



December 26, 2013

API # 05-103-01016

Location: PCU T43-24G

XTO Energy (XTO) completed closure on November 7, 2013 of the Partially Buried Tank Pit on the PCU T43-24G location in accordance with COGCC 900 and 1000 Series Rules.

The out of service Partially Buried Tank (PBT) at the subject site was removed from this location (see Figure 1). As approved in REM #7997, a discrete soil sample was collected from beneath the former tank location at the low point of the excavation and sampled for an abbreviated Table 910-1 analyte list (TPH & BTEX) to assess COGCC compliance. Results were below Table 910-1 concentration levels (see Table 1) and therefore confirm COGCC compliance.

Soil sample results from beneath the tank confirm no groundwater impact potential exists (see Table 1). Available information for the area indicates that the uppermost groundwater bearing zone is greater than 100 feet below the ground surface for this PBT location.

XTO herein requests a Notice of Completion (NOC) for the PCU T43-24G location listed in the October 3, 2013 COGCC approved Form 27, REM #7997.

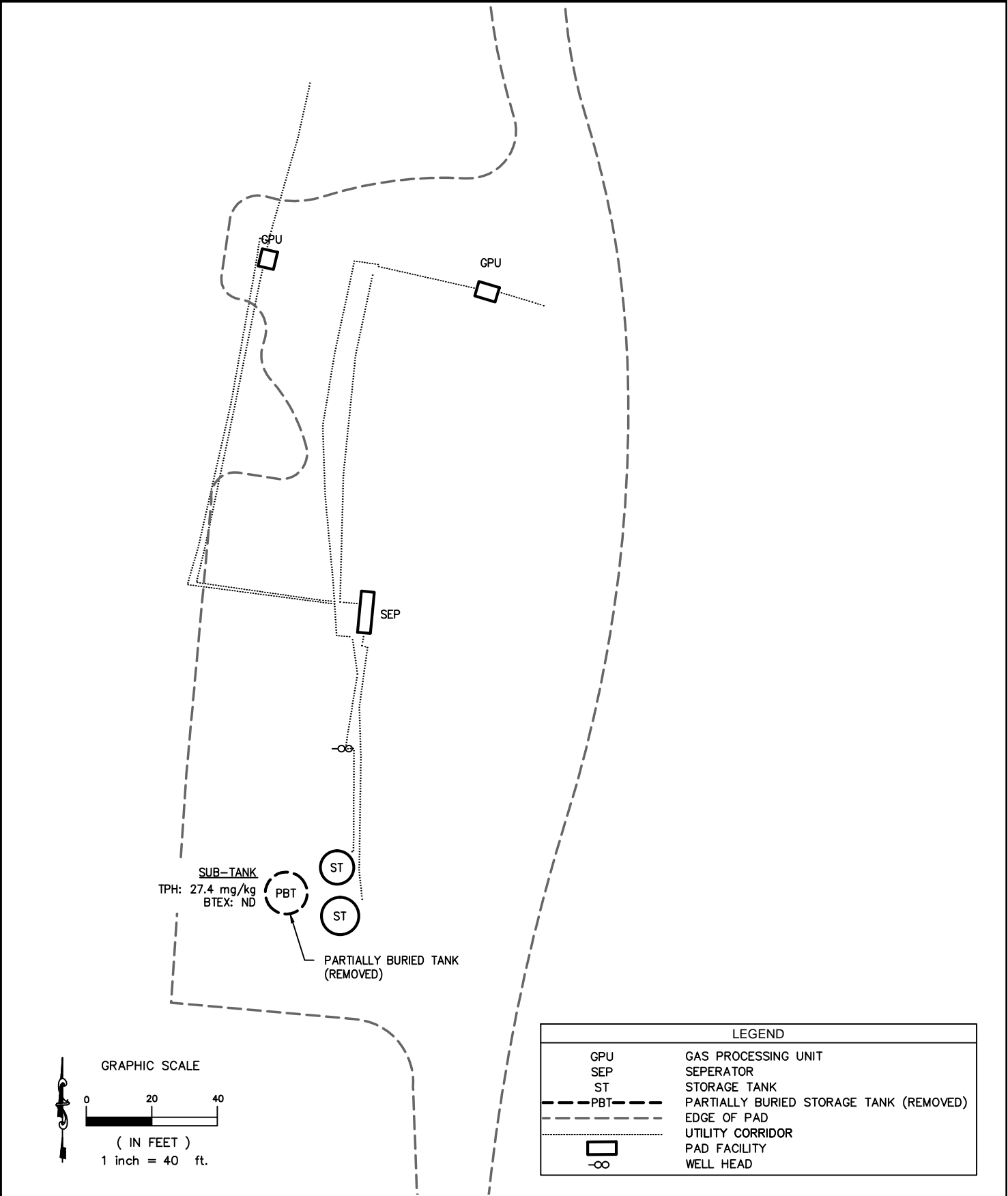
Table 1
Location: PCU T43-24G
Lab Summary - Partially Buried Tank

Last update 10/3/2013

Analytical Parameter	Subtank	COGCC
(with units)	<i>Subtank 9/25/13</i>	<i>Table 910-1 Concentration Levels</i>
Accutest Job #	D50941	-
Sample type (C omposite/ D iscrete)	D	-
TPH (GRO) (mg/Kg)	ND	-
TPH (DRO) (mg/Kg)	27.4	-
TPH (GRO + DRO) (mg/Kg)	27.4	500
Benzene (mg/Kg)	ND	0.170
Toluene (mg/Kg)	ND	85
Ethylbenzene (mg/Kg)	ND	100
Xylenes (total) (mg/Kg)	ND	175
% Solids	77.2	-

Notes:

- 1) ND = not detectible to the laboratory detection limit.
- 2) Results highlighted in yellow exceed Table 910-1 concentration levels.
- 3) "-" indicates no analysis.
- 4) See Figure(s) for sample locations.



GPS: DK	CHECKED: JH	FIGURE 1	DATE	REVISIONS	KRW CONSULTING, INC. 8000 W. 14TH AVENUE, SUITE 200 LAKEWOOD, COLORADO (303) 239-9011	FIGURE 1 PICEANCE CREEK PCU T43-24G PARTIALLY BURIED TANK SAMPLE LOCATION PREPARED FOR XTO ENERGY
DATE: 12/19/13	DRAWN: DF	1				
FILE NAME: pbt samp		SHEET NO. 1 of 1				
PROJECT NO. 1309-05		SCALE: 1" = 40'				



09/30/13

Technical Report for

XTO Energy

PCU T43-24G

Subtank

Accutest Job Number: D50941

Sampling Date: 09/25/13

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: 58



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.

A handwritten signature in black ink, appearing to read 'Scott Heideman'.

Scott Heideman
Laboratory Director

Client Service contact: Renea Jackson 303-425-6021

Certifications: CO (CO00049), ID, NE (CO00049), ND (R-027), NJ (CO 0007), OK (D9942), UT (NELAP CO00049), TX (T104704511)

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

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Case Narrative/Conformance Summary	4
Section 3: Summary of Hits	5
Section 4: Sample Results	6
4.1: D50941-1: SUBTANK	7
Section 5: Misc. Forms	10
5.1: Chain of Custody	11
Section 6: GC/MS Volatiles - QC Data Summaries	13
6.1: Method Blank Summary	14
6.2: Blank Spike Summary	15
6.3: Matrix Spike/Matrix Spike Duplicate Summary	17
Section 7: GC/MS Volatiles - Raw Data	19
7.1: Samples	20
7.2: Method Blanks	26
Section 8: GC Volatiles - QC Data Summaries	33
8.1: Method Blank Summary	34
8.2: Blank Spike Summary	35
8.3: Matrix Spike/Matrix Spike Duplicate Summary	36
Section 9: GC Volatiles - Raw Data	37
9.1: Samples	38
9.2: Method Blanks	43
Section 10: GC Semi-volatiles - QC Data Summaries	48
10.1: Method Blank Summary	49
10.2: Blank Spike Summary	50
10.3: Matrix Spike/Matrix Spike Duplicate Summary	51
Section 11: GC Semi-volatiles - Raw Data	52
11.1: Samples	53
11.2: Method Blanks	56



Sample Summary

XTO Energy

Job No: D50941

PCU T43-24G

Project No: Subtank

Sample Number	Collected		Matrix Code	Type	Client Sample ID
	Date	Time By			
D50941-1	09/25/13	12:40 DS	09/26/13	SO Soil	SUBTANK

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

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: XTO Energy**Job No** D50941**Site:** PCU T43-24G**Report Date** 9/30/2013 4:11:13 PM

On 09/26/2013, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 3.3 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D50941 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 GCMS By Method SW846 8260B

Matrix: SO**Batch ID:** V5V1761

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D50939-1MS, D50939-1MSD were used as the QC samples indicated.

Volatiles by GC By Method SW846 8015B

Matrix: SO**Batch ID:** GGB1228

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D50941-1MS, D50941-1MSD were used as the QC samples indicated.

Extractables by GC By Method SW846-8015B

Matrix: SO**Batch ID:** OP8643

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D50939-1MS, D50939-1MSD were used as the QC samples indicated.

Wet Chemistry By Method SM2540B-2011 M

Matrix: SO**Batch ID:** GN22056

- The data for SM2540B-2011 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: D50941
Account: XTO Energy
Project: PCU T43-24G
Collected: 09/25/13



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
D50941-1	SUBTANK					
TPH-DRO (C10-C28)		27.4	8.6	6.4	mg/kg	SW846-8015B

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Page 1 of 1

Client Sample ID:	SUBTANK	
Lab Sample ID:	D50941-1	Date Sampled: 09/25/13
Matrix:	SO - Soil	Date Received: 09/26/13
Method:	SW846 8260B	Percent Solids: 77.2
Project:	PCU T43-24G	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V29295.D	1	09/27/13	BD	n/a	n/a	V5V1761
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.03 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.079	0.040	mg/kg	
108-88-3	Toluene	ND	0.16	0.079	mg/kg	
100-41-4	Ethylbenzene	ND	0.16	0.030	mg/kg	
1330-20-7	Xylene (total)	ND	0.32	0.16	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	89%		64-130%
460-00-4	4-Bromofluorobenzene	101%		62-131%
17060-07-0	1,2-Dichloroethane-D4	107%		70-130%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Page 1 of 1

Client Sample ID:	SUBTANK	
Lab Sample ID:	D50941-1	Date Sampled: 09/25/13
Matrix:	SO - Soil	Date Received: 09/26/13
Method:	SW846 8015B	Percent Solids: 77.2
Project:	PCU T43-24G	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB22330.D	1	09/27/13	EV	n/a	n/a	GGB1228
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	16	7.9	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

Page 1 of 1

Client Sample ID:	SUBTANK		Date Sampled:	09/25/13
Lab Sample ID:	D50941-1		Date Received:	09/26/13
Matrix:	SO - Soil		Percent Solids:	77.2
Method:	SW846-8015B SW846 3546			
Project:	PCU T43-24G			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH013491.D	1	09/27/13	TU	09/27/13	OP8643	GFH715
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	27.4	8.6	6.4	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	84%		20-130%		

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

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

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



CHAIN OF CUSTODY

PAGE 1 OF 1

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

FED-EX Tracking #	Boiler Order Control #
Accutest Quote #	Accutest Job # D50941
Client / Reporting Information	
Project Information	
Requested Analysis (see TEST CODE sheet)	
Matrix Codes	
LAB USE ONLY	

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 Name: **XTO PCU T43-24G**
Street: _____
City: _____ State: _____
Billing Information (if different from Report to):
Company Name: **XTO Energy**
Street Address: **21459 CR 5**
City: **Rifle, CO 81650**
Client Purchase Order #: _____
Project Manager: **Joe Hess**
Attention: **Jessica Dooling**

Collection: _____
Date: **9/25/13** Time: **12:40**
Sampled By: **DLS** Matrix: **SO** # of bottles: **3**

Number of preserved bottles:
HCl _____ NaOH _____ HNO3 _____ H2SO4 _____ NONE _____ DI Water _____ MEOH _____ ENCORE _____ Stabilizer _____

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

LAB USE ONLY: **01**
9/25/13

Turnaround Time (Business days): _____
Data Deliverable Information:
☐ Std. 10 Business Days
☒ Std. 5 Business Days (By contract only)
☐ 3 Day Emergency
☐ 2 Day Emergency
☐ 1 Day Emergency
Approved By (Accutest PM): / Date: _____
☐ Commercial "A" (Level 1)
☐ Commercial "B" (Level 2)
☐ COMMBN
☐ COMMBN+
☐ State Forms Required
☐ Send Forms to State
☐ Report by Fax
☒ Report by PDF ONLY
☐ EDD Format
Please email to: **KRW Piceance Team**

Emergency & Rush T/A data available VIA Lablink

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

Relinquished by: David Sanders	Date Time: 9/25/13 1630	Received By: Paul Service Center	Date Time: 9/25/13 1200
Relinquished by: _____	Date Time: _____	Received By: _____	Date Time: _____
Relinquished by: _____	Date Time: _____	Received By: _____	Date Time: _____
Relinquished by: _____	Date Time: _____	Received By: _____	Date Time: _____

Custody Seal # **HD/CC** Intact _____ Not Intact _____ Preserved where applicable _____ On Ice _____ Cooler Temp. **3.3**

D50941: Chain of Custody

Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D50941

Client: KRW

Immediate Client Services Action Required: No

Date / Time Received: 9/26/2013 12:00:00 PM

No. Coolers: 1

Client Service Action Required at Login: No

Project: XTO

Airbill #'s: CO

Cooler Security

Y or N

Y or N

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

Cooler Temperature

Y or N

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

Quality Control Preservation

Y or N

N/A

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

Sample Integrity - Documentation

Y or N

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

Sample Integrity - Condition

Y or N

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

Sample Integrity - Instructions

Y or N N/A

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

Comments

Accutest Laboratories
V:(303) 425-6021

4036 Youngfield Street
F: (303) 425-6854

Wheat Ridge, CO
www.accutest.com

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: D50941
Account: XTOKRWR XTO Energy
Project: PCU T43-24G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V1761-MB	5V29279.D	1	09/27/13	BD	n/a	n/a	V5V1761

The QC reported here applies to the following samples:

Method: SW846 8260B

D50941-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	50	25	ug/kg	
100-41-4	Ethylbenzene	ND	100	19	ug/kg	
108-88-3	Toluene	ND	100	50	ug/kg	
1330-20-7	Xylene (total)	ND	200	100	ug/kg	

CAS No.	Surrogate Recoveries	Limits
2037-26-5	Toluene-D8	97% 64-130%
460-00-4	4-Bromofluorobenzene	89% 62-131%
17060-07-0	1,2-Dichloroethane-D4	108% 70-130%

Blank Spike Summary

Page 1 of 1

Job Number: D50941
Account: XTOKRWR XTO Energy
Project: PCU T43-24G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V1761-BS	5V29280.D	1	09/27/13	BD	n/a	n/a	V5V1761

The QC reported here applies to the following samples:

Method: SW846 8260B

D50941-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	2500	2680	107	70-130
100-41-4	Ethylbenzene	2500	2710	108	70-130
108-88-3	Toluene	2500	2620	105	70-130
1330-20-7	Xylene (total)	7500	8600	115	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	100%	64-130%
460-00-4	4-Bromofluorobenzene	101%	62-131%
17060-07-0	1,2-Dichloroethane-D4	96%	70-130%

* = Outside of Control Limits.

Blank Spike Summary

Page 1 of 1

Job Number: D50941
Account: XTOKRWR XTO Energy
Project: PCU T43-24G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V1761-BS	5V29281.D	1	09/27/13	BD	n/a	n/a	V5V1761

The QC reported here applies to the following samples:

Method: SW846 8260B

D50941-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
---------	----------	----------------	--------------	----------	--------

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	97%	64-130%
460-00-4	4-Bromofluorobenzene	91%	62-131%
17060-07-0	1,2-Dichloroethane-D4	91%	70-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D50941
Account: XTOKRWR XTO Energy
Project: PCU T43-24G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D50939-1MS	5V29283.D	1	09/27/13	BD	n/a	n/a	V5V1761
D50939-1MSD	5V29284.D	1	09/27/13	BD	n/a	n/a	V5V1761
D50939-1	5V29282.D	1	09/27/13	BD	n/a	n/a	V5V1761

The QC reported here applies to the following samples:

Method: SW846 8260B

D50941-1

CAS No.	Compound	D50939-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		3330	3660	110	3600	108	2	64-139/30
100-41-4	Ethylbenzene	ND		3330	3650	109	3480	104	5	68-136/30
108-88-3	Toluene	ND		3330	3420	103	3270	98	4	60-130/30
1330-20-7	Xylene (total)	ND		10000	11700	117	11200	112	4	58-142/30

CAS No.	Surrogate Recoveries	MS	MSD	D50939-1	Limits
2037-26-5	Toluene-D8	92%	90%	92%	64-130%
460-00-4	4-Bromofluorobenzene	105%	111%	100%	62-131%
17060-07-0	1,2-Dichloroethane-D4	95%	95%	102%	70-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D50941
Account: XTOKRWR XTO Energy
Project: PCU T43-24G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D50939-1MS	5V29285.D	1	09/27/13	BD	n/a	n/a	V5V1761
D50939-1MSD	5V29286.D	1	09/27/13	BD	n/a	n/a	V5V1761
D50939-1	5V29282.D	1	09/27/13	BD	n/a	n/a	V5V1761

The QC reported here applies to the following samples:

Method: SW846 8260B

D50941-1

CAS No.	Compound	D50939-1 ug/kg	Spike Q	ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
---------	----------	-------------------	------------	-------	-------------	---------	--------------	----------	-----	-------------------

CAS No.	Surrogate Recoveries	MS	MSD	D50939-1	Limits
2037-26-5	Toluene-D8	93%	97%	92%	64-130%
460-00-4	4-Bromofluorobenzene	104%	103%	100%	62-131%
17060-07-0	1,2-Dichloroethane-D4	90%	89%	102%	70-130%

* = Outside of Control Limits.

GC/MS Volatiles

Raw Data

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5092713.S\
Data File : 5V29295.D
Acq On : 27 Sep 2013 9:53 pm
Operator : BRETD
Sample : D50941-1
Misc : MS6455,V5V1761,5.031,,100,5,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Sep 30 09:12:12 2013
Quant Method : C:\msdchem\1\METHODS\V5AP1728TVH1728.M
Quant Title : 8260
QLast Update : Tue Aug 20 09:59:22 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	11.613	168	109478	50.00	ug/l	0.00
37) 1,4-Difluorobenzene	12.412	114	155685	50.00	ug/l	0.00
56) Chlorobenzene-d5	15.061	117	177314	50.00	ug/l	0.00
77) 1,4-Dichlorobenzene-d4	17.036	152	145016	50.00	ug/l	0.00

System Monitoring Compounds

35) 1,2-Dichloroethane-d4	12.012	102	11855	53.29	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	106.58%
64) Toluene-d8	13.816	98	179192	44.61	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	89.22%
72) 4-Bromofluorobenzene	16.008	95	94383	50.41	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	100.82%

Target Compounds

					Qvalue
1) TVH-Gasoline	13.006	TIC	16847m	59.02	ug/l

(#) = qualifier out of range (m) = manual integration (+) = signals summed

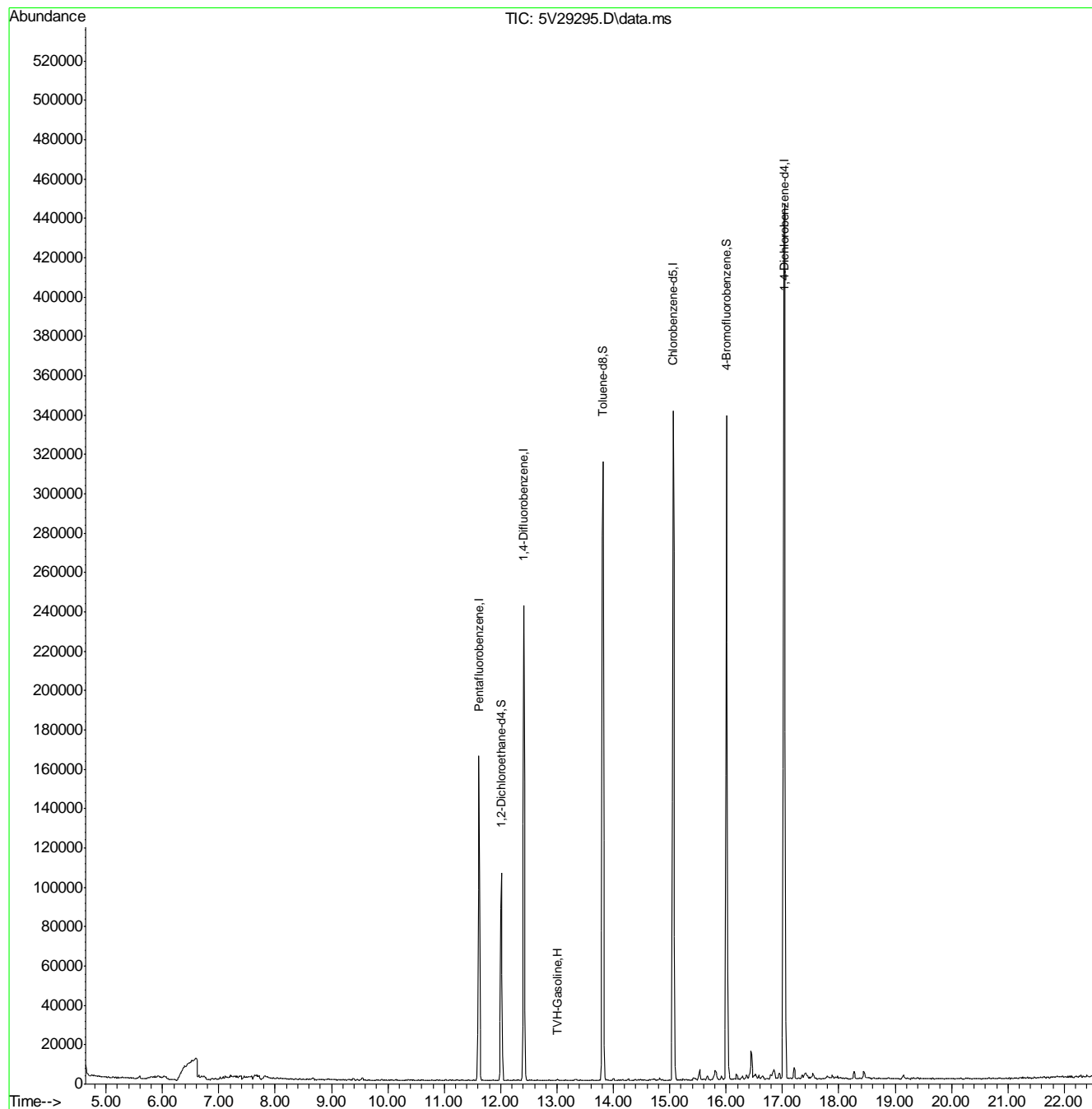
7.1.1

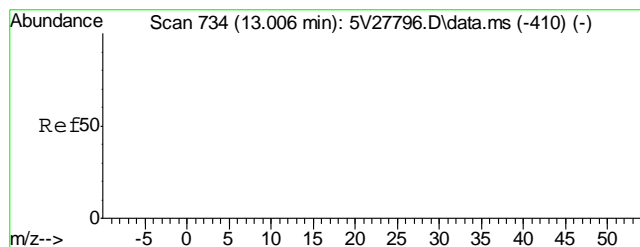
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5092713.S\
Data File : 5V29295.D
Acq On : 27 Sep 2013 9:53 pm
Operator : BRETD
Sample : D50941-1
Misc : MS6455,V5V1761,5.031,,100,5,1
ALS Vial : 21 Sample Multiplier: 1

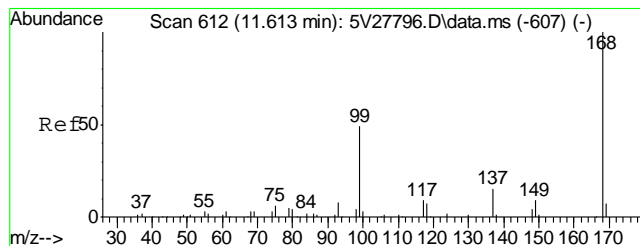
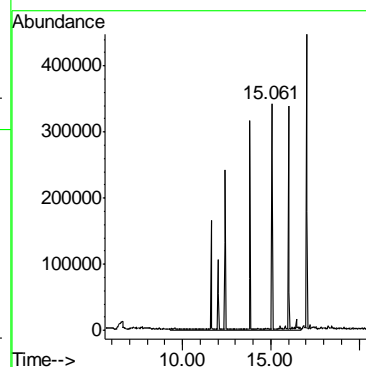
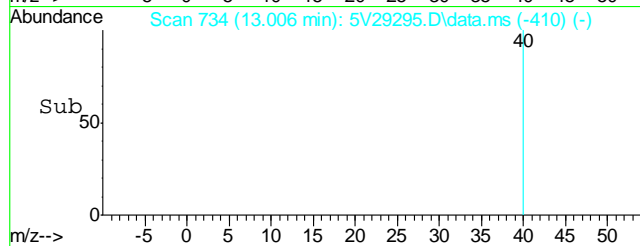
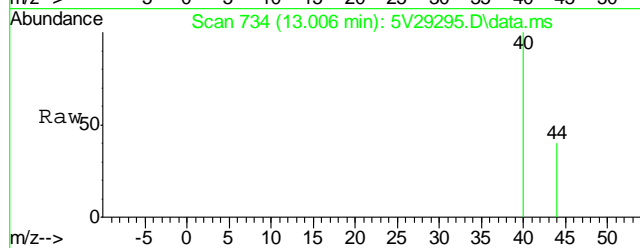
Quant Time: Sep 30 09:12:12 2013
Quant Method : C:\msdchem\1\METHODS\V5AP1728TVH1728.M
Quant Title : 8260
QLast Update : Tue Aug 20 09:59:22 2013
Response via : Initial Calibration





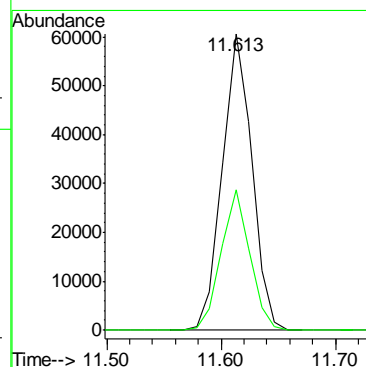
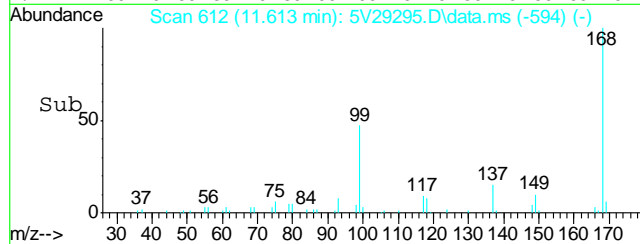
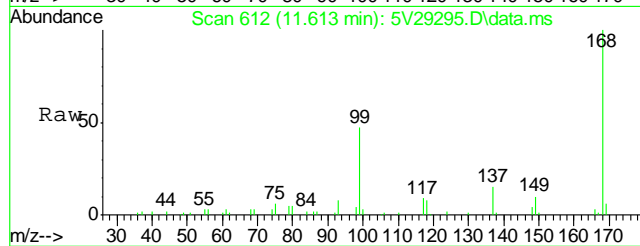
#1
TVH-Gasoline
Concen: 59.02 ug/l m
RT: 13.006 min Scan# 734
Delta R.T. 0.000 min
Lab File: 5V29295.D
Acq: 27 Sep 2013 9:53 pm

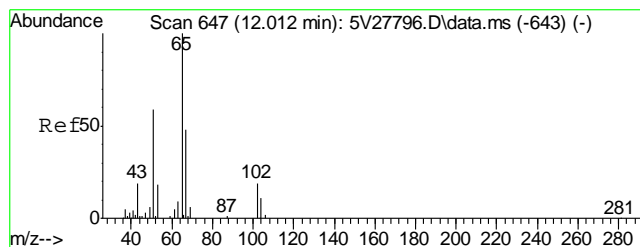
Tgt Ion:TIC Resp: 16847



#2
Pentafluorobenzene
Concen: 50.00 ug/l
RT: 11.613 min Scan# 612
Delta R.T. 0.000 min
Lab File: 5V29295.D
Acq: 27 Sep 2013 9:53 pm

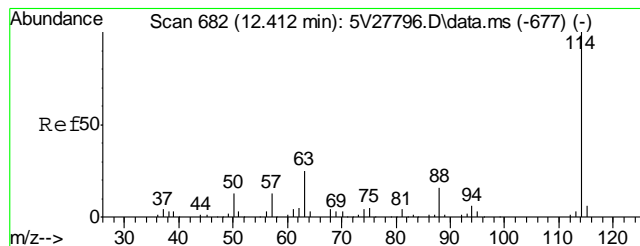
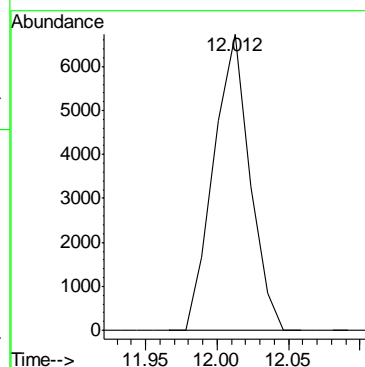
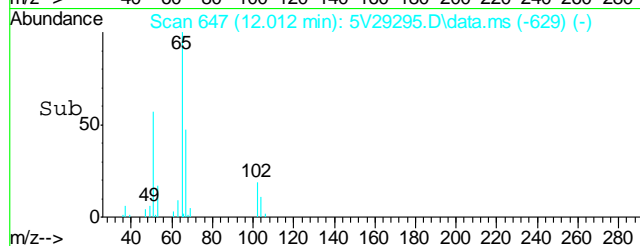
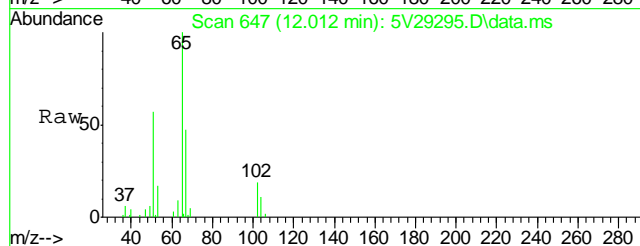
Tgt Ion:168 Resp: 109478
Ion Ratio Lower Upper
168 100
99 46.0 41.4 62.2





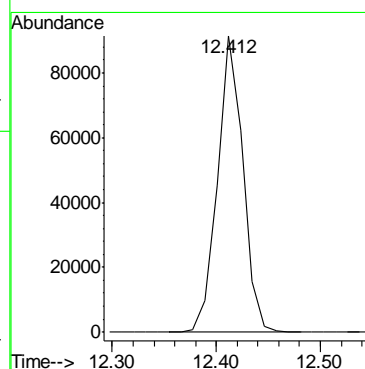
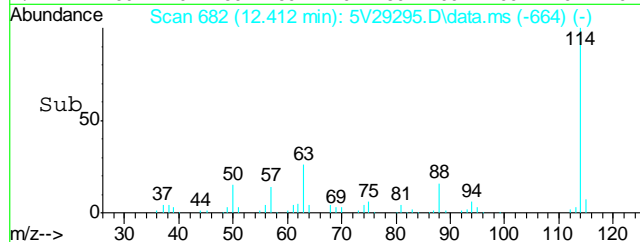
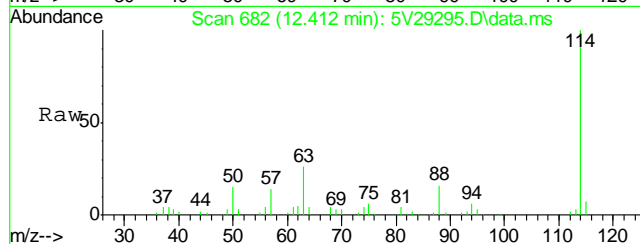
#35
1,2-Dichloroethane-d4
Concen: 53.29 ug/l
RT: 12.012 min Scan# 647
Delta R.T. 0.000 min
Lab File: 5V29295.D
Acq: 27 Sep 2013 9:53 pm

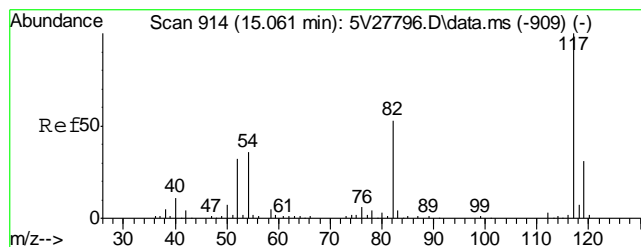
Tgt Ion:102 Resp: 11855



#37
1,4-Difluorobenzene
Concen: 50.00 ug/l
RT: 12.412 min Scan# 682
Delta R.T. 0.000 min
Lab File: 5V29295.D
Acq: 27 Sep 2013 9:53 pm

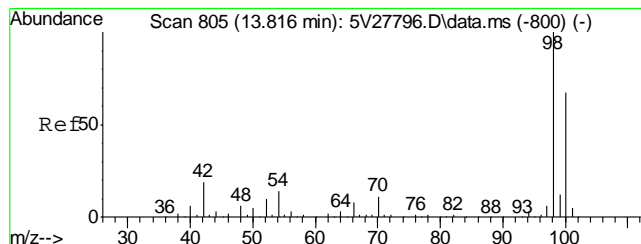
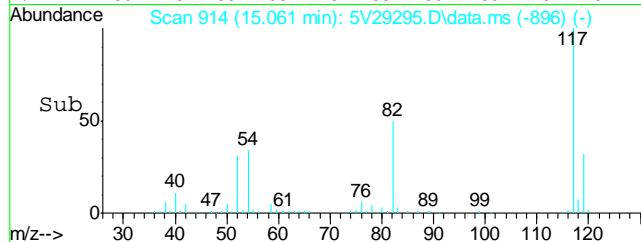
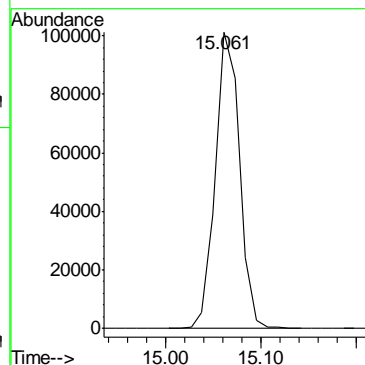
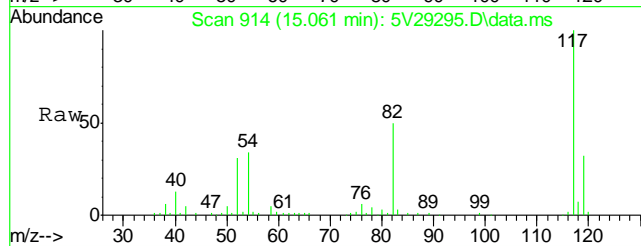
Tgt Ion:114 Resp: 155685





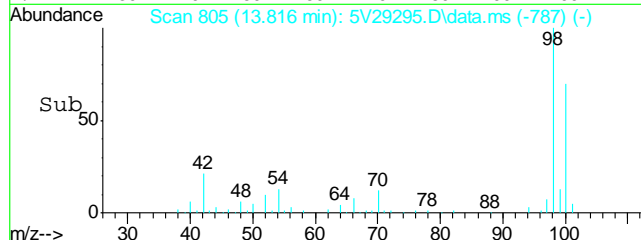
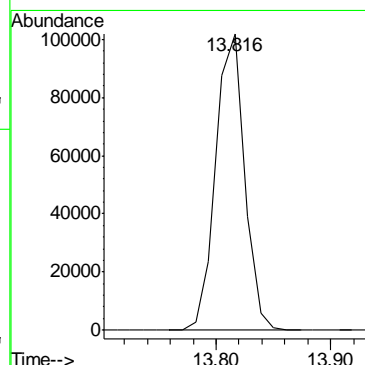
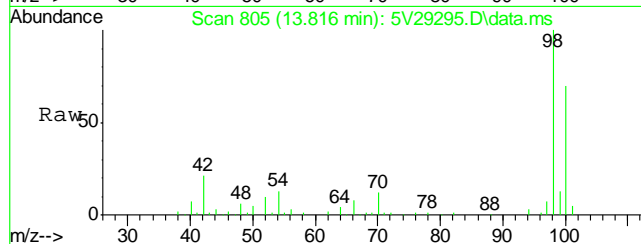
#56
Chlorobenzene-d5
Concen: 50.00 ug/l
RT: 15.061 min Scan# 914
Delta R.T. 0.000 min
Lab File: 5V29295.D
Acq: 27 Sep 2013 9:53 pm

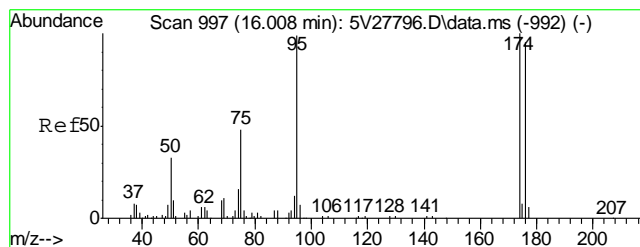
Tgt Ion:117 Resp: 177314



#64
Toluene-d8
Concen: 44.61 ug/l
RT: 13.816 min Scan# 805
Delta R.T. 0.000 min
Lab File: 5V29295.D
Acq: 27 Sep 2013 9:53 pm

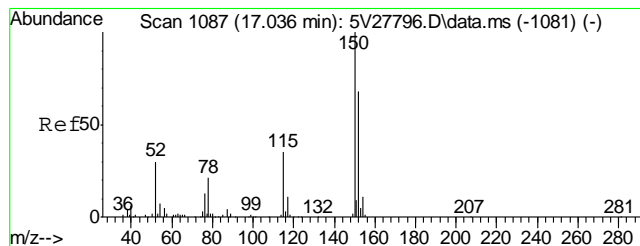
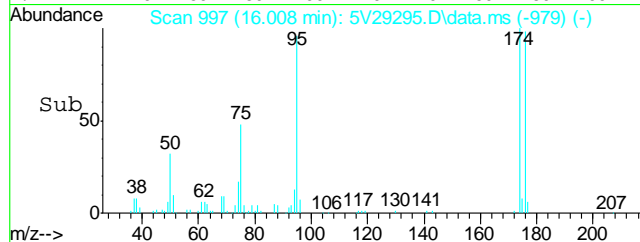
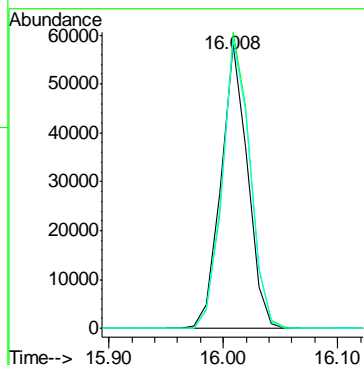
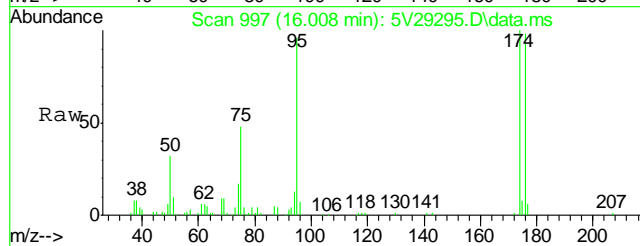
Tgt Ion: 98 Resp: 179192





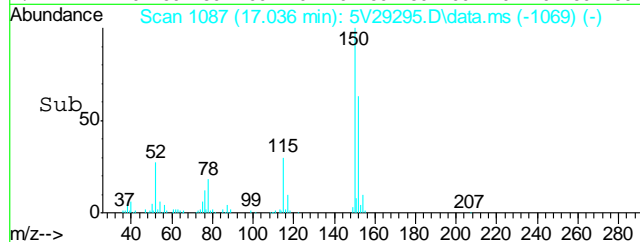
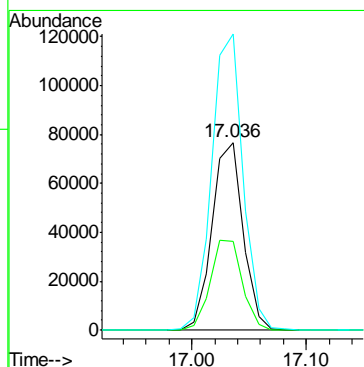
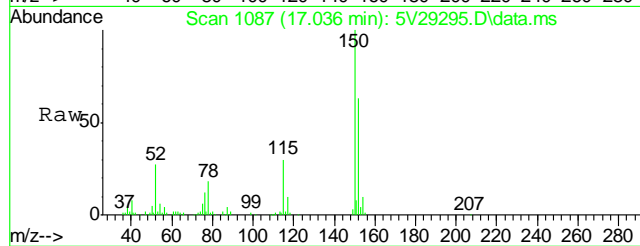
#72
4-Bromofluorobenzene
Concen: 50.41 ug/l
RT: 16.008 min Scan# 997
Delta R.T. 0.000 min
Lab File: 5V29295.D
Acq: 27 Sep 2013 9:53 pm

Tgt Ion	Ratio	Lower	Upper
95	100		
174	107.0	85.4	125.4
176	105.7	80.6	120.6



#77
1,4-Dichlorobenzene-d4
Concen: 50.00 ug/l
RT: 17.036 min Scan# 1087
Delta R.T. 0.000 min
Lab File: 5V29295.D
Acq: 27 Sep 2013 9:53 pm

Tgt Ion	Ratio	Lower	Upper
152	100		
115	49.4	43.4	65.2
150	158.3	142.9	214.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5092713.S\
Data File : 5V29279.D
Acq On : 27 Sep 2013 1:10 pm
Operator : BRETD
Sample : MB
Misc : MS6455,V5V1761,5.000,,100,5,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 30 08:46:03 2013
Quant Method : C:\msdchem\1\METHODS\V5AP1728TVH1728.M
Quant Title : 8260
QLast Update : Tue Aug 20 09:59:22 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	11.613	168	134668	50.00	ug/l	0.00
37) 1,4-Difluorobenzene	12.412	114	190938	50.00	ug/l	0.00
56) Chlorobenzene-d5	15.061	117	192757	50.00	ug/l	0.00
77) 1,4-Dichlorobenzene-d4	17.036	152	134861	50.00	ug/l	0.00

System Monitoring Compounds

35) 1,2-Dichloroethane-d4	12.012	102	14760	53.94	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	107.88%
64) Toluene-d8	13.816	98	210999	48.32	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	96.64%
72) 4-Bromofluorobenzene	16.008	95	90580	44.50	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	89.00%

Target Compounds

					Qvalue
1) TVH-Gasoline	13.006	TIC	-52748m	53.96	ug/l
94) Naphthalene	19.513	128	452	0.89	ug/l

(#) = qualifier out of range (m) = manual integration (+) = signals summed

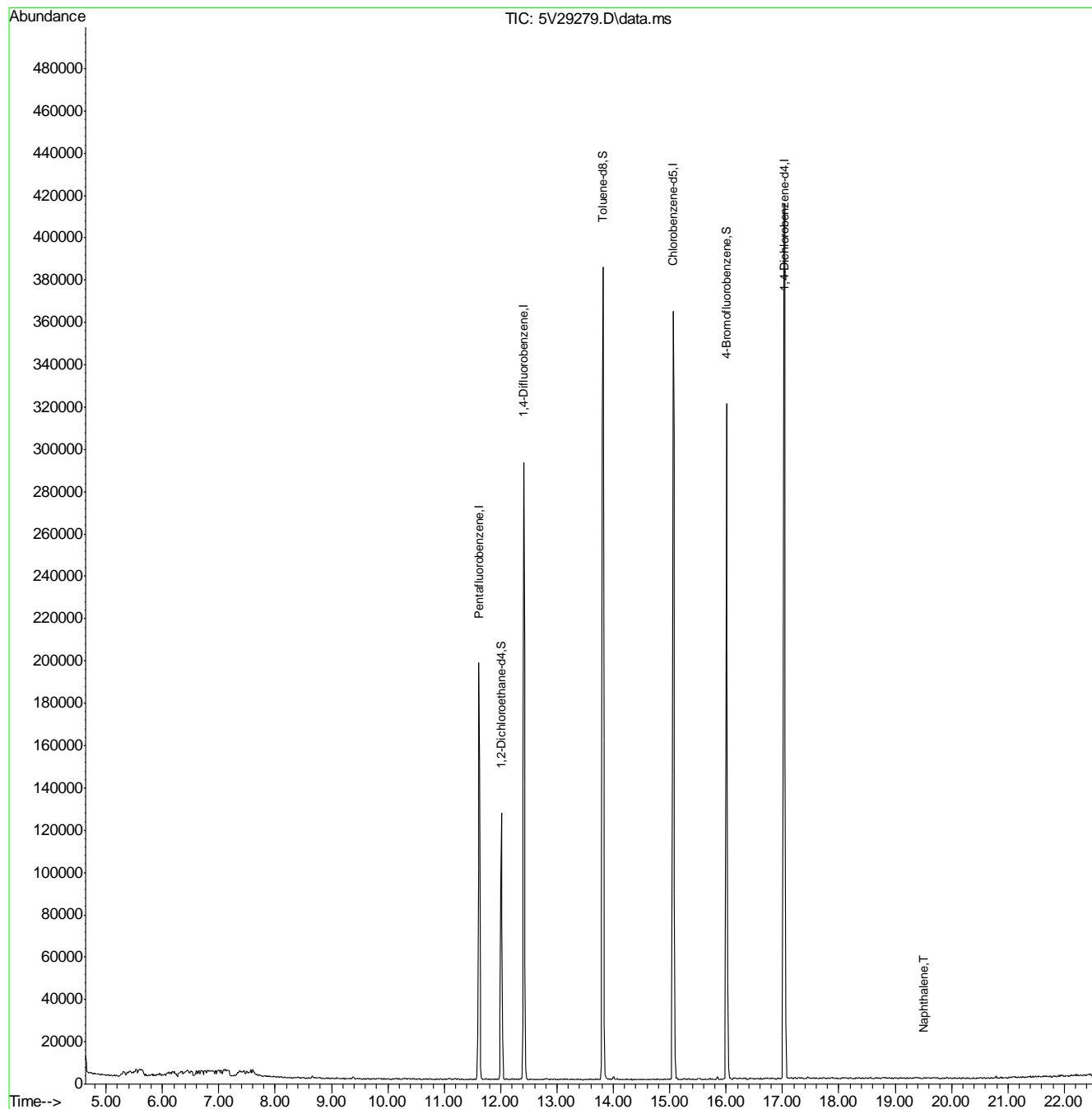
7.2.1

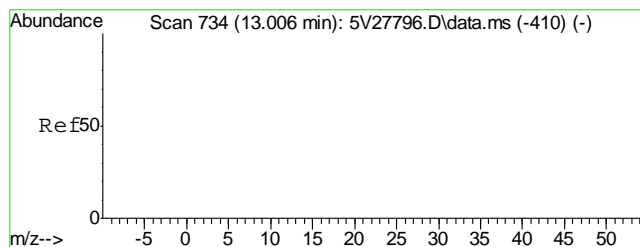
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5092713.S\
Data File : 5V29279.D
Acq On : 27 Sep 2013 1:10 pm
Operator : BRETD
Sample : MB
Misc : MS6455,V5V1761,5.000,,100,5,1
ALS Vial : 5 Sample Multiplier: 1

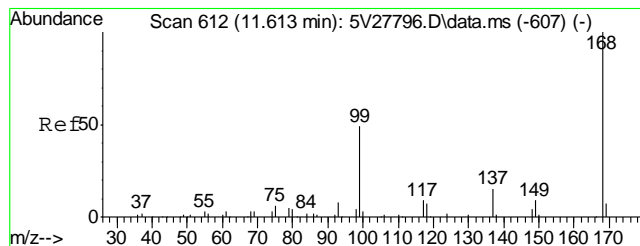
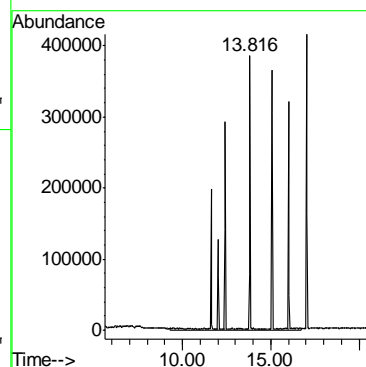
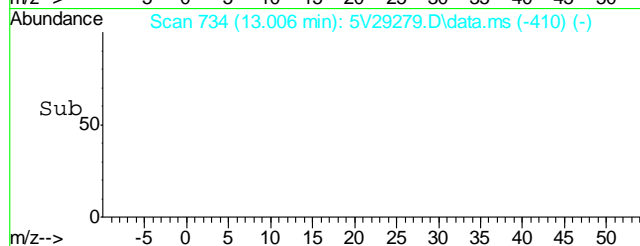
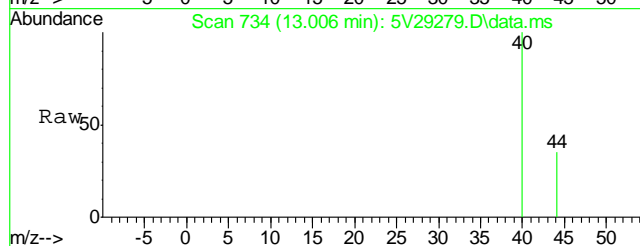
Quant Time: Sep 30 08:46:03 2013
Quant Method : C:\msdchem\1\METHODS\V5AP1728TVH1728.M
Quant Title : 8260
QLast Update : Tue Aug 20 09:59:22 2013
Response via : Initial Calibration





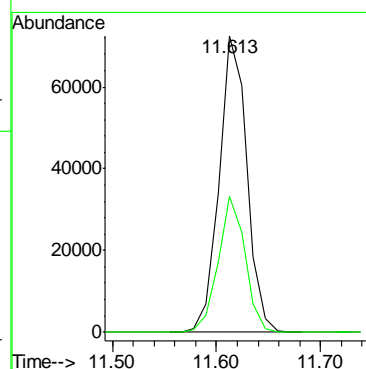
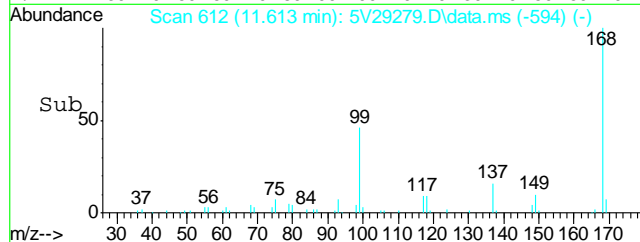
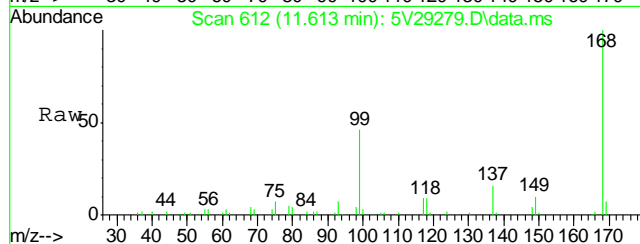
#1
TVH-Gasoline
Concen: 53.96 ug/l m
RT: 13.006 min Scan# 734
Delta R.T. 0.000 min
Lab File: 5V29279.D
Acq: 27 Sep 2013 1:10 pm

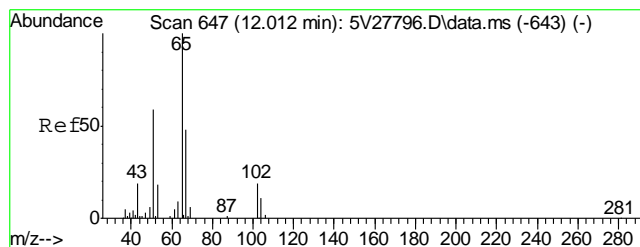
Tgt Ion:TIC Resp: -52748



#2
Pentafluorobenzene
Concen: 50.00 ug/l
RT: 11.613 min Scan# 612
Delta R.T. 0.000 min
Lab File: 5V29279.D
Acq: 27 Sep 2013 1:10 pm

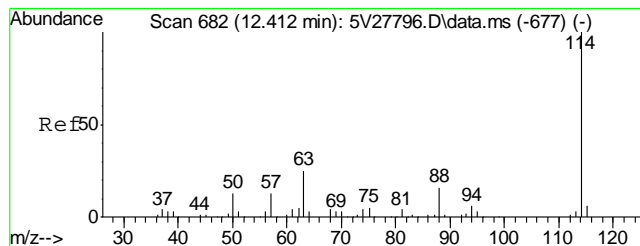
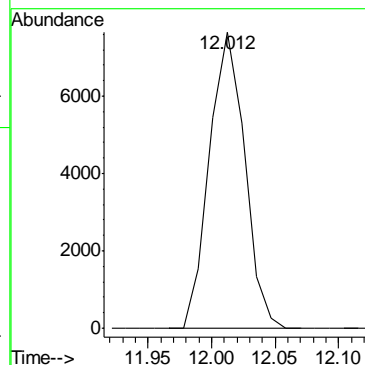
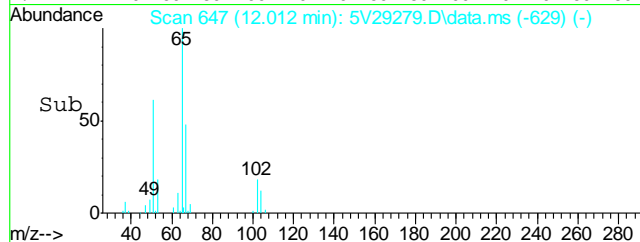
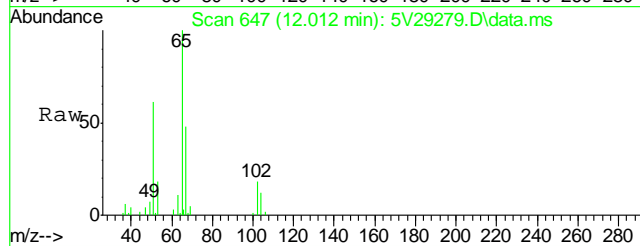
Tgt Ion:168 Resp: 134668
Ion Ratio Lower Upper
168 100
99 44.4 41.4 62.2





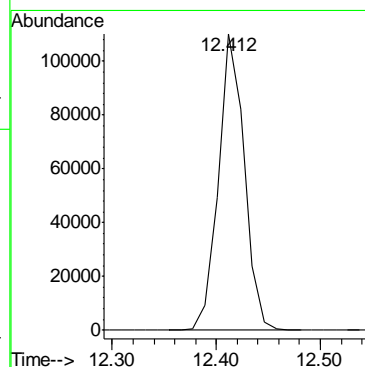
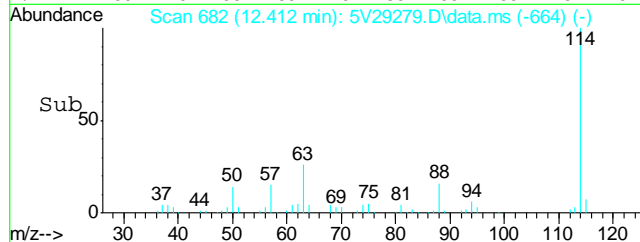
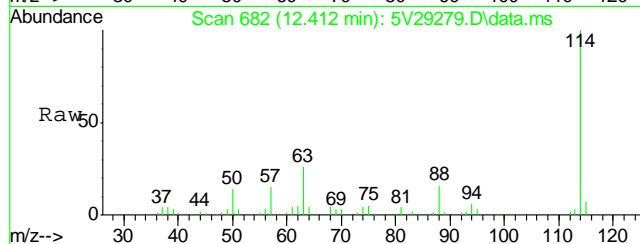
#35
1,2-Dichloroethane-d4
Concen: 53.94 ug/l
RT: 12.012 min Scan# 647
Delta R.T. 0.000 min
Lab File: 5V29279.D
Acq: 27 Sep 2013 1:10 pm

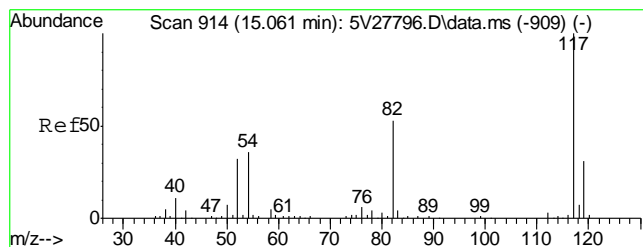
Tgt Ion:102 Resp: 14760



#37
1,4-Difluorobenzene
Concen: 50.00 ug/l
RT: 12.412 min Scan# 682
Delta R.T. 0.000 min
Lab File: 5V29279.D
Acq: 27 Sep 2013 1:10 pm

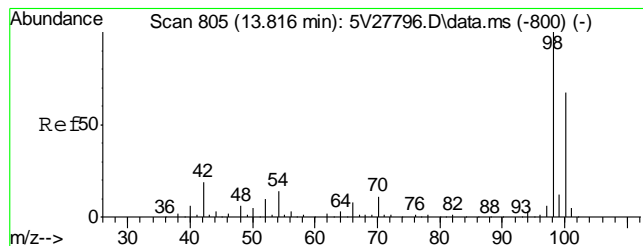
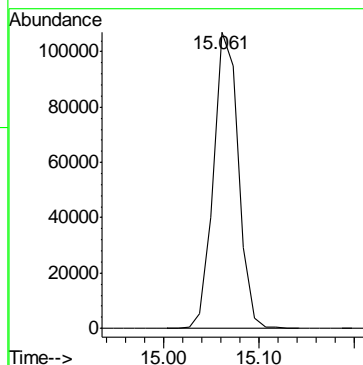
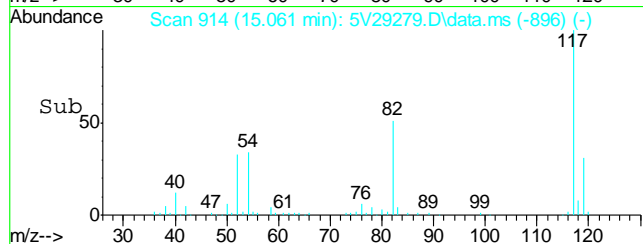
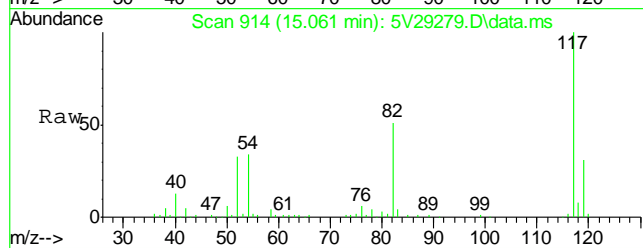
Tgt Ion:114 Resp: 190938





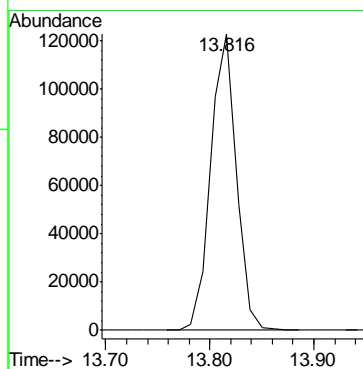
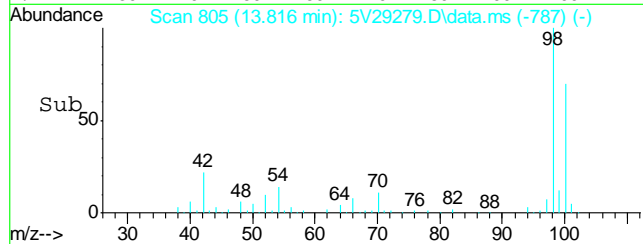
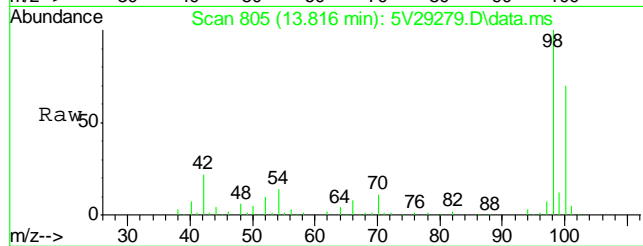
#56
Chlorobenzene-d5
Concen: 50.00 ug/l
RT: 15.061 min Scan# 914
Delta R.T. 0.000 min
Lab File: 5V29279.D
Acq: 27 Sep 2013 1:10 pm

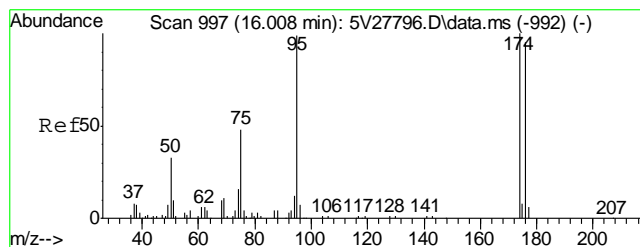
Tgt Ion:117 Resp: 192757



#64
Toluene-d8
Concen: 48.32 ug/l
RT: 13.816 min Scan# 805
Delta R.T. 0.000 min
Lab File: 5V29279.D
Acq: 27 Sep 2013 1:10 pm

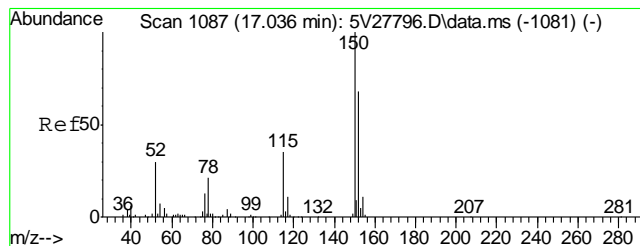
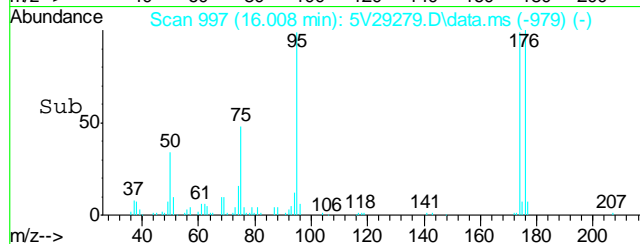
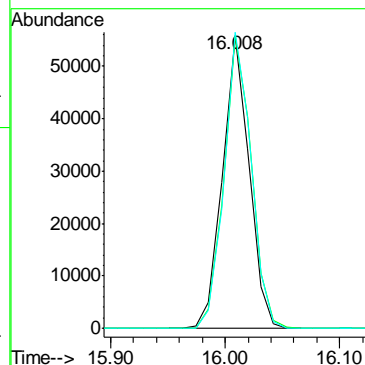
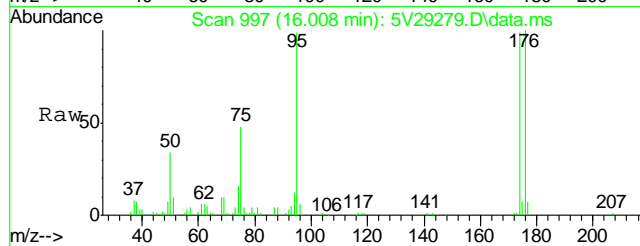
Tgt Ion: 98 Resp: 210999





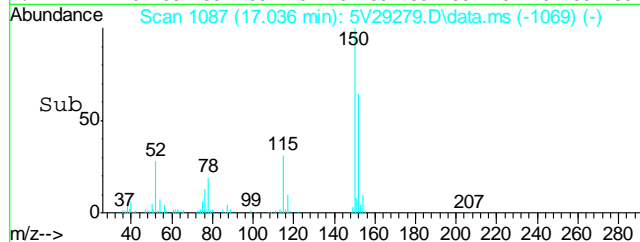
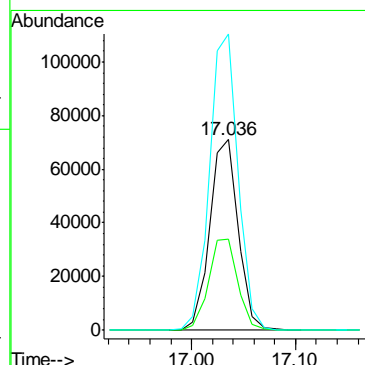
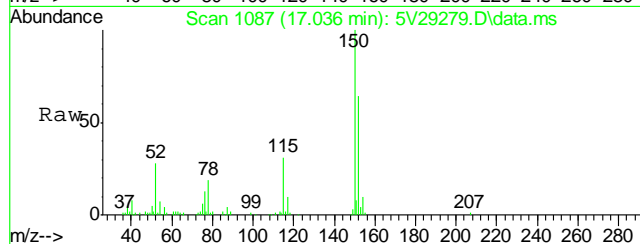
#72
4-Bromofluorobenzene
Concen: 44.50 ug/l
RT: 16.008 min Scan# 997
Delta R.T. 0.000 min
Lab File: 5V29279.D
Acq: 27 Sep 2013 1:10 pm

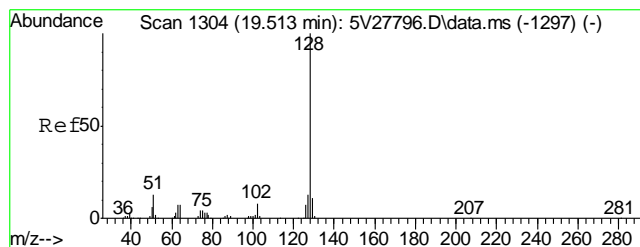
Tgt Ion	Ratio	Lower	Upper
95	100		
174	102.4	85.4	125.4
176	101.8	80.6	120.6



#77
1,4-Dichlorobenzene-d4
Concen: 50.00 ug/l
RT: 17.036 min Scan# 1087
Delta R.T. 0.000 min
Lab File: 5V29279.D
Acq: 27 Sep 2013 1:10 pm

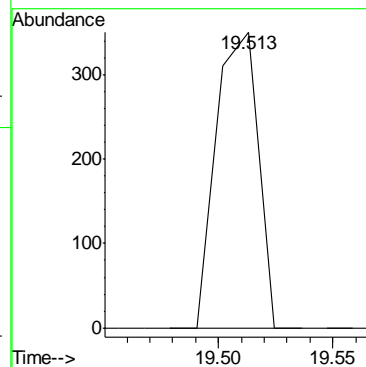
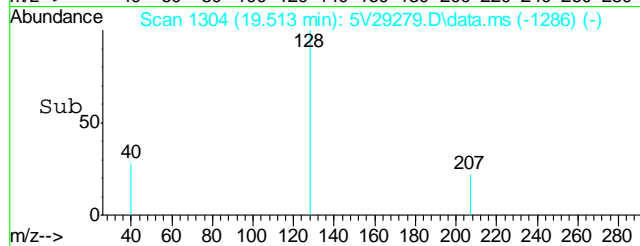
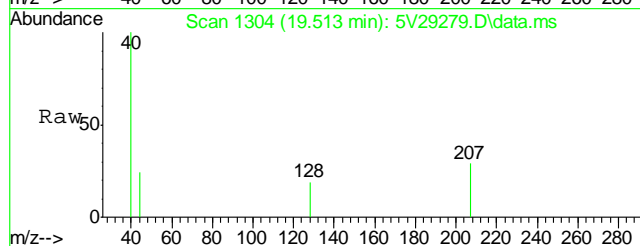
Tgt Ion	Ratio	Lower	Upper
152	100		
115	49.0	43.4	65.2
150	156.5	142.9	214.3





#94
Naphthalene
Concen: 0.89 ug/l
RT: 19.513 min Scan# 1304
Delta R.T. 0.000 min
Lab File: 5V29279.D
Acq: 27 Sep 2013 1:10 pm

Tgt Ion:128 Resp: 452



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: D50941
Account: XTOKRWR XTO Energy
Project: PCU T43-24G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB1228-MB	GB22328.D	1	09/27/13	EV	n/a	n/a	GGB1228

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

D50941-1

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	84% 60-140%

Blank Spike Summary

Job Number: D50941
Account: XTOKRWR XTO Energy
Project: PCU T43-24G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB1228-BS	GB22329.D	1	09/27/13	EV	n/a	n/a	GGB1228

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

D50941-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	110	100	70-130

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D50941
Account: XTOKRWR XTO Energy
Project: PCU T43-24G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D50941-1MS	GB22331.D	1	09/27/13	EV	n/a	n/a	GGB1228
D50941-1MSD	GB22332.D	1	09/27/13	EV	n/a	n/a	GGB1228
D50941-1	GB22330.D	1	09/27/13	EV	n/a	n/a	GGB1228

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

D50941-1

CAS No.	Compound	D50941-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		174	180	103	183	105	2	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D50941-1	Limits
120-82-1	1,2,4-Trichlorobenzene	91%	88%	83%	60-140%

* = Outside of Control Limits.

GC Volatiles

Raw Data

6

Judy Melson
09/30/13 12:12

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\092713\GB22330.D\FID1A.CH Vial: 6
 Signal #2 : Y:\1\DATA\092713\GB22330.D\FID2B.CH
 Acq On : 27 Sep 2013 1:21 pm Operator: ELISEV
 Sample : D50941-1 Inst : GC/MS Ins
 Misc : GC3905,GGB1228,5.031,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Sep 30 09:20:31 2013 Quant Results File: TB1125GB1125SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB1125GB1125SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Mon Sep 30 09:20:01 2013
 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	2504114	82.887 %	m
10) S 1,2,4-Trichlorobenzene (P)	14.35	11572482	87.638 %	m
Target Compounds				
1) H TVH-Gasoline	7.30	5860199	0.084 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	139969	0.378 ug/L	
7) T Ethylbenzene	0.00	0	N.D. ug/L d	
8) T m,p-Xylene	10.45	223385	0.592 ug/L m	
9) T o-Xylene	10.95	71036	0.227 ug/L m	
11) T Naphthalene	14.53	304270	1.766 ug/L m	

9.1.1
9

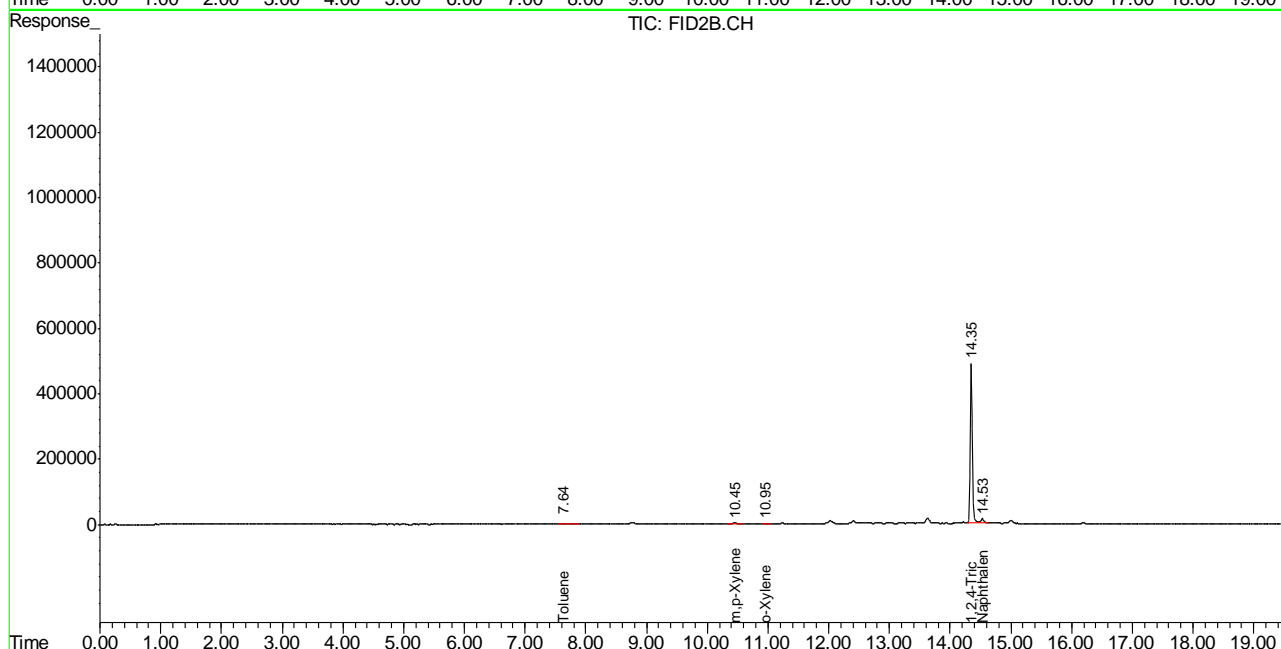
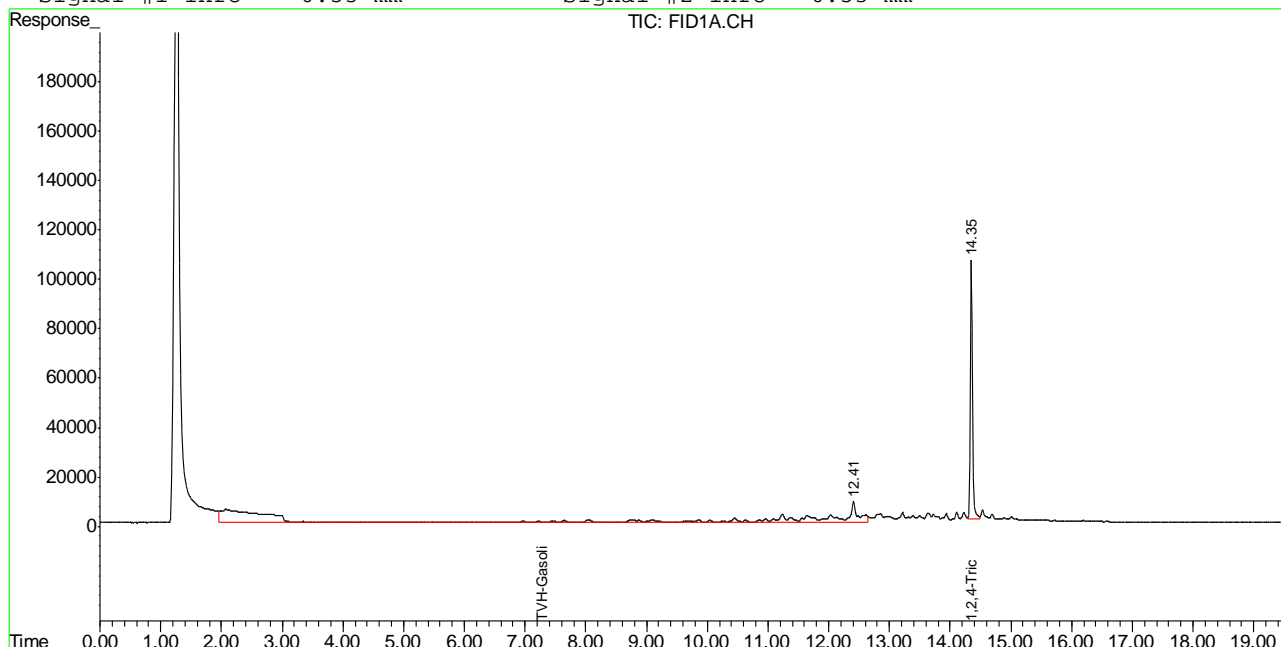
(f)=RT Delta > 1/2 Window (m)=manual int.
 GB22330.D TB1125GB1125SOIL.M Mon Sep 30 09:35:07 2013 GC

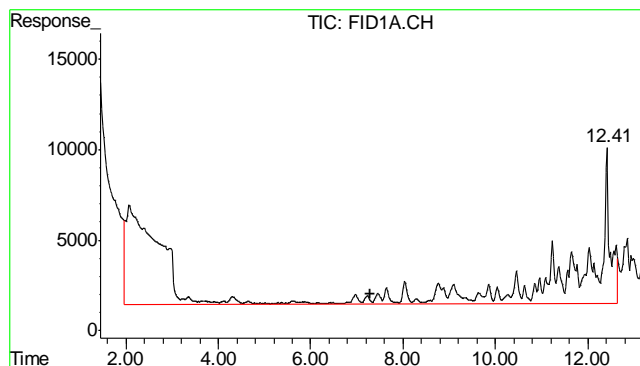
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\092713\GB22330.D\FID1A.CH Vial: 6
 Signal #2 : Y:\1\DATA\092713\GB22330.D\FID2B.CH
 Acq On : 27 Sep 2013 1:21 pm Operator: ELISEV
 Sample : D50941-1 Inst : GC/MS Ins
 Misc : GC3905,GGB1228,5.031,,100,5,1 Multiplr: 1.00
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
 Quant Time: Sep 30 9:30 2013 Quant Results File: TB1125GB1125SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB1125GB1125SOIL.M (Chemstation Integrator)
 Title : 8015B/8021B TVH/BTEX
 Last Update : Mon Sep 30 09:20:01 2013
 Response via : Multiple Level Calibration
 DataAcq Meth : TVB4.M

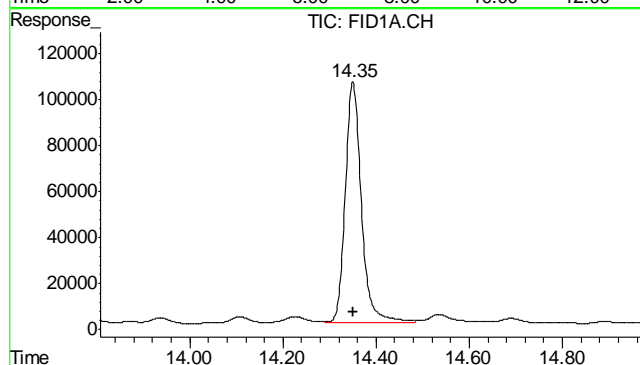
Volume Inj. :
 Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
 Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





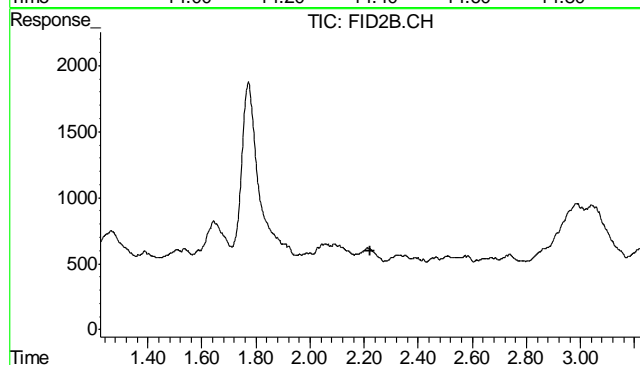
#1 TVH-Gasoline

R.T.: 7.300 min
Delta R.T.: 0.000 min
Response: 5860199
Conc: 0.08 mg/L m



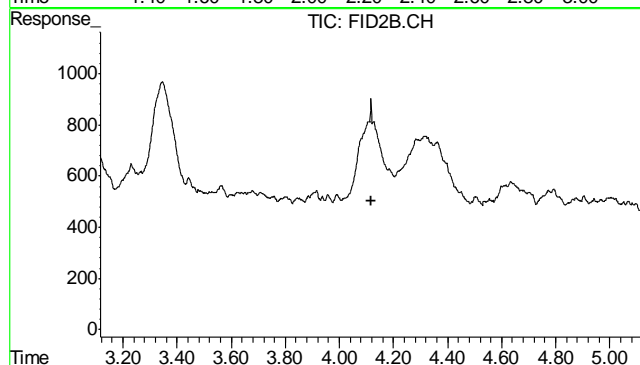
#2 1,2,4-Trichlorobenzene

R.T.: 14.349 min
Delta R.T.: 0.000 min
Response: 2504114
Conc: 82.89 % m



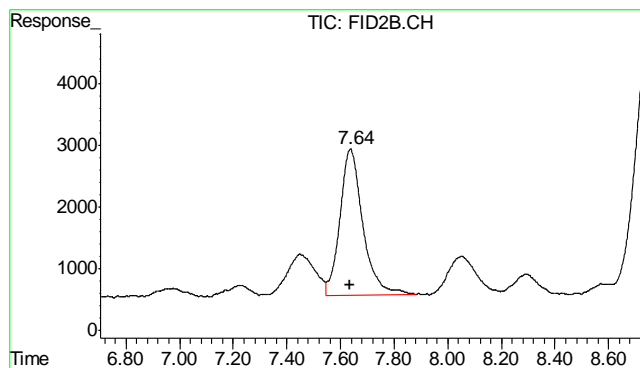
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T.: 2.224 min
Response: 0
Conc: N.D.



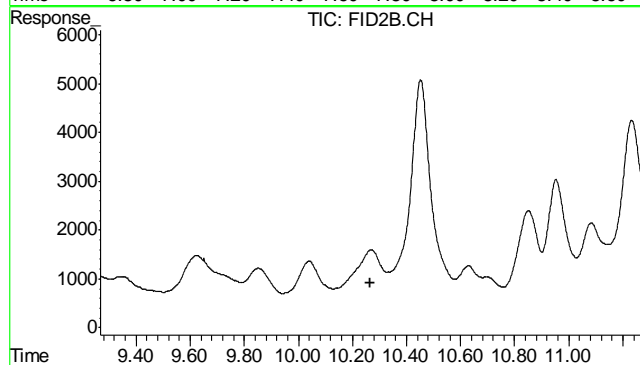
#5 Benzene

R.T.: 0.000 min
Exp R.T.: 4.116 min
Response: 0
Conc: N.D.



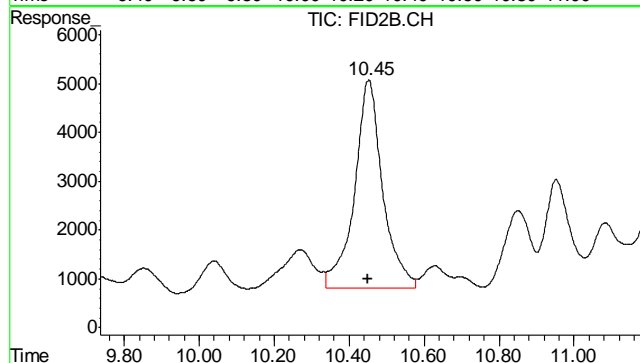
#6 Toluene

R.T.: 7.637 min
Delta R.T.: 0.000 min
Response: 139969
Conc: 0.38 ug/L



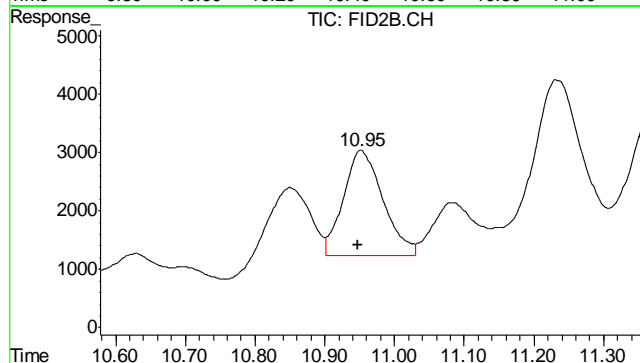
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T.: 10.267 min
Response: 0
Conc: N.D.



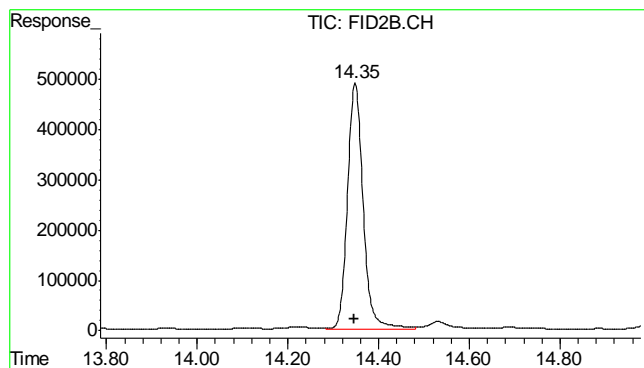
#8 m,p-Xylene

R.T.: 10.452 min
Delta R.T.: 0.003 min
Response: 223385
Conc: 0.59 ug/L m



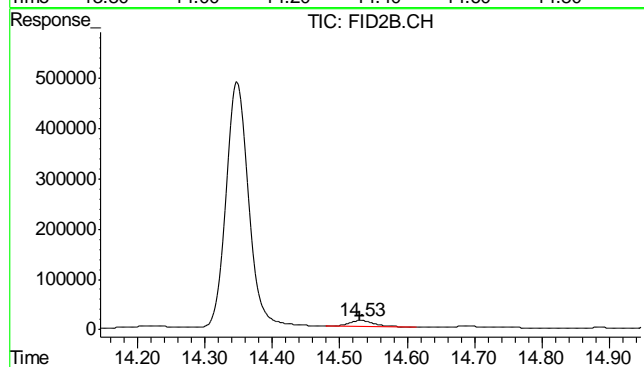
#9 o-Xylene

R.T.: 10.951 min
Delta R.T.: 0.004 min
Response: 71036
Conc: 0.23 ug/L m



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

R.T.: 14.347 min
Delta R.T.: 0.000 min
Response: 11572482
Conc: 87.64 % m



#11 Naphthalene

R.T.: 14.530 min
Delta R.T.: 0.000 min
Response: 304270
Conc: 1.77 ug/L m

Judy Melson
09/30/13 12:12

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\092713\GB22328.D\FID1A.CH Vial: 4
Signal #2 : Y:\1\DATA\092713\GB22328.D\FID2B.CH
Acq On : 27 Sep 2013 12:10 pm Operator: ELISEV
Sample : MB, S Inst : GC/MS Ins
Misc : GC3905,GGB1228,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Sep 30 09:20:23 2013 Quant Results File: TB1125GB1125SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB1125GB1125SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon Sep 30 09:20:01 2013
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	2552644	84.494 %	m
10) S	1,2,4-Trichlorobenzene (P)	14.35	11663985	88.331 %	m
Target Compounds					
1) H	TVH-Gasoline	7.30	4077254	0.058 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	7.65	178541	0.482 ug/L	
7) T	Ethylbenzene	0.00	0	N.D. ug/L	d
8) T	m,p-Xylene	10.46	198735	0.526 ug/L	
9) T	o-Xylene	10.96	88699	0.284 ug/L	m
11) T	Naphthalene	14.54	36214	0.210 ug/L	m

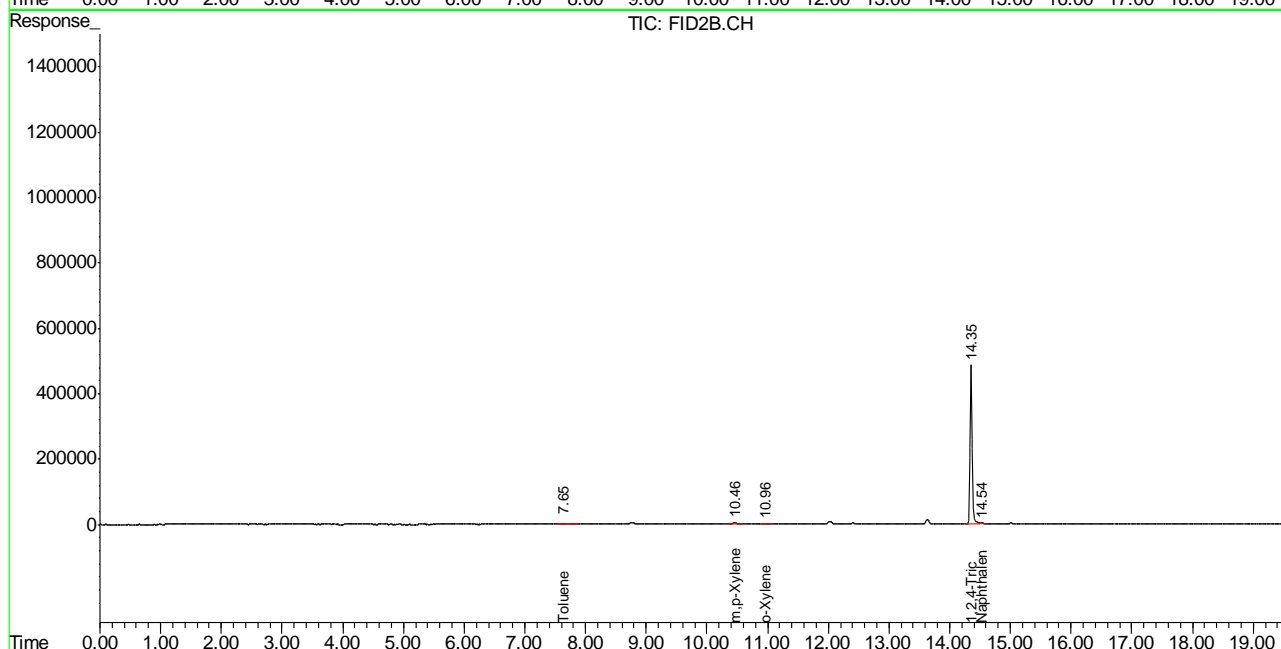
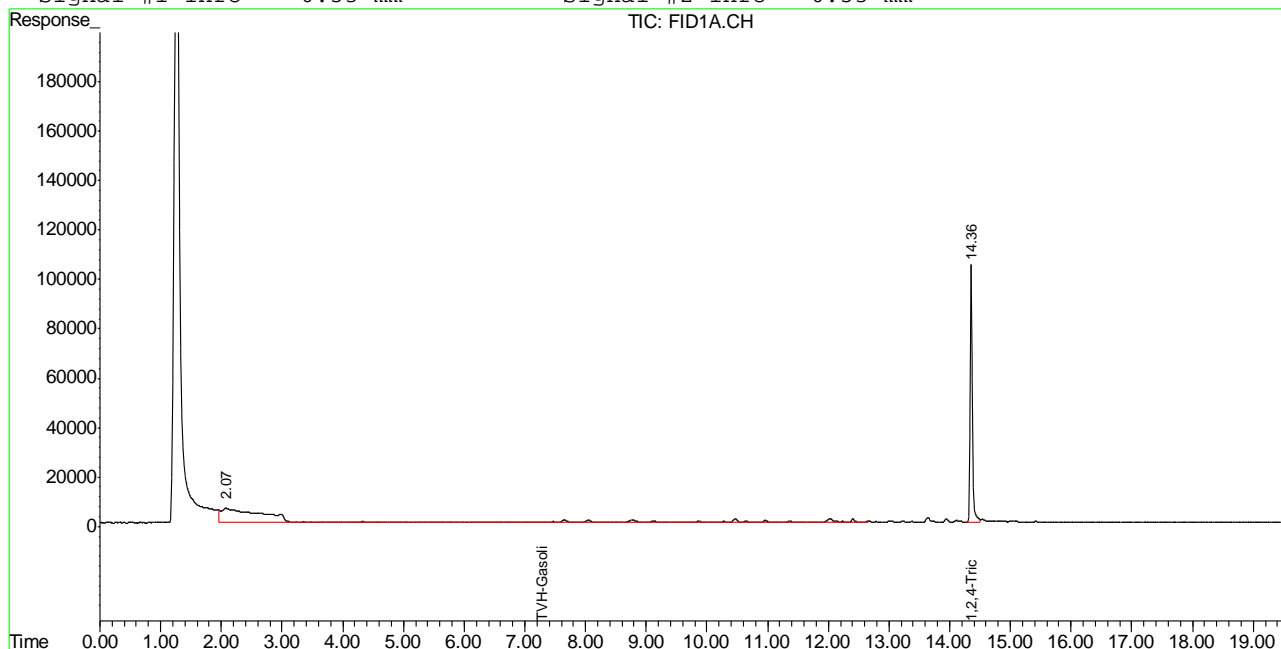
(f)=RT Delta > 1/2 Window (m)=manual int.
GB22328.D TB1125GB1125SOIL.M Mon Sep 30 09:35:01 2013 GC

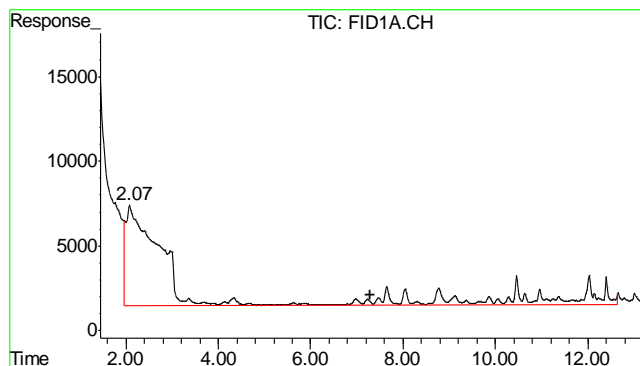
Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\092713\GB22328.D\FID1A.CH Vial: 4
Signal #2 : Y:\1\DATA\092713\GB22328.D\FID2B.CH
Acq On : 27 Sep 2013 12:10 pm Operator: ELISEV
Sample : MB, S Inst : GC/MS Ins
Misc : GC3905,GGB1228,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Sep 30 9:28 2013 Quant Results File: TB1125GB1125SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB1125GB1125SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon Sep 30 09:20:01 2013
Response via : Multiple Level Calibration
DataAcq Meth : TVB4.M

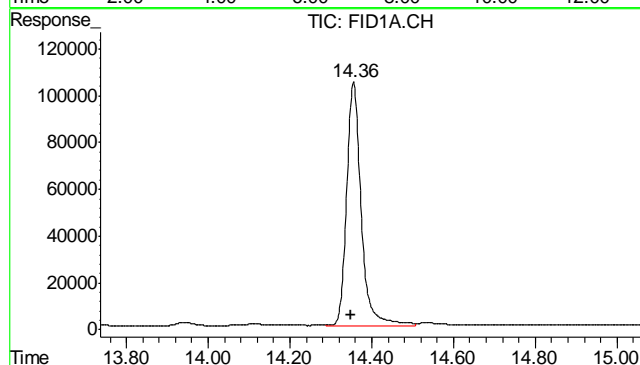
Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm





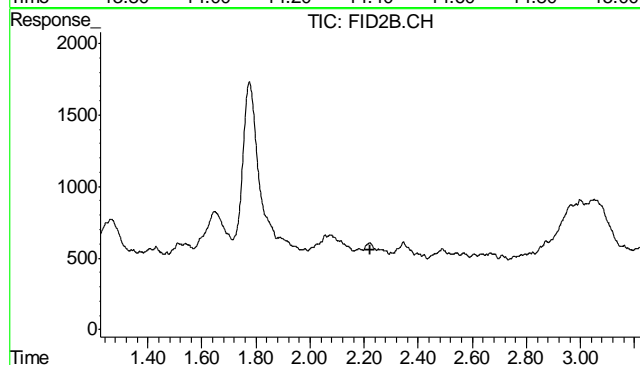
#1 TVH-Gasoline

R.T.: 7.300 min
Delta R.T.: 0.000 min
Response: 4077254
Conc: 0.06 mg/L m



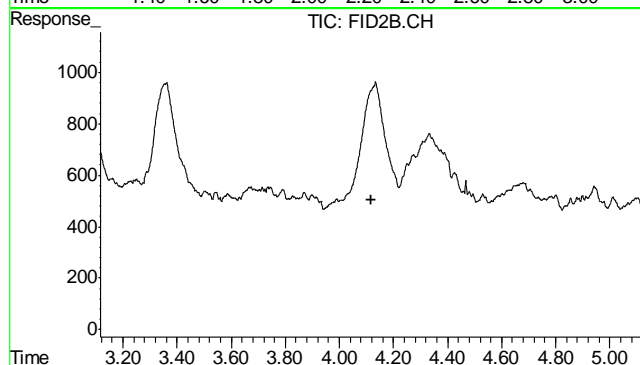
#2 1,2,4-Trichlorobenzene

R.T.: 14.355 min
Delta R.T.: 0.005 min
Response: 2552644
Conc: 84.49 % m



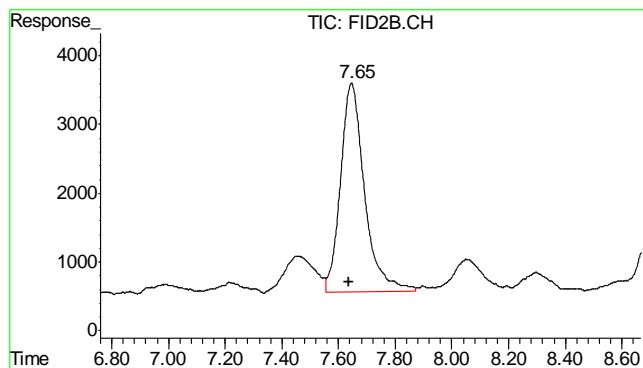
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T.: 2.224 min
Response: 0
Conc: N.D.



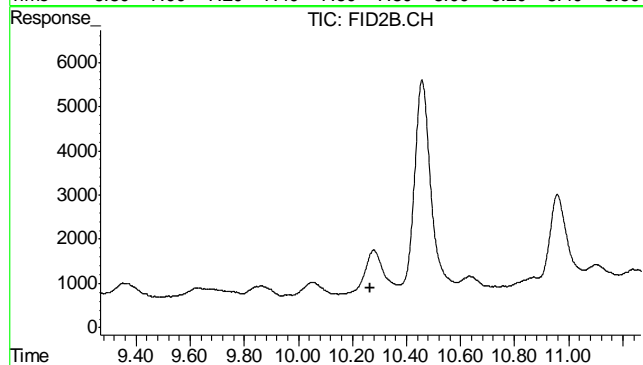
#5 Benzene

R.T.: 0.000 min
Exp R.T.: 4.116 min
Response: 0
Conc: N.D.



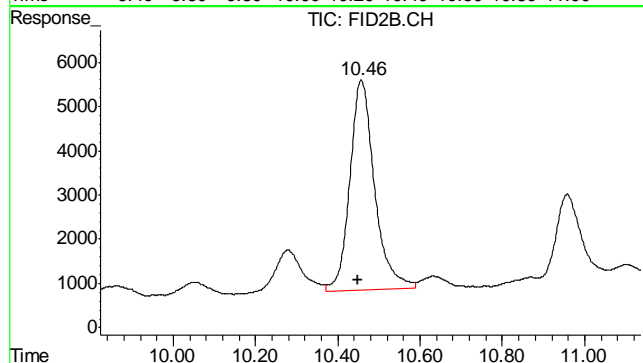
#6 Toluene

R.T.: 7.646 min
Delta R.T.: 0.009 min
Response: 178541
Conc: 0.48 ug/L



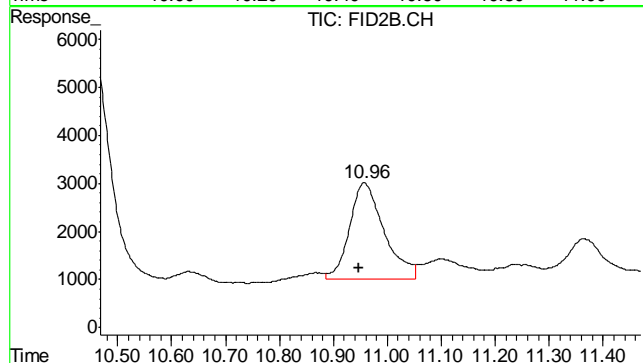
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T.: 10.267 min
Response: 0
Conc: N.D.



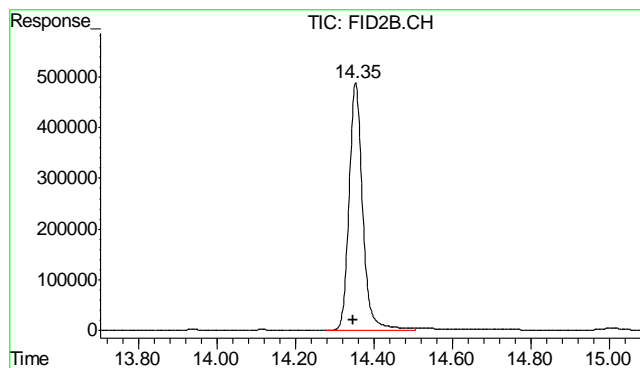
#8 m,p-Xylene

R.T.: 10.457 min
Delta R.T.: 0.008 min
Response: 198735
Conc: 0.53 ug/L



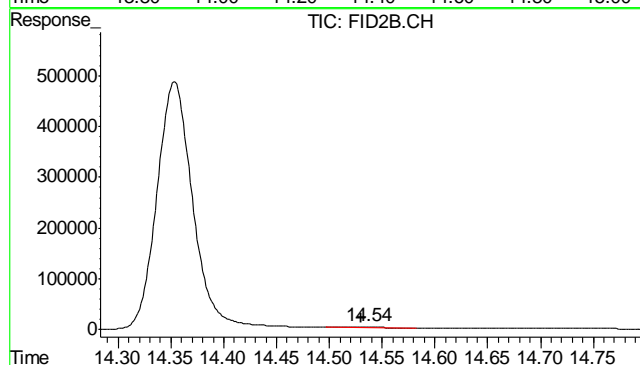
#9 o-Xylene

R.T.: 10.958 min
Delta R.T.: 0.011 min
Response: 88699
Conc: 0.28 ug/L m



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

R.T.: 14.353 min
Delta R.T.: 0.005 min
Response: 11663985
Conc: 88.33 % m



#11 Naphthalene

R.T.: 14.535 min
Delta R.T.: 0.005 min
Response: 36214
Conc: 0.21 ug/L m

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: D50941
Account: XTOKRWR XTO Energy
Project: PCU T43-24G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8643-MB	FH013472.D	1	09/27/13	TU	09/27/13	OP8643	GFH714

The QC reported here applies to the following samples:

Method: SW846-8015B

D50941-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	6.7	5.0	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	84% 20-130%

10.1.1
10

Blank Spike Summary

Page 1 of 1

Job Number: D50941
Account: XTOKRWR XTO Energy
Project: PCU T43-24G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8643-BS	FH013474.D	1	09/27/13	TU	09/27/13	OP8643	GFH714

The QC reported here applies to the following samples:

Method: SW846-8015B

D50941-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	477	72	42-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	74%	20-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D50941
Account: XTOKRWR XTO Energy
Project: PCU T43-24G

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8643-MS	FH013478.D	1	09/27/13	TU	09/27/13	OP8643	GFH714
OP8643-MSD	FH013480.D	1	09/27/13	TU	09/27/13	OP8643	GFH714
D50939-1	FH013482.D	1	09/27/13	TU	09/27/13	OP8643	GFH714

The QC reported here applies to the following samples:

Method: SW846-8015B

D50941-1

CAS No.	Compound	D50939-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	25.9		781	398	48	432	52	8	20-150/30

CAS No.	Surrogate Recoveries	MS	MSD	D50939-1	Limits
84-15-1	o-Terphenyl	54%	60%	68%	20-130%

* = Outside of Control Limits.

GC Semi-volatiles

Raw Data



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH092713\
 Data File : FH013491.D
 Signal(s) : FID1A.ch
 Acq On : 27 Sep 2013 5:01 pm
 Operator : TIMU
 Sample : D50941-1
 Misc : OP8643,GFH715,30.18,,,1,1
 ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Sep 30 09:19:26 2013
 Quant Method : C:\msdchem\1\METHODS\DRO-GFH695F.M
 Quant Title : DRO-ORO FRONT
 QLast Update : Mon Sep 16 12:19:37 2013
 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	12.813	2296137869	1680.532 ug/mlm
Target Compounds			
1) H TPH-DRO (C10-C28)	10.473	764833979	637.649 ug/ml

(f)=RT Delta > 1/2 Window

(m)=manual int.

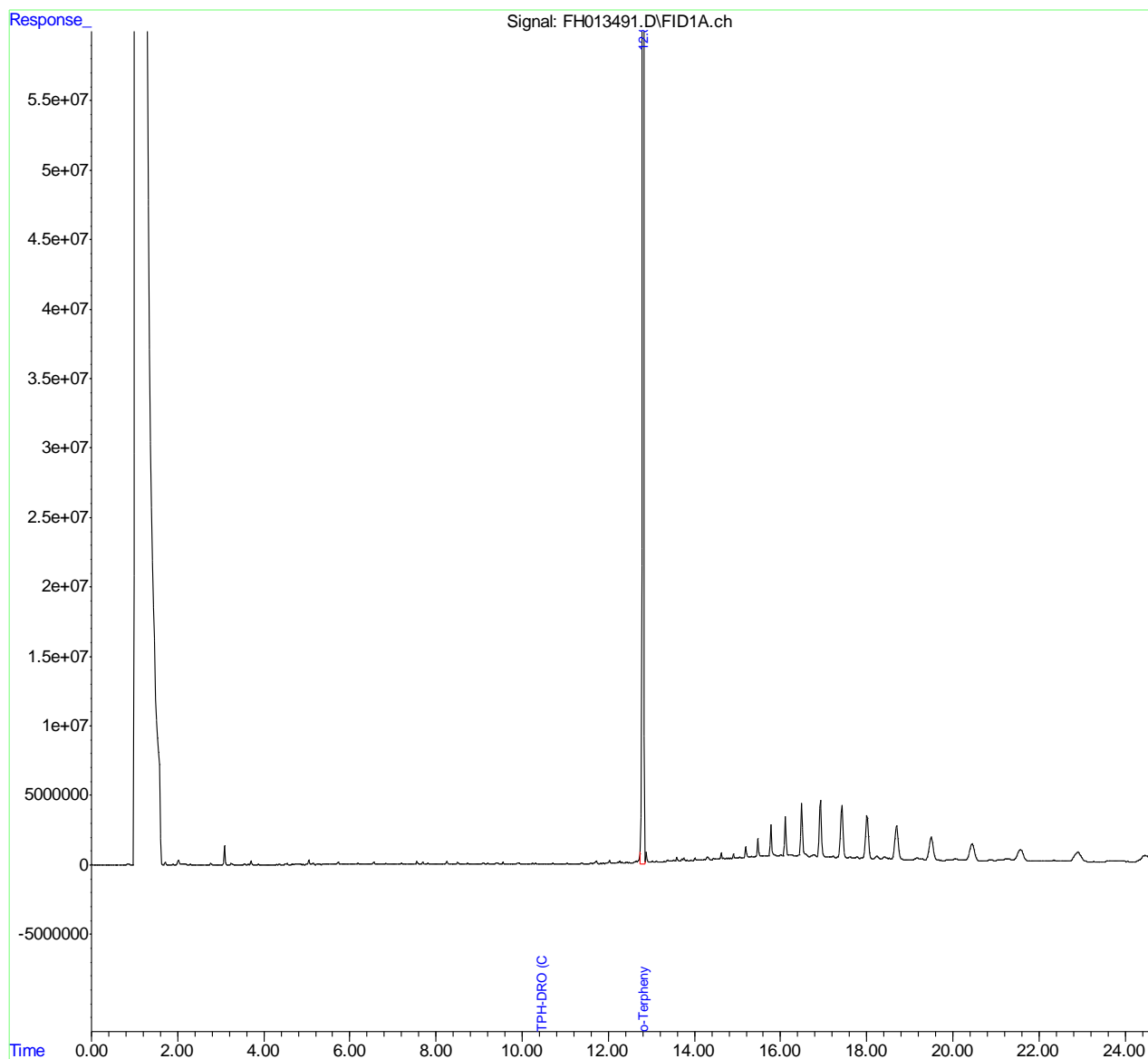
11.1.1
 11

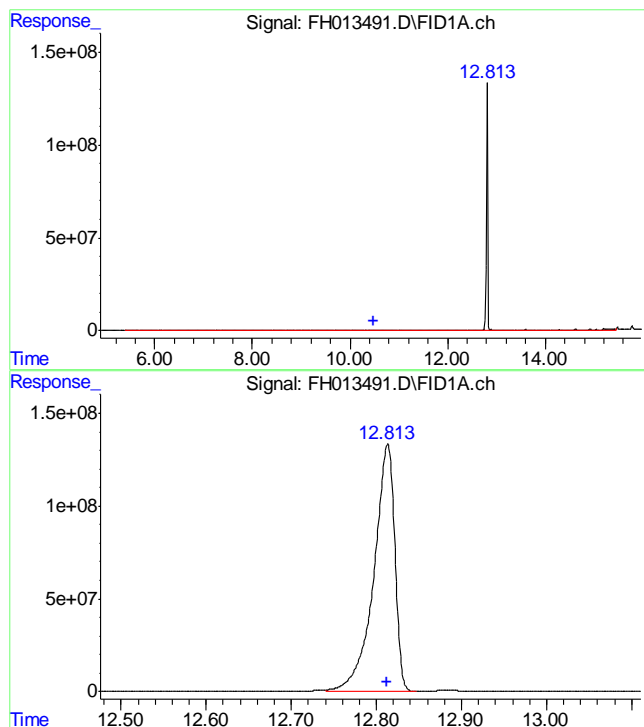
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH092713\
Data File : FH013491.D
Signal(s) : FID1A.ch
Acq On : 27 Sep 2013 5:01 pm
Operator : TIMU
Sample : D50941-1
Misc : OP8643,GFH715,30.18,,,1,1
ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 30 09:19:26 2013
Quant Method : C:\msdchem\1\METHODS\DRO-GFH695F.M
Quant Title : DRO-ORO FRONT
QLast Update : Mon Sep 16 12:19:37 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :





#1 TPH-DRO (C10-C28)

R.T.: 10.473 min

Delta R.T.: 0.000 min

Response: 764833979

Conc: 637.65 ug/ml m

#2 o-Terphenyl

R.T.: 12.813 min

Delta R.T.: 0.000 min

Response: 2296137869

Conc: 1680.53 ug/ml m

11.1.1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH092713.SEC\
Data File : FH013472.D
Signal(s) : FID2B.ch
Acq On : 27 Sep 2013 12:09 pm
Operator : TIMU
Sample : OP8643-MB
Misc : OP8643,GFH714,30.00,,,1,1
ALS Vial : 54 Sample Multiplier: 1

Integration File: events.e
Quant Time: Sep 30 09:07:51 2013
Quant Method : C:\msdchem\1\METHODS\DRO-GFH689R.M
Quant Title : DRO-ORO REAR
QLast Update : Wed Sep 11 09:58:51 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) s o-Terphenyl	12.185	2901254726	1672.078 ug/ml
Target Compounds			
2) H TPH-DRO (C10-C28)	9.781	63731791	45.310 ug/ml

(f)=RT Delta > 1/2 Window

(m)=manual int.

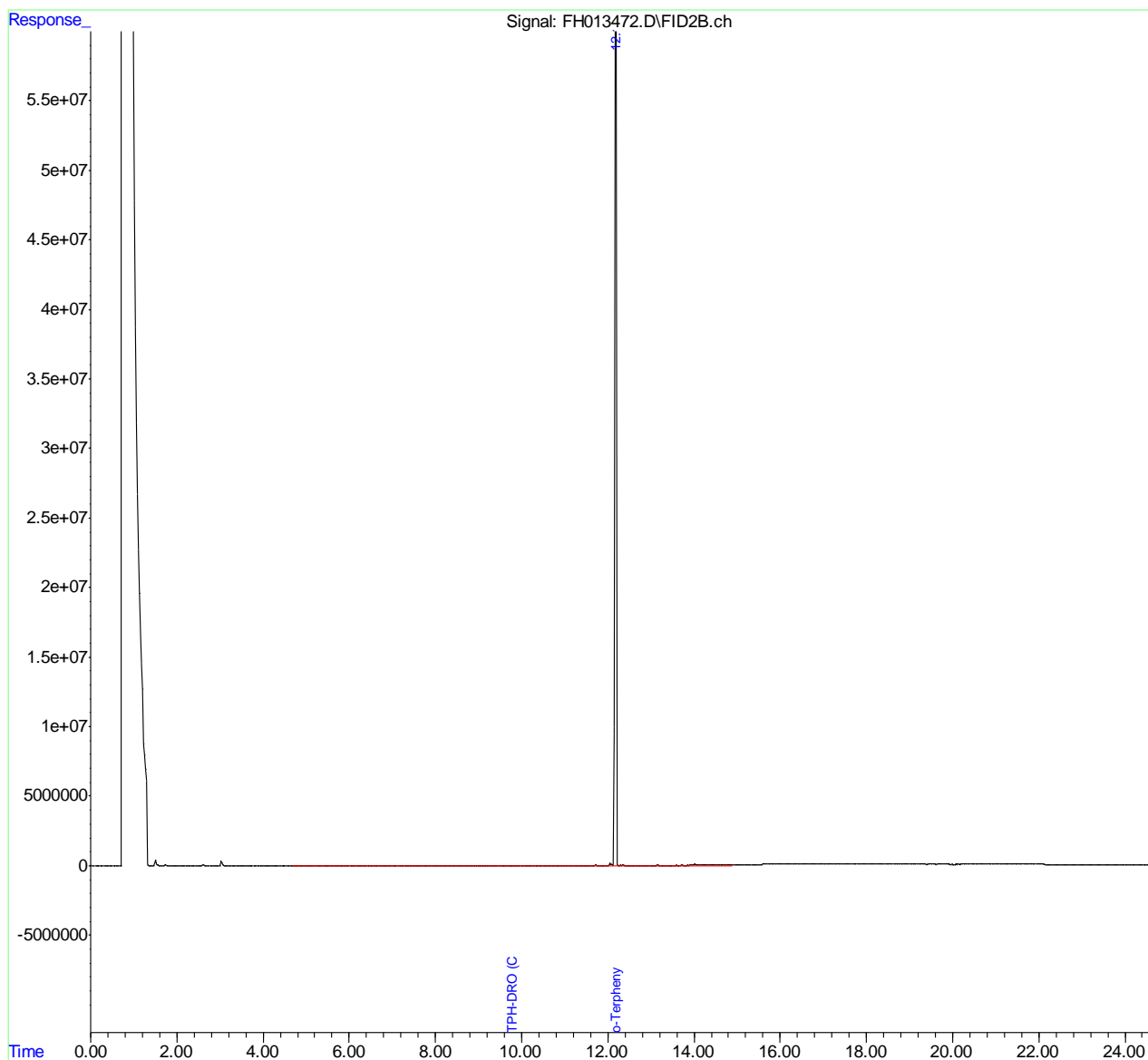
11.21
11

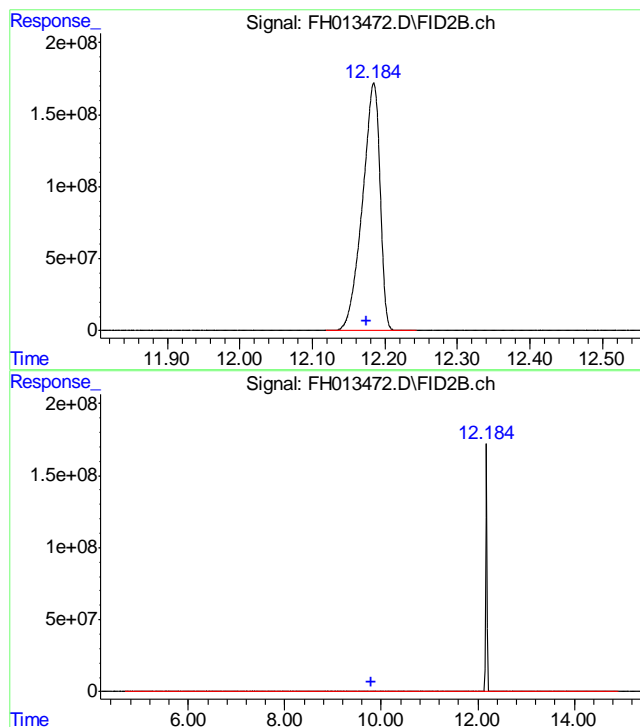
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH092713.SEC\
Data File : FH013472.D
Signal(s) : FID2B.ch
Acq On : 27 Sep 2013 12:09 pm
Operator : TIMU
Sample : OP8643-MB
Misc : OP8643,GFH714,30.00,,,1,1
ALS Vial : 54 Sample Multiplier: 1

Integration File: events.e
Quant Time: Sep 30 09:07:51 2013
Quant Method : C:\msdchem\1\METHODS\DRO-GFH689R.M
Quant Title : DRO-ORO REAR
QLast Update : Wed Sep 11 09:58:51 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :





#1 o-Terphenyl

R.T.: 12.185 min
Delta R.T.: 0.010 min
Response: 2901254726
Conc: 1672.08 ug/ml

#2 TPH-DRO (C10-C28)

R.T.: 9.781 min
Delta R.T.: 0.000 min
Response: 63731791
Conc: 45.31 ug/ml m

11.2.1
11