

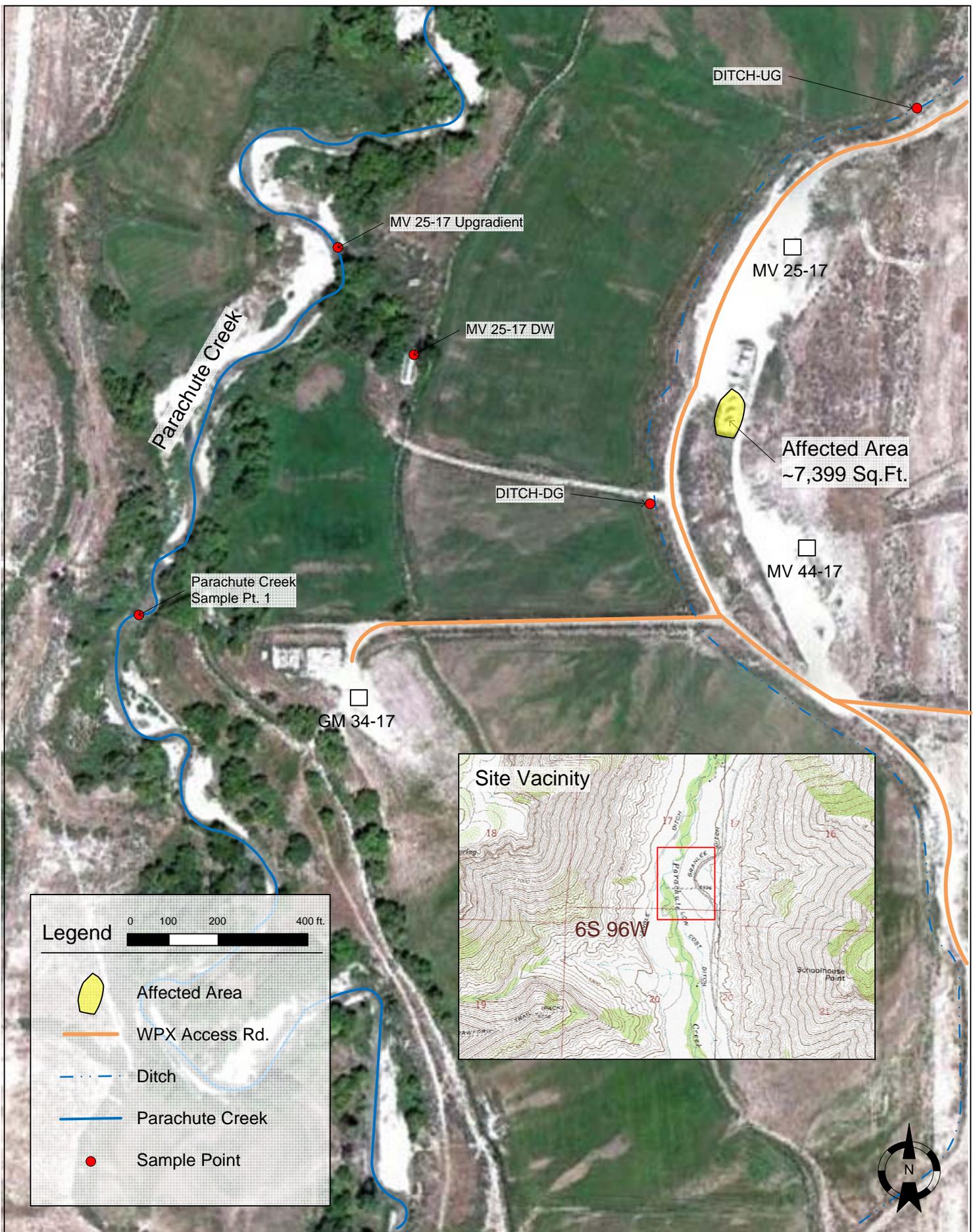
PROJECT NO:	012-1538
DRAWN BY:	KJG
DATE:	5/10/13

Landfarm Sampling Diagram
Location: MV 25-17
 WPX Energy Rocky Mountain, LLC



760 Horizon Drive, Suite 102
 Grand Junction, CO 81506
 TEL 970.263.7800
 FAX 970.263.7456

FIGURE
 1



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

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



760 Horizon Drive Suite 102
 Grand Junction, CO 81505
 TEL 970.263.7800
 FAX 970.263.7456

FIGURE
5



06/12/13

Technical Report for

WPX Energy Rocky Mountain, LLC

CORCCOGJ: MV 25-17 Landfarm 2 Batch 2 Baseline

NXEPPARACH

Accutest Job Number: D46975

Sampling Date: 06/06/13

Report to:

Olsson Associates
760 Horizon Drive Suite 102
Grand Junction, CO 81505
tdobransky@oaconsulting.com; karolina.blaney@wpxenergy.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.

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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Sample Summary

WPX Energy Rocky Mountain, LLC

Job No: D46975

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

Sample Number	Collected		Matrix			Client Sample ID
	Date	Time By	Received	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/ 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

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

Run #	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							

Run #	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

4.1
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Report of Analysis

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

Run #1	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							

Run #1	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

4.1
 4

Report of Analysis

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

Run #	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							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	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

4.1
4

Report of Analysis

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

Run #	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							

Run #	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

4.1
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Misc. Forms

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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

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

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

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

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

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

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

Comments

Accutest Laboratories
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4036 Youngfield Street
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Wheat Ridge, CO
www.accutest.com

5.1
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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

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

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 ug/kg	BSP ug/kg	BSP %	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

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 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits 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

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%

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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
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 ug/kg	BSP ug/kg	BSP %	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

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 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits 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 mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	110	100	70-130

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

8.2.1
8

* = 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 mg/kg	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits 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: 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

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 mg/kg	BSP mg/kg	BSP %	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 mg/kg	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits 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%

9.3.1

9

* = 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
760 Horizon Drive Suite 102
Grand Junction, CO 81505
tdobransky@olssonassociates.com; karolina.blaney@wpxenergy.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.

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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Sample Summary

WPX Energy Rocky Mountain, LLC

Job No: D46974

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

Sample Number	Collected		Matrix			Client Sample ID
	Date	Time By	Received	Code	Type	
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/ 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

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

Run #	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							

Run #	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

4.1
4

Report of Analysis

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

Run #1	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							

Run #1	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

4.1
 4

Report of Analysis

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

Run #	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							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	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

4.1
4

Report of Analysis

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

Run #	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							

Run #	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

4.1
4

Misc. Forms

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Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



WPX CHAIN OF CUSTODY

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 # D46974

Client / Reporting Information		Project Information										Requested Analysis (see TEST CODE sheet)						Matrix Codes
Company Name Olsson Associates		Project Name: CORCCOGJ: MV 25-17 Landfarm 2 Batch 3 Baseline										GRO/DRO BTEX PAH (COGCC Table 910 List)						DW - Drinking Water GW - Ground Water WW - Wastewater SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank
Street Address 760 Horizon Drive, STE 102		Street		Billing Information (If different from Report to) Company Name WPX Energy Rocky Mountain, LLC (WILLCO)														
City Grand Junction, CO 81506		City State		Street Address 1088 County Road 215														
Project Contact Email Tim Dobransky tdobransky@olssonassociates.		Project #		Client Purchase Order # NXEPPARACH														
Phone # 970-263-7800		Client Purchase Order #		City Parachute, CO 81635														
Sample Name(s) J. Sutrina		Project Manager		Attention: Leo Braun														
				Email Invoices: Leo.Braun@wpxenergy.com														
Turnaround Time (Business days)		Data Deliverable Information										Comments / Special Instructions						

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled by	Matrix	# of bottles	HC	NO3	NO2	PHOS	HSO4	NH4	DI Water	METH	EMCORE	GRO/DRO	BTEX	PAH (COGCC Table 910 List)	LAB USE ONLY
	MV 05-17 LF 2-1(0-24in)		6/10/13	1030	JS	ED	1										X	X	X	DI
																				DR 6/7/13

<input type="checkbox"/> 5 Business Day Std. (per contract) <input type="checkbox"/> 3 Day Emergency <input type="checkbox"/> 2 Day Emergency <input checked="" type="checkbox"/> 1 Day Emergency Emergency & Rush T/A data available VIA Lablink		Approved By (Accutest PI#) / Date: JGM 12/8/12		<input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> COMMBN <input type="checkbox"/> COMMBN+		<input type="checkbox"/> State Forms Required <input type="checkbox"/> Send Forms to State <input type="checkbox"/> Report by Fax <input checked="" type="checkbox"/> Report by PDF <input type="checkbox"/> EDD Format		Also email final report to: Karolina.Blaney@wpxenergy.com PLEASE RUSH 24 HR TAT	
---	--	--	--	---	--	---	--	---	--

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

Relinquished by Sampler: [Signature]	Date Time: 6/10/13 1030	Received By: [Signature]	Date Time: 6/10/13 12:50
Relinquished by Sampler: 3	Date Time:	Received By: 4	Date Time:
Relinquished by:	Date Time:	Received By:	Date Time:

Custody Seal # **HD/CO** Intact Preserved where applicable On Ice Cooler Temp. **31**

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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

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

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

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

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

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

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

Comments

5.1
5

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: 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

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 ug/kg	BSP ug/kg	BSP %	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

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 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits 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

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%

7.1.1
7

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
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 ug/kg	BSP ug/kg	BSP %	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

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 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits 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: 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 mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	110	100	70-130

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

8.2.1
8

* = 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 mg/kg	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits 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: 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

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 mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	517	78	48-130

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

9.2.1

9

* = 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 mg/kg	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits 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%

9.3.1
9

* = 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:

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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.

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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Sample Summary

WPX Energy Rocky Mountain, LLC

Job No: D46973

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

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
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

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: 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/ Qual	RL	MDL	Units	Method
D46973-1	MV 25-17 LF 1-6 (0-24 IN)					
Naphthalene		12.9 J	13	11	ug/kg	SW846 8270C BY SIM
TPH-DRO (C10-C28)		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

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

Run #	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							

Run #	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

4.1
4

Report of Analysis

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

Run #1	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							

Run #1	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

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

Run #	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							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	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

4.1
4

Report of Analysis

Client Sample ID: MV 25-17 LF 1-6 (0-24 IN)	Date Sampled: 06/06/13
Lab Sample ID: D46973-1	Date Received: 06/07/13
Matrix: SO - Soil	Percent Solids: 92.1
Method: SW846-8015B SW846 3546	
Project: CORCCOGJ: MV 25-17 Landfarm 1 Batch 3 Baseline	

Run #	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							

Run #	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

4.1
4

Report of Analysis

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

Run #	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							

Run #	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

4.2
4

Report of Analysis

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

Run #1	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							

Run #1	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

4.2
4

Report of Analysis

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

Run #	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							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	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

4.2
4

Report of Analysis

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

Run #	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							

Run #	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

4.2
4

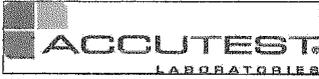
Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



WPX CHAIN OF CUSTODY

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

PEB-EX Tracking #
Bottle Order Control #
Accutest Quote #
Accutest Job # D46973

Client / Reporting Information
Project Information
Requested Analysis (see TEST CODE sheet)
Matrix Codes
Company Name: Olsson Associates
Project Name: CORCOGJ: MV 26-17 Landfarm 1 Batch 3 Baseline
Street Address: 760 Horizon Drive, STE 102, Grand Junction, CO 81508
Company Name: WPX Energy Rocky Mountain, LLC (WILLCOIP)
Street Address: 1088 County Road 215
Client Purchase Order #: NXEPPARACH
City: Parachute, CO 81635
Project Manager: Leo Braun
Attention: Leo Braun
Email Invoices: Leo.Braun@wpxenergy.com

Table with columns: Accutest Sample #, Field ID / Point of Collection, MEQ/NDI Viol #, Date, Time, Sampled by, Matrix, # of bottles, HCl, NaOH, HNO3, H2SO4, HNO2, DI Water, MECH, ENDOX, GRO/DRO, BTEX, PAH (COGCC Table 910 List), LAB USE ONLY. Includes handwritten entries for samples MV 25-17 LF 1-6 (0-24in) and MV 25-17 LF 1-7 (0-24in).

Turnaround Time (Business days)
Data Deliverable information
Comments / Special Instructions
Approved By (Accutest P#): / Date: JGM 12/6/12
Commercial "A" (Level 1)
Commercial "B" (Level 2)
COMMEN
COMMEN+
State Forms Required
Send Forms to State
Report by Fax
Report by PDF
EDD Format
Also email final report to: Karolina.Blaney@wpxenergy.com
PLEASE RUSH 24 HR TAT

Sample Custody must be documented below each time samples change possession, including courier delivery.
Relinquished by: [Signature] Date Time: 6/6/13 11:30
Received By: [Signature] Service Center Date Time: 2
Relinquished by: 3 Received By: 4
Custody Seal # 40/CO Intact Preserved where applicable On Ice x Cooler Temp. 3.1

5.1 5

DR 6/7/13



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

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

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

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

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

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

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

Comments

Accutest Laboratories
V:(303) 425-6021

4036 Youngfield Street
F: (303) 425-6854

Wheat Ridge, CO
www.accutest.com

5.1
5

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: 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

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 ug/kg	BSP ug/kg	BSP %	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

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 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits 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

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%

7.1.1
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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
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 ug/kg	BSP ug/kg	BSP %	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.

7.2.1
 7

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
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 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits 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 mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	110	100	70-130

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

8.2.1
8

* = 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 mg/kg	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits 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%

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 mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	517	78	48-130

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

9.2.1
9

* = 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 mg/kg	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits 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%

9.3.1

9

* = Outside of Control Limits.

Technical Report for

WPX Energy Rocky Mountain, LLC

CORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline

NXEPPARACH

Accutest Job Number: D47493

Sampling Date: 06/21/13

Report to:

**Olsson Associates
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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.



**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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Sample Summary

WPX Energy Rocky Mountain, LLC

Job No: D47493

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

Sample Number	Collected		Matrix			Client Sample ID
	Date	Time By	Received	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

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/ 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

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

Run #	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							

Run #	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

4.1
4

Report of Analysis

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

Run #	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							

Run #	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

4.1
4

Report of Analysis

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

Run #	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							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	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

4.1
4

Report of Analysis

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

Run #	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							

Run #	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

4.1
4

Report of Analysis

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

Run #	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							

Run #	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

4.2
4

Report of Analysis

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

Run #	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							

Run #	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

4.2
4

Report of Analysis

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

Run #	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							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	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

4.2
4

Report of Analysis

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

Run #	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							

Run #	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

4.2
4

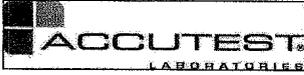
Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



WPX CHAIN OF CUSTODY

4096 Youngfield Street, West Ridge, CO 80033
 TEL: 303-425-6021 FAX: 303-425-6854
 www.accutest.com

FED-EX Tracking # _____ Bottle Order Control # _____
 Accutest Order # _____ Accutest Job # **D47493**

Client / Reporting Information		Project Information										Requested Analysis (see TEST CODE sheet)										Matrix Codes
Company Name Olsson Associates		Project Name: GORCCOGJ: MV 25-17 Landfarm 1 Batch 4 Baseline										GRODRO BTEX PAH (COGCC Table 910 List)										Water SW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB-Field Blank EB-Equipment Blank RB-Rinse Blank TB-Top Blank
Street Address 760 Horizon Drive, STE 102		Billing Information (If different from Report to) Company Name WPX Energy Rocky Mountain, LLC (WILLCOP)																				
City Grand Junction, CO 81506		Street Address 1068 County Road 215																				
Project Contact Email Tim Dobransky tdobransky@olssonassociates.c		Project # NXEEPPARACH																				
Phone # 970-263-7800		Client Purchase Order # NXEEPPARACH																				
Banner(s) Name(s) J. Sutrina		Project Manager Leo Braun																				
		Attention: Leo Braun																				
		Email Invoices: Leo.Braun@wpxenergy.com																				
		City Parachute, CO 81635																				
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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

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

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

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

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

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

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

Comments

5.1
5

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: 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

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 ug/kg	BSP ug/kg	BSP %	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

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 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits 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

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%

7.1.1
7

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
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 ug/kg	BSP ug/kg	BSP %	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.

7.2.1
 7

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
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 ug/kg	Spike Q	ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits 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

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 mg/kg	BSP mg/kg	BSP %	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%

8.2.1

8

* = 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 mg/kg	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits 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

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 mg/kg	BSP mg/kg	BSP %	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 mg/kg	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits 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%

9.3.1
9

* = Outside of Control Limits.



06/25/13

Technical Report for

WPX Energy Rocky Mountain, LLC

CORCCOGJ: MV 25-17 Landfarm 2 Batch 4 Baseline

NXEPPARACH

Accutest Job Number: D47491

Sampling Date: 06/21/13

Report to:

Olsson Associates
760 Horizon Drive Suite 102
Grand Junction, CO 81505
tdobransky@oaconsulting.com; karolina.blaney@wpxenergy.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.

Scott Heideman
Laboratory Director

Client Service contact: Renea Jackson 303-425-6021

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

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

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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: NXEPPARACH

Sample Number	Collected		Matrix			Client 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/ Qual	RL	MDL	Units	Method
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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

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

Run #	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							

Run #	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

4.1
4

Report of Analysis

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

Run #	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							

Run #	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

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

Run #	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							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	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

4.1
4

Report of Analysis

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

Run #	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							

Run #	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

4.1
4

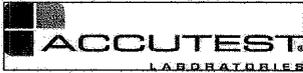
Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



WPX CHAIN OF CUSTODY

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 # D47491

Client / Reporting Information		Project Information		Requested Analysis (see TEST CODE sheet)										Matrix Codes												
Company Name Olson Associates		Project Name: CORCCOGJ: MV 26-17 Landfarm 2 Batch 4 Baseline		GR/DRO BTEX PAH (COGCC Table 940 List)										GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment G - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank												
Street Address 780 Horizon Drive, STE 102		Street																								
City Grand Junction, CO 81506		Billing Information (if different from Report to) Company Name WPX Energy Rocky Mountain, LLC (WILLCOP)																								
Project Contact Email Tim Dobransky tdobransky@olsonassociates.c		Project #																								
Phone # 970-263-7800		Client Purchase Order # NXEEPPARACH																								
Sampler(s) Name(s) J Sutrina		Project Manager Parachute, CO 81635		Street Address 1058 County Road 215		City Parachute, CO 81635		Attention: Leo Braun		Email Invoices: Leo.Braun@wpxenergy.com		LAB USE ONLY														
Accutest Sample #	Field ID / Point of Collection	MECH/ID: Val #	Date	Time	Sampled by	Metric	# of bottles	HC2	HC3	HC4	HC5	HC6	HC7	HC8	HC9	HC10	HC11	HC12	HC13	HC14	HC15	HC16	HC17	HC18	HC19	HC20
	MV 25-17 LF 2-12 (0-2) In		6/21/13	1000	JS	GW	1																			

Turnaround Time (Business days)		Data Deliverable Information										Comments / Special Instructions			
<input type="checkbox"/> 5 Business Day Std. (per contract) <input type="checkbox"/> 3 Day Emergency <input type="checkbox"/> 2 Day Emergency <input checked="" type="checkbox"/> 1 Day Emergency <input type="checkbox"/> Emergency & Rush T/A data available VIA Lablink		Approved By (Accutest PM) / Date: JGM 12/8/12		<input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> COMMBN <input type="checkbox"/> COMMBN+ Commercial "A" = Results Only Commercial "B" = Results + QC Summary Commercial BN = Results/QC/Narrative (= chromatograms)										<input type="checkbox"/> State Forms Required <input type="checkbox"/> Send Forms to State <input type="checkbox"/> Report by Fax <input checked="" type="checkbox"/> Report by PDF <input type="checkbox"/> EDD Format Also email final report to: Karolina.Blaney@wpxenergy.com PLEASE RUSH 24 HR TAT	

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

Relinquished by Sampler: <i>[Signature]</i>	Date/Time: 6/21/13 10:05	Received By: State Service Center	Relinquished By:	Date/Time:	Received By:	Date/Time:		
Relinquished by Sampler:	Date/Time:	Received By:	Relinquished By:	Date/Time:	Received By:	Date/Time:		
Relinquished by:	Date/Time:	Received By:	Custody Seal # FX	Intact <input checked="" type="checkbox"/>	Not Intact <input type="checkbox"/>	Preserved where applicable <input checked="" type="checkbox"/>	On Ice <input checked="" type="checkbox"/>	Cooler Temp. 3.9

5.1
5

D47491: Chain of Custody
 Page 1 of 2

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

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

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

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

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

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

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

Comments

5.1
5

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: 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

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 ug/kg	BSP ug/kg	BSP %	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

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 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits 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

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%

7.1.1
7

Blank Spike 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
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 ug/kg	BSP ug/kg	BSP %	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.

7.2.1
 7

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
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 ug/kg	Spike Q	ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits 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.

7.3.1
 7

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: 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

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 mg/kg	BSP mg/kg	BSP %	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%

8.2.1

8

* = 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 mg/kg	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits 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: 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%

Blank Spike 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-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 mg/kg	BSP mg/kg	BSP %	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: 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 mg/kg	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits 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%

9.3.1

9

* = 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
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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.

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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Sample Summary

WPX Energy Rocky Mountain, LLC

Job No: D47492

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

Sample Number	Collected		Matrix			Client Sample ID
	Date	Time By	Received	Code	Type	
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/ 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

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

Run #	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							

Run #	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

4.1
4

Report of Analysis

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

Run #	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							

Run #	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

4.1
4

Report of Analysis

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

Run #	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							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	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

4.1
4

Report of Analysis

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

Run #	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							

Run #	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

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Misc. Forms

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Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



WPX CHAIN OF CUSTODY

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

FED-EX Tracking # _____ Bottle Order Control # _____
 Accident/Order # _____ Accident Job # **D47492**

Client / Reporting Information		Project Information		Requested Analysis (see TEST CODE sheet)										Matrix Codes
Company Name Olsson Associates		Project Name CORCCOJ: MV 25-17 Landfarm 2 Batch 5 Baseline		GRO/DRO BTEX PAH (COGCC Table 910 List)										Matrix Codes GW - Ground Water WW - Wastewater SW - Surface Water SO - Soil SL - Sludge SED - Sediment O - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank
Street Address 760 Horizon Drive, STE 102		Billing Information (If different from Report to) Company Name WPX Energy Rocky Mountain, LLC (WILLCOP)												
City Grand Junction, CO 81506		Street Address 1053 County Road 215												
Project Contact: Email Tim Dobransky tdobransky@olssonassociates.c		Project #												
Phone # 970-263-7800		Client Purchase Order # NXEEPPARACH												
Sampler(s) Name(s) J Sutrina		Project Manager Leo Braun												
		Email Invoices: Leo.Braun@wpxenergy.com												
Field ID / Point of Collection MV 25-17 LF 2-1 (D-24m)		NEQ/VDI Vial #												
Date 6/21/13		Time 1009												
Sampled By ES JS		Matrix 25												
# of bottles 1		NC												
		INCO												
		ENCO												
		PUSCO												
		ROSE												
		DI Water												
		MEOH												
		ENCORE												
LAB USE ONLY														

Turnaround Time (Business days)		Approved By (Accutest PM) / Date: JGM 12/6/12		Data Deliverable Information		Comments / Special Instructions	
<input type="checkbox"/> 1 Business Day Std. (per contract) <input type="checkbox"/> 3 Day Emergency <input type="checkbox"/> 2 Day Emergency <input checked="" type="checkbox"/> 1 Day Emergency		<input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> COMMBN <input type="checkbox"/> COMMBN+		<input type="checkbox"/> State Forms Required <input type="checkbox"/> Send Forms to State <input type="checkbox"/> Report by Fax <input checked="" type="checkbox"/> Report by PDF <input type="checkbox"/> EDD Format		Also email final report to: Karolina.Blaney@wpxenergy.com PLEASE RUSH 24-HR TAT	
Emergency & Rush T/A data available VIA Lablink		Commercial "A" = Results Only Commercial "B" = Results + QC Summary Commercial BN = Results + COC Narrative (= chromatograms)					

Sample Custody must be documented by sign-off every time samples change possession, including courier delivery.							
Relinquished by: <i>[Signature]</i>	Date/Time: 6/21/13 1009	Received By: <i>[Signature]</i>	Date/Time: 6/21/13 1009	Relinquished by: 2	Date/Time:	Received By: 2	Date/Time: 6/22/13 1130
Relinquished by: 3	Date/Time:	Received By: 3	Date/Time:	Relinquished by: 4	Date/Time:	Received By: 4	Date/Time:
Relinquished by: 5	Date/Time:	Received By: 5	Date/Time:	Custody Seal # FX	Intact <input checked="" type="checkbox"/>	Not intact <input type="checkbox"/>	Preserved where applicable <input checked="" type="checkbox"/>
						On Ice <input checked="" type="checkbox"/>	Cooler Temp. 3.9

5.1
5

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	<u>Y</u>	<u>or</u>	<u>N</u>		<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	4. Smp'l Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

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

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

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

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

Comments

Accutest Laboratories
V:(303) 425-6021

4036 Youngfield Street
F: (303) 425-6854

Wheat Ridge, CO
www.accutest.com

5.1
5

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: 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

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 ug/kg	BSP ug/kg	BSP %	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

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 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits 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

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%

7.1.1
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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
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 ug/kg	BSP ug/kg	BSP %	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.

7.2.1
 7

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
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 ug/kg	Spike Q	ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits 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.

7.3.1
 7

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: 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 mg/kg	BSP mg/kg	BSP %	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%

8.2.1
8

* = 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 mg/kg	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits 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

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 mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	516	77	48-130

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

9.2.1

9

* = 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
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 mg/kg	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits 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%

9.3.1
9

* = Outside of Control Limits.

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
760 Horizon Drive Suite 102
Grand Junction, CO 81505
tdobransky@olssonassociates.com; karolina.blaney@wpxenergy.com
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.



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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Sample Summary

WPX Energy Rocky Mountain, LLC

Job No: D46561

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

Sample Number	Collected		Received	Matrix		Client 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/ Analyte	RL	MDL	Units	Method
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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

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

Run #	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							

Run #	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

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

Run #	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							

Run #	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

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Misc. Forms

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Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



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

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

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

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

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

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

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

Comments

Accutest Laboratories
V:(303) 425-6021

4036 Youngfield Street
F: (303) 425-6854

Wheat Ridge, CO
www.accutest.com

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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

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

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 ug/l	BSP ug/l	BSP %	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

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 ug/l	BSP ug/l	BSP %	Limits
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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

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 ^a	7V20428.D	1	05/28/13	JL	n/a	n/a	V7V1114
D46583-3MSD ^a	7V20429.D	1	05/28/13	JL	n/a	n/a	V7V1114
D46583-3 ^a	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 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits 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

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 ^a	7V20430.D	1	05/28/13	JL	n/a	n/a	V7V1114
D46583-3MSD ^a	7V20431.D	1	05/28/13	JL	n/a	n/a	V7V1114
D46583-3 ^a	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 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
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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.