Mountain States ACCUTEST LABORATORIES

03/30/12

Technical Report for

XTO Energy

PCU 297-10B

1105-20A

Accutest Job Number: D33043

Sampling Date: 03/22/12

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: **37**

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: D33043

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

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
D33043-1	03/22/12	13:00	CB	03/24/12	SO	Soil	FW SOUTH HALF -3'

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

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	XTO Energy	**Job No**	D33043
Site:	PCU 297-10B	**Report Date**	3/30/2012 8:52:28 AM

On 03/24/2012, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 3.6 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D33043 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:** GGB866

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D33069-2MS, D33069-2MSD were used as the QC samples indicated.
- Sample(s) D33069-2MS, D33069-2MSD have surrogates outside control limits. Probable cause due to matrix interference.
- D33069-2MS/MSD for 1,2,4-Trichlorobenzene: Outside control limits due to possible matrix interference.

Extractables by GC By Method SW846-8015B

Matrix SO **Batch ID:** OP5608

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D32939-1MS, D32939-1MSD were used as the QC samples indicated.

Wet Chemistry By Method SM19 2540B M

Matrix SO **Batch ID:** GN14230

- 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:	FW SOUTH HALF -3'		
Lab Sample ID:	D33043-1	**Date Sampled:**	03/22/12
Matrix:	SO - Soil	**Date Received:**	03/24/12
Method:	SW846 8015B	**Percent Solids:**	89.3
Project:	PCU 297-10B		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB15440.D	1	03/28/12	SK	n/a	n/a	GGB866
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	6.2	mg/kg	

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

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	FW SOUTH HALF -3'		
Lab Sample ID:	D33043-1	**Date Sampled:**	03/22/12
Matrix:	SO - Soil	**Date Received:**	03/24/12
Method:	SW846-8015B SW846 3546	**Percent Solids:**	89.3
Project:	PCU 297-10B		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH002601.D	1	03/26/12	TR	03/26/12	OP5608	GFH135
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)	461	15	9.7	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	75%		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

CHAIN OF CUSTODY

PAGE 1 OF 1

ACCUTEST LABORATORIES

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 # D33043

Client / Reporting Information

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

Project Information

Project Name: XTO PCU 297-10B
Street:
City:
Project#: 1105-20A
Client PO#:
Project Manager: Joe Hess

Billing Information (If different from Report to)

Company Name: XTO Energy
Street Address: 21459 CR 5
City: Rifle State: CO Zip: 81650
Attention: Jessica Peding PO#:

Requested Analysis (see TEST CODE sheet)

TPH (GRO/DRO), Arsenic

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	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfate	LAB USE ONLY
	FW South Half -3'		3-22-12	13:00	CAB	SO	3					3					01

Data Deliverable Information

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

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

Comments / Special Instructions

Please email results to KRW Piceance Co Team

Turnaround Time (Business days)

Approved By (Accutest PM): / Date:

- Std. 10 Business Days
- Std. 5 Business Days (By Contract only)
- ~~5 Day (5 Bus)~~
- 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		3/23/12 1310	Rifle Service Center	2	3/23/12	2 FedEx
3	Relinquished by Sampler:	Date Time:	Received By: 3/24 0900	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal # FedEx	Intact / Not Intact	Preserved where applicable: On Ice: Cooler Temp. 3.6

D33043: Chain of Custody
Page 1 of 3

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D33043 **Client:** KRW CONSULTING, INC **Immediate Client Services Action Required:** No

Date / Time Received: 3/24/2012 9:00:00 AM **No. Coolers:** 1 **Client Service Action Required at Login:** No

Project: XRO PCU 397-10B **Airbill #'s:** Fed Ex

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

D33043: Chain of Custody
Page 2 of 3

Job Change Order: D33043_3/28/2012

Requested	3/28/2012	**Received Date:**	3/24/2012
Account Name:	XTO Energy	**Due Date:**	4/2/2012
Project	PCU 297-10B	**Deliverable:**	COMMBN+
CSR:	RR	**TAT (Days):**	0

Change: Please cancel analysis of ASMS per an email from Dwayne Knudson 3/28. Thank you.

Sample #:
D33043-1

FW SOUTH HALF -3'

Above Changes Per: Dwayne Knudson - Client **Date:** 3/28/2012

To Client: This Change Order is confirmation of the revisions, previously discussed with the Accutest Client Service Representative.

D33043: 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: D33043
Account: XTOKRWR XTO Energy
Project: PCU 297-10B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB866-MB	GB15427.D	1	03/28/12	SK	n/a	n/a	GGB866

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

D33043-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	10	5.0	mg/kg	

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

Blank Spike Summary

Job Number: D33043
Account: XTOKRWR XTO Energy
Project: PCU 297-10B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB866-BS	GB15428.D	1	03/28/12	SK	n/a	n/a	GGB866

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

D33043-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	115	105	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	113%	60-140%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D33043
Account: XTOKRWR XTO Energy
Project: PCU 297-10B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D33069-2MS	GB15431.D	1	03/28/12	SK	n/a	n/a	GGB866
D33069-2MSD	GB15432.D	1	03/28/12	SK	n/a	n/a	GGB866
D33069-2	GB15430.D	1	03/28/12	SK	n/a	n/a	GGB866

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

D33043-1

CAS No.	Compound	D33069-2 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	47.6		134	166	88	175	95	5	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D33069-2	Limits
120-82-1	1,2,4-Trichlorobenzene	184%* [a]	187%* [a]	181%* [a]	60-140%

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

Mountain States ACCUTEST LABORATORIES

GC Volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Judy Melson 03/29/12 10:20

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\032812\GB15440.D\FID1A.CH Vial: 18
Signal #2 : Y:\1\DATA\032812\GB15440.D\FID2B.CH
Acq On : 28 Mar 2012 10:10 pm Operator: StephK
Sample : D33043-1, 50X Inst : GC/MS Ins
Misc : GC2703,GGB866,5.026,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Mar 29 08:42:50 2012 Quant Results File: TB851GB851SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB851GB851SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Wed Mar 28 13:27:23 2012
Response via : Initial Calibration
DataAcq Meth : TVB4.M

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

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
2) S	1,2,4-Trichlorobenzene	14.35	2802372	92.895 %		m
10) S	1,2,4-Trichlorobenzene (P)	14.34	26468071	113.733 %		
	Target Compounds					
1) H	TVH-Gasoline	7.26	7084294	<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	442198	0.808	ug/L	
7) T	Ethylbenzene	10.25	95145	0.208	ug/L	
8) T	m,p-Xylene	10.43	427771	0.764	ug/L	
9) T	o-Xylene	10.95	229917	0.502	ug/L	
11) T	Naphthalene	14.53	5929303	22.692	ug/L	

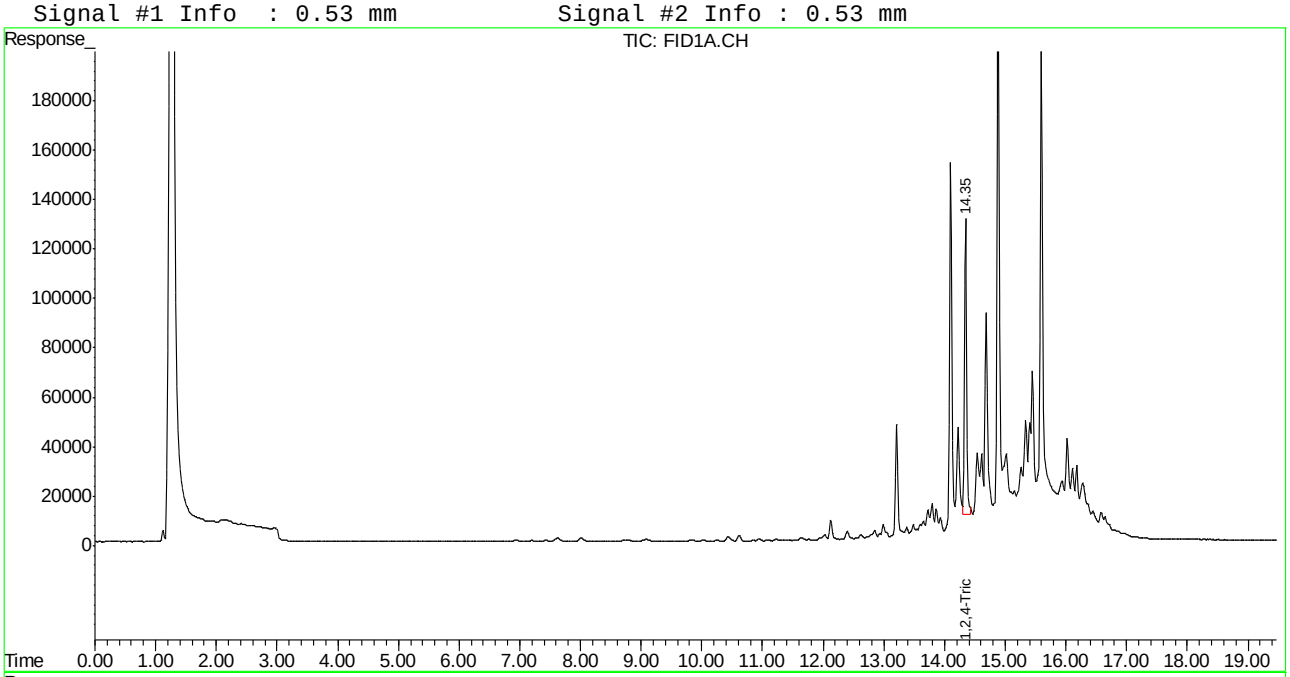
(f)=RT Delta > 1/2 Window (m)=manual int.
GB15440.D TB851GB851SOIL.M Thu Mar 29 09:10:55 2012 GC Page 1

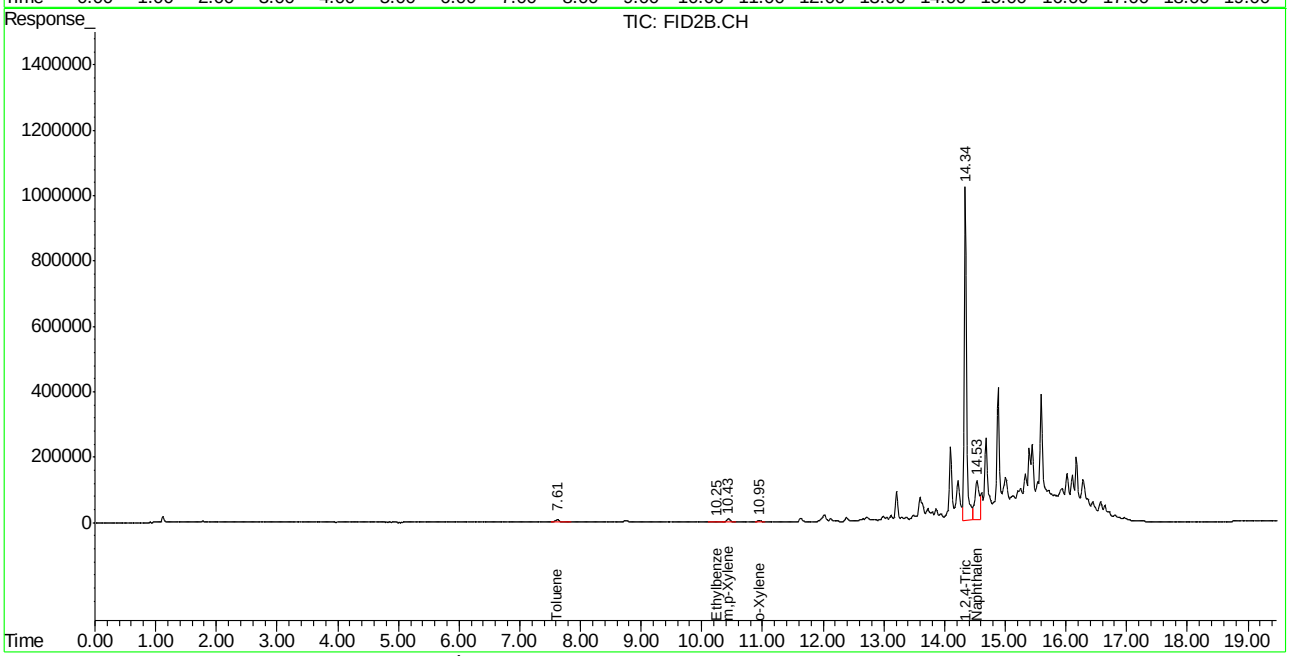
Quantitation Report (QT Reviewed)

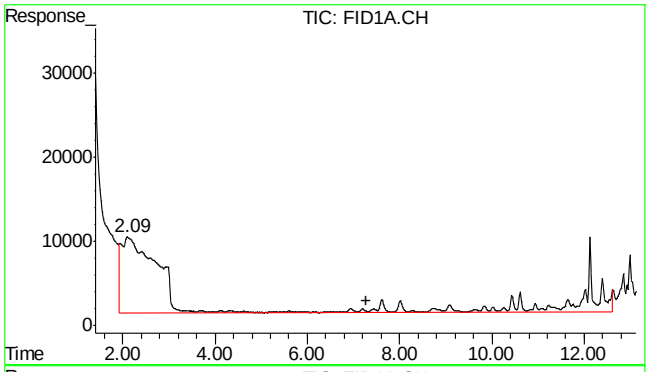
Signal #1 : Y:\1\DATA\032812\GB15440.D\FID1A.CH Vial: 18
Signal #2 : Y:\1\DATA\032812\GB15440.D\FID2B.CH
Acq On : 28 Mar 2012 10:10 pm Operator: StephK
Sample : D33043-1, 50X Inst : GC/MS Ins
Misc : GC2703,GGB866,5.026,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Mar 29 8:56 2012 Quant Results File: TB851GB851SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB851GB851SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Wed Mar 28 13:27:23 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

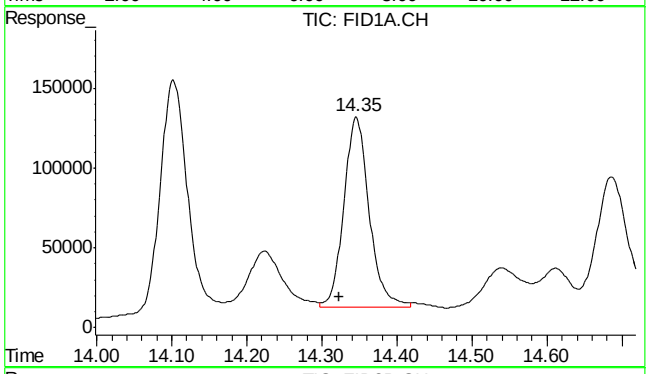






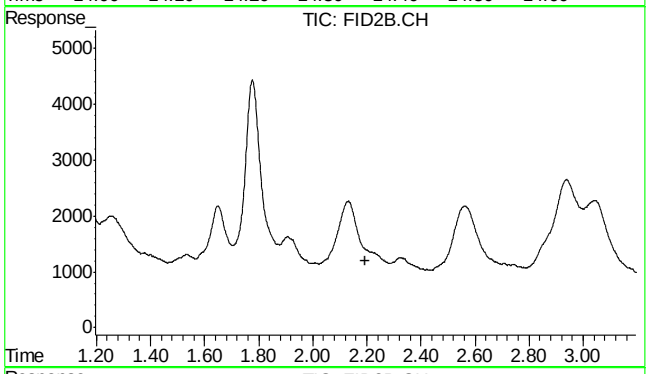
#1 TVH-Gasoline

R.T.: 7.265 min
Delta R.T.: 0.000 min
Response: 7084294
Conc: N.D.



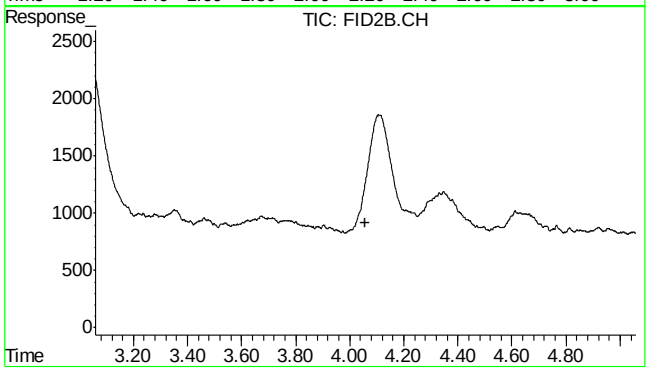
#2 1,2,4-Trichlorobenzene

R.T.: 14.345 min
Delta R.T.: 0.022 min
Response: 2802372
Conc: 92.89 % m



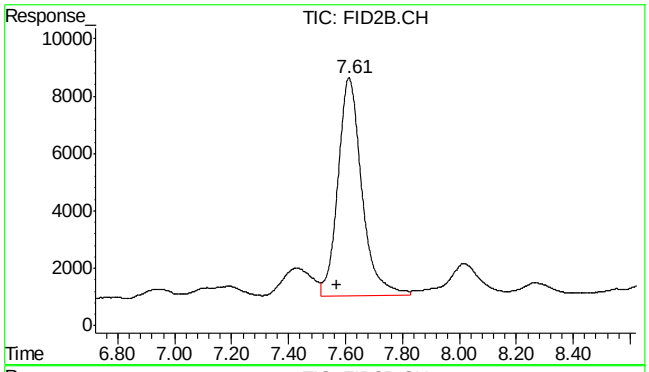
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T. : 2.196 min
Response: 0
Conc: N.D.



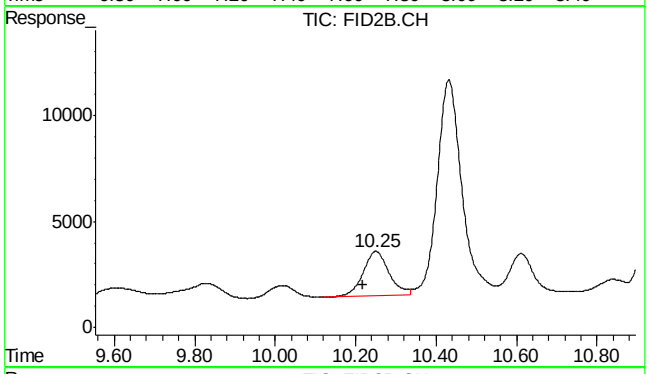
#5 Benzene

R.T.: 0.000 min
Exp R.T. : 4.058 min
Response: 0
Conc: N.D.



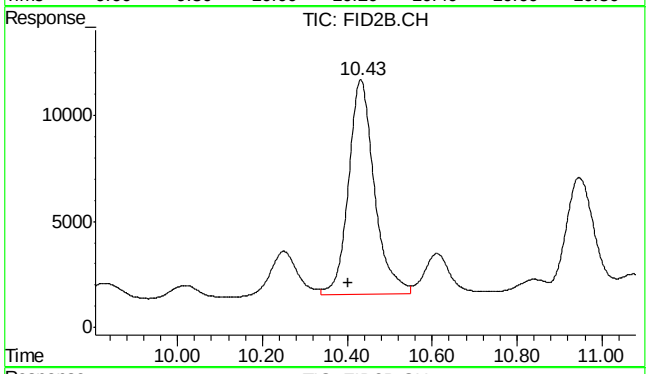
#6 Toluene

R.T.: 7.612 min
Delta R.T.: 0.040 min
Response: 442198
Conc: 0.81 ug/L



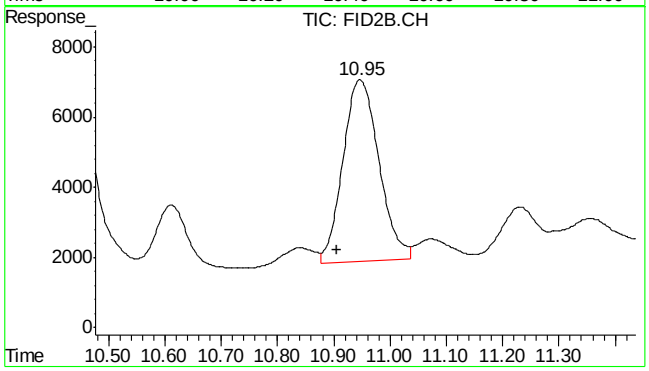
#7 Ethylbenzene

R.T.: 10.250 min
Delta R.T.: 0.032 min
Response: 95145
Conc: 0.21 ug/L



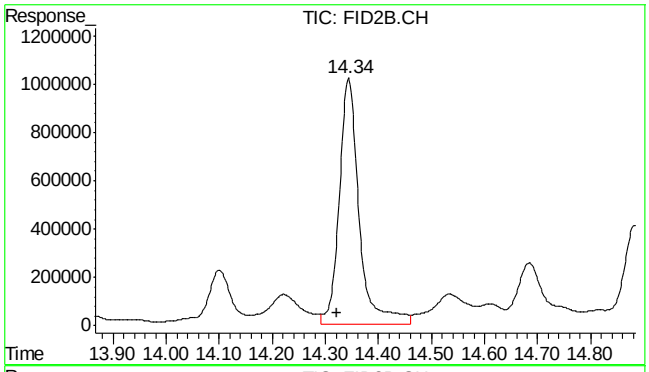
#8 m,p-Xylene

R.T.: 10.432 min
Delta R.T.: 0.029 min
Response: 427771
Conc: 0.76 ug/L



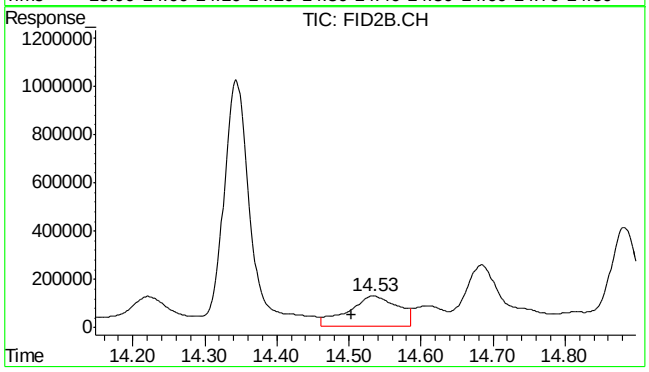
#9 o-Xylene

R.T.: 10.947 min
Delta R.T.: 0.041 min
Response: 229917
Conc: 0.50 ug/L



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

R.T.: 14.344 min
Delta R.T.: 0.023 min
Response: 26468071
Conc: 113.73 %



#11 Naphthalene

R.T.: 14.534 min
Delta R.T.: 0.031 min
Response: 5929303
Conc: 22.69 ug/L

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\032812\GB15427.D\FID1A.CH Vial: 5
Signal #2 : Y:\1\DATA\032812\GB15427.D\FID2B.CH
Acq On : 28 Mar 2012 2:24 pm Operator: StephK
Sample : MB Inst : GC/MS Ins
Misc : GC2703,GGB866,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Mar 29 08:41:58 2012 Quant Results File: TB851GB851SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB851GB851SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Wed Mar 28 13:27:23 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	14.33	3009449	99.759	%	
10) S	1,2,4-Trichlorobenzene (P)	14.32	23924857	102.805	%	
	Target Compounds					
1) H	TVH-Gasoline	7.26	5555603	<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	7.57	221819	0.405	ug/L	
7) T	Ethylbenzene	0.00	0	N.D.	ug/L	d
8) T	m,p-Xylene	10.41	224269	0.400	ug/L	
9) T	o-Xylene	10.91	77786	0.170	ug/L	m
11) T	Naphthalene	14.51	537487	2.057	ug/L	m

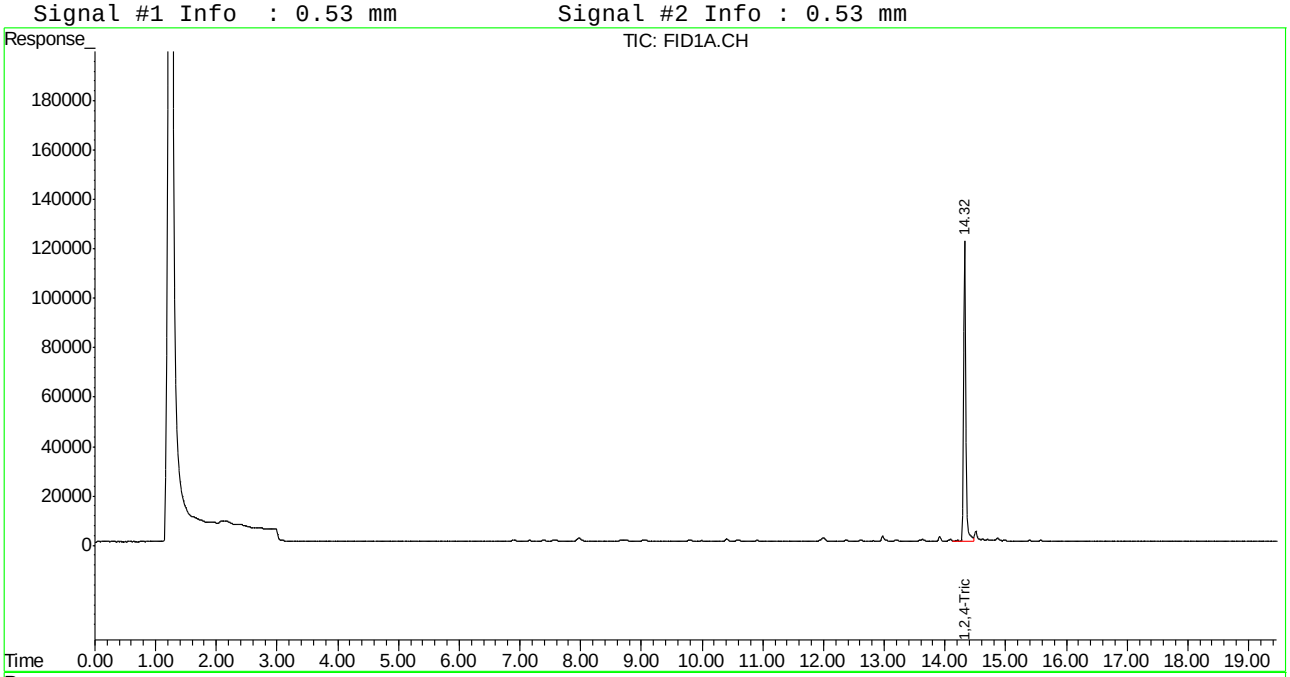
(f)=RT Delta > 1/2 Window (m)=manual int.

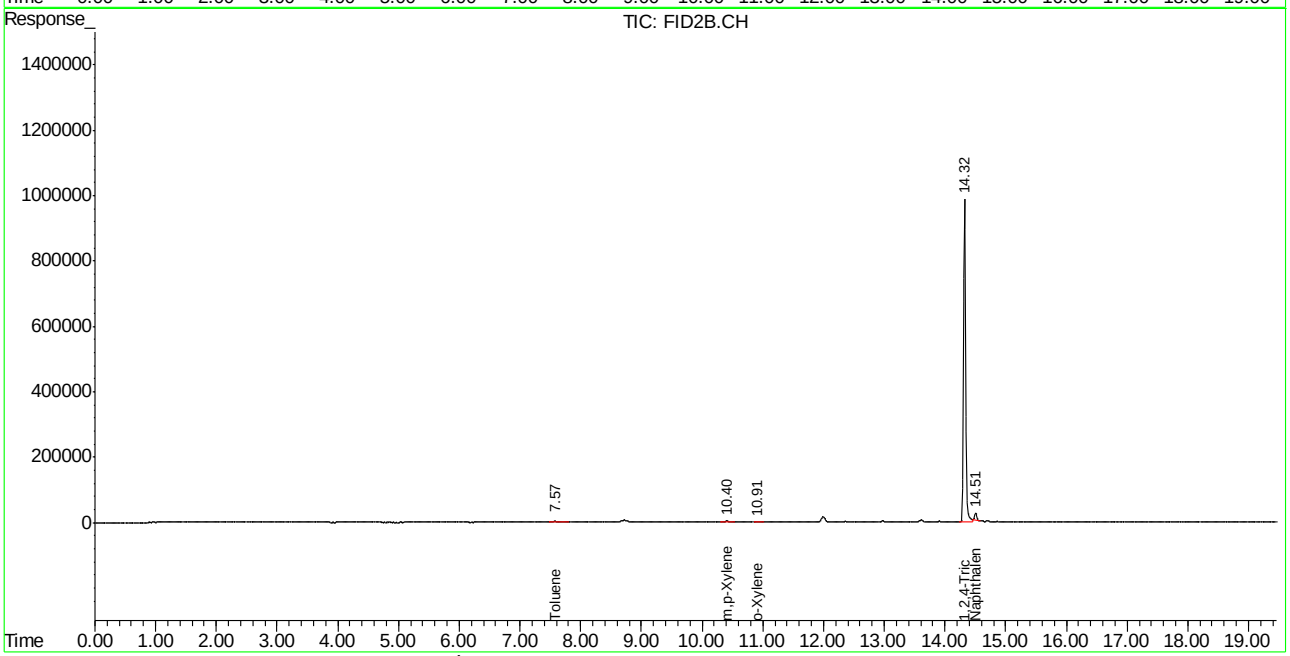
Quantitation Report (QT Reviewed)

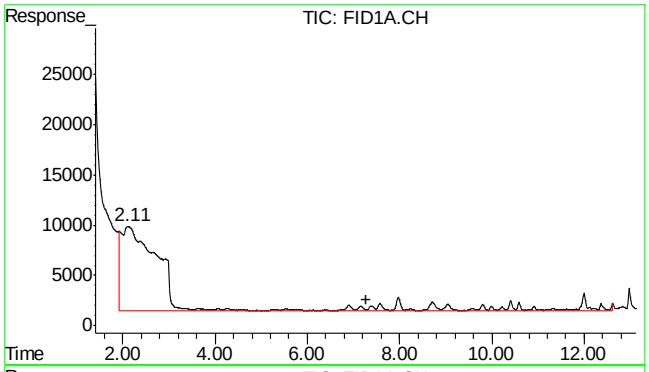
Signal #1 : Y:\1\DATA\032812\GB15427.D\FID1A.CH Vial: 5
Signal #2 : Y:\1\DATA\032812\GB15427.D\FID2B.CH
Acq On : 28 Mar 2012 2:24 pm Operator: StephK
Sample : MB Inst : GC/MS Ins
Misc : GC2703,GGB866,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Mar 29 8:46 2012 Quant Results File: TB851GB851SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB851GB851SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Wed Mar 28 13:27:23 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

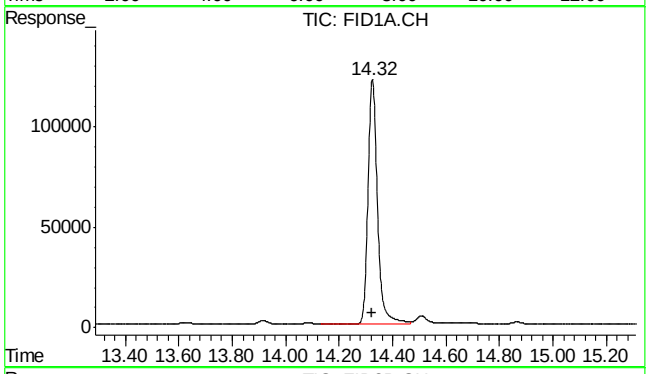






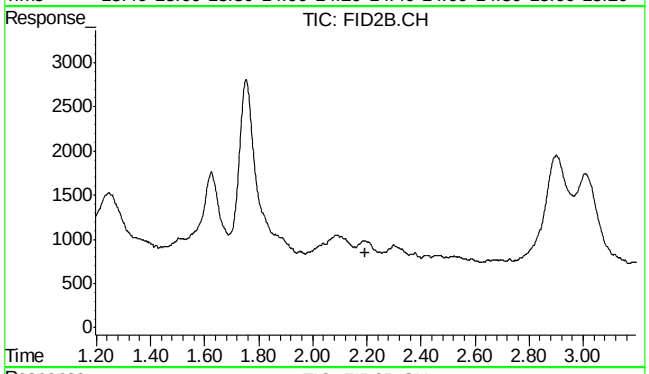
#1 TVH-Gasoline

R.T.: 7.265 min
Delta R.T.: 0.000 min
Response: 5555603
Conc: N.D.



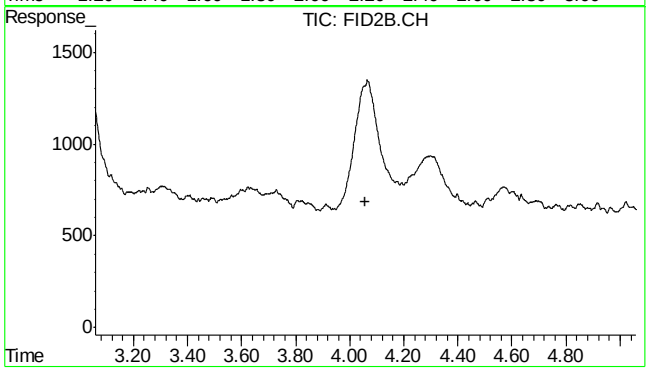
#2 1,2,4-Trichlorobenzene

R.T.: 14.325 min
Delta R.T.: 0.001 min
Response: 3009449
Conc: 99.76 %



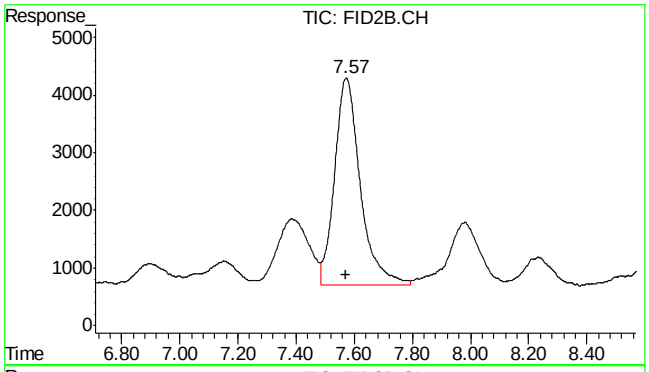
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T. : 2.196 min
Response: 0
Conc: N.D.



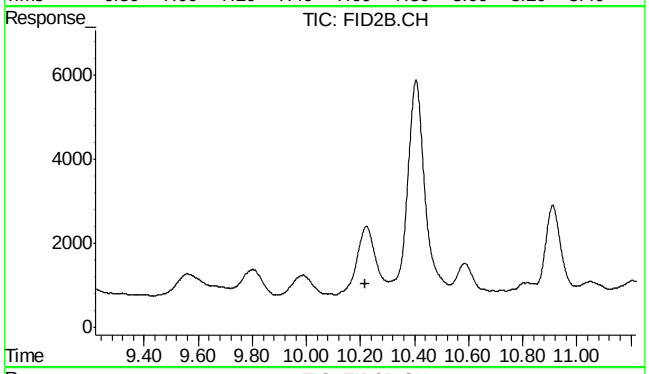
#5 Benzene

R.T.: 0.000 min
Exp R.T. : 4.058 min
Response: 0
Conc: N.D.



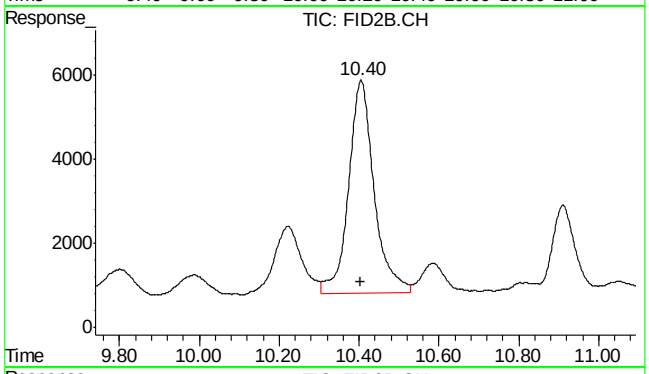
#6 Toluene

R.T.: 7.572 min
Delta R.T.: 0.000 min
Response: 221819
Conc: 0.41 ug/L



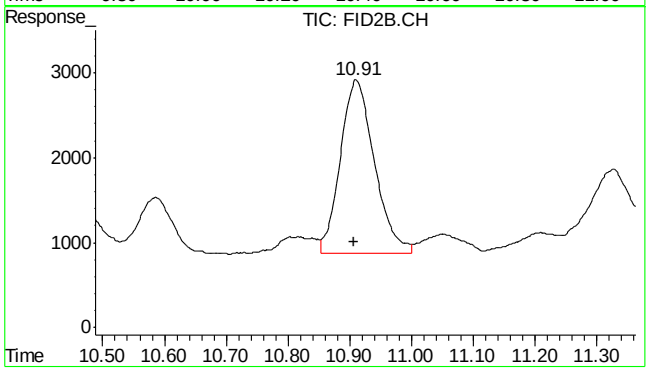
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T. : 10.218 min
Response: 0
Conc: N.D.



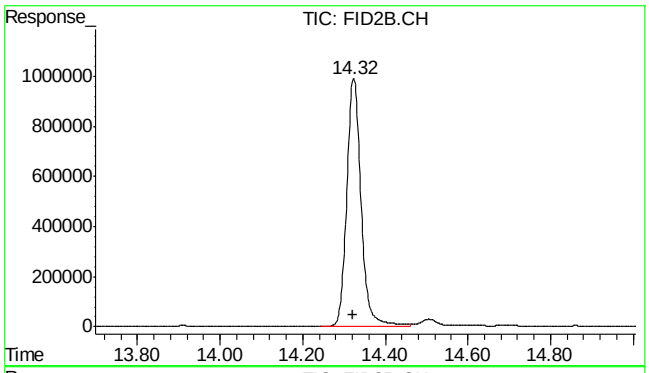
#8 m,p-Xylene

R.T.: 10.405 min
Delta R.T.: 0.003 min
Response: 224269
Conc: 0.40 ug/L



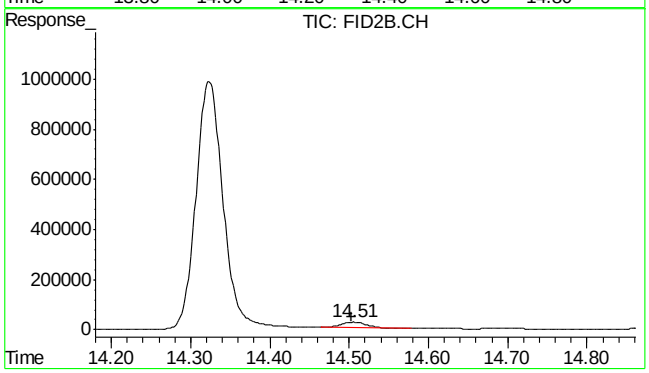
#9 o-Xylene

R.T.: 10.910 min
Delta R.T.: 0.004 min
Response: 77786
Conc: 0.17 ug/L m



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

R.T.: 14.324 min
Delta R.T.: 0.002 min
Response: 23924857
Conc: 102.81 %



#11 Naphthalene

R.T.: 14.505 min
Delta R.T.: 0.002 min
Response: 537487
Conc: 2.06 ug/L m

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: D33043
Account: XTOKRWR XTO Energy
Project: PCU 297-10B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5608-MB	FH002589.D	1	03/26/12	TR	03/26/12	OP5608	GFH135

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

D33043-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	13	8.7	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	79%	43-136%

Blank Spike Summary

Job Number: D33043
Account: XTOKRWR XTO Energy
Project: PCU 297-10B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5608-BS	FH002591.D	1	03/26/12	TR	03/26/12	OP5608	GFH135

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

D33043-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	508	76	58-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	80%	43-136%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D33043
Account: XTOKRWR XTO Energy
Project: PCU 297-10B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5608-MS	FH002593.D	1	03/26/12	TR	03/26/12	OP5608	GFH135
OP5608-MSD	FH002595.D	1	03/26/12	TR	03/26/12	OP5608	GFH135
D32939-1	FH002597.D	1	03/26/12	TR	03/26/12	OP5608	GFH135

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

D33043-1

CAS No.	Compound	D32939-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	498		751	1000	67	1030	71	3	20-183/43

CAS No.	Surrogate Recoveries	MS	MSD	D32939-1	Limits
84-15-1	o-Terphenyl	56%	63%	58%	43-136%

Mountain States ACCUTEST LABORATORIES

GC Semi-volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH032612.SEC\
Data File : FH002601.D
Signal(s) : FID2B.ch
Acq On : 26 Mar 2012 8:29 pm
Operator : tedr
Sample : D33043-1
Misc : OP5608,GFH135,30.03,,,2,1
ALS Vial : 59 Sample Multiplier: 1

Integration File: events.e
Quant Time: Mar 27 08:31:53 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	12.330	1292308818	754.694 ug/ml
Target Compounds				
1) H	TPH-DRO (C10-C28)	9.832	9535039731	6178.606 ug/ml

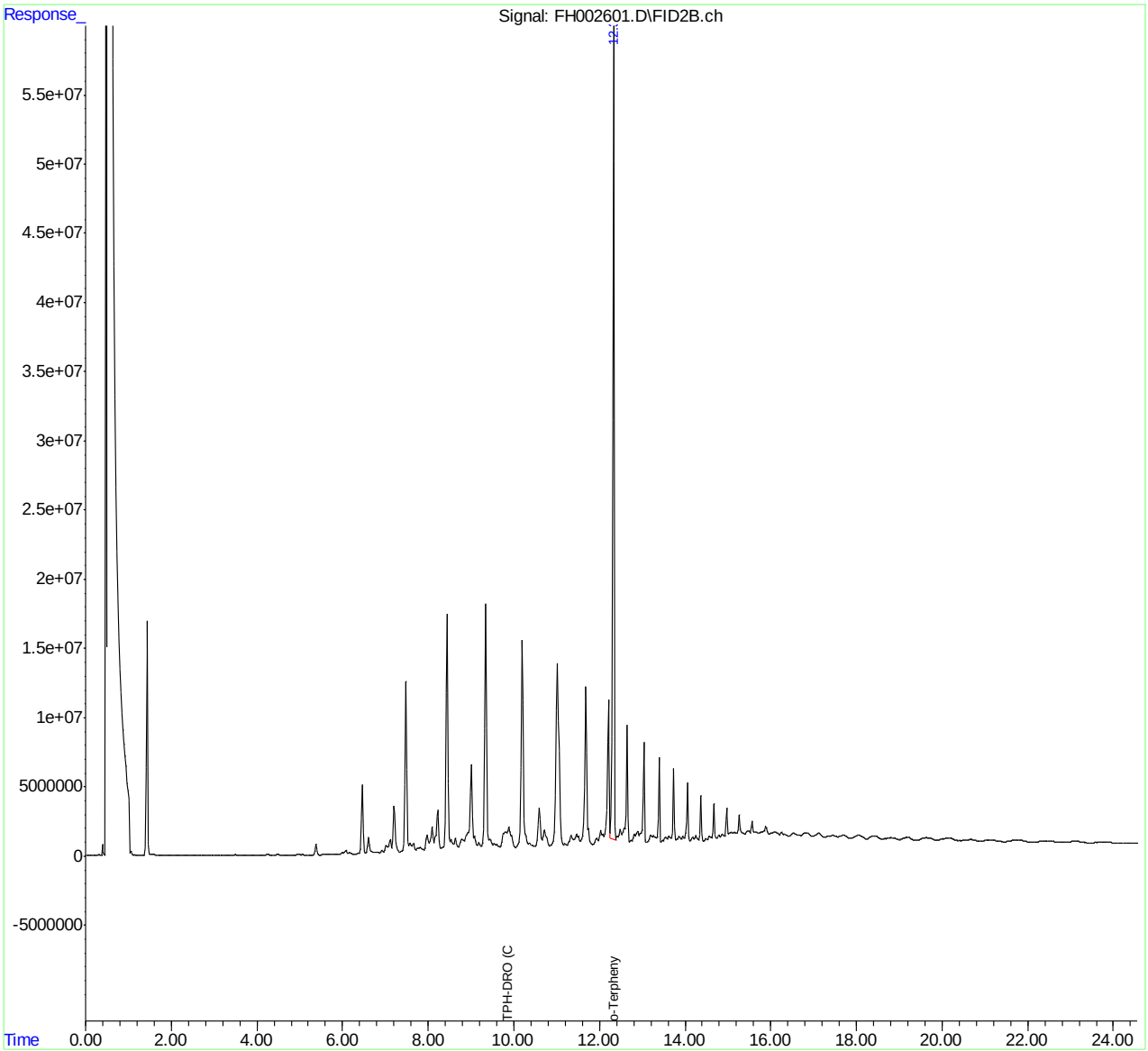
(f)=RT Delta > 1/2 Window (m)=manual int.

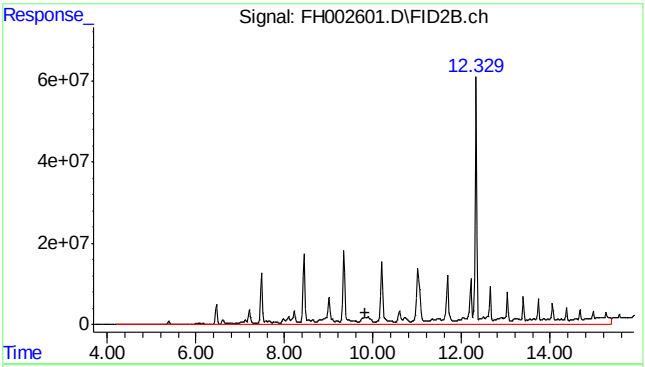
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH032612.SEC\
Data File : FH002601.D
Signal(s) : FID2B.ch
Acq On : 26 Mar 2012 8:29 pm
Operator : tedr
Sample : D33043-1
Misc : OP5608,GFH135,30.03,,,2,1
ALS Vial : 59 Sample Multiplier: 1

Integration File: events.e
Quant Time: Mar 27 08:31:53 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

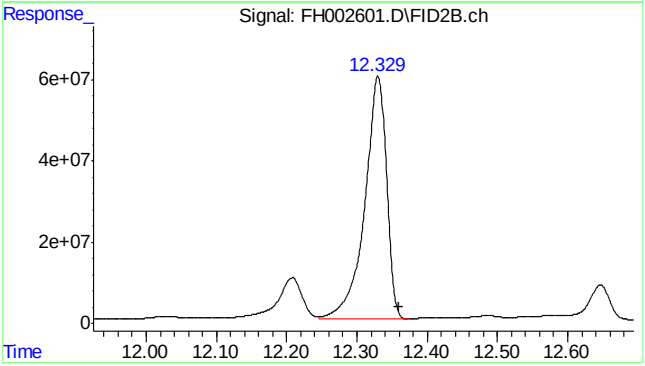
Volume Inj. :
Signal Phase :
Signal Info :





#1 TPH-DRO (C10-C28)

R.T.: 9.832 min
Delta R.T.: 0.000 min
Response: 9535039731
Conc: 6178.61 ug/ml m



#2 o-Terphenyl

R.T.: 12.330 min
Delta R.T.: -0.030 min
Response: 1292308818
Conc: 754.69 ug/ml

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH032612.SEC\
Data File : FH002589.D
Signal(s) : FID2B.ch
Acq On : 26 Mar 2012 4:52 pm
Operator : tedr
Sample : OP5608-MB
Misc : OP5608,GFH135,30.00,,,2,1
ALS Vial : 53 Sample Multiplier: 1

Integration File: events.e
Quant Time: Mar 27 08:28:12 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	12.335	1352587739	789.896 ug/ml
Target Compounds				
1) H	TPH-DRO (C10-C28)	9.832	32787432	21.246 ug/ml

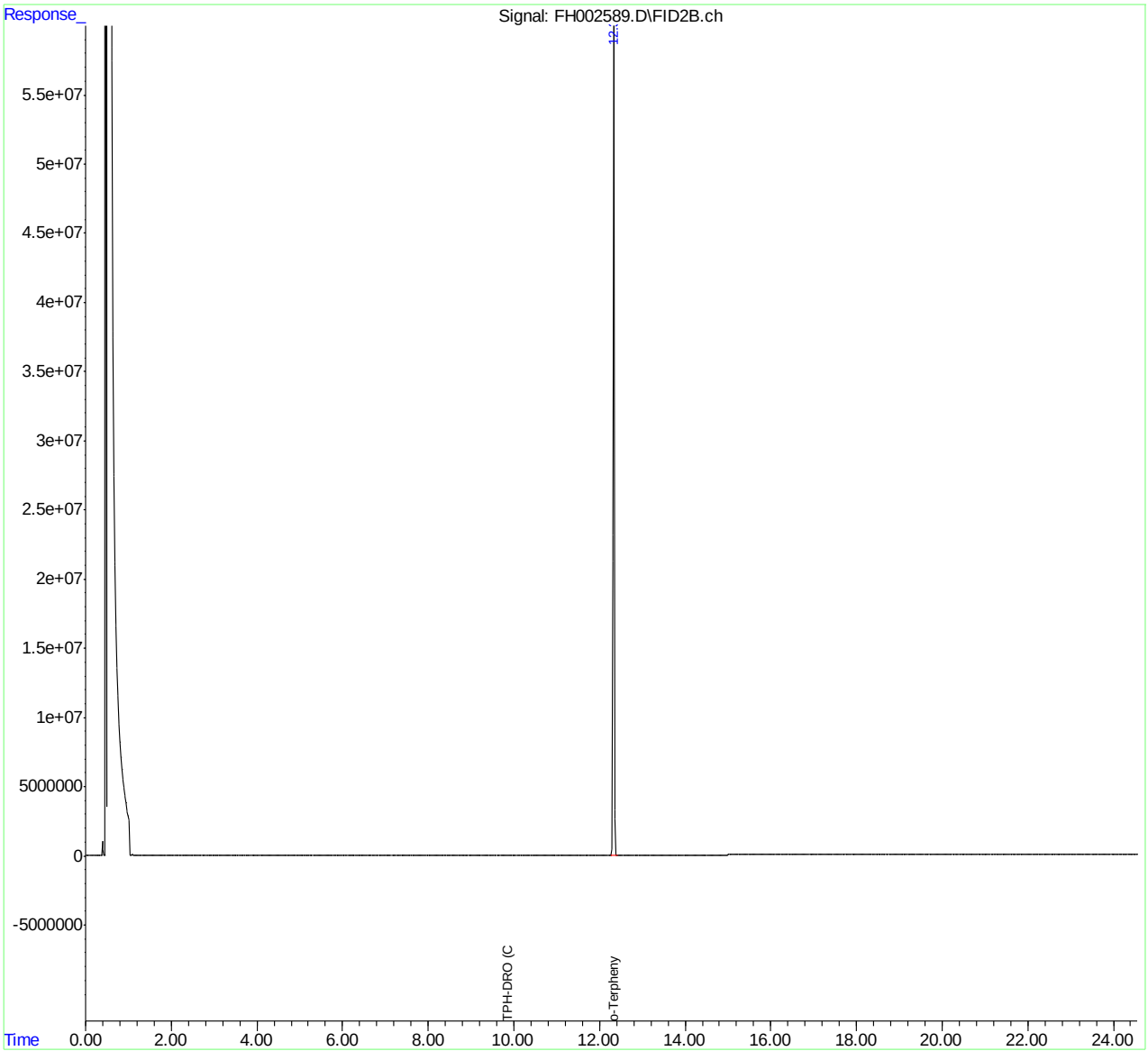
(f)=RT Delta > 1/2 Window (m)=manual int.

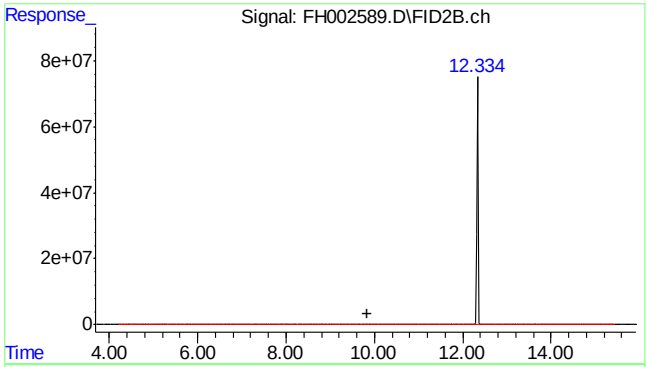
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH032612.SEC\
Data File : FH002589.D
Signal(s) : FID2B.ch
Acq On : 26 Mar 2012 4:52 pm
Operator : tedr
Sample : OP5608-MB
Misc : OP5608,GFH135,30.00,,,2,1
ALS Vial : 53 Sample Multiplier: 1

Integration File: events.e
Quant Time: Mar 27 08:28:12 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

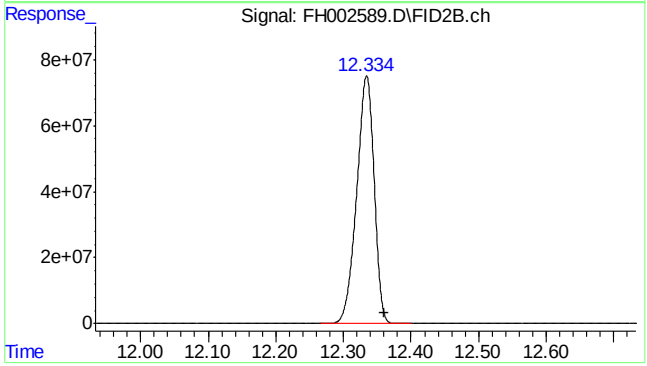
Volume Inj. :
Signal Phase :
Signal Info :





#1 TPH-DRO (C10-C28)

R.T.: 9.832 min
Delta R.T.: 0.000 min
Response: 32787432
Conc: 21.25 ug/ml m



#2 o-Terphenyl

R.T.: 12.335 min
Delta R.T.: -0.025 min
Response: 1352587739
Conc: 789.90 ug/ml