Mountain States ACCUTEST LABORATORIES

02/20/12

Technical Report for

XTO Energy

PCU T35X-2G

XTO 1108-11A

Accutest Job Number: D31902

Sampling Date: 02/14/12

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: **36**

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)

Test results relate only to samples analyzed.

Sections: 1 2 3 4 5 6 7 8

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Sample Summary

XTO Energy

Job No: D31902

PCU T35X-2G
Project No: XTO 1108-11A

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
D31902-1	02/14/12	14:00	CB	02/15/12	SO	Soil	FW SUBLINER MIX BLEND

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

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	XTO Energy	**Job No**	D31902
Site:	PCU T35X-2G	**Report Date**	2/20/2012 6:48:50 PM

On 02/15/2012, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 2.5 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D31902 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:** GGB841

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D31745-1MS, D31745-1MSD were used as the QC samples indicated.

Extractables by GC By Method SW846-8015B

Matrix: SO **Batch ID:** OP5373

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D31900-1MS, D31900-1MSD were used as the QC samples indicated.

Wet Chemistry By Method SM19 2540B M

Matrix: SO **Batch ID:** GN13709

- 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 SUBLINER MIX BLEND		
Lab Sample ID:	D31902-1	**Date Sampled:**	02/14/12
Matrix:	SO - Soil	**Date Received:**	02/15/12
Method:	SW846 8015B	**Percent Solids:**	84.1
Project:	PCU T35X-2G		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB14938.D	1	02/16/12	SK	n/a	n/a	GGB841
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	14	6.9	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	106%		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 SUBLINER MIX BLEND
Lab Sample ID: D31902-1
Matrix: SO - Soil
Method: SW846-8015B SW846 3546
Project: PCU T35X-2G

Date Sampled: 02/14/12
Date Received: 02/15/12
Percent Solids: 84.1

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH001377.D	1	02/17/12	TR	02/15/12	OP5373	GFH64
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)	287	16	10	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	80%		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 1 OF 1

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 #: D31902

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 #: 970 988 1098 Fax #:
Sampler(s) Name(s): Craig Burger 970 988 1098 Phone #:

Project Information

Project Name: XTO PCU T35x-2G
Street:
City:
Project#: 1108-11A
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 Dooling 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
	FW Sublines Mix Blend		2-14-12	14:00	CMB	SO	2					2					X	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 Pipeline Gr Team

Turnaround Time (Business days)

Approved By (Accutest PM): / Date:

- Std. 10 Business Days
- 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		2/14/12 1700	1	2		2 American Courier
3			3	4		4 2-15-12 1230
5			5			

Custody Seal # Intact / Not Intact — Preserved where applicable: NA — On Ice — Cooler Temp. 2.5

D31902: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D31902 **Client:** KRW **Immediate Client Services Action Required:** No

Date / Time Received: 2/15/2012 12:30:00 PM **No. Coolers:** 1 **Client Service Action Required at Login:** No

Project: PCU **Airbill #'s:** CO

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

D31902: 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: D31902
Account: XTOKRWR XTO Energy
Project: PCU T35X-2G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB841-MB	GB14928.D	1	02/16/12	SK	n/a	n/a	GGB841

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

D31902-1

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	113%	60-140%

Blank Spike Summary

Job Number: D31902
Account: XTOKRWR XTO Energy
Project: PCU T35X-2G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB841-BS	GB14929.D	1	02/16/12	SK	n/a	n/a	GGB841

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

D31902-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	108	98	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	123%	60-140%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D31902
Account: XTOKRWR XTO Energy
Project: PCU T35X-2G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D31745-1MS	GB14931.D	1	02/16/12	SK	n/a	n/a	GGB841
D31745-1MSD	GB14932.D	1	02/16/12	SK	n/a	n/a	GGB841
D31745-1	GB14930.D	1	02/16/12	SK	n/a	n/a	GGB841

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

D31902-1

CAS No.	Compound	D31745-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		138	130	94	128	93	2	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D31745-1	Limits
120-82-1	1,2,4-Trichlorobenzene	119%	121%	113%	60-140%

Mountain States ACCUTEST LABORATORIES

GC Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\021612\GB14938.D\FID1A.CH Vial: 14
Signal #2 : Y:\1\DATA\021612\GB14938.D\FID2B.CH
Acq On : 16 Feb 2012 6:25 pm Operator: StephK
Sample : D31902-1, 50X Inst : GC/MS Ins
Misc : GC2613,GGB841,5.008,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Feb 17 09:08:35 2012 Quant Results File: TB791GB791SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB791GB791SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Thu Feb 16 10:13:29 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	3096087	105.831	%	
10) S	1,2,4-Trichlorobenzene (P)	14.35	25082190	109.129	%	
	Target Compounds					
1) H	TVH-Gasoline	7.32	5114615	<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	95579	0.169	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	14.53	562823	2.187	ug/L	

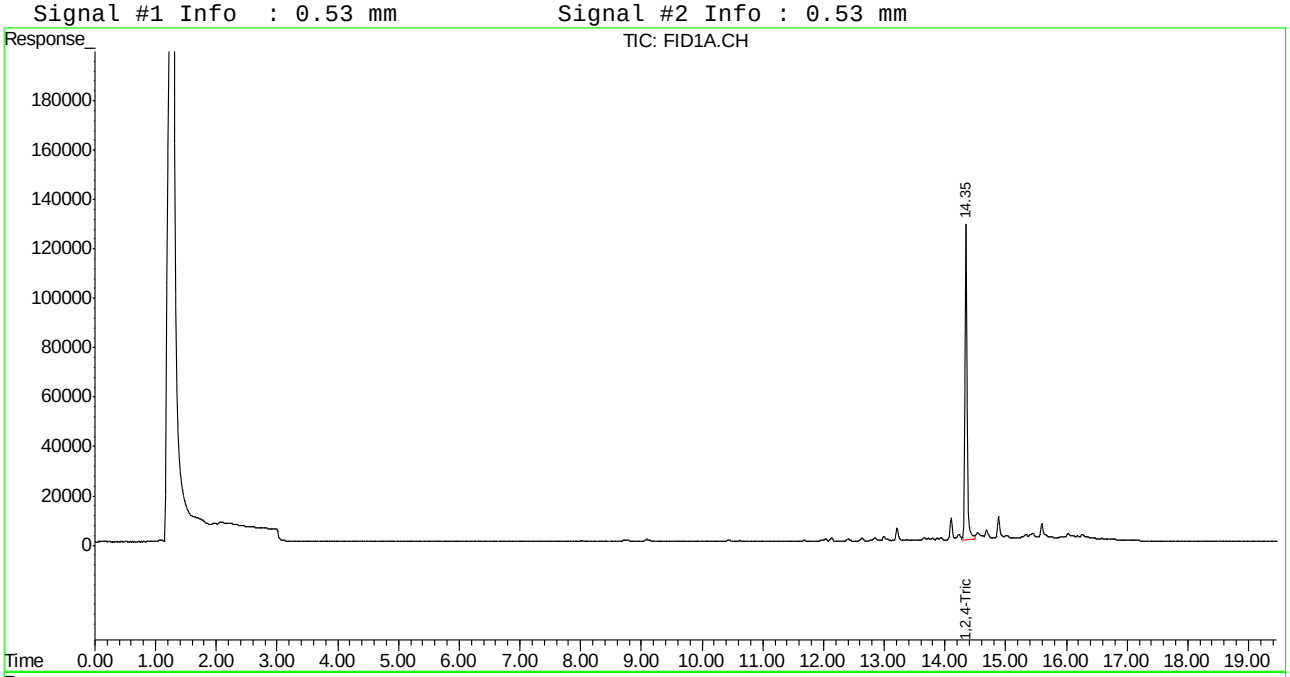
(f)=RT Delta > 1/2 Window (m)=manual int.
GB14938.D TB791GB791SOIL.M Fri Feb 17 09:15:32 2012 GC Page 1

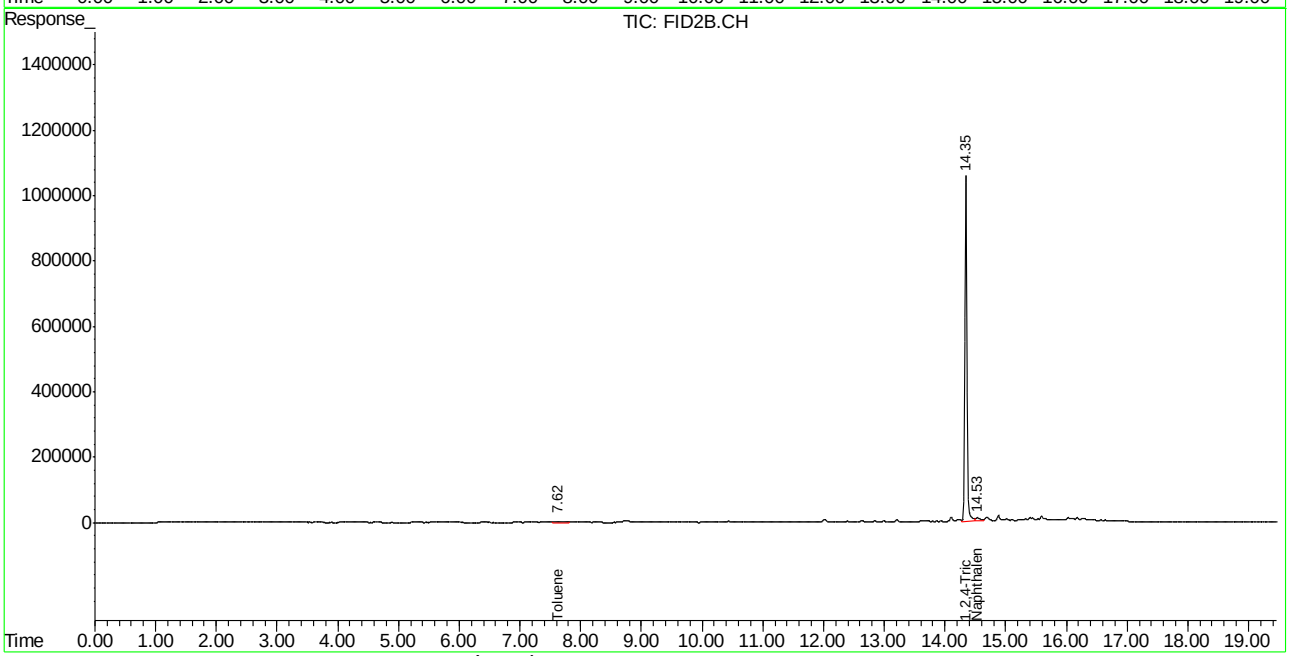
Quantitation Report (QT Reviewed)

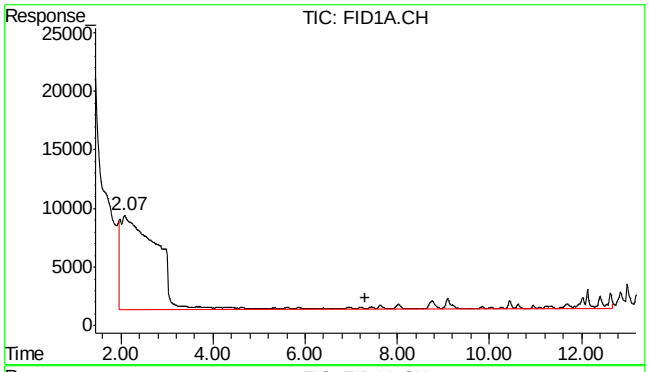
Signal #1 : Y:\1\DATA\021612\GB14938.D\FID1A.CH Vial: 14
Signal #2 : Y:\1\DATA\021612\GB14938.D\FID2B.CH
Acq On : 16 Feb 2012 6:25 pm Operator: StephK
Sample : D31902-1, 50X Inst : GC/MS Ins
Misc : GC2613,GGB841,5.008,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Feb 17 8:10 2012 Quant Results File: TB791GB791SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB791GB791SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Thu Feb 16 10:13:29 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

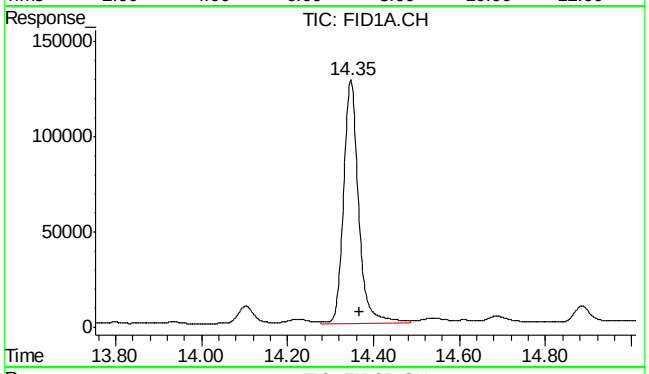






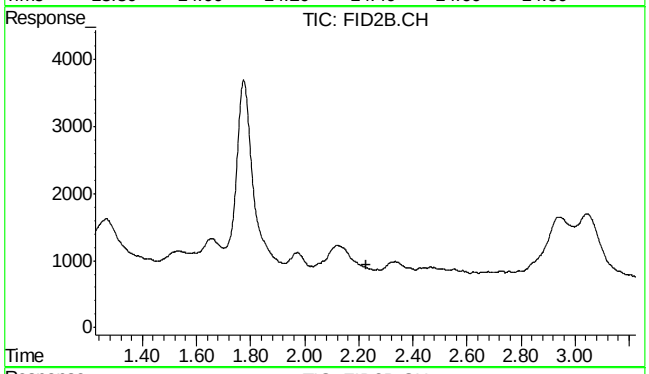
#1 TVH-Gasoline

R.T.: 7.315 min
Delta R.T.: 0.000 min
Response: 5114615
Conc: N.D.



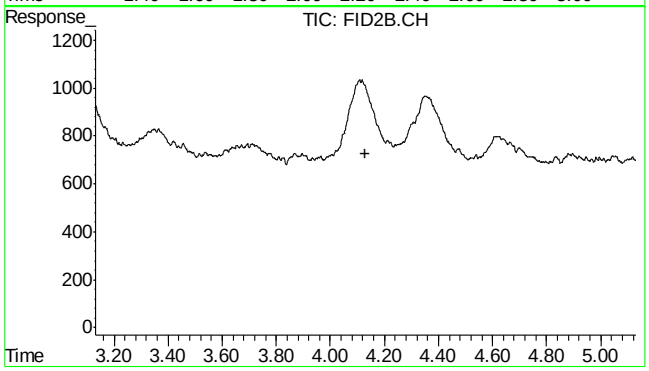
#2 1,2,4-Trichlorobenzene

R.T.: 14.347 min
Delta R.T.: -0.021 min
Response: 3096087
Conc: 105.83 %



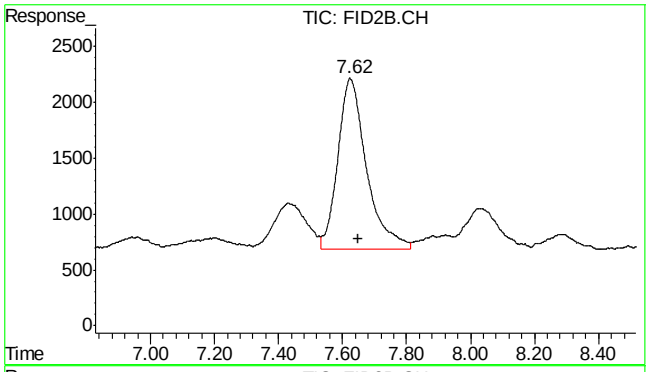
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T. : 2.226 min
Response: 0
Conc: N.D.



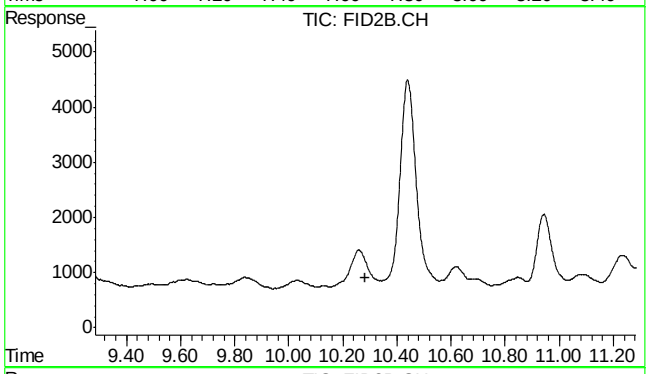
#5 Benzene

R.T.: 0.000 min
Exp R.T. : 4.130 min
Response: 0
Conc: N.D.



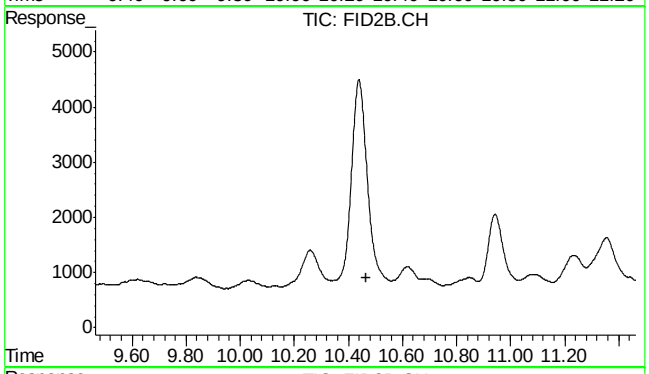
#6 Toluene

R.T.: 7.624 min
Delta R.T.: -0.027 min
Response: 95579
Conc: 0.17 ug/L



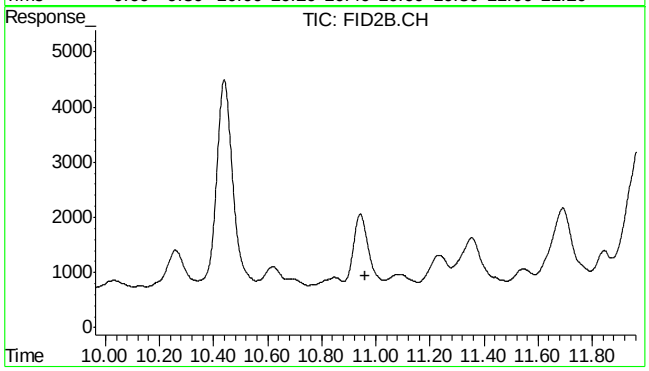
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T. : 10.284 min
Response: 0
Conc: N.D.



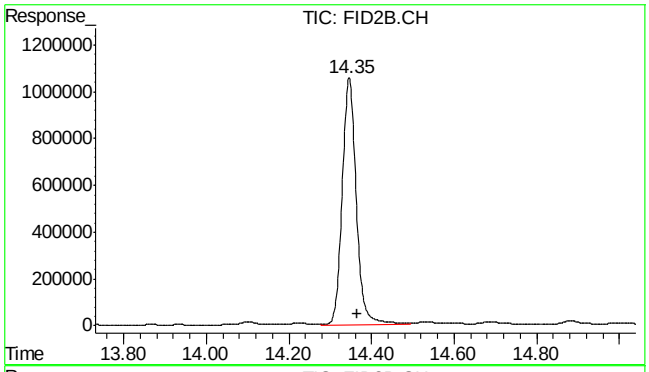
#8 m,p-Xylene

R.T.: 0.000 min
Exp R.T. : 10.464 min
Response: 0
Conc: N.D.



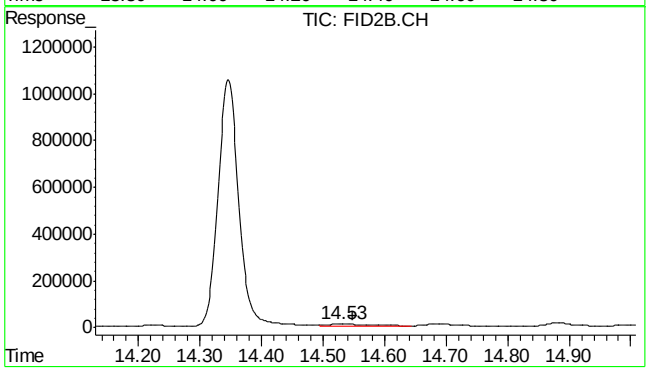
#9 o-Xylene

R.T.: 0.000 min
Exp R.T. : 10.962 min
Response: 0
Conc: N.D.



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

R.T.: 14.346 min
Delta R.T.: -0.020 min
Response: 25082190
Conc: 109.13 %



#11 Naphthalene

R.T.: 14.532 min
Delta R.T.: -0.016 min
Response: 562823
Conc: 2.19 ug/L

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\021612\GB14928.D\FID1A.CH Vial: 4
Signal #2 : Y:\1\DATA\021612\GB14928.D\FID2B.CH
Acq On : 16 Feb 2012 12:19 pm Operator: StephK
Sample : MB, S Inst : GC/MS Ins
Misc : GC2613,GGB841,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Feb 16 17:29:50 2012 Quant Results File: TB791GB791SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB791GB791SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Thu Feb 16 10:13:29 2012
Response via : Initial Calibration
DataAcq Meth : TVB4.M

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

	Compound	R.T.	Response	Conc	Units
	System Monitoring Compounds				
2) S	1,2,4-Trichlorobenzene	14.36	3312854	113.240	%
10) S	1,2,4-Trichlorobenzene (P)	14.36	27239671	118.516	%
	Target Compounds				
1) H	TVH-Gasoline	7.32	5125510	<MDL	mg/L
4) T	Methyl-t-butyl-ether	0.00	0	N.D.	ug/L d
5) T	Benzene	0.00	0	N.D.	ug/L d
6) T	Toluene	7.64	158099	0.279	ug/L
7) T	Ethylbenzene	0.00	0	N.D.	ug/L d
8) T	m,p-Xylene	0.00	0	N.D.	ug/L d
9) T	o-Xylene	0.00	0	N.D.	ug/L d
11) T	Naphthalene	14.54	436467	1.696	ug/L

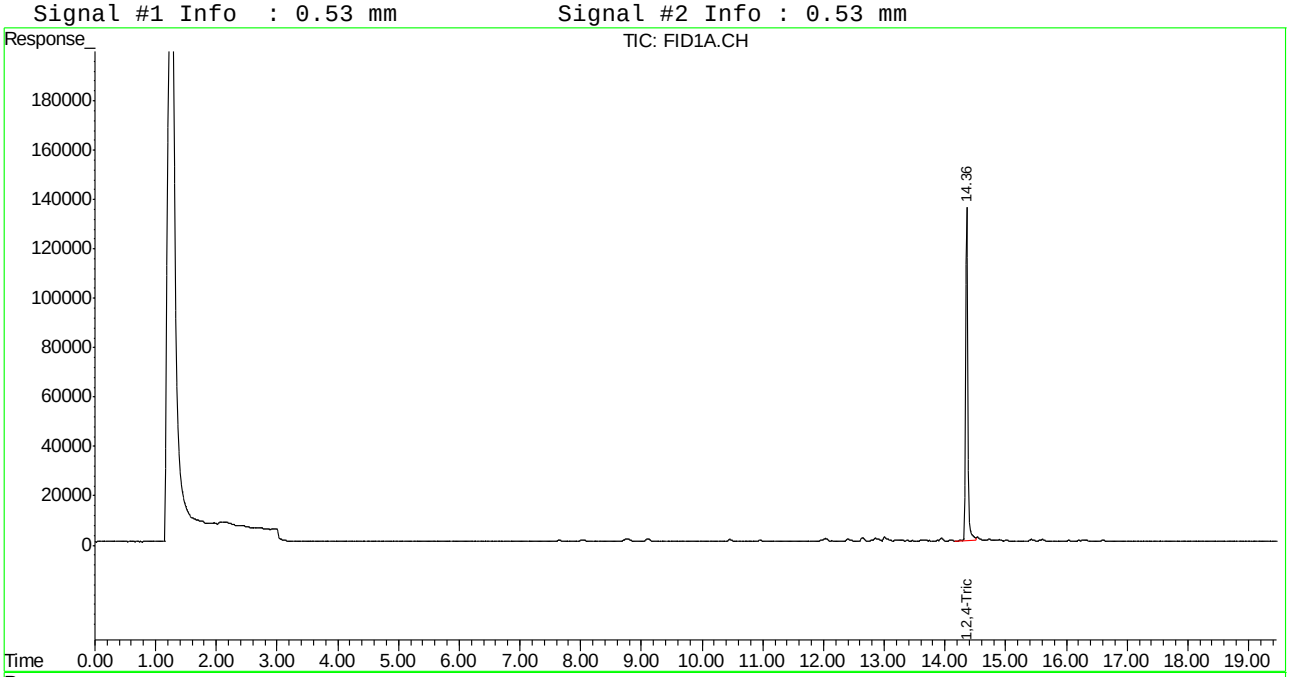
(f)=RT Delta > 1/2 Window (m)=manual int.
GB14928.D TB791GB791SOIL.M Fri Feb 17 09:15:02 2012 GC Page 1

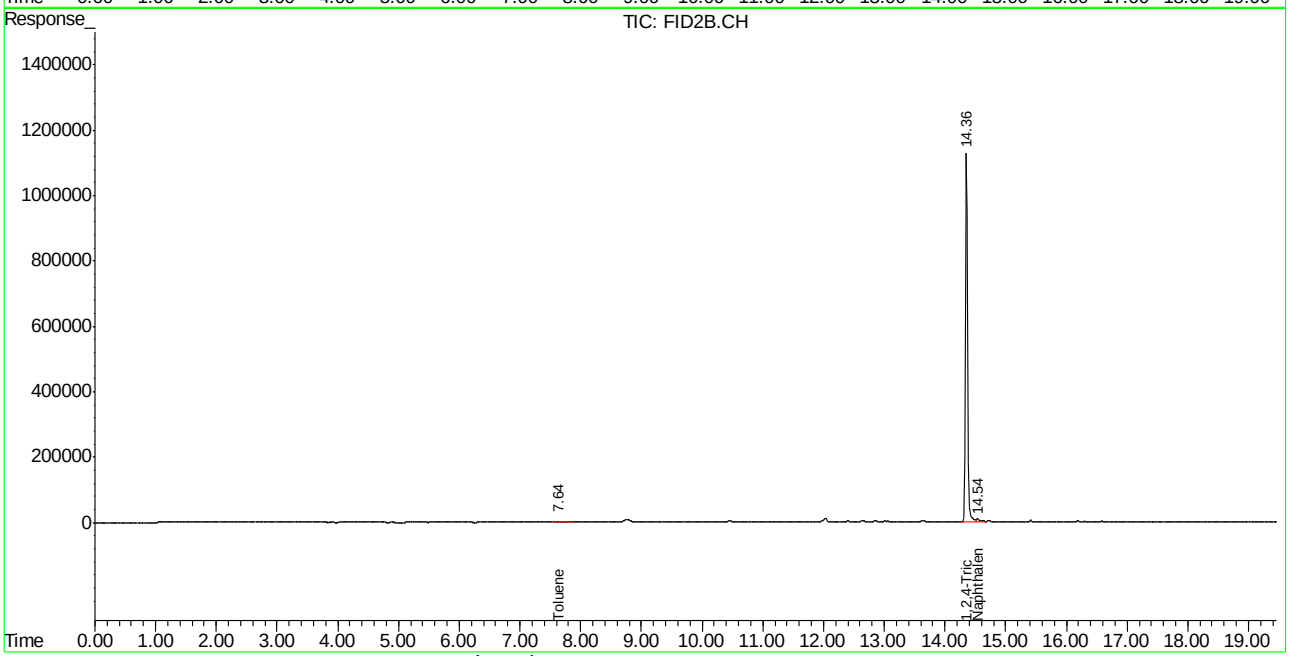
Quantitation Report (QT Reviewed)

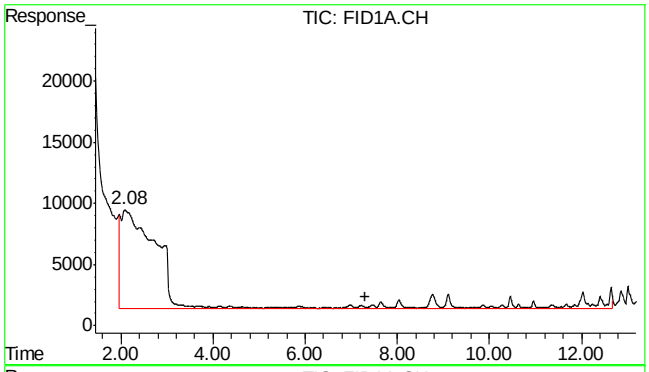
Signal #1 : Y:\1\DATA\021612\GB14928.D\FID1A.CH Vial: 4
Signal #2 : Y:\1\DATA\021612\GB14928.D\FID2B.CH
Acq On : 16 Feb 2012 12:19 pm Operator: StephK
Sample : MB, S Inst : GC/MS Ins
Misc : GC2613,GGB841,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Feb 16 16:29 2012 Quant Results File: TB791GB791SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB791GB791SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Thu Feb 16 10:13:29 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

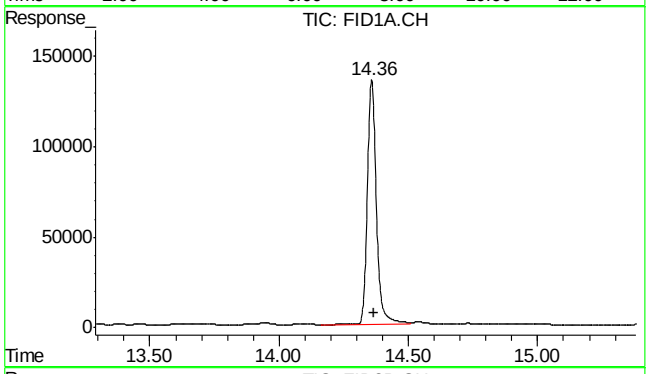






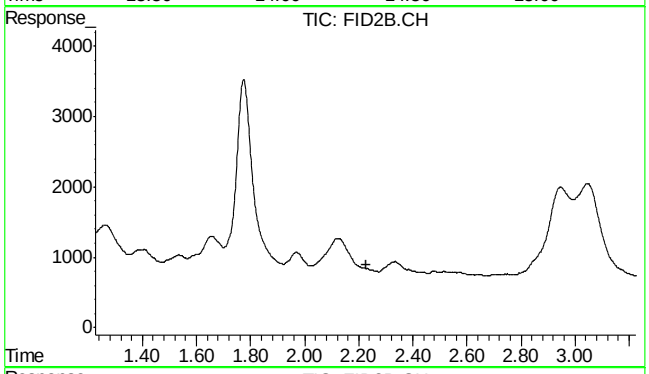
#1 TVH-Gasoline

R.T.: 7.315 min
Delta R.T.: 0.000 min
Response: 5125510
Conc: N.D.



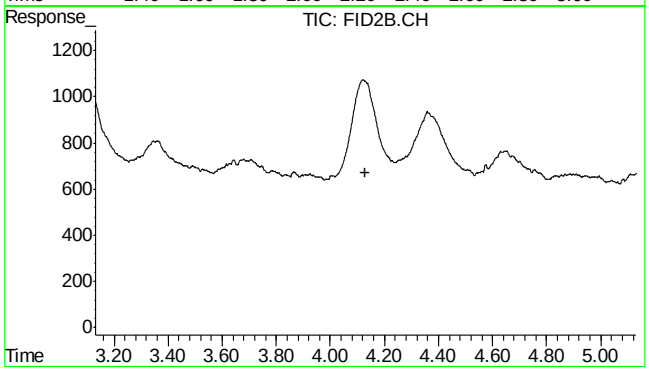
#2 1,2,4-Trichlorobenzene

R.T.: 14.358 min
Delta R.T.: -0.010 min
Response: 3312854
Conc: 113.24 %



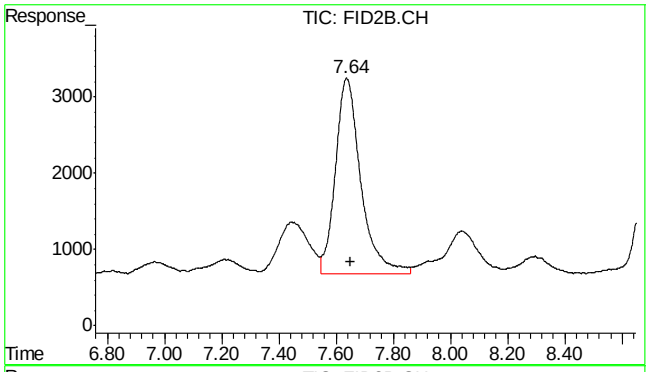
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T. : 2.226 min
Response: 0
Conc: N.D.



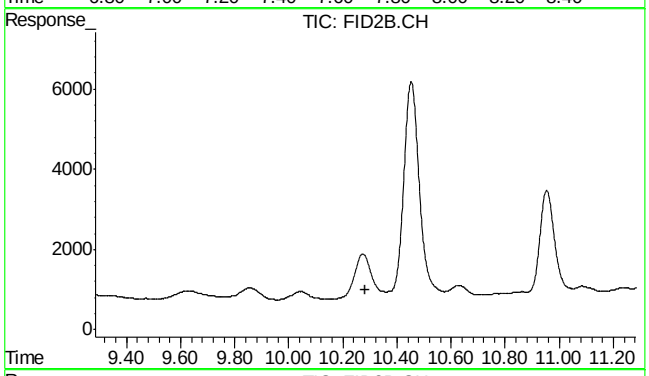
#5 Benzene

R.T.: 0.000 min
Exp R.T. : 4.130 min
Response: 0
Conc: N.D.



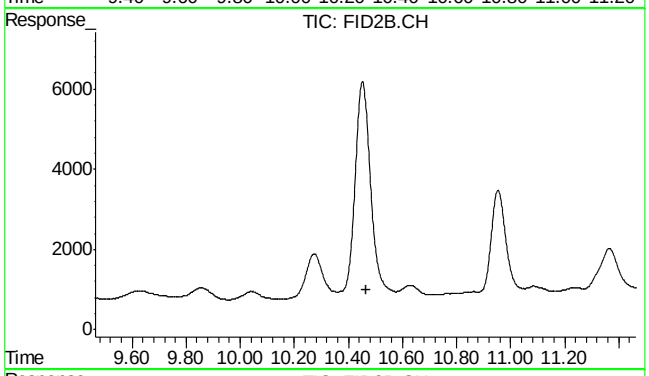
#6 Toluene

R.T.: 7.637 min
Delta R.T.: -0.014 min
Response: 158099
Conc: 0.28 ug/L



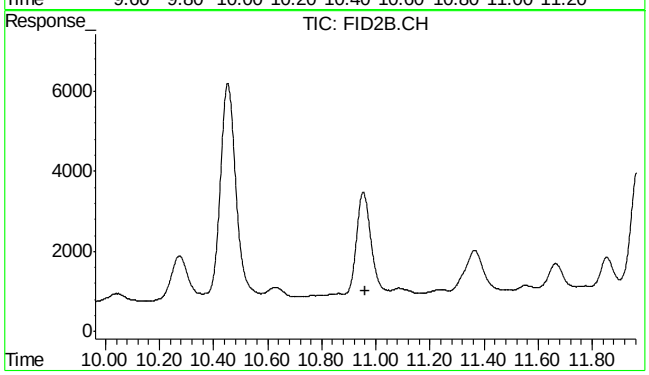
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T. : 10.284 min
Response: 0
Conc: N.D.



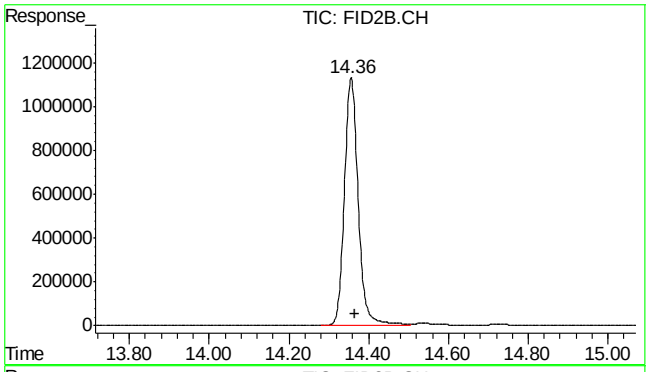
#8 m,p-Xylene

R.T.: 0.000 min
Exp R.T. : 10.464 min
Response: 0
Conc: N.D.



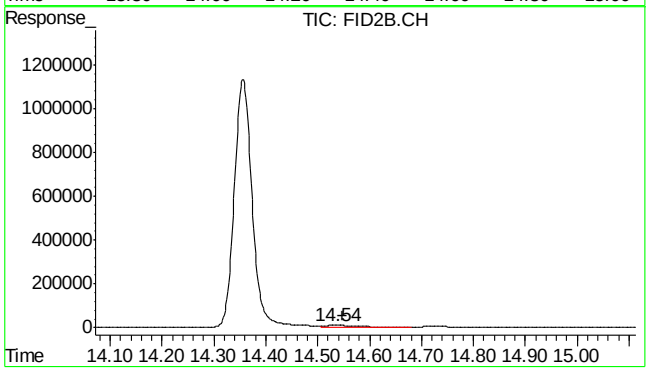
#9 o-Xylene

R.T.: 0.000 min
Exp R.T. : 10.962 min
Response: 0
Conc: N.D.



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

R.T.: 14.356 min
Delta R.T.: -0.010 min
Response: 27239671
Conc: 118.52 %



#11 Naphthalene

R.T.: 14.537 min
Delta R.T.: -0.011 min
Response: 436467
Conc: 1.70 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: D31902
Account: XTOKRWR XTO Energy
Project: PCU T35X-2G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5373-MB	FH001361.D	1	02/17/12	TR	02/15/12	OP5373	GFH64

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

D31902-1

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	91%	43-136%

Blank Spike Summary

Job Number: D31902
Account: XTOKRWR XTO Energy
Project: PCU T35X-2G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5373-BS	FH001363.D	1	02/17/12	TR	02/15/12	OP5373	GFH64

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

D31902-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	554	83	58-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	89%	43-136%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D31902
Account: XTOKRWR XTO Energy
Project: PCU T35X-2G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5373-MS	FH001365.D	1	02/17/12	TR	02/15/12	OP5373	GFH64
OP5373-MSD	FH001367.D	1	02/17/12	TR	02/15/12	OP5373	GFH64
D31900-1	FH001413.D	1	02/18/12	TR	02/15/12	OP5373	GFH68

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

D31902-1

CAS No.	Compound	D31900-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	107		771	584	62	679	74	15	20-183/43

CAS No.	Surrogate Recoveries	MS	MSD	D31900-1	Limits
84-15-1	o-Terphenyl	75%	82%	82%	43-136%

Mountain States ACCUTEST LABORATORIES

GC Semi-volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH021712\
Data File : FH001377.D
Signal(s) : FID1A.ch
Acq On : 17 Feb 2012 10:03 pm
Operator : tedr
Sample : D31902-1
Misc : OP5373,GFH64,30.02,,,2,1
ALS Vial : 61 Sample Multiplier: 1

Integration File: events.e
Quant Time: Feb 18 16:24:29 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH34F.M
Quant Title : DRO-ORO FRONT
QLast Update : Tue Jan 31 13:20:35 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	12.460	1172503332	797.578 ug/ml
Target Compounds				
1) H	TPH-DRO (C10-C28)	10.011	4423675955	3628.831 ug/ml

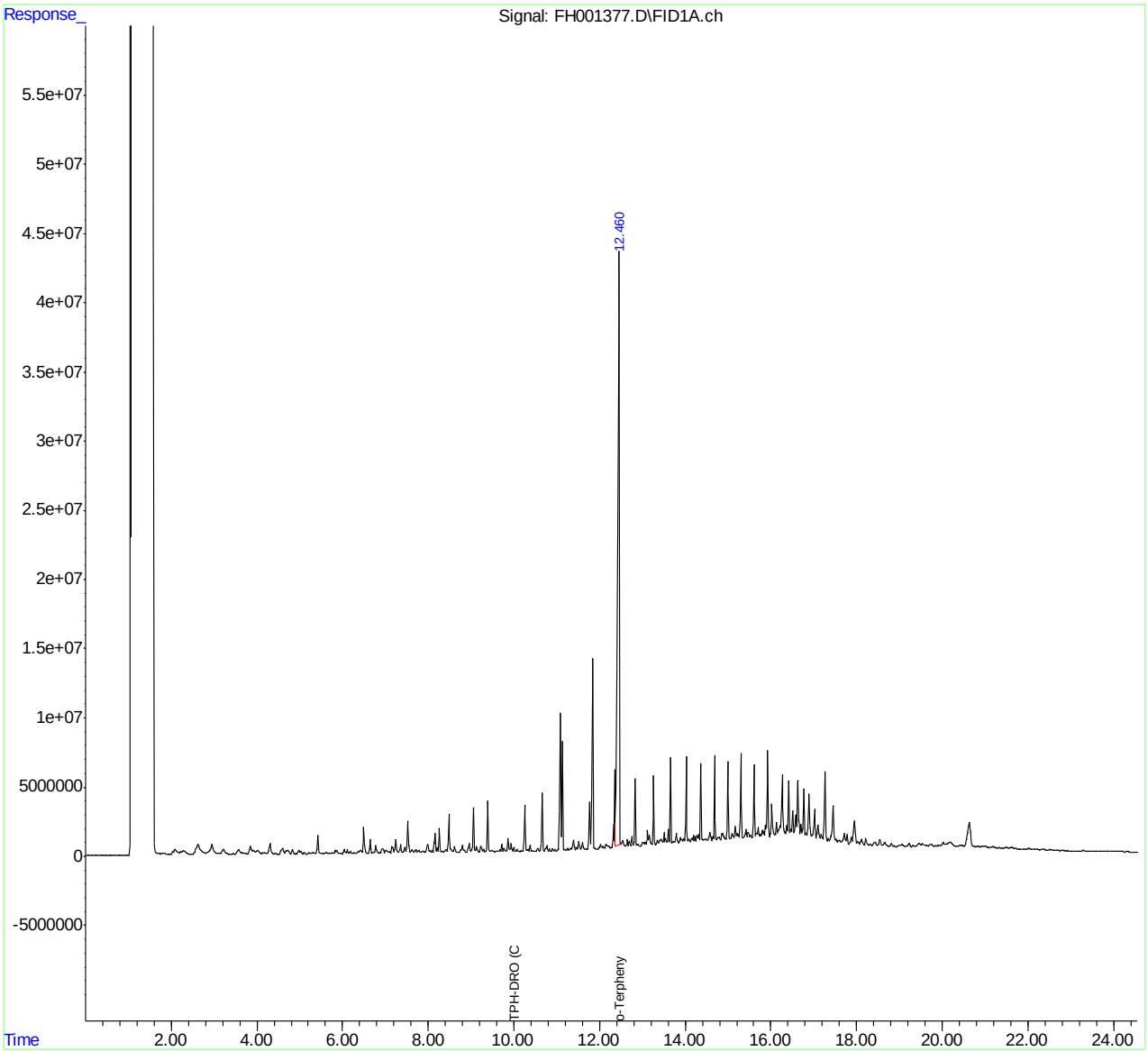
(f)=RT Delta > 1/2 Window (m)=manual int.

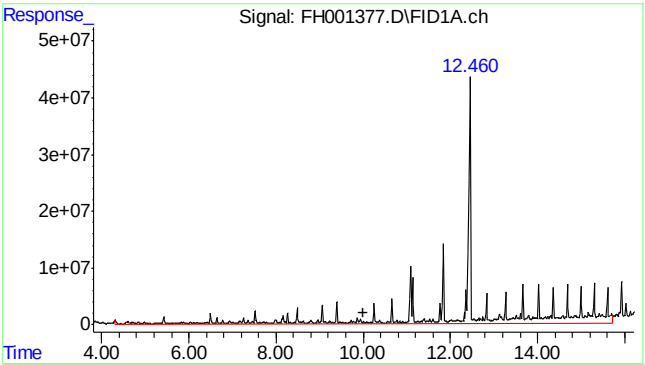
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH021712\
Data File : FH001377.D
Signal(s) : FID1A.ch
Acq On : 17 Feb 2012 10:03 pm
Operator : tedr
Sample : D31902-1
Misc : OP5373,GFH64,30.02,,,2,1
ALS Vial : 61 Sample Multiplier: 1

Integration File: events.e
Quant Time: Feb 18 16:24:29 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH34F.M
Quant Title : DRO-ORO FRONT
QLast Update : Tue Jan 31 13:20:35 2012
Response via : Initial Calibration
Integrator: ChemStation

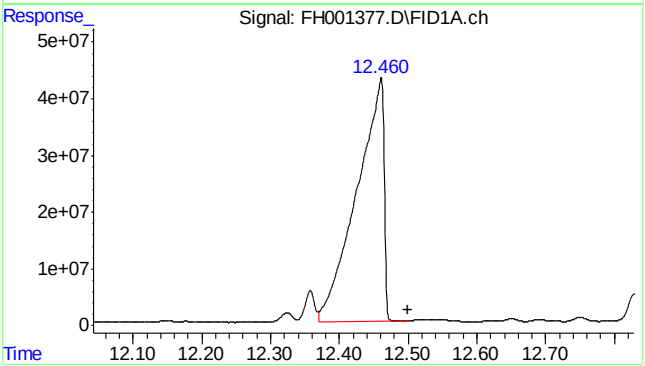
Volume Inj. :
Signal Phase :
Signal Info :





#1 TPH-DRO (C10-C28)

R.T.: 10.011 min
Delta R.T.: 0.000 min
Response: 4423675955
Conc: 3628.83 ug/ml m



#2 o-Terphenyl

R.T.: 12.460 min
Delta R.T.: -0.040 min
Response: 1172503332
Conc: 797.58 ug/ml

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH021712\
Data File : FH001361.D
Signal(s) : FID1A.ch
Acq On : 17 Feb 2012 5:20 pm
Operator : tedr
Sample : OP5373-MB
Misc : OP5373,GFH64,30.00,,,2,1
ALS Vial : 53 Sample Multiplier: 1

Integration File: events.e
Quant Time: Feb 18 16:22:59 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH34F.M
Quant Title : DRO-ORO FRONT
QLast Update : Tue Jan 31 13:20:35 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	12.465	1333828445	907.317 ug/ml
Target Compounds				
1) H	TPH-DRO (C10-C28)	10.011	27311873	22.404 ug/ml

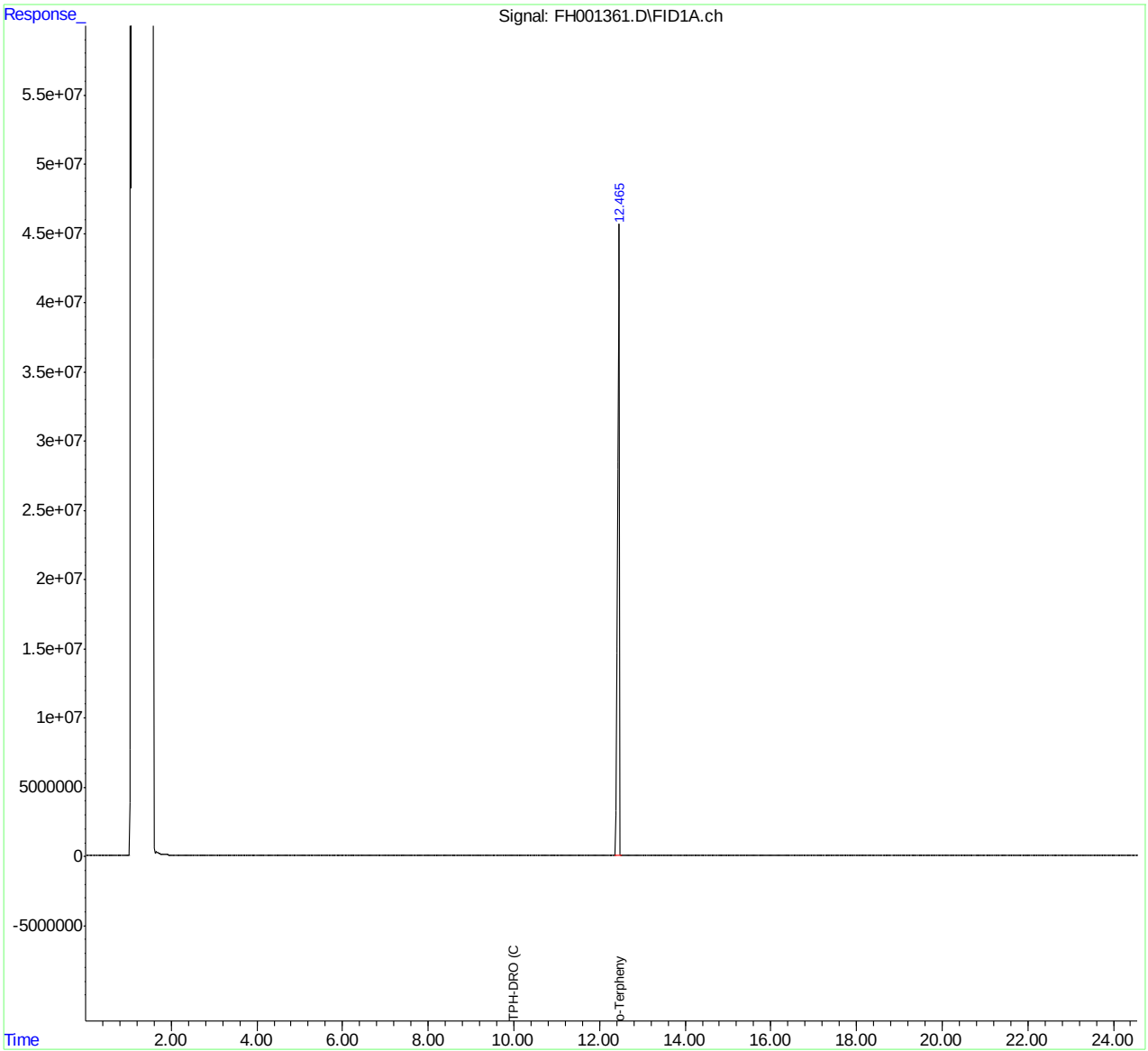
(f)=RT Delta > 1/2 Window (m)=manual int.

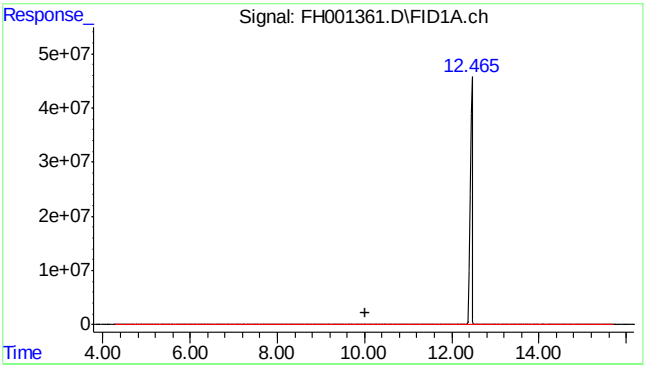
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH021712\
Data File : FH001361.D
Signal(s) : FID1A.ch
Acq On : 17 Feb 2012 5:20 pm
Operator : tedr
Sample : OP5373-MB
Misc : OP5373,GFH64,30.00,,,2,1
ALS Vial : 53 Sample Multiplier: 1

Integration File: events.e
Quant Time: Feb 18 16:22:59 2012
Quant Method : C:\msdchem\1\METHODS\DRO-GFH34F.M
Quant Title : DRO-ORO FRONT
QLast Update : Tue Jan 31 13:20:35 2012
Response via : Initial Calibration
Integrator: ChemStation

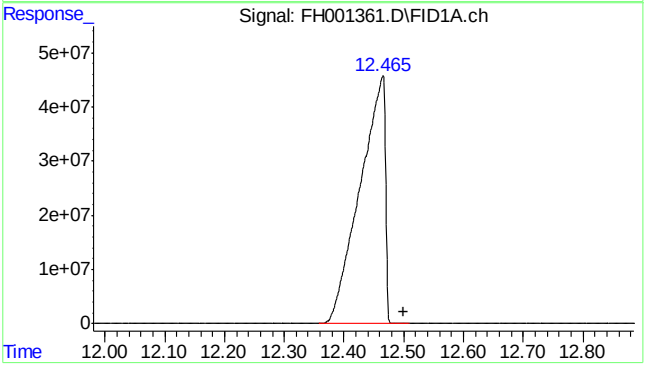
Volume Inj. :
Signal Phase :
Signal Info :





#1 TPH-DRO (C10-C28)

R.T.: 10.011 min
Delta R.T.: 0.000 min
Response: 27311873
Conc: 22.40 ug/ml m



#2 o-Terphenyl

R.T.: 12.465 min
Delta R.T.: -0.035 min
Response: 1333828445
Conc: 907.32 ug/ml