

PROJECT NO: 012-1538  
 DRAWN BY: KJG  
 DATE: 11/12/12

Water Sample Location Map  
**Location: MV 25-17**  
 WPX Energy Rocky Mountain, LLC

**OLSSON**  
 ASSOCIATES

760 Horizon Drive Suite 102  
 Grand Junction, CO 81505  
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FIGURE  
**5**



06/12/13

Technical Report for

WPX Energy Rocky Mountain, LLC

CORCCOGJ: MV 25-17 Landfarm 2 Batch 2 Baseline

NXEEPPARACH

Accutest Job Number: D46975

Sampling Date: 06/06/13

Report to:

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ATTN: Tim Dobransky

Total number of pages in report: 30



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

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

Scott Heideman  
Laboratory Director

Client Service contact: Renea Jackson 303-425-6021

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

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Test results relate only to samples analyzed.

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Sample Summary

WPX Energy Rocky Mountain, LLC

Job No: D46975

CORCCOGJ: MV 25-17 Landfarm 2 Batch 2 Baseline  
Project No: NXEEPPARACH

| Sample<br>Number | Collected |          | Received | Matrix |      | Client<br>Sample ID       |
|------------------|-----------|----------|----------|--------|------|---------------------------|
|                  | Date      | Time By  |          | Code   | Type |                           |
| D46975-1         | 06/06/13  | 10:25 JS | 06/07/13 | SO     | Soil | MV 25-17 LF 2-12(0-24 IN) |

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



## CASE NARRATIVE / CONFORMANCE SUMMARY

**Client:** WPX Energy Rocky Mountain, LLC

**Job No** D46975

**Site:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 2 Baseline

**Report Date** 6/12/2013 4:47:43 PM

On 06/07/2013, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 3.1 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D46975 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:** V5V1665

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D46865-5MS, D46865-5MSD were used as the QC samples indicated.

### Extractables by GCMS By Method SW846 8270C BY SIM

**Matrix** SO

**Batch ID:** OP8005

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D46975-1MS, D46975-1MSD were used as the QC samples indicated.
- The matrix spike (MS) recovery(s) of Naphthalene are outside control limits. Outside control limits due to possible matrix interference.
- The RPD(s) for the MS and MSD recoveries of Naphthalene are outside control limits for sample OP8005-MSD. Variability of recovery may be due to sample matrix/homogeneity.

### Volatiles by GC By Method SW846 8015B

**Matrix** SO

**Batch ID:** GGB1134

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D46865-5MS, D46865-5MSD were used as the QC samples indicated.

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

**Matrix** SO

**Batch ID:** OP7991

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D46996-8MS, D46996-8MSD were used as the QC samples indicated.

### Wet Chemistry By Method SM19 2540B M

**Matrix** SO

**Batch ID:** GN20525

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

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

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

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

Summary of Hits

Job Number: D46975  
Account: WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 2 Batch 2 Baseline  
Collected: 06/06/13



| Lab Sample ID     | Client Sample ID          | Result/<br>Qual | RL  | MDL | Units | Method             |
|-------------------|---------------------------|-----------------|-----|-----|-------|--------------------|
| D46975-1          | MV 25-17 LF 2-12(0-24 IN) |                 |     |     |       |                    |
| Naphthalene       |                           | 12.0 J          | 13  | 11  | ug/kg | SW846 8270C BY SIM |
| TPH-DRO (C10-C28) |                           | 34.1            | 7.3 | 5.5 | mg/kg | SW846-8015B        |

Sample Results

Report of Analysis

## Report of Analysis

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 2-12(0-24 IN)                      | <b>Date Sampled:</b>   | 06/06/13 |
| <b>Lab Sample ID:</b>    | D46975-1                                       | <b>Date Received:</b>  | 06/07/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 91.0     |
| <b>Method:</b>           | SW846 8260B                                    |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 2 Batch 2 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | 5V27337.D | 1  | 06/07/13 | BD | n/a       | n/a        | V5V1665          |
| Run #2 |           |    |          |    |           |            |                  |

|        | Initial Weight | Final Volume | Methanol Aliquot |
|--------|----------------|--------------|------------------|
| Run #1 | 5.06 g         | 5.0 ml       | 100 ul           |
| Run #2 |                |              |                  |

## Purgeable Aromatics

| CAS No.   | Compound       | Result | RL  | MDL | Units | Q |
|-----------|----------------|--------|-----|-----|-------|---|
| 71-43-2   | Benzene        | ND     | 59  | 30  | ug/kg |   |
| 108-88-3  | Toluene        | ND     | 120 | 59  | ug/kg |   |
| 100-41-4  | Ethylbenzene   | ND     | 120 | 23  | ug/kg |   |
| 1330-20-7 | Xylene (total) | ND     | 240 | 120 | ug/kg |   |

| CAS No.    | Surrogate Recoveries  | Run# 1 | Run# 2 | Limits  |
|------------|-----------------------|--------|--------|---------|
| 2037-26-5  | Toluene-D8            | 93%    |        | 64-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 106%   |        | 62-131% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 105%   |        | 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

## Report of Analysis

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 2-12(0-24 IN)                      | <b>Date Sampled:</b>   | 06/06/13 |
| <b>Lab Sample ID:</b>    | D46975-1                                       | <b>Date Received:</b>  | 06/07/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 91.0     |
| <b>Method:</b>           | SW846 8270C BY SIM SW846 3546                  |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 2 Batch 2 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | 3G15064.D | 1  | 06/12/13 | DC | 06/12/13  | OP8005     | E3G736           |
| Run #2 |           |    |          |    |           |            |                  |

|        | Initial Weight | Final Volume |
|--------|----------------|--------------|
| Run #1 | 30.0 g         | 1.0 ml       |
| Run #2 |                |              |

## COGCC Table 910-1 PAH List

| CAS No.  | Compound               | Result | RL  | MDL | Units | Q |
|----------|------------------------|--------|-----|-----|-------|---|
| 83-32-9  | Acenaphthene           | ND     | 9.2 | 4.8 | ug/kg |   |
| 120-12-7 | Anthracene             | ND     | 9.2 | 4.8 | ug/kg |   |
| 56-55-3  | Benzo(a)anthracene     | ND     | 9.2 | 4.8 | ug/kg |   |
| 205-99-2 | Benzo(b)fluoranthene   | ND     | 9.2 | 4.8 | ug/kg |   |
| 207-08-9 | Benzo(k)fluoranthene   | ND     | 9.2 | 4.8 | ug/kg |   |
| 50-32-8  | Benzo(a)pyrene         | ND     | 9.2 | 4.8 | ug/kg |   |
| 218-01-9 | Chrysene               | ND     | 9.2 | 4.8 | ug/kg |   |
| 53-70-3  | Dibenzo(a,h)anthracene | ND     | 9.2 | 4.8 | ug/kg |   |
| 206-44-0 | Fluoranthene           | ND     | 9.2 | 4.8 | ug/kg |   |
| 86-73-7  | Fluorene               | ND     | 9.2 | 5.5 | ug/kg |   |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND     | 9.2 | 4.8 | ug/kg |   |
| 91-20-3  | Naphthalene            | 12.0   | 13  | 11  | ug/kg | J |
| 129-00-0 | Pyrene                 | ND     | 9.2 | 4.8 | ug/kg |   |

| CAS No.   | Surrogate Recoveries | Run# 1 | Run# 2 | Limits  |
|-----------|----------------------|--------|--------|---------|
| 4165-60-0 | Nitrobenzene-d5      | 64%    |        | 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 64%    |        | 19-131% |
| 1718-51-0 | Terphenyl-d14        | 73%    |        | 18-150% |

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

Page 1 of 1

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 2-12(0-24 IN)                      | <b>Date Sampled:</b>   | 06/06/13 |
| <b>Lab Sample ID:</b>    | D46975-1                                       | <b>Date Received:</b>  | 06/07/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 91.0     |
| <b>Method:</b>           | SW846 8015B                                    |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 2 Batch 2 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | GB20728.D | 1  | 06/07/13 | BD | n/a       | n/a        | GGB1134          |
| Run #2 |           |    |          |    |           |            |                  |

|        | 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     | 12     | 5.9     | mg/kg |   |
| CAS No.  | Surrogate Recoveries   | Run# 1 | Run# 2 | Limits  |       |   |
| 120-82-1 | 1,2,4-Trichlorobenzene | 87%    |        | 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

Page 1 of 1

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 2-12(0-24 IN)                      | <b>Date Sampled:</b>   | 06/06/13 |
| <b>Lab Sample ID:</b>    | D46975-1                                       | <b>Date Received:</b>  | 06/07/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 91.0     |
| <b>Method:</b>           | SW846-8015B SW846 3546                         |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 2 Batch 2 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | FD25252.D | 1  | 06/10/13 | TU | 06/10/13  | OP7991     | GFD1252          |
| 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)    | 34.1   | 7.3    | 5.5     | mg/kg |   |
| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits  |       |   |
| 84-15-1 | o-Terphenyl          | 56%    |        | 35-130% |       |   |

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

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

## Misc. Forms

5

### Custody Documents and Other Forms

---

Includes the following where applicable:

- Chain of Custody



# Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D46975

Client: OLSSON ASS.

Immediate Client Services Action Required: No

Date / Time Received: 6/7/2013 3:50:00 PM

No. Coolers: 1

Client Service Action Required at Login: No

Project: MV 25-17 LANDFARMS 2 BATCH BASELIN

Airbill #'s: HD-CO

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

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

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

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

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

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

Comments

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## GC/MS Volatiles

### QC Data Summaries

Includes the following where applicable:

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

## Method Blank Summary

Page 1 of 1

**Job Number:** D46975

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 2 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| V5V1665-MB | 5V27324.D | 1  | 06/07/13 | BD | n/a       | n/a        | V5V1665          |

The QC reported here applies to the following samples:

Method: SW846 8260B

D46975-1

| 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            | 99% 64-130%  |
| 460-00-4   | 4-Bromofluorobenzene  | 92% 62-131%  |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 107% 70-130% |

## Blank Spike Summary

Page 1 of 1

**Job Number:** D46975

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 2 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| V5V1665-BS | 5V27325.D | 1  | 06/07/13 | BD | n/a       | n/a        | V5V1665          |

The QC reported here applies to the following samples:

Method: SW846 8260B

D46975-1

| CAS No.   | Compound       | Spike<br>ug/kg | BSP<br>ug/kg | BSP<br>% | Limits |
|-----------|----------------|----------------|--------------|----------|--------|
| 71-43-2   | Benzene        | 2500           | 2450         | 98       | 70-130 |
| 100-41-4  | Ethylbenzene   | 2500           | 2690         | 108      | 70-130 |
| 108-88-3  | Toluene        | 2500           | 2440         | 98       | 70-130 |
| 1330-20-7 | Xylene (total) | 7500           | 8020         | 107      | 70-130 |

| CAS No.    | Surrogate Recoveries  | BSP  | Limits  |
|------------|-----------------------|------|---------|
| 2037-26-5  | Toluene-D8            | 103% | 64-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 101% | 62-131% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 100% | 70-130% |

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

**Job Number:** D46975

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 2 Baseline

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| D46865-5MS  | 5V27327.D | 1  | 06/07/13 | BD | n/a       | n/a        | V5V1665          |
| D46865-5MSD | 5V27328.D | 1  | 06/07/13 | BD | n/a       | n/a        | V5V1665          |
| D46865-5    | 5V27326.D | 1  | 06/07/13 | BD | n/a       | n/a        | V5V1665          |

The QC reported here applies to the following samples:

Method: SW846 8260B

D46975-1

| CAS No.   | Compound       | D46865-5<br>ug/kg | Q | Spike<br>ug/kg | MS<br>ug/kg | MS<br>% | MSD<br>ug/kg | MSD<br>% | RPD | Limits<br>Rec/RPD |
|-----------|----------------|-------------------|---|----------------|-------------|---------|--------------|----------|-----|-------------------|
| 71-43-2   | Benzene        | ND                |   | 3210           | 3170        | 99      | 3070         | 96       | 3   | 64-139/30         |
| 100-41-4  | Ethylbenzene   | ND                |   | 3210           | 3300        | 103     | 3250         | 101      | 2   | 68-136/30         |
| 108-88-3  | Toluene        | ND                |   | 3210           | 3000        | 94      | 2920         | 91       | 3   | 60-130/30         |
| 1330-20-7 | Xylene (total) | ND                |   | 9620           | 10200       | 106     | 9920         | 103      | 3   | 58-142/30         |

| CAS No.    | Surrogate Recoveries  | MS   | MSD  | D46865-5 | Limits  |
|------------|-----------------------|------|------|----------|---------|
| 2037-26-5  | Toluene-D8            | 96%  | 95%  | 95%      | 64-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 115% | 113% | 104%     | 62-131% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 99%  | 104% | 103%     | 70-130% |

\* = Outside of Control Limits.

## GC/MS Semi-volatiles

### QC Data Summaries

---

Includes the following where applicable:

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

## Method Blank Summary

Page 1 of 1

**Job Number:** D46975

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 2 Baseline

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| OP8005-MB | 3G15062.D | 1  | 06/12/13 | DC | 06/12/13  | OP8005     | E3G736           |

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D46975-1

| CAS No.  | Compound               | Result | RL  | MDL | Units | Q |
|----------|------------------------|--------|-----|-----|-------|---|
| 83-32-9  | Acenaphthene           | ND     | 8.3 | 4.3 | ug/kg |   |
| 120-12-7 | Anthracene             | ND     | 8.3 | 4.3 | ug/kg |   |
| 56-55-3  | Benzo(a)anthracene     | ND     | 8.3 | 4.3 | ug/kg |   |
| 205-99-2 | Benzo(b)fluoranthene   | ND     | 8.3 | 4.3 | ug/kg |   |
| 207-08-9 | Benzo(k)fluoranthene   | ND     | 8.3 | 4.3 | ug/kg |   |
| 50-32-8  | Benzo(a)pyrene         | ND     | 8.3 | 4.3 | ug/kg |   |
| 218-01-9 | Chrysene               | ND     | 8.3 | 4.3 | ug/kg |   |
| 53-70-3  | Dibenzo(a,h)anthracene | ND     | 8.3 | 4.3 | ug/kg |   |
| 206-44-0 | Fluoranthene           | ND     | 8.3 | 4.3 | ug/kg |   |
| 86-73-7  | Fluorene               | ND     | 8.3 | 5.0 | ug/kg |   |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND     | 8.3 | 4.3 | ug/kg |   |
| 91-20-3  | Naphthalene            | ND     | 12  | 10  | ug/kg |   |
| 129-00-0 | Pyrene                 | ND     | 8.3 | 4.3 | ug/kg |   |

| CAS No.   | Surrogate Recoveries | Limits      |
|-----------|----------------------|-------------|
| 4165-60-0 | Nitrobenzene-d5      | 78% 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 82% 19-131% |
| 1718-51-0 | Terphenyl-d14        | 88% 18-150% |

## Blank Spike Summary

Page 1 of 1

**Job Number:** D46975

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 2 Baseline

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| OP8005-BS | 3G15063.D | 1  | 06/12/13 | DC | 06/12/13  | OP8005     | E3G736           |

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D46975-1

| CAS No.  | Compound               | Spike<br>ug/kg | BSP<br>ug/kg | BSP<br>% | Limits |
|----------|------------------------|----------------|--------------|----------|--------|
| 83-32-9  | Acenaphthene           | 83.3           | 64.8         | 78       | 68-130 |
| 120-12-7 | Anthracene             | 83.3           | 68.9         | 83       | 67-130 |
| 56-55-3  | Benzo(a)anthracene     | 83.3           | 70.1         | 84       | 65-130 |
| 205-99-2 | Benzo(b)fluoranthene   | 83.3           | 74.1         | 89       | 44-130 |
| 207-08-9 | Benzo(k)fluoranthene   | 83.3           | 70.5         | 85       | 56-131 |
| 50-32-8  | Benzo(a)pyrene         | 83.3           | 70.9         | 85       | 62-130 |
| 218-01-9 | Chrysene               | 83.3           | 76.3         | 92       | 70-130 |
| 53-70-3  | Dibenzo(a,h)anthracene | 83.3           | 73.3         | 88       | 55-130 |
| 206-44-0 | Fluoranthene           | 83.3           | 62.6         | 75       | 70-130 |
| 86-73-7  | Fluorene               | 83.3           | 64.1         | 77       | 70-130 |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 83.3           | 74.1         | 89       | 56-130 |
| 91-20-3  | Naphthalene            | 83.3           | 69.7         | 84       | 70-130 |
| 129-00-0 | Pyrene                 | 83.3           | 71.5         | 86       | 70-130 |

| CAS No.   | Surrogate Recoveries | BSP | Limits  |
|-----------|----------------------|-----|---------|
| 4165-60-0 | Nitrobenzene-d5      | 76% | 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 82% | 19-131% |
| 1718-51-0 | Terphenyl-d14        | 91% | 18-150% |

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

**Job Number:** D46975  
**Account:** WILLCOP WPX Energy Rocky Mountain, LLC  
**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 2 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| OP8005-MS  | 3G15065.D | 1  | 06/12/13 | DC | 06/12/13  | OP8005     | E3G736           |
| OP8005-MSD | 3G15066.D | 1  | 06/12/13 | DC | 06/12/13  | OP8005     | E3G736           |
| D46975-1   | 3G15064.D | 1  | 06/12/13 | DC | 06/12/13  | OP8005     | E3G736           |

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D46975-1

| CAS No.  | Compound               | D46975-1<br>ug/kg | Q | Spike<br>ug/kg | MS<br>ug/kg | MS<br>% | MSD<br>ug/kg | MSD<br>% | RPD   | Limits<br>Rec/RPD |
|----------|------------------------|-------------------|---|----------------|-------------|---------|--------------|----------|-------|-------------------|
| 83-32-9  | Acenaphthene           | ND                |   | 91.1           | 53.9        | 59      | 68.5         | 75       | 24    | 25-151/30         |
| 120-12-7 | Anthracene             | ND                |   | 91.1           | 63.9        | 70      | 79.6         | 87       | 22    | 39-159/30         |
| 56-55-3  | Benzo(a)anthracene     | ND                |   | 91.1           | 65.5        | 72      | 85.0         | 93       | 26    | 39-168/30         |
| 205-99-2 | Benzo(b)fluoranthene   | ND                |   | 91.1           | 87.7        | 96      | 100          | 109      | 13    | 24-163/30         |
| 207-08-9 | Benzo(k)fluoranthene   | ND                |   | 91.1           | 45.3        | 50      | 48.8         | 53       | 7     | 10-188/30         |
| 50-32-8  | Benzo(a)pyrene         | ND                |   | 91.1           | 61.1        | 67      | 74.0         | 81       | 19    | 32-144/30         |
| 218-01-9 | Chrysene               | ND                |   | 91.1           | 61.1        | 67      | 78.9         | 86       | 25    | 43-150/30         |
| 53-70-3  | Dibenzo(a,h)anthracene | ND                |   | 91.1           | 56.7        | 62      | 67.1         | 73       | 17    | 21-152/30         |
| 206-44-0 | Fluoranthene           | ND                |   | 91.1           | 64.8        | 71      | 79.8         | 87       | 21    | 36-157/30         |
| 86-73-7  | Fluorene               | ND                |   | 91.1           | 65.8        | 72      | 78.0         | 85       | 17    | 10-182/30         |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND                |   | 91.1           | 57.2        | 63      | 67.0         | 73       | 16    | 20-154/30         |
| 91-20-3  | Naphthalene            | 12.0              | J | 91.1           | 199         | 205* a  | 103          | 99       | 64* b | 10-163/30         |
| 129-00-0 | Pyrene                 | ND                |   | 91.1           | 73.8        | 81      | 95.2         | 104      | 25    | 25-180/30         |

| CAS No.   | Surrogate Recoveries | MS  | MSD | D46975-1 | Limits  |
|-----------|----------------------|-----|-----|----------|---------|
| 4165-60-0 | Nitrobenzene-d5      | 69% | 74% | 64%      | 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 72% | 77% | 64%      | 19-131% |
| 1718-51-0 | Terphenyl-d14        | 79% | 87% | 73%      | 18-150% |

(a) Outside control limits due to possible matrix interference.

(b) Variability of recovery may be due to sample matrix/homogeneity.

\* = Outside of Control Limits.

## 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: D46975  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 2 Batch 2 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| GGB1134-MB | GB20717.D | 1  | 06/07/13 | BD | n/a       | n/a        | GGB1134          |

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

D46975-1

| 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 | 90% 60-140% |

Blank Spike Summary

Job Number: D46975  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 2 Batch 2 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| GGB1134-BS | GB20718.D | 1  | 06/07/13 | BD | n/a       | n/a        | GGB1134          |

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

D46975-1

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

| CAS No.  | Surrogate Recoveries   | BSP | Limits  |
|----------|------------------------|-----|---------|
| 120-82-1 | 1,2,4-Trichlorobenzene | 97% | 60-140% |

\* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D46975  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 2 Batch 2 Baseline

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| D46865-5MS  | GB20720.D | 1  | 06/07/13 | BD | n/a       | n/a        | GGB1134          |
| D46865-5MSD | GB20721.D | 1  | 06/07/13 | BD | n/a       | n/a        | GGB1134          |
| D46865-5    | GB20719.D | 1  | 06/07/13 | BD | n/a       | n/a        | GGB1134          |

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

D46975-1

| CAS No.  | Compound               | D46865-5<br>mg/kg | Spike<br>Q | MS<br>mg/kg | MS<br>% | MSD<br>mg/kg | MSD<br>% | RPD | Limits<br>Rec/RPD |
|----------|------------------------|-------------------|------------|-------------|---------|--------------|----------|-----|-------------------|
|          | TPH-GRO (C6-C10)       | ND                | 141        | 140         | 99      | 139          | 98       | 1   | 70-130/30         |
| CAS No.  | Surrogate Recoveries   | MS                | MSD        | D46865-5    | Limits  |              |          |     |                   |
| 120-82-1 | 1,2,4-Trichlorobenzene | 98%               | 96%        | 90%         | 60-140% |              |          |     |                   |

\* = Outside of Control Limits.

## 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: D46975  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 2 Batch 2 Baseline

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| OP7991-MB | FD25242.D | 1  | 06/10/13 | TU | 06/10/13  | OP7991     | GFD1252          |

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

D46975-1

| 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          | 67% 35-130% |

9.1.1  
9

## Blank Spike Summary

Page 1 of 1

**Job Number:** D46975

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 2 Baseline

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| OP7991-BS | FD25243.D | 1  | 06/10/13 | TU | 06/10/13  | OP7991     | GFD1252          |

The QC reported here applies to the following samples:

Method: SW846-8015B

D46975-1

| CAS No. | Compound          | Spike<br>mg/kg | BSP<br>mg/kg | BSP<br>% | Limits |
|---------|-------------------|----------------|--------------|----------|--------|
|         | TPH-DRO (C10-C28) | 667            | 517          | 78       | 48-130 |

| CAS No. | Surrogate Recoveries | BSP | Limits  |
|---------|----------------------|-----|---------|
| 84-15-1 | o-Terphenyl          | 77% | 35-130% |

\* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D46975  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 2 Batch 2 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| OP7991-MS  | FD25244.D | 1  | 06/10/13 | TU | 06/10/13  | OP7991     | GFD1252          |
| OP7991-MSD | FD25245.D | 1  | 06/10/13 | TU | 06/10/13  | OP7991     | GFD1252          |
| D46996-8   | FD25262.D | 1  | 06/11/13 | TU | 06/10/13  | OP7991     | GFD1252          |

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

D46975-1

| CAS No. | Compound          | D46996-8<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) | 25.4              | 721            | 535         | 71      | 473          | 62       | 12  | 20-168/30         |

| CAS No. | Surrogate Recoveries | MS  | MSD | D46996-8 | Limits  |
|---------|----------------------|-----|-----|----------|---------|
| 84-15-1 | o-Terphenyl          | 74% | 60% | 58%      | 35-130% |

\* = Outside of Control Limits.



06/12/13

Technical Report for

WPX Energy Rocky Mountain, LLC

CORCCOGJ: MV 25-17 Landfarm 2 Batch 3 Baseline

NXEEPPARACH

Accutest Job Number: D46974

Sampling Date: 06/06/13

Report to:

Olsson Associates  
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Grand Junction, CO 81505  
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ATTN: Tim Dobransky

Total number of pages in report: **30**



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

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

Scott Heideman  
Laboratory Director

Client Service contact: Renea Jackson 303-425-6021

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

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Test results relate only to samples analyzed.

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Sample Summary

WPX Energy Rocky Mountain, LLC

Job No: D46974

CORCCOGJ: MV 25-17 Landfarm 2 Batch 3 Baseline  
Project No: NXEEPPARACH

| Sample<br>Number | Collected |          | Matrix<br>Code | Type    | Client<br>Sample ID      |
|------------------|-----------|----------|----------------|---------|--------------------------|
|                  | Date      | Time By  |                |         |                          |
| D46974-1         | 06/06/13  | 10:30 JS | 06/07/13       | SO Soil | MV 25-17 LF 2-1(0-24 IN) |

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



## CASE NARRATIVE / CONFORMANCE SUMMARY

**Client:** WPX Energy Rocky Mountain, LLC

**Job No** D46974

**Site:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 3 Baseline

**Report Date** 6/12/2013 8:19:32 AM

On 06/07/2013, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 3.1 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D46974 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:** V5V1665

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D46865-5MS, D46865-5MSD were used as the QC samples indicated.

### Extractables by GCMS By Method SW846 8270C BY SIM

**Matrix** SO

**Batch ID:** OP7990

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D46973-1MS, D46973-1MSD were used as the QC samples indicated.

### Volatiles by GC By Method SW846 8015B

**Matrix** SO

**Batch ID:** GGB1134

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D46865-5MS, D46865-5MSD were used as the QC samples indicated.

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

**Matrix** SO

**Batch ID:** OP7991

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D46996-8MS, D46996-8MSD were used as the QC samples indicated.

### Wet Chemistry By Method SM19 2540B M

**Matrix** SO

**Batch ID:** GN20525

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

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

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

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

Summary of Hits

**Job Number:** D46974  
**Account:** WPX Energy Rocky Mountain, LLC  
**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 3 Baseline  
**Collected:** 06/06/13



| Lab Sample ID     | Client Sample ID         | Result/<br>Qual | RL  | MDL | Units | Method             |
|-------------------|--------------------------|-----------------|-----|-----|-------|--------------------|
| D46974-1          | MV 25-17 LF 2-1(0-24 IN) |                 |     |     |       |                    |
| Naphthalene       |                          | 13.1            | 13  | 11  | ug/kg | SW846 8270C BY SIM |
| TPH-DRO (C10-C28) |                          | 39.8            | 7.3 | 5.5 | mg/kg | SW846-8015B        |

Sample Results

Report of Analysis

## Report of Analysis

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 2-1(0-24 IN)                       | <b>Date Sampled:</b>   | 06/06/13 |
| <b>Lab Sample ID:</b>    | D46974-1                                       | <b>Date Received:</b>  | 06/07/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 90.8     |
| <b>Method:</b>           | SW846 8260B                                    |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 2 Batch 3 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | 5V27336.D | 1  | 06/07/13 | BD | n/a       | n/a        | V5V1665          |
| Run #2 |           |    |          |    |           |            |                  |

|        | Initial Weight | Final Volume | Methanol Aliquot |
|--------|----------------|--------------|------------------|
| Run #1 | 5.02 g         | 5.0 ml       | 100 ul           |
| Run #2 |                |              |                  |

## Purgeable Aromatics

| CAS No.   | Compound       | Result | RL  | MDL | Units | Q |
|-----------|----------------|--------|-----|-----|-------|---|
| 71-43-2   | Benzene        | ND     | 60  | 30  | ug/kg |   |
| 108-88-3  | Toluene        | ND     | 120 | 60  | ug/kg |   |
| 100-41-4  | Ethylbenzene   | ND     | 120 | 23  | ug/kg |   |
| 1330-20-7 | Xylene (total) | ND     | 240 | 120 | ug/kg |   |

| CAS No.    | Surrogate Recoveries  | Run# 1 | Run# 2 | Limits  |
|------------|-----------------------|--------|--------|---------|
| 2037-26-5  | Toluene-D8            | 93%    |        | 64-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 106%   |        | 62-131% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 105%   |        | 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

## Report of Analysis

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 2-1(0-24 IN)                       | <b>Date Sampled:</b>   | 06/06/13 |
| <b>Lab Sample ID:</b>    | D46974-1                                       | <b>Date Received:</b>  | 06/07/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 90.8     |
| <b>Method:</b>           | SW846 8270C BY SIM SW846 3546                  |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 2 Batch 3 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | 3G15027.D | 1  | 06/10/13 | DC | 06/10/13  | OP7990     | E3G734           |
| Run #2 |           |    |          |    |           |            |                  |

|        | Initial Weight | Final Volume |
|--------|----------------|--------------|
| Run #1 | 30.0 g         | 1.0 ml       |
| Run #2 |                |              |

## COGCC Table 910-1 PAH List

| CAS No.  | Compound               | Result | RL  | MDL | Units | Q |
|----------|------------------------|--------|-----|-----|-------|---|
| 83-32-9  | Acenaphthene           | ND     | 9.2 | 4.8 | ug/kg |   |
| 120-12-7 | Anthracene             | ND     | 9.2 | 4.8 | ug/kg |   |
| 56-55-3  | Benzo(a)anthracene     | ND     | 9.2 | 4.8 | ug/kg |   |
| 205-99-2 | Benzo(b)fluoranthene   | ND     | 9.2 | 4.8 | ug/kg |   |
| 207-08-9 | Benzo(k)fluoranthene   | ND     | 9.2 | 4.8 | ug/kg |   |
| 50-32-8  | Benzo(a)pyrene         | ND     | 9.2 | 4.8 | ug/kg |   |
| 218-01-9 | Chrysene               | ND     | 9.2 | 4.8 | ug/kg |   |
| 53-70-3  | Dibenzo(a,h)anthracene | ND     | 9.2 | 4.8 | ug/kg |   |
| 206-44-0 | Fluoranthene           | ND     | 9.2 | 4.8 | ug/kg |   |
| 86-73-7  | Fluorene               | ND     | 9.2 | 5.5 | ug/kg |   |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND     | 9.2 | 4.8 | ug/kg |   |
| 91-20-3  | Naphthalene            | 13.1   | 13  | 11  | ug/kg |   |
| 129-00-0 | Pyrene                 | ND     | 9.2 | 4.8 | ug/kg |   |

| CAS No.   | Surrogate Recoveries | Run# 1 | Run# 2 | Limits  |
|-----------|----------------------|--------|--------|---------|
| 4165-60-0 | Nitrobenzene-d5      | 68%    |        | 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 81%    |        | 19-131% |
| 1718-51-0 | Terphenyl-d14        | 87%    |        | 18-150% |

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

Page 1 of 1

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 2-1(0-24 IN)                       | <b>Date Sampled:</b>   | 06/06/13 |
| <b>Lab Sample ID:</b>    | D46974-1                                       | <b>Date Received:</b>  | 06/07/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 90.8     |
| <b>Method:</b>           | SW846 8015B                                    |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 2 Batch 3 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | GB20727.D | 1  | 06/07/13 | BD | n/a       | n/a        | GGB1134          |
| Run #2 |           |    |          |    |           |            |                  |

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

| CAS No.  | Compound               | Result | RL     | MDL     | Units | Q |
|----------|------------------------|--------|--------|---------|-------|---|
|          | TPH-GRO (C6-C10)       | ND     | 12     | 6.0     | mg/kg |   |
| CAS No.  | Surrogate Recoveries   | Run# 1 | Run# 2 | Limits  |       |   |
| 120-82-1 | 1,2,4-Trichlorobenzene | 85%    |        | 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

Page 1 of 1

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 2-1(0-24 IN)                       | <b>Date Sampled:</b>   | 06/06/13 |
| <b>Lab Sample ID:</b>    | D46974-1                                       | <b>Date Received:</b>  | 06/07/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 90.8     |
| <b>Method:</b>           | SW846-8015B SW846 3546                         |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 2 Batch 3 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | FD25251.D | 1  | 06/10/13 | TU | 06/10/13  | OP7991     | GFD1252          |
| Run #2 |           |    |          |    |           |            |                  |

|        | Initial Weight | Final Volume |
|--------|----------------|--------------|
| Run #1 | 30.0 g         | 1.0 ml       |
| Run #2 |                |              |

| CAS No. | Compound             | Result | RL     | MDL     | Units | Q |
|---------|----------------------|--------|--------|---------|-------|---|
|         | TPH-DRO (C10-C28)    | 39.8   | 7.3    | 5.5     | mg/kg |   |
| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits  |       |   |
| 84-15-1 | o-Terphenyl          | 65%    |        | 35-130% |       |   |

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

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

## Misc. Forms

5

### Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody



# Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D46974

Client: OLSSON ASS.

Immediate Client Services Action Required: No

Date / Time Received: 6/7/2013 12:50:00 PM

No. Coolers: 1

Client Service Action Required at Login: No

Project: MV 25 17 LANDFARM 2 BATCH 3 BASELINE

Airbill #'s: HD-CO

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

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

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

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

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

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

Comments

Accutest Laboratories  
V:(303) 425-6021

4036 Youngfield Street  
F: (303) 425-6854

Wheat Ridge, CO  
www.accutest.com

## GC/MS Volatiles

### QC Data Summaries

Includes the following where applicable:

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

## Method Blank Summary

Page 1 of 1

**Job Number:** D46974

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 3 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| V5V1665-MB | 5V27324.D | 1  | 06/07/13 | BD | n/a       | n/a        | V5V1665          |

The QC reported here applies to the following samples:

Method: SW846 8260B

D46974-1

| 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            | 99% 64-130%  |
| 460-00-4   | 4-Bromofluorobenzene  | 92% 62-131%  |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 107% 70-130% |

## Blank Spike Summary

Page 1 of 1

**Job Number:** D46974

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 3 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| V5V1665-BS | 5V27325.D | 1  | 06/07/13 | BD | n/a       | n/a        | V5V1665          |

The QC reported here applies to the following samples:

Method: SW846 8260B

D46974-1

| CAS No.   | Compound       | Spike<br>ug/kg | BSP<br>ug/kg | BSP<br>% | Limits |
|-----------|----------------|----------------|--------------|----------|--------|
| 71-43-2   | Benzene        | 2500           | 2450         | 98       | 70-130 |
| 100-41-4  | Ethylbenzene   | 2500           | 2690         | 108      | 70-130 |
| 108-88-3  | Toluene        | 2500           | 2440         | 98       | 70-130 |
| 1330-20-7 | Xylene (total) | 7500           | 8020         | 107      | 70-130 |

| CAS No.    | Surrogate Recoveries  | BSP  | Limits  |
|------------|-----------------------|------|---------|
| 2037-26-5  | Toluene-D8            | 103% | 64-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 101% | 62-131% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 100% | 70-130% |

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

**Job Number:** D46974

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 3 Baseline

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| D46865-5MS  | 5V27327.D | 1  | 06/07/13 | BD | n/a       | n/a        | V5V1665          |
| D46865-5MSD | 5V27328.D | 1  | 06/07/13 | BD | n/a       | n/a        | V5V1665          |
| D46865-5    | 5V27326.D | 1  | 06/07/13 | BD | n/a       | n/a        | V5V1665          |

The QC reported here applies to the following samples:

Method: SW846 8260B

D46974-1

| CAS No.   | Compound       | D46865-5<br>ug/kg | Q | Spike<br>ug/kg | MS<br>ug/kg | MS<br>% | MSD<br>ug/kg | MSD<br>% | RPD | Limits<br>Rec/RPD |
|-----------|----------------|-------------------|---|----------------|-------------|---------|--------------|----------|-----|-------------------|
| 71-43-2   | Benzene        | ND                |   | 3210           | 3170        | 99      | 3070         | 96       | 3   | 64-139/30         |
| 100-41-4  | Ethylbenzene   | ND                |   | 3210           | 3300        | 103     | 3250         | 101      | 2   | 68-136/30         |
| 108-88-3  | Toluene        | ND                |   | 3210           | 3000        | 94      | 2920         | 91       | 3   | 60-130/30         |
| 1330-20-7 | Xylene (total) | ND                |   | 9620           | 10200       | 106     | 9920         | 103      | 3   | 58-142/30         |

| CAS No.    | Surrogate Recoveries  | MS   | MSD  | D46865-5 | Limits  |
|------------|-----------------------|------|------|----------|---------|
| 2037-26-5  | Toluene-D8            | 96%  | 95%  | 95%      | 64-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 115% | 113% | 104%     | 62-131% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 99%  | 104% | 103%     | 70-130% |

\* = Outside of Control Limits.

## GC/MS Semi-volatiles

### 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

Page 1 of 1

**Job Number:** D46974

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 3 Baseline

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| OP7990-MB | 3G15020.D | 1  | 06/10/13 | DC | 06/10/13  | OP7990     | E3G734           |

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D46974-1

| CAS No.  | Compound               | Result | RL  | MDL | Units | Q |
|----------|------------------------|--------|-----|-----|-------|---|
| 83-32-9  | Acenaphthene           | ND     | 8.3 | 4.3 | ug/kg |   |
| 120-12-7 | Anthracene             | ND     | 8.3 | 4.3 | ug/kg |   |
| 56-55-3  | Benzo(a)anthracene     | ND     | 8.3 | 4.3 | ug/kg |   |
| 205-99-2 | Benzo(b)fluoranthene   | ND     | 8.3 | 4.3 | ug/kg |   |
| 207-08-9 | Benzo(k)fluoranthene   | ND     | 8.3 | 4.3 | ug/kg |   |
| 50-32-8  | Benzo(a)pyrene         | ND     | 8.3 | 4.3 | ug/kg |   |
| 218-01-9 | Chrysene               | ND     | 8.3 | 4.3 | ug/kg |   |
| 53-70-3  | Dibenzo(a,h)anthracene | ND     | 8.3 | 4.3 | ug/kg |   |
| 206-44-0 | Fluoranthene           | ND     | 8.3 | 4.3 | ug/kg |   |
| 86-73-7  | Fluorene               | ND     | 8.3 | 5.0 | ug/kg |   |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND     | 8.3 | 4.3 | ug/kg |   |
| 91-20-3  | Naphthalene            | ND     | 12  | 10  | ug/kg |   |
| 129-00-0 | Pyrene                 | ND     | 8.3 | 4.3 | ug/kg |   |

| CAS No.   | Surrogate Recoveries | Limits      |
|-----------|----------------------|-------------|
| 4165-60-0 | Nitrobenzene-d5      | 58% 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 62% 19-131% |
| 1718-51-0 | Terphenyl-d14        | 93% 18-150% |

## Blank Spike Summary

Page 1 of 1

**Job Number:** D46974

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 3 Baseline

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| OP7990-BS | 3G15021.D | 1  | 06/10/13 | DC | 06/10/13  | OP7990     | E3G734           |

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D46974-1

| CAS No.  | Compound               | Spike<br>ug/kg | BSP<br>ug/kg | BSP<br>% | Limits |
|----------|------------------------|----------------|--------------|----------|--------|
| 83-32-9  | Acenaphthene           | 83.3           | 68.9         | 83       | 68-130 |
| 120-12-7 | Anthracene             | 83.3           | 69.7         | 84       | 67-130 |
| 56-55-3  | Benzo(a)anthracene     | 83.3           | 67.9         | 81       | 65-130 |
| 205-99-2 | Benzo(b)fluoranthene   | 83.3           | 75.2         | 90       | 44-130 |
| 207-08-9 | Benzo(k)fluoranthene   | 83.3           | 74.3         | 89       | 56-131 |
| 50-32-8  | Benzo(a)pyrene         | 83.3           | 71.9         | 86       | 62-130 |
| 218-01-9 | Chrysene               | 83.3           | 72.8         | 87       | 70-130 |
| 53-70-3  | Dibenzo(a,h)anthracene | 83.3           | 74.6         | 90       | 55-130 |
| 206-44-0 | Fluoranthene           | 83.3           | 66.8         | 80       | 70-130 |
| 86-73-7  | Fluorene               | 83.3           | 65.2         | 78       | 70-130 |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 83.3           | 75.4         | 90       | 56-130 |
| 91-20-3  | Naphthalene            | 83.3           | 59.0         | 71       | 70-130 |
| 129-00-0 | Pyrene                 | 83.3           | 67.5         | 81       | 70-130 |

| CAS No.   | Surrogate Recoveries | BSP | Limits  |
|-----------|----------------------|-----|---------|
| 4165-60-0 | Nitrobenzene-d5      | 63% | 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 82% | 19-131% |
| 1718-51-0 | Terphenyl-d14        | 87% | 18-150% |

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

**Job Number:** D46974

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 3 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| OP7990-MS  | 3G15023.D | 1  | 06/10/13 | DC | 06/10/13  | OP7990     | E3G734           |
| OP7990-MSD | 3G15024.D | 1  | 06/10/13 | DC | 06/10/13  | OP7990     | E3G734           |
| D46973-1   | 3G15022.D | 1  | 06/10/13 | DC | 06/10/13  | OP7990     | E3G734           |

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D46974-1

| CAS No.  | Compound               | D46973-1<br>ug/kg | Q | Spike<br>ug/kg | MS<br>ug/kg | MS<br>% | MSD<br>ug/kg | MSD<br>% | RPD | Limits<br>Rec/RPD |
|----------|------------------------|-------------------|---|----------------|-------------|---------|--------------|----------|-----|-------------------|
| 83-32-9  | Acenaphthene           | ND                |   | 90.3           | 82.2        | 91      | 83.4         | 92       | 1   | 25-151/30         |
| 120-12-7 | Anthracene             | ND                |   | 90.3           | 83.0        | 92      | 85.1         | 94       | 2   | 39-159/30         |
| 56-55-3  | Benzo(a)anthracene     | ND                |   | 90.3           | 79.7        | 88      | 81.1         | 90       | 2   | 39-168/30         |
| 205-99-2 | Benzo(b)fluoranthene   | ND                |   | 90.3           | 79.4        | 88      | 82.3         | 91       | 4   | 24-163/30         |
| 207-08-9 | Benzo(k)fluoranthene   | ND                |   | 90.3           | 79.8        | 88      | 80.1         | 88       | 0   | 10-188/30         |
| 50-32-8  | Benzo(a)pyrene         | ND                |   | 90.3           | 74.6        | 83      | 75.7         | 84       | 1   | 32-144/30         |
| 218-01-9 | Chrysene               | ND                |   | 90.3           | 79.2        | 88      | 80.2         | 89       | 1   | 43-150/30         |
| 53-70-3  | Dibenzo(a,h)anthracene | ND                |   | 90.3           | 71.2        | 79      | 72.8         | 80       | 2   | 21-152/30         |
| 206-44-0 | Fluoranthene           | ND                |   | 90.3           | 84.4        | 93      | 85.7         | 95       | 2   | 36-157/30         |
| 86-73-7  | Fluorene               | ND                |   | 90.3           | 87.8        | 97      | 92.4         | 102      | 5   | 10-182/30         |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND                |   | 90.3           | 71.3        | 79      | 72.2         | 80       | 1   | 20-154/30         |
| 91-20-3  | Naphthalene            | 12.9              | J | 90.3           | 92.8        | 88      | 97.7         | 94       | 5   | 10-163/30         |
| 129-00-0 | Pyrene                 | ND                |   | 90.3           | 84.7        | 94      | 87.0         | 96       | 3   | 25-180/30         |

| CAS No.   | Surrogate Recoveries | MS  | MSD | D46973-1 | Limits  |
|-----------|----------------------|-----|-----|----------|---------|
| 4165-60-0 | Nitrobenzene-d5      | 68% | 74% | 56%      | 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 85% | 86% | 74%      | 19-131% |
| 1718-51-0 | Terphenyl-d14        | 84% | 86% | 77%      | 18-150% |

\* = Outside of Control Limits.

## GC Volatiles

### 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: D46974  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 2 Batch 3 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| GGB1134-MB | GB20717.D | 1  | 06/07/13 | BD | n/a       | n/a        | GGB1134          |

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

D46974-1

| 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 | 90% 60-140% |

Blank Spike Summary

Job Number: D46974  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 2 Batch 3 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| GGB1134-BS | GB20718.D | 1  | 06/07/13 | BD | n/a       | n/a        | GGB1134          |

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

D46974-1

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

| CAS No.  | Surrogate Recoveries   | BSP | Limits  |
|----------|------------------------|-----|---------|
| 120-82-1 | 1,2,4-Trichlorobenzene | 97% | 60-140% |

\* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D46974  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 2 Batch 3 Baseline

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| D46865-5MS  | GB20720.D | 1  | 06/07/13 | BD | n/a       | n/a        | GGB1134          |
| D46865-5MSD | GB20721.D | 1  | 06/07/13 | BD | n/a       | n/a        | GGB1134          |
| D46865-5    | GB20719.D | 1  | 06/07/13 | BD | n/a       | n/a        | GGB1134          |

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

D46974-1

| CAS No.  | Compound               | D46865-5<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                | 141            | 140         | 99      | 139          | 98       | 1   | 70-130/30         |
| CAS No.  | Surrogate Recoveries   | MS                | MSD            | D46865-5    | Limits  |              |          |     |                   |
| 120-82-1 | 1,2,4-Trichlorobenzene | 98%               | 96%            | 90%         | 60-140% |              |          |     |                   |

\* = Outside of Control Limits.

## 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: D46974  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 2 Batch 3 Baseline

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| OP7991-MB | FD25242.D | 1  | 06/10/13 | TU | 06/10/13  | OP7991     | GFD1252          |

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

D46974-1

| 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          | 67% 35-130% |

## Blank Spike Summary

Page 1 of 1

**Job Number:** D46974

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 3 Baseline

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| OP7991-BS | FD25243.D | 1  | 06/10/13 | TU | 06/10/13  | OP7991     | GFD1252          |

The QC reported here applies to the following samples:

Method: SW846-8015B

D46974-1

| CAS No. | Compound          | Spike<br>mg/kg | BSP<br>mg/kg | BSP<br>% | Limits |
|---------|-------------------|----------------|--------------|----------|--------|
|         | TPH-DRO (C10-C28) | 667            | 517          | 78       | 48-130 |

| CAS No. | Surrogate Recoveries | BSP | Limits  |
|---------|----------------------|-----|---------|
| 84-15-1 | o-Terphenyl          | 77% | 35-130% |

\* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D46974  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 2 Batch 3 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| OP7991-MS  | FD25244.D | 1  | 06/10/13 | TU | 06/10/13  | OP7991     | GFD1252          |
| OP7991-MSD | FD25245.D | 1  | 06/10/13 | TU | 06/10/13  | OP7991     | GFD1252          |
| D46996-8   | FD25262.D | 1  | 06/11/13 | TU | 06/10/13  | OP7991     | GFD1252          |

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

D46974-1

| CAS No. | Compound          | D46996-8<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) | 25.4              | 721            | 535         | 71      | 473          | 62       | 12  | 20-168/30         |

| CAS No. | Surrogate Recoveries | MS  | MSD | D46996-8 | Limits  |
|---------|----------------------|-----|-----|----------|---------|
| 84-15-1 | o-Terphenyl          | 74% | 60% | 58%      | 35-130% |

\* = Outside of Control Limits.



06/12/13

Technical Report for

WPX Energy Rocky Mountain, LLC

CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline

NXEEPPARACH

Accutest Job Number: D46973

Sampling Date: 06/06/13

Report to:

Olsson Associates  
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Grand Junction, CO 81505  
tdobransky@oaconsulting.com; karolina.blaney@wpenergy.com  
ATTN: Tim Dobransky

Total number of pages in report: **34**



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

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

Scott Heideman  
Laboratory Director

Client Service contact: Renea Jackson 303-425-6021

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

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Test results relate only to samples analyzed.

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Sample Summary

WPX Energy Rocky Mountain, LLC

Job No: D46973

CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline  
Project No: NXEEPPARACH

| Sample<br>Number | Collected |          | Matrix<br>Code | Type    | Client<br>Sample ID       |
|------------------|-----------|----------|----------------|---------|---------------------------|
|                  | Date      | Time By  |                |         |                           |
| D46973-1         | 06/06/13  | 10:15 JS | 06/07/13       | SO Soil | MV 25-17 LF 1-6 (0-24 IN) |
| D46973-2         | 06/06/13  | 10:20 JS | 06/07/13       | SO Soil | MV 25-17 LF 1-7 (0-24 IN) |

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



## CASE NARRATIVE / CONFORMANCE SUMMARY

**Client:** WPX Energy Rocky Mountain, LLC

**Job No** D46973

**Site:** CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline

**Report Date** 6/12/2013 8:15:49 AM

On 06/07/2013, 2 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 3.1 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D46973 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

|                  |                          |
|------------------|--------------------------|
| <b>Matrix</b> SO | <b>Batch ID:</b> V5V1665 |
|------------------|--------------------------|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D46865-5MS, D46865-5MSD were used as the QC samples indicated.

### Extractables by GCMS By Method SW846 8270C BY SIM

|                  |                         |
|------------------|-------------------------|
| <b>Matrix</b> SO | <b>Batch ID:</b> OP7990 |
|------------------|-------------------------|

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D46973-1MS, D46973-1MSD were used as the QC samples indicated.

### Volatiles by GC By Method SW846 8015B

|                  |                          |
|------------------|--------------------------|
| <b>Matrix</b> SO | <b>Batch ID:</b> GGB1134 |
|------------------|--------------------------|

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D46865-5MS, D46865-5MSD were used as the QC samples indicated.

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

|                  |                         |
|------------------|-------------------------|
| <b>Matrix</b> SO | <b>Batch ID:</b> OP7991 |
|------------------|-------------------------|

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D46996-8MS, D46996-8MSD were used as the QC samples indicated.

### Wet Chemistry By Method SM19 2540B M

|                  |                          |
|------------------|--------------------------|
| <b>Matrix</b> SO | <b>Batch ID:</b> GN20525 |
|------------------|--------------------------|

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

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

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

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

Summary of Hits

Job Number: D46973  
Account: WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline  
Collected: 06/06/13



| Lab Sample ID                    | Client Sample ID          | Result/<br>Qual | RL  | MDL | Units | Method             |
|----------------------------------|---------------------------|-----------------|-----|-----|-------|--------------------|
| D46973-1                         | MV 25-17 LF 1-6 (0-24 IN) |                 |     |     |       |                    |
| Naphthalene<br>TPH-DRO (C10-C28) |                           | 12.9 J          | 13  | 11  | ug/kg | SW846 8270C BY SIM |
|                                  |                           | 38.7            | 7.2 | 5.4 | mg/kg | SW846-8015B        |
| D46973-2                         | MV 25-17 LF 1-7 (0-24 IN) |                 |     |     |       |                    |
| TPH-DRO (C10-C28)                |                           | 69.9            | 7.3 | 5.4 | mg/kg | SW846-8015B        |

Sample Results

Report of Analysis

## Report of Analysis

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 1-6 (0-24 IN)                      | <b>Date Sampled:</b>   | 06/06/13 |
| <b>Lab Sample ID:</b>    | D46973-1                                       | <b>Date Received:</b>  | 06/07/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 92.1     |
| <b>Method:</b>           | SW846 8260B                                    |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | 5V27334.D | 1  | 06/07/13 | BD | n/a       | n/a        | V5V1665          |
| Run #2 |           |    |          |    |           |            |                  |

|        | Initial Weight | Final Volume | Methanol Aliquot |
|--------|----------------|--------------|------------------|
| Run #1 | 5.00 g         | 5.0 ml       | 100 ul           |
| Run #2 |                |              |                  |

## Purgeable Aromatics

| CAS No.   | Compound       | Result | RL  | MDL | Units | Q |
|-----------|----------------|--------|-----|-----|-------|---|
| 71-43-2   | Benzene        | ND     | 59  | 29  | ug/kg |   |
| 108-88-3  | Toluene        | ND     | 120 | 59  | ug/kg |   |
| 100-41-4  | Ethylbenzene   | ND     | 120 | 22  | ug/kg |   |
| 1330-20-7 | Xylene (total) | ND     | 230 | 120 | ug/kg |   |

| CAS No.    | Surrogate Recoveries  | Run# 1 | Run# 2 | Limits  |
|------------|-----------------------|--------|--------|---------|
| 2037-26-5  | Toluene-D8            | 97%    |        | 64-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 107%   |        | 62-131% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 101%   |        | 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

## Report of Analysis

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 1-6 (0-24 IN)                      | <b>Date Sampled:</b>   | 06/06/13 |
| <b>Lab Sample ID:</b>    | D46973-1                                       | <b>Date Received:</b>  | 06/07/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 92.1     |
| <b>Method:</b>           | SW846 8270C BY SIM SW846 3546                  |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | 3G15022.D | 1  | 06/10/13 | DC | 06/10/13  | OP7990     | E3G734           |
| Run #2 |           |    |          |    |           |            |                  |

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

## COGCC Table 910-1 PAH List

| CAS No.  | Compound               | Result | RL  | MDL | Units | Q |
|----------|------------------------|--------|-----|-----|-------|---|
| 83-32-9  | Acenaphthene           | ND     | 9.0 | 4.7 | ug/kg |   |
| 120-12-7 | Anthracene             | ND     | 9.0 | 4.7 | ug/kg |   |
| 56-55-3  | Benzo(a)anthracene     | ND     | 9.0 | 4.7 | ug/kg |   |
| 205-99-2 | Benzo(b)fluoranthene   | ND     | 9.0 | 4.7 | ug/kg |   |
| 207-08-9 | Benzo(k)fluoranthene   | ND     | 9.0 | 4.7 | ug/kg |   |
| 50-32-8  | Benzo(a)pyrene         | ND     | 9.0 | 4.7 | ug/kg |   |
| 218-01-9 | Chrysene               | ND     | 9.0 | 4.7 | ug/kg |   |
| 53-70-3  | Dibenzo(a,h)anthracene | ND     | 9.0 | 4.7 | ug/kg |   |
| 206-44-0 | Fluoranthene           | ND     | 9.0 | 4.7 | ug/kg |   |
| 86-73-7  | Fluorene               | ND     | 9.0 | 5.4 | ug/kg |   |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND     | 9.0 | 4.7 | ug/kg |   |
| 91-20-3  | Naphthalene            | 12.9   | 13  | 11  | ug/kg | J |
| 129-00-0 | Pyrene                 | ND     | 9.0 | 4.7 | ug/kg |   |

| CAS No.   | Surrogate Recoveries | Run# 1 | Run# 2 | Limits  |
|-----------|----------------------|--------|--------|---------|
| 4165-60-0 | Nitrobenzene-d5      | 56%    |        | 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 74%    |        | 19-131% |
| 1718-51-0 | Terphenyl-d14        | 77%    |        | 18-150% |

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

Page 1 of 1

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 1-6 (0-24 IN)                      | <b>Date Sampled:</b>   | 06/06/13 |
| <b>Lab Sample ID:</b>    | D46973-1                                       | <b>Date Received:</b>  | 06/07/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 92.1     |
| <b>Method:</b>           | SW846 8015B                                    |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | GB20725.D | 1  | 06/07/13 | BD | n/a       | n/a        | GGB1134          |
| Run #2 |           |    |          |    |           |            |                  |

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

| CAS No. | Compound         | Result | RL | MDL | Units | Q |
|---------|------------------|--------|----|-----|-------|---|
|         | TPH-GRO (C6-C10) | ND     | 12 | 5.9 | mg/kg |   |

| CAS No.  | Surrogate Recoveries   | Run# 1 | Run# 2 | Limits  |
|----------|------------------------|--------|--------|---------|
| 120-82-1 | 1,2,4-Trichlorobenzene | 86%    |        | 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> | MV 25-17 LF 1-6 (0-24 IN)                      | <b>Date Sampled:</b>   | 06/06/13 |
| <b>Lab Sample ID:</b>    | D46973-1                                       | <b>Date Received:</b>  | 06/07/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 92.1     |
| <b>Method:</b>           | SW846-8015B SW846 3546                         |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | FD25249.D | 1  | 06/10/13 | TU | 06/10/13  | OP7991     | GFD1252          |
| 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)    | 38.7   | 7.2    | 5.4     | mg/kg |   |
| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits  |       |   |
| 84-15-1 | o-Terphenyl          | 64%    |        | 35-130% |       |   |

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

## Report of Analysis

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 1-7 (0-24 IN)                      | <b>Date Sampled:</b>   | 06/06/13 |
| <b>Lab Sample ID:</b>    | D46973-2                                       | <b>Date Received:</b>  | 06/07/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 91.7     |
| <b>Method:</b>           | SW846 8260B                                    |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | 5V27335.D | 1  | 06/07/13 | BD | n/a       | n/a        | V5V1665          |
| Run #2 |           |    |          |    |           |            |                  |

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

## Purgeable Aromatics

| CAS No.   | Compound       | Result | RL  | MDL | Units | Q |
|-----------|----------------|--------|-----|-----|-------|---|
| 71-43-2   | Benzene        | ND     | 59  | 29  | ug/kg |   |
| 108-88-3  | Toluene        | ND     | 120 | 59  | ug/kg |   |
| 100-41-4  | Ethylbenzene   | ND     | 120 | 22  | ug/kg |   |
| 1330-20-7 | Xylene (total) | ND     | 230 | 120 | ug/kg |   |

| CAS No.    | Surrogate Recoveries  | Run# 1 | Run# 2 | Limits  |
|------------|-----------------------|--------|--------|---------|
| 2037-26-5  | Toluene-D8            | 94%    |        | 64-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 105%   |        | 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

## Report of Analysis

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 1-7 (0-24 IN)                      | <b>Date Sampled:</b>   | 06/06/13 |
| <b>Lab Sample ID:</b>    | D46973-2                                       | <b>Date Received:</b>  | 06/07/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 91.7     |
| <b>Method:</b>           | SW846 8270C BY SIM SW846 3546                  |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | 3G15026.D | 1  | 06/10/13 | DC | 06/10/13  | OP7990     | E3G734           |
| Run #2 |           |    |          |    |           |            |                  |

|        | Initial Weight | Final Volume |
|--------|----------------|--------------|
| Run #1 | 30.0 g         | 1.0 ml       |
| Run #2 |                |              |

## COGCC Table 910-1 PAH List

| CAS No.  | Compound               | Result | RL  | MDL | Units | Q |
|----------|------------------------|--------|-----|-----|-------|---|
| 83-32-9  | Acenaphthene           | ND     | 9.1 | 4.7 | ug/kg |   |
| 120-12-7 | Anthracene             | ND     | 9.1 | 4.7 | ug/kg |   |
| 56-55-3  | Benzo(a)anthracene     | ND     | 9.1 | 4.7 | ug/kg |   |
| 205-99-2 | Benzo(b)fluoranthene   | ND     | 9.1 | 4.7 | ug/kg |   |
| 207-08-9 | Benzo(k)fluoranthene   | ND     | 9.1 | 4.7 | ug/kg |   |
| 50-32-8  | Benzo(a)pyrene         | ND     | 9.1 | 4.7 | ug/kg |   |
| 218-01-9 | Chrysene               | ND     | 9.1 | 4.7 | ug/kg |   |
| 53-70-3  | Dibenzo(a,h)anthracene | ND     | 9.1 | 4.7 | ug/kg |   |
| 206-44-0 | Fluoranthene           | ND     | 9.1 | 4.7 | ug/kg |   |
| 86-73-7  | Fluorene               | ND     | 9.1 | 5.5 | ug/kg |   |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND     | 9.1 | 4.7 | ug/kg |   |
| 91-20-3  | Naphthalene            | ND     | 13  | 11  | ug/kg |   |
| 129-00-0 | Pyrene                 | ND     | 9.1 | 4.7 | ug/kg |   |

| CAS No.   | Surrogate Recoveries | Run# 1 | Run# 2 | Limits  |
|-----------|----------------------|--------|--------|---------|
| 4165-60-0 | Nitrobenzene-d5      | 69%    |        | 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 81%    |        | 19-131% |
| 1718-51-0 | Terphenyl-d14        | 85%    |        | 18-150% |

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

Page 1 of 1

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 1-7 (0-24 IN)                      | <b>Date Sampled:</b>   | 06/06/13 |
| <b>Lab Sample ID:</b>    | D46973-2                                       | <b>Date Received:</b>  | 06/07/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 91.7     |
| <b>Method:</b>           | SW846 8015B                                    |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | GB20726.D | 1  | 06/07/13 | BD | n/a       | n/a        | GGB1134          |
| Run #2 |           |    |          |    |           |            |                  |

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

| CAS No.  | Compound               | Result | RL     | MDL     | Units | Q |
|----------|------------------------|--------|--------|---------|-------|---|
|          | TPH-GRO (C6-C10)       | ND     | 12     | 5.9     | mg/kg |   |
| CAS No.  | Surrogate Recoveries   | Run# 1 | Run# 2 | Limits  |       |   |
| 120-82-1 | 1,2,4-Trichlorobenzene | 86%    |        | 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

Page 1 of 1

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 1-7 (0-24 IN)                      | <b>Date Sampled:</b>   | 06/06/13 |
| <b>Lab Sample ID:</b>    | D46973-2                                       | <b>Date Received:</b>  | 06/07/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 91.7     |
| <b>Method:</b>           | SW846-8015B SW846 3546                         |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | FD25250.D | 1  | 06/10/13 | TU | 06/10/13  | OP7991     | GFD1252          |
| 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)    | 69.9   | 7.3    | 5.4     | mg/kg |   |
| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits  |       |   |
| 84-15-1 | o-Terphenyl          | 78%    |        | 35-130% |       |   |

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

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

## Misc. Forms

5

### Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody



## WPX CHAIN OF CUSTODY

PAGE 1 OF 1

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

|                   |                              |
|-------------------|------------------------------|
| FED-EX Tracking # | Bottle Order Control #       |
| Accutest Quote #  | Accutest Job # <b>D46973</b> |

| Client / Reporting Information   |  | Project Information   |  |  |  |                                   |  |  |  |                                   |  | Requested Analysis / see TEST CODE sheet   |  |                                   |  |  |  |                                   |  |                                    |  | Matrix Codes   |  |  |  |                                   |  |                                    |  |        |  |
|--|--|---|--|--|--|-----------------------------------|--|--|--|-----------------------------------|--|--|--|-----------------------------------|--|--|--|-----------------------------------|--|------------------------------------|--|--|--|--|--|-----------------------------------|--|------------------------------------|--|--------|--|
| Company Name<br><b>Olsson Associates</b>   |  | Project Name: <b>CORCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline</b>  |  |  |  |                                   |  |  |  |                                   |  | <div>PAH (COGCC Table 910 List)</div> <div>GRO/DRO</div> <div>BTEX</div>   |  |                                   |  |  |  |                                   |  |                                    |  | <div>DW - Drinking Water</div> <div>GW - Ground Water</div> <div>WW - Wastewater</div> <div>SW - Surface Water</div> <div>SO - Soil</div> <div>SL - Sludge</div> <div>SED-Sediment</div> <div>CI - Oil</div> <div>LIQ - Other Liquid</div> <div>AIR - Air</div> <div>SOL - Other Solid</div> <div>WP - Wipe</div> <div>FB-Field Blank</div> <div>EB-Equipment</div> <div>Blank RS</div> <div>Rinse Blank</div> |  |  |  |                                   |  |                                    |  |        |  |
| Street Address<br><b>760 Horizon Drive, STE 102</b>  |  | Street  |  | Billing Information (If different from Report to)                |  |                                   |  |  |  |                                   |  |  |  |                                   |  |  |  |                                   |  |                                    |  |  |  |  |  |                                   |  |                                    |  |        |  |
| City<br><b>Grand Junction, CO 81506</b>  |  | City  |  | Company Name<br><b>WPX Energy Rocky Mountain, LLC (WILLCOOP)</b> |  |                                   |  |  |  |                                   |  |  |  |                                   |  |  |  |                                   |  |                                    |  |  |  |  |  |                                   |  |                                    |  |        |  |
| Project Contact Email<br><b>Tim Dobransky tdobransky@olssonassociates.</b>   |  | Project #   |  | Street Address<br><b>1088 County Road 215</b>                    |  |                                   |  |  |  |                                   |  |  |  |                                   |  |  |  |                                   |  |                                    |  |  |  |  |  |                                   |  |                                    |  |        |  |
| Phone #<br><b>970-263-7800</b>   |  | Client Purchase Order #<br><b>NXEEPARCH</b>   |  | City<br><b>Parachute, CO 81635</b>                               |  |                                   |  |  |  |                                   |  |  |  |                                   |  |  |  |                                   |  |                                    |  |  |  |  |  |                                   |  |                                    |  |        |  |
| Sample(s) Name(s)<br><b>J. Sutrina</b>   |  | Project Manager<br><b>Leo Braun</b>   |  | Attention:<br><b>Leo Braun</b>                                   |  |                                   |  |  |  |                                   |  | Email Invoices: <b>Leo.Braun@wpxenergy.com</b>   |  |                                   |  |  |  |                                   |  |                                    |  | LAB USE ONLY   |  |  |  |                                   |  |                                    |  |        |  |
| Field ID / Point of Collection   |  | MECHDN Vial #   |  | Date   |  | Time                              |  | Sampled by                             |  | Matrix                            |  | # of bottles   |  | HCl                               |  | NaOH                                   |  | HNO3                              |  | H2SO4                              |  |  |  | NONE                                   |  | DI Water                          |  | MECH                               |  | ENCODE |  |
| MV 25-17 LF 1-6 (0-24in)   |  |   |  | 6/6/13   |  | 1015                              |  | JS                                     |  | SO                                |  | 1  |  |                                   |  |  |  |                                   |  |                                    |  |  |  | 1                                      |  |                                   |  |                                    |  |        |  |
| MV 25-17 LF 1-7 (0-24in)   |  |   |  | 6/6/13   |  | 1020                              |  | JS                                     |  | SO                                |  | 1  |  |                                   |  |  |  |                                   |  |                                    |  |  |  | 1                                      |  |                                   |  |                                    |  |        |  |
|  |  |   |  |  |  |                                   |  |  |  |                                   |  |  |  |                                   |  |  |  |                                   |  |                                    |  |  |  |  |  |                                   |  |                                    |  |        |  |
| Turnaround Time (Business days)  |  | Data Deliverable Information  |  |  |  |                                   |  |  |  |                                   |  | Comments / Special Instructions  |  |                                   |  |  |  |                                   |  |                                    |  |  |  |  |  |                                   |  |                                    |  |        |  |
| <input type="checkbox"/> 5 Business Day Std. (per contract)<br><input type="checkbox"/> 3 Day Emergency<br><input type="checkbox"/> 2 Day Emergency<br><input checked="" type="checkbox"/> 1 Day Emergency<br><input type="checkbox"/> Emergency & Rush TIA data available VIA Lablink |  | Approved By (Accutest Pity): / Date:<br><br>JGM 12/6/12<br><br><br><br><br>Commercial "A" (Level 1)<br><input type="checkbox"/> Commercial "B" (Level 2)<br><input type="checkbox"/> COMMBN<br><input type="checkbox"/> COMMBN+<br><br>Commercial "A" = Results Only<br>Commercial "B" = Results + QC Summary<br>Commercial BM = Results/QC Alternative (* = chromatograms) |  |  |  |                                   |  |  |  |                                   |  | <input type="checkbox"/> State Forms Required<br><input type="checkbox"/> Send Forms to State<br><input type="checkbox"/> Report by Fax<br><input checked="" type="checkbox"/> Report by PDF<br><input type="checkbox"/> EDD Format<br><br>Also email final report to: <b>Karolina.Blaney@wpxenergy.com</b><br><br>PLEASE RUSH 24 HR TAT |  |                                   |  |  |  |                                   |  |                                    |  |  |  |  |  |                                   |  |                                    |  |        |  |
| Relinquished by Sampler<br><b>[Signature]</b>  |  | Date Time:<br><b>6/6/13 11:30</b>   |  | Received By:<br><b>[Signature]</b>                               |  | Date Time:<br><b>6/6/13 11:30</b> |  | Relinquished By:<br><b>[Signature]</b> |  | Date Time:<br><b>6/6/13 11:30</b> |  | Received By:<br><b>[Signature]</b>   |  | Date Time:<br><b>6/6/13 11:30</b> |  | Relinquished By:<br><b>[Signature]</b> |  | Date Time:<br><b>6/6/13 11:30</b> |  | Received By:<br><b>[Signature]</b> |  | Date Time:<br><b>6/6/13 11:30</b>  |  | Relinquished By:<br><b>[Signature]</b> |  | Date Time:<br><b>6/6/13 11:30</b> |  | Received By:<br><b>[Signature]</b> |  |        |  |
| Relinquished by:   |  | Date Time:  |  | Received By:   |  | Date Time:                        |  | Relinquished By:                       |  | Date Time:                        |  | Received By:   |  | Date Time:                        |  | Relinquished By:                       |  | Date Time:                        |  | Received By:                       |  | Date Time:   |  | Relinquished By:                       |  | Date Time:                        |  | Received By:                       |  |        |  |
| 3  |  |   |  | 3  |  |                                   |  | 4                                      |  |                                   |  | 4  |  |                                   |  | 4                                      |  |                                   |  | 4                                  |  |  |  | 4                                      |  |                                   |  | 4                                  |  |        |  |
| Custody Seal #   |  | Intact  |  | Preserved where applicable                                       |  | On Ice                            |  | Cooler Temp.                           |  |                                   |  |  |  |                                   |  |  |  |                                   |  |                                    |  |  |  |  |  |                                   |  |                                    |  |        |  |
| 40/CO  |  |   |  |  |  |                                   |  |  |  |                                   |  |  |  |                                   |  |  |  |                                   |  |                                    |  |  |  |  |  |                                   |  |                                    |  |        |  |

D46973: Chain of Custody

Page 1 of 2

# Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D46973

Client: OLSSON ASS.

Immediate Client Services Action Required: No

Date / Time Received: 6/7/2013 12:50:00 PM

No. Coolers: 1

Client Service Action Required at Login: No

Project: MV 25-17 LANDFARM 1 BATCH 3 BASELINE

Airbill #'s: HD-CO

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

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

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

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

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

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

Comments

Accutest Laboratories  
V:(303) 425-6021

4036 Youngfield Street  
F: (303) 425-6854

Wheat Ridge, CO  
www.accutest.com

## GC/MS Volatiles

### QC Data Summaries

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Includes the following where applicable:

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

## Method Blank Summary

Page 1 of 1

**Job Number:** D46973

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| V5V1665-MB | 5V27324.D | 1  | 06/07/13 | BD | n/a       | n/a        | V5V1665          |

The QC reported here applies to the following samples:

Method: SW846 8260B

D46973-1, D46973-2

| 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            | 99% 64-130%  |
| 460-00-4   | 4-Bromofluorobenzene  | 92% 62-131%  |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 107% 70-130% |

## Blank Spike Summary

Page 1 of 1

**Job Number:** D46973

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| V5V1665-BS | 5V27325.D | 1  | 06/07/13 | BD | n/a       | n/a        | V5V1665          |

The QC reported here applies to the following samples:

Method: SW846 8260B

D46973-1, D46973-2

| CAS No.   | Compound       | Spike<br>ug/kg | BSP<br>ug/kg | BSP<br>% | Limits |
|-----------|----------------|----------------|--------------|----------|--------|
| 71-43-2   | Benzene        | 2500           | 2450         | 98       | 70-130 |
| 100-41-4  | Ethylbenzene   | 2500           | 2690         | 108      | 70-130 |
| 108-88-3  | Toluene        | 2500           | 2440         | 98       | 70-130 |
| 1330-20-7 | Xylene (total) | 7500           | 8020         | 107      | 70-130 |

| CAS No.    | Surrogate Recoveries  | BSP  | Limits  |
|------------|-----------------------|------|---------|
| 2037-26-5  | Toluene-D8            | 103% | 64-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 101% | 62-131% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 100% | 70-130% |

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

**Job Number:** D46973

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| D46865-5MS  | 5V27327.D | 1  | 06/07/13 | BD | n/a       | n/a        | V5V1665          |
| D46865-5MSD | 5V27328.D | 1  | 06/07/13 | BD | n/a       | n/a        | V5V1665          |
| D46865-5    | 5V27326.D | 1  | 06/07/13 | BD | n/a       | n/a        | V5V1665          |

The QC reported here applies to the following samples:

Method: SW846 8260B

D46973-1, D46973-2

| CAS No.   | Compound       | D46865-5 |   | Spike | MS    | MS  | MSD   | MSD | RPD | Limits    |
|-----------|----------------|----------|---|-------|-------|-----|-------|-----|-----|-----------|
|           |                | ug/kg    | Q | ug/kg | ug/kg | %   | ug/kg | %   |     | Rec/RPD   |
| 71-43-2   | Benzene        | ND       |   | 3210  | 3170  | 99  | 3070  | 96  | 3   | 64-139/30 |
| 100-41-4  | Ethylbenzene   | ND       |   | 3210  | 3300  | 103 | 3250  | 101 | 2   | 68-136/30 |
| 108-88-3  | Toluene        | ND       |   | 3210  | 3000  | 94  | 2920  | 91  | 3   | 60-130/30 |
| 1330-20-7 | Xylene (total) | ND       |   | 9620  | 10200 | 106 | 9920  | 103 | 3   | 58-142/30 |

| CAS No.    | Surrogate Recoveries  | MS   | MSD  | D46865-5 | Limits  |
|------------|-----------------------|------|------|----------|---------|
| 2037-26-5  | Toluene-D8            | 96%  | 95%  | 95%      | 64-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 115% | 113% | 104%     | 62-131% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 99%  | 104% | 103%     | 70-130% |

\* = Outside of Control Limits.

## GC/MS Semi-volatiles

### 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

Page 1 of 1

**Job Number:** D46973

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| OP7990-MB | 3G15020.D | 1  | 06/10/13 | DC | 06/10/13  | OP7990     | E3G734           |

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D46973-1, D46973-2

| CAS No.  | Compound               | Result | RL  | MDL | Units | Q |
|----------|------------------------|--------|-----|-----|-------|---|
| 83-32-9  | Acenaphthene           | ND     | 8.3 | 4.3 | ug/kg |   |
| 120-12-7 | Anthracene             | ND     | 8.3 | 4.3 | ug/kg |   |
| 56-55-3  | Benzo(a)anthracene     | ND     | 8.3 | 4.3 | ug/kg |   |
| 205-99-2 | Benzo(b)fluoranthene   | ND     | 8.3 | 4.3 | ug/kg |   |
| 207-08-9 | Benzo(k)fluoranthene   | ND     | 8.3 | 4.3 | ug/kg |   |
| 50-32-8  | Benzo(a)pyrene         | ND     | 8.3 | 4.3 | ug/kg |   |
| 218-01-9 | Chrysene               | ND     | 8.3 | 4.3 | ug/kg |   |
| 53-70-3  | Dibenzo(a,h)anthracene | ND     | 8.3 | 4.3 | ug/kg |   |
| 206-44-0 | Fluoranthene           | ND     | 8.3 | 4.3 | ug/kg |   |
| 86-73-7  | Fluorene               | ND     | 8.3 | 5.0 | ug/kg |   |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND     | 8.3 | 4.3 | ug/kg |   |
| 91-20-3  | Naphthalene            | ND     | 12  | 10  | ug/kg |   |
| 129-00-0 | Pyrene                 | ND     | 8.3 | 4.3 | ug/kg |   |

| CAS No.   | Surrogate Recoveries | Limits      |
|-----------|----------------------|-------------|
| 4165-60-0 | Nitrobenzene-d5      | 58% 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 62% 19-131% |
| 1718-51-0 | Terphenyl-d14        | 93% 18-150% |

## Blank Spike Summary

Page 1 of 1

**Job Number:** D46973

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| OP7990-BS | 3G15021.D | 1  | 06/10/13 | DC | 06/10/13  | OP7990     | E3G734           |

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D46973-1, D46973-2

| CAS No.  | Compound               | Spike<br>ug/kg | BSP<br>ug/kg | BSP<br>% | Limits |
|----------|------------------------|----------------|--------------|----------|--------|
| 83-32-9  | Acenaphthene           | 83.3           | 68.9         | 83       | 68-130 |
| 120-12-7 | Anthracene             | 83.3           | 69.7         | 84       | 67-130 |
| 56-55-3  | Benzo(a)anthracene     | 83.3           | 67.9         | 81       | 65-130 |
| 205-99-2 | Benzo(b)fluoranthene   | 83.3           | 75.2         | 90       | 44-130 |
| 207-08-9 | Benzo(k)fluoranthene   | 83.3           | 74.3         | 89       | 56-131 |
| 50-32-8  | Benzo(a)pyrene         | 83.3           | 71.9         | 86       | 62-130 |
| 218-01-9 | Chrysene               | 83.3           | 72.8         | 87       | 70-130 |
| 53-70-3  | Dibenzo(a,h)anthracene | 83.3           | 74.6         | 90       | 55-130 |
| 206-44-0 | Fluoranthene           | 83.3           | 66.8         | 80       | 70-130 |
| 86-73-7  | Fluorene               | 83.3           | 65.2         | 78       | 70-130 |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 83.3           | 75.4         | 90       | 56-130 |
| 91-20-3  | Naphthalene            | 83.3           | 59.0         | 71       | 70-130 |
| 129-00-0 | Pyrene                 | 83.3           | 67.5         | 81       | 70-130 |

| CAS No.   | Surrogate Recoveries | BSP | Limits  |
|-----------|----------------------|-----|---------|
| 4165-60-0 | Nitrobenzene-d5      | 63% | 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 82% | 19-131% |
| 1718-51-0 | Terphenyl-d14        | 87% | 18-150% |

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

**Job Number:** D46973  
**Account:** WILLCOP WPX Energy Rocky Mountain, LLC  
**Project:** CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| OP7990-MS  | 3G15023.D | 1  | 06/10/13 | DC | 06/10/13  | OP7990     | E3G734           |
| OP7990-MSD | 3G15024.D | 1  | 06/10/13 | DC | 06/10/13  | OP7990     | E3G734           |
| D46973-1   | 3G15022.D | 1  | 06/10/13 | DC | 06/10/13  | OP7990     | E3G734           |

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D46973-1, D46973-2

| CAS No.  | Compound               | D46973-1<br>ug/kg | Q | Spike<br>ug/kg | MS<br>ug/kg | MS<br>% | MSD<br>ug/kg | MSD<br>% | RPD | Limits<br>Rec/RPD |
|----------|------------------------|-------------------|---|----------------|-------------|---------|--------------|----------|-----|-------------------|
| 83-32-9  | Acenaphthene           | ND                |   | 90.3           | 82.2        | 91      | 83.4         | 92       | 1   | 25-151/30         |
| 120-12-7 | Anthracene             | ND                |   | 90.3           | 83.0        | 92      | 85.1         | 94       | 2   | 39-159/30         |
| 56-55-3  | Benzo(a)anthracene     | ND                |   | 90.3           | 79.7        | 88      | 81.1         | 90       | 2   | 39-168/30         |
| 205-99-2 | Benzo(b)fluoranthene   | ND                |   | 90.3           | 79.4        | 88      | 82.3         | 91       | 4   | 24-163/30         |
| 207-08-9 | Benzo(k)fluoranthene   | ND                |   | 90.3           | 79.8        | 88      | 80.1         | 88       | 0   | 10-188/30         |
| 50-32-8  | Benzo(a)pyrene         | ND                |   | 90.3           | 74.6        | 83      | 75.7         | 84       | 1   | 32-144/30         |
| 218-01-9 | Chrysene               | ND                |   | 90.3           | 79.2        | 88      | 80.2         | 89       | 1   | 43-150/30         |
| 53-70-3  | Dibenzo(a,h)anthracene | ND                |   | 90.3           | 71.2        | 79      | 72.8         | 80       | 2   | 21-152/30         |
| 206-44-0 | Fluoranthene           | ND                |   | 90.3           | 84.4        | 93      | 85.7         | 95       | 2   | 36-157/30         |
| 86-73-7  | Fluorene               | ND                |   | 90.3           | 87.8        | 97      | 92.4         | 102      | 5   | 10-182/30         |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND                |   | 90.3           | 71.3        | 79      | 72.2         | 80       | 1   | 20-154/30         |
| 91-20-3  | Naphthalene            | 12.9              | J | 90.3           | 92.8        | 88      | 97.7         | 94       | 5   | 10-163/30         |
| 129-00-0 | Pyrene                 | ND                |   | 90.3           | 84.7        | 94      | 87.0         | 96       | 3   | 25-180/30         |

| CAS No.   | Surrogate Recoveries | MS  | MSD | D46973-1 | Limits  |
|-----------|----------------------|-----|-----|----------|---------|
| 4165-60-0 | Nitrobenzene-d5      | 68% | 74% | 56%      | 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 85% | 86% | 74%      | 19-131% |
| 1718-51-0 | Terphenyl-d14        | 84% | 86% | 77%      | 18-150% |

\* = Outside of Control Limits.

## 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: D46973  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| GGB1134-MB | GB20717.D | 1  | 06/07/13 | BD | n/a       | n/a        | GGB1134          |

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

D46973-1, D46973-2

| 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 | 90% 60-140% |

Blank Spike Summary

Job Number: D46973  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| GGB1134-BS | GB20718.D | 1  | 06/07/13 | BD | n/a       | n/a        | GGB1134          |

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

D46973-1, D46973-2

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

| CAS No.  | Surrogate Recoveries   | BSP | Limits  |
|----------|------------------------|-----|---------|
| 120-82-1 | 1,2,4-Trichlorobenzene | 97% | 60-140% |

\* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D46973  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| D46865-5MS  | GB20720.D | 1  | 06/07/13 | BD | n/a       | n/a        | GGB1134          |
| D46865-5MSD | GB20721.D | 1  | 06/07/13 | BD | n/a       | n/a        | GGB1134          |
| D46865-5    | GB20719.D | 1  | 06/07/13 | BD | n/a       | n/a        | GGB1134          |

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

D46973-1, D46973-2

| CAS No. | Compound         | D46865-5<br>mg/kg | Spike<br>Q | MS<br>mg/kg | MS<br>% | MSD<br>mg/kg | MSD<br>% | RPD | Limits<br>Rec/RPD |
|---------|------------------|-------------------|------------|-------------|---------|--------------|----------|-----|-------------------|
|         | TPH-GRO (C6-C10) | ND                | 141        | 140         | 99      | 139          | 98       | 1   | 70-130/30         |

| CAS No.  | Surrogate Recoveries   | MS  | MSD | D46865-5 | Limits  |
|----------|------------------------|-----|-----|----------|---------|
| 120-82-1 | 1,2,4-Trichlorobenzene | 98% | 96% | 90%      | 60-140% |

8.3.1  
8

\* = Outside of Control Limits.

## 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: D46973  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| OP7991-MB | FD25242.D | 1  | 06/10/13 | TU | 06/10/13  | OP7991     | GFD1252          |

The QC reported here applies to the following samples: Method: SW846-8015B  
D46973-1, D46973-2

| 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          | 67% 35-130% |

9.1.1  
9

Blank Spike Summary

Job Number: D46973  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| OP7991-BS | FD25243.D | 1  | 06/10/13 | TU | 06/10/13  | OP7991     | GFD1252          |

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

D46973-1, D46973-2

| CAS No. | Compound          | Spike<br>mg/kg | BSP<br>mg/kg | BSP<br>% | Limits |
|---------|-------------------|----------------|--------------|----------|--------|
|         | TPH-DRO (C10-C28) | 667            | 517          | 78       | 48-130 |

| CAS No. | Surrogate Recoveries | BSP | Limits  |
|---------|----------------------|-----|---------|
| 84-15-1 | o-Terphenyl          | 77% | 35-130% |

\* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D46973  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| OP7991-MS  | FD25244.D | 1  | 06/10/13 | TU | 06/10/13  | OP7991     | GFD1252          |
| OP7991-MSD | FD25245.D | 1  | 06/10/13 | TU | 06/10/13  | OP7991     | GFD1252          |
| D46996-8   | FD25262.D | 1  | 06/11/13 | TU | 06/10/13  | OP7991     | GFD1252          |

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

D46973-1, D46973-2

| CAS No. | Compound          | D46996-8<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) | 25.4              | 721            | 535         | 71      | 473          | 62       | 12  | 20-168/30         |

| CAS No. | Surrogate Recoveries | MS  | MSD | D46996-8 | Limits  |
|---------|----------------------|-----|-----|----------|---------|
| 84-15-1 | o-Terphenyl          | 74% | 60% | 58%      | 35-130% |

\* = Outside of Control Limits.



06/25/13

## Technical Report for

**WPX Energy Rocky Mountain, LLC**

**CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline**

**NXEEPPARACH**

**Accutest Job Number: D47493**

**Sampling Date: 06/21/13**

### Report to:

**Olsson Associates  
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Grand Junction, CO 81505  
tdobransky@oaconsulting.com; karolina.blaney@wpxenergy.com  
ATTN: Tim Dobransky**

**Total number of pages in report: 34**



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

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

**Scott Heideman  
Laboratory Director**

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

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

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Test results relate only to samples analyzed.

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Sample Summary

WPX Energy Rocky Mountain, LLC

Job No: D47493

CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline  
Project No: NXEEPPARACH

| Sample<br>Number | Collected |       | Time By | Received | Matrix |      | Client<br>Sample ID      |
|------------------|-----------|-------|---------|----------|--------|------|--------------------------|
|                  | Date      |       |         |          | Code   | Type |                          |
| D47493-1         | 06/21/13  | 15:45 | JS      | 06/22/13 | SO     | Soil | MV 25-17 LF 1-4 (0-24IN) |
| D47493-2         | 06/21/13  | 15:50 | JS      | 06/22/13 | SO     | Soil | MV 25-17 LF 1-5 (0-24IN) |

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



## CASE NARRATIVE / CONFORMANCE SUMMARY

**Client:** WPX Energy Rocky Mountain, LLC

**Job No** D47493

**Site:** CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline

**Report Date** 6/25/2013 1:07:48 PM

On 06/22/2013, 2 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 3.9 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D47493 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:** V5V1679

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D47470-1MS, D47470-1MSD were used as the QC samples indicated.

### Extractables by GCMS By Method SW846 8270C BY SIM

**Matrix** SO

**Batch ID:** OP8073

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D47493-1MS, D47493-1MSD were used as the QC samples indicated.

### Volatiles by GC By Method SW846 8015B

**Matrix** SO

**Batch ID:** GGB1144

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D47471-7MS, D47471-7MSD were used as the QC samples indicated.

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

**Matrix** SO

**Batch ID:** OP8070

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D47475-1MS, D47475-1MSD were used as the QC samples indicated.

### Wet Chemistry By Method SM19 2540B M

**Matrix** SO

**Batch ID:** GN20738

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

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

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

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

## Summary of Hits

Page 1 of 1

**Job Number:** D47493  
**Account:** WPX Energy Rocky Mountain, LLC  
**Project:** CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline  
**Collected:** 06/21/13



| Lab Sample ID | Client Sample ID | Result/<br>Qual | RL | MDL | Units | Method |
|---------------|------------------|-----------------|----|-----|-------|--------|
|---------------|------------------|-----------------|----|-----|-------|--------|

**D47493-1**      **MV 25-17 LF 1-4 (0-24IN)**

|                   |       |     |     |       |                    |
|-------------------|-------|-----|-----|-------|--------------------|
| Fluorene          | 7.8 J | 9.0 | 5.4 | ug/kg | SW846 8270C BY SIM |
| Naphthalene       | 51.2  | 13  | 11  | ug/kg | SW846 8270C BY SIM |
| TPH-DRO (C10-C28) | 67.5  | 7.2 | 5.4 | mg/kg | SW846-8015B        |

**D47493-2**      **MV 25-17 LF 1-5 (0-24IN)**

|                   |       |     |     |       |                    |
|-------------------|-------|-----|-----|-------|--------------------|
| Fluorene          | 6.7 J | 9.1 | 5.4 | ug/kg | SW846 8270C BY SIM |
| Naphthalene       | 39.7  | 13  | 11  | ug/kg | SW846 8270C BY SIM |
| TPH-DRO (C10-C28) | 63.9  | 7.3 | 5.5 | mg/kg | SW846-8015B        |

Sample Results

Report of Analysis

## Report of Analysis

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 1-4 (0-24IN)                       | <b>Date Sampled:</b>   | 06/21/13 |
| <b>Lab Sample ID:</b>    | D47493-1                                       | <b>Date Received:</b>  | 06/22/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 92.0     |
| <b>Method:</b>           | SW846 8260B                                    |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | 5V27650.D | 1  | 06/24/13 | BD | n/a       | n/a        | V5V1679          |
| Run #2 |           |    |          |    |           |            |                  |

|        | Initial Weight | Final Volume | Methanol Aliquot |
|--------|----------------|--------------|------------------|
| Run #1 | 5.02 g         | 5.0 ml       | 100 ul           |
| Run #2 |                |              |                  |

## Purgeable Aromatics

| CAS No.   | Compound       | Result | RL  | MDL | Units | Q |
|-----------|----------------|--------|-----|-----|-------|---|
| 71-43-2   | Benzene        | ND     | 58  | 29  | ug/kg |   |
| 108-88-3  | Toluene        | ND     | 120 | 58  | ug/kg |   |
| 100-41-4  | Ethylbenzene   | ND     | 120 | 22  | ug/kg |   |
| 1330-20-7 | Xylene (total) | ND     | 230 | 120 | ug/kg |   |

| CAS No.    | Surrogate Recoveries  | Run# 1 | Run# 2 | Limits  |
|------------|-----------------------|--------|--------|---------|
| 2037-26-5  | Toluene-D8            | 96%    |        | 64-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 107%   |        | 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

## Report of Analysis

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 1-4 (0-24IN)                       | <b>Date Sampled:</b>   | 06/21/13 |
| <b>Lab Sample ID:</b>    | D47493-1                                       | <b>Date Received:</b>  | 06/22/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 92.0     |
| <b>Method:</b>           | SW846 8270C BY SIM SW846 3546                  |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | 3G15187.D | 1  | 06/24/13 | DC | 06/24/13  | OP8073     | E3G742           |
| Run #2 |           |    |          |    |           |            |                  |

|        | Initial Weight | Final Volume |
|--------|----------------|--------------|
| Run #1 | 30.0 g         | 1.0 ml       |
| Run #2 |                |              |

## COGCC Table 910-1 PAH List

| CAS No.  | Compound               | Result | RL  | MDL | Units | Q |
|----------|------------------------|--------|-----|-----|-------|---|
| 83-32-9  | Acenaphthene           | ND     | 9.0 | 4.7 | ug/kg |   |
| 120-12-7 | Anthracene             | ND     | 9.0 | 4.7 | ug/kg |   |
| 56-55-3  | Benzo(a)anthracene     | ND     | 9.0 | 4.7 | ug/kg |   |
| 205-99-2 | Benzo(b)fluoranthene   | ND     | 9.0 | 4.7 | ug/kg |   |
| 207-08-9 | Benzo(k)fluoranthene   | ND     | 9.0 | 4.7 | ug/kg |   |
| 50-32-8  | Benzo(a)pyrene         | ND     | 9.0 | 4.7 | ug/kg |   |
| 218-01-9 | Chrysene               | ND     | 9.0 | 4.7 | ug/kg |   |
| 53-70-3  | Dibenzo(a,h)anthracene | ND     | 9.0 | 4.7 | ug/kg |   |
| 206-44-0 | Fluoranthene           | ND     | 9.0 | 4.7 | ug/kg |   |
| 86-73-7  | Fluorene               | 7.8    | 9.0 | 5.4 | ug/kg | J |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND     | 9.0 | 4.7 | ug/kg |   |
| 91-20-3  | Naphthalene            | 51.2   | 13  | 11  | ug/kg |   |
| 129-00-0 | Pyrene                 | ND     | 9.0 | 4.7 | ug/kg |   |

| CAS No.   | Surrogate Recoveries | Run# 1 | Run# 2 | Limits  |
|-----------|----------------------|--------|--------|---------|
| 4165-60-0 | Nitrobenzene-d5      | 87%    |        | 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 85%    |        | 19-131% |
| 1718-51-0 | Terphenyl-d14        | 88%    |        | 18-150% |

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

Page 1 of 1

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 1-4 (0-24IN)                       | <b>Date Sampled:</b>   | 06/21/13 |
| <b>Lab Sample ID:</b>    | D47493-1                                       | <b>Date Received:</b>  | 06/22/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 92.0     |
| <b>Method:</b>           | SW846 8015B                                    |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | GB20888.D | 1  | 06/24/13 | BD | n/a       | n/a        | GGB1144          |
| Run #2 |           |    |          |    |           |            |                  |

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

| CAS No.  | Compound               | Result | RL     | MDL     | Units | Q |
|----------|------------------------|--------|--------|---------|-------|---|
|          | TPH-GRO (C6-C10)       | ND     | 12     | 5.8     | mg/kg |   |
| CAS No.  | Surrogate Recoveries   | Run# 1 | Run# 2 | Limits  |       |   |
| 120-82-1 | 1,2,4-Trichlorobenzene | 91%    |        | 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

Page 1 of 1

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 1-4 (0-24IN)                       | <b>Date Sampled:</b>   | 06/21/13 |
| <b>Lab Sample ID:</b>    | D47493-1                                       | <b>Date Received:</b>  | 06/22/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 92.0     |
| <b>Method:</b>           | SW846-8015B SW846 3546                         |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | FD25741.D | 1  | 06/24/13 | TU | 06/22/13  | OP8070     | GFD1269          |
| 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)    | 67.5   | 7.2    | 5.4     | mg/kg |   |
| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits  |       |   |
| 84-15-1 | o-Terphenyl          | 77%    |        | 35-130% |       |   |

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

## Report of Analysis

Page 1 of 1

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 1-5 (0-24IN)                       | <b>Date Sampled:</b>   | 06/21/13 |
| <b>Lab Sample ID:</b>    | D47493-2                                       | <b>Date Received:</b>  | 06/22/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 91.5     |
| <b>Method:</b>           | SW846 8260B                                    |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | 5V27651.D | 1  | 06/24/13 | BD | n/a       | n/a        | V5V1679          |
| Run #2 |           |    |          |    |           |            |                  |

|        | Initial Weight | Final Volume | Methanol Aliquot |
|--------|----------------|--------------|------------------|
| Run #1 | 5.02 g         | 5.0 ml       | 100 ul           |
| Run #2 |                |              |                  |

## Purgeable Aromatics

| CAS No.   | Compound       | Result | RL  | MDL | Units | Q |
|-----------|----------------|--------|-----|-----|-------|---|
| 71-43-2   | Benzene        | ND     | 59  | 30  | ug/kg |   |
| 108-88-3  | Toluene        | ND     | 120 | 59  | ug/kg |   |
| 100-41-4  | Ethylbenzene   | ND     | 120 | 22  | ug/kg |   |
| 1330-20-7 | Xylene (total) | ND     | 240 | 120 | ug/kg |   |

| CAS No.    | Surrogate Recoveries  | Run# 1 | Run# 2 | Limits  |
|------------|-----------------------|--------|--------|---------|
| 2037-26-5  | Toluene-D8            | 95%    |        | 64-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 106%   |        | 62-131% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 102%   |        | 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

## Report of Analysis

**Client Sample ID:** MV 25-17 LF 1-5 (0-24IN)**Lab Sample ID:** D47493-2**Date Sampled:** 06/21/13**Matrix:** SO - Soil**Date Received:** 06/22/13**Method:** SW846 8270C BY SIM SW846 3546**Percent Solids:** 91.5**Project:** CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | 3G15192.D | 1  | 06/24/13 | DC | 06/24/13  | OP8073     | E3G742           |
| Run #2 |           |    |          |    |           |            |                  |

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

## COGCC Table 910-1 PAH List

| CAS No.  | Compound               | Result | RL  | MDL | Units | Q |
|----------|------------------------|--------|-----|-----|-------|---|
| 83-32-9  | Acenaphthene           | ND     | 9.1 | 4.7 | ug/kg |   |
| 120-12-7 | Anthracene             | ND     | 9.1 | 4.7 | ug/kg |   |
| 56-55-3  | Benzo(a)anthracene     | ND     | 9.1 | 4.7 | ug/kg |   |
| 205-99-2 | Benzo(b)fluoranthene   | ND     | 9.1 | 4.7 | ug/kg |   |
| 207-08-9 | Benzo(k)fluoranthene   | ND     | 9.1 | 4.7 | ug/kg |   |
| 50-32-8  | Benzo(a)pyrene         | ND     | 9.1 | 4.7 | ug/kg |   |
| 218-01-9 | Chrysene               | ND     | 9.1 | 4.7 | ug/kg |   |
| 53-70-3  | Dibenzo(a,h)anthracene | ND     | 9.1 | 4.7 | ug/kg |   |
| 206-44-0 | Fluoranthene           | ND     | 9.1 | 4.7 | ug/kg |   |
| 86-73-7  | Fluorene               | 6.7    | 9.1 | 5.4 | ug/kg | J |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND     | 9.1 | 4.7 | ug/kg |   |
| 91-20-3  | Naphthalene            | 39.7   | 13  | 11  | ug/kg |   |
| 129-00-0 | Pyrene                 | ND     | 9.1 | 4.7 | ug/kg |   |

| CAS No.   | Surrogate Recoveries | Run# 1 | Run# 2 | Limits  |
|-----------|----------------------|--------|--------|---------|
| 4165-60-0 | Nitrobenzene-d5      | 81%    |        | 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 85%    |        | 19-131% |
| 1718-51-0 | Terphenyl-d14        | 91%    |        | 18-150% |

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

Page 1 of 1

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 1-5 (0-24IN)                       | <b>Date Sampled:</b>   | 06/21/13 |
| <b>Lab Sample ID:</b>    | D47493-2                                       | <b>Date Received:</b>  | 06/22/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 91.5     |
| <b>Method:</b>           | SW846 8015B                                    |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | GB20889.D | 1  | 06/24/13 | BD | n/a       | n/a        | GGB1144          |
| Run #2 |           |    |          |    |           |            |                  |

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

| CAS No.  | Compound               | Result | RL     | MDL     | Units | Q |
|----------|------------------------|--------|--------|---------|-------|---|
|          | TPH-GRO (C6-C10)       | ND     | 12     | 5.9     | mg/kg |   |
| CAS No.  | Surrogate Recoveries   | Run# 1 | Run# 2 | Limits  |       |   |
| 120-82-1 | 1,2,4-Trichlorobenzene | 95%    |        | 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

Page 1 of 1

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 1-5 (0-24IN)                       | <b>Date Sampled:</b>   | 06/21/13 |
| <b>Lab Sample ID:</b>    | D47493-2                                       | <b>Date Received:</b>  | 06/22/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 91.5     |
| <b>Method:</b>           | SW846-8015B SW846 3546                         |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | FD25743.D | 1  | 06/24/13 | TU | 06/22/13  | OP8070     | GFD1269          |
| Run #2 |           |    |          |    |           |            |                  |

|        | Initial Weight | Final Volume |
|--------|----------------|--------------|
| Run #1 | 30.0 g         | 1.0 ml       |
| Run #2 |                |              |

| CAS No. | Compound             | Result | RL     | MDL     | Units | Q |
|---------|----------------------|--------|--------|---------|-------|---|
|         | TPH-DRO (C10-C28)    | 63.9   | 7.3    | 5.5     | mg/kg |   |
| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits  |       |   |
| 84-15-1 | o-Terphenyl          | 80%    |        | 35-130% |       |   |

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

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

## Misc. Forms

5

### Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody



## Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** D47493

**Client:** OLSSON

**Immediate Client Services Action Required:** No

**Date / Time Received:** 6/22/2013 11:30:00 AM

**No. Coolers:** 1

**Client Service Action Required at Login:** No

**Project:**
**Airbill #'s:** Fedex

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

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

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

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

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

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

Comments

 Accutest Laboratories  
 V: (303) 425-6021

 4036 Youngfield Street  
 F: (303) 425-6854

 Wheat Ridge, CO  
 www.accutest.com

## GC/MS Volatiles

### QC Data Summaries

Includes the following where applicable:

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

## Method Blank Summary

Page 1 of 1

**Job Number:** D47493

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| V5V1679-MB | 5V27642.D | 1  | 06/24/13 | BD | n/a       | n/a        | V5V1679          |

The QC reported here applies to the following samples:

Method: SW846 8260B

D47493-1, D47493-2

| 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            | 99% 64-130%  |
| 460-00-4   | 4-Bromofluorobenzene  | 93% 62-131%  |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 102% 70-130% |

## Blank Spike Summary

Page 1 of 1

**Job Number:** D47493

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| V5V1679-BS | 5V27643.D | 1  | 06/24/13 | BD | n/a       | n/a        | V5V1679          |

The QC reported here applies to the following samples:

Method: SW846 8260B

D47493-1, D47493-2

| CAS No.   | Compound       | Spike<br>ug/kg | BSP<br>ug/kg | BSP<br>% | Limits |
|-----------|----------------|----------------|--------------|----------|--------|
| 71-43-2   | Benzene        | 2500           | 2560         | 102      | 70-130 |
| 100-41-4  | Ethylbenzene   | 2500           | 2480         | 99       | 70-130 |
| 108-88-3  | Toluene        | 2500           | 2490         | 100      | 70-130 |
| 1330-20-7 | Xylene (total) | 7500           | 7600         | 101      | 70-130 |

| CAS No.    | Surrogate Recoveries  | BSP  | Limits  |
|------------|-----------------------|------|---------|
| 2037-26-5  | Toluene-D8            | 98%  | 64-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 99%  | 62-131% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 104% | 70-130% |

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

**Job Number:** D47493

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| D47470-1MS  | 5V27645.D | 1  | 06/24/13 | BD | n/a       | n/a        | V5V1679          |
| D47470-1MSD | 5V27646.D | 1  | 06/24/13 | BD | n/a       | n/a        | V5V1679          |
| D47470-1    | 5V27644.D | 1  | 06/24/13 | BD | n/a       | n/a        | V5V1679          |

The QC reported here applies to the following samples:

Method: SW846 8260B

D47493-1, D47493-2

| CAS No.   | Compound       | D47470-1<br>ug/kg | Q | Spike<br>ug/kg | MS<br>ug/kg | MS<br>% | MSD<br>ug/kg | MSD<br>% | RPD | Limits<br>Rec/RPD |
|-----------|----------------|-------------------|---|----------------|-------------|---------|--------------|----------|-----|-------------------|
| 71-43-2   | Benzene        | ND                |   | 2480           | 2680        | 108     | 2590         | 104      | 3   | 64-139/30         |
| 100-41-4  | Ethylbenzene   | 30.0              | J | 2480           | 2530        | 101     | 2330         | 93       | 8   | 68-136/30         |
| 108-88-3  | Toluene        | 927               |   | 2480           | 3140        | 89      | 3030         | 85       | 4   | 60-130/30         |
| 1330-20-7 | Xylene (total) | 126               | J | 7440           | 7720        | 102     | 7110         | 94       | 8   | 58-142/30         |

| CAS No.    | Surrogate Recoveries  | MS   | MSD  | D47470-1 | Limits  |
|------------|-----------------------|------|------|----------|---------|
| 2037-26-5  | Toluene-D8            | 94%  | 96%  | 96%      | 64-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 112% | 111% | 105%     | 62-131% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 106% | 103% | 103%     | 70-130% |

\* = Outside of Control Limits.

## GC/MS Semi-volatiles

### QC Data Summaries

---

Includes the following where applicable:

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

## Method Blank Summary

Page 1 of 1

**Job Number:** D47493

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| OP8073-MB | 3G15185.D | 1  | 06/24/13 | DC | 06/24/13  | OP8073     | E3G742           |

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D47493-1, D47493-2

| CAS No.  | Compound               | Result | RL  | MDL | Units | Q |
|----------|------------------------|--------|-----|-----|-------|---|
| 83-32-9  | Acenaphthene           | ND     | 8.3 | 4.3 | ug/kg |   |
| 120-12-7 | Anthracene             | ND     | 8.3 | 4.3 | ug/kg |   |
| 56-55-3  | Benzo(a)anthracene     | ND     | 8.3 | 4.3 | ug/kg |   |
| 205-99-2 | Benzo(b)fluoranthene   | ND     | 8.3 | 4.3 | ug/kg |   |
| 207-08-9 | Benzo(k)fluoranthene   | ND     | 8.3 | 4.3 | ug/kg |   |
| 50-32-8  | Benzo(a)pyrene         | ND     | 8.3 | 4.3 | ug/kg |   |
| 218-01-9 | Chrysene               | ND     | 8.3 | 4.3 | ug/kg |   |
| 53-70-3  | Dibenzo(a,h)anthracene | ND     | 8.3 | 4.3 | ug/kg |   |
| 206-44-0 | Fluoranthene           | ND     | 8.3 | 4.3 | ug/kg |   |
| 86-73-7  | Fluorene               | ND     | 8.3 | 5.0 | ug/kg |   |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND     | 8.3 | 4.3 | ug/kg |   |
| 91-20-3  | Naphthalene            | ND     | 12  | 10  | ug/kg |   |
| 129-00-0 | Pyrene                 | ND     | 8.3 | 4.3 | ug/kg |   |

| CAS No.   | Surrogate Recoveries | Limits      |
|-----------|----------------------|-------------|
| 4165-60-0 | Nitrobenzene-d5      | 88% 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 83% 19-131% |
| 1718-51-0 | Terphenyl-d14        | 99% 18-150% |

## Blank Spike Summary

Page 1 of 1

**Job Number:** D47493

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| OP8073-BS | 3G15186.D | 1  | 06/24/13 | DC | 06/24/13  | OP8073     | E3G742           |

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D47493-1, D47493-2

| CAS No.  | Compound               | Spike<br>ug/kg | BSP<br>ug/kg | BSP<br>% | Limits |
|----------|------------------------|----------------|--------------|----------|--------|
| 83-32-9  | Acenaphthene           | 83.3           | 71.4         | 86       | 68-130 |
| 120-12-7 | Anthracene             | 83.3           | 70.1         | 84       | 67-130 |
| 56-55-3  | Benzo(a)anthracene     | 83.3           | 74.9         | 90       | 65-130 |
| 205-99-2 | Benzo(b)fluoranthene   | 83.3           | 98.7         | 118      | 44-130 |
| 207-08-9 | Benzo(k)fluoranthene   | 83.3           | 56.8         | 68       | 56-131 |
| 50-32-8  | Benzo(a)pyrene         | 83.3           | 73.7         | 88       | 62-130 |
| 218-01-9 | Chrysene               | 83.3           | 78.6         | 94       | 70-130 |
| 53-70-3  | Dibenzo(a,h)anthracene | 83.3           | 78.4         | 94       | 55-130 |
| 206-44-0 | Fluoranthene           | 83.3           | 65.0         | 78       | 70-130 |
| 86-73-7  | Fluorene               | 83.3           | 70.6         | 85       | 70-130 |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 83.3           | 79.2         | 95       | 56-130 |
| 91-20-3  | Naphthalene            | 83.3           | 73.5         | 88       | 70-130 |
| 129-00-0 | Pyrene                 | 83.3           | 79.0         | 95       | 70-130 |

| CAS No.   | Surrogate Recoveries | BSP | Limits  |
|-----------|----------------------|-----|---------|
| 4165-60-0 | Nitrobenzene-d5      | 75% | 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 84% | 19-131% |
| 1718-51-0 | Terphenyl-d14        | 95% | 18-150% |

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

**Job Number:** D47493  
**Account:** WILLCOP WPX Energy Rocky Mountain, LLC  
**Project:** CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| OP8073-MS  | 3G15188.D | 1  | 06/24/13 | DC | 06/24/13  | OP8073     | E3G742           |
| OP8073-MSD | 3G15189.D | 1  | 06/24/13 | DC | 06/24/13  | OP8073     | E3G742           |
| D47493-1   | 3G15187.D | 1  | 06/24/13 | DC | 06/24/13  | OP8073     | E3G742           |

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D47493-1, D47493-2

| CAS No.  | Compound               | D47493-1<br>ug/kg | Q | Spike<br>ug/kg | MS<br>ug/kg | MS<br>% | MSD<br>ug/kg | MSD<br>% | RPD | Limits<br>Rec/RPD |
|----------|------------------------|-------------------|---|----------------|-------------|---------|--------------|----------|-----|-------------------|
| 83-32-9  | Acenaphthene           | ND                |   | 90.2           | 79.3        | 88      | 75.7         | 84       | 5   | 25-151/30         |
| 120-12-7 | Anthracene             | ND                |   | 90.2           | 81.0        | 90      | 81.6         | 90       | 1   | 39-159/30         |
| 56-55-3  | Benzo(a)anthracene     | ND                |   | 90.2           | 86.3        | 96      | 88.2         | 98       | 2   | 39-168/30         |
| 205-99-2 | Benzo(b)fluoranthene   | ND                |   | 90.2           | 98.1        | 109     | 97.0         | 107      | 1   | 24-163/30         |
| 207-08-9 | Benzo(k)fluoranthene   | ND                |   | 90.2           | 73.1        | 81      | 76.4         | 85       | 4   | 10-188/30         |
| 50-32-8  | Benzo(a)pyrene         | ND                |   | 90.2           | 77.0        | 85      | 77.5         | 86       | 1   | 32-144/30         |
| 218-01-9 | Chrysene               | ND                |   | 90.2           | 84.4        | 94      | 84.9         | 94       | 1   | 43-150/30         |
| 53-70-3  | Dibenzo(a,h)anthracene | ND                |   | 90.2           | 73.7        | 82      | 74.9         | 83       | 2   | 21-152/30         |
| 206-44-0 | Fluoranthene           | ND                |   | 90.2           | 79.9        | 89      | 80.0         | 89       | 0   | 36-157/30         |
| 86-73-7  | Fluorene               | 7.8               | J | 90.2           | 90.3        | 91      | 86.4         | 87       | 4   | 10-182/30         |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND                |   | 90.2           | 73.9        | 82      | 75.3         | 83       | 2   | 20-154/30         |
| 91-20-3  | Naphthalene            | 51.2              |   | 90.2           | 112         | 67      | 119          | 75       | 6   | 10-163/30         |
| 129-00-0 | Pyrene                 | ND                |   | 90.2           | 90.0        | 100     | 90.0         | 100      | 0   | 25-180/30         |

| CAS No.   | Surrogate Recoveries | MS  | MSD | D47493-1 | Limits  |
|-----------|----------------------|-----|-----|----------|---------|
| 4165-60-0 | Nitrobenzene-d5      | 77% | 84% | 87%      | 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 80% | 81% | 85%      | 19-131% |
| 1718-51-0 | Terphenyl-d14        | 84% | 89% | 88%      | 18-150% |

\* = Outside of Control Limits.

## GC Volatiles

### 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: D47493  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| GGB1144-MB | GB20881.D | 1  | 06/24/13 | BD | n/a       | n/a        | GGB1144          |

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

D47493-1, D47493-2

| 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 | 103% 60-140% |

Blank Spike Summary

Job Number: D47493  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| GGB1144-BS | GB20882.D | 1  | 06/24/13 | BD | n/a       | n/a        | GGB1144          |

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

D47493-1, D47493-2

| CAS No. | Compound         | Spike<br>mg/kg | BSP<br>mg/kg | BSP<br>% | Limits |
|---------|------------------|----------------|--------------|----------|--------|
|         | TPH-GRO (C6-C10) | 110            | 104          | 95       | 70-130 |

| CAS No.  | Surrogate Recoveries   | BSP  | Limits  |
|----------|------------------------|------|---------|
| 120-82-1 | 1,2,4-Trichlorobenzene | 105% | 60-140% |

\* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D47493  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| D47471-7MS  | GB20884.D | 1  | 06/24/13 | BD | n/a       | n/a        | GGB1144          |
| D47471-7MSD | GB20885.D | 1  | 06/24/13 | BD | n/a       | n/a        | GGB1144          |
| D47471-7    | GB20883.D | 1  | 06/24/13 | BD | n/a       | n/a        | GGB1144          |

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

D47493-1, D47493-2

| CAS No. | Compound         | D47471-7<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                | 120            | 120         | 100     | 117          | 98       | 3   | 70-130/30         |

| CAS No.  | Surrogate Recoveries   | MS   | MSD  | D47471-7 | Limits  |
|----------|------------------------|------|------|----------|---------|
| 120-82-1 | 1,2,4-Trichlorobenzene | 107% | 105% | 99%      | 60-140% |

8.3.1  
8

\* = Outside of Control Limits.

## 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: D47493  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| OP8070-MB | FD25709.D | 1  | 06/24/13 | TU | 06/22/13  | OP8070     | GFD1269          |

The QC reported here applies to the following samples: Method: SW846-8015B  
D47493-1, D47493-2

| 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% 35-130% |

## Blank Spike Summary

Page 1 of 1

**Job Number:** D47493

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| OP8070-BS | FD25711.D | 1  | 06/24/13 | TU | 06/22/13  | OP8070     | GFD1269          |

The QC reported here applies to the following samples:

Method: SW846-8015B

D47493-1, D47493-2

| CAS No. | Compound          | Spike<br>mg/kg | BSP<br>mg/kg | BSP<br>% | Limits |
|---------|-------------------|----------------|--------------|----------|--------|
|         | TPH-DRO (C10-C28) | 667            | 516          | 77       | 48-130 |

| CAS No. | Surrogate Recoveries | BSP | Limits  |
|---------|----------------------|-----|---------|
| 84-15-1 | o-Terphenyl          | 76% | 35-130% |

\* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D47493  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| OP8070-MS  | FD25713.D | 1  | 06/24/13 | TU | 06/22/13  | OP8070     | GFD1269          |
| OP8070-MSD | FD25715.D | 1  | 06/24/13 | TU | 06/22/13  | OP8070     | GFD1269          |
| D47475-1   | FD25749.D | 1  | 06/24/13 | TU | 06/22/13  | OP8070     | GFD1269          |

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

D47493-1, D47493-2

| CAS No. | Compound          | D47475-1<br>mg/kg | Q | 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) | 463               |   | 811            | 975         | 63      | 892          | 53       | 9   | 20-168/30         |

| CAS No. | Surrogate Recoveries | MS  | MSD | D47475-1 | Limits  |
|---------|----------------------|-----|-----|----------|---------|
| 84-15-1 | o-Terphenyl          | 77% | 67% | 77%      | 35-130% |

\* = Outside of Control Limits.



06/25/13

Technical Report for

WPX Energy Rocky Mountain, LLC

CORCCOGJ: MV 25-17 Landfarm 2 Batch 4 Baseline

NXEEPPARACH

Accutest Job Number: D47491

Sampling Date: 06/21/13

Report to:

Olsson Associates  
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ATTN: Tim Dobransky

Total number of pages in report: **30**



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

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

Scott Heideman  
Laboratory Director

Client Service contact: Renea Jackson 303-425-6021

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

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Test results relate only to samples analyzed.

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Sample Summary

WPX Energy Rocky Mountain, LLC

Job No: D47491

CORCCOGJ: MV 25-17 Landfarm 2 Batch 4 Baseline  
Project No: NXEEPPARACH

| Sample<br>Number | Collected |       |    | Matrix   |      |      | Client<br>Sample ID       |
|------------------|-----------|-------|----|----------|------|------|---------------------------|
|                  | Date      | Time  | By | Received | Code | Type |                           |
| D47491-1         | 06/21/13  | 10:00 | JS | 06/22/13 | SO   | Soil | MV 25-17 LF 2-12 (0-24IN) |

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



## CASE NARRATIVE / CONFORMANCE SUMMARY

**Client:** WPX Energy Rocky Mountain, LLC

**Job No** D47491

**Site:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 4 Baseline

**Report Date** 6/25/2013 1:06:22 PM

On 06/22/2013, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 3.9 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D47491 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:** V5V1679

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D47470-1MS, D47470-1MSD were used as the QC samples indicated.

### Extractables by GCMS By Method SW846 8270C BY SIM

**Matrix** SO

**Batch ID:** OP8073

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D47493-1MS, D47493-1MSD were used as the QC samples indicated.

### Volatiles by GC By Method SW846 8015B

**Matrix** SO

**Batch ID:** GGB1144

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D47471-7MS, D47471-7MSD were used as the QC samples indicated.

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

**Matrix** SO

**Batch ID:** OP8070

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D47475-1MS, D47475-1MSD were used as the QC samples indicated.

### Wet Chemistry By Method SM19 2540B M

**Matrix** SO

**Batch ID:** GN20738

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

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

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

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

Summary of Hits

Job Number: D47491  
Account: WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 2 Batch 4 Baseline  
Collected: 06/21/13



| Lab Sample ID     | Client Sample ID          | Result/<br>Qual | RL  | MDL | Units | Method             |
|-------------------|---------------------------|-----------------|-----|-----|-------|--------------------|
| D47491-1          | MV 25-17 LF 2-12 (0-24IN) |                 |     |     |       |                    |
| Fluorene          |                           | 6.2 J           | 9.1 | 5.5 | ug/kg | SW846 8270C BY SIM |
| Naphthalene       |                           | 31.8            | 13  | 11  | ug/kg | SW846 8270C BY SIM |
| TPH-DRO (C10-C28) |                           | 57.1            | 7.3 | 5.5 | mg/kg | SW846-8015B        |

Sample Results

Report of Analysis

## Report of Analysis

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 2-12 (0-24IN)                      | <b>Date Sampled:</b>   | 06/21/13 |
| <b>Lab Sample ID:</b>    | D47491-1                                       | <b>Date Received:</b>  | 06/22/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 90.8     |
| <b>Method:</b>           | SW846 8260B                                    |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 2 Batch 4 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | 5V27648.D | 1  | 06/24/13 | BD | n/a       | n/a        | V5V1679          |
| Run #2 |           |    |          |    |           |            |                  |

|        | Initial Weight | Final Volume | Methanol Aliquot |
|--------|----------------|--------------|------------------|
| Run #1 | 5.05 g         | 5.0 ml       | 100 ul           |
| Run #2 |                |              |                  |

## Purgeable Aromatics

| CAS No.   | Compound       | Result | RL  | MDL | Units | Q |
|-----------|----------------|--------|-----|-----|-------|---|
| 71-43-2   | Benzene        | ND     | 60  | 30  | ug/kg |   |
| 108-88-3  | Toluene        | ND     | 120 | 60  | ug/kg |   |
| 100-41-4  | Ethylbenzene   | ND     | 120 | 23  | ug/kg |   |
| 1330-20-7 | Xylene (total) | ND     | 240 | 120 | ug/kg |   |

| CAS No.    | Surrogate Recoveries  | Run# 1 | Run# 2 | Limits  |
|------------|-----------------------|--------|--------|---------|
| 2037-26-5  | Toluene-D8            | 94%    |        | 64-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 106%   |        | 62-131% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 102%   |        | 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

## Report of Analysis

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 2-12 (0-24IN)                      | <b>Date Sampled:</b>   | 06/21/13 |
| <b>Lab Sample ID:</b>    | D47491-1                                       | <b>Date Received:</b>  | 06/22/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 90.8     |
| <b>Method:</b>           | SW846 8270C BY SIM SW846 3546                  |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 2 Batch 4 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | 3G15190.D | 1  | 06/24/13 | DC | 06/24/13  | OP8073     | E3G742           |
| Run #2 |           |    |          |    |           |            |                  |

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

## COGCC Table 910-1 PAH List

| CAS No.  | Compound               | Result | RL  | MDL | Units | Q |
|----------|------------------------|--------|-----|-----|-------|---|
| 83-32-9  | Acenaphthene           | ND     | 9.1 | 4.7 | ug/kg |   |
| 120-12-7 | Anthracene             | ND     | 9.1 | 4.7 | ug/kg |   |
| 56-55-3  | Benzo(a)anthracene     | ND     | 9.1 | 4.7 | ug/kg |   |
| 205-99-2 | Benzo(b)fluoranthene   | ND     | 9.1 | 4.7 | ug/kg |   |
| 207-08-9 | Benzo(k)fluoranthene   | ND     | 9.1 | 4.7 | ug/kg |   |
| 50-32-8  | Benzo(a)pyrene         | ND     | 9.1 | 4.7 | ug/kg |   |
| 218-01-9 | Chrysene               | ND     | 9.1 | 4.7 | ug/kg |   |
| 53-70-3  | Dibenzo(a,h)anthracene | ND     | 9.1 | 4.7 | ug/kg |   |
| 206-44-0 | Fluoranthene           | ND     | 9.1 | 4.7 | ug/kg |   |
| 86-73-7  | Fluorene               | 6.2    | 9.1 | 5.5 | ug/kg | J |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND     | 9.1 | 4.7 | ug/kg |   |
| 91-20-3  | Naphthalene            | 31.8   | 13  | 11  | ug/kg |   |
| 129-00-0 | Pyrene                 | ND     | 9.1 | 4.7 | ug/kg |   |

| CAS No.   | Surrogate Recoveries | Run# 1 | Run# 2 | Limits  |
|-----------|----------------------|--------|--------|---------|
| 4165-60-0 | Nitrobenzene-d5      | 76%    |        | 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 83%    |        | 19-131% |
| 1718-51-0 | Terphenyl-d14        | 86%    |        | 18-150% |

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

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|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 2-12 (0-24IN)                      | <b>Date Sampled:</b>   | 06/21/13 |
| <b>Lab Sample ID:</b>    | D47491-1                                       | <b>Date Received:</b>  | 06/22/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 90.8     |
| <b>Method:</b>           | SW846 8015B                                    |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 2 Batch 4 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | GB20886.D | 1  | 06/24/13 | BD | n/a       | n/a        | GGB1144          |
| Run #2 |           |    |          |    |           |            |                  |

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

| CAS No.  | Compound               | Result | RL     | MDL     | Units | Q |
|----------|------------------------|--------|--------|---------|-------|---|
|          | TPH-GRO (C6-C10)       | ND     | 12     | 6.0     | mg/kg |   |
| CAS No.  | Surrogate Recoveries   | Run# 1 | Run# 2 | Limits  |       |   |
| 120-82-1 | 1,2,4-Trichlorobenzene | 95%    |        | 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

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|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 2-12 (0-24IN)                      | <b>Date Sampled:</b>   | 06/21/13 |
| <b>Lab Sample ID:</b>    | D47491-1                                       | <b>Date Received:</b>  | 06/22/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 90.8     |
| <b>Method:</b>           | SW846-8015B SW846 3546                         |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 2 Batch 4 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | FD25737.D | 1  | 06/24/13 | TU | 06/22/13  | OP8070     | GFD1269          |
| 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)    | 57.1   | 7.3    | 5.5     | mg/kg |   |
| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits  |       |   |
| 84-15-1 | o-Terphenyl          | 75%    |        | 35-130% |       |   |

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

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

## Misc. Forms

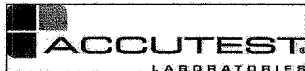
5

### Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody



## WPX CHAIN OF CUSTODY

PAGE 1 OF 1

4016 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 # <b>D47491</b>  |  |
| Client / Reporting Information  |  | Project Information   |  |
| Company Name<br><b>Olsson Associates</b>                                    |  | Project Name: <b>CORCCOGJ: MV 25-17 Landfarm 2 Batch 4 Baseline</b> |  |
| Street Address<br><b>750 Horizon Drive, STE 102</b>                         |  | Billing Information (if different from Report to)                   |  |
| City<br><b>Grand Junction, CO 81506</b>                                     |  | Company Name<br><b>WPX Energy Rocky Mountain, LLC (WILLCOPI)</b>    |  |
| Project Contact Email<br><b>Tim Dobransky tdobransky@olssonassociates.c</b> |  | Street Address<br><b>1058 County Road 215</b>                       |  |
| Phone #<br><b>970-263-7800</b>  |  | Client Purchase Order #<br><b>NXEEPPARACH</b>                       |  |
| Sample(s) Name(s)<br><b>J Sutrina</b>                                       |  | Project Manager<br><b>Parachute, CO 81635</b>                       |  |
|   |  | Attention: <b>Leo Braun</b>   |  |
|   |  | Email Invoices: <b>Leo.Braun@wpxenergy.com</b>                      |  |
| Accutest Sample #   |  | Field ID / Point of Collection                                      |  |
|   |  | <b>MV 25-17 LF 2-12 (0-2) In</b>                                    |  |
| MECHID: Val #   |  | Data  |  |
|   |  | <b>6/21/13 1400</b>   |  |
| Time  |  | Sampled by  |  |
|   |  | <b>JS GW</b>  |  |
| Metric  |  | # of bottles  |  |
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| H358  |  | H359  |  |
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| H360  |  | H361  |  |
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| H362  |  | H363  |  |
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| H364  |  | H365  |  |
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| H366  |  | H367  |  |
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| H368  |  | H369  |  |
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| H370  |  | H371  |  |
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| H372  |  | H373  |  |
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| H374  |  | H375  |  |
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| H376  |  | H377  |  |
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| H378  |  | H379  |  |
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| H380  |  | H381  |  |
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| H382  |  | H383  |  |
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| H384  |  | H385  |  |
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| H386  |  | H387  |  |
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| H388  |  | H389  |  |
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| H390  |  | H391  |  |
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| H392  |  | H393  |  |
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| H394  |  | H395  |  |
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| H396  |  | H397  |  |
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| H398  |  | H399  |  |
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| H400  |  | H401  |  |
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| H402  |  | H403  |  |
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| H404  |  | H405  |  |
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| H406  |  | H407  |  |
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| H408  |  | H409  |  |
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| H410  |  | H411  |  |
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| H412  |  | H413  |  |
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| H414  |  | H415  |  |
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| H416  |  | H417  |  |
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| H418  |  | H419  |  |
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| H420  |  | H421  |  |
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| H422  |  | H423  |  |
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| H424  |  | H425  |  |
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| H426  |  | H427  |  |
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| H428  |  | H429  |  |
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| H430  |  | H431  |  |
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| H432  |  | H433  |  |
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| H434  |  | H435  |  |
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| H436  |  | H437  |  |
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| H438  |  | H439  |  |
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| H440  |  | H441  |  |
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| H442  |  | H443  |  |
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| H444  |  | H445  |  |
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| H446  |  | H447  |  |
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| H448  |  | H449  |  |
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| H450  |  | H451  |  |
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| H452  |  | H453  |  |
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| H454  |  | H455  |  |
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| H456  |  | H457  |  |
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| H458  |  | H459  |  |
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| H460  |  | H461  |  |
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| H462  |  | H463  |  |
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| H464  |  | H465  |  |
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| H466  |  | H467  |  |
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| H468  |  | H469  |  |
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| H470  |  | H471  |  |
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| H472  |  | H473  |  |
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| H474  |  | H475  |  |
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| H476  |  | H477  |  |
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| H478  |  | H479  |  |
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| H480  |  | H481  |  |
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| H482  |  | H483  |  |
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| H484  |  | H485  |  |
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| H486  |  | H487  |  |
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| H488  |  | H489  |  |
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| H490  |  | H491  |  |
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| H492  |  | H493  |  |
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| H494  |  | H495  |  |
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| H496  |  | H497  |  |
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| H498  |  | H499  |  |
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| H500  |  | H501  |  |
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| H502  |  | H503  |  |
|   |  |   |  |

# Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D47491

Client: OLSSON

Immediate Client Services Action Required: No

Date / Time Received: 6/22/2013 11:30:00 AM

No. Coolers: 1

Client Service Action Required at Login: No

Project:

Airbill #'s: Fedex

## Cooler Security

Y or N

Y or N

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

## Cooler Temperature

Y or N

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

## Quality Control Preservation

Y or N

N/A

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

## Sample Integrity - Documentation

Y or N

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

## Sample Integrity - Condition

Y or N

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

## Sample Integrity - Instructions

Y or N N/A

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

Comments

Accutest Laboratories  
V: (303) 425-6021

4036 Youngfield Street  
F: (303) 425-6854

Wheat Ridge, CO  
www.accutest.com

## GC/MS Volatiles

### QC Data Summaries

Includes the following where applicable:

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

## Method Blank Summary

Page 1 of 1

**Job Number:** D47491  
**Account:** WILLCOP WPX Energy Rocky Mountain, LLC  
**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 4 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| V5V1679-MB | 5V27642.D | 1  | 06/24/13 | BD | n/a       | n/a        | V5V1679          |

The QC reported here applies to the following samples:

Method: SW846 8260B

D47491-1

| 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            | 99% 64-130%  |
| 460-00-4   | 4-Bromofluorobenzene  | 93% 62-131%  |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 102% 70-130% |

## Blank Spike Summary

Page 1 of 1

**Job Number:** D47491

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 4 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| V5V1679-BS | 5V27643.D | 1  | 06/24/13 | BD | n/a       | n/a        | V5V1679          |

The QC reported here applies to the following samples:

Method: SW846 8260B

D47491-1

| CAS No.   | Compound       | Spike<br>ug/kg | BSP<br>ug/kg | BSP<br>% | Limits |
|-----------|----------------|----------------|--------------|----------|--------|
| 71-43-2   | Benzene        | 2500           | 2560         | 102      | 70-130 |
| 100-41-4  | Ethylbenzene   | 2500           | 2480         | 99       | 70-130 |
| 108-88-3  | Toluene        | 2500           | 2490         | 100      | 70-130 |
| 1330-20-7 | Xylene (total) | 7500           | 7600         | 101      | 70-130 |

| CAS No.    | Surrogate Recoveries  | BSP  | Limits  |
|------------|-----------------------|------|---------|
| 2037-26-5  | Toluene-D8            | 98%  | 64-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 99%  | 62-131% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 104% | 70-130% |

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

**Job Number:** D47491

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 4 Baseline

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| D47470-1MS  | 5V27645.D | 1  | 06/24/13 | BD | n/a       | n/a        | V5V1679          |
| D47470-1MSD | 5V27646.D | 1  | 06/24/13 | BD | n/a       | n/a        | V5V1679          |
| D47470-1    | 5V27644.D | 1  | 06/24/13 | BD | n/a       | n/a        | V5V1679          |

The QC reported here applies to the following samples:

Method: SW846 8260B

D47491-1

| CAS No.   | Compound       | D47470-1<br>ug/kg | Q | Spike<br>ug/kg | MS<br>ug/kg | MS<br>% | MSD<br>ug/kg | MSD<br>% | RPD | Limits<br>Rec/RPD |
|-----------|----------------|-------------------|---|----------------|-------------|---------|--------------|----------|-----|-------------------|
| 71-43-2   | Benzene        | ND                |   | 2480           | 2680        | 108     | 2590         | 104      | 3   | 64-139/30         |
| 100-41-4  | Ethylbenzene   | 30.0              | J | 2480           | 2530        | 101     | 2330         | 93       | 8   | 68-136/30         |
| 108-88-3  | Toluene        | 927               |   | 2480           | 3140        | 89      | 3030         | 85       | 4   | 60-130/30         |
| 1330-20-7 | Xylene (total) | 126               | J | 7440           | 7720        | 102     | 7110         | 94       | 8   | 58-142/30         |

| CAS No.    | Surrogate Recoveries  | MS   | MSD  | D47470-1 | Limits  |
|------------|-----------------------|------|------|----------|---------|
| 2037-26-5  | Toluene-D8            | 94%  | 96%  | 96%      | 64-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 112% | 111% | 105%     | 62-131% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 106% | 103% | 103%     | 70-130% |

\* = Outside of Control Limits.

## GC/MS Semi-volatiles

### 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

Page 1 of 1

**Job Number:** D47491  
**Account:** WILLCOP WPX Energy Rocky Mountain, LLC  
**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 4 Baseline

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| OP8073-MB | 3G15185.D | 1  | 06/24/13 | DC | 06/24/13  | OP8073     | E3G742           |

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D47491-1

| CAS No.  | Compound               | Result | RL  | MDL | Units | Q |
|----------|------------------------|--------|-----|-----|-------|---|
| 83-32-9  | Acenaphthene           | ND     | 8.3 | 4.3 | ug/kg |   |
| 120-12-7 | Anthracene             | ND     | 8.3 | 4.3 | ug/kg |   |
| 56-55-3  | Benzo(a)anthracene     | ND     | 8.3 | 4.3 | ug/kg |   |
| 205-99-2 | Benzo(b)fluoranthene   | ND     | 8.3 | 4.3 | ug/kg |   |
| 207-08-9 | Benzo(k)fluoranthene   | ND     | 8.3 | 4.3 | ug/kg |   |
| 50-32-8  | Benzo(a)pyrene         | ND     | 8.3 | 4.3 | ug/kg |   |
| 218-01-9 | Chrysene               | ND     | 8.3 | 4.3 | ug/kg |   |
| 53-70-3  | Dibenzo(a,h)anthracene | ND     | 8.3 | 4.3 | ug/kg |   |
| 206-44-0 | Fluoranthene           | ND     | 8.3 | 4.3 | ug/kg |   |
| 86-73-7  | Fluorene               | ND     | 8.3 | 5.0 | ug/kg |   |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND     | 8.3 | 4.3 | ug/kg |   |
| 91-20-3  | Naphthalene            | ND     | 12  | 10  | ug/kg |   |
| 129-00-0 | Pyrene                 | ND     | 8.3 | 4.3 | ug/kg |   |

| CAS No.   | Surrogate Recoveries | Limits      |
|-----------|----------------------|-------------|
| 4165-60-0 | Nitrobenzene-d5      | 88% 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 83% 19-131% |
| 1718-51-0 | Terphenyl-d14        | 99% 18-150% |

## Blank Spike Summary

Page 1 of 1

**Job Number:** D47491  
**Account:** WILLCOP WPX Energy Rocky Mountain, LLC  
**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 4 Baseline

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| OP8073-BS | 3G15186.D | 1  | 06/24/13 | DC | 06/24/13  | OP8073     | E3G742           |

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D47491-1

| CAS No.  | Compound               | Spike<br>ug/kg | BSP<br>ug/kg | BSP<br>% | Limits |
|----------|------------------------|----------------|--------------|----------|--------|
| 83-32-9  | Acenaphthene           | 83.3           | 71.4         | 86       | 68-130 |
| 120-12-7 | Anthracene             | 83.3           | 70.1         | 84       | 67-130 |
| 56-55-3  | Benzo(a)anthracene     | 83.3           | 74.9         | 90       | 65-130 |
| 205-99-2 | Benzo(b)fluoranthene   | 83.3           | 98.7         | 118      | 44-130 |
| 207-08-9 | Benzo(k)fluoranthene   | 83.3           | 56.8         | 68       | 56-131 |
| 50-32-8  | Benzo(a)pyrene         | 83.3           | 73.7         | 88       | 62-130 |
| 218-01-9 | Chrysene               | 83.3           | 78.6         | 94       | 70-130 |
| 53-70-3  | Dibenzo(a,h)anthracene | 83.3           | 78.4         | 94       | 55-130 |
| 206-44-0 | Fluoranthene           | 83.3           | 65.0         | 78       | 70-130 |
| 86-73-7  | Fluorene               | 83.3           | 70.6         | 85       | 70-130 |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 83.3           | 79.2         | 95       | 56-130 |
| 91-20-3  | Naphthalene            | 83.3           | 73.5         | 88       | 70-130 |
| 129-00-0 | Pyrene                 | 83.3           | 79.0         | 95       | 70-130 |

| CAS No.   | Surrogate Recoveries | BSP | Limits  |
|-----------|----------------------|-----|---------|
| 4165-60-0 | Nitrobenzene-d5      | 75% | 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 84% | 19-131% |
| 1718-51-0 | Terphenyl-d14        | 95% | 18-150% |

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

**Job Number:** D47491  
**Account:** WILLCOP WPX Energy Rocky Mountain, LLC  
**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 4 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| OP8073-MS  | 3G15188.D | 1  | 06/24/13 | DC | 06/24/13  | OP8073     | E3G742           |
| OP8073-MSD | 3G15189.D | 1  | 06/24/13 | DC | 06/24/13  | OP8073     | E3G742           |
| D47493-1   | 3G15187.D | 1  | 06/24/13 | DC | 06/24/13  | OP8073     | E3G742           |

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D47491-1

| CAS No.  | Compound               | D47493-1<br>ug/kg | Q | Spike<br>ug/kg | MS<br>ug/kg | MS<br>% | MSD<br>ug/kg | MSD<br>% | RPD | Limits<br>Rec/RPD |
|----------|------------------------|-------------------|---|----------------|-------------|---------|--------------|----------|-----|-------------------|
| 83-32-9  | Acenaphthene           | ND                |   | 90.2           | 79.3        | 88      | 75.7         | 84       | 5   | 25-151/30         |
| 120-12-7 | Anthracene             | ND                |   | 90.2           | 81.0        | 90      | 81.6         | 90       | 1   | 39-159/30         |
| 56-55-3  | Benzo(a)anthracene     | ND                |   | 90.2           | 86.3        | 96      | 88.2         | 98       | 2   | 39-168/30         |
| 205-99-2 | Benzo(b)fluoranthene   | ND                |   | 90.2           | 98.1        | 109     | 97.0         | 107      | 1   | 24-163/30         |
| 207-08-9 | Benzo(k)fluoranthene   | ND                |   | 90.2           | 73.1        | 81      | 76.4         | 85       | 4   | 10-188/30         |
| 50-32-8  | Benzo(a)pyrene         | ND                |   | 90.2           | 77.0        | 85      | 77.5         | 86       | 1   | 32-144/30         |
| 218-01-9 | Chrysene               | ND                |   | 90.2           | 84.4        | 94      | 84.9         | 94       | 1   | 43-150/30         |
| 53-70-3  | Dibenzo(a,h)anthracene | ND                |   | 90.2           | 73.7        | 82      | 74.9         | 83       | 2   | 21-152/30         |
| 206-44-0 | Fluoranthene           | ND                |   | 90.2           | 79.9        | 89      | 80.0         | 89       | 0   | 36-157/30         |
| 86-73-7  | Fluorene               | 7.8               | J | 90.2           | 90.3        | 91      | 86.4         | 87       | 4   | 10-182/30         |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND                |   | 90.2           | 73.9        | 82      | 75.3         | 83       | 2   | 20-154/30         |
| 91-20-3  | Naphthalene            | 51.2              |   | 90.2           | 112         | 67      | 119          | 75       | 6   | 10-163/30         |
| 129-00-0 | Pyrene                 | ND                |   | 90.2           | 90.0        | 100     | 90.0         | 100      | 0   | 25-180/30         |

| CAS No.   | Surrogate Recoveries | MS  | MSD | D47493-1 | Limits  |
|-----------|----------------------|-----|-----|----------|---------|
| 4165-60-0 | Nitrobenzene-d5      | 77% | 84% | 87%      | 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 80% | 81% | 85%      | 19-131% |
| 1718-51-0 | Terphenyl-d14        | 84% | 89% | 88%      | 18-150% |

\* = Outside of Control Limits.

## GC Volatiles

### 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: D47491  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 2 Batch 4 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| GGB1144-MB | GB20881.D | 1  | 06/24/13 | BD | n/a       | n/a        | GGB1144          |

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

D47491-1

| 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 | 103% 60-140% |

## Blank Spike Summary

Page 1 of 1

**Job Number:** D47491

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 4 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| GGB1144-BS | GB20882.D | 1  | 06/24/13 | BD | n/a       | n/a        | GGB1144          |

The QC reported here applies to the following samples:

Method: SW846 8015B

D47491-1

| CAS No. | Compound         | Spike<br>mg/kg | BSP<br>mg/kg | BSP<br>% | Limits |
|---------|------------------|----------------|--------------|----------|--------|
|         | TPH-GRO (C6-C10) | 110            | 104          | 95       | 70-130 |

| CAS No.  | Surrogate Recoveries   | BSP  | Limits  |
|----------|------------------------|------|---------|
| 120-82-1 | 1,2,4-Trichlorobenzene | 105% | 60-140% |

\* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D47491  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 2 Batch 4 Baseline

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| D47471-7MS  | GB20884.D | 1  | 06/24/13 | BD | n/a       | n/a        | GGB1144          |
| D47471-7MSD | GB20885.D | 1  | 06/24/13 | BD | n/a       | n/a        | GGB1144          |
| D47471-7    | GB20883.D | 1  | 06/24/13 | BD | n/a       | n/a        | GGB1144          |

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

D47491-1

| CAS No.  | Compound               | D47471-7<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                | 120            | 120         | 100     | 117          | 98       | 3   | 70-130/30         |
| CAS No.  | Surrogate Recoveries   | MS                | MSD            | D47471-7    | Limits  |              |          |     |                   |
| 120-82-1 | 1,2,4-Trichlorobenzene | 107%              | 105%           | 99%         | 60-140% |              |          |     |                   |

\* = Outside of Control Limits.

## 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: D47491  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 2 Batch 4 Baseline

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| OP8070-MB | FD25709.D | 1  | 06/24/13 | TU | 06/22/13  | OP8070     | GFD1269          |

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

D47491-1

| 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% 35-130% |

9.1.1  
9

## Blank Spike Summary

Page 1 of 1

**Job Number:** D47491

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 4 Baseline

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| OP8070-BS | FD25711.D | 1  | 06/24/13 | TU | 06/22/13  | OP8070     | GFD1269          |

The QC reported here applies to the following samples:

Method: SW846-8015B

D47491-1

| CAS No. | Compound          | Spike<br>mg/kg | BSP<br>mg/kg | BSP<br>% | Limits |
|---------|-------------------|----------------|--------------|----------|--------|
|         | TPH-DRO (C10-C28) | 667            | 516          | 77       | 48-130 |

| CAS No. | Surrogate Recoveries | BSP | Limits  |
|---------|----------------------|-----|---------|
| 84-15-1 | o-Terphenyl          | 76% | 35-130% |

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

**Job Number:** D47491

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 4 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| OP8070-MS  | FD25713.D | 1  | 06/24/13 | TU | 06/22/13  | OP8070     | GFD1269          |
| OP8070-MSD | FD25715.D | 1  | 06/24/13 | TU | 06/22/13  | OP8070     | GFD1269          |
| D47475-1   | FD25749.D | 1  | 06/24/13 | TU | 06/22/13  | OP8070     | GFD1269          |

The QC reported here applies to the following samples:

Method: SW846-8015B

D47491-1

| CAS No. | Compound          | D47475-1<br>mg/kg | Q | 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) | 463               |   | 811            | 975         | 63      | 892          | 53       | 9   | 20-168/30         |

| CAS No. | Surrogate Recoveries | MS  | MSD | D47475-1 | Limits  |
|---------|----------------------|-----|-----|----------|---------|
| 84-15-1 | o-Terphenyl          | 77% | 67% | 77%      | 35-130% |

\* = Outside of Control Limits.



06/25/13

Technical Report for

WPX Energy Rocky Mountain, LLC

CORCCOGJ: MV 25-17 Landfarm 2 Batch 5 Baseline

NXEEPPARACH

Accutest Job Number: D47492

Sampling Date: 06/21/13

Report to:

Olsson Associates  
760 Horizon Drive Suite 102  
Grand Junction, CO 81505  
tdobransky@oaconsulting.com; karolina.blaney@wpenergy.com  
ATTN: Tim Dobransky

Total number of pages in report: 30



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

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

Scott Heideman  
Laboratory Director

Client Service contact: Renea Jackson 303-425-6021

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

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Test results relate only to samples analyzed.

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Sample Summary

WPX Energy Rocky Mountain, LLC

Job No: D47492

CORCCOGJ: MV 25-17 Landfarm 2 Batch 5 Baseline  
Project No: NXEEPPARACH

| Sample<br>Number | Collected |          | Matrix<br>Code | Type    | Client<br>Sample ID      |
|------------------|-----------|----------|----------------|---------|--------------------------|
|                  | Date      | Time By  |                |         |                          |
| D47492-1         | 06/21/13  | 10:05 JS | 06/22/13       | SO Soil | MV 25-17 LF 2-1 (0-24IN) |

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



## CASE NARRATIVE / CONFORMANCE SUMMARY

**Client:** WPX Energy Rocky Mountain, LLC

**Job No** D47492

**Site:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 5 Baseline

**Report Date** 6/25/2013 1:07:00 PM

On 06/22/2013, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 3.9 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D47492 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:** V5V1679

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D47470-1MS, D47470-1MSD were used as the QC samples indicated.

### Extractables by GCMS By Method SW846 8270C BY SIM

**Matrix** SO

**Batch ID:** OP8073

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D47493-1MS, D47493-1MSD were used as the QC samples indicated.

### Volatiles by GC By Method SW846 8015B

**Matrix** SO

**Batch ID:** GGB1144

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D47471-7MS, D47471-7MSD were used as the QC samples indicated.

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

**Matrix** SO

**Batch ID:** OP8070

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D47475-1MS, D47475-1MSD were used as the QC samples indicated.

### Wet Chemistry By Method SM19 2540B M

**Matrix** SO

**Batch ID:** GN20738

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

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

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

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

Summary of Hits

Job Number: D47492  
Account: WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 2 Batch 5 Baseline  
Collected: 06/21/13



| Lab Sample ID     | Client Sample ID         | Result/<br>Qual | RL  | MDL | Units | Method             |
|-------------------|--------------------------|-----------------|-----|-----|-------|--------------------|
| D47492-1          | MV 25-17 LF 2-1 (0-24IN) |                 |     |     |       |                    |
| Fluorene          |                          | 9.9             | 9.1 | 5.5 | ug/kg | SW846 8270C BY SIM |
| TPH-DRO (C10-C28) |                          | 53.3            | 7.3 | 5.5 | mg/kg | SW846-8015B        |

Sample Results

Report of Analysis

## Report of Analysis

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 2-1 (0-24IN)                       | <b>Date Sampled:</b>   | 06/21/13 |
| <b>Lab Sample ID:</b>    | D47492-1                                       | <b>Date Received:</b>  | 06/22/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 90.7     |
| <b>Method:</b>           | SW846 8260B                                    |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 2 Batch 5 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | 5V27649.D | 1  | 06/24/13 | BD | n/a       | n/a        | V5V1679          |
| Run #2 |           |    |          |    |           |            |                  |

|        | Initial Weight | Final Volume | Methanol Aliquot |
|--------|----------------|--------------|------------------|
| Run #1 | 5.09 g         | 5.0 ml       | 100 ul           |
| Run #2 |                |              |                  |

## Purgeable Aromatics

| CAS No.   | Compound       | Result | RL  | MDL | Units | Q |
|-----------|----------------|--------|-----|-----|-------|---|
| 71-43-2   | Benzene        | ND     | 59  | 30  | ug/kg |   |
| 108-88-3  | Toluene        | ND     | 120 | 59  | ug/kg |   |
| 100-41-4  | Ethylbenzene   | ND     | 120 | 23  | ug/kg |   |
| 1330-20-7 | Xylene (total) | ND     | 240 | 120 | ug/kg |   |

| CAS No.    | Surrogate Recoveries  | Run# 1 | Run# 2 | Limits  |
|------------|-----------------------|--------|--------|---------|
| 2037-26-5  | Toluene-D8            | 95%    |        | 64-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 107%   |        | 62-131% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 102%   |        | 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

## Report of Analysis

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 2-1 (0-24IN)                       | <b>Date Sampled:</b>   | 06/21/13 |
| <b>Lab Sample ID:</b>    | D47492-1                                       | <b>Date Received:</b>  | 06/22/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 90.7     |
| <b>Method:</b>           | SW846 8270C BY SIM SW846 3546                  |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 2 Batch 5 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | 3G15191.D | 1  | 06/24/13 | DC | 06/24/13  | OP8073     | E3G742           |
| Run #2 |           |    |          |    |           |            |                  |

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

## COGCC Table 910-1 PAH List

| CAS No.  | Compound               | Result | RL  | MDL | Units | Q |
|----------|------------------------|--------|-----|-----|-------|---|
| 83-32-9  | Acenaphthene           | ND     | 9.1 | 4.8 | ug/kg |   |
| 120-12-7 | Anthracene             | ND     | 9.1 | 4.8 | ug/kg |   |
| 56-55-3  | Benzo(a)anthracene     | ND     | 9.1 | 4.8 | ug/kg |   |
| 205-99-2 | Benzo(b)fluoranthene   | ND     | 9.1 | 4.8 | ug/kg |   |
| 207-08-9 | Benzo(k)fluoranthene   | ND     | 9.1 | 4.8 | ug/kg |   |
| 50-32-8  | Benzo(a)pyrene         | ND     | 9.1 | 4.8 | ug/kg |   |
| 218-01-9 | Chrysene               | ND     | 9.1 | 4.8 | ug/kg |   |
| 53-70-3  | Dibenzo(a,h)anthracene | ND     | 9.1 | 4.8 | ug/kg |   |
| 206-44-0 | Fluoranthene           | ND     | 9.1 | 4.8 | ug/kg |   |
| 86-73-7  | Fluorene               | 9.9    | 9.1 | 5.5 | ug/kg |   |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND     | 9.1 | 4.8 | ug/kg |   |
| 91-20-3  | Naphthalene            | ND     | 13  | 11  | ug/kg |   |
| 129-00-0 | Pyrene                 | ND     | 9.1 | 4.8 | ug/kg |   |

| CAS No.   | Surrogate Recoveries | Run# 1 | Run# 2 | Limits  |
|-----------|----------------------|--------|--------|---------|
| 4165-60-0 | Nitrobenzene-d5      | 71%    |        | 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 79%    |        | 19-131% |
| 1718-51-0 | Terphenyl-d14        | 81%    |        | 18-150% |

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

Page 1 of 1

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 2-1 (0-24IN)                       | <b>Date Sampled:</b>   | 06/21/13 |
| <b>Lab Sample ID:</b>    | D47492-1                                       | <b>Date Received:</b>  | 06/22/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 90.7     |
| <b>Method:</b>           | SW846 8015B                                    |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 2 Batch 5 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | GB20887.D | 1  | 06/24/13 | BD | n/a       | n/a        | GGB1144          |
| Run #2 |           |    |          |    |           |            |                  |

|        | 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     | 12 | 5.9 | mg/kg |   |

| CAS No.  | Surrogate Recoveries   | Run# 1 | Run# 2 | Limits  |
|----------|------------------------|--------|--------|---------|
| 120-82-1 | 1,2,4-Trichlorobenzene | 96%    |        | 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

Page 1 of 1

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | MV 25-17 LF 2-1 (0-24IN)                       | <b>Date Sampled:</b>   | 06/21/13 |
| <b>Lab Sample ID:</b>    | D47492-1                                       | <b>Date Received:</b>  | 06/22/13 |
| <b>Matrix:</b>           | SO - Soil                                      | <b>Percent Solids:</b> | 90.7     |
| <b>Method:</b>           | SW846-8015B SW846 3546                         |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Landfarm 2 Batch 5 Baseline |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | FD25739.D | 1  | 06/24/13 | TU | 06/22/13  | OP8070     | GFD1269          |
| 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)    | 53.3   | 7.3    | 5.5     | mg/kg |   |
| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits  |       |   |
| 84-15-1 | o-Terphenyl          | 79%    |        | 35-130% |       |   |

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

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

## Misc. Forms

5

### Custody Documents and Other Forms

---

Includes the following where applicable:

- Chain of Custody

4036 Youngfield Street, Wheat Ridge, CO 80033  
TEL: 303-425-6021 FAX: 303-425-6854  
[www.aacutef.com](http://www.aacutef.com)

|                    |                             |
|--------------------|-----------------------------|
| FED-EX Tracking #: | Bottle Order Control #      |
| Account #          | Account Job # <b>D47492</b> |

[illegible]

## D47492: Chain of Custody

Page 1 of 2

# Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D47492

Client: OLSSON

Immediate Client Services Action Required: No

Date / Time Received: 6/22/2013 11:30:00 AM

No. Coolers: 1

Client Service Action Required at Login: No

Project:

Airbill #'s: Fedex

## Cooler Security

Y or N

Y or N

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

## Cooler Temperature

Y or N

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

## Quality Control Preservation

Y or N

N/A

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

## Sample Integrity - Documentation

Y or N

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

## Sample Integrity - Condition

Y or N

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

## Sample Integrity - Instructions

Y or N N/A

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

Comments

Accutest Laboratories  
V:(303) 425-6021

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## GC/MS Volatiles

### QC Data Summaries

Includes the following where applicable:

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

## Method Blank Summary

Page 1 of 1

**Job Number:** D47492

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 5 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| V5V1679-MB | 5V27642.D | 1  | 06/24/13 | BD | n/a       | n/a        | V5V1679          |

The QC reported here applies to the following samples:

Method: SW846 8260B

D47492-1

| 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            | 99% 64-130%  |
| 460-00-4   | 4-Bromofluorobenzene  | 93% 62-131%  |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 102% 70-130% |

## Blank Spike Summary

Page 1 of 1

**Job Number:** D47492

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 5 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| V5V1679-BS | 5V27643.D | 1  | 06/24/13 | BD | n/a       | n/a        | V5V1679          |

The QC reported here applies to the following samples:

Method: SW846 8260B

D47492-1

| CAS No.   | Compound       | Spike<br>ug/kg | BSP<br>ug/kg | BSP<br>% | Limits |
|-----------|----------------|----------------|--------------|----------|--------|
| 71-43-2   | Benzene        | 2500           | 2560         | 102      | 70-130 |
| 100-41-4  | Ethylbenzene   | 2500           | 2480         | 99       | 70-130 |
| 108-88-3  | Toluene        | 2500           | 2490         | 100      | 70-130 |
| 1330-20-7 | Xylene (total) | 7500           | 7600         | 101      | 70-130 |

| CAS No.    | Surrogate Recoveries  | BSP  | Limits  |
|------------|-----------------------|------|---------|
| 2037-26-5  | Toluene-D8            | 98%  | 64-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 99%  | 62-131% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 104% | 70-130% |

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

**Job Number:** D47492

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 5 Baseline

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| D47470-1MS  | 5V27645.D | 1  | 06/24/13 | BD | n/a       | n/a        | V5V1679          |
| D47470-1MSD | 5V27646.D | 1  | 06/24/13 | BD | n/a       | n/a        | V5V1679          |
| D47470-1    | 5V27644.D | 1  | 06/24/13 | BD | n/a       | n/a        | V5V1679          |

The QC reported here applies to the following samples:

Method: SW846 8260B

D47492-1

| CAS No.   | Compound       | D47470-1<br>ug/kg | Q | Spike<br>ug/kg | MS<br>ug/kg | MS<br>% | MSD<br>ug/kg | MSD<br>% | RPD | Limits<br>Rec/RPD |
|-----------|----------------|-------------------|---|----------------|-------------|---------|--------------|----------|-----|-------------------|
| 71-43-2   | Benzene        | ND                |   | 2480           | 2680        | 108     | 2590         | 104      | 3   | 64-139/30         |
| 100-41-4  | Ethylbenzene   | 30.0              | J | 2480           | 2530        | 101     | 2330         | 93       | 8   | 68-136/30         |
| 108-88-3  | Toluene        | 927               |   | 2480           | 3140        | 89      | 3030         | 85       | 4   | 60-130/30         |
| 1330-20-7 | Xylene (total) | 126               | J | 7440           | 7720        | 102     | 7110         | 94       | 8   | 58-142/30         |

| CAS No.    | Surrogate Recoveries  | MS   | MSD  | D47470-1 | Limits  |
|------------|-----------------------|------|------|----------|---------|
| 2037-26-5  | Toluene-D8            | 94%  | 96%  | 96%      | 64-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 112% | 111% | 105%     | 62-131% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 106% | 103% | 103%     | 70-130% |

\* = Outside of Control Limits.

## GC/MS Semi-volatiles

### QC Data Summaries

---

Includes the following where applicable:

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

## Method Blank Summary

Page 1 of 1

**Job Number:** D47492

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 5 Baseline

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| OP8073-MB | 3G15185.D | 1  | 06/24/13 | DC | 06/24/13  | OP8073     | E3G742           |

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D47492-1

| CAS No.  | Compound               | Result | RL  | MDL | Units | Q |
|----------|------------------------|--------|-----|-----|-------|---|
| 83-32-9  | Acenaphthene           | ND     | 8.3 | 4.3 | ug/kg |   |
| 120-12-7 | Anthracene             | ND     | 8.3 | 4.3 | ug/kg |   |
| 56-55-3  | Benzo(a)anthracene     | ND     | 8.3 | 4.3 | ug/kg |   |
| 205-99-2 | Benzo(b)fluoranthene   | ND     | 8.3 | 4.3 | ug/kg |   |
| 207-08-9 | Benzo(k)fluoranthene   | ND     | 8.3 | 4.3 | ug/kg |   |
| 50-32-8  | Benzo(a)pyrene         | ND     | 8.3 | 4.3 | ug/kg |   |
| 218-01-9 | Chrysene               | ND     | 8.3 | 4.3 | ug/kg |   |
| 53-70-3  | Dibenzo(a,h)anthracene | ND     | 8.3 | 4.3 | ug/kg |   |
| 206-44-0 | Fluoranthene           | ND     | 8.3 | 4.3 | ug/kg |   |
| 86-73-7  | Fluorene               | ND     | 8.3 | 5.0 | ug/kg |   |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND     | 8.3 | 4.3 | ug/kg |   |
| 91-20-3  | Naphthalene            | ND     | 12  | 10  | ug/kg |   |
| 129-00-0 | Pyrene                 | ND     | 8.3 | 4.3 | ug/kg |   |

| CAS No.   | Surrogate Recoveries | Limits      |
|-----------|----------------------|-------------|
| 4165-60-0 | Nitrobenzene-d5      | 88% 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 83% 19-131% |
| 1718-51-0 | Terphenyl-d14        | 99% 18-150% |

## Blank Spike Summary

Page 1 of 1

**Job Number:** D47492

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 5 Baseline

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| OP8073-BS | 3G15186.D | 1  | 06/24/13 | DC | 06/24/13  | OP8073     | E3G742           |

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D47492-1

| CAS No.  | Compound               | Spike<br>ug/kg | BSP<br>ug/kg | BSP<br>% | Limits |
|----------|------------------------|----------------|--------------|----------|--------|
| 83-32-9  | Acenaphthene           | 83.3           | 71.4         | 86       | 68-130 |
| 120-12-7 | Anthracene             | 83.3           | 70.1         | 84       | 67-130 |
| 56-55-3  | Benzo(a)anthracene     | 83.3           | 74.9         | 90       | 65-130 |
| 205-99-2 | Benzo(b)fluoranthene   | 83.3           | 98.7         | 118      | 44-130 |
| 207-08-9 | Benzo(k)fluoranthene   | 83.3           | 56.8         | 68       | 56-131 |
| 50-32-8  | Benzo(a)pyrene         | 83.3           | 73.7         | 88       | 62-130 |
| 218-01-9 | Chrysene               | 83.3           | 78.6         | 94       | 70-130 |
| 53-70-3  | Dibenzo(a,h)anthracene | 83.3           | 78.4         | 94       | 55-130 |
| 206-44-0 | Fluoranthene           | 83.3           | 65.0         | 78       | 70-130 |
| 86-73-7  | Fluorene               | 83.3           | 70.6         | 85       | 70-130 |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 83.3           | 79.2         | 95       | 56-130 |
| 91-20-3  | Naphthalene            | 83.3           | 73.5         | 88       | 70-130 |
| 129-00-0 | Pyrene                 | 83.3           | 79.0         | 95       | 70-130 |

| CAS No.   | Surrogate Recoveries | BSP | Limits  |
|-----------|----------------------|-----|---------|
| 4165-60-0 | Nitrobenzene-d5      | 75% | 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 84% | 19-131% |
| 1718-51-0 | Terphenyl-d14        | 95% | 18-150% |

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

**Job Number:** D47492  
**Account:** WILLCOP WPX Energy Rocky Mountain, LLC  
**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 5 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| OP8073-MS  | 3G15188.D | 1  | 06/24/13 | DC | 06/24/13  | OP8073     | E3G742           |
| OP8073-MSD | 3G15189.D | 1  | 06/24/13 | DC | 06/24/13  | OP8073     | E3G742           |
| D47493-1   | 3G15187.D | 1  | 06/24/13 | DC | 06/24/13  | OP8073     | E3G742           |

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

D47492-1

| CAS No.  | Compound               | D47493-1<br>ug/kg | Q | Spike<br>ug/kg | MS<br>ug/kg | MS<br>% | MSD<br>ug/kg | MSD<br>% | RPD | Limits<br>Rec/RPD |
|----------|------------------------|-------------------|---|----------------|-------------|---------|--------------|----------|-----|-------------------|
| 83-32-9  | Acenaphthene           | ND                |   | 90.2           | 79.3        | 88      | 75.7         | 84       | 5   | 25-151/30         |
| 120-12-7 | Anthracene             | ND                |   | 90.2           | 81.0        | 90      | 81.6         | 90       | 1   | 39-159/30         |
| 56-55-3  | Benzo(a)anthracene     | ND                |   | 90.2           | 86.3        | 96      | 88.2         | 98       | 2   | 39-168/30         |
| 205-99-2 | Benzo(b)fluoranthene   | ND                |   | 90.2           | 98.1        | 109     | 97.0         | 107      | 1   | 24-163/30         |
| 207-08-9 | Benzo(k)fluoranthene   | ND                |   | 90.2           | 73.1        | 81      | 76.4         | 85       | 4   | 10-188/30         |
| 50-32-8  | Benzo(a)pyrene         | ND                |   | 90.2           | 77.0        | 85      | 77.5         | 86       | 1   | 32-144/30         |
| 218-01-9 | Chrysene               | ND                |   | 90.2           | 84.4        | 94      | 84.9         | 94       | 1   | 43-150/30         |
| 53-70-3  | Dibenzo(a,h)anthracene | ND                |   | 90.2           | 73.7        | 82      | 74.9         | 83       | 2   | 21-152/30         |
| 206-44-0 | Fluoranthene           | ND                |   | 90.2           | 79.9        | 89      | 80.0         | 89       | 0   | 36-157/30         |
| 86-73-7  | Fluorene               | 7.8               | J | 90.2           | 90.3        | 91      | 86.4         | 87       | 4   | 10-182/30         |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND                |   | 90.2           | 73.9        | 82      | 75.3         | 83       | 2   | 20-154/30         |
| 91-20-3  | Naphthalene            | 51.2              |   | 90.2           | 112         | 67      | 119          | 75       | 6   | 10-163/30         |
| 129-00-0 | Pyrene                 | ND                |   | 90.2           | 90.0        | 100     | 90.0         | 100      | 0   | 25-180/30         |

| CAS No.   | Surrogate Recoveries | MS  | MSD | D47493-1 | Limits  |
|-----------|----------------------|-----|-----|----------|---------|
| 4165-60-0 | Nitrobenzene-d5      | 77% | 84% | 87%      | 10-159% |
| 321-60-8  | 2-Fluorobiphenyl     | 80% | 81% | 85%      | 19-131% |
| 1718-51-0 | Terphenyl-d14        | 84% | 89% | 88%      | 18-150% |

\* = Outside of Control Limits.

## GC Volatiles

### 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: D47492  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 2 Batch 5 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| GGB1144-MB | GB20881.D | 1  | 06/24/13 | BD | n/a       | n/a        | GGB1144          |

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

D47492-1

| 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 | 103% 60-140% |

Blank Spike Summary

Job Number: D47492  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 2 Batch 5 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| GGB1144-BS | GB20882.D | 1  | 06/24/13 | BD | n/a       | n/a        | GGB1144          |

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

D47492-1

| CAS No. | Compound         | Spike<br>mg/kg | BSP<br>mg/kg | BSP<br>% | Limits |
|---------|------------------|----------------|--------------|----------|--------|
|         | TPH-GRO (C6-C10) | 110            | 104          | 95       | 70-130 |

| CAS No.  | Surrogate Recoveries   | BSP  | Limits  |
|----------|------------------------|------|---------|
| 120-82-1 | 1,2,4-Trichlorobenzene | 105% | 60-140% |

\* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D47492  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 2 Batch 5 Baseline

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| D47471-7MS  | GB20884.D | 1  | 06/24/13 | BD | n/a       | n/a        | GGB1144          |
| D47471-7MSD | GB20885.D | 1  | 06/24/13 | BD | n/a       | n/a        | GGB1144          |
| D47471-7    | GB20883.D | 1  | 06/24/13 | BD | n/a       | n/a        | GGB1144          |

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

D47492-1

| CAS No. | Compound         | D47471-7<br>mg/kg | Q | 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                |   | 120            | 120         | 100     | 117          | 98       | 3   | 70-130/30         |

| CAS No.  | Surrogate Recoveries   | MS   | MSD  | D47471-7 | Limits  |
|----------|------------------------|------|------|----------|---------|
| 120-82-1 | 1,2,4-Trichlorobenzene | 107% | 105% | 99%      | 60-140% |

8.3.1  
8

\* = Outside of Control Limits.

## 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: D47492  
Account: WILLCOP WPX Energy Rocky Mountain, LLC  
Project: CORCCOGJ: MV 25-17 Landfarm 2 Batch 5 Baseline

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| OP8070-MB | FD25709.D | 1  | 06/24/13 | TU | 06/22/13  | OP8070     | GFD1269          |

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

D47492-1

| 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% 35-130% |

## Blank Spike Summary

Page 1 of 1

**Job Number:** D47492

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 5 Baseline

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| OP8070-BS | FD25711.D | 1  | 06/24/13 | TU | 06/22/13  | OP8070     | GFD1269          |

The QC reported here applies to the following samples:

Method: SW846-8015B

D47492-1

| CAS No. | Compound          | Spike<br>mg/kg | BSP<br>mg/kg | BSP<br>% | Limits |
|---------|-------------------|----------------|--------------|----------|--------|
|         | TPH-DRO (C10-C28) | 667            | 516          | 77       | 48-130 |

| CAS No. | Surrogate Recoveries | BSP | Limits  |
|---------|----------------------|-----|---------|
| 84-15-1 | o-Terphenyl          | 76% | 35-130% |

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

**Job Number:** D47492

**Account:** WILLCOP WPX Energy Rocky Mountain, LLC

**Project:** CORCCOGJ: MV 25-17 Landfarm 2 Batch 5 Baseline

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| OP8070-MS  | FD25713.D | 1  | 06/24/13 | TU | 06/22/13  | OP8070     | GFD1269          |
| OP8070-MSD | FD25715.D | 1  | 06/24/13 | TU | 06/22/13  | OP8070     | GFD1269          |
| D47475-1   | FD25749.D | 1  | 06/24/13 | TU | 06/22/13  | OP8070     | GFD1269          |

The QC reported here applies to the following samples:

Method: SW846-8015B

D47492-1

| CAS No. | Compound          | D47475-1<br>mg/kg | Q | 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) | 463               |   | 811            | 975         | 63      | 892          | 53       | 9   | 20-168/30         |

| CAS No. | Surrogate Recoveries | MS  | MSD | D47475-1 | Limits  |
|---------|----------------------|-----|-----|----------|---------|
| 84-15-1 | o-Terphenyl          | 77% | 67% | 77%      | 35-130% |

\* = Outside of Control Limits.



05/30/13

Technical Report for

WPX Energy Rocky Mountain, LLC

CORCCOGJ: MV 25-17 Water Sampling

NXEEPPARACH

Accutest Job Number: D46561

Sampling Date: 05/24/13

Report to:

Olsson Associates  
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Grand Junction, CO 81505  
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ATTN: Tim Dobransky

Total number of pages in report: 17



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

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

Scott Heideman  
Laboratory Director

Client Service contact: Renea Jackson 303-425-6021

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

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Test results relate only to samples analyzed.

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Sample Summary

WPX Energy Rocky Mountain, LLC

Job No: D46561

CORCCOGJ: MV 25-17 Water Sampling  
Project No: NXEEPPARACH

| Sample<br>Number | Collected |          | Received | Matrix |               | Client<br>Sample ID |
|------------------|-----------|----------|----------|--------|---------------|---------------------|
|                  | Date      | Time By  |          | Code   | Type          |                     |
| D46561-1         | 05/24/13  | 11:45 JS | 05/25/13 | AQ     | Surface Water | DITCH-UG            |
| D46561-2         | 05/24/13  | 12:00 JS | 05/25/13 | AQ     | Surface Water | DITCH-DG            |



## CASE NARRATIVE / CONFORMANCE SUMMARY

**Client:** WPX Energy Rocky Mountain, LLC

**Job No** D46561

**Site:** CORCCOGJ: MV 25-17 Water Sampling

**Report Date** 5/30/2013 10:59:16 AM

On 05/25/2013, 2 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 5.4 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D46561 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** AQ

**Batch ID:** V7V1114

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D46583-3MS, D46583-3MSD were used as the QC samples indicated.
- D46583-3MSD: The pH of the sample aliquot for VOA analysis was >2 at time of analysis.
- D46583-3MSD: The pH of the sample aliquot for VOA analysis was >2 at time of analysis.
- D46583-3MS: The pH of the sample aliquot for VOA analysis was >2 at time of analysis.
- D46583-3MS: The pH of the sample aliquot for VOA analysis was >2 at time of analysis.

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:** D46561  
**Account:** WPX Energy Rocky Mountain, LLC  
**Project:** CORCCOGJ: MV 25-17 Water Sampling  
**Collected:** 05/24/13



| Lab Sample ID | Client Sample ID | Result/<br>Analyte | RL | MDL | Units | Method |
|---------------|------------------|--------------------|----|-----|-------|--------|
|---------------|------------------|--------------------|----|-----|-------|--------|

**D46561-1      DITCH-UG**

No hits reported in this sample.

**D46561-2      DITCH-DG**

No hits reported in this sample.

Sample Results

Report of Analysis

## Report of Analysis

|                          |                                   |                        |          |
|--------------------------|-----------------------------------|------------------------|----------|
| <b>Client Sample ID:</b> | DITCH-UG                          | <b>Date Sampled:</b>   | 05/24/13 |
| <b>Lab Sample ID:</b>    | D46561-1                          | <b>Date Received:</b>  | 05/25/13 |
| <b>Matrix:</b>           | AQ - Surface Water                | <b>Percent Solids:</b> | n/a      |
| <b>Method:</b>           | SW846 8260B                       |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Water Sampling |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | 7V20436.D | 1  | 05/28/13 | JL | n/a       | n/a        | V7V1114          |
| Run #2 |           |    |          |    |           |            |                  |

|        | Purge Volume |
|--------|--------------|
| Run #1 | 5.0 ml       |
| Run #2 |              |

## Purgeable Aromatics

| CAS No.   | Compound       | Result | RL  | MDL  | Units | Q |
|-----------|----------------|--------|-----|------|-------|---|
| 71-43-2   | Benzene        | ND     | 1.0 | 0.27 | ug/l  |   |
| 108-88-3  | Toluene        | ND     | 2.0 | 1.0  | ug/l  |   |
| 100-41-4  | Ethylbenzene   | ND     | 2.0 | 0.33 | ug/l  |   |
| 1330-20-7 | Xylene (total) | ND     | 3.0 | 2.0  | ug/l  |   |

| CAS No.    | Surrogate Recoveries  | Run# 1 | Run# 2 | Limits  |
|------------|-----------------------|--------|--------|---------|
| 17060-07-0 | 1,2-Dichloroethane-D4 | 120%   |        | 62-130% |
| 2037-26-5  | Toluene-D8            | 115%   |        | 70-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 92%    |        | 69-130% |

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

## Report of Analysis

Page 1 of 1

|                          |                                   |                        |          |
|--------------------------|-----------------------------------|------------------------|----------|
| <b>Client Sample ID:</b> | DITCH-DG                          | <b>Date Sampled:</b>   | 05/24/13 |
| <b>Lab Sample ID:</b>    | D46561-2                          | <b>Date Received:</b>  | 05/25/13 |
| <b>Matrix:</b>           | AQ - Surface Water                | <b>Percent Solids:</b> | n/a      |
| <b>Method:</b>           | SW846 8260B                       |                        |          |
| <b>Project:</b>          | CORCCOGJ: MV 25-17 Water Sampling |                        |          |

|        | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | 7V20437.D | 1  | 05/28/13 | JL | n/a       | n/a        | V7V1114          |
| Run #2 |           |    |          |    |           |            |                  |

|        | Purge Volume |
|--------|--------------|
| Run #1 | 5.0 ml       |
| Run #2 |              |

## Purgeable Aromatics

| CAS No.   | Compound       | Result | RL  | MDL  | Units | Q |
|-----------|----------------|--------|-----|------|-------|---|
| 71-43-2   | Benzene        | ND     | 1.0 | 0.27 | ug/l  |   |
| 108-88-3  | Toluene        | ND     | 2.0 | 1.0  | ug/l  |   |
| 100-41-4  | Ethylbenzene   | ND     | 2.0 | 0.33 | ug/l  |   |
| 1330-20-7 | Xylene (total) | ND     | 3.0 | 2.0  | ug/l  |   |

| CAS No.    | Surrogate Recoveries  | Run# 1 | Run# 2 | Limits  |
|------------|-----------------------|--------|--------|---------|
| 17060-07-0 | 1,2-Dichloroethane-D4 | 122%   |        | 62-130% |
| 2037-26-5  | Toluene-D8            | 114%   |        | 70-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 91%    |        | 69-130% |

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Misc. Forms

5

### Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody



# WPX CHAIN OF CUSTODY

PAGE 1 OF 1

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

|                   |                              |
|-------------------|------------------------------|
| FED-EX Tracking # | Bottle Order Control #       |
| Accutest Quote #  | Accutest Job # <b>D46561</b> |

| Client / Reporting Information                     |   | Project Information                           |   | Requested Analysis (see TEST CODE sheet) |  |  |  |  |  |  |  |  |  |  |  | Matrix Codes         |  |
|--|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|----------------------|--|
| Company Name<br><b>Oisoon Associates</b>           | Project Name<br><b>CORCCOGJ:</b>        | Street<br><b>MV 25-17 Water Sampling</b>      | Billing Information (if different from Report to)               |  |  |  |  |  |  |  |  |  |  |  |  | Water - Ground       |  |
| Street Address<br><b>760 Horizon Drive Ste 102</b> | City<br><b>Grand Junction, CO 81506</b> | State<br><b>CO</b>                            | Company Name<br><b>WPX Energy Rocky Mountain, LLC (WILLCOP)</b> |  |  |  |  |  |  |  |  |  |  |  |  | Water - Surface      |  |
| Project Contact<br><b>Tim Dobransky</b>            | Project #                               | Client Purchase Order #<br><b>NXEEPPARACH</b> | Street Address<br><b>1058 County Road 215</b>                   |  |  |  |  |  |  |  |  |  |  |  |  | Water - Soil         |  |
| Email<br><b>tdobransky@oisoonassociates.com</b>    | City<br><b>Parachute, CO 81635</b>      | Project Manager<br><b>Leo Braun</b>           | Attention:<br><b>Leo Braun</b>                                  |  |  |  |  |  |  |  |  |  |  |  |  | SL - Sludge          |  |
| Phone #<br><b>970-263-7800</b>                     |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  | SED - Sediment       |  |
| Sampler(s) Name(s)                                 |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  | OI - Oil             |  |
|  |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  | LIQ - Other Liquid   |  |
|  |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  | AIR - Air            |  |
|  |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  | SOL - Other Solid    |  |
|  |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  | WP - Wipe            |  |
|  |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  | FB - Field Blank     |  |
|  |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  | EB - Equipment       |  |
|  |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  | Blank RB - Rinse     |  |
|  |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  | Blank TB - Top Blank |  |
|  |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  | LAB USE ONLY         |  |

| Turnaround Time (Business days)  |  | Data Deliverable Information  |   | Comments / Special Instructions                                  |  |
|--|--|---|---|--|--|
| <input type="checkbox"/> 1 Day<br><input type="checkbox"/> 2 Day<br><input checked="" type="checkbox"/> 3 Day<br><input type="checkbox"/> 4 Day<br><input type="checkbox"/> 5 Day<br><input type="checkbox"/> 6 Day<br><input type="checkbox"/> 7 Day<br><input type="checkbox"/> 8 Day<br><input type="checkbox"/> 9 Day<br><input type="checkbox"/> 10 Day<br><input type="checkbox"/> 11 Day<br><input type="checkbox"/> 12 Day<br><input type="checkbox"/> 13 Day<br><input type="checkbox"/> 14 Day<br><input type="checkbox"/> 15 Day<br><input type="checkbox"/> 16 Day<br><input type="checkbox"/> 17 Day<br><input type="checkbox"/> 18 Day<br><input type="checkbox"/> 19 Day<br><input type="checkbox"/> 20 Day<br><input type="checkbox"/> 21 Day<br><input type="checkbox"/> 22 Day<br><input type="checkbox"/> 23 Day<br><input type="checkbox"/> 24 Day<br><input type="checkbox"/> 25 Day<br><input type="checkbox"/> 26 Day<br><input type="checkbox"/> 27 Day<br><input type="checkbox"/> 28 Day<br><input type="checkbox"/> 29 Day<br><input type="checkbox"/> 30 Day<br><input type="checkbox"/> 31 Day<br><input type="checkbox"/> 32 Day<br><input type="checkbox"/> 33 Day<br><input type="checkbox"/> 34 Day<br><input type="checkbox"/> 35 Day<br><input type="checkbox"/> 36 Day<br><input type="checkbox"/> 37 Day<br><input type="checkbox"/> 38 Day<br><input type="checkbox"/> 39 Day<br><input type="checkbox"/> 40 Day<br><input type="checkbox"/> 41 Day<br><input type="checkbox"/> 42 Day<br><input type="checkbox"/> 43 Day<br><input type="checkbox"/> 44 Day<br><input type="checkbox"/> 45 Day<br><input type="checkbox"/> 46 Day<br><input type="checkbox"/> 47 Day<br><input type="checkbox"/> 48 Day<br><input type="checkbox"/> 49 Day<br><input type="checkbox"/> 50 Day<br><input type="checkbox"/> 51 Day<br><input type="checkbox"/> 52 Day<br><input type="checkbox"/> 53 Day<br><input type="checkbox"/> 54 Day<br><input type="checkbox"/> 55 Day<br><input type="checkbox"/> 56 Day<br><input type="checkbox"/> 57 Day<br><input type="checkbox"/> 58 Day<br><input type="checkbox"/> 59 Day<br><input type="checkbox"/> 60 Day | Approved By (Accutest PM): / Date:<br><b>JGM 12/6/12</b> | <input type="checkbox"/> Commercial "A" (Level 1)<br><input type="checkbox"/> Commercial "B" (Level 2)<br><input type="checkbox"/> COMMBN<br><input type="checkbox"/> COMMBN+<br><input type="checkbox"/> Commercial "A" = Results Only<br><input type="checkbox"/> Commercial "B" = Results + QC Summary<br><input type="checkbox"/> Commercial "B" = Results/QC Narrative (+ chromatograms) | <input type="checkbox"/> State Forms Required<br><input type="checkbox"/> Send Forms to State<br><input type="checkbox"/> Report by Fax<br><input checked="" type="checkbox"/> Report by PDF<br><input type="checkbox"/> EDD Format | <b>Also email final report to: Karolina.Blaney@wpxenergy.com</b> |  |

| Sample Custody must be documented below each time samples change possession, including courier delivery. |                                    |  |                              |
|--|------------------------------------|--|------------------------------|
| Relinquished by Sampler:<br><b>[Signature]</b>   | Date Time:<br><b>5/24/13 14:00</b> | Received By:<br><b>Rite Service Center</b> | Relinquished By:<br><b>2</b> |
| Relinquished by Sampler:<br><b>3</b>   | Date Time:                         | Received By:<br><b>3</b>                   | Relinquished By:<br><b>4</b> |
| Relinquished by:<br><b>5</b>   | Date Time:                         | Received By:<br><b>5</b>                   | Relinquished By:             |

|                             |   |  |  |   |                            |
|-----------------------------|---|--|--|---|----------------------------|
| Custody Seal #<br><b>FX</b> | Intact<br><input checked="" type="checkbox"/> | Not Intact<br><input type="checkbox"/> | Preserved where applicable<br><input type="checkbox"/> | On Ice<br><input checked="" type="checkbox"/> | Cooler Temp.<br><b>5.4</b> |
|-----------------------------|---|--|--|---|----------------------------|

D46561: Chain of Custody

Page 1 of 2

# Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D46561

Client: OLSSON ASSOC.

Immediate Client Services Action Required: No

Date / Time Received: 5/25/2013 8:50:00 AM

No. Coolers: 1

Client Service Action Required at Login: No

Project: MV 25-17 WATER SAMPLING

Airbill #'s: FX

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

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

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

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

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

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

Comments

Accutest Laboratories  
V:(303) 425-6021

4036 Youngfield Street  
F: (303) 425-6854

Wheat Ridge, CO  
www.accutest.com

## GC/MS Volatiles

### QC Data Summaries

Includes the following where applicable:

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

## Method Blank Summary

Page 1 of 1

**Job Number:** D46561  
**Account:** WILLCOP WPX Energy Rocky Mountain, LLC  
**Project:** CORCCOGJ: MV 25-17 Water Sampling

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| V7V1114-MB | 7V20425.D | 1  | 05/28/13 | JL | n/a       | n/a        | V7V1114          |

The QC reported here applies to the following samples:

Method: SW846 8260B

D46561-1, D46561-2

| CAS No.   | Compound       | Result | RL  | MDL  | Units | Q |
|-----------|----------------|--------|-----|------|-------|---|
| 71-43-2   | Benzene        | ND     | 1.0 | 0.27 | ug/l  |   |
| 100-41-4  | Ethylbenzene   | ND     | 2.0 | 0.33 | ug/l  |   |
| 108-88-3  | Toluene        | ND     | 2.0 | 1.0  | ug/l  |   |
| 1330-20-7 | Xylene (total) | ND     | 3.0 | 2.0  | ug/l  |   |

| CAS No.    | Surrogate Recoveries  | Limits       |
|------------|-----------------------|--------------|
| 17060-07-0 | 1,2-Dichloroethane-D4 | 121% 62-130% |
| 2037-26-5  | Toluene-D8            | 116% 70-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 94% 69-130%  |

## Blank Spike Summary

Page 1 of 1

**Job Number:** D46561  
**Account:** WILLCOP WPX Energy Rocky Mountain, LLC  
**Project:** CORCCOGJ: MV 25-17 Water Sampling

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| V7V1114-BS | 7V20426.D | 1  | 05/28/13 | JL | n/a       | n/a        | V7V1114          |

The QC reported here applies to the following samples:

Method: SW846 8260B

D46561-1, D46561-2

| CAS No.   | Compound       | Spike<br>ug/l | BSP<br>ug/l | BSP<br>% | Limits |
|-----------|----------------|---------------|-------------|----------|--------|
| 71-43-2   | Benzene        | 50            | 51.7        | 103      | 70-130 |
| 100-41-4  | Ethylbenzene   | 50            | 56.2        | 112      | 70-130 |
| 108-88-3  | Toluene        | 50            | 53.1        | 106      | 70-130 |
| 1330-20-7 | Xylene (total) | 150           | 158         | 105      | 70-130 |

| CAS No.    | Surrogate Recoveries  | BSP  | Limits  |
|------------|-----------------------|------|---------|
| 17060-07-0 | 1,2-Dichloroethane-D4 | 126% | 62-130% |
| 2037-26-5  | Toluene-D8            | 114% | 70-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 101% | 69-130% |

\* = Outside of Control Limits.

## Blank Spike Summary

Page 1 of 1

**Job Number:** D46561  
**Account:** WILLCOP WPX Energy Rocky Mountain, LLC  
**Project:** CORCCOGJ: MV 25-17 Water Sampling

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| V7V1114-BS | 7V20427.D | 1  | 05/28/13 | JL | n/a       | n/a        | V7V1114          |

The QC reported here applies to the following samples:

Method: SW846 8260B

D46561-1, D46561-2

| CAS No. | Compound | Spike<br>ug/l | BSP<br>ug/l | BSP<br>% | Limits |
|---------|----------|---------------|-------------|----------|--------|
|---------|----------|---------------|-------------|----------|--------|

| CAS No.    | Surrogate Recoveries  | BSP  | Limits  |
|------------|-----------------------|------|---------|
| 17060-07-0 | 1,2-Dichloroethane-D4 | 119% | 62-130% |
| 2037-26-5  | Toluene-D8            | 115% | 70-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 99%  | 69-130% |

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

**Job Number:** D46561  
**Account:** WILLCOP WPX Energy Rocky Mountain, LLC  
**Project:** CORCCOGJ: MV 25-17 Water Sampling

| Sample                   | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------------------------|-----------|----|----------|----|-----------|------------|------------------|
| D46583-3MS <sup>a</sup>  | 7V20428.D | 1  | 05/28/13 | JL | n/a       | n/a        | V7V1114          |
| D46583-3MSD <sup>a</sup> | 7V20429.D | 1  | 05/28/13 | JL | n/a       | n/a        | V7V1114          |
| D46583-3 <sup>a</sup>    | 7V20432.D | 1  | 05/28/13 | JL | n/a       | n/a        | V7V1114          |

The QC reported here applies to the following samples:

Method: SW846 8260B

D46561-1, D46561-2

| CAS No.   | Compound       | D46583-3<br>ug/l | Spike<br>Q<br>ug/l | MS<br>ug/l | MS<br>% | MSD<br>ug/l | MSD<br>% | RPD | Limits<br>Rec/RPD |
|-----------|----------------|------------------|--------------------|------------|---------|-------------|----------|-----|-------------------|
| 71-43-2   | Benzene        | ND               | 50                 | 53.5       | 107     | 53.6        | 107      | 0   | 62-130/30         |
| 100-41-4  | Ethylbenzene   | ND               | 50                 | 58.1       | 116     | 57.1        | 114      | 2   | 63-130/30         |
| 108-88-3  | Toluene        | ND               | 50                 | 54.6       | 109     | 53.4        | 107      | 2   | 60-130/30         |
| 1330-20-7 | Xylene (total) | ND               | 150                | 162        | 108     | 161         | 107      | 1   | 67-130/30         |

| CAS No.    | Surrogate Recoveries  | MS   | MSD  | D46583-3 | Limits  |
|------------|-----------------------|------|------|----------|---------|
| 17060-07-0 | 1,2-Dichloroethane-D4 | 120% | 121% | 118%     | 62-130% |
| 2037-26-5  | Toluene-D8            | 114% | 113% | 118%     | 70-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 102% | 103% | 93%      | 69-130% |

(a) The pH of the sample aliquot for VOA analysis was > 2 at time of analysis.

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

**Job Number:** D46561  
**Account:** WILLCOP WPX Energy Rocky Mountain, LLC  
**Project:** CORCCOGJ: MV 25-17 Water Sampling

| Sample                   | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------------------------|-----------|----|----------|----|-----------|------------|------------------|
| D46583-3MS <sup>a</sup>  | 7V20430.D | 1  | 05/28/13 | JL | n/a       | n/a        | V7V1114          |
| D46583-3MSD <sup>a</sup> | 7V20431.D | 1  | 05/28/13 | JL | n/a       | n/a        | V7V1114          |
| D46583-3 <sup>a</sup>    | 7V20432.D | 1  | 05/28/13 | JL | n/a       | n/a        | V7V1114          |

The QC reported here applies to the following samples:

Method: SW846 8260B

D46561-1, D46561-2

| CAS No. | Compound | D46583-3<br>ug/l | Spike<br>Q | MS<br>ug/l | MS<br>% | MSD<br>ug/l | MSD<br>% | RPD | Limits<br>Rec/RPD |
|---------|----------|------------------|------------|------------|---------|-------------|----------|-----|-------------------|
|---------|----------|------------------|------------|------------|---------|-------------|----------|-----|-------------------|

| CAS No.    | Surrogate Recoveries  | MS   | MSD  | D46583-3 | Limits  |
|------------|-----------------------|------|------|----------|---------|
| 17060-07-0 | 1,2-Dichloroethane-D4 | 119% | 120% | 118%     | 62-130% |
| 2037-26-5  | Toluene-D8            | 115% | 115% | 118%     | 70-130% |
| 460-00-4   | 4-Bromofluorobenzene  | 97%  | 97%  | 93%      | 69-130% |

(a) The pH of the sample aliquot for VOA analysis was > 2 at time of analysis.

\* = Outside of Control Limits.