

**Technical Report for**

**XTO Energy**

**PCU 296-7A**

**1007-02**

**Accutest Job Number: D32154**

**Sampling Date: 02/22/12**

**Report to:**

**dknudson@krwconsulting.com**

**Total number of pages in report: 22**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.



**Brad Madadian**  
**Laboratory Director**

**Client Service contact: Renea Jackson 303-425-6021**

Certifications: CO, ID, NE, NM, ND (R-027) (PW) UT (NELAP CO00049)

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Test results relate only to samples analyzed.

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## Sample Summary

XTO Energy

Job No: D32154

PCU 296-7A

Project No: 1007-02

| Sample Number | Collected |          | Received | Matrix |      | Client Sample ID      |
|---------------|-----------|----------|----------|--------|------|-----------------------|
|               | Date      | Time By  |          | Code   | Type |                       |
| D32154-1      | 02/22/12  | 10:30 DS | 02/24/12 | SO     | Soil | RP TP-1:0'-(-2')      |
| D32154-2      | 02/22/12  | 11:00 DS | 02/24/12 | SO     | Soil | RP TP-1:(-2')-(-4')   |
| D32154-3      | 02/22/12  | 11:30 DS | 02/24/12 | SO     | Soil | RP TP-1:(-4')-(-5.5') |

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

## CASE NARRATIVE / CONFORMANCE SUMMARY

**Client:** XTO Energy

**Job No** D32154

**Site:** PCU 296-7A

**Report Date** 2/29/2012 2:37:56 PM

On 02/24/2012, 3 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 2.2 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D32154 was assigned to the project. The lab sample IDs, client sample IDs, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

### Volatiles by GC By Method SW846 8015B

|                  |                         |
|------------------|-------------------------|
| <b>Matrix</b> SO | <b>Batch ID:</b> GGB848 |
|------------------|-------------------------|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D32208-1MS, D32208-1MSD were used as the QC samples indicated.

### Extractables by GC By Method SW846-8015B

|                  |                         |
|------------------|-------------------------|
| <b>Matrix</b> SO | <b>Batch ID:</b> OP5426 |
|------------------|-------------------------|

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D32154-1MS, D32154-1MSD were used as the QC samples indicated.

### Wet Chemistry By Method SM19 2540B M

|                  |                          |
|------------------|--------------------------|
| <b>Matrix</b> SO | <b>Batch ID:</b> GN13831 |
|------------------|--------------------------|

- The data for SM19 2540B M meets quality control requirements.

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

Sample Results

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Report of Analysis

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## Report of Analysis

3.1  
3

|  |                                |
|--|--------------------------------|
| <b>Client Sample ID:</b> RP TP-1:0' -(-2') | <b>Date Sampled:</b> 02/22/12  |
| <b>Lab Sample ID:</b> D32154-1             | <b>Date Received:</b> 02/24/12 |
| <b>Matrix:</b> SO - Soil                   | <b>Percent Solids:</b> 83.4    |
| <b>Method:</b> SW846 8015B                 |                                |
| <b>Project:</b> PCU 296-7A                 |                                |

| Run #  | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | GB15102.D | 1  | 02/27/12 | SK | n/a       | n/a        | GGB848           |
| Run #2 |           |    |          |    |           |            |                  |

| Run #  | Initial Weight | Final Volume | Methanol Aliquot |
|--------|----------------|--------------|------------------|
| Run #1 | 5.1 g          | 5.0 ml       | 100 ul           |
| Run #2 |                |              |                  |

| CAS No.  | Compound               | Result | RL     | MDL     | Units | Q |
|----------|------------------------|--------|--------|---------|-------|---|
|          | TPH-GRO (C6-C10)       | 7.47   | 14     | 6.9     | mg/kg | J |
| CAS No.  | Surrogate Recoveries   | Run# 1 | Run# 2 | Limits  |       |   |
| 120-82-1 | 1,2,4-Trichlorobenzene | 105%   |        | 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

## Report of Analysis

3.1  
3

|  |                                |
|--|--------------------------------|
| <b>Client Sample ID:</b> RP TP-1:0' -(-2') |                                |
| <b>Lab Sample ID:</b> D32154-1             | <b>Date Sampled:</b> 02/22/12  |
| <b>Matrix:</b> SO - Soil                   | <b>Date Received:</b> 02/24/12 |
| <b>Method:</b> SW846-8015B SW846 3546      | <b>Percent Solids:</b> 83.4    |
| <b>Project:</b> PCU 296-7A                 |                                |

|        | File ID    | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|------------|----|----------|----|-----------|------------|------------------|
| Run #1 | FH001707.D | 1  | 02/27/12 | TR | 02/24/12  | OP5426     | GFH88            |
| Run #2 |            |    |          |    |           |            |                  |

|        | Initial Weight | Final Volume |
|--------|----------------|--------------|
| Run #1 | 30.0 g         | 2.0 ml       |
| Run #2 |                |              |

| CAS No. | Compound             | Result | RL     | MDL     | Units | Q |
|---------|----------------------|--------|--------|---------|-------|---|
|         | TPH-DRO (C10-C28)    | 643    | 16     | 10      | mg/kg |   |
| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits  |       |   |
| 84-15-1 | o-Terphenyl          | 73%    |        | 43-136% |       |   |

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

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

## Report of Analysis

32  
3

|  |                                |
|--|--------------------------------|
| <b>Client Sample ID:</b> RP TP-1:(-2')-(-4') | <b>Date Sampled:</b> 02/22/12  |
| <b>Lab Sample ID:</b> D32154-2               | <b>Date Received:</b> 02/24/12 |
| <b>Matrix:</b> SO - Soil                     | <b>Percent Solids:</b> 83.2    |
| <b>Method:</b> SW846 8015B                   |                                |
| <b>Project:</b> PCU 296-7A                   |                                |

| Run #  | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | GB15104.D | 1  | 02/27/12 | SK | n/a       | n/a        | GGB848           |
| Run #2 |           |    |          |    |           |            |                  |

| Run #  | Initial Weight | Final Volume | Methanol Aliquot |
|--------|----------------|--------------|------------------|
| Run #1 | 5.1 g          | 5.0 ml       | 100 ul           |
| Run #2 |                |              |                  |

| CAS No.  | Compound               | Result | RL     | MDL     | Units | Q |
|----------|------------------------|--------|--------|---------|-------|---|
|          | TPH-GRO (C6-C10)       | ND     | 14     | 6.9     | mg/kg |   |
| CAS No.  | Surrogate Recoveries   | Run# 1 | Run# 2 | Limits  |       |   |
| 120-82-1 | 1,2,4-Trichlorobenzene | 99%    |        | 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

## Report of Analysis

32  
3

|  |                                |
|--|--------------------------------|
| <b>Client Sample ID:</b> RP TP-1:(-2')-(-4') | <b>Date Sampled:</b> 02/22/12  |
| <b>Lab Sample ID:</b> D32154-2               | <b>Date Received:</b> 02/24/12 |
| <b>Matrix:</b> SO - Soil                     | <b>Percent Solids:</b> 83.2    |
| <b>Method:</b> SW846-8015B SW846 3546        |                                |
| <b>Project:</b> PCU 296-7A                   |                                |

| Run #  | File ID    | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|------------|----|----------|----|-----------|------------|------------------|
| Run #1 | FH001709.D | 1  | 02/27/12 | TR | 02/24/12  | OP5426     | GFH88            |
| Run #2 |            |    |          |    |           |            |                  |

| Run #  | Initial Weight | Final Volume |
|--------|----------------|--------------|
| Run #1 | 30.0 g         | 2.0 ml       |
| Run #2 |                |              |

| CAS No. | Compound             | Result | RL     | MDL     | Units | Q |
|---------|----------------------|--------|--------|---------|-------|---|
|         | TPH-DRO (C10-C28)    | 210    | 16     | 10      | mg/kg |   |
| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits  |       |   |
| 84-15-1 | o-Terphenyl          | 75%    |        | 43-136% |       |   |

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

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

## Report of Analysis

|  |                                |
|--|--------------------------------|
| <b>Client Sample ID:</b> RP TP-1:(-4')-(-5.5') |                                |
| <b>Lab Sample ID:</b> D32154-3                 | <b>Date Sampled:</b> 02/22/12  |
| <b>Matrix:</b> SO - Soil                       | <b>Date Received:</b> 02/24/12 |
| <b>Method:</b> SW846 8015B                     | <b>Percent Solids:</b> 85.3    |
| <b>Project:</b> PCU 296-7A                     |                                |

| Run #  | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | GB15105.D | 1  | 02/28/12 | SK | n/a       | n/a        | GGB848           |
| Run #2 |           |    |          |    |           |            |                  |

| Run #  | 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     | 13     | 6.7     | mg/kg |   |
| CAS No.  | Surrogate Recoveries   | Run# 1 | Run# 2 | Limits  |       |   |
| 120-82-1 | 1,2,4-Trichlorobenzene | 105%   |        | 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

## Report of Analysis

|  |                                |
|--|--------------------------------|
| <b>Client Sample ID:</b> RP TP-1:(-4')-(-5.5') | <b>Date Sampled:</b> 02/22/12  |
| <b>Lab Sample ID:</b> D32154-3                 | <b>Date Received:</b> 02/24/12 |
| <b>Matrix:</b> SO - Soil                       | <b>Percent Solids:</b> 85.3    |
| <b>Method:</b> SW846-8015B SW846 3546          |                                |
| <b>Project:</b> PCU 296-7A                     |                                |

| Run #  | File ID    | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|------------|----|----------|----|-----------|------------|------------------|
| Run #1 | FH001711.D | 1  | 02/27/12 | TR | 02/24/12  | OP5426     | GFH88            |
| Run #2 |            |    |          |    |           |            |                  |

| Run #  | Initial Weight | Final Volume |
|--------|----------------|--------------|
| Run #1 | 30.0 g         | 2.0 ml       |
| Run #2 |                |              |

| CAS No. | Compound             | Result | RL     | MDL     | Units | Q |
|---------|----------------------|--------|--------|---------|-------|---|
|         | TPH-DRO (C10-C28)    | 274    | 16     | 10      | mg/kg |   |
| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits  |       |   |
| 84-15-1 | o-Terphenyl          | 74%    |        | 43-136% |       |   |

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

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

Misc. Forms

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Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody

Accutest Laboratories Mountain States  
4036 Youngfield Street Wheat Ridge, Co 80033  
TEL. 303-425-6021 877-737-4521  
FAX 303-425-6021

FED-EX Tracking # \_\_\_\_\_ Bottle Order Control # \_\_\_\_\_  
Accutest Quote # \_\_\_\_\_ Accutest Job # **D32154**

| Client / Reporting Information                   |  | Project Information                                 |         |  |            | Requested Analysis ( see TEST CODE sheet) |              |                             |     |                     |       |                                     |          |      |           | Matrix Codes   |              |
|--|--|---|---------|--|------------|---|--------------|-----------------------------|-----|---------------------|-------|-------------------------------------|----------|------|-----------|--|--------------|
| Company Name<br><b>KRW CONSULTING</b>            |  | Project Name<br><b>XTO PCU 296-7A</b>               |         |  |            | <b>TPH (GRO + DEP)</b>                    |              |                             |     |                     |       |                                     |          |      |           | DW - Drinking Water<br>GW - Ground Water<br>WW - Water<br>SW - Surface Water<br>SO - Soil<br>SL - Sludge<br>SED - Sediment<br>OI - Oil<br>LIQ - Other Liquid<br>AIR - Air<br>SOL - Other Solid<br>WP - Wipe<br>FB - Field Blank<br>EB - Equipment Blank<br>RP - Rinse Blank<br>TB - Trip Blank |              |
| Street Address<br><b>8000 W 14TH AVE STE 200</b> |  | Billing Information ( if different from Report to ) |         |  |            |   |              |                             |     |                     |       |                                     |          |      |           |  |              |
| City<br><b>LAKEWOOD CO 80214</b>                 |  | Company Name<br><b>XTO ENERGY</b>                   |         |  |            |   |              |                             |     |                     |       |                                     |          |      |           |  |              |
| Project Contact<br><b>DAVID SANDERS</b>          |  | Street Address<br><b>21459 CR5</b>                  |         |  |            |   |              |                             |     |                     |       |                                     |          |      |           |  |              |
| Phone #<br><b>970 488 1098</b>                   |  | City<br><b>RIFLE, CO 81650</b>                      |         |  |            |   |              |                             |     |                     |       |                                     |          |      |           |  |              |
| E-mail<br><b>DAVID.SANDERS@KRWCONSULTING.COM</b> |  | Project #<br><b>1007-02</b>                         |         | Street Address<br><b>JESSICA DOOLING</b> |            | City<br><b>RIFLE, CO 81650</b>            |              | State<br><b>CO</b>          |     | Zip<br><b>81650</b> |       | Attention<br><b>JESSICA DOOLING</b> |          | PO#  |           |  |              |
| Sample(s) Name(s)<br><b>DAVID SANDERS</b>        |  | Phone #<br><b>970 488 1098</b>                      |         | Project Manager<br><b>JOE HESS</b>       |            | Collection                                |              | Number of preserved Bottles |     |                     |       |                                     |          |      |           |  |              |
| Field ID / Point of Collection                   |  | MEOH/DI Vial #                                      | Date    | Time                                     | Sampled by | Matrix                                    | # of bottles | HCL                         | MNH | HNO3                | H2SO4 | NONE                                | DI Water | MEOH | ENCLOSURE | Blank  | LAB USE ONLY |
| RP TP-1: 0'-(2')                                 |  |   | 2-22-12 | 10:30                                    | DLS        | SD  | 2            |                             |     |                     |       | X                                   |          |      |           | X  | 01           |
| RP TP-1: (-2')-(4')                              |  |   | 2-22-12 | 11:00                                    | DLS        | SD  | 2            |                             |     |                     |       | X                                   |          |      |           | X  | 02           |
| RP TP-1: (-4')-(5.5')                            |  |   | 2-22-12 | 11:30                                    | DLS        | SD  | 2            |                             |     |                     |       | X                                   |          |      |           | X  | 03           |

| Turnaround Time ( Business days)   |  | Approved By (Accutest PM): / Date: |  | Data Deliverable Information   |  |  |  | Comments / Special Instructions                      |  |  |  |
|--|--|------------------------------------|--|--|--|--|--|--|--|--|--|
| <input type="checkbox"/> Std. 10 Business Days<br><input checked="" type="checkbox"/> Std. 5 Business Days (By Contract only)<br><input type="checkbox"/> 5 Day <i>SH</i><br><input type="checkbox"/> 3 Day <i>EMERGENCY</i><br><input type="checkbox"/> 2 Day <i>EMERGENCY</i><br><input type="checkbox"/> 1 Day <i>EMERGENCY</i> |  | _____                              |  | <input type="checkbox"/> Commercial "A" ( Level 1 )<br><input type="checkbox"/> Commercial "B" ( Level 2 )<br><input type="checkbox"/> Commercial "B" + Narrative<br><input type="checkbox"/> FULLT! ( Level 3+4 ) |  | <input type="checkbox"/> State Forms<br><input type="checkbox"/> EDD Format<br><input checked="" type="checkbox"/> PDF |  | <b>PLEASE EMAIL RESULTS TO KRW<br/>PICEANCE TEAM</b> |  |  |  |
| Emergency & Rush T/A data available VIA Lablink  |  | _____                              |  | Commercial "A" = Results Only<br>Commercial "B" = Results + QC Summary   |  |  |  |  |  |  |  |

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

|   |                              |  |   |   |   |
|---|------------------------------|--|---|---|---|
| Relinquished by Sampler:<br><b>1</b> <i>[Signature]</i> | Date Time:<br><b>2/22/12</b> | Received By:<br><b>1</b> <i>Rifle Service Center</i> | Relinquished By:<br><b>2</b> <i>[Signature]</i> | Date Time:<br><b>2/22/12</b>  | Received By:<br><b>2</b> <i>American Courier</i>                  |
| Relinquished by Sampler:<br><b>3</b>                    | Date Time:                   | Received By:<br><b>3</b>                             | Relinquished By:<br><b>4</b>                    | Date Time:  | Received By:<br><b>4</b> <i>Packed 2-24-12</i>                    |
| Relinquished by:<br><b>5</b>                            | Date Time:                   | Received By:<br><b>5</b>                             | Custody Seal #<br><b>AD CO</b>                  | <input checked="" type="checkbox"/> Intact<br><input type="checkbox"/> Not Intact | Preserved where applicable<br><input checked="" type="checkbox"/> |

## Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D32154

Client: KRW

Immediate Client Services Action Required: No

Date / Time Received: 2/24/2012 8:55:00 AM

No. Coolers: 1

Client Service Action Required at Login: No

Project: XTO

Airbill #'s: CO

| <u>Cooler Security</u>    | <u>Y or N</u>                       |                          | <u>Y or N</u>         |  |
|---------------------------|-------------------------------------|--------------------------|-----------------------|--|
| 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"/> |

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

| <u>Quality Control Preservation</u> | <u>Y or N</u>                       |                          | <u>N/A</u>                          |
|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| 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"/> |

| <u>Sample Integrity - Documentation</u> | <u>Y or N</u>                       |                          |
|---|-------------------------------------|--------------------------|
| 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"/> |

| <u>Sample Integrity - Condition</u> | <u>Y or N</u>                       |                          |
|-------------------------------------|-------------------------------------|--------------------------|
| 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                              |                          |

| <u>Sample Integrity - Instructions</u>    | <u>Y or N</u>                       |                                     | <u>N/A</u>                          |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 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

4.1  
4

## GC Volatiles

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5

## QC Data Summaries

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Includes the following where applicable:

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

## Method Blank Summary

**Job Number:** D32154  
**Account:** XTOKRWR XTO Energy  
**Project:** PCU 296-7A

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| GGB848-MB | GB15089.D | 1  | 02/27/12 | SK | n/a       | n/a        | GGB848           |

The QC reported here applies to the following samples:

Method: SW846 8015B

D32154-1, D32154-2, D32154-3

| 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 | 101% 60-140% |

# Blank Spike Summary

**Job Number:** D32154  
**Account:** XTOKRWR XTO Energy  
**Project:** PCU 296-7A

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| GGB848-BS | GB15090.D | 1  | 02/27/12 | SK | n/a       | n/a        | GGB848           |

The QC reported here applies to the following samples:

Method: SW846 8015B

D32154-1, D32154-2, D32154-3

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

| CAS No.  | Surrogate Recoveries   | BSP  | Limits  |
|----------|------------------------|------|---------|
| 120-82-1 | 1,2,4-Trichlorobenzene | 110% | 60-140% |

# Matrix Spike/Matrix Spike Duplicate Summary

**Job Number:** D32154  
**Account:** XTOKRWR XTO Energy  
**Project:** PCU 296-7A

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| D32208-1MS  | GB15092.D | 1  | 02/27/12 | SK | n/a       | n/a        | GGB848           |
| D32208-1MSD | GB15093.D | 1  | 02/27/12 | SK | n/a       | n/a        | GGB848           |
| D32208-1    | GB15091.D | 1  | 02/27/12 | SK | n/a       | n/a        | GGB848           |

The QC reported here applies to the following samples:

Method: SW846 8015B

D32154-1, D32154-2, D32154-3

| CAS No. | Compound         | D32208-1<br>mg/kg | Spike<br>mg/kg | MS<br>mg/kg | MS<br>% | MSD<br>mg/kg | MSD<br>% | RPD | Limits<br>Rec/RPD |
|---------|------------------|-------------------|----------------|-------------|---------|--------------|----------|-----|-------------------|
|         | TPH-GRO (C6-C10) | ND                | 142            | 139         | 98      | 141          | 99       | 1   | 70-130/30         |

| CAS No.  | Surrogate Recoveries   | MS   | MSD  | D32208-1 | Limits  |
|----------|------------------------|------|------|----------|---------|
| 120-82-1 | 1,2,4-Trichlorobenzene | 102% | 106% | 96%      | 60-140% |

5.3.1  
5

## GC Semi-volatiles

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### QC Data Summaries

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Includes the following where applicable:

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

# Method Blank Summary

**Job Number:** D32154  
**Account:** XTOKRWR XTO Energy  
**Project:** PCU 296-7A

| Sample    | File ID    | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|------------|----|----------|----|-----------|------------|------------------|
| OP5426-MB | FH001697.D | 1  | 02/27/12 | TR | 02/24/12  | OP5426     | GFH88            |

The QC reported here applies to the following samples:

Method: SW846-8015B

D32154-1, D32154-2, D32154-3

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

| CAS No. | Surrogate Recoveries | Limits      |
|---------|----------------------|-------------|
| 84-15-1 | o-Terphenyl          | 82% 43-136% |

6.1.1  
6

# Blank Spike Summary

**Job Number:** D32154  
**Account:** XTOKRWR XTO Energy  
**Project:** PCU 296-7A

| Sample    | File ID    | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|------------|----|----------|----|-----------|------------|------------------|
| OP5426-BS | FH001699.D | 1  | 02/27/12 | TR | 02/24/12  | OP5426     | GFH88            |

The QC reported here applies to the following samples:

Method: SW846-8015B

D32154-1, D32154-2, D32154-3

| CAS No. | Compound          | Spike<br>mg/kg | BSP<br>mg/kg | BSP<br>% | Limits |
|---------|-------------------|----------------|--------------|----------|--------|
|         | TPH-DRO (C10-C28) | 667            | 548          | 82       | 58-130 |

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

# Matrix Spike/Matrix Spike Duplicate Summary

**Job Number:** D32154  
**Account:** XTOKRWR XTO Energy  
**Project:** PCU 296-7A

| Sample     | File ID    | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|------------|----|----------|----|-----------|------------|------------------|
| OP5426-MS  | FH001701.D | 1  | 02/27/12 | TR | 02/24/12  | OP5426     | GFH88            |
| OP5426-MSD | FH001703.D | 1  | 02/27/12 | TR | 02/24/12  | OP5426     | GFH88            |
| D32154-1   | FH001707.D | 1  | 02/27/12 | TR | 02/24/12  | OP5426     | GFH88            |

The QC reported here applies to the following samples:

Method: SW846-8015B

D32154-1, D32154-2, D32154-3

| CAS No. | Compound          | D32154-1<br>mg/kg | Spike<br>mg/kg | MS<br>mg/kg | MS<br>% | MSD<br>mg/kg | MSD<br>% | RPD | Limits<br>Rec/RPD |
|---------|-------------------|-------------------|----------------|-------------|---------|--------------|----------|-----|-------------------|
|         | TPH-DRO (C10-C28) | 643               | 799            | 1240        | 75      | 1310         | 83       | 5   | 20-183/43         |

| CAS No. | Surrogate Recoveries | MS  | MSD | D32154-1 | Limits  |
|---------|----------------------|-----|-----|----------|---------|
| 84-15-1 | o-Terphenyl          | 70% | 69% | 73%      | 43-136% |

6.3.1  
6