Mountain States ACCUTEST LABORATORIES

10/18/12

Technical Report for

XTO Energy

PCU 297-10B

1105-20A

Accutest Job Number: D39779

Sampling Date: 10/10/12

Report to:

KRW Consulting, Inc.
8000 West 14th Avenue
Lakewood, CO 80214
dknudson@krwconsulting.com; jhess@krwconsulting.com;
crachak@krwconsulting.com; rrasnic@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)

Sections: 1 2 3 4 5 6 7 8 9

Table of Contents

-1-

Sample Summary

XTO Energy

Job No: D39779

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

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
D39779-1	10/10/12	11:40	DS	10/12/12	SO	Soil	FW EXCAV. MAT'L (10/9)

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

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	XTO Energy	**Job No**	D39779
Site:	PCU 297-10B	**Report Date**	10/17/2012 11:45:49 A

On 10/12/2012, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 3.2 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D39779 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:** GGB984

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D39781-1MS, D39781-1MSD were used as the QC samples indicated.

Extractables by GC By Method SW846-8015B

Matrix SO **Batch ID:** OP6800

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D39781-1MS, D39781-1MSD were used as the QC samples indicated.

Wet Chemistry By Method SM19 2540B M

Matrix SO **Batch ID:** GN17220

- 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.

Summary of Hits

Job Number: D39779
Account: XTO Energy
Project: PCU 297-10B
Collected: 10/10/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
D39779-1	**FW EXCAV. MAT'L (10/9)**					
TPH-DRO (C10-C28)		503	15	9.8	mg/kg	SW846-8015B

Mountain States ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	FW EXCAV. MAT'L (10/9)		
Lab Sample ID:	D39779-1	**Date Sampled:**	10/10/12
Matrix:	SO - Soil	**Date Received:**	10/12/12
Method:	SW846 8015B	**Percent Solids:**	88.6
Project:	PCU 297-10B		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB17980.D	1	10/12/12	SK	n/a	n/a	GGB984
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	89%		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 EXCAV. MAT'L (10/9)
Lab Sample ID: D39779-1
Matrix: SO - Soil
Method: SW846-8015B SW846 3546
Project: PCU 297-10B

Date Sampled: 10/10/12
Date Received: 10/12/12
Percent Solids: 88.6

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD18536.D	1	10/16/12	AV	10/15/12	OP6800	GFD940
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)	503	15	9.8	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	82%		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

ACCUTEST LABORATORIES

4036 Youngfield Street, Wheat Ridge, CO 80033
TEL. 303-425-6021 FAX: 303-425-6854
www.accutest.com

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #: D39779

Client / Reporting Information

Company Name: KRW Consulting
Street Address: 8000 West 14th Street; Suite 200
City: Lakewood, CO 80214
Project Contact: Dwayne Knudson
Phone #: 970-488-1098
Sampler(s) Name(s): DAVID SANDERS 970-488-1098

Project Information

Project Name: XTO PCN 297-10B
Street:
City: State:
Project #: 1105-20A
Client Purchase Order #:
Project Manager: Joe Hess

Billing Information (If different from Report to)

Company Name: XTO Energy
Street Address: 21459 CR 5
City: Rifle, CO 81650
Attention: Jessica Dooling

Requested Analysis (see TEST CODE sheet)

TPH

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	LAB USE ONLY
	FW EXCAV. MAT'L (10/9)		10-10-12	11:40	DS	SO	2					X					01

Turnaround Time (Business days)

- [ ] Std. 10 Business Days
- [x] Std. 5 Business Days (By contract only)
- [ ] 3 Day Emergency
- [ ] 2 Day Emergency
- [ ] 1 Day Emergency
- [ ] Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] COMMBN
- [ ] COMMBN+
- [ ] State Forms Required
- [ ] Send Forms to State
- [ ] Report by Fax
- [x] Report by PDF ONLY
- [ ] EDD Format

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial BN = Results/QC/Narrative (+ = chromatograms)

Comments / Special Instructions

Please email to: KRW Piceance Team

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

1 Relinquished by Sampler: Tori Atkinson	Date Time: 10/11/12 16:45	Received By: 1 Service Center	2 Relinquished By:	Date Time:	Received By: 2
3 Relinquished By Sampler:	Date Time:	Received By: 3	4 Relinquished By:	Date Time: 10/12/12 12:30	Received By: 4
5 Relinquished by:	Date Time:	Received By: 5	Custody Seal # H020 [x] Intact [ ] Not Intact	Preserved where applicable	On Ice [x] Cooler Temp. 3.2

D39779: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D39779 **Client:** KRW CONSULTING **Immediate Client Services Action Required:** No

Date / Time Received: 10/12/2012 12:30:00 P **No. Coolers:** 1 **Client Service Action Required at Login:** No

Project: XTO PCU 297-10B **Airbill #'s:** hdco

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

5.1

5

D39779: Chain of Custody
Page 2 of 2

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: D39779
Account: XTOKRWR XTO Energy
Project: PCU 297-10B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB984-MB	GB17974.D	1	10/12/12	SK	n/a	n/a	GGB984

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

D39779-1

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	87%	60-140%

Blank Spike Summary

Job Number: D39779
Account: XTOKRWR XTO Energy
Project: PCU 297-10B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB984-BS	GB17975.D	1	10/12/12	SK	n/a	n/a	GGB984

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

D39779-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	124	113	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	98%	60-140%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D39779
Account: XTOKRWR XTO Energy
Project: PCU 297-10B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D39781-1MS	GB17977.D	1	10/12/12	SK	n/a	n/a	GGB984
D39781-1MSD	GB17978.D	1	10/12/12	SK	n/a	n/a	GGB984
D39781-1	GB17976.D	1	10/12/12	SK	n/a	n/a	GGB984

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

D39779-1

CAS No.	Compound	D39781-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		139	160	115	158	114	1	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D39781-1	Limits
120-82-1	1,2,4-Trichlorobenzene	102%	97%	84%	60-140%

* = Outside of Control Limits.

Mountain States ACCUTEST LABORATORIES

GC Volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Judy Melson 10/16/12 09:56

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\101212\GB17980.D\FID1A.CH Vial: 9
Signal #2 : Y:\1\DATA\101212\GB17980.D\FID2B.CH
Acq On : 12 Oct 2012 9:18 pm Operator: StephK
Sample : D39779-1, 50X Inst : GC/MS Ins
Misc : GC3169,GGB984,5.043,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Oct 15 08:15:27 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon Oct 15 08:14:39 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	14.39	2777484	88.641	%	m
10) S	1,2,4-Trichlorobenzene (P)	14.39	16311549	100.362	%	
	Target Compounds					
1) H	TVH-Gasoline	7.23	4037711	<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	7.68	130643	0.330	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	14.58	3504803	17.763	ug/L	

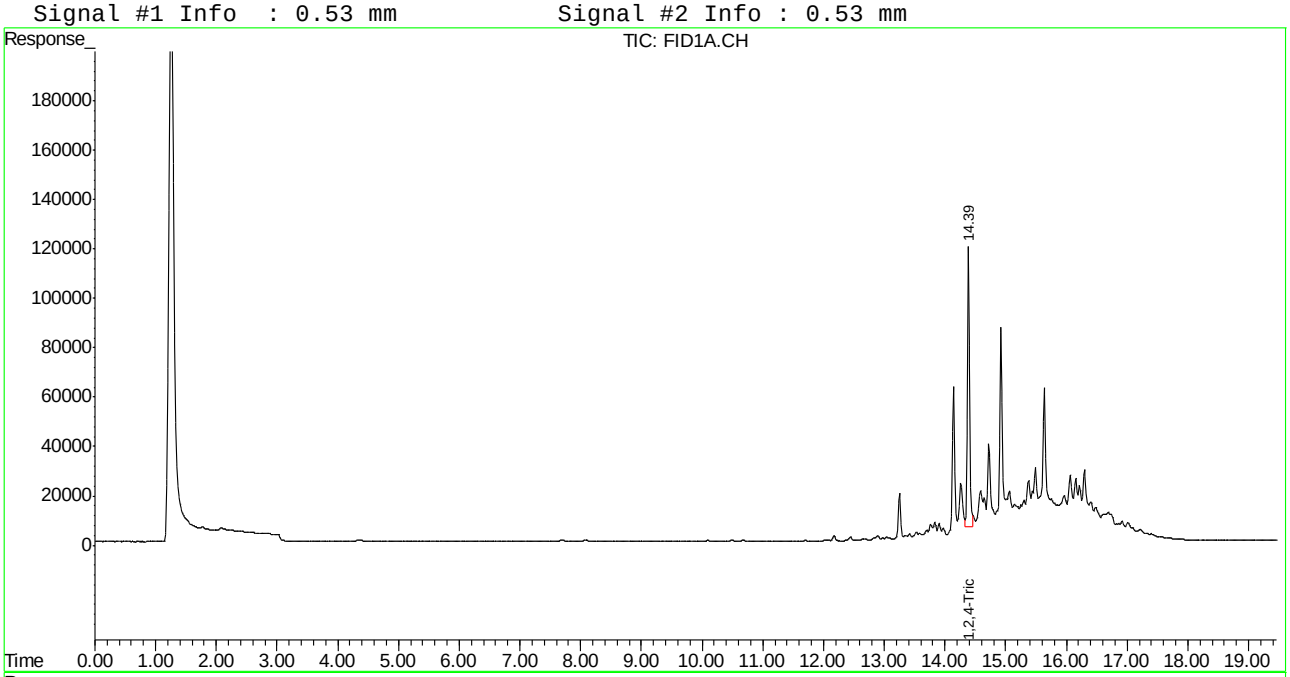
(f)=RT Delta > 1/2 Window (m)=manual int.

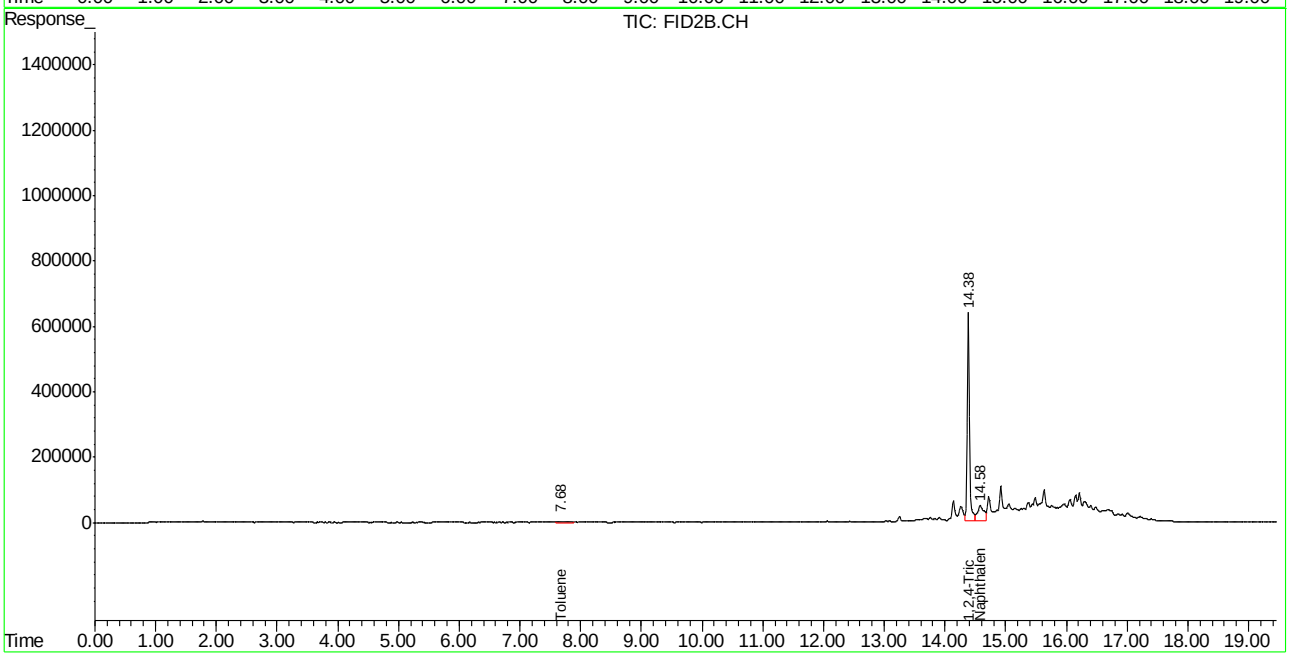
Quantitation Report (QT Reviewed)

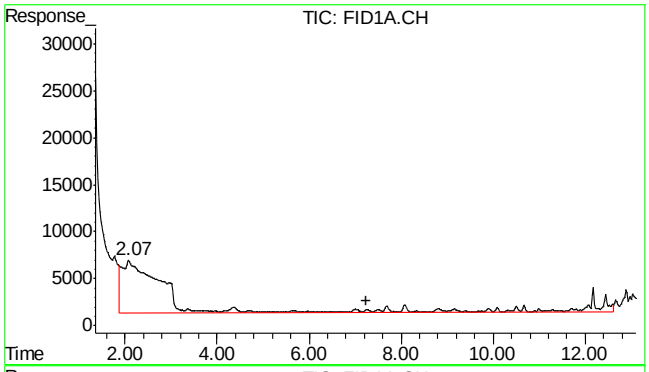
Signal #1 : Y:\1\DATA\101212\GB17980.D\FID1A.CH Vial: 9
Signal #2 : Y:\1\DATA\101212\GB17980.D\FID2B.CH
Acq On : 12 Oct 2012 9:18 pm Operator: StephK
Sample : D39779-1, 50X Inst : GC/MS Ins
Misc : GC3169,GGB984,5.043,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Oct 15 7:29 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon Oct 15 08:14:39 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

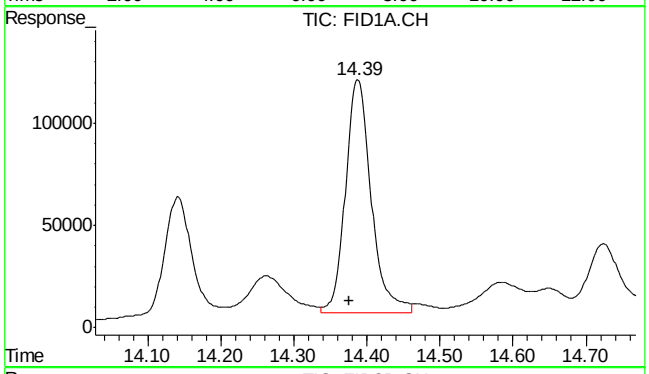






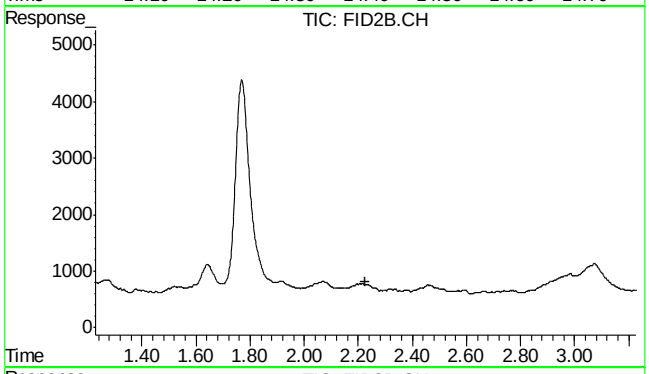
#1 TVH-Gasoline

R.T.: 7.230 min
Delta R.T.: 0.000 min
Response: 4037711
Conc: N.D.



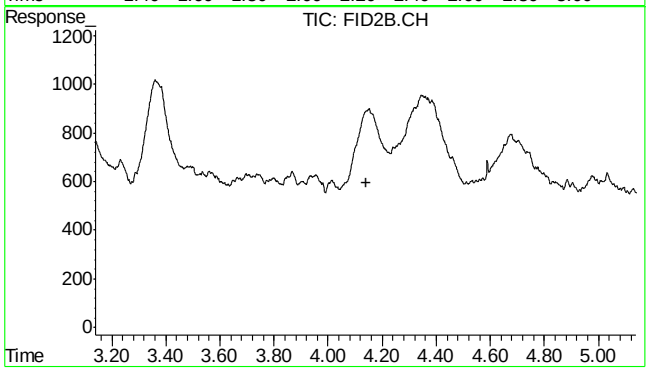
#2 1,2,4-Trichlorobenzene

R.T.: 14.387 min
Delta R.T.: 0.011 min
Response: 2777484
Conc: 88.64 % m



#4 Methyl-t-butyl-ether

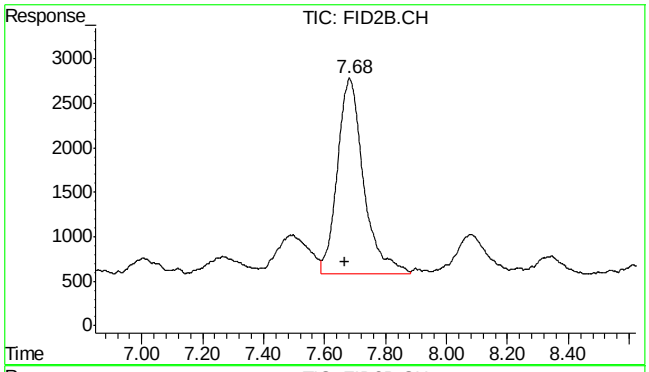
R.T.: 0.000 min
Exp R.T. : 2.227 min
Response: 0
Conc: N.D.



#5 Benzene

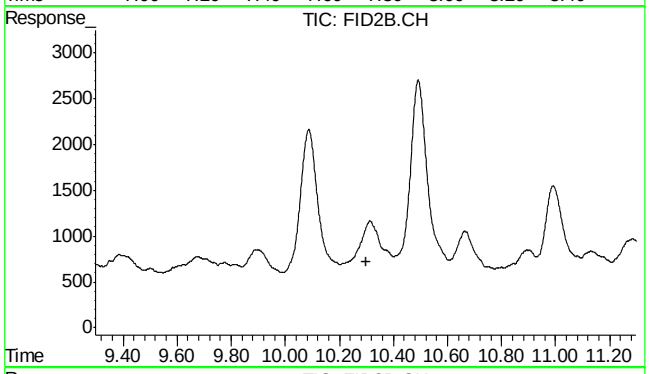
R.T.: 0.000 min
Exp R.T. : 4.139 min
Response: 0
Conc: N.D.

7.1.1
7



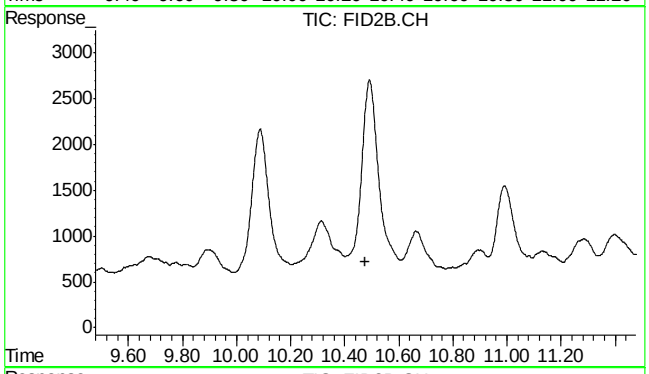
#6 Toluene

R.T.: 7.682 min
Delta R.T.: 0.014 min
Response: 130643
Conc: 0.33 ug/L



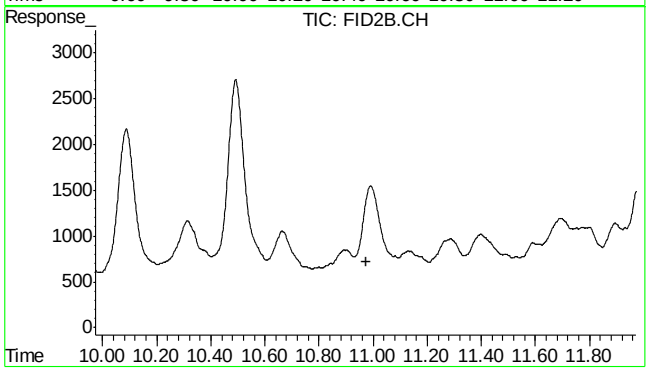
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T. : 10.298 min
Response: 0
Conc: N.D.



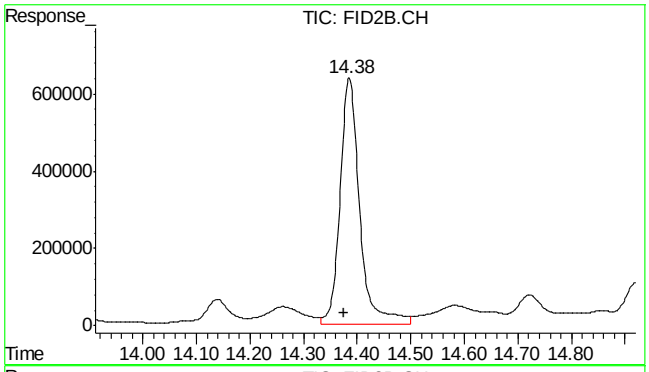
#8 m,p-Xylene

R.T.: 0.000 min
Exp R.T. : 10.477 min
Response: 0
Conc: N.D.



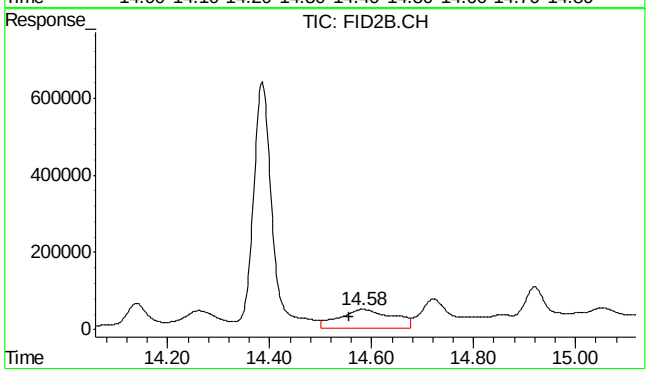
#9 o-Xylene

R.T.: 0.000 min
Exp R.T. : 10.973 min
Response: 0
Conc: N.D.



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

R.T.: 14.385 min
Delta R.T.: 0.011 min
Response: 16311549
Conc: 100.36 %



#11 Naphthalene

R.T.: 14.582 min
Delta R.T.: 0.026 min
Response: 3504803
Conc: 17.76 ug/L

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\101212\GB17974.D\FID1A.CH Vial: 3
Signal #2 : Y:\1\DATA\101212\GB17974.D\FID2B.CH
Acq On : 12 Oct 2012 5:45 pm Operator: StephK
Sample : MB Inst : GC/MS Ins
Misc : GC3169,GGB984,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Oct 15 08:15:03 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon Oct 15 08:14:39 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	14.41	2729722	87.117	%	
10) S	1,2,4-Trichlorobenzene (P)	14.41	14860410	91.433	%	
	Target Compounds					
1) H	TVH-Gasoline	7.23	3787076	<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	7.72	143296	0.362	ug/L	
7) T	Ethylbenzene	0.00	0	N.D.	ug/L	d
8) T	m,p-Xylene	10.52	223950	0.240	ug/L	
9) T	o-Xylene	0.00	0	N.D.	ug/L	d
11) T	Naphthalene	14.59	183360	0.929	ug/L	

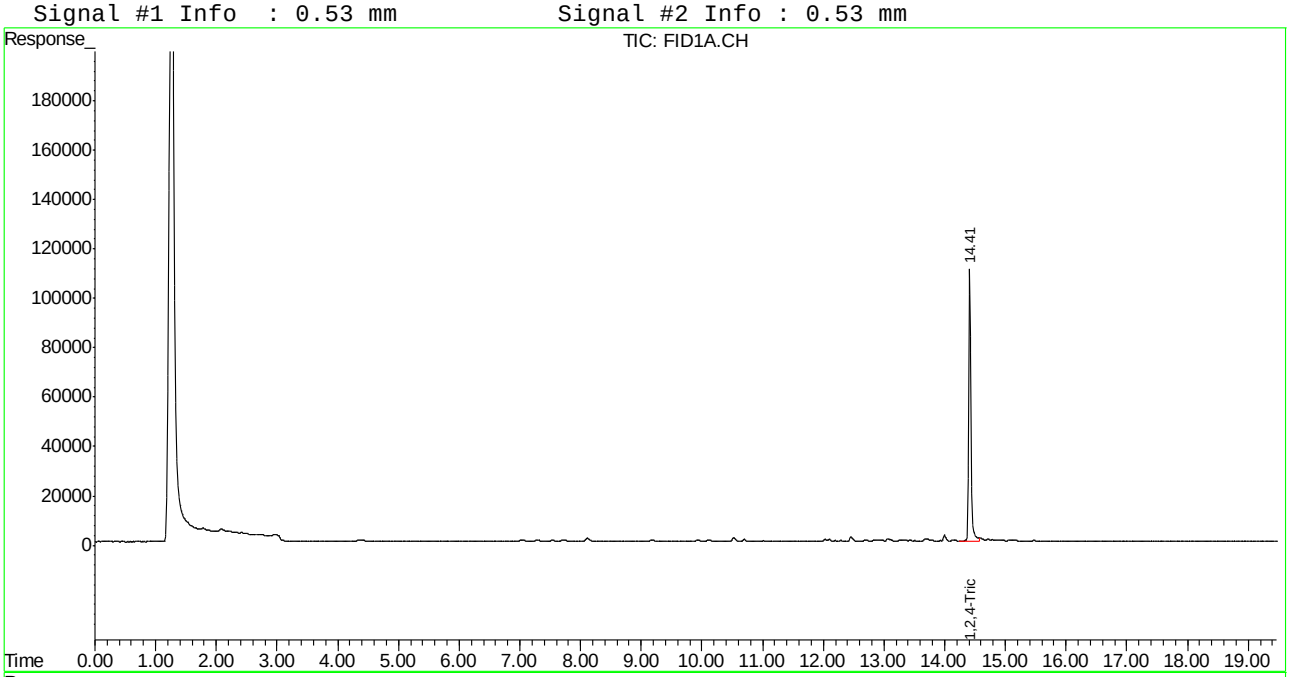
(f)=RT Delta > 1/2 Window (m)=manual int.

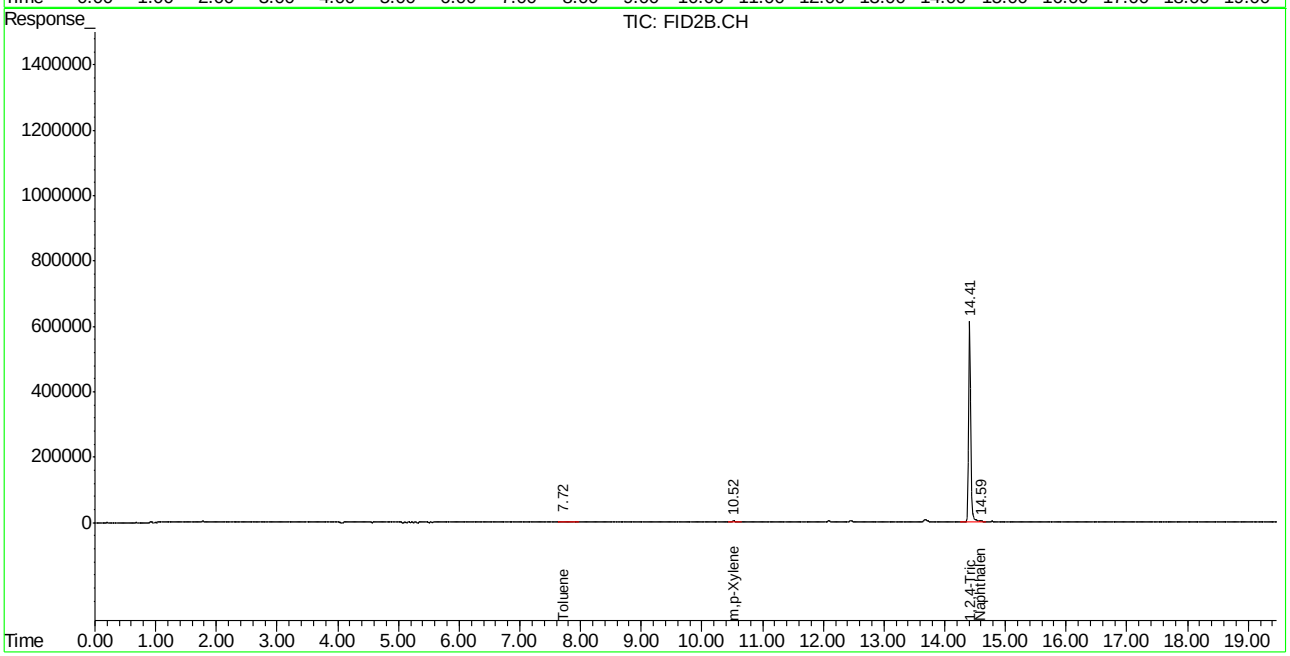
Quantitation Report (QT Reviewed)

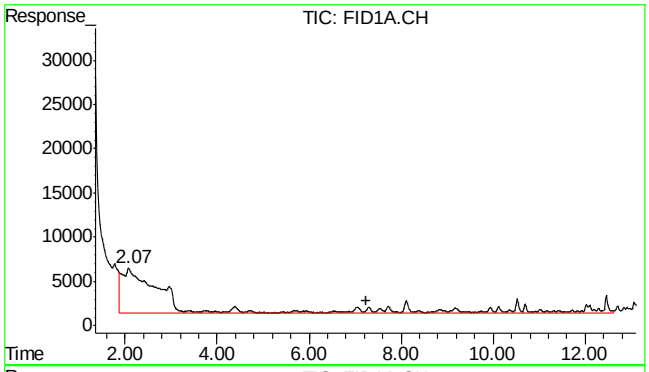
Signal #1 : Y:\1\DATA\101212\GB17974.D\FID1A.CH Vial: 3
Signal #2 : Y:\1\DATA\101212\GB17974.D\FID2B.CH
Acq On : 12 Oct 2012 5:45 pm Operator: StephK
Sample : MB Inst : GC/MS Ins
Misc : GC3169,GGB984,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Oct 15 7:27 2012 Quant Results File: TB868GB868SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB868GB868SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon Oct 15 08:14:39 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

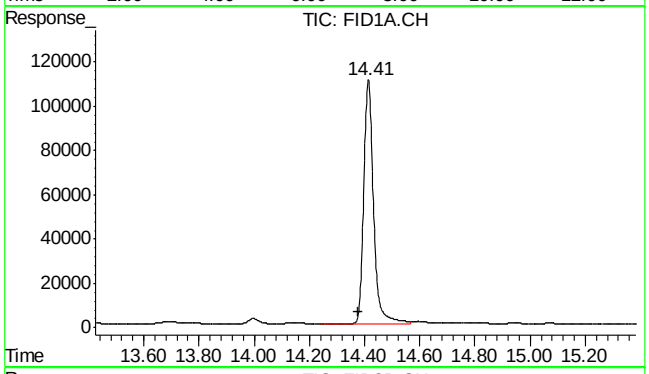






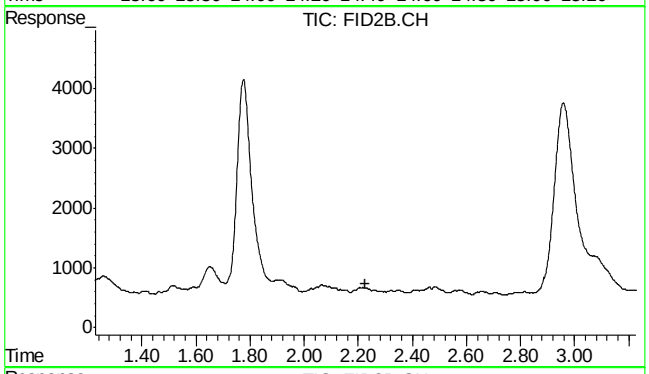
#1 TVH-Gasoline

R.T.: 7.230 min
Delta R.T.: 0.000 min
Response: 3787076
Conc: N.D.



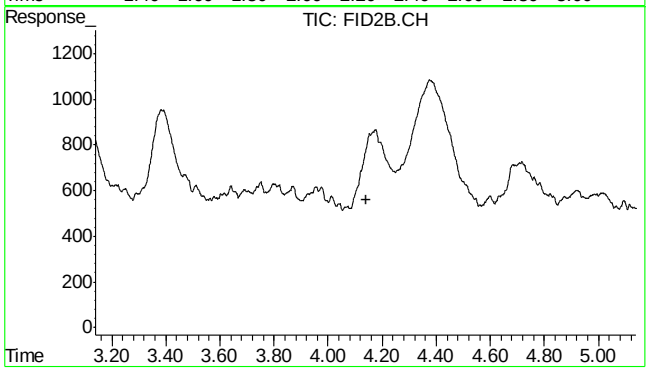
#2 1,2,4-Trichlorobenzene

R.T.: 14.414 min
Delta R.T.: 0.038 min
Response: 2729722
Conc: 87.12 %



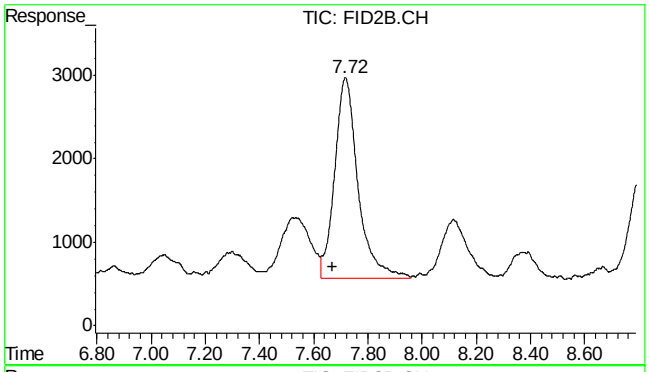
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T. : 2.227 min
Response: 0
Conc: N.D.



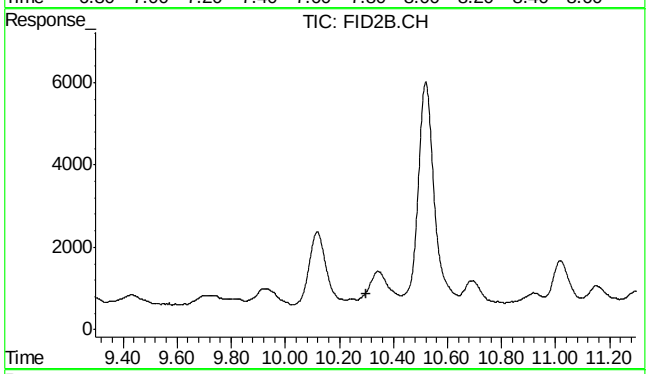
#5 Benzene

R.T.: 0.000 min
Exp R.T. : 4.139 min
Response: 0
Conc: N.D.



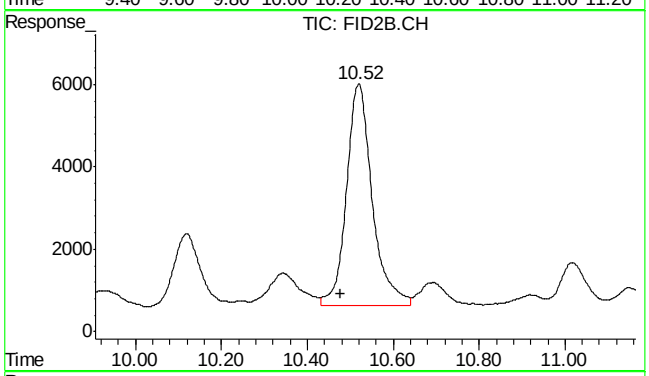
#6 Toluene

R.T.: 7.717 min
Delta R.T.: 0.049 min
Response: 143296
Conc: 0.36 ug/L



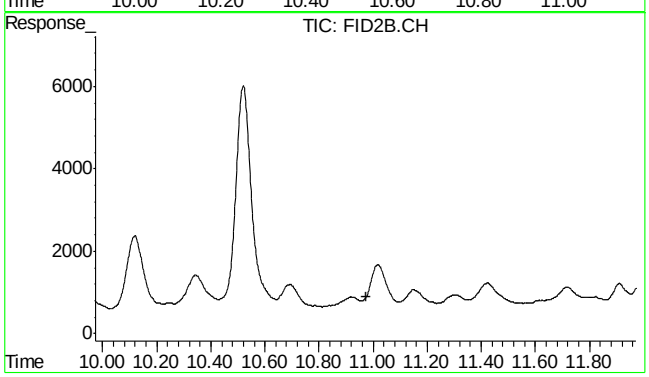
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T. : 10.298 min
Response: 0
Conc: N.D.



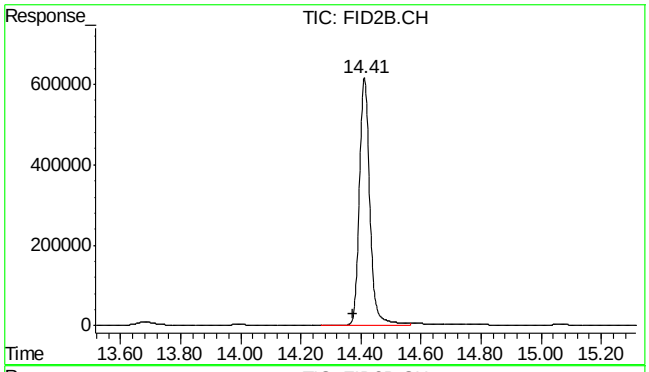
#8 m,p-Xylene

R.T.: 10.520 min
Delta R.T.: 0.042 min
Response: 223950
Conc: 0.24 ug/L



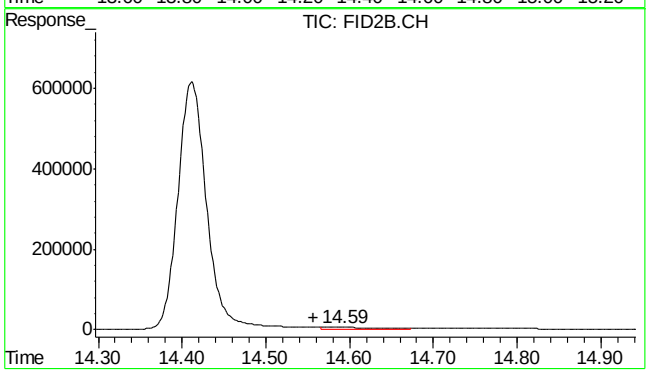
#9 o-Xylene

R.T.: 0.000 min
Exp R.T. : 10.973 min
Response: 0
Conc: N.D.



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

R.T.:	14.412 min
Delta R.T.:	0.037 min
Response:	14860410
Conc:	91.43 %



#11 Naphthalene

R.T.:	14.592 min
Delta R.T.:	0.035 min
Response:	183360
Conc:	0.93 ug/L

7.2.1

7

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: D39779
Account: XTOKRWR XTO Energy
Project: PCU 297-10B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6800-MB	FD18524.D	1	10/16/12	AV	10/15/12	OP6800	GFD940

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

D39779-1

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: D39779
Account: XTOKRWR XTO Energy
Project: PCU 297-10B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6800-BS	FD18526.D	1	10/16/12	AV	10/15/12	OP6800	GFD940

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

D39779-1

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

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D39779
Account: XTOKRWR XTO Energy
Project: PCU 297-10B

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6800-MS	FD18528.D	1	10/16/12	AV	10/15/12	OP6800	GFD940
OP6800-MSD	FD18530.D	1	10/16/12	AV	10/15/12	OP6800	GFD940
D39781-1	FD18532.D	1	10/16/12	AV	10/15/12	OP6800	GFD940

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

D39779-1

CAS No.	Compound	D39781-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	109		753	621	68	645	71	4	20-183/43

CAS No.	Surrogate Recoveries	MS	MSD	D39781-1	Limits
84-15-1	o-Terphenyl	68%	61%	70%	43-136%

8.3.1

8

* = Outside of Control Limits.

Mountain States ACCUTEST LABORATORIES

GC Semi-volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Judy Melson 10/17/12 09:40

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\OCT\FD101612\FD18536.D Vial: 9
Acq On : 16 Oct 2012 12:08 pm Operator: ashleyv
Sample : D39779-1 Inst : FID5
Misc : OP6800,GFD940,30.04,,,2,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 16 15:45:09 2012 Quant Results File: DRO-GFD823F.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD823F.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Wed Oct 03 09:30:33 2012
Response via : Initial Calibration
DataAcq Meth : DRODUAL.M

Volume Inj. : 1ul
Signal Phase : RTX-5
Signal Info : 530um

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
1) S	O-Terphenyl	9.03	38710258	819.464	mg/L	m
	Target Compounds					
2) H	TPH-DRO (c10-c28)	7.08	257646694	6691.205	mg/L	

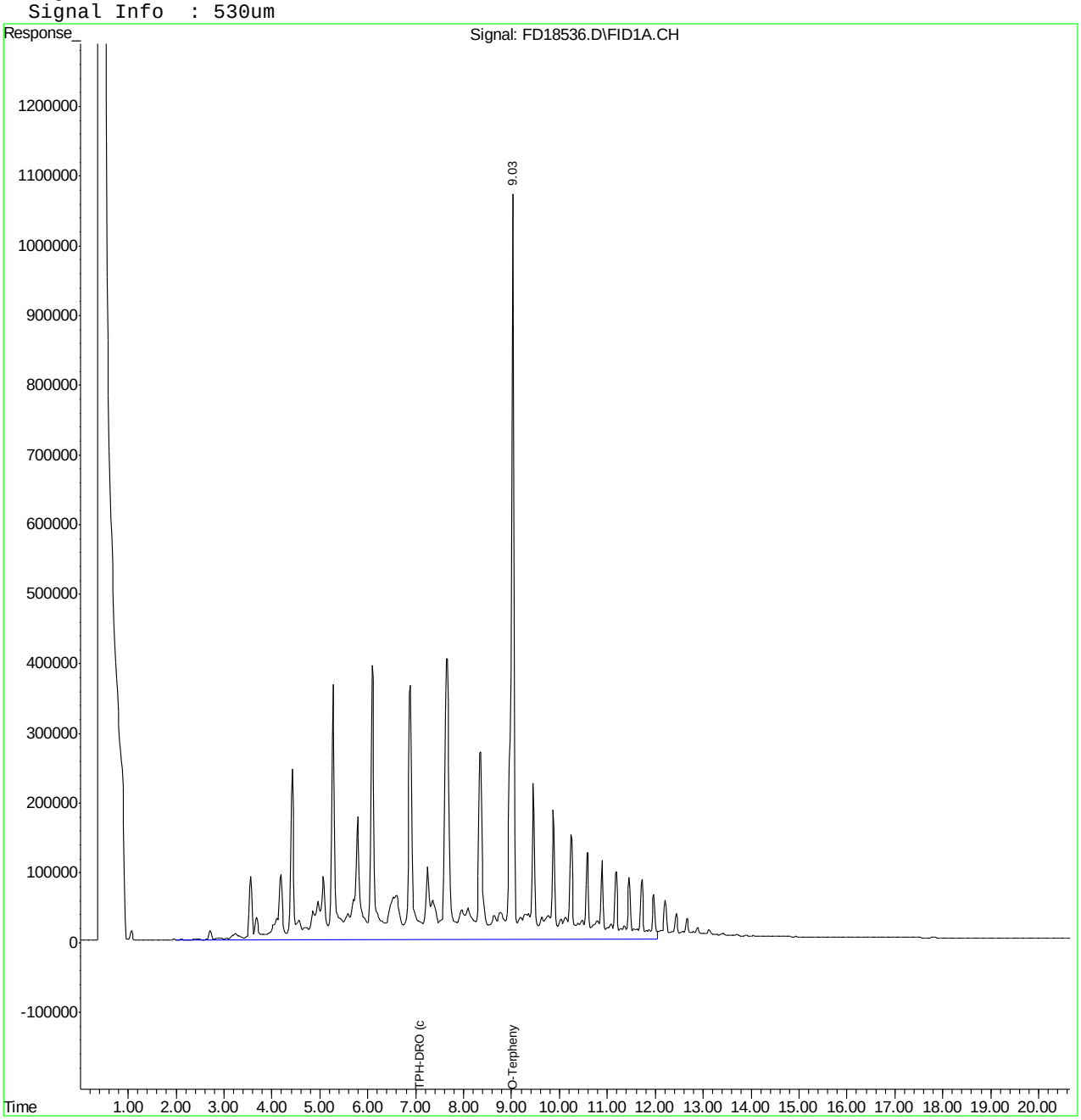
(f)=RT Delta > 1/2 Window (m)=manual int.
FD18536.D DRO-GFD823F.M Wed Oct 17 08:48:05 2012 GC Page 1

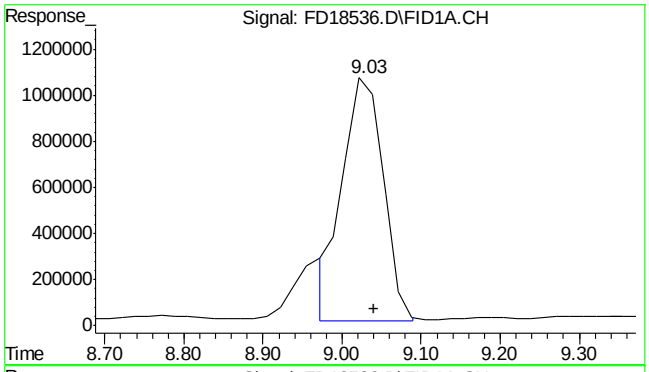
Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\OCT\FD101612\FD18536.D Vial: 9
Acq On : 16 Oct 2012 12:08 pm Operator: ashleyv
Sample : D39779-1 Inst : FID5
Misc : OP6800,GFD940,30.04,,,2,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 16 15:48 2012 Quant Results File: DRO-GFD823F.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD823F.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Wed Oct 03 09:30:33 2012
Response via : Multiple Level Calibration
DataAcq Meth : DRODUAL.M

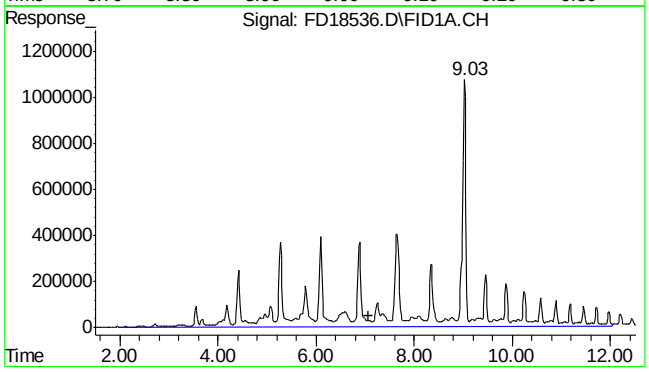
Volume Inj. : 1ul
Signal Phase : RTX-5
Signal Info : 530um





#1 O-Terphenyl

R.T.: 9.027 min
Delta R.T.: -0.013 min
Response: 38710258
Conc: 819.46 mg/L m



#2 TPH-DRO (c10-c28)

R.T.: 7.075 min
Delta R.T.: 0.000 min
Response: 257646694
Conc: 6691.20 mg/L m

Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\OCT\FD101612\FD18524.D Vial: 3
Acq On : 10-16-2012 09:26:30 AM Operator: ashleyv
Sample : OP6800-MB Inst : FID5
Misc : OP6800,GFD940,30.00,,,2,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 16 09:51:38 2012 Quant Results File: DRO-GFD823F.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD823F.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Wed Oct 03 09:30:33 2012
Response via : Initial Calibration
DataAcq Meth : DRODUAL.M

Volume Inj. : 1ul
Signal Phase : RTX-5
Signal Info : 530um

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
1) S	O-Terphenyl	9.04	42762950	905.256 mg/L
	Target Compounds			
2) H	TPH-DRO (c10-c28)	7.08	1508597	39.179 mg/L

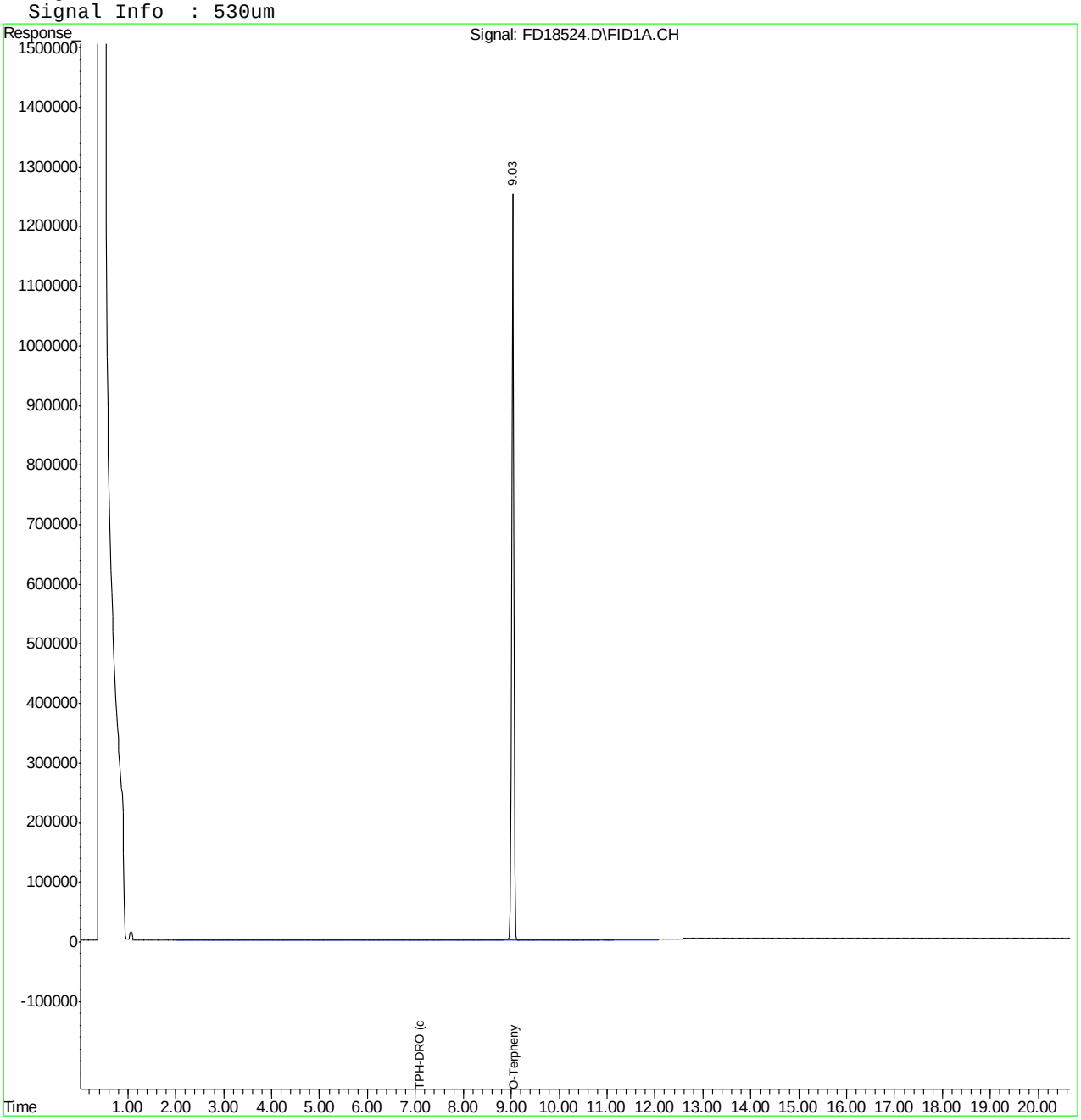
(f)=RT Delta > 1/2 Window (m)=manual int.
FD18524.D DRO-GFD823F.M Wed Oct 17 08:47:59 2012 GC Page 1

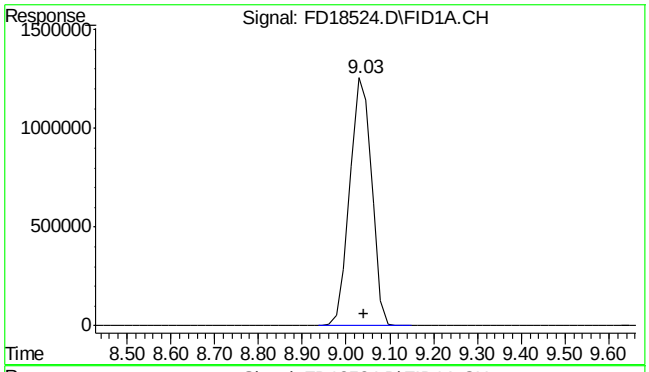
Quantitation Report (QT Reviewed)

Data File : C:\MSDCHEM\2\DATA\2012\OCT\FD101612\FD18524.D Vial: 3
Acq On : 10-16-2012 09:26:30 AM Operator: ashleyv
Sample : OP6800-MB Inst : FID5
Misc : OP6800,GFD940,30.00,,,2,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 16 9:52 2012 Quant Results File: DRO-GFD823F.RES

Quant Method : C:\MSDCHEM\2...\DRO-GFD823F.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Wed Oct 03 09:30:33 2012
Response via : Multiple Level Calibration
DataAcq Meth : DRODUAL.M

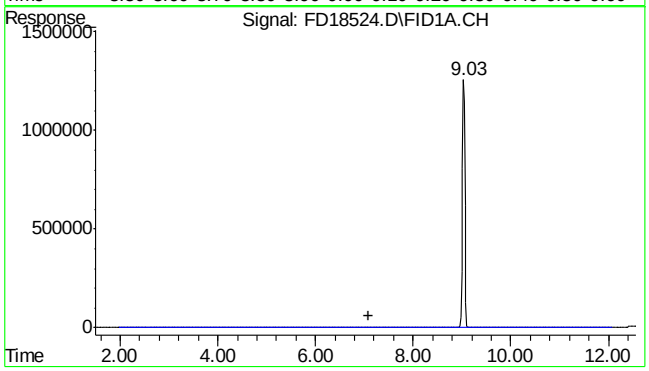
Volume Inj. : 1ul
Signal Phase : RTX-5
Signal Info : 530um





#1 O-Terphenyl

R.T.: 9.040 min
Delta R.T.: 0.000 min
Response: 42762950
Conc: 905.26 mg/L



#2 TPH-DRO (c10-c28)

R.T.: 7.075 min
Delta R.T.: 0.000 min
Response: 1508597
Conc: 39.18 mg/L m