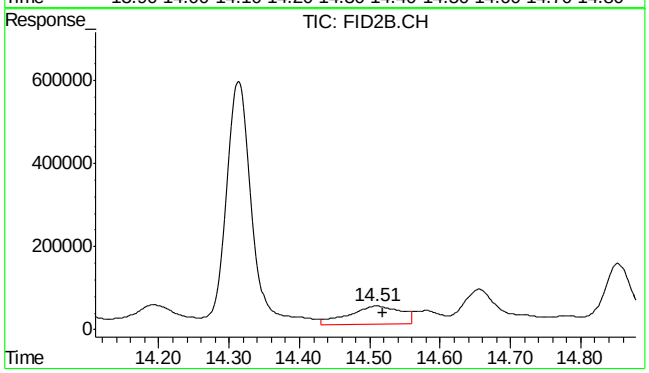
#9 o-Xylene

R.T.: 0.000 min
Exp R.T. : 10.926 min
Response: 0
Conc: N.D.



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

R.T.: 14.314 min
Delta R.T.: -0.023 min
Response: 14750144
Conc: 90.75 %



#11 Naphthalene

R.T.: 14.510 min
Delta R.T.: -0.009 min
Response: 2242877
Conc: 11.37 ug/L

Manual Integrations APPROVED (compounds with "m" flag)
Judy Melson
05/21/12 14:25

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\051812\GB16065.D\FID1A.CH Vial: 21
Signal #2 : Y:\1\DATA\051812\GB16065.D\FID2B.CH
Acq On : 19 May 2012 4:55 am Operator: StephK
Sample : D34639-2, 50X Inst : GC/MS Ins
Misc : GC2848,GGB894,5.058,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: May 21 08:25:12 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon May 21 08:24:34 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	14.32	2621110	83.651	%	m
10) S	1,2,4-Trichlorobenzene (P)	14.32	14382216	88.491	%	
	Target Compounds					
1) H	TVH-Gasoline	7.23	5705947	<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	7.58	146484	0.370	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	14.51	1446699	7.332	ug/L	

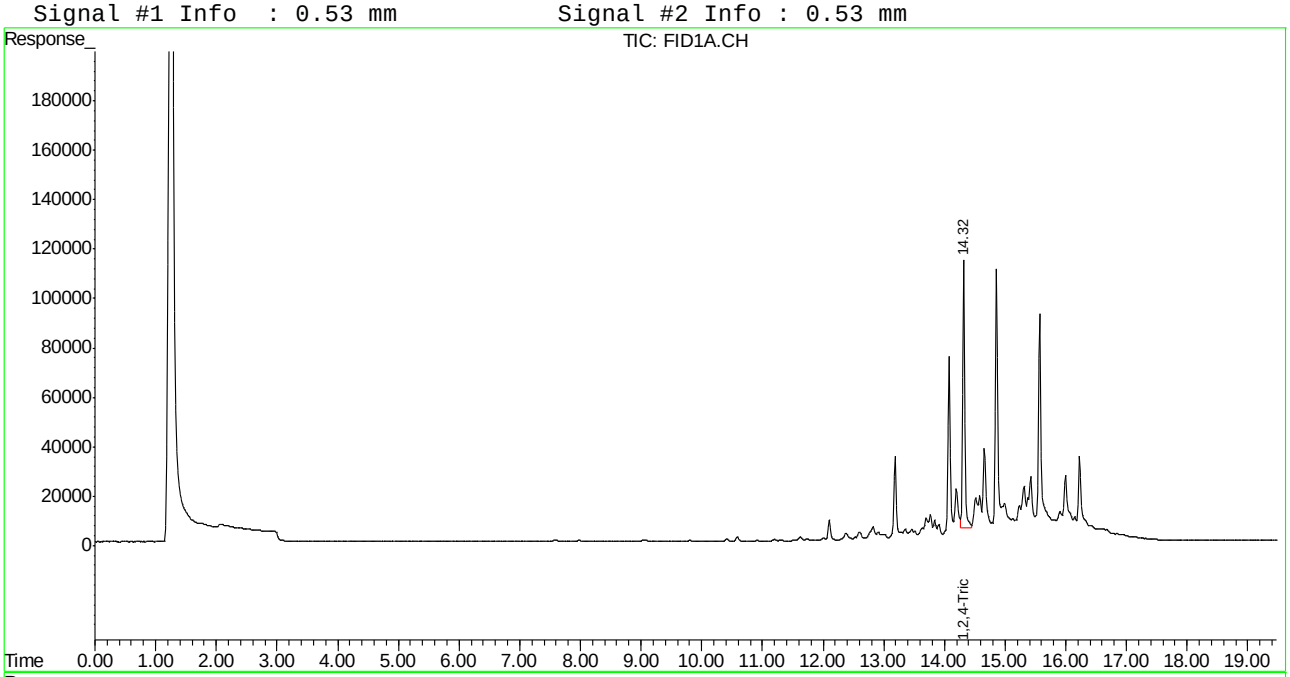
(f)=RT Delta > 1/2 Window (m)=manual int.
GB16065.D TB868GB868SOIL.M Mon May 21 08:41:13 2012 GC Page 1

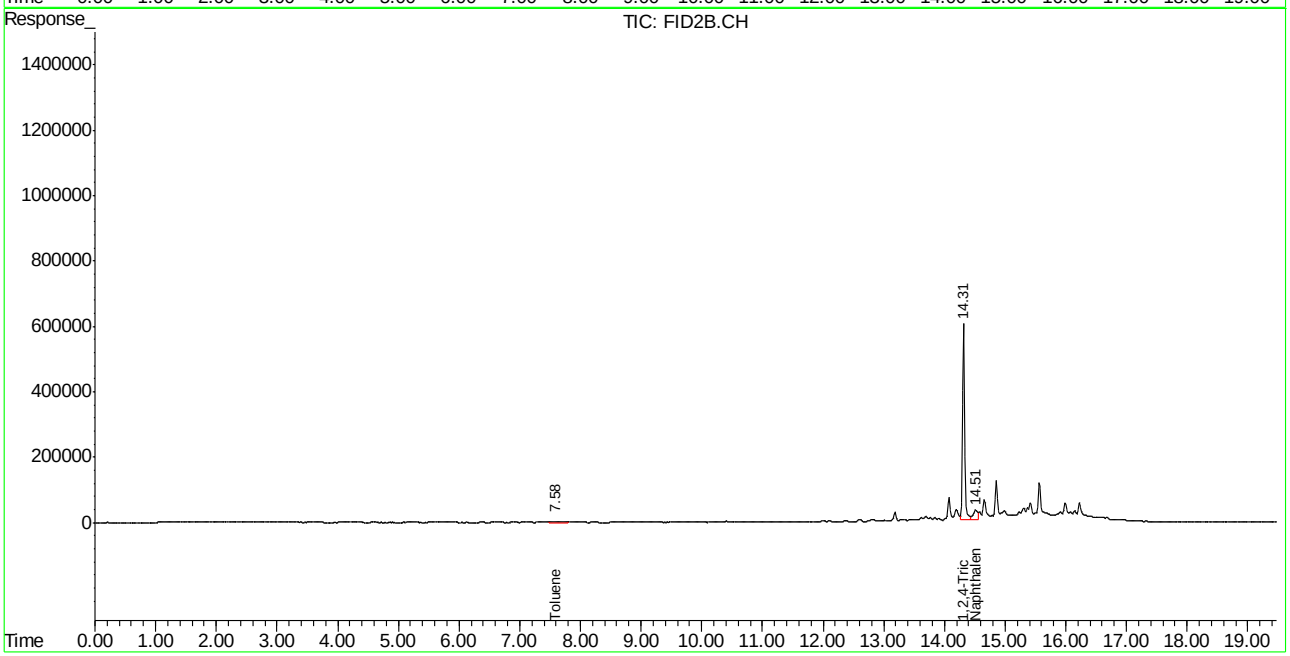
Quantitation Report (QT Reviewed)

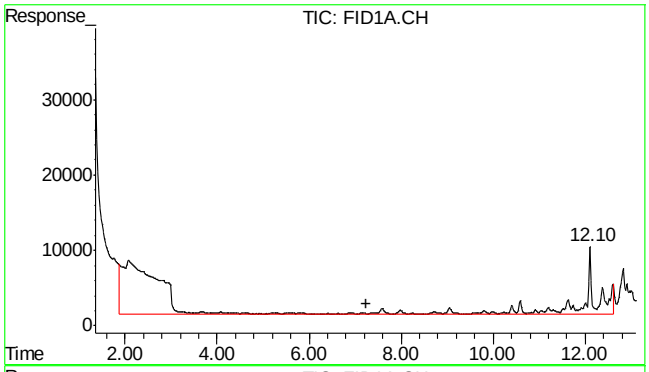
Signal #1 : Y:\1\DATA\051812\GB16065.D\FID1A.CH Vial: 21
Signal #2 : Y:\1\DATA\051812\GB16065.D\FID2B.CH
Acq On : 19 May 2012 4:55 am Operator: StephK
Sample : D34639-2, 50X Inst : GC/MS Ins
Misc : GC2848,GGB894,5.058,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: May 21 7:41 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon May 21 08:24:34 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

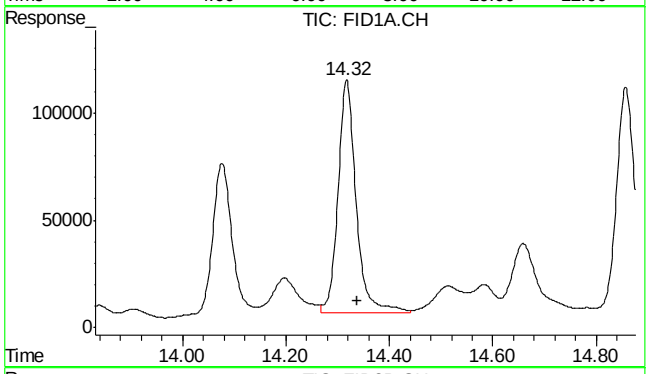






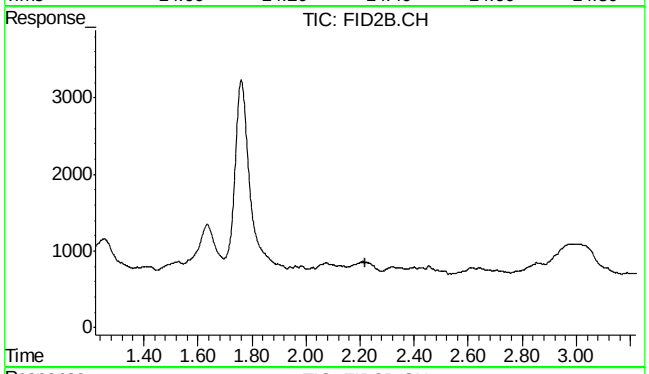
#1 TVH-Gasoline

R.T.: 7.230 min
Delta R.T.: 0.000 min
Response: 5705947
Conc: N.D.



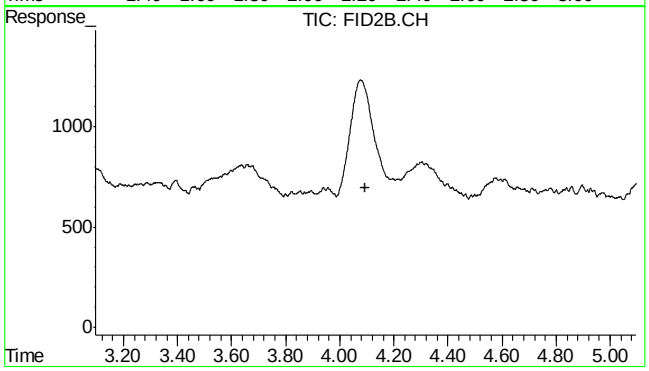
#2 1,2,4-Trichlorobenzene

R.T.: 14.317 min
Delta R.T.: -0.021 min
Response: 2621110
Conc: 83.65 % m



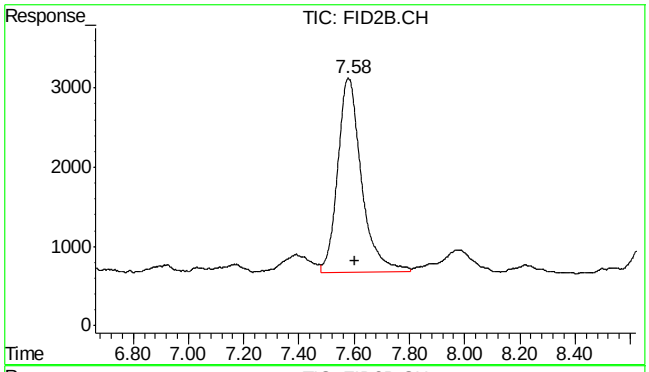
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T. : 2.220 min
Response: 0
Conc: N.D.



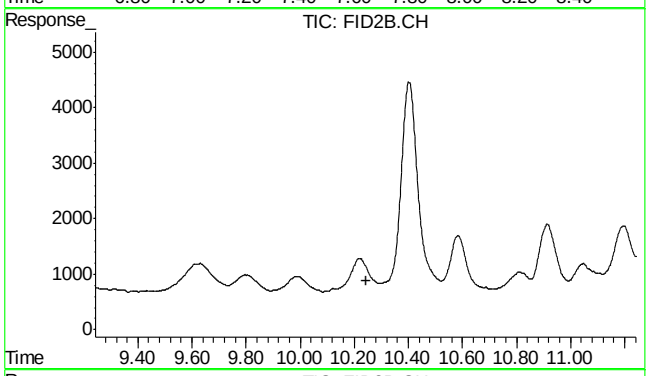
#5 Benzene

R.T.: 0.000 min
Exp R.T. : 4.095 min
Response: 0
Conc: N.D.



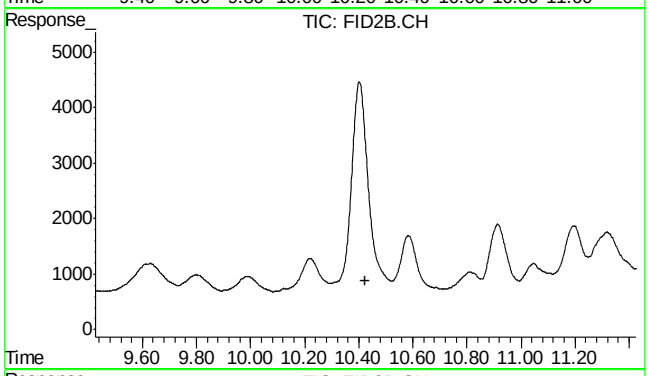
#6 Toluene

R.T.: 7.579 min
Delta R.T.: -0.025 min
Response: 146484
Conc: 0.37 ug/L



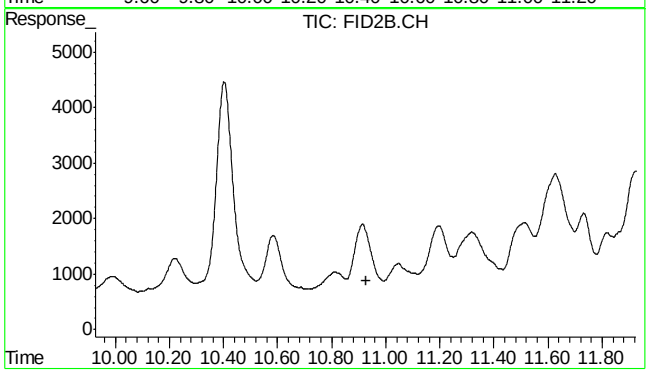
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T. : 10.243 min
Response: 0
Conc: N.D.



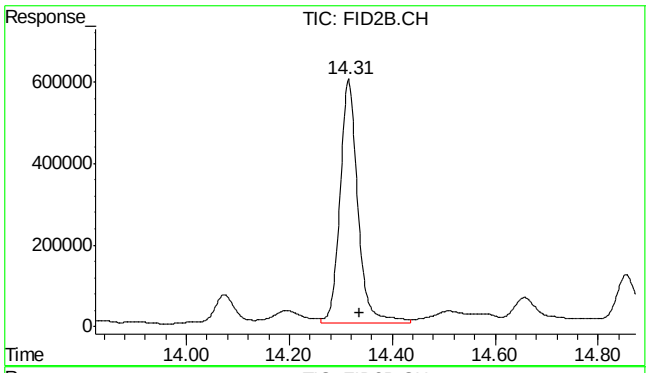
#8 m,p-Xylene

R.T.: 0.000 min
Exp R.T. : 10.425 min
Response: 0
Conc: N.D.



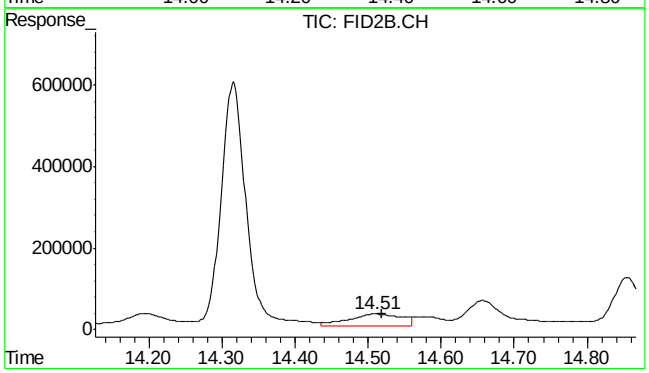
#9 o-Xylene

R.T.: 0.000 min
Exp R.T. : 10.926 min
Response: 0
Conc: N.D.



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

R.T.:	14.315 min
Delta R.T.:	-0.021 min
Response:	14382216
Conc:	88.49 %



#11 Naphthalene

R.T.:	14.510 min
Delta R.T.:	-0.008 min
Response:	1446699
Conc:	7.33 ug/L

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\051812\GB16046.D\FID1A.CH Vial: 2
Signal #2 : Y:\1\DATA\051812\GB16046.D\FID2B.CH
Acq On : 18 May 2012 5:47 pm Operator: StephK
Sample : MB Inst : GC/MS Ins
Misc : GC2848,GGB894,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: May 21 08:23:21 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon May 21 08:23:01 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	14.32	2812754	89.767	%	
10)	S 1,2,4-Trichlorobenzene (P)	14.32	15061670	92.672	%	
	Target Compounds					
1)	H TVH-Gasoline	7.23	4149318	<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	7.58	130423	0.329	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	14.50	240836	1.221	ug/L	

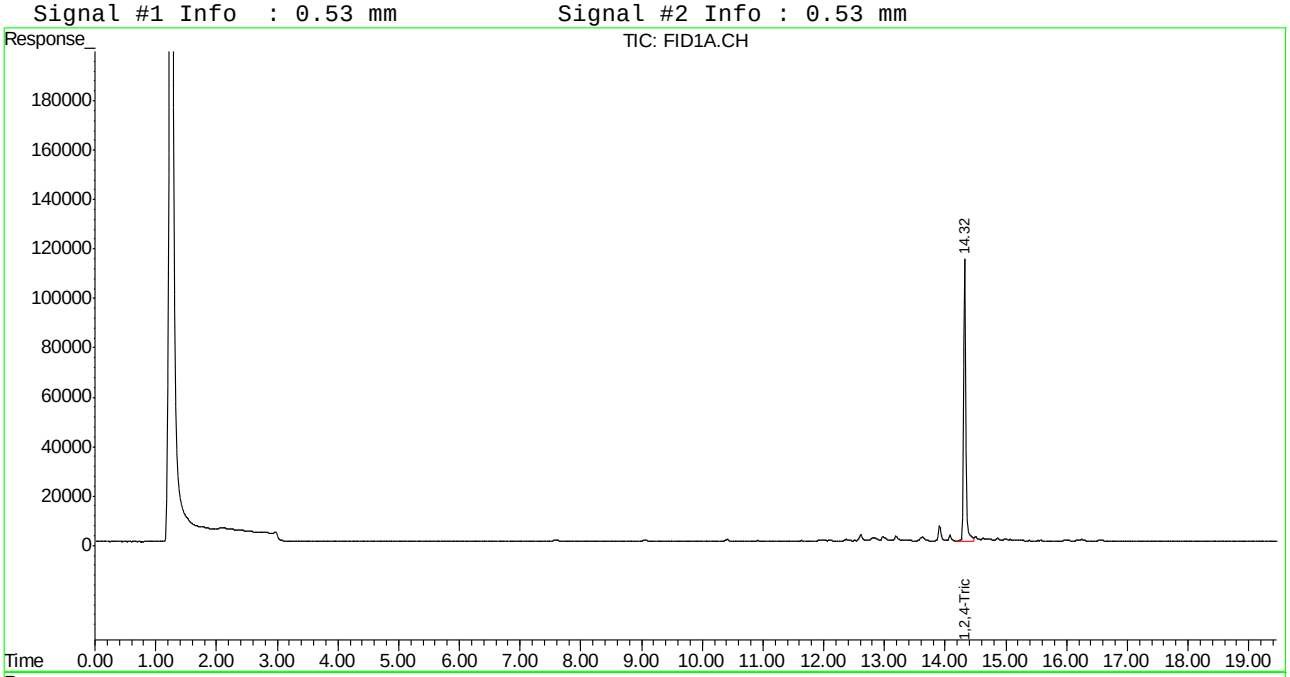
(f)=RT Delta > 1/2 Window (m)=manual int.
GB16046.D TB868GB868SOIL.M Mon May 21 08:40:16 2012 GC Page 1

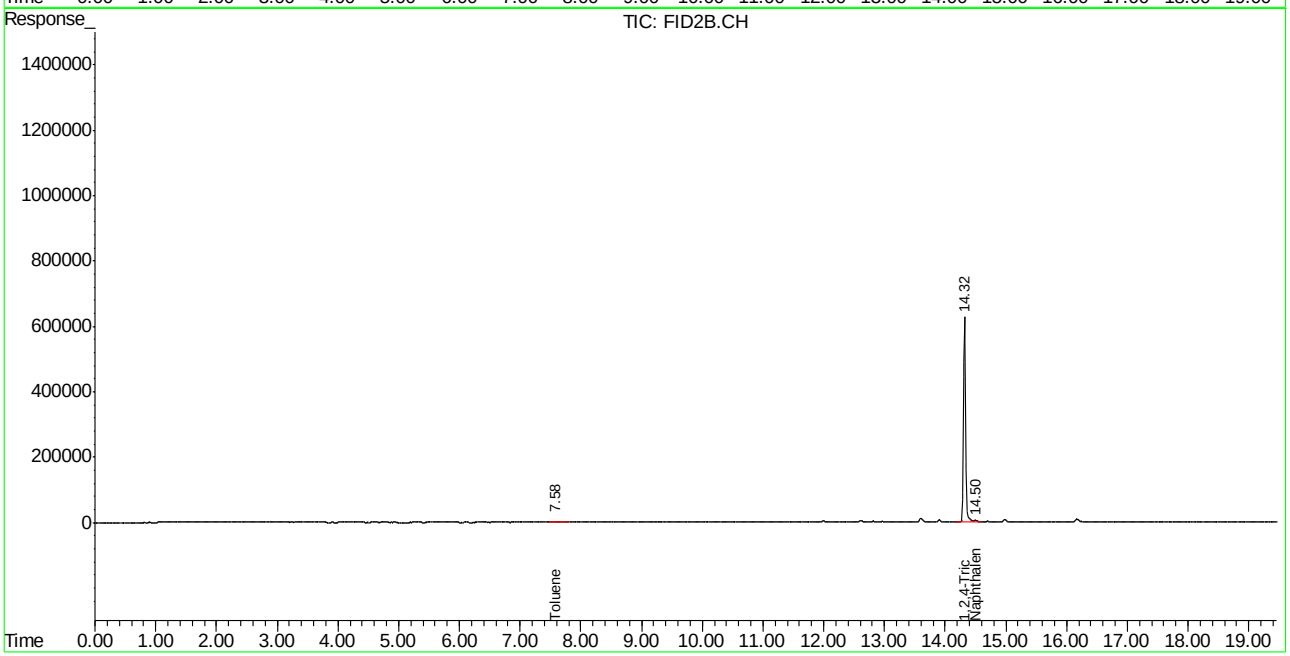
Quantitation Report (QT Reviewed)

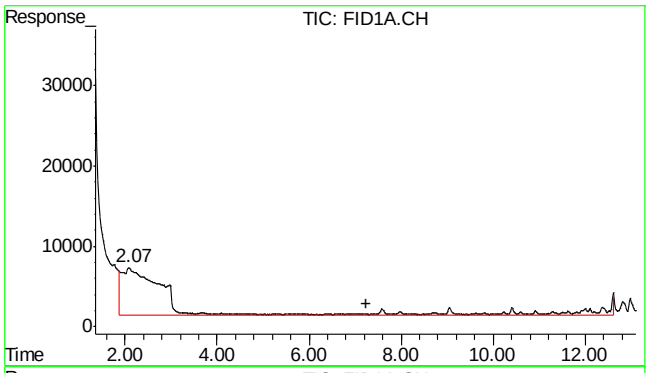
Signal #1 : Y:\1\DATA\051812\GB16046.D\FID1A.CH Vial: 2
Signal #2 : Y:\1\DATA\051812\GB16046.D\FID2B.CH
Acq On : 18 May 2012 5:47 pm Operator: StephK
Sample : MB Inst : GC/MS Ins
Misc : GC2848,GGB894,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: May 21 7:34 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon May 21 08:23:01 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

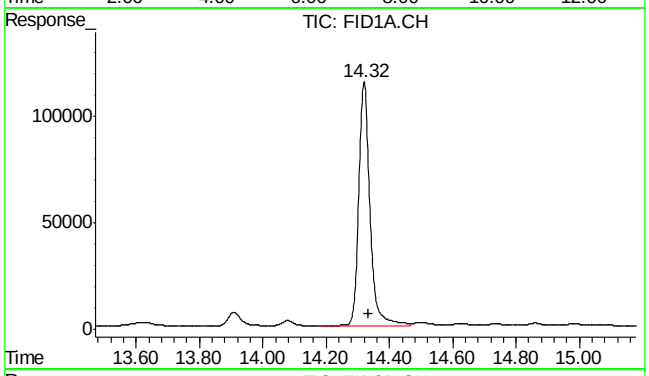






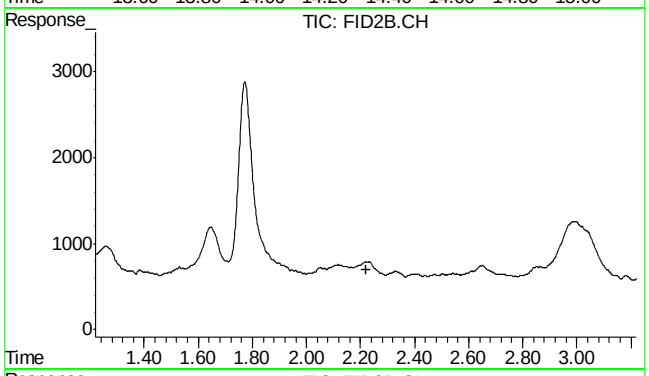
#1 TVH-Gasoline

R.T.: 7.230 min
Delta R.T.: 0.000 min
Response: 4149318
Conc: N.D.



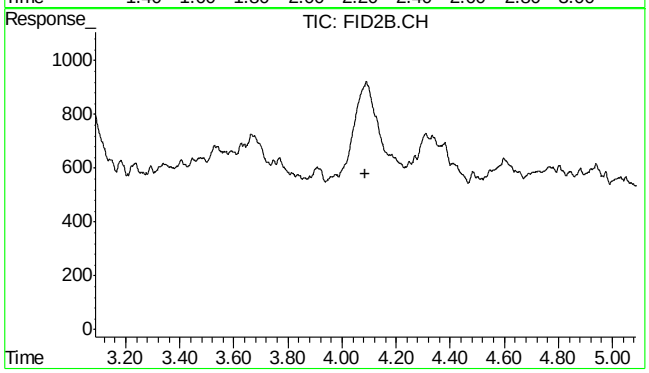
#2 1,2,4-Trichlorobenzene

R.T.: 14.320 min
Delta R.T.: -0.013 min
Response: 2812754
Conc: 89.77 %



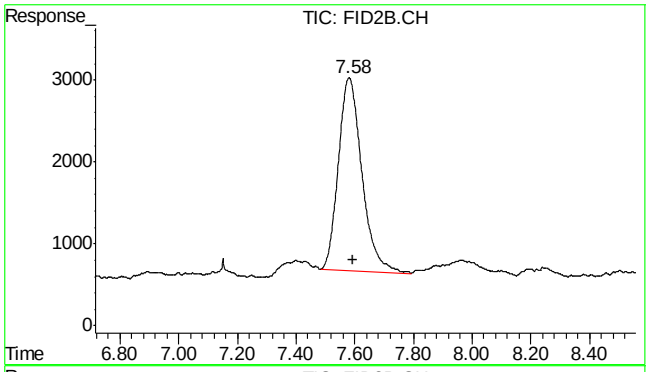
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T. : 2.220 min
Response: 0
Conc: N.D.



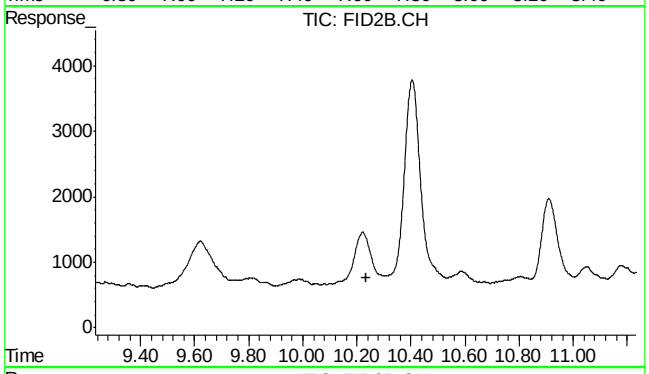
#5 Benzene

R.T.: 0.000 min
Exp R.T. : 4.088 min
Response: 0
Conc: N.D.



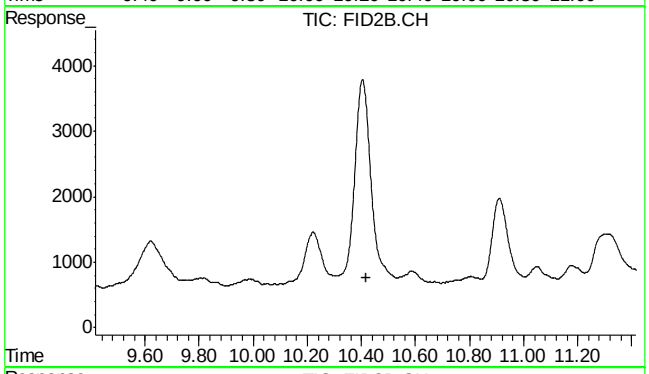
#6 Toluene

R.T.: 7.581 min
Delta R.T.: -0.011 min
Response: 130423
Conc: 0.33 ug/L



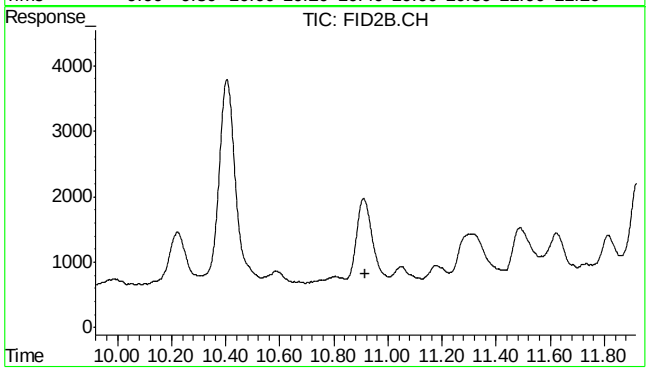
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T. : 10.233 min
Response: 0
Conc: N.D.



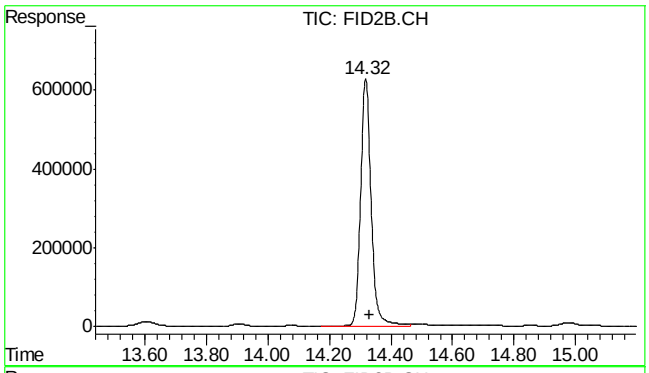
#8 m,p-Xylene

R.T.: 0.000 min
Exp R.T. : 10.416 min
Response: 0
Conc: N.D.



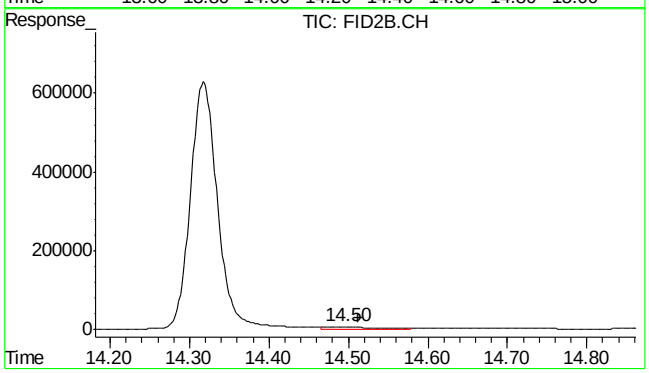
#9 o-Xylene

R.T.: 0.000 min
Exp R.T. : 10.917 min
Response: 0
Conc: N.D.



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

R.T.:	14.318 min
Delta R.T.:	-0.013 min
Response:	15061670
Conc:	92.67 %



#11 Naphthalene

R.T.:	14.498 min
Delta R.T.:	-0.015 min
Response:	240836
Conc:	1.22 ug/L

Mountain States ACCUTEST LABORATORIES

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

Job Number: D34639
Account: XTOKRWR XTO Energy
Project: FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5922-MB	FH004460.D	1	05/21/12	AW	05/21/12	OP5922	GFH247

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

D34639-1, D34639-2

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	114%	43-136%

Blank Spike Summary

Job Number: D34639
Account: XTOKRWR XTO Energy
Project: FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5922-BS	FH004462.D	1	05/21/12	AW	05/21/12	OP5922	GFH247

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

D34639-1, D34639-2

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	579	87	58-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	126%	43-136%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D34639
Account: XTOKRWR XTO Energy
Project: FRU 297-17A

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5922-MS	FH004464.D	1	05/21/12	AW	05/21/12	OP5922	GFH247
OP5922-MSD	FH004466.D	1	05/21/12	AW	05/21/12	OP5922	GFH247
D34713-4	FH004470.D	1	05/21/12	AW	05/21/12	OP5922	GFH247

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

D34639-1, D34639-2

CAS No.	Compound	D34713-4 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	ND		666	229	34	330	50	36	20-183/43

CAS No.	Surrogate Recoveries	MS	MSD	D34713-4	Limits
84-15-1	o-Terphenyl	39%* [a]	66%	34%* [a]	43-136%

(a) Outside control limits due to possible matrix interference.

Mountain States ACCUTEST LABORATORIES

GC Semi-volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Judy Melson
05/24/12 16:43

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH052112.SEC\
Data File : FH004496.D
Signal(s) : FID2B.ch
Acq On : 22 May 2012 4:49 am
Operator : alexw1
Sample : D34639-1
Misc : OP5922,GFH247,30.00,,,2,1
ALS Vial : 71 Sample Multiplier: 1

Integration File: events.e
Quant Time: May 24 14:27:51 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH222R.M
Quant Title : DRO-ORO REAR
QLast Update : Fri May 11 15:44:51 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	12.281	879779862	891.830	ug/mlm
Target Compounds					
1) H	TPH-DRO (C10-C28)	9.674	5088451796	4450.957	ug/ml

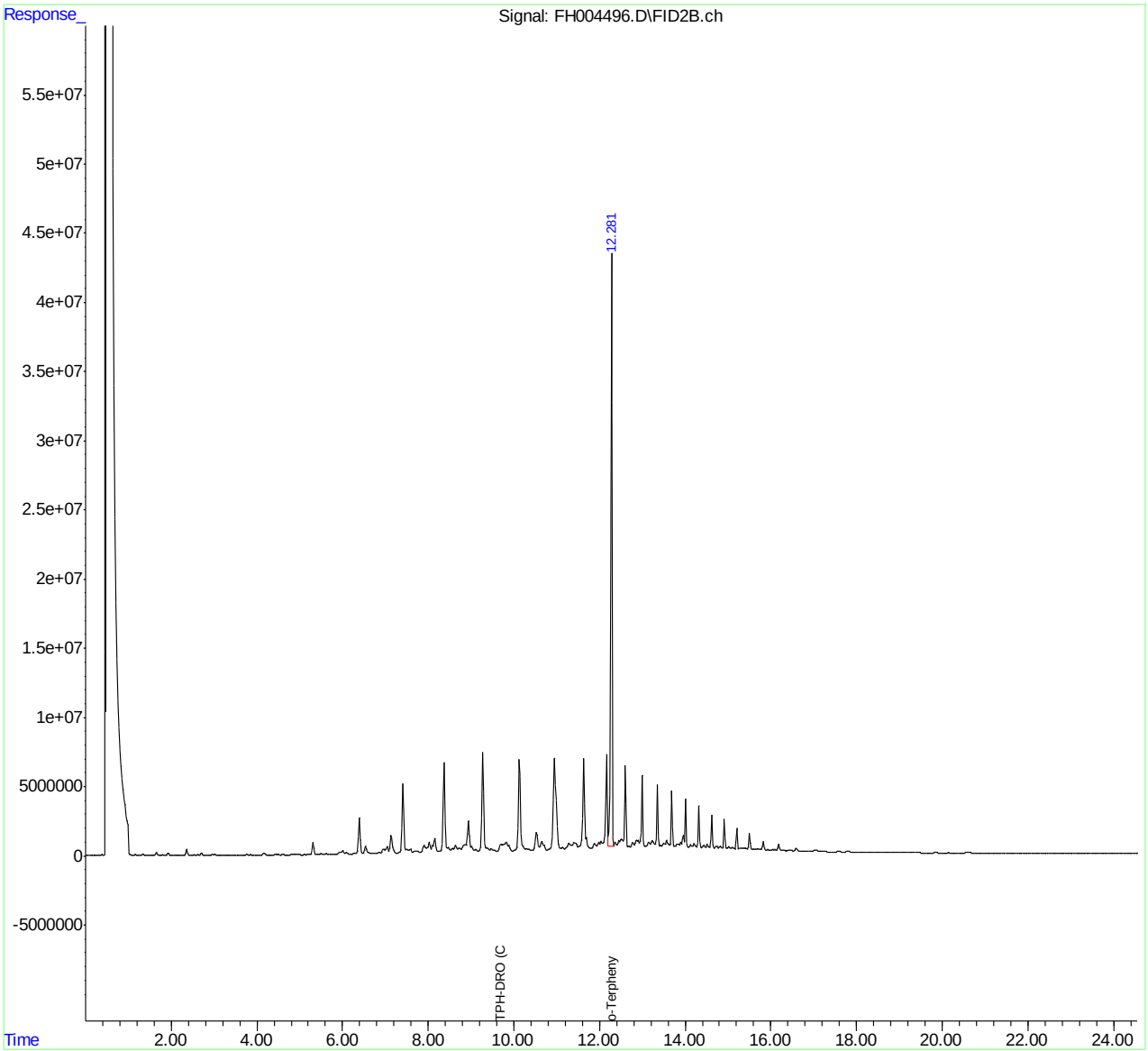
(f)=RT Delta > 1/2 Window (m)=manual int.

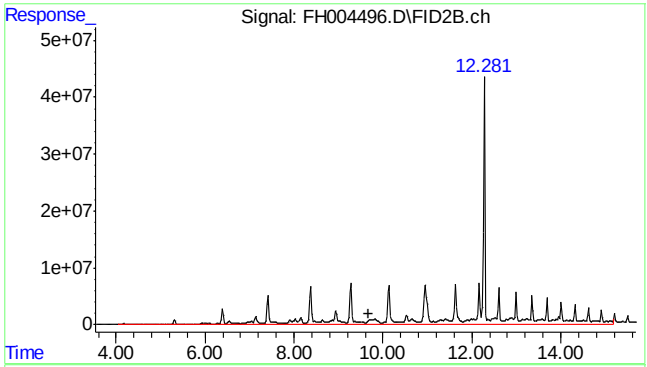
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH052112.SEC\
Data File : FH004496.D
Signal(s) : FID2B.ch
Acq On : 22 May 2012 4:49 am
Operator : alexw1
Sample : D34639-1
Misc : OP5922,GFH247,30.00,,,2,1
ALS Vial : 71 Sample Multiplier: 1

Integration File: events.e
Quant Time: May 24 14:27:51 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH222R.M
Quant Title : DRO-ORO REAR
QLast Update : Fri May 11 15:44:51 2012
Response via : Initial Calibration
Integrator: ChemStation

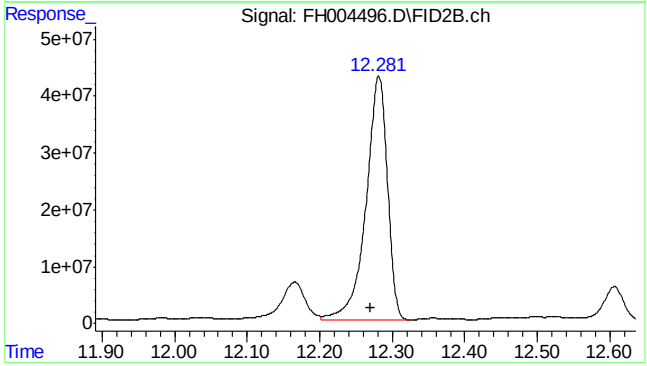
Volume Inj. :
Signal Phase :
Signal Info :





#1 TPH-DRO (C10-C28)

R.T.: 9.674 min
Delta R.T.: 0.000 min
Response: 5088451796
Conc: 4450.96 ug/ml m



#2 o-Terphenyl

R.T.: 12.281 min
Delta R.T.: 0.011 min
Response: 879779862
Conc: 891.83 ug/ml m

Manual Integrations APPROVED (compounds with "m" flag)
Judy Melson
05/24/12 16:43

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH052112.SEC\
Data File : FH004498.D
Signal(s) : FID2B.ch
Acq On : 22 May 2012 5:24 am
Operator : alexw1
Sample : D34639-2
Misc : OP5922,GFH247,30.00,,,2,1
ALS Vial : 72 Sample Multiplier: 1

Integration File: events.e
Quant Time: May 24 14:28:28 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH222R.M
Quant Title : DRO-ORO REAR
QLast Update : Fri May 11 15:44:51 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	12.281	903674145	916.996	ug/mlm
Target Compounds					
1) H	TPH-DRO (C10-C28)	9.674	4859685000	4250.850	ug/ml

(f)=RT Delta > 1/2 Window (m)=manual int.

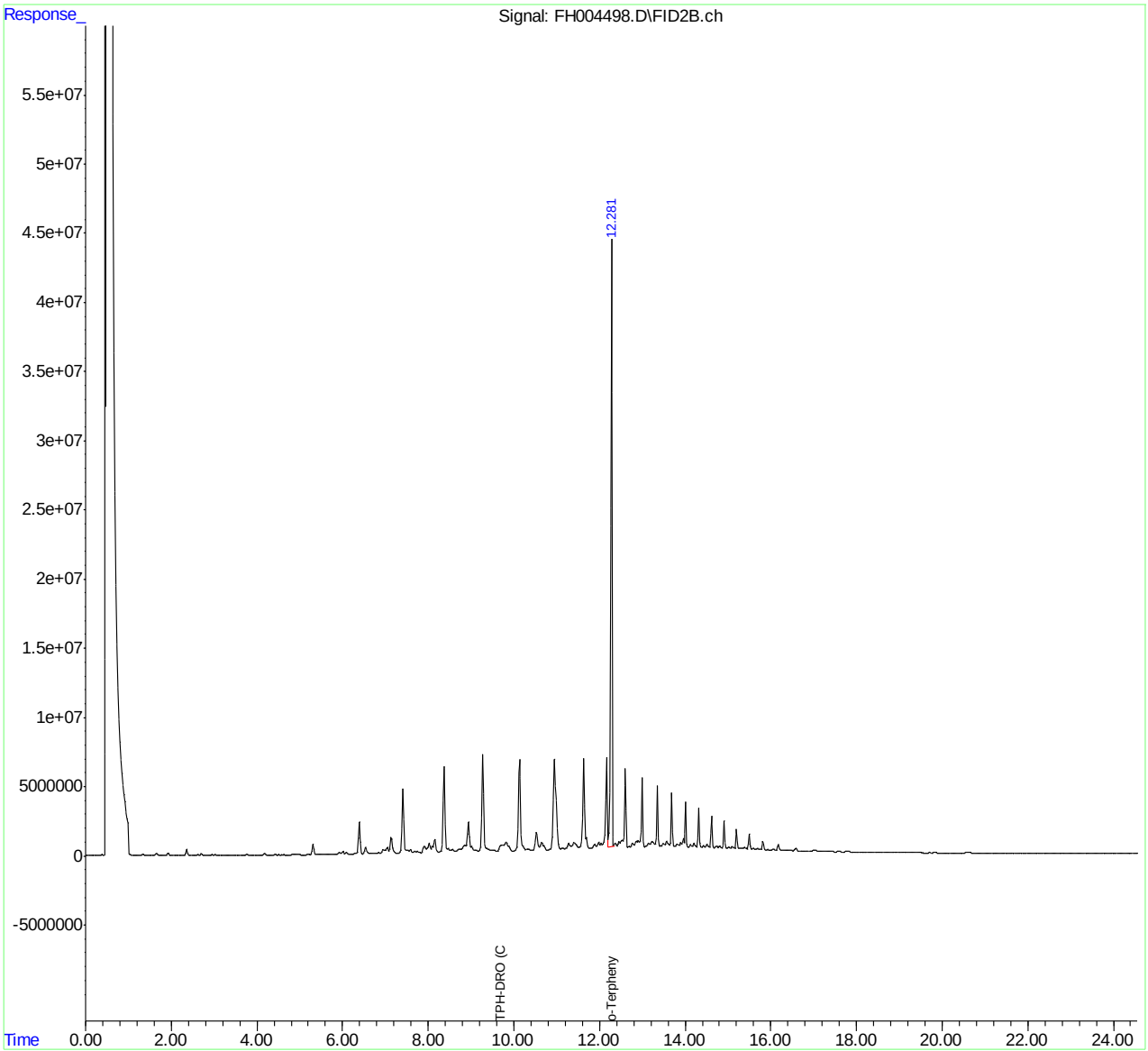
8.1.2
8

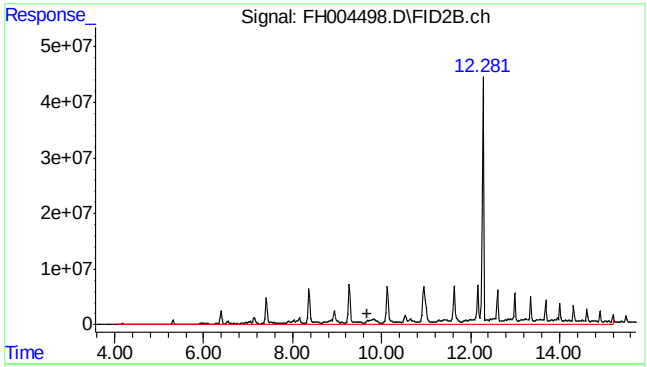
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH052112.SEC\
Data File : FH004498.D
Signal(s) : FID2B.ch
Acq On : 22 May 2012 5:24 am
Operator : alexw1
Sample : D34639-2
Misc : OP5922,GFH247,30.00,,,2,1
ALS Vial : 72 Sample Multiplier: 1

Integration File: events.e
Quant Time: May 24 14:28:28 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH222R.M
Quant Title : DRO-ORO REAR
QLast Update : Fri May 11 15:44:51 2012
Response via : Initial Calibration
Integrator: ChemStation

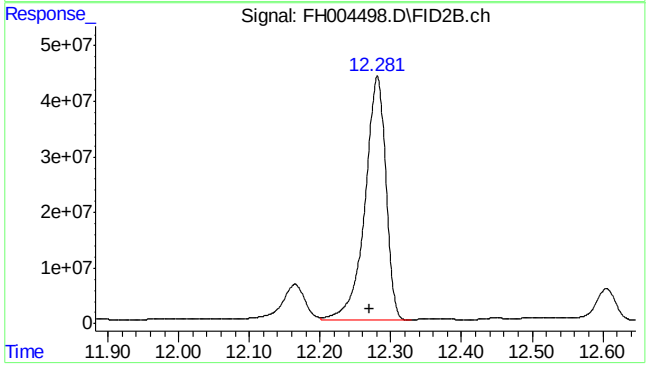
Volume Inj. :
Signal Phase :
Signal Info :





#1 TPH-DRO (C10-C28)

R.T.: 9.674 min
Delta R.T.: 0.000 min
Response: 4859685000
Conc: 4250.85 ug/ml m



#2 o-Terphenyl

R.T.: 12.281 min
Delta R.T.: 0.011 min
Response: 903674145
Conc: 917.00 ug/ml m

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH052112.SEC\
Data File : FH004460.D
Signal(s) : FID2B.ch
Acq On : 21 May 2012 6:09 pm
Operator : alexw1
Sample : OP5922-MB
Misc : OP5922,GFH247,30.00,,,2,1
ALS Vial : 53 Sample Multiplier: 1

Integration File: events.e
Quant Time: May 22 08:20:45 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH222R.M
Quant Title : DRO-ORO REAR
QLast Update : Fri May 11 15:44:51 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	12.292	1118460797	1143.215 ug/ml
Target Compounds				
1) H	TPH-DRO (C10-C28)	9.674	80907268	70.771 ug/ml

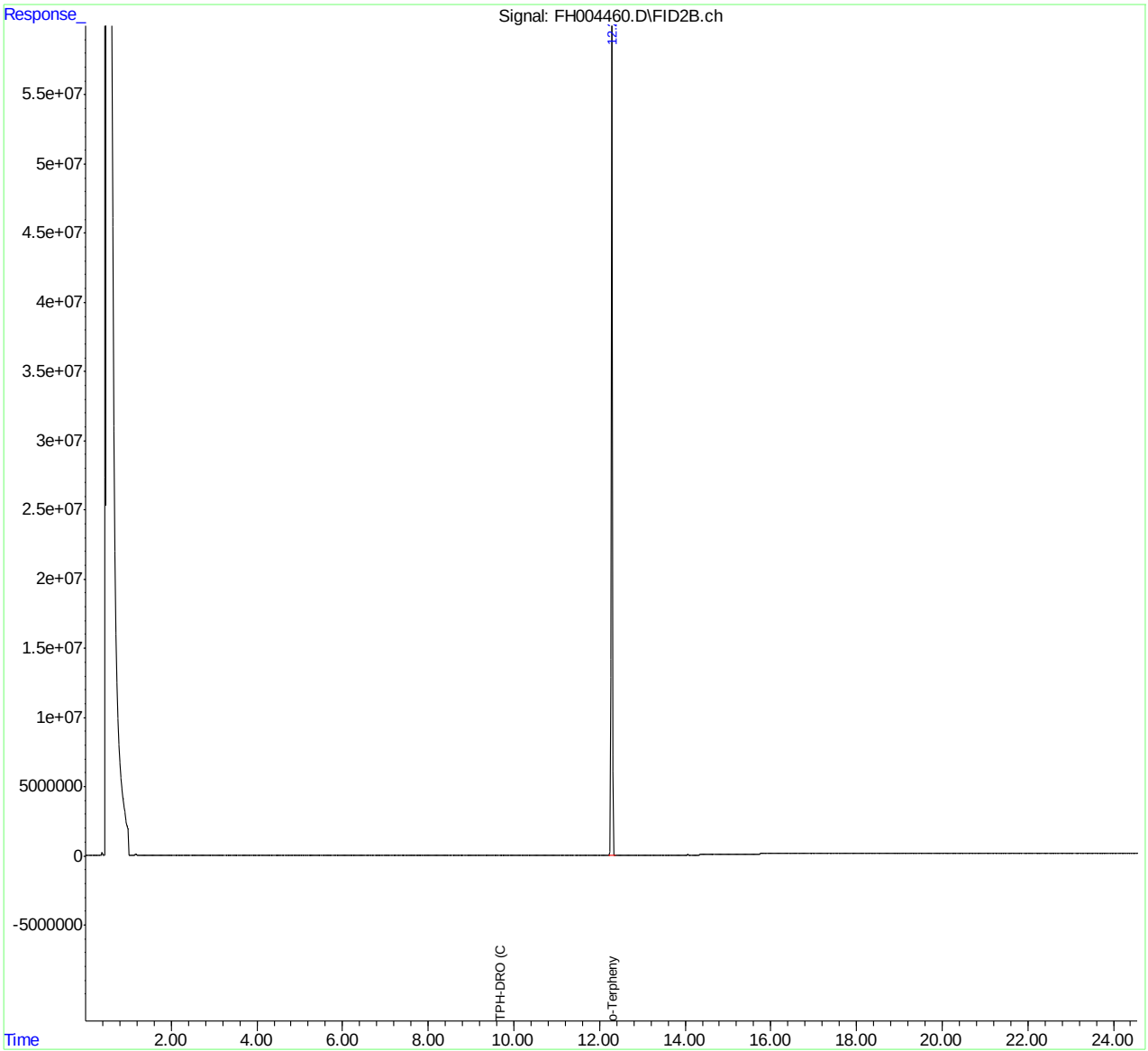
(f)=RT Delta > 1/2 Window (m)=manual int.

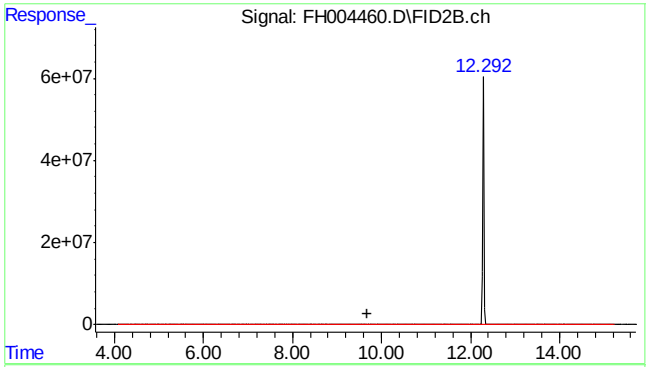
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH052112.SEC\
Data File : FH004460.D
Signal(s) : FID2B.ch
Acq On : 21 May 2012 6:09 pm
Operator : alexw1
Sample : OP5922-MB
Misc : OP5922,GFH247,30.00,,,2,1
ALS Vial : 53 Sample Multiplier: 1

Integration File: events.e
Quant Time: May 22 08:20:45 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH222R.M
Quant Title : DRO-ORO REAR
QLast Update : Fri May 11 15:44:51 2012
Response via : Initial Calibration
Integrator: ChemStation

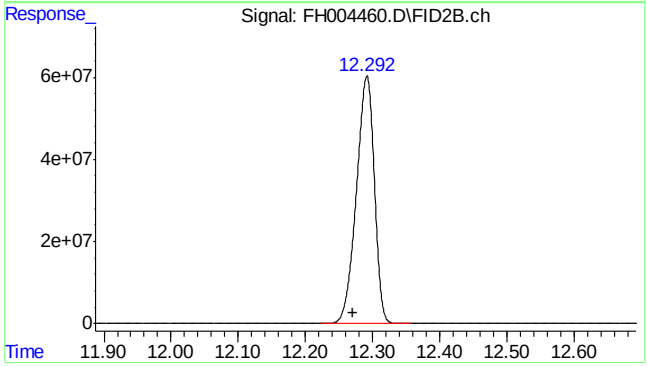
Volume Inj. :
Signal Phase :
Signal Info :





#1 TPH-DRO (C10-C28)

R.T.: 9.674 min
Delta R.T.: 0.000 min
Response: 80907268
Conc: 70.77 ug/ml m



#2 o-Terphenyl

R.T.: 12.292 min
Delta R.T.: 0.022 min
Response: 1118460797
Conc: 1143.22 ug/ml