December 26, 2013

## API # 05-103-07175

## Location: PCU T25-21G

XTO Energy (XTO) completed closure on November 7, 2013 of the Partially Buried Tank Pit on the PCU T25-21G 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 T25-21G location listed in the October 3, 2013 COGCC approved Form 27, REM #7997.

XTO Energy Inc. • Piceance Field Office • 21459 County Road 5 • Rifle, CO 81650 • (970) 675-4000 • Fax (970) 675-4150

# Table 1
# Location: PCU T25-21G
# Lab Summary - Partially Buried Tank

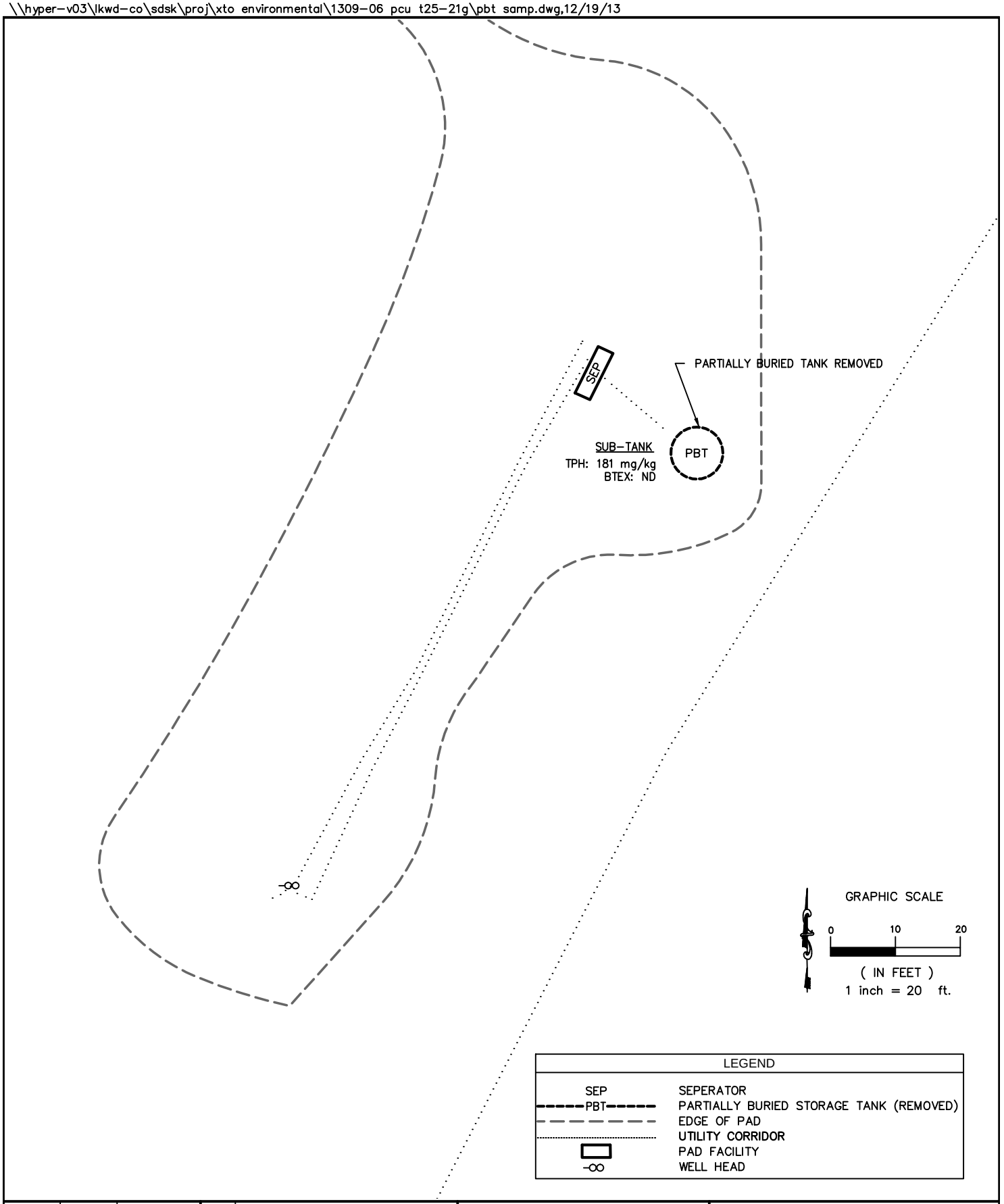
Last update 10/1/2013

| Analytical Parameter | Subtank | COGCC |
|---|---|---|
| (with units) | ***Subtank 9/23/13*** | ***Table 910-1 Concentration Levels*** |
| Accutest Job # | **D50830** | - |
| Sample type (**C**omposite/**D**iscrete) | **D** | - |
| TPH (GRO) (mg/Kg) | 14.8 | - |
| TPH (DRO) (mg/Kg) | 166 | - |
| TPH (GRO + DRO) (mg/Kg) | 181 | 500 |
| Benzene (mg/Kg) | ND | 0.170 |
| Toluene (mg/Kg) | ND | 85 |
| Ethylbenzene (mg/Kg) | ND | 100 |
| Xylenes (total) (mg/Kg) | ND | 175 |
| % Solids | 80.4 | - |

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.

\\hyper-v03\lkwd-co\sdsk\proj\xto environmental\1309-06 pcu t25-21g\pbt samp.dwg,12/19/13




| | | | | | |
|---|---|---|---|---|---|
| GPS: DK | CHECKED: JH | FIGURE 1 | DATE | REVISIONS | KRW CONSULTING, INC.<br>8000 W. 14TH AVENUE, SUITE 200<br>LAKEWOOD, COLORADO<br>(303) 239-9011 |
| DATE: 12/19/13 | DRAWN: DF | | | | FIGURE 1<br>PICEANCE CREEK<br>PCU T25-21G<br>PARTIALLY BURIED TANK<br>SAMPLE LOCATIONS<br>PREPARED FOR XTO ENERGY |
| FILE NAME: pbt samp | | SHEET NO. 1 of 1 | | | |
| PROJECT NO. 1309-06 | | SCALE: 1" = 20' | | | |

Mountain States ACCUTEST LABORATORIES

09/30/13

Technical Report for

XTO Energy

PCU T25-21G

1309-06 Subtank

Accutest Job Number: D50830

Sampling Date: 09/23/13

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: **57**

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.

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)

Sections: 1 2 3 4 5 6 7 8 9 10 11

# Table of Contents

# Sample Summary

XTO Energy

**Job No:** D50830

PCU T25-21G
Project No: 1309-06 Subtank

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| D50830-1 | 09/23/13 | 12:40 | DS | 09/24/13 | 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** | D50830 |
| **Site:** | PCU T25-21G | **Report Date** | 9/30/2013 4:10:17 PM |

On 09/24/2013, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 2.3 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D50830 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:** V5V1759

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D50828-1MS, D50828-1MSD were used as the QC samples indicated.

## Volatiles by GC By Method SW846 8015B

**Matrix:** SO **Batch ID:** GGB1225

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D50798-1MS, D50798-1MSD were used as the QC samples indicated.

## Extractables by GC By Method SW846-8015B

**Matrix:** SO **Batch ID:** OP8630

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D50828-1MS, D50828-1MSD were used as the QC samples indicated.

## Wet Chemistry By Method SM2540B-2011 M

**Matrix:** SO **Batch ID:** GN22025

- 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:** D50830
**Account:** XTO Energy
**Project:** PCU T25-21G
**Collected:** 09/23/13



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| **D50830-1** | **SUBTANK** | | | | | |
| TPH-GRO (C6-C10) | | 14.8 J | 15 | 7.4 | mg/kg | SW846 8015B |
| TPH-DRO (C10-C28) | | 166 | 8.3 | 6.2 | mg/kg | SW846-8015B |

Mountain States ACCUTEST LABORATORIES



## Sample Results

Report of Analysis

Accutest Laboratories

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SUBTANK | | |
| **Lab Sample ID:** | D50830-1 | **Date Sampled:** | 09/23/13 |
| **Matrix:** | SO - Soil | **Date Received:** | 09/24/13 |
| **Method:** | SW846 8260B | **Percent Solids:** | 80.4 |
| **Project:** | PCU T25-21G | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 5V29259.D | 1 | 09/26/13 | BD | n/a | n/a | V5V1759 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume | Methanol Aliquot |
|---|---|---|---|
| Run #1 | 5.04 g | 5.0 ml | 100 ul |
| Run #2 | | | |

**Purgeable Aromatics**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | ND | 0.074 | 0.037 | mg/kg | |
| 108-88-3 | Toluene | ND | 0.15 | 0.074 | mg/kg | |
| 100-41-4 | Ethylbenzene | ND | 0.15 | 0.028 | mg/kg | |
| 1330-20-7 | Xylene (total) | ND | 0.30 | 0.15 | mg/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 2037-26-5 | Toluene-D8 | 90% | | 64-130% |
| 460-00-4 | 4-Bromofluorobenzene | 112% | | 62-131% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 103% | | 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





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SUBTANK | | |
| **Lab Sample ID:** | D50830-1 | **Date Sampled:** | 09/23/13 |
| **Matrix:** | SO - Soil | **Date Received:** | 09/24/13 |
| **Method:** | SW846 8015B | **Percent Solids:** | 80.4 |
| **Project:** | PCU T25-21G | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | GB22287.D | 1 | 09/24/13 | EV | n/a | n/a | GGB1225 |
| 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) | 14.8 | 15 | 7.4 | mg/kg | J |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 120-82-1 | 1,2,4-Trichlorobenzene | 76% | | 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:** | SUBTANK | | |
| **Lab Sample ID:** | D50830-1 | **Date Sampled:** | 09/23/13 |
| **Matrix:** | SO - Soil | **Date Received:** | 09/24/13 |
| **Method:** | SW846-8015B SW846 3546 | **Percent Solids:** | 80.4 |
| **Project:** | PCU T25-21G | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | FH013401.D | 1 | 09/25/13 | TU | 09/25/13 | OP8630 | GFH710 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 30.1 g | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| | TPH-DRO (C10-C28) | 166 | 8.3 | 6.2 | mg/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 93% | | 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

Mountain States ACCUTEST LABORATORIES



## Misc. Forms

# Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

# CHAIN OF CUSTODY

PAGE 1 OF 1

ACCUTEST LABORATORIES

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 #: D50830

**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 PCU T25-21G
Street:
City: State:
Project #: 1309-06
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)**

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 | TPHGRO+DRO | BTEX | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SUBTANK | | 9/23/13 | 12:40 | DLS | GO | 3 | | | | | X | | | | | X | 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.

| | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|---|
| 1 | | 9/23/13 1530 | Rifle Service Center | 2 | 13:00 | 9-24-13 |
| 3 | Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
| 5 | Relinquished by: | Date Time: | Received By: | Custody Seal # HDCO | Intact / Not Intact | Preserved where applicable: X | On Ice: X | Cooler Temp: 2.3 |

**D50830: Chain of Custody**
**Page 1 of 2**

# Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** D50830 **Client:** KRW CONSULTING **Immediate Client Services Action Required:** No

**Date / Time Received:** 9/24/2013 1:00:00 PM **No. Coolers:** 1 **Client Service Action Required at Login:** No

**Project:** XTO PCU T25-21G **Airbill #'s:** HD-CO

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

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

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

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

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

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

Comments

Accutest Laboratories
V:(303) 425-6021

4036 Youngfield Street
F: (303) 425-6854

Wheat Ridge, CO
www/accutest.com

5.1

5

**D50830: Chain of Custody**
**Page 2 of 2**

Mountain States ACCUTEST LABORATORIES



## 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



**Job Number:** D50830
**Account:** XTOKRWR XTO Energy
**Project:** PCU T25-21G

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V5V1759-MB | 5V29253.D | 1 | 09/26/13 | BD | n/a | n/a | V5V1759 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

D50830-1

| 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 | 100% | 64-130% |
| 460-00-4 | 4-Bromofluorobenzene | 86% | 62-131% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 102% | 70-130% |

# Blank Spike Summary



**Job Number:** D50830
**Account:** XTOKRWR XTO Energy
**Project:** PCU T25-21G

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V5V1759-BS | 5V29254.D | 1 | 09/26/13 | BD | n/a | n/a | V5V1759 |



**The QC reported here applies to the following samples:** **Method:** SW846 8260B

D50830-1

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 71-43-2 | Benzene | 2500 | 2710 | 108 | 70-130 |
| 100-41-4 | Ethylbenzene | 2500 | 2820 | 113 | 70-130 |
| 108-88-3 | Toluene | 2500 | 2750 | 110 | 70-130 |
| 1330-20-7 | Xylene (total) | 7500 | 8810 | 117 | 70-130 |

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 2037-26-5 | Toluene-D8 | 101% | 64-130% |
| 460-00-4 | 4-Bromofluorobenzene | 103% | 62-131% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 93% | 70-130% |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** D50830
**Account:** XTOKRWR XTO Energy
**Project:** PCU T25-21G

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| D50828-1MS | 5V29256.D | 1 | 09/26/13 | BD | n/a | n/a | V5V1759 |
| D50828-1MSD | 5V29257.D | 1 | 09/26/13 | BD | n/a | n/a | V5V1759 |
| D50828-1 | 5V29255.D | 1 | 09/26/13 | BD | n/a | n/a | V5V1759 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

D50830-1

| CAS No. | Compound | D50828-1 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | ND | | 3400 | 3540 | 104 | 3560 | 105 | 1 | 64-139/30 |
| 100-41-4 | Ethylbenzene | ND | | 3400 | 3540 | 104 | 3520 | 104 | 1 | 68-136/30 |
| 108-88-3 | Toluene | ND | | 3400 | 3410 | 100 | 3320 | 98 | 3 | 60-130/30 |
| 1330-20-7 | Xylene (total) | ND | | 10200 | 11400 | 112 | 11200 | 110 | 2 | 58-142/30 |

| CAS No. | Surrogate Recoveries | MS | MSD | D50828-1 | Limits |
|---|---|---|---|---|---|
| 2037-26-5 | Toluene-D8 | 95% | 94% | 97% | 64-130% |
| 460-00-4 | 4-Bromofluorobenzene | 109% | 107% | 98% | 62-131% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 93% | 95% | 101% | 70-130% |

* = Outside of Control Limits.

Mountain States ACCUTEST LABORATORIES

GC/MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5092613.S\
Data File : 5V29259.D
Acq On : 26 Sep 2013 12:48 pm
Operator : BRETD
Sample : D50830-1
Misc : MS6447,V5V1759,5.035,,100,5,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 27 09:03:28 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

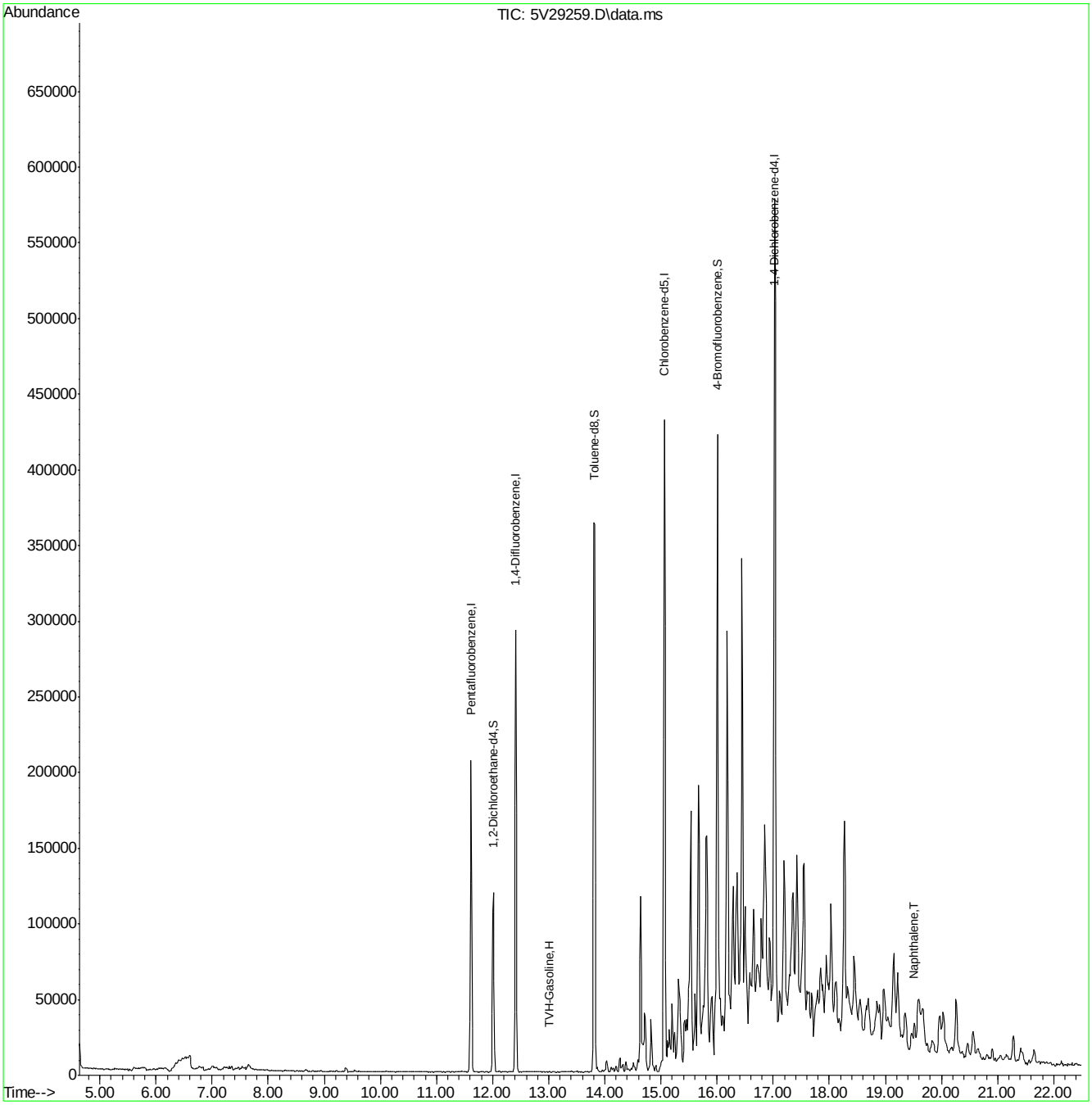
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 2) Pentafluorobenzene | 11.613 | 168 | 138926 | 50.00 | ug/l | 0.00 |
| 37) 1,4-Difluorobenzene | 12.412 | 114 | 194121 | 50.00 | ug/l | 0.00 |
| 56) Chlorobenzene-d5 | 15.061 | 117 | 214233 | 50.00 | ug/l | 0.00 |
| 77) 1,4-Dichlorobenzene-d4 | 17.025 | 152 | 171745 | 50.00 | ug/l | -0.01 |
| **System Monitoring Compounds** | | | | | | |
| 35) 1,2-Dichloroethane-d4 | 12.012 | 102 | 14486 | 51.31 | ug/l | 0.00 |
| Spiked Amount 50.000 | Range 70 - 130 | | Recovery = 102.62% | | | |
| 64) Toluene-d8 | 13.816 | 98 | 217907 | 44.90 | ug/l | 0.00 |
| Spiked Amount 50.000 | Range 70 - 130 | | Recovery = 89.80% | | | |
| 72) 4-Bromofluorobenzene | 16.008 | 95 | 126693 | 56.00 | ug/l | 0.00 |
| Spiked Amount 50.000 | Range 70 - 130 | | Recovery = 112.00% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 1) TVH-Gasoline | 13.006 | TIC | 4025204m | 350.64 | ug/l | |
| 94) Naphthalene | 19.513 | 128 | 1204 | 0.97 | ug/l | 100 |

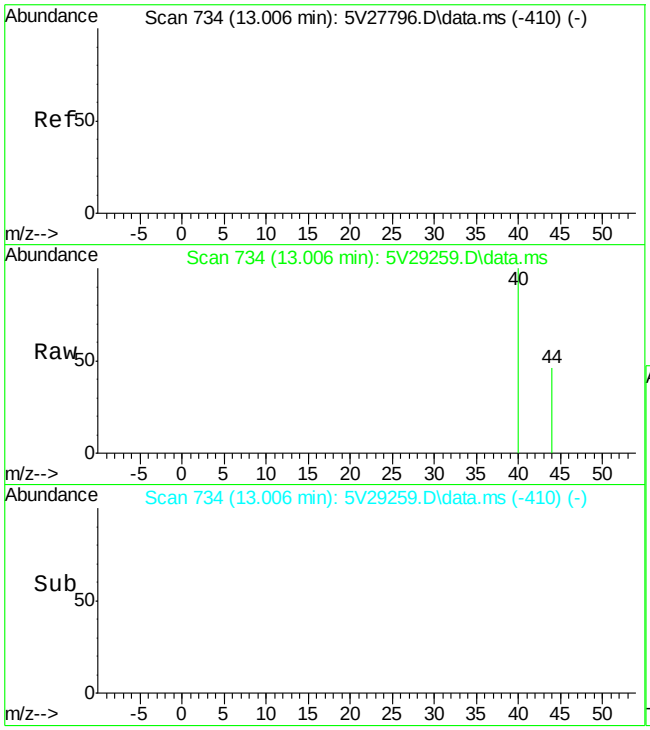
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5092613.S\
Data File : 5V29259.D
Acq On : 26 Sep 2013 12:48 pm
Operator : BRETD
Sample : D50830-1
Misc : MS6447,V5V1759,5.035,,100,5,1
ALS Vial : 9 Sample Multiplier: 1

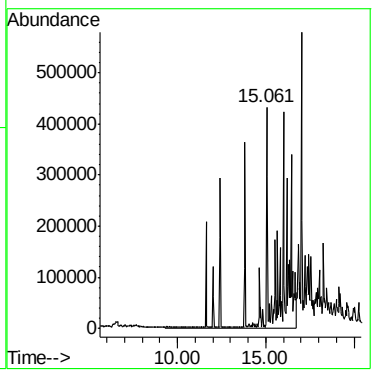
Quant Time: Sep 27 09:03:28 2013
Quant Method : C:\msdchem\1\METHODS\V5AP1728TVH1728.M
Quant Title : 8260
QLast Update : Tue Aug 20 09:59:22 2013
Response via : Initial Calibration

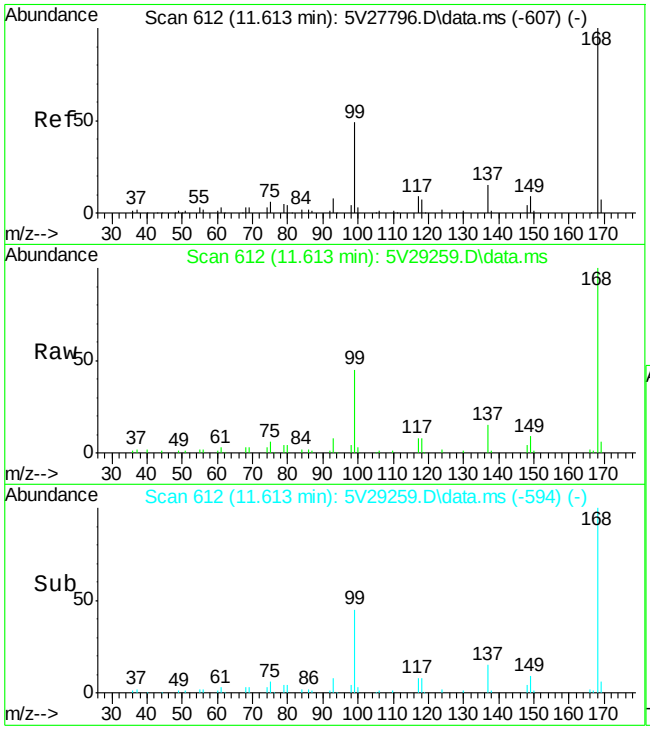





#1
TVH-Gasoline
Concen: 350.64 ug/l m
RT: 13.006 min Scan# 734
Delta R.T. 0.000 min
Lab File: 5V29259.D
Acq: 26 Sep 2013 12:48 pm

Tgt Ion:TIC Resp: 4025204

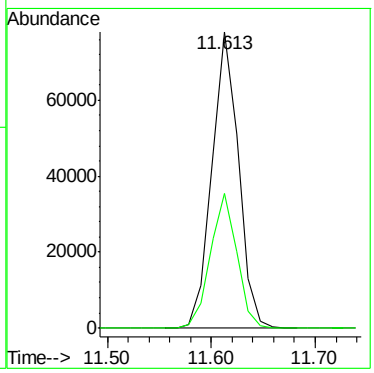


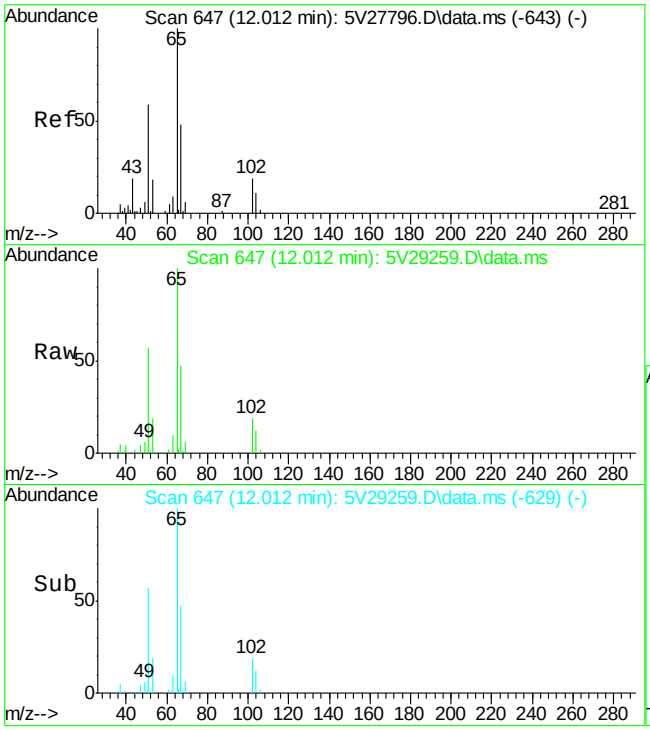




#2
Pentafluorobenzene
Concen: 50.00 ug/l
RT: 11.613 min Scan# 612
Delta R.T. 0.000 min
Lab File: 5V29259.D
Acq: 26 Sep 2013 12:48 pm

Tgt Ion:168 Resp: 138926

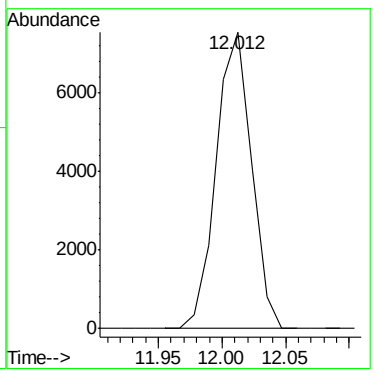
| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 99 | 45.3 | 41.4 | 62.2 |

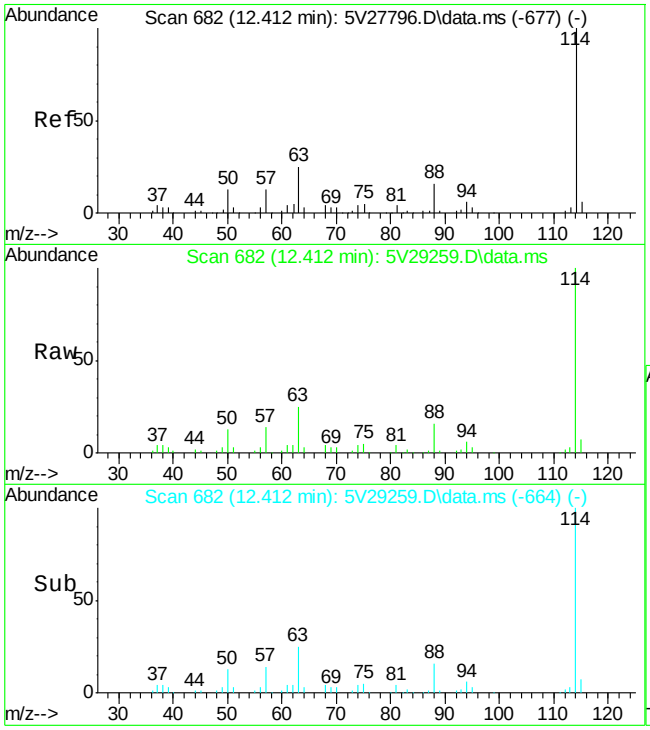





#35
1,2-Dichloroethane-d4
Concen: 51.31 ug/l
RT: 12.012 min Scan# 647
Delta R.T. 0.000 min
Lab File: 5V29259.D
Acq: 26 Sep 2013 12:48 pm

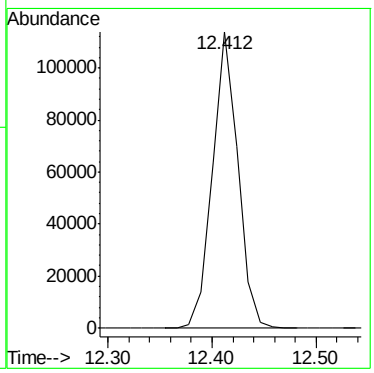
Tgt Ion:102 Resp: 14486

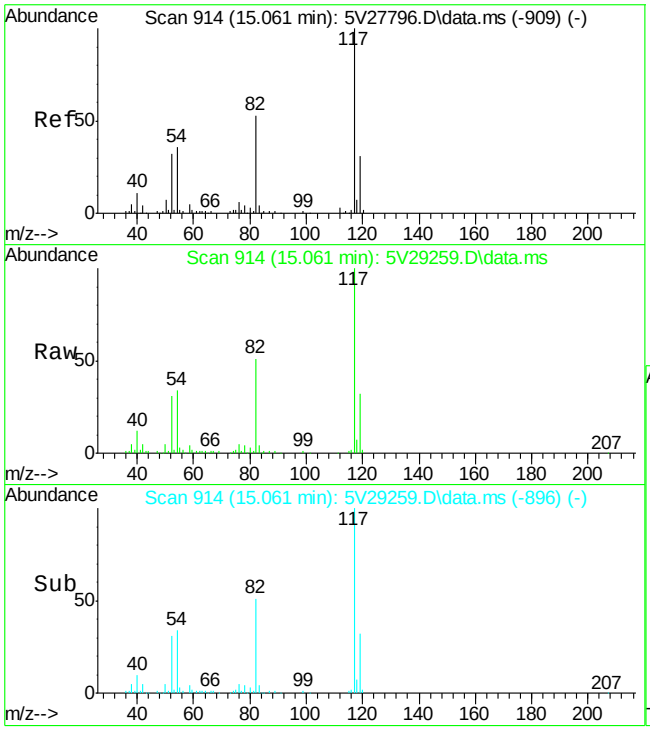



#37
1,4-Difluorobenzene
Concen: 50.00 ug/l
RT: 12.412 min Scan# 682
Delta R.T. 0.000 min
Lab File: 5V29259.D
Acq: 26 Sep 2013 12:48 pm

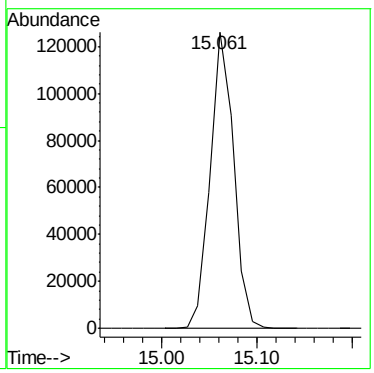
Tgt Ion:114 Resp: 194121

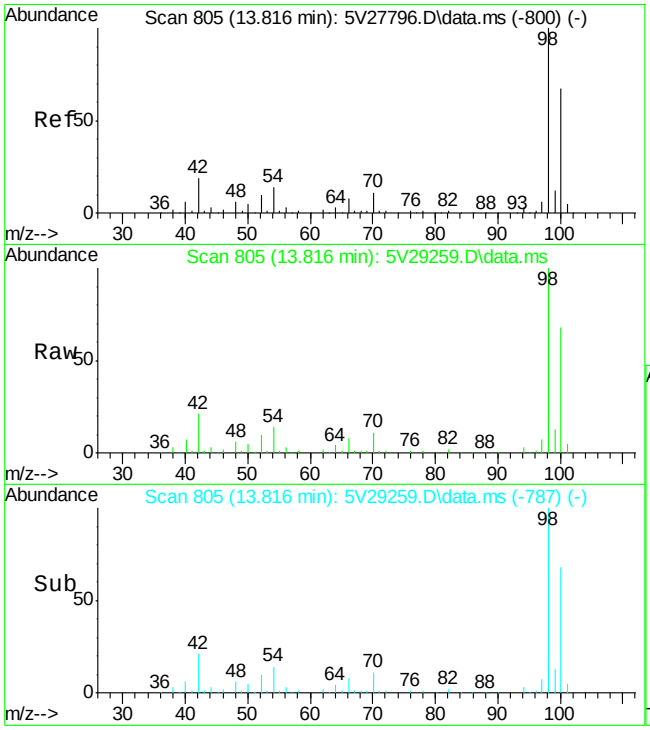





#56
Chlorobenzene-d5
Concen: 50.00 ug/l
RT: 15.061 min Scan# 914
Delta R.T. 0.000 min
Lab File: 5V29259.D
Acq: 26 Sep 2013 12:48 pm

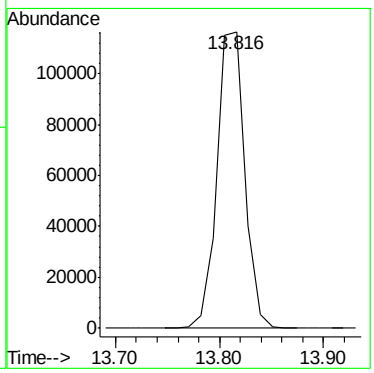
Tgt Ion:117 Resp: 214233

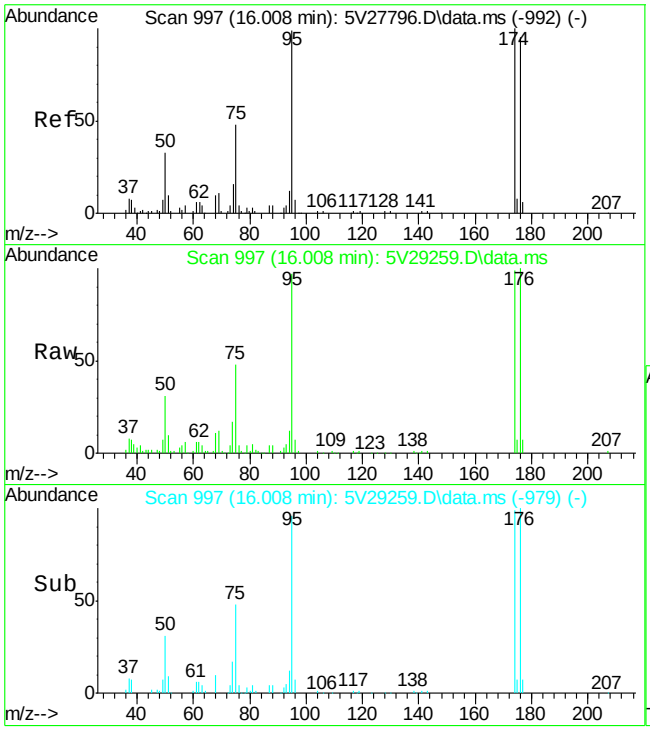



#64
Toluene-d8
Concen: 44.90 ug/l
RT: 13.816 min Scan# 805
Delta R.T. 0.000 min
Lab File: 5V29259.D
Acq: 26 Sep 2013 12:48 pm

Tgt Ion: 98 Resp: 217907

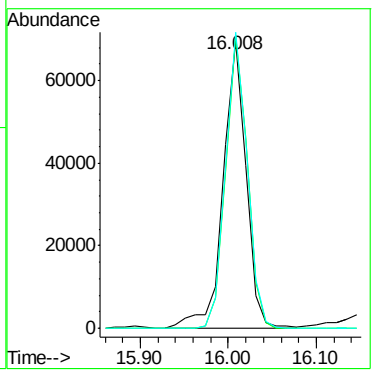


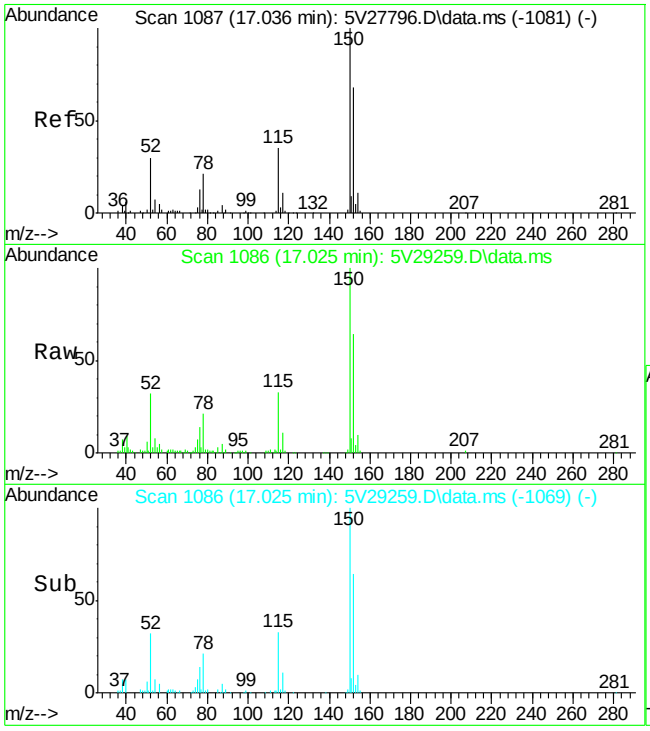



#72
4-Bromofluorobenzene
Concen: 56.00 ug/l
RT: 16.008 min Scan# 997
Delta R.T. 0.000 min
Lab File: 5V29259.D
Acq: 26 Sep 2013 12:48 pm

Tgt Ion: 95 Resp: 126693

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 95 | 100 | | |
| 174 | 94.9 | 85.4 | 125.4 |
| 176 | 96.1 | 80.6 | 120.6 |

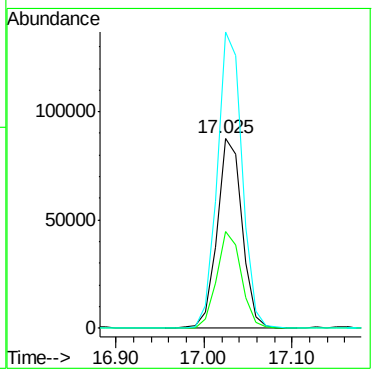


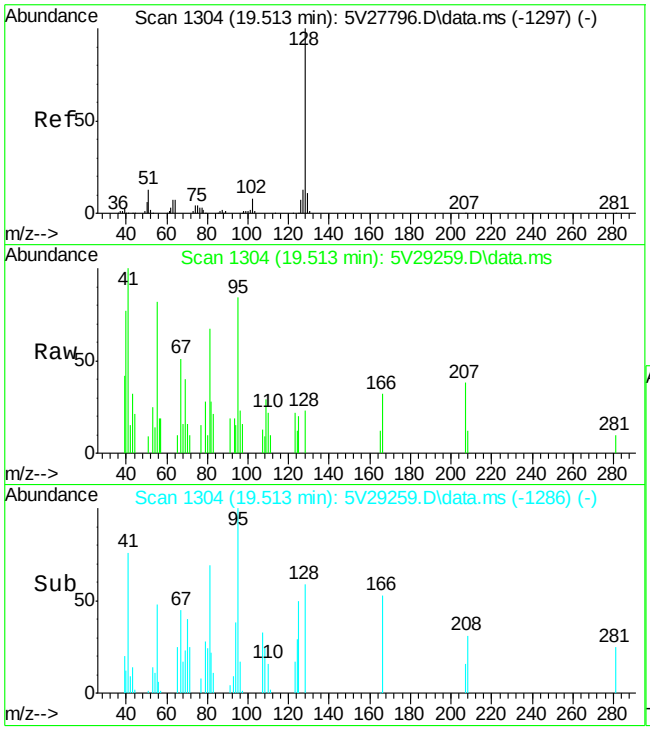




#77
1,4-Dichlorobenzene-d4
Concen: 50.00 ug/l
RT: 17.025 min Scan# 1086
Delta R.T. -0.011 min
Lab File: 5V29259.D
Acq: 26 Sep 2013 12:48 pm

Tgt Ion:152 Resp: 171745

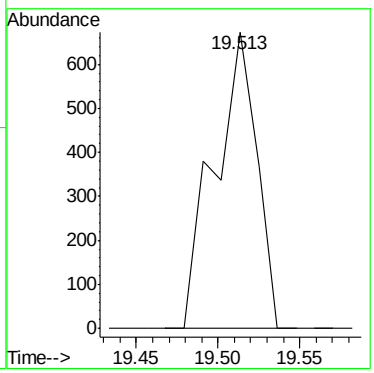
| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 115 | 49.9 | 43.4 | 65.2 |
| 150 | 155.2 | 142.9 | 214.3 |






#94
Naphthalene
Concen: 0.97 ug/l
RT: 19.513 min Scan# 1304
Delta R.T. 0.000 min
Lab File: 5V29259.D
Acq: 26 Sep 2013 12:48 pm

Tgt Ion:128 Resp: 1204



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5092613.S\
Data File : 5V29253.D
Acq On : 26 Sep 2013 9:33 am
Operator : BRETD
Sample : MB
Misc : MS6447,V5V1759,5.000,,100,5,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 27 09:34:37 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

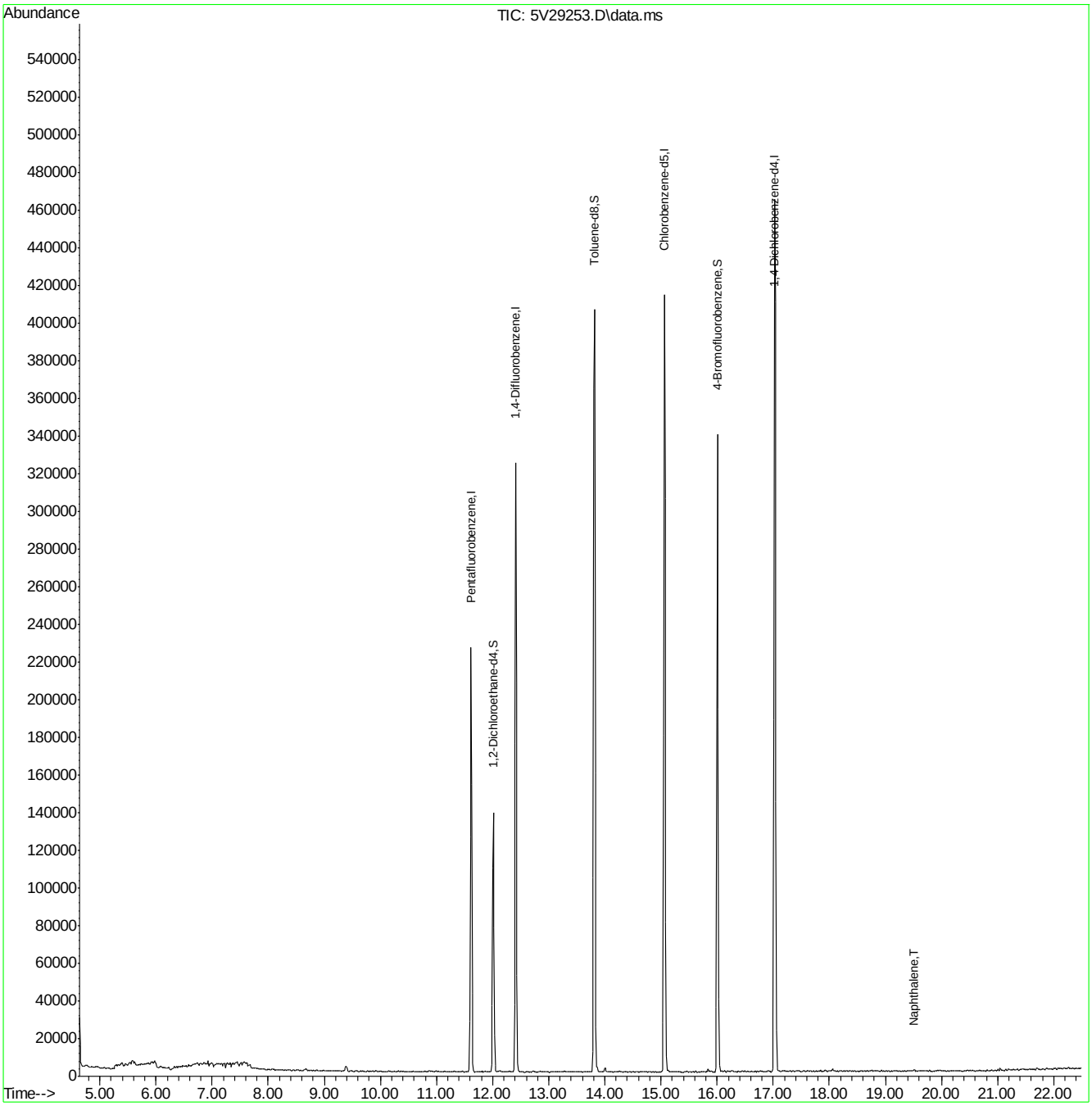
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 2) Pentafluorobenzene | 11.613 | 168 | 152367 | 50.00 | ug/l | 0.00 |
| 37) 1,4-Difluorobenzene | 12.412 | 114 | 213561 | 50.00 | ug/l | 0.00 |
| 56) Chlorobenzene-d5 | 15.061 | 117 | 205133 | 50.00 | ug/l | 0.00 |
| 77) 1,4-Dichlorobenzene-d4 | 17.024 | 152 | 139005 | 50.00 | ug/l | -0.01 |
| **System Monitoring Compounds** | | | | | | |
| 35) 1,2-Dichloroethane-d4 | 12.012 | 102 | 15843 | 51.17 | ug/l | 0.00 |
| Spiked Amount 50.000 | Range 70 - 130 | | Recovery = 102.34% | | | |
| 64) Toluene-d8 | 13.816 | 98 | 232139 | 49.95 | ug/l | 0.00 |
| Spiked Amount 50.000 | Range 70 - 130 | | Recovery = 99.90% | | | |
| 72) 4-Bromofluorobenzene | 16.008 | 95 | 93439 | 43.14 | ug/l | 0.00 |
| Spiked Amount 50.000 | Range 70 - 130 | | Recovery = 86.28% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 1) TVH-Gasoline | 13.006 | TIC | -47449m | 54.34 | ug/l | |
| 94) Naphthalene | 19.513 | 128 | 836 | 0.94 | ug/l | 100 |

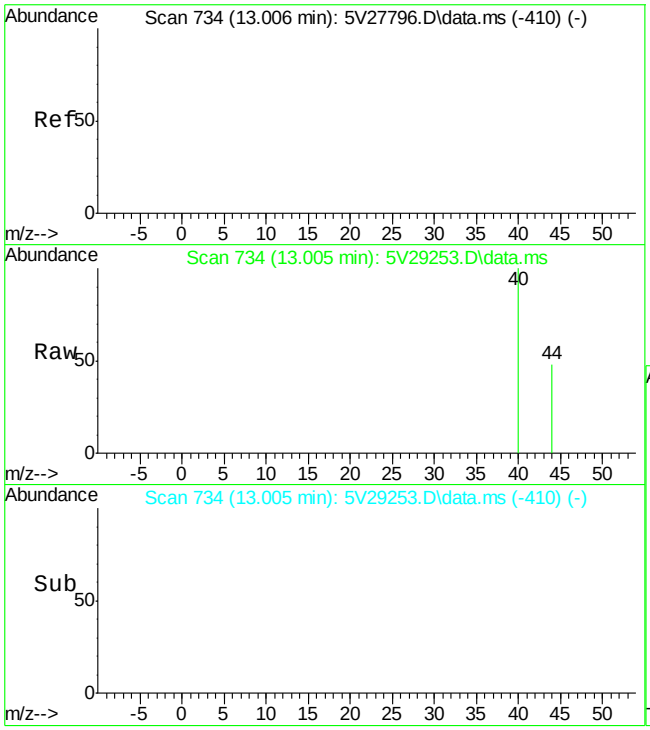
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V5092613.S\
Data File : 5V29253.D
Acq On : 26 Sep 2013 9:33 am
Operator : BRETD
Sample : MB
Misc : MS6447,V5V1759,5.000,,100,5,1
ALS Vial : 3 Sample Multiplier: 1

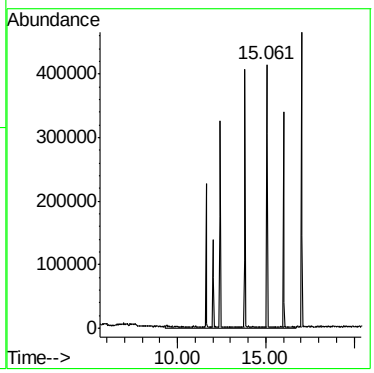
Quant Time: Sep 27 09:34:37 2013
Quant Method : C:\msdchem\1\METHODS\V5AP1728TVH1728.M
Quant Title : 8260
QLast Update : Tue Aug 20 09:59:22 2013
Response via : Initial Calibration

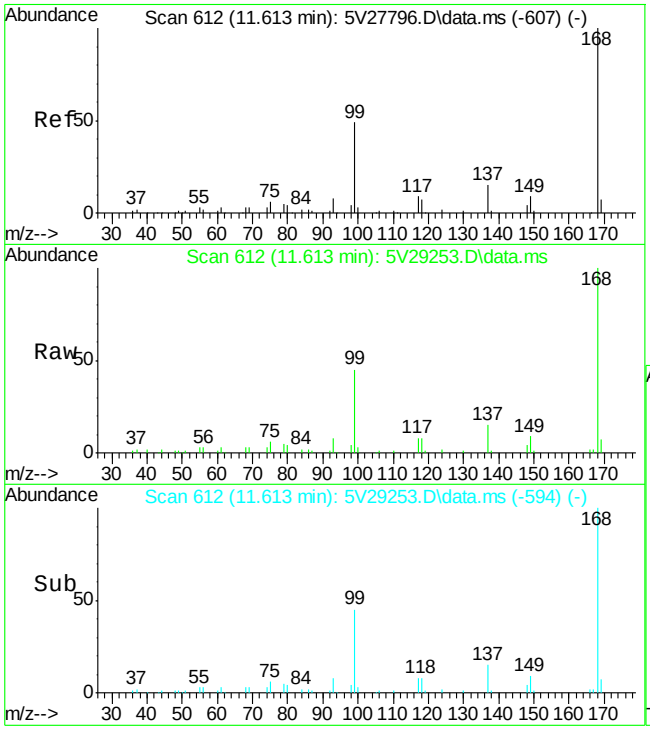





#1
TVH-Gasoline
Concen: 54.34 ug/l m
RT: 13.006 min Scan# 734
Delta R.T. 0.000 min
Lab File: 5V29253.D
Acq: 26 Sep 2013 9:33 am

Tgt Ion:TIC Resp: -47449

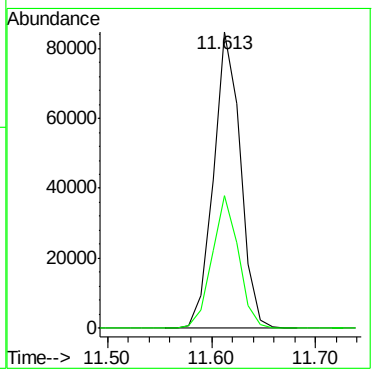


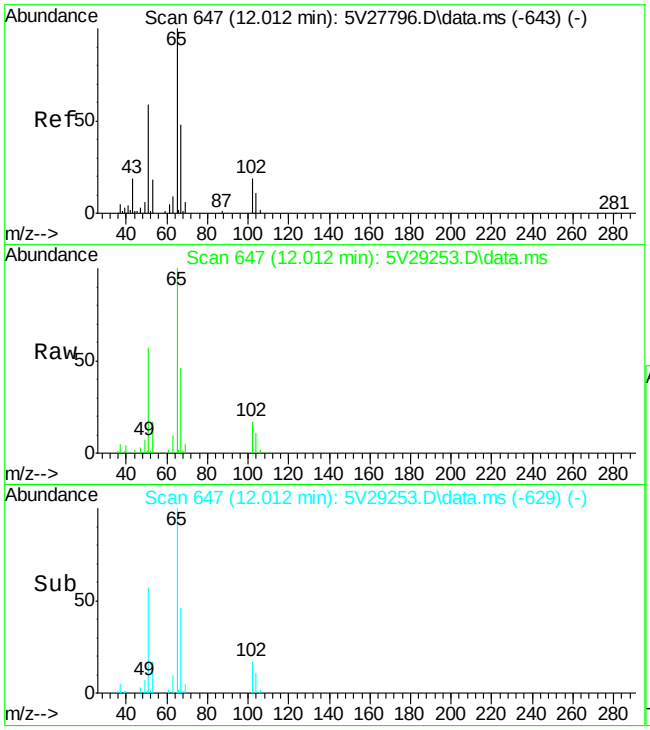




#2
Pentafluorobenzene
Concen: 50.00 ug/l
RT: 11.613 min Scan# 612
Delta R.T. -0.000 min
Lab File: 5V29253.D
Acq: 26 Sep 2013 9:33 am

Tgt Ion:168 Resp: 152367

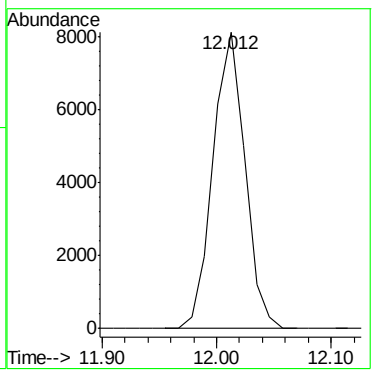
| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 99 | 44.0 | 41.4 | 62.2 |

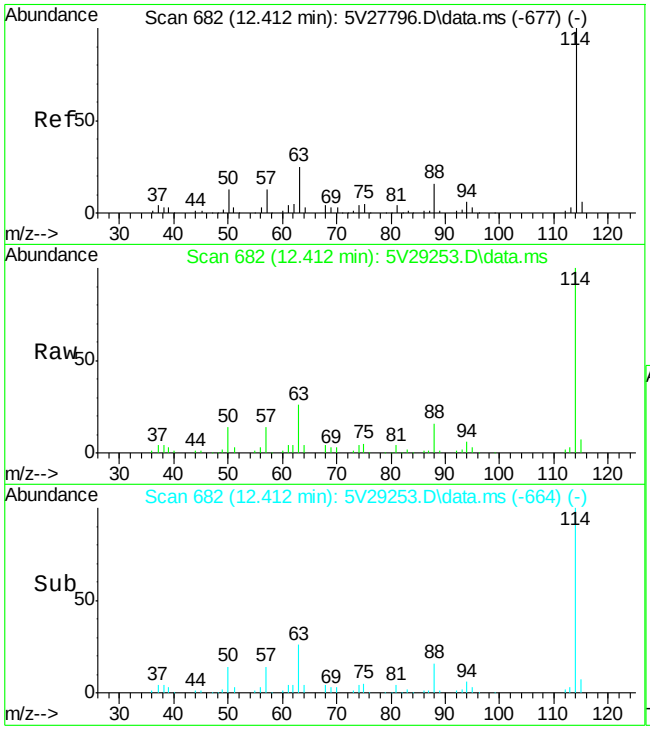





#35
1,2-Dichloroethane-d4
Concen: 51.17 ug/l
RT: 12.012 min Scan# 647
Delta R.T. -0.000 min
Lab File: 5V29253.D
Acq: 26 Sep 2013 9:33 am

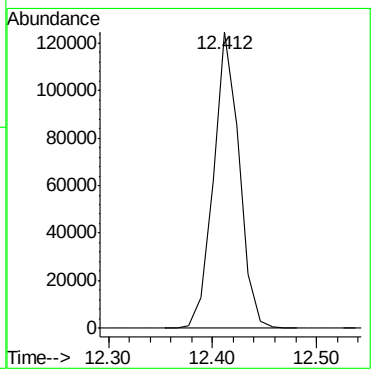
Tgt Ion:102 Resp: 15843

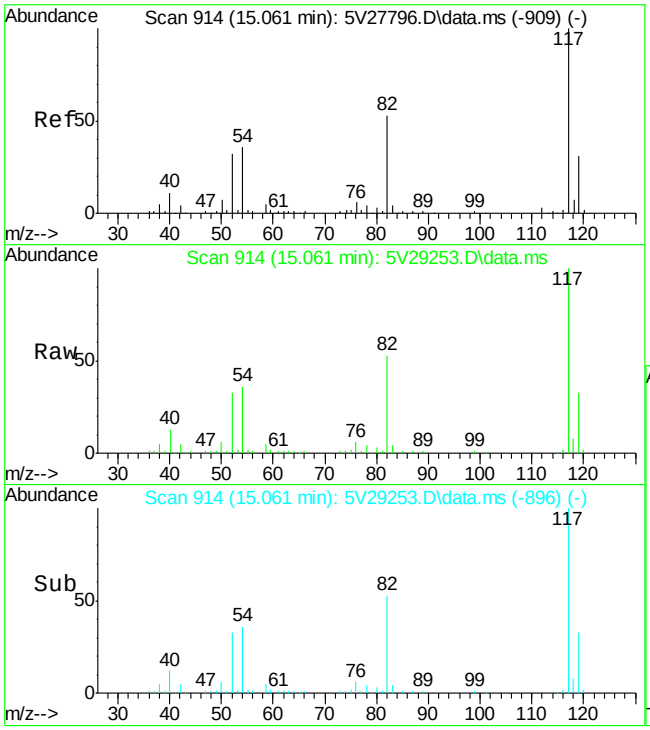



#37
1,4-Difluorobenzene
Concen: 50.00 ug/l
RT: 12.412 min Scan# 682
Delta R.T. -0.000 min
Lab File: 5V29253.D
Acq: 26 Sep 2013 9:33 am

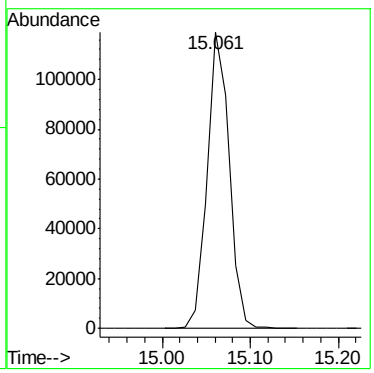
Tgt Ion:114 Resp: 213561

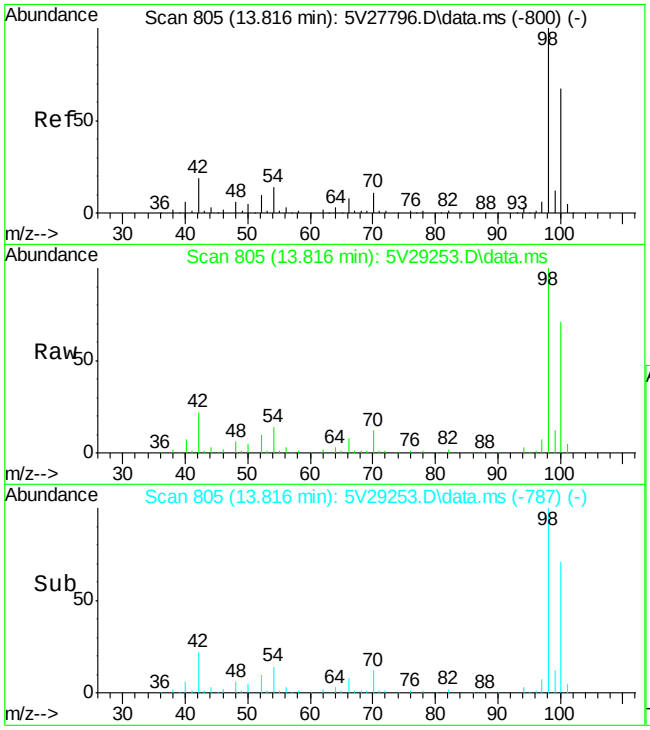





#56
Chlorobenzene-d5
Concen: 50.00 ug/l
RT: 15.061 min Scan# 914
Delta R.T. -0.000 min
Lab File: 5V29253.D
Acq: 26 Sep 2013 9:33 am

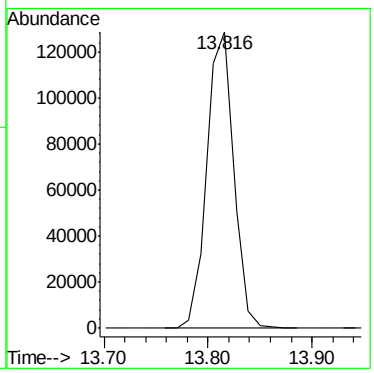
Tgt Ion:117 Resp: 205133

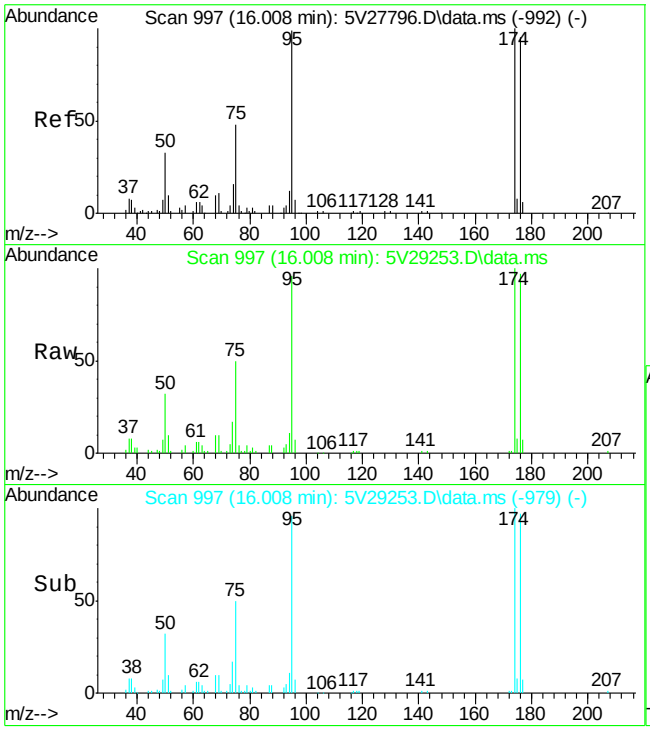



#64
Toluene-d8
Concen: 49.95 ug/l
RT: 13.816 min Scan# 805
Delta R.T. -0.000 min
Lab File: 5V29253.D
Acq: 26 Sep 2013 9:33 am

Tgt Ion: 98 Resp: 232139

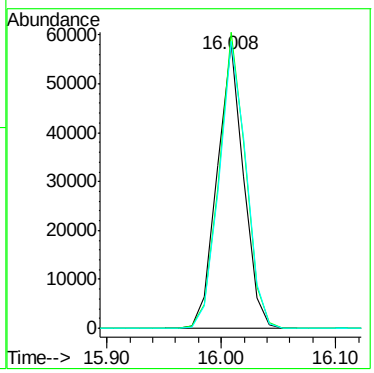


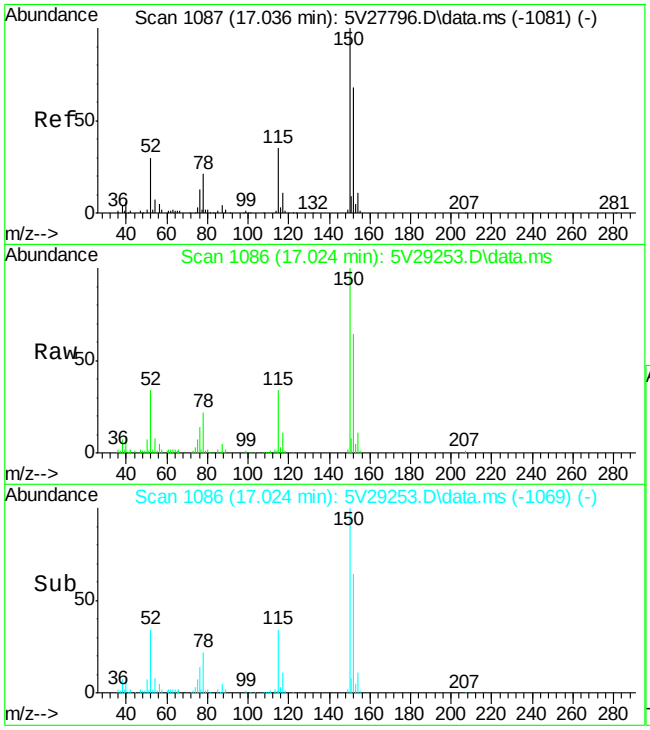



#72
4-Bromofluorobenzene
Concen: 43.14 ug/l
RT: 16.008 min Scan# 997
Delta R.T. -0.000 min
Lab File: 5V29253.D
Acq: 26 Sep 2013 9:33 am

Tgt Ion: 95 Resp: 93439

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 95 | 100 | | |
| 174 | 104.3 | 85.4 | 125.4 |
| 176 | 102.8 | 80.6 | 120.6 |

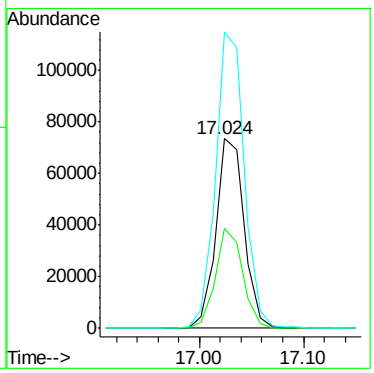


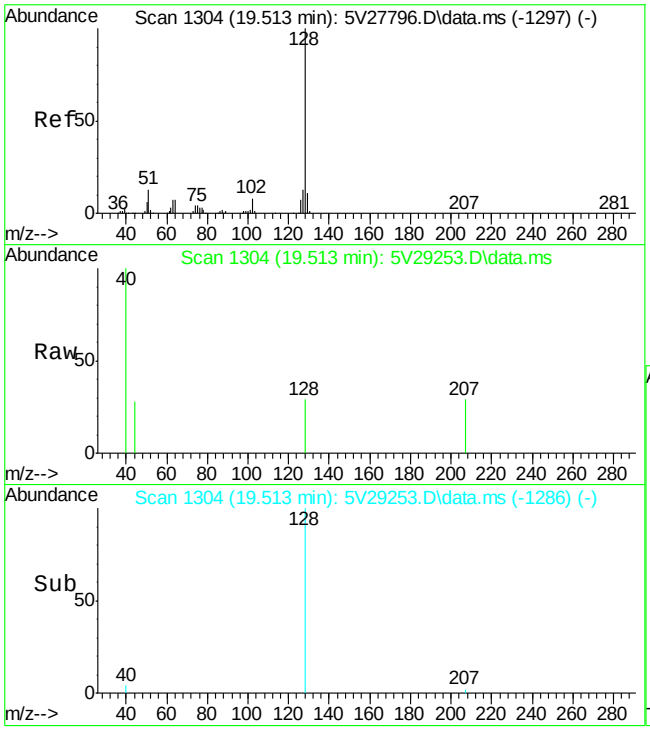




#77
1,4-Dichlorobenzene-d4
Concen: 50.00 ug/l
RT: 17.024 min Scan# 1086
Delta R.T. -0.011 min
Lab File: 5V29253.D
Acq: 26 Sep 2013 9:33 am

Tgt Ion:152 Resp: 139005

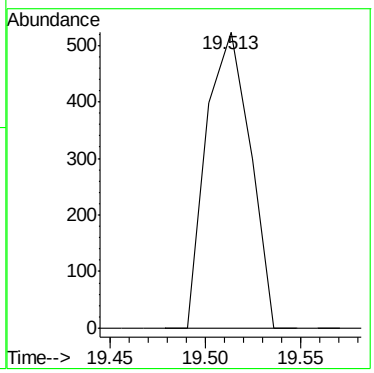
| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 115 | 50.7 | 43.4 | 65.2 |
| 150 | 159.2 | 142.9 | 214.3 |






#94
Naphthalene
Concen: 0.94 ug/l
RT: 19.513 min Scan# 1304
Delta R.T. 0.000 min
Lab File: 5V29253.D
Acq: 26 Sep 2013 9:33 am

Tgt Ion:128 Resp: 836



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:** D50830
**Account:** XTOKRWR XTO Energy
**Project:** PCU T25-21G

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| GGB1225-MB | GB22269.D | 1 | 09/24/13 | EV | n/a | n/a | GGB1225 |

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

D50830-1

| 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 | 81% | 60-140% |

# Blank Spike Summary



**Job Number:** D50830
**Account:** XTOKRWR XTO Energy
**Project:** PCU T25-21G

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| GGB1225-BS | GB22270.D | 1 | 09/24/13 | EV | n/a | n/a | GGB1225 |

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

D50830-1

| CAS No. | Compound | Spike mg/kg | BSP mg/kg | BSP % | Limits |
|---|---|---|---|---|---|
| | TPH-GRO (C6-C10) | 110 | 109 | 99 | 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:** D50830
**Account:** XTOKRWR XTO Energy
**Project:** PCU T25-21G

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| D50798-1MS | GB22272.D | 1 | 09/24/13 | EV | n/a | n/a | GGB1225 |
| D50798-1MSD | GB22273.D | 1 | 09/24/13 | EV | n/a | n/a | GGB1225 |
| D50798-1 | GB22271.D | 1 | 09/24/13 | EV | n/a | n/a | GGB1225 |

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

D50830-1

| CAS No. | Compound | D50798-1 mg/kg | Q | Spike mg/kg | MS mg/kg | MS % | MSD mg/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|
| | TPH-GRO (C6-C10) | ND | | 136 | 136 | 100 | 137 | 101 | 1 | 70-130/30 |

| CAS No. | Surrogate Recoveries | MS | MSD | D50798-1 | Limits |
|---|---|---|---|---|---|
| 120-82-1 | 1,2,4-Trichlorobenzene | 91% | 95% | 87% | 60-140% |

* = Outside of Control Limits.

Mountain States ACCUTEST LABORATORIES

GC Volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Judy Melson 09/30/13 14:11

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\092413\GB22287.D\FID1A.CH Vial: 22
Signal #2 : Y:\1\DATA\092413\GB22287.D\FID2B.CH
Acq On : 24 Sep 2013 10:55 pm Operator: ELISEV
Sample : D50830-1 Inst : GC/MS Ins
Misc : GC3895,GGB1225,5.035,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Sep 25 08:33:40 2013 Quant Results File: TB1125GB1125SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB1125GB1125SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Wed Sep 25 08:31:56 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 | 2300514 | 76.148 | % | m |
| 10) S | 1,2,4-Trichlorobenzene (P) | 14.36 | 10940560 | 82.852 | % | m |
| | **Target Compounds** | | | | | |
| 1) H | TVH-Gasoline | 7.30 | 14063559 | 0.200 | 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 | 7.66 | 87344 | 0.236 | ug/L | |
| 7) T | Ethylbenzene | 10.24 | 205309 | 0.659 | ug/L | |
| 8) T | m,p-Xylene | 10.44 | 478866 | 1.269 | ug/L | |
| 9) T | o-Xylene | 10.97 | 55357 | 0.177 | ug/L | m |
| 11) T | Naphthalene | 0.00 | 0 | N.D. | ug/L | d |

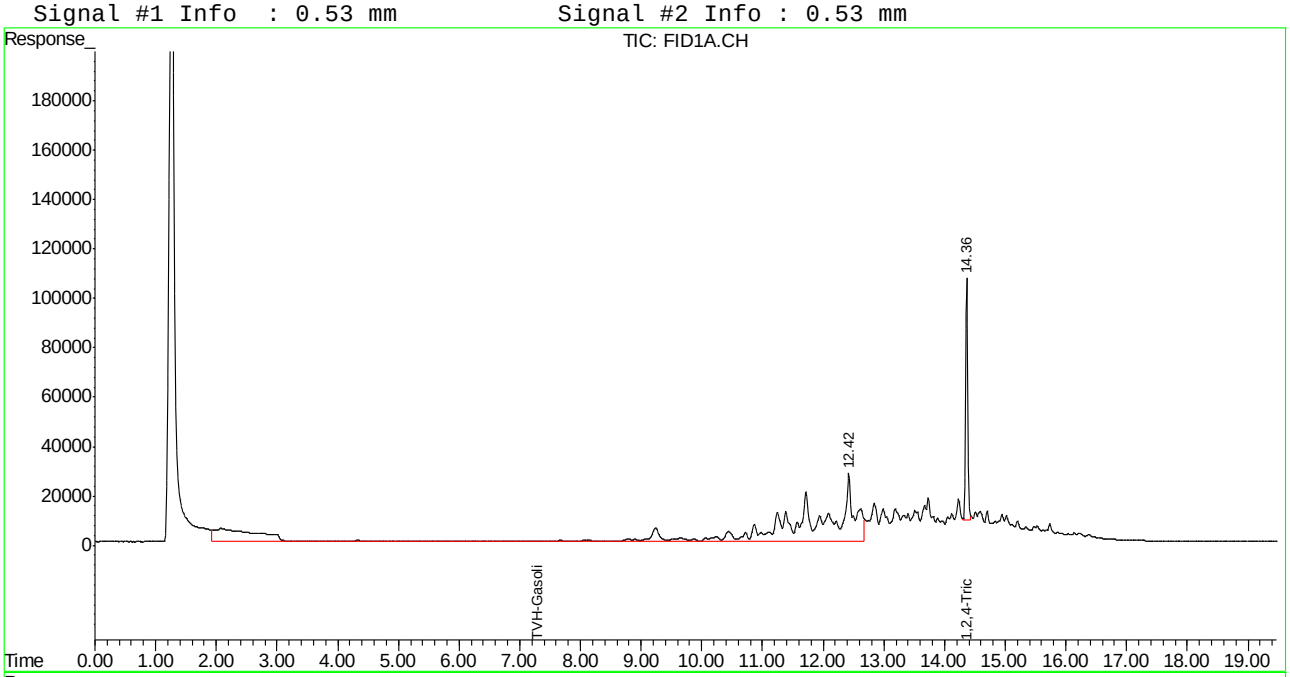
(f)=RT Delta > 1/2 Window (m)=manual int.

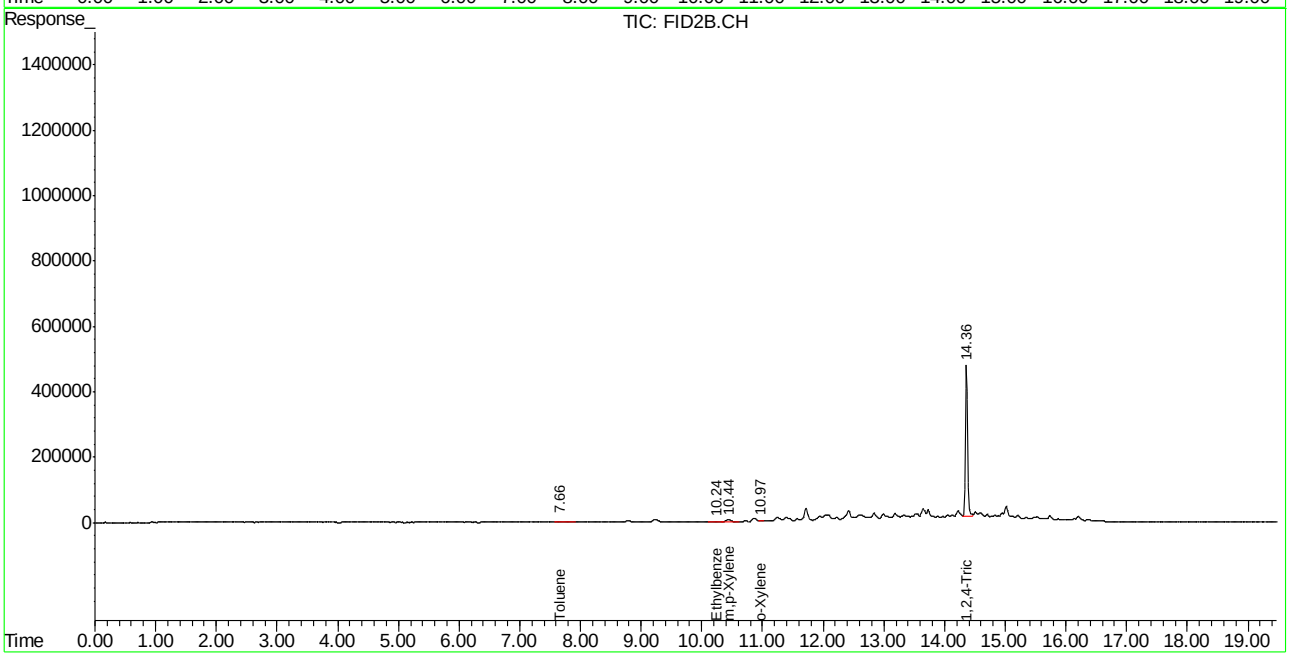
Quantitation Report (QT Reviewed)

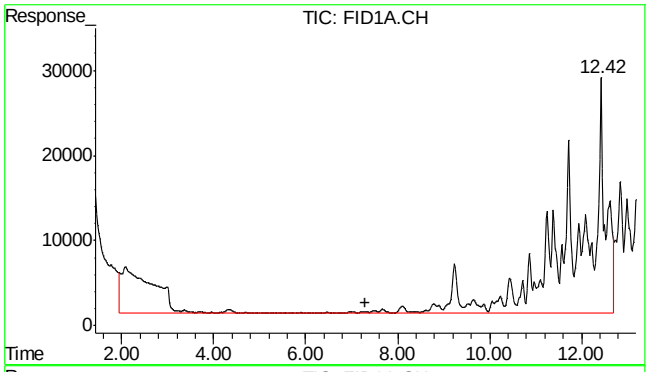
Signal #1 : Y:\1\DATA\092413\GB22287.D\FID1A.CH Vial: 22
Signal #2 : Y:\1\DATA\092413\GB22287.D\FID2B.CH
Acq On : 24 Sep 2013 10:55 pm Operator: ELISEV
Sample : D50830-1 Inst : GC/MS Ins
Misc : GC3895,GGB1225,5.035,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Sep 25 9:04 2013 Quant Results File: TB1125GB1125SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB1125GB1125SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Wed Sep 25 08:31:56 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

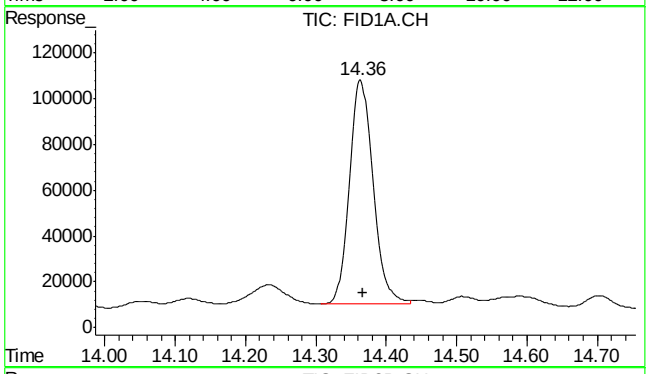




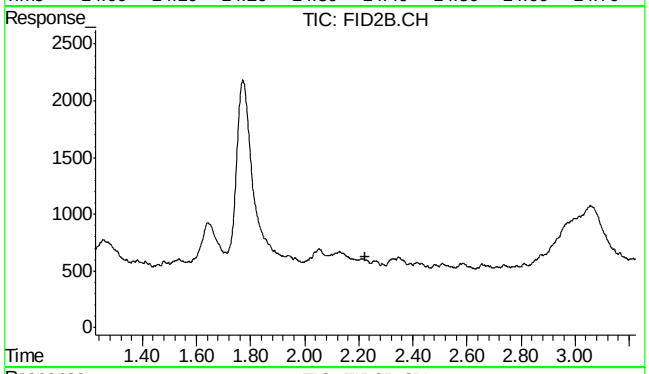

#1 TVH-Gasoline

R.T.: 7.305 min
Delta R.T.: 0.000 min
Response: 14063559
Conc: 0.20 mg/L m



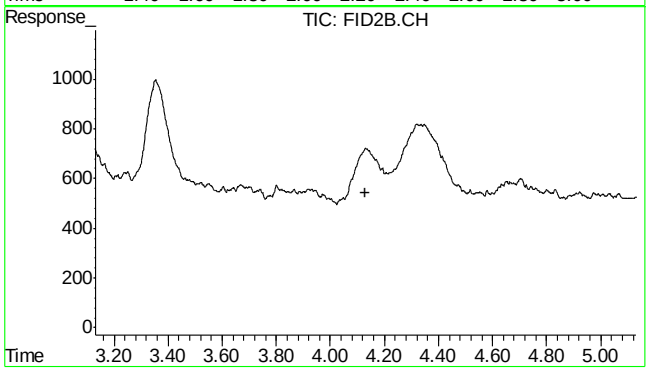

#2 1,2,4-Trichlorobenzene

R.T.: 14.363 min
Delta R.T.: -0.004 min
Response: 2300514
Conc: 76.15 % m



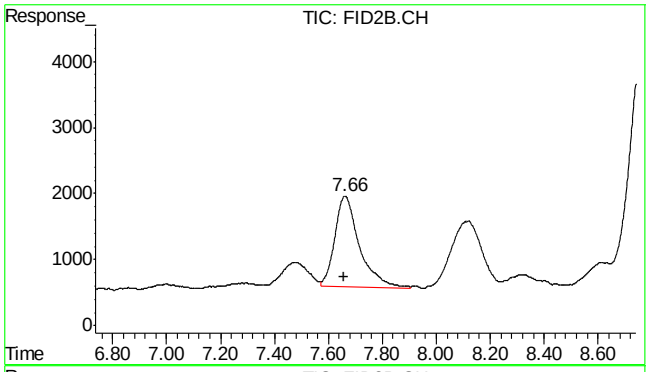

#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T. : 2.225 min
Response: 0
Conc: N.D.



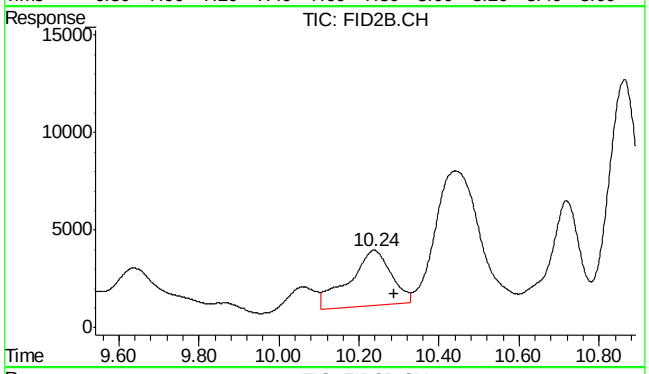

#5 Benzene

R.T.: 0.000 min
Exp R.T. : 4.131 min
Response: 0
Conc: N.D.



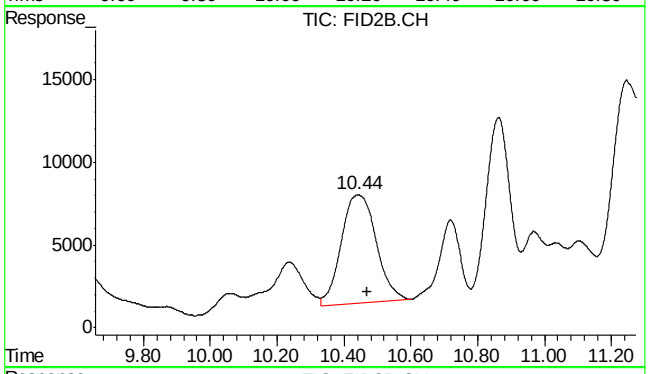

#6 Toluene

R.T.: 7.662 min
Delta R.T.: 0.003 min
Response: 87344
Conc: 0.24 ug/L



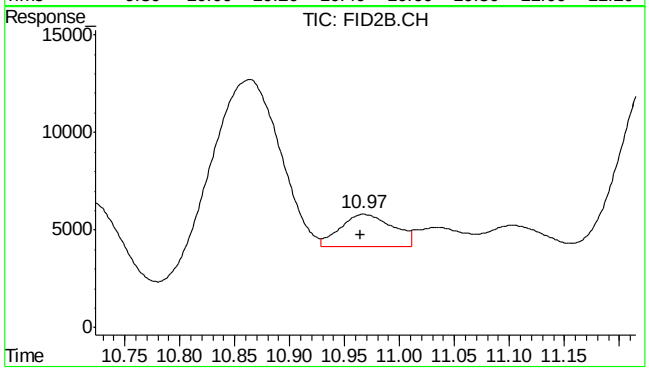

#7 Ethylbenzene

R.T.: 10.237 min
Delta R.T.: -0.051 min
Response: 205309
Conc: 0.66 ug/L



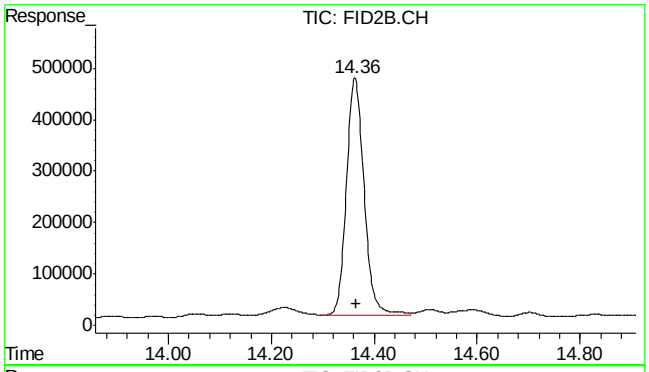

#8 m,p-Xylene

R.T.: 10.441 min
Delta R.T.: -0.028 min
Response: 478866
Conc: 1.27 ug/L



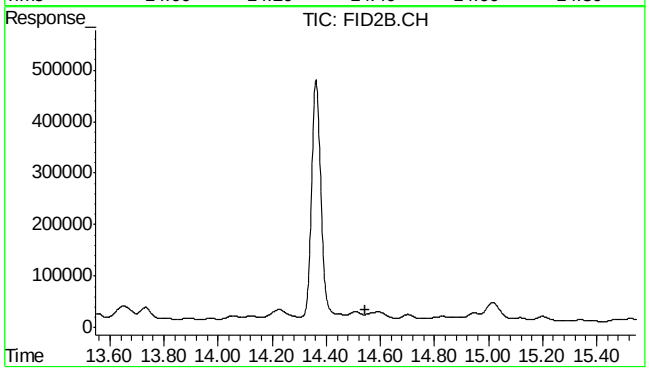

#9 o-Xylene

R.T.: 10.966 min
Delta R.T.: 0.002 min
Response: 55357
Conc: 0.18 ug/L m




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

| | |
|---|---|
| R.T.: | 14.362 min |
| Delta R.T.: | -0.003 min |
| Response: | 10940560 |
| Conc: | 82.85 % m |




#11 Naphthalene

| | |
|---|---|
| R.T.: | 0.000 min |
| Exp R.T. : | 14.546 min |
| Response: | 0 |
| Conc: | N.D. |

9.1.1

9

Manual Integrations APPROVED (compounds with "m" flag)
Jennifer Laidlaw 09/25/13 09:50

Quantitation Report (QT Reviewed)

Signal #1 : Y:\1\DATA\092413\GB22269.D\FID1A.CH Vial: 4
Signal #2 : Y:\1\DATA\092413\GB22269.D\FID2B.CH
Acq On : 24 Sep 2013 11:43 am Operator: ELISEV
Sample : MB, S Inst : GC/MS Ins
Misc : GC3895,GGB1225,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Sep 25 08:32:27 2013 Quant Results File: TB1125GB1125SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB1125GB1125SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Wed Sep 25 08:31:56 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 | 2444106 | 80.901 | % | m |
| 10) S | 1,2,4-Trichlorobenzene (P) | 14.36 | 11099233 | 84.054 | % | m |
| | **Target Compounds** | | | | | |
| 1) H | TVH-Gasoline | 7.30 | 3986775 | 0.057 | 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 | 164145 | 0.444 | ug/L | m |
| 7) T | Ethylbenzene | 0.00 | 0 | N.D. | ug/L | d |
| 8) T | m,p-Xylene | 10.46 | 188091 | 0.498 | ug/L | m |
| 9) T | o-Xylene | 0.00 | 0 | N.D. | ug/L | d |
| 11) T | Naphthalene | 14.54 | 38258 | 0.222 | ug/L | m |

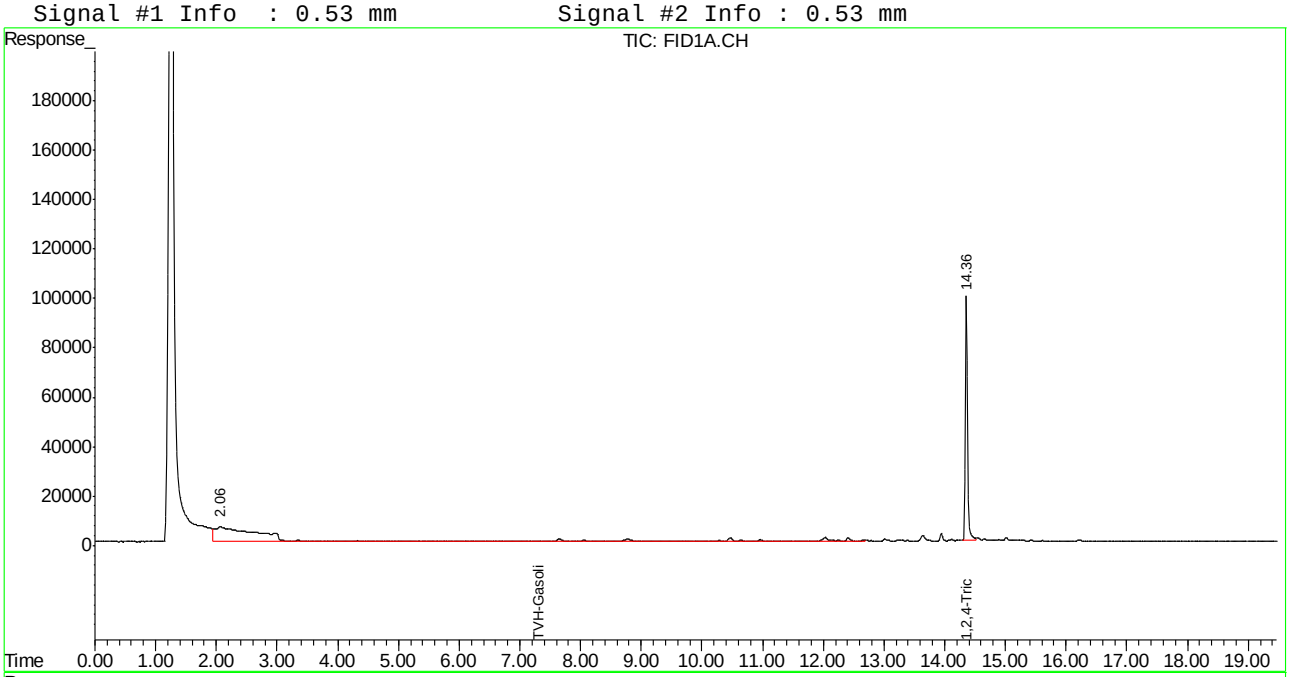
(f)=RT Delta > 1/2 Window (m)=manual int.
GB22269.D TB1125GB1125SOIL.M Wed Sep 25 08:59:33 2013 GC Page 1

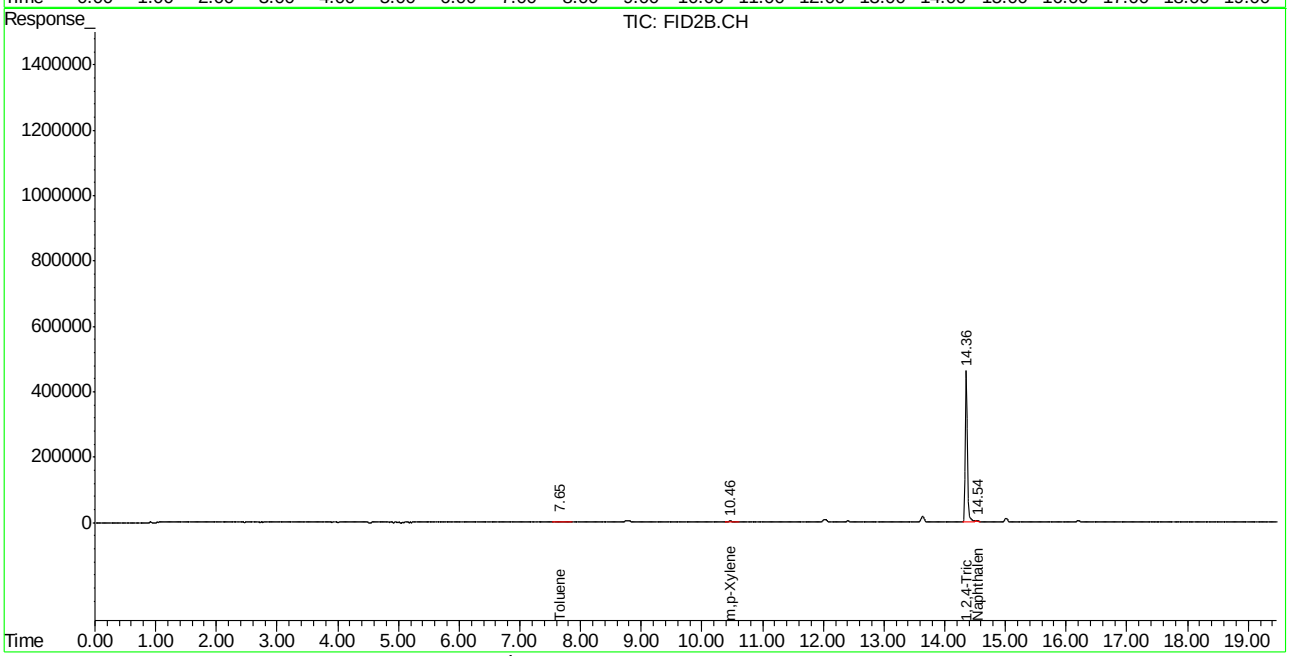
Quantitation Report (QT Reviewed)

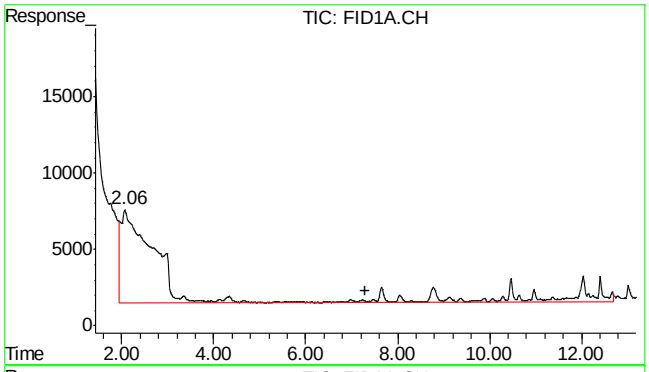
Signal #1 : Y:\1\DATA\092413\GB22269.D\FID1A.CH Vial: 4
Signal #2 : Y:\1\DATA\092413\GB22269.D\FID2B.CH
Acq On : 24 Sep 2013 11:43 am Operator: ELISEV
Sample : MB, S Inst : GC/MS Ins
Misc : GC3895,GGB1225,5.000,,100,5,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Sep 25 8:42 2013 Quant Results File: TB1125GB1125SOIL.RES

Quant Method : C:\MSDCHEM\1...\TB1125GB1125SOIL.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Wed Sep 25 08:31:56 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

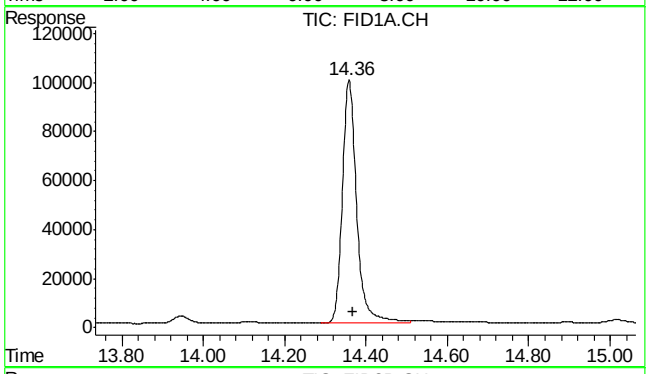




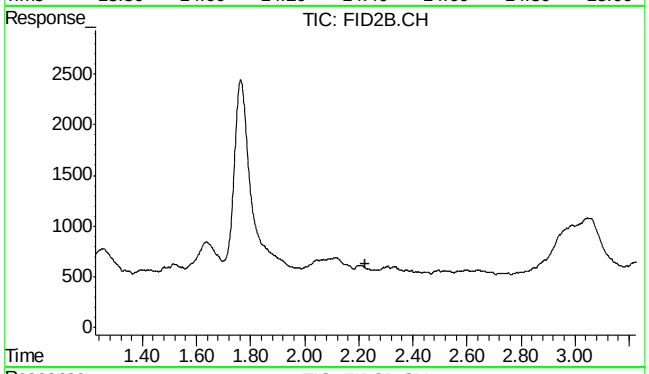

#1 TVH-Gasoline

R.T.: 7.305 min
Delta R.T.: 0.000 min
Response: 3986775
Conc: 0.06 mg/L m



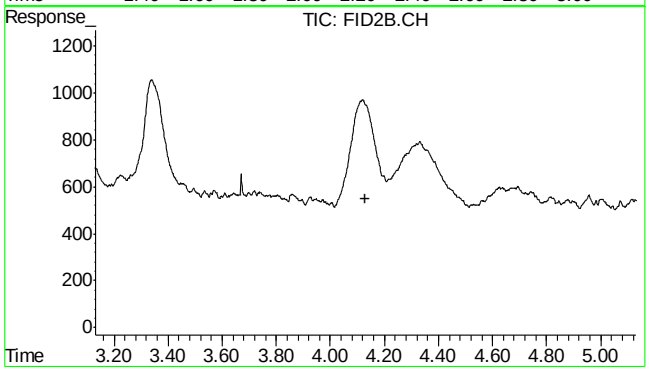

#2 1,2,4-Trichlorobenzene

R.T.: 14.358 min
Delta R.T.: -0.009 min
Response: 2444106
Conc: 80.90 % m



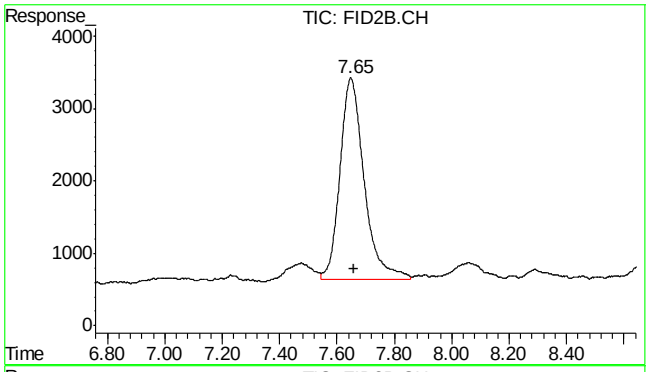

#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T. : 2.225 min
Response: 0
Conc: N.D.



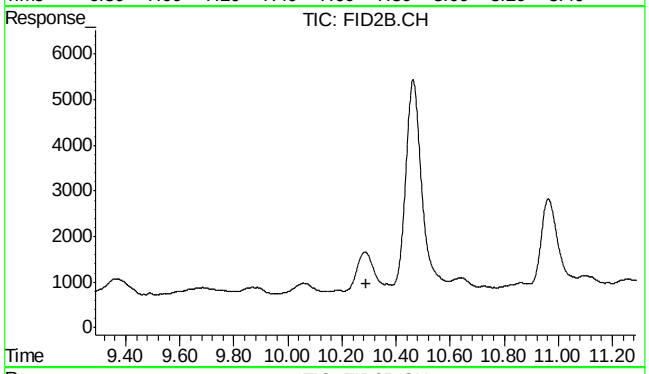

#5 Benzene

R.T.: 0.000 min
Exp R.T. : 4.131 min
Response: 0
Conc: N.D.



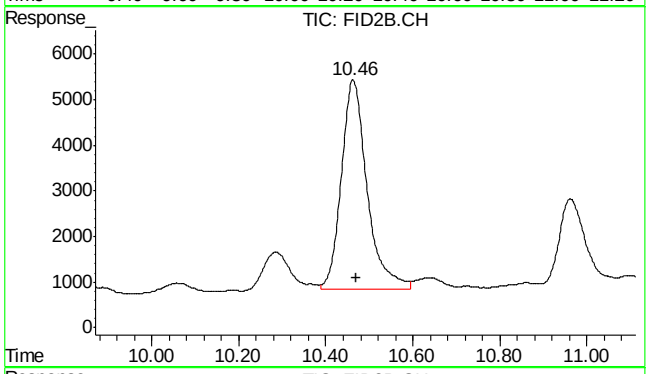

#6 Toluene

R.T.: 7.648 min
Delta R.T.: -0.011 min
Response: 164145
Conc: 0.44 ug/L m



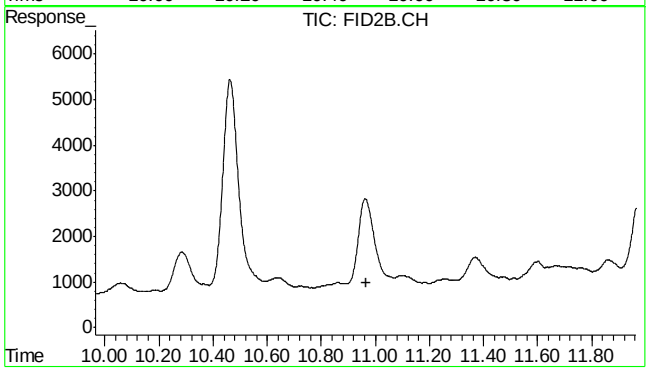

#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T. : 10.288 min
Response: 0
Conc: N.D.



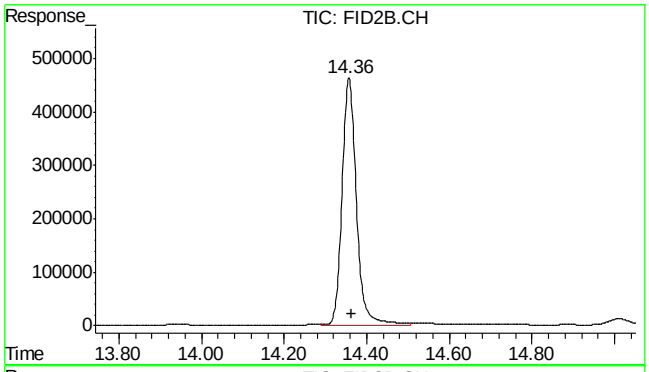

#8 m,p-Xylene

R.T.: 10.461 min
Delta R.T.: -0.008 min
Response: 188091
Conc: 0.50 ug/L m



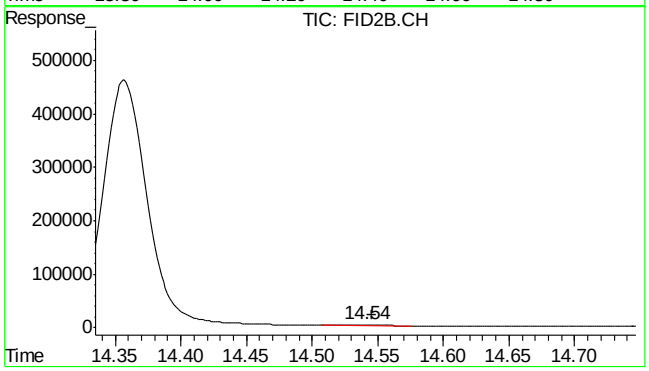

#9 o-Xylene

R.T.: 0.000 min
Exp R.T. : 10.964 min
Response: 0
Conc: N.D.




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

R.T.: 14.357 min
Delta R.T.: -0.008 min
Response: 11099233
Conc: 84.05 % m




#11 Naphthalene

R.T.: 14.540 min
Delta R.T.: -0.006 min
Response: 38258
Conc: 0.22 ug/L m

Mountain States ACCUTEST LABORATORIES

## GC Semi-volatiles

### QC Data Summaries

Includes the following where applicable:

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

# Method Blank Summary



**Job Number:** D50830
**Account:** XTOKRWR XTO Energy
**Project:** PCU T25-21G

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP8630-MB | FH013381.D | 1 | 09/25/13 | TU | 09/25/13 | OP8630 | GFH710 |

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

D50830-1

| 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 | 77% | 20-130% |

# Blank Spike Summary



**Job Number:** D50830
**Account:** XTOKRWR XTO Energy
**Project:** PCU T25-21G

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP8630-BS | FH013383.D | 1 | 09/25/13 | TU | 09/25/13 | OP8630 | GFH710 |

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

D50830-1

| CAS No. | Compound | Spike mg/kg | BSP mg/kg | BSP % | Limits |
|---|---|---|---|---|---|
| | TPH-DRO (C10-C28) | 667 | 499 | 75 | 42-130 |

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 84-15-1 | o-Terphenyl | 75% | 20-130% |

10.2.1 10

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** D50830
**Account:** XTOKRWR XTO Energy
**Project:** PCU T25-21G

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP8630-MS | FH013385.D | 1 | 09/25/13 | TU | 09/25/13 | OP8630 | GFH710 |
| OP8630-MSD | FH013387.D | 1 | 09/25/13 | TU | 09/25/13 | OP8630 | GFH710 |
| D50828-1 | FH013389.D | 1 | 09/25/13 | TU | 09/25/13 | OP8630 | GFH710 |

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

D50830-1

| CAS No. | Compound | D50828-1 mg/kg | Q | Spike mg/kg | MS mg/kg | MS % | MSD mg/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|
| | TPH-DRO (C10-C28) | 9.23 | | 791 | 526 | 65 | 507 | 63 | 4 | 20-150/30 |

| CAS No. | Surrogate Recoveries | MS | MSD | D50828-1 | Limits |
|---|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 65% | 65% | 74% | 20-130% |

10.3.1
10

* = Outside of Control Limits.

Mountain States ACCUTEST LABORATORIES

GC Semi-volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH092513.SEC\
Data File : FH013401.D
Signal(s) : FID2B.ch
Acq On : 25 Sep 2013 11:04 pm
Operator : TIMU
Sample : D50830-1
Misc : OP8630,GFH710,30.07,,,1,1
ALS Vial : 73 Sample Multiplier: 1

Integration File: events.e
Quant Time: Sep 26 08:28:13 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 | 12.188 | 3214808114 | 1852.788 | ug/ml |
| Target Compounds | | | | | |
| 2) H | TPH-DRO (C10-C28) | 9.783 | 5656664247 | 4021.573 | ug/ml |

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

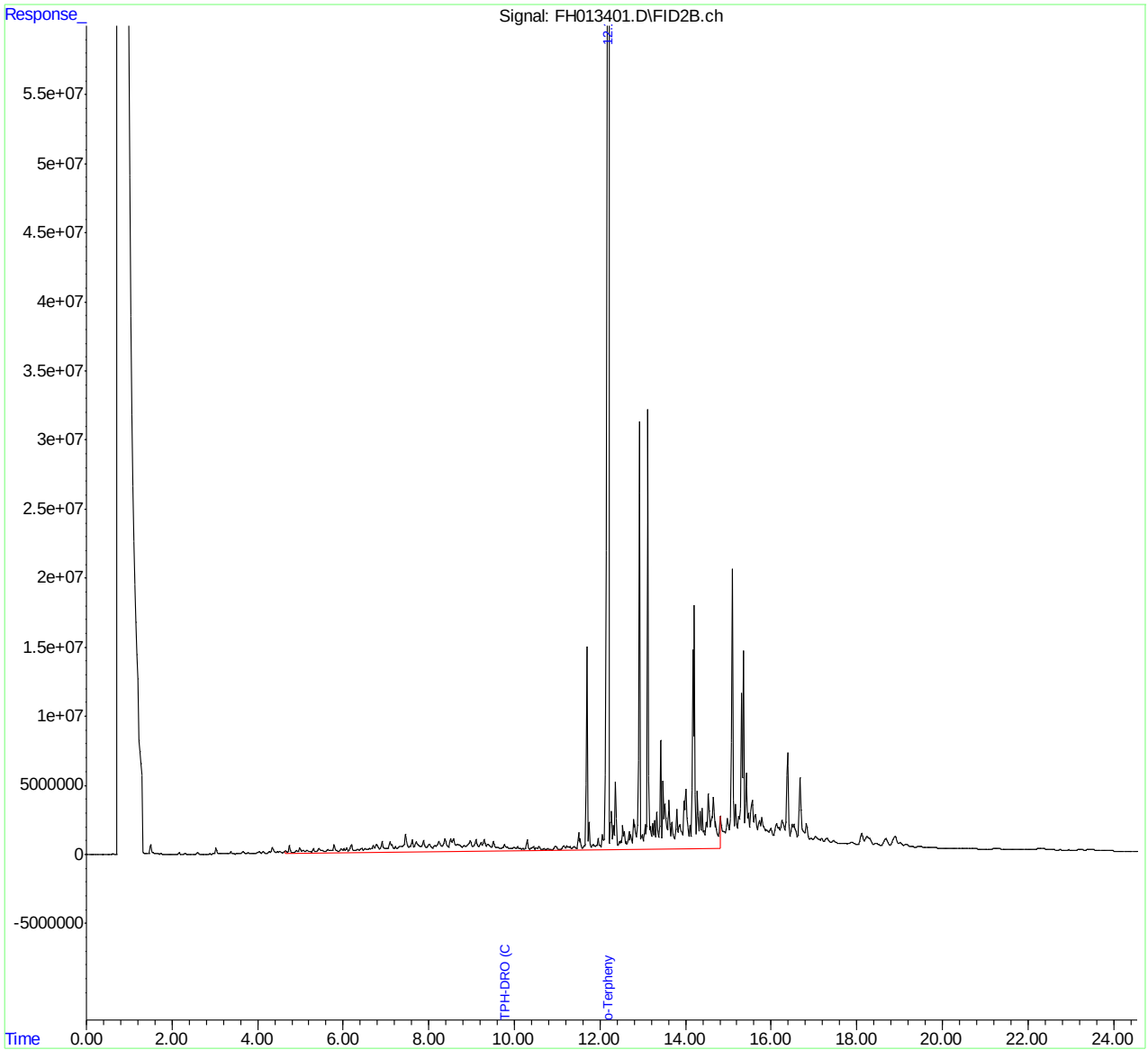
11.1.1 11

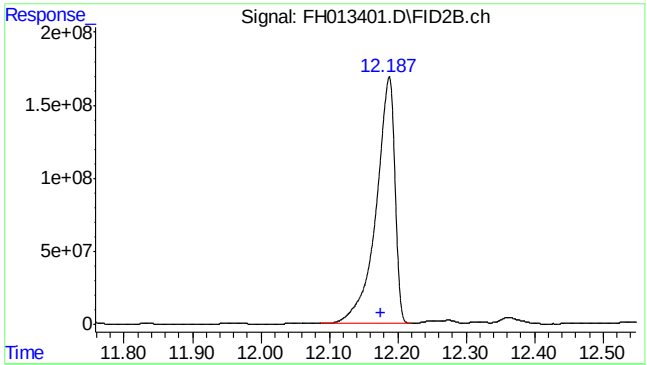
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH092513.SEC\
Data File : FH013401.D
Signal(s) : FID2B.ch
Acq On : 25 Sep 2013 11:04 pm
Operator : TIMU
Sample : D50830-1
Misc : OP8630,GFH710,30.07,,,1,1
ALS Vial : 73 Sample Multiplier: 1

Integration File: events.e
Quant Time: Sep 26 08:28:13 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

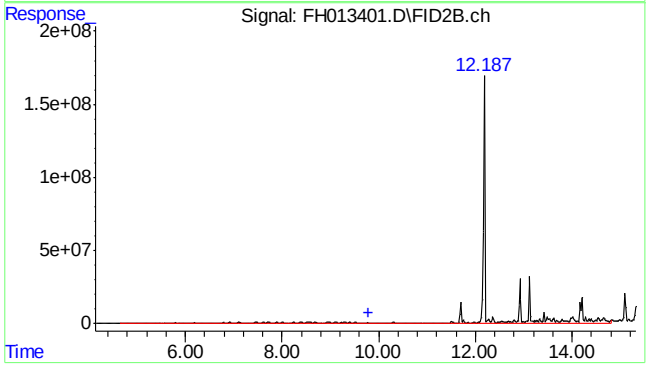
Volume Inj. :
Signal Phase :
Signal Info :






#1 o-Terphenyl

R.T.: 12.188 min
Delta R.T.: 0.013 min
Response: 3214808114
Conc: 1852.79 ug/ml




#2 TPH-DRO (C10-C28)

R.T.: 9.783 min
Delta R.T.: 0.000 min
Response: 5656664247
Conc: 4021.57 ug/ml m

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH092513.SEC\
Data File : FH013381.D
Signal(s) : FID2B.ch
Acq On : 25 Sep 2013 5:05 pm
Operator : TIMU
Sample : OP8630-MB
Misc : OP8630,GFH710,30.00,,,1,1
ALS Vial : 63 Sample Multiplier: 1

Integration File: events.e
Quant Time: Sep 26 08:21:30 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 | 12.187 | 2681575113 | 1545.470 | ug/ml |
| Target Compounds | | | | | |
| 2) H | TPH-DRO (C10-C28) | 9.783 | 67539585 | 48.017 | ug/ml |

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

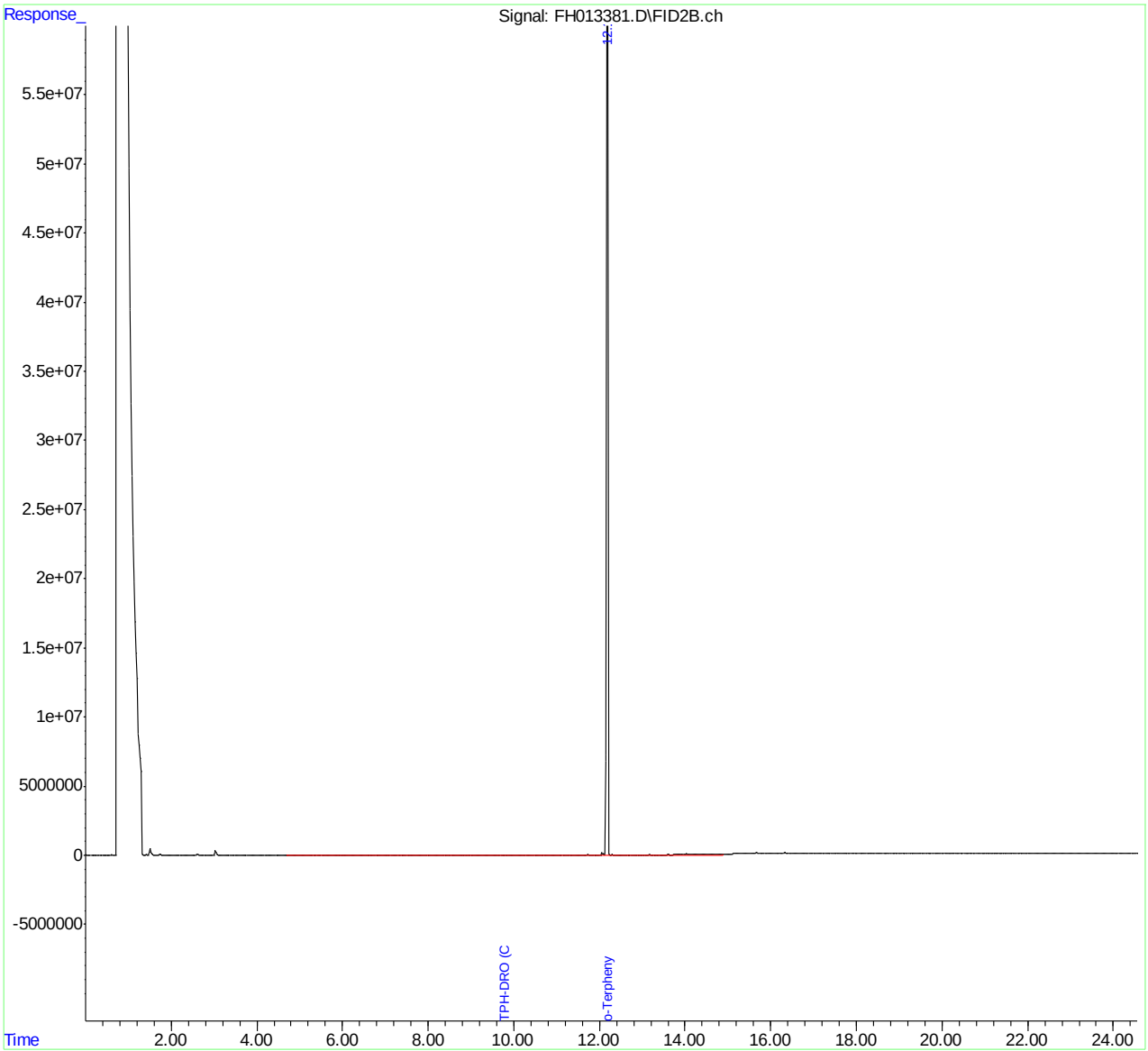
11.2.1 11

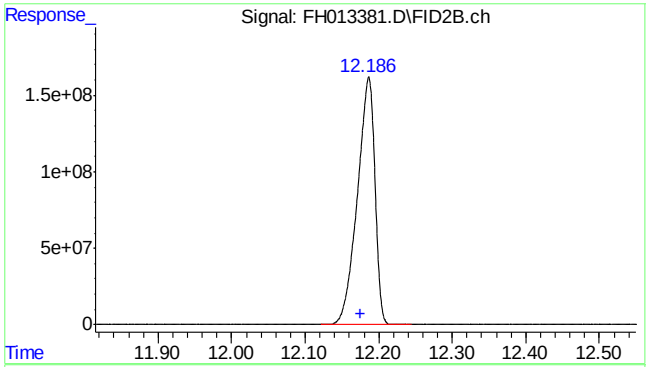
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\FH092513.SEC\
Data File : FH013381.D
Signal(s) : FID2B.ch
Acq On : 25 Sep 2013 5:05 pm
Operator : TIMU
Sample : OP8630-MB
Misc : OP8630,GFH710,30.00,,,1,1
ALS Vial : 63 Sample Multiplier: 1

Integration File: events.e
Quant Time: Sep 26 08:21:30 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

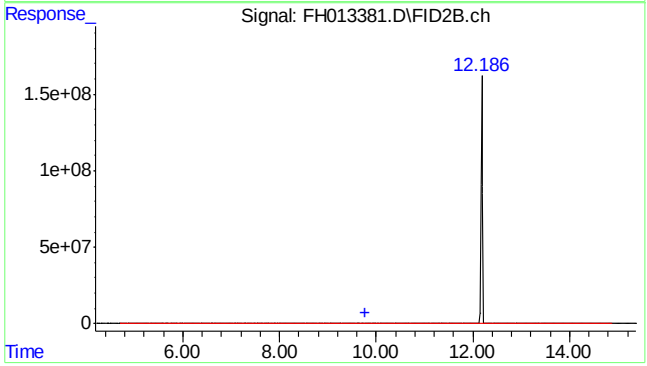
Volume Inj. :
Signal Phase :
Signal Info :






#1 o-Terphenyl

R.T.: 12.187 min
Delta R.T.: 0.012 min
Response: 2681575113
Conc: 1545.47 ug/ml




#2 TPH-DRO (C10-C28)

R.T.: 9.783 min
Delta R.T.: 0.000 min
Response: 67539585
Conc: 48.02 ug/ml m