

***WPX ENERGY ROCKY MOUNTAIN LLC  
ALLEN POINT FIELD  
NOTICE OF COMPLETION REPORT FOR  
AP 41-14-695 PRODUCTION PIT  
REMEDATION # 9166***

Prepared For:



1058 County Road 215  
P.O. Box 370  
Parachute, Colorado 81635

Prepared By:



**HRL COMPLIANCE SOLUTIONS, INC.**  
**Environmental Consultants**

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## **Introduction**

The purpose of this Notice of Completion report – for the closure of the AP 41-14-695 Production Pit (COGCC Facility ID number 279358; hereinafter referred to as AP 41-14-695 – is to provide detailed information and result analysis for the previously submitted and approved remediation number 9166, Colorado Oil and Gas Conservation Commission (COGCC) Site Investigation and Remediation Workplan, Form 27. This report will provide the documentation necessary to demonstrate a comprehensive and diligent investigation of the pit and adjacent environment which was obtained as described and in accordance with all appropriate county, state and federal rules and regulations.

The subject Form 27 was electronically submitted July 1, 2015. Preliminary approval to proceed with closure of the subject pit was issued by the COGCC and obtained by WPX Energy Rocky Mountain, LLC (WPX) on July 7, 2015; at which time the aforementioned remediation number was issued. Closure activities began on July 8, 2015 and were concluded on July 27, 2015. Information included in this report includes but is not limited to; field screening results, laboratory analytical, subliner soil Investigation, soil treatment, and liner recycling.

## **Evacuation of Pit Contents**

Produced water and free liquids were removed from the pit utilizing a vacuum truck. Once the liquids were removed from the pit, the residual pit contents remaining on the liner were removed using a pressure washer. The liquid was then suctioned off via vacuum truck. All pit fluids were transported to the WPX centralized E&P facility in Parachute for subsequent management.

## **Background Sampling**

Three grab samples were collected from the undisturbed soil surrounding the pad. All three samples were analyzed for arsenic, as well as an additional analysis at one location which included inorganic parameters listed in COGCC Table 910-1. Refer to Table 4 and Appendix 3 for background sampling results.

## **Pit Liner Removal**

Once the pit liner was cleaned of residual pit contents, the entire liner system was removed from the pit. A trackhoe was utilized to pull the liner off the ground surface and out of the pit. The liner material was stockpiled on site where it was compacted, bailed and processed for transport to a recycling center.

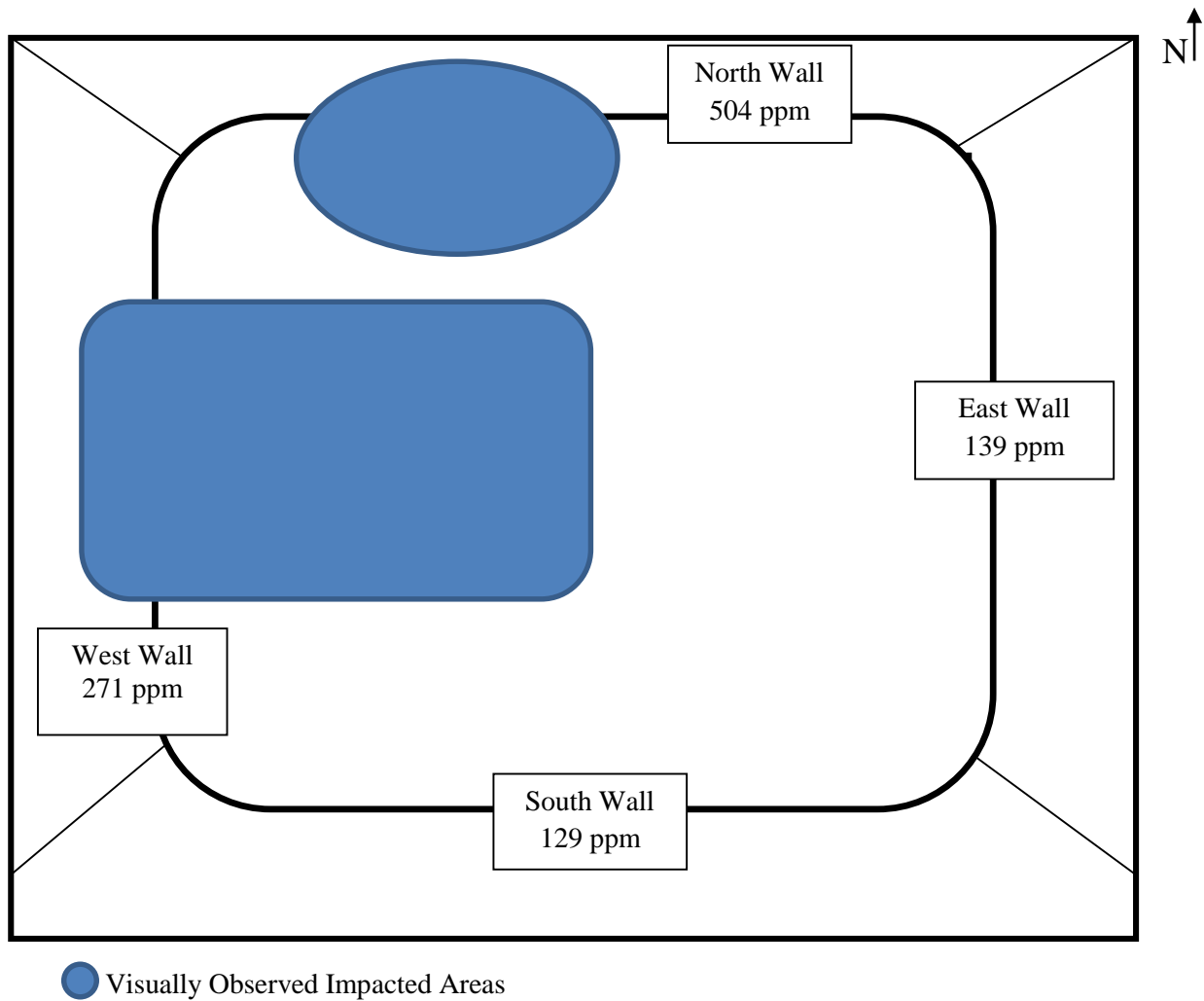
## **Evaluation of Pit Sub-Soils**

After the liner was removed, the pit sub-soils were evaluated for evidence of contamination. In doing so, the pit was divided into a five quadrants in order to accurately characterize the pit in its entirety. The five quadrants were named by their geographical directional in relation to the pit bottom as defined in Figure 1.

For each quadrant, soils were visually inspected for impacts and field screened using a PetroFlag Hydrocarbon Detection Unit (PetroFlag) in order to identify any areas of impact. In addition, special consideration was paid to areas where visual impacts were observed through a more detailed investigation

process utilizing the PetroFlag and the Photoionization Detector (PID) field screening instruments. Figure 1 outlines the initial sub soil evaluation and Petroflag field screening results.

**FIGURE 1: INITIAL FIELD SCREENING RESULTS AND PIT SAMPLE IDENTIFICATION**



**TABLE 1: PETROFLAG® FIELD SCREENING RESULTS**

Sample ID	Result (0-6'')
North Wall	504
South Wall	129
East Wall	139
West Wall	271
Pit Bottom	Visual

Note: All results are in mg/kg  
Highlighted numbers indicate areas that warranted additional inspection and analysis

Based on the results of the field screening provided in Table 1 and Figure 1, in addition to visual observations, it was determined that the soil on the north and west side walls as well as the western portion of the pit bottom contained hydrocarbon concentrations which exceeded standards set forth in COGCC Table 910-1; remediation activities were necessary.

### **Remediation Activities**

Pit excavation activities began July 20, 2015. A track hoe was utilized to excavate the contaminated soil from within the pit. The excavated material was transferred via a loader to an onsite bermed containment cell for treatment.

Excavation to a depth of approximately four (4) feet at the lowest point in the pit bottom revealed no visual impacts and field screening results were below COGCC Table 910-1 thresholds. Soils on the north and west side walls as well as the pit bottom where discoloration was observed consisted of rocky soils with a gray-green color and slight petroleum odor. Discolored soils were removed to a depth of approximately two (2) feet where it was determined by field screening instruments that soils satisfied COGCC Table 910-1 standards and no additional excavation was necessary.

Surface staining along the south and east side walls was investigated and found to be superficial and did not extend below six inches. Petroflag® field screen results indicated that the hydrocarbon concentrations were below COGCC Table 910-1 thresholds.

After discolored soils were removed from the pit bottom and side walls, and field screening instruments indicated that all remaining soils within the pit satisfied COGCC Table 910-1 standards, confirmation samples were collected on July 22, 2015 and submitted to ALS Laboratory in Holland, MI.

- Confirmation samples were collected in accordance with Rule 905.b.(4), from all four walls at a position that was centered vertically and horizontally. These samples were collected for confirmation of compliance of COGCC Rule 910 for hydrocarbon concentrations; as well as verification of field screening analysis. One additional grab sample was collected from the base of the pit, which included the low point of the base to be analyzed for full COGCC Table 910-1, to demonstrate compliance in accordance with Rule 905.b.(1).
- A Trimble Geo XT 2011 was used to satisfy requirements as outlined in COGCC Rule 215 for collecting GPS locations of each confirmation sample and background sample location from the pit walls and pit bottom and surrounding undisturbed area, respectively.
- Visual inspection of the pit bottoms, field screening techniques, and sampling procedures were followed in accordance with WPX Pit Closure Plan (COGCC document #2313311).

Results of the confirmation sampling conducted on July 22, 2015 revealed slightly elevated TPH concentrations on the eastern sidewall. Excavation crews were instructed to remove an additional foot of material from the east side wall and an additional confirmation sample was collected on July 27, 2015 and submitted to ALS Laboratory in Holland, MI.

### **Backfill Material**

Material utilized to backfill the pit will be the original excavated soil from construction of the pit and pad. The soil is currently stockpiled on available space on the AP 41-14-695 north of the pit.

The soil will be placed in five foot lifts and will not be compacted beyond the point of making an impenetrable layer but sufficient to suppose subsequent operations and prevent subsidence.

- The pit will be reclaimed in accordance with the COGCC 1000 Series Rule in addition to all SUA/COA's per the land owner.

### **Exceptions to COGCC Table 910-1**

The only exceedances with regards to COGCC Table 910-1 were within the inorganic and arsenic samples. WPX is requesting an allowance for the arsenic exceedance as the background samples indicate an arsenic concentration that exceeds COGCC standards, as well as arsenic values within the pit. Inorganic exceedance are within the conductivity parameters, Sodium Adsorption Ratio, and pH and will be capped with three (3) feet of native material.

### **Stockpiled soils management**

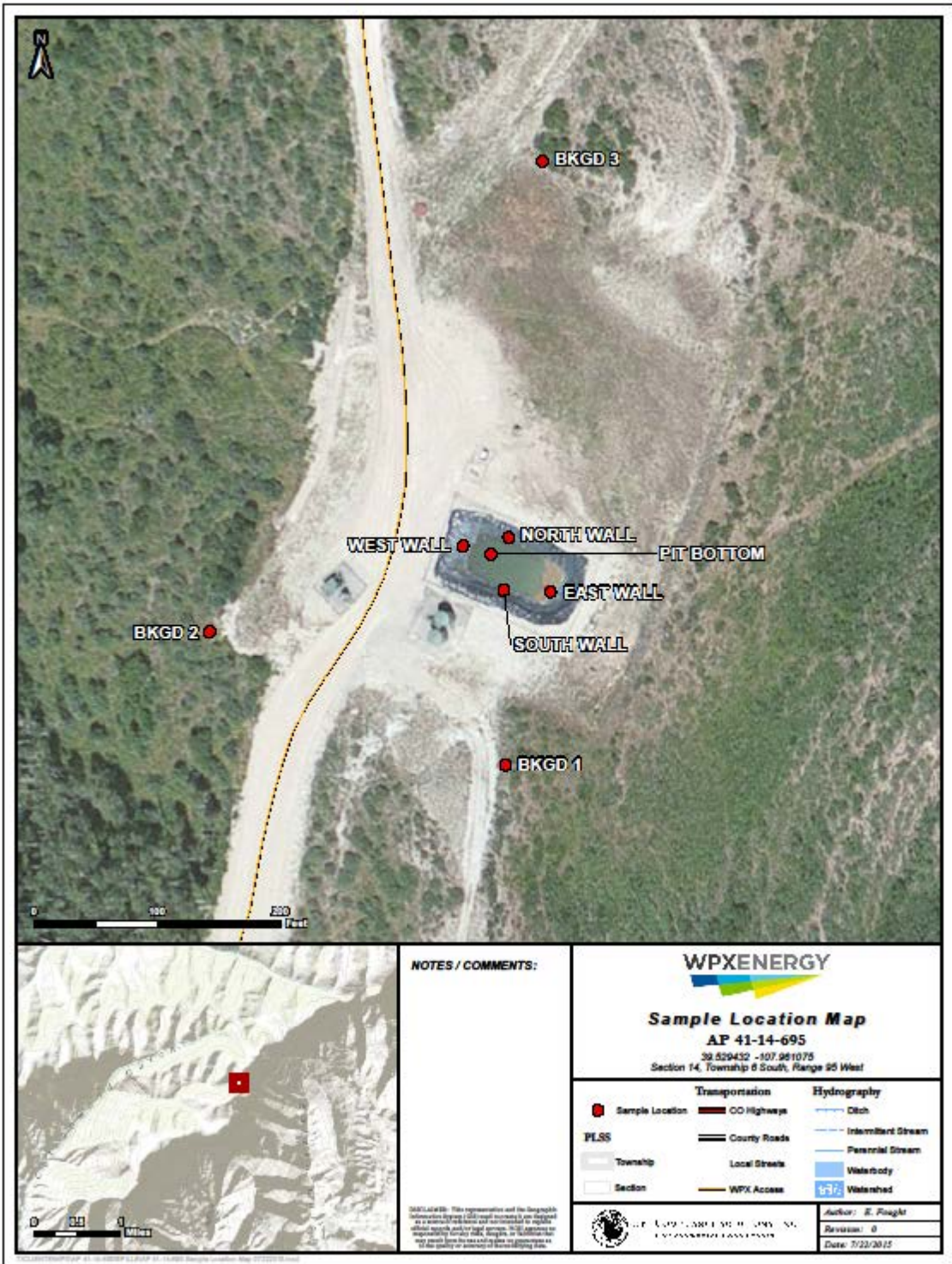
Impacted soils removed from the pit bottom and side walls were treated on-site via aeration and solarized, as well as amended with native soils from the area surrounding the pad. Analytical presented in Table 5 and Table 6 indicated that soils are below hydrocarbon standards outlined in COGCC Table 910-1 and amending was stopped. Soils will be used to backfill the pit once approval from the COGCC has been obtained.

### **Analytical Data Management**

Refer to Appendix 1 for the raw analytical analysis for samples collected along the pit bottom and side walls. Table 2 includes all analytical results of samples collected within the pit, highlighting areas exceeding COGCC Table 910-1 concentrations. Appendix 2, as well as Table 3 include data collected from additional east wall sampling following further excavation. Appendix 3 includes the background samples raw analytical results and Table 4 includes all background analytical results. Appendix 4 provides confirmation raw analytical data from the landfarmed soils, as well as results presented in Table 5 and Table 6.

## FIGURES

FIGURE 2: GIS MAP OF THE SAMPLE LOCATIONS



**FIGURE 3: PRE-EXCAVATED PIT**



Visual representation of the impacted soils on the pit bottom and pit north and west side walls prior to excavation.

**FIGURE 4: EXCAVATION**



Visual representation of the impacted soils on the pit bottom during test-pit excavation.

**FIGURE 5: POST PIT EXCAVATION**



Visual representation of the soils on the west pit wall post excavation.

**FIGURE 6: Post Pit Excavation**



Visual representation of the on the pit post excavation (facing east).

## TABLES

**TABLE 2: POST EXCAVATION PIT BOTTOM AND SIDE WALLS ANALYTICAL RESULTS**

Pit Bottom and Walls	Sample Locations				
	North Wall	South Wall	East Wall	West Wall	Pit Bottom
TEPH (DRO)	170	83	820	99	89
TVPH (GRO)	ND	ND	ND	ND	ND
BENZENE	ND	ND	ND	ND	ND
TOLUENE	ND	ND	ND	ND	ND
ETHYLBENZENE	ND	ND	ND	ND	ND
XYLENE TOTAL	ND	ND	ND	ND	ND
ACENAPHTHENE	ND	ND	ND	ND	ND
ANTHRACENE	ND	ND	ND	ND	ND
BENZO(A)ANTHRACENE	ND	ND	0.028	ND	ND
BENZO(A)PYRENE	ND	ND	0.035	ND	ND
BENZO(B)FLUORANTHENE	ND	ND	0.047	ND	ND
BENZO(G,H,I)PERYLEN	ND	ND	0.028	ND	ND
BENZO(K)FLUORANTHENE	ND	ND	0.018	ND	ND
CHRYSENE (mg/kg)	ND	ND	0.037	ND	ND
DIBENZO(A,H)ANTHRACENE	ND	ND	0.014	ND	ND
FLUORANTHENE	ND	ND	0.067	.0082	ND
FLUORENE	ND	ND	ND	ND	ND
INDENO(1,2,3-CD)PYRENE	ND	ND	0.035	ND	ND
NAPHTHALENE	ND	ND	ND	ND	ND
PYRENE	ND	0.099	0.056	0.018	ND
ARSENIC	-	-	-	-	8.5
BARIUM	-	-	-	-	320
CADMIUM	-	-	-	-	ND
CHROMIUM	-	-	-	-	35
CHROMIUM (III)	-	-	-	-	35
CHROMIUM (IV)	-	-	-	-	ND
COPPER	-	-	-	-	16
LEAD	-	-	-	-	11
MERCURY	-	-	-	-	0.016
NICKEL	-	-	-	-	33
SELENIUM	-	-	-	-	ND
SILVER	-	-	-	-	ND
ZINC	-	-	-	-	42
ELECTRICAL CONDUCTIVITY (EC) (mmho/cm)	4.2	4.5	2.8	10	5.0
pH	8.1	9.2	8.2	7.8	7.5
SODIUM ADSORPTION RATIO (SAR)	15	27	5.3	12	15

Readings above state limits are highlighted in yellow

Note: all results are in, mg/kg = milligram per kilogram, unless noted otherwise

ND = Non Detect

- = Not Sampled

**TABLE 3: POST EXCAVATION ADDITIONAL EAST WALL ANALYTICAL RESULTS**

East Wall (2ft Depth)	Result
TEPH (DRO)	45
TVPH (GRO)	ND

Readings above state limits are highlighted in yellow

Note: all results are in, mg/kg = milligram per kilogram, unless noted otherwise

ND = Non Detect

**TABLE 4: BACKGROUND ANALYTICAL RESULTS**

Sample ID	Arsenic (mg/kg)	Conductivity(mmho/cm)	pH (s.u.)	Sodium Adsorption Ratio
BKGD 1	7.6	1.1	7.0	0.21
BKGD 2	8.1	-	-	-
BKGD 3	8.7	-	-	-

Results above state limits are highlighted in yellow

- = Not Sampled

**Table 5: Landfarm Analytical Results**

Sample ID	Landfarm
TEPH (DRO)	1,000
TVPH (GRO)	ND
BENZENE	ND
TOLUENE	ND
ETHYLBENZENE	ND
XYLENE TOTAL	ND
ACENAPHTHENE	ND
ANTHRACENE	ND
BENZO(A)ANTHRACENE	ND
BENZO(A)PYRENE	ND
BENZO(B)FLUORANTHENE	ND
BENZO(G,H,I)PERYLENE	ND
BENZO(K)FLUORANTHENE	ND
CHRYSENE (mg/kg)	ND
DIBENZO(A,H)ANTHRACENE	ND
FLUORANTHENE	ND
FLUORENE	ND
INDENO(1,2,3-CD)PYRENE	ND
NAPHTHALENE	ND
PYRENE	ND
ARSENIC	13
BARIUM	820
CADMIUM	ND
CHROMIUM	41
CHROMIUM (III)	41
CHROMIUM (IV)	ND
COPPER	25
LEAD	7.4
MERCURY	0.037
NICKEL	44
SELENIUM	ND
SILVER	ND
ZINC	39
ELECTRICAL CONDUCTIVITY (EC) (mmho/cm)	5.6
pH	8.4
SODIUM ADSORPTION RATIO (SAR)	13

Note: all results are in, mg/kg = milligram per kilogram, unless noted otherwise  
Exceedances are highlighted in yellow

**Table 6: Additional Landfarm Analytical Results**

Landfarm	Result
TEPH (DRO)	190
TVPH (GRO)	ND

Readings above state limits are highlighted in yellow

Note: all results are in, mg/kg = milligram per kilogram, unless noted otherwise

ND = Non Detect

## **APPENDIX 1: Pit Bottom and Side Wall Sampling Raw Analytical Results**



28-Jul-2015

Kris Rowe  
HRL Compliance Solutions, Inc  
2385 F 1/2 Road  
Grand Junction, CO 81505

Re: **WPX Energy - AP 41-14-695 - Pit Closure**

Work Order: **15071267**

Dear Kris,

ALS Environmental received 8 samples on 23-Jul-2015 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 35.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Les Arnold".

Electronically approved by: Chad Whelton

Les Arnold  
Senior Project Manager



Certificate No: MN 532786

### Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

[www.alsglobal.com](http://www.alsglobal.com)

RIGHT SOLUTIONS RIGHT PARTNER

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**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure  
**Work Order:** 15071267

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**Work Order Sample Summary**

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<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
15071267-01	Pit Bottom	Soil		7/21/2015 14:40	7/23/2015 09:30	<input type="checkbox"/>
15071267-02	North Wall	Soil		7/21/2015 14:00	7/23/2015 09:30	<input type="checkbox"/>
15071267-03	East Wall	Soil		7/21/2015 14:20	7/23/2015 09:30	<input type="checkbox"/>
15071267-04	West Wall	Soil		7/21/2015 14:30	7/23/2015 09:30	<input type="checkbox"/>
15071267-05	South Wall	Soil		7/21/2015 14:15	7/23/2015 09:30	<input type="checkbox"/>
15071267-06	BKGD 1	Soil		7/21/2015 14:50	7/23/2015 09:30	<input type="checkbox"/>
15071267-07	BKGD 2	Soil		7/21/2015 14:55	7/23/2015 09:30	<input type="checkbox"/>
15071267-08	BKGD 3	Soil		7/21/2015 15:00	7/23/2015 09:30	<input type="checkbox"/>

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<b><u>Qualifier</u></b>	<b><u>Description</u></b>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

<b><u>Acronym</u></b>	<b><u>Description</u></b>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<b><u>Units Reported</u></b>	<b><u>Description</u></b>
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight
mg/Kg-dry	Milligrams per Kilogram Dry Weight
mg/L	Milligrams per Liter
mmhos/cm @25°C	Millimhos-Centimeter at 25 Degrees Celcius
none	
s.u.	Standard Units

# ALS Group USA, Corp

Date: 28-Jul-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure  
**Sample ID:** Pit Bottom  
**Collection Date:** 7/21/2015 02:40 PM

**Work Order:** 15071267  
**Lab ID:** 15071267-01  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep: SW3541 / 7/23/15	Analyst: <b>IT</b>
<b>DRO (C10-C28)</b>	<b>89</b>		<b>4.3</b>	<b>mg/Kg-dry</b>	1	7/23/2015 09:08 PM
Surr: 4-Terphenyl-d14	78.9		39-133	%REC	1	7/23/2015 09:08 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015D</b>		Prep: SW5035 / 7/23/15	Analyst: <b>IT</b>
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>2.6</b>	<b>mg/Kg-dry</b>	1	7/23/2015 06:32 PM
Surr: Toluene-d8	102		50-150	%REC	1	7/23/2015 06:32 PM
<b>MERCURY BY CVAA</b>						
			<b>SW7471B</b>		Prep: SW7471 / 7/24/15	Analyst: <b>LR</b>
<b>Mercury</b>	<b>0.016</b>		<b>0.014</b>	<b>mg/Kg-dry</b>	1	7/24/2015 03:35 PM
<b>METALS ANALYSIS BY ICP</b>						
			<b>SW846 6010C</b>		Prep: SW3050B / 7/23/15	Analyst: <b>RH</b>
<b>Arsenic</b>	<b>8.5</b>		<b>0.39</b>	<b>mg/Kg-dry</b>	1	7/23/2015 04:53 PM
<b>Barium</b>	<b>320</b>		<b>0.39</b>	<b>mg/Kg-dry</b>	1	7/23/2015 04:53 PM
Cadmium	ND		0.79	mg/Kg-dry	1	7/23/2015 04:53 PM
<b>Chromium</b>	<b>35</b>		<b>0.39</b>	<b>mg/Kg-dry</b>	1	7/23/2015 04:53 PM
<b>Copper</b>	<b>16</b>		<b>0.79</b>	<b>mg/Kg-dry</b>	1	7/23/2015 04:53 PM
<b>Lead</b>	<b>11</b>		<b>0.39</b>	<b>mg/Kg-dry</b>	1	7/23/2015 04:53 PM
<b>Nickel</b>	<b>33</b>		<b>0.39</b>	<b>mg/Kg-dry</b>	1	7/23/2015 04:53 PM
Selenium	ND		0.79	mg/Kg-dry	1	7/23/2015 04:53 PM
Silver	ND		0.39	mg/Kg-dry	1	7/23/2015 04:53 PM
<b>Zinc</b>	<b>42</b>		<b>0.79</b>	<b>mg/Kg-dry</b>	1	7/23/2015 04:53 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW846 6010C</b>		Prep: USDA Method 20B / 7/27/15	Analyst: <b>JEC</b>
<b>Calcium</b>	<b>390</b>		<b>5.0</b>	<b>mg/L</b>	10	7/28/2015 02:02 PM
<b>Magnesium</b>	<b>76</b>		<b>2.0</b>	<b>mg/L</b>	10	7/28/2015 02:02 PM
<b>Sodium</b>	<b>440</b>		<b>2.0</b>	<b>mg/L</b>	10	7/28/2015 02:02 PM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 7/27/15	Analyst: <b>JEC</b>
<b>Sodium Adsorption Ratio</b>	<b>5.3</b>		<b>0.010</b>	<b>none</b>	1	7/28/2015
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW846 8270D</b>		Prep: SW3541 / 7/23/15	Analyst: <b>RS</b>
Acenaphthene	ND		6.8	µg/Kg-dry	1	7/23/2015 08:24 PM
Anthracene	ND		6.8	µg/Kg-dry	1	7/23/2015 08:24 PM
Benzo(a)anthracene	ND		6.8	µg/Kg-dry	1	7/23/2015 08:24 PM
Benzo(a)pyrene	ND		6.8	µg/Kg-dry	1	7/23/2015 08:24 PM
Benzo(b)fluoranthene	ND		6.8	µg/Kg-dry	1	7/23/2015 08:24 PM
Benzo(g,h,i)perylene	ND		6.8	µg/Kg-dry	1	7/23/2015 08:24 PM
Benzo(k)fluoranthene	ND		6.8	µg/Kg-dry	1	7/23/2015 08:24 PM
Chrysene	ND		6.8	µg/Kg-dry	1	7/23/2015 08:24 PM
Dibenzo(a,h)anthracene	ND		6.8	µg/Kg-dry	1	7/23/2015 08:24 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 28-Jul-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure  
**Sample ID:** Pit Bottom  
**Collection Date:** 7/21/2015 02:40 PM

**Work Order:** 15071267  
**Lab ID:** 15071267-01  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	ND		6.8	µg/Kg-dry	1	7/23/2015 08:24 PM
Fluorene	ND		6.8	µg/Kg-dry	1	7/23/2015 08:24 PM
Indeno(1,2,3-cd)pyrene	ND		6.8	µg/Kg-dry	1	7/23/2015 08:24 PM
Naphthalene	ND		6.8	µg/Kg-dry	1	7/23/2015 08:24 PM
Pyrene	ND		6.8	µg/Kg-dry	1	7/23/2015 08:24 PM
Surr: 2,4,6-Tribromophenol	116		34-140	%REC	1	7/23/2015 08:24 PM
Surr: 2-Fluorobiphenyl	83.3		12-100	%REC	1	7/23/2015 08:24 PM
Surr: 2-Fluorophenol	94.5		33-117	%REC	1	7/23/2015 08:24 PM
Surr: 4-Terphenyl-d14	90.7		25-137	%REC	1	7/23/2015 08:24 PM
Surr: Nitrobenzene-d5	87.0		37-107	%REC	1	7/23/2015 08:24 PM
Surr: Phenol-d6	92.0		40-106	%REC	1	7/23/2015 08:24 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>	Prep: SW5035 / 7/23/15	Analyst: <b>AK</b>	
Benzene	ND		31	µg/Kg-dry	1	7/23/2015 01:51 PM
Ethylbenzene	ND		31	µg/Kg-dry	1	7/23/2015 01:51 PM
m,p-Xylene	ND		63	µg/Kg-dry	1	7/23/2015 01:51 PM
o-Xylene	ND		31	µg/Kg-dry	1	7/23/2015 01:51 PM
Toluene	ND		31	µg/Kg-dry	1	7/23/2015 01:51 PM
Xylenes, Total	ND		94	µg/Kg-dry	1	7/23/2015 01:51 PM
Surr: 1,2-Dichloroethane-d4	98.4		70-130	%REC	1	7/23/2015 01:51 PM
Surr: 4-Bromofluorobenzene	96.8		70-130	%REC	1	7/23/2015 01:51 PM
Surr: Dibromofluoromethane	94.7		70-130	%REC	1	7/23/2015 01:51 PM
Surr: Toluene-d8	95.0		70-130	%REC	1	7/23/2015 01:51 PM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>	Prep: USDA Method 20B / 7/27/15	Analyst: <b>JB</b>	
Electrical Conductivity @ Saturation	5.0		0.12	mmhos/cm @2	25	7/27/2015 02:00 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>	Analyst: <b>MB</b>		
Chromium, Trivalent	35		0.52	mg/Kg-dry	1	7/24/2015 04:25 PM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>	Prep: SW3060A / 7/23/15	Analyst: <b>MB</b>	
Chromium, Hexavalent	ND		1.0	mg/Kg-dry	1	7/24/2015 10:00 AM
<b>MOISTURE</b>			<b>E160.3M</b>	Analyst: <b>EVB</b>		
Moisture	4.1		0.050	% of sample	1	7/23/2015 01:35 PM
<b>PH</b>			<b>SW9045D</b>	Prep: EXTRACT / 7/23/15	Analyst: <b>STP</b>	
pH	7.5		s.u.		1	7/23/2015 04:00 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 28-Jul-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure  
**Sample ID:** North Wall  
**Collection Date:** 7/21/2015 02:00 PM

**Work Order:** 15071267  
**Lab ID:** 15071267-02  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep: SW3541 / 7/23/15	Analyst: <b>IT</b>
<b>DRO (C10-C28)</b>	<b>170</b>		<b>4.9</b>	<b>mg/Kg-dry</b>	<b>1</b>	7/23/2015 09:38 PM
Surr: 4-Terphenyl-d14	79.6		39-133	%REC	1	7/23/2015 09:38 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015D</b>		Prep: SW5035 / 7/23/15	Analyst: <b>IT</b>
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>3.0</b>	<b>mg/Kg-dry</b>	<b>1</b>	7/23/2015 06:56 PM
Surr: Toluene-d8	101		50-150	%REC	1	7/23/2015 06:56 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW846 6010C</b>		Prep: USDA Method 20B / 7/27/15	Analyst: <b>JEC</b>
<b>Calcium</b>	<b>120</b>		<b>5.0</b>	<b>mg/L</b>	<b>10</b>	7/28/2015 02:07 PM
<b>Magnesium</b>	<b>23</b>		<b>2.0</b>	<b>mg/L</b>	<b>10</b>	7/28/2015 02:07 PM
<b>Sodium</b>	<b>690</b>		<b>2.0</b>	<b>mg/L</b>	<b>10</b>	7/28/2015 02:07 PM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 7/27/15	Analyst: <b>JEC</b>
<b>Sodium Adsorption Ratio</b>	<b>15</b>		<b>0.010</b>	<b>none</b>	<b>1</b>	7/28/2015
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW846 8270D</b>		Prep: SW3541 / 7/23/15	Analyst: <b>RM</b>
Acenaphthene	ND		7.8	µg/Kg-dry	1	7/24/2015 03:31 AM
Acenaphthylene	ND		7.8	µg/Kg-dry	1	7/24/2015 03:31 AM
Anthracene	ND		7.8	µg/Kg-dry	1	7/24/2015 03:31 AM
Benzo(a)anthracene	ND		7.8	µg/Kg-dry	1	7/24/2015 03:31 AM
Benzo(a)pyrene	ND		7.8	µg/Kg-dry	1	7/24/2015 03:31 AM
Benzo(b)fluoranthene	ND		7.8	µg/Kg-dry	1	7/24/2015 03:31 AM
Benzo(g,h,i)perylene	ND		7.8	µg/Kg-dry	1	7/24/2015 03:31 AM
Benzo(k)fluoranthene	ND		7.8	µg/Kg-dry	1	7/24/2015 03:31 AM
Chrysene	ND		7.8	µg/Kg-dry	1	7/24/2015 03:31 AM
Dibenzo(a,h)anthracene	ND		7.8	µg/Kg-dry	1	7/24/2015 03:31 AM
Fluoranthene	ND		7.8	µg/Kg-dry	1	7/24/2015 03:31 AM
Fluorene	ND		7.8	µg/Kg-dry	1	7/24/2015 03:31 AM
Indeno(1,2,3-cd)pyrene	ND		7.8	µg/Kg-dry	1	7/24/2015 03:31 AM
Naphthalene	ND		7.8	µg/Kg-dry	1	7/24/2015 03:31 AM
Pyrene	ND		7.8	µg/Kg-dry	1	7/24/2015 03:31 AM
Surr: 2-Fluorobiphenyl	79.3		12-100	%REC	1	7/24/2015 03:31 AM
Surr: 4-Terphenyl-d14	83.8		25-137	%REC	1	7/24/2015 03:31 AM
Surr: Nitrobenzene-d5	75.5		37-107	%REC	1	7/24/2015 03:31 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8260B</b>		Prep: SW5035 / 7/23/15	Analyst: <b>AK</b>
<b>Benzene</b>	<b>ND</b>		<b>36</b>	<b>µg/Kg-dry</b>	<b>1</b>	7/23/2015 02:43 PM
<b>Ethylbenzene</b>	<b>ND</b>		<b>36</b>	<b>µg/Kg-dry</b>	<b>1</b>	7/23/2015 02:43 PM
<b>m,p-Xylene</b>	<b>ND</b>		<b>72</b>	<b>µg/Kg-dry</b>	<b>1</b>	7/23/2015 02:43 PM
<b>o-Xylene</b>	<b>ND</b>		<b>36</b>	<b>µg/Kg-dry</b>	<b>1</b>	7/23/2015 02:43 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 28-Jul-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure  
**Sample ID:** North Wall  
**Collection Date:** 7/21/2015 02:00 PM

**Work Order:** 15071267  
**Lab ID:** 15071267-02  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Toluene	ND		36	µg/Kg-dry	1	7/23/2015 02:43 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	7/23/2015 02:43 PM
Surr: 1,2-Dichloroethane-d4	100		70-130	%REC	1	7/23/2015 02:43 PM
Surr: 4-Bromofluorobenzene	97.8		70-130	%REC	1	7/23/2015 02:43 PM
Surr: Dibromofluoromethane	96.1		70-130	%REC	1	7/23/2015 02:43 PM
Surr: Toluene-d8	95.6		70-130	%REC	1	7/23/2015 02:43 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 7/27/15		Analyst: JB
Electrical Conductivity @ Saturation	4.2		0.050	mmhos/cm @2	10	7/27/2015 02:00 PM
MOISTURE			E160.3M			Analyst: EVB
Moisture	16		0.050	% of sample	1	7/23/2015 01:35 PM
PH			SW9045D	Prep: EXTRACT / 7/23/15		Analyst: STP
pH	8.1			s.u.	1	7/23/2015 04:00 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 28-Jul-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure  
**Sample ID:** East Wall  
**Collection Date:** 7/21/2015 02:20 PM

**Work Order:** 15071267  
**Lab ID:** 15071267-03  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep: SW3541 / 7/23/15	Analyst: <b>IT</b>
<b>DRO (C10-C28)</b>	<b>820</b>		<b>5.0</b>	<b>mg/Kg-dry</b>	1	7/23/2015 10:08 PM
Surr: 4-Terphenyl-d14	103		39-133	%REC	1	7/23/2015 10:08 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015D</b>		Prep: SW5035 / 7/23/15	Analyst: <b>IT</b>
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>3.0</b>	<b>mg/Kg-dry</b>	1	7/23/2015 08:58 PM
Surr: Toluene-d8	96.5		50-150	%REC	1	7/23/2015 08:58 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW846 6010C</b>		Prep: USDA Method 20B / 7/27/15	Analyst: <b>JEC</b>
<b>Calcium</b>	<b>170</b>		<b>5.0</b>	<b>mg/L</b>	10	7/28/2015 02:21 PM
<b>Magnesium</b>	<b>46</b>		<b>2.0</b>	<b>mg/L</b>	10	7/28/2015 02:21 PM
<b>Sodium</b>	<b>300</b>		<b>2.0</b>	<b>mg/L</b>	10	7/28/2015 02:21 PM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 7/27/15	Analyst: <b>JEC</b>
<b>Sodium Adsorption Ratio</b>	<b>5.3</b>		<b>0.010</b>	<b>none</b>	1	7/28/2015
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW846 8270D</b>		Prep: SW3541 / 7/23/15	Analyst: <b>RM</b>
Acenaphthene	ND		8.0	µg/Kg-dry	1	7/24/2015 03:51 AM
Acenaphthylene	ND		8.0	µg/Kg-dry	1	7/24/2015 03:51 AM
Anthracene	ND		8.0	µg/Kg-dry	1	7/24/2015 03:51 AM
<b>Benzo(a)anthracene</b>	<b>28</b>		<b>8.0</b>	<b>µg/Kg-dry</b>	1	7/24/2015 03:51 AM
<b>Benzo(a)pyrene</b>	<b>35</b>		<b>8.0</b>	<b>µg/Kg-dry</b>	1	7/24/2015 03:51 AM
<b>Benzo(b)fluoranthene</b>	<b>47</b>		<b>8.0</b>	<b>µg/Kg-dry</b>	1	7/24/2015 03:51 AM
<b>Benzo(g,h,i)perylene</b>	<b>28</b>		<b>8.0</b>	<b>µg/Kg-dry</b>	1	7/24/2015 03:51 AM
<b>Benzo(k)fluoranthene</b>	<b>18</b>		<b>8.0</b>	<b>µg/Kg-dry</b>	1	7/24/2015 03:51 AM
<b>Chrysene</b>	<b>37</b>		<b>8.0</b>	<b>µg/Kg-dry</b>	1	7/24/2015 03:51 AM
<b>Dibenzo(a,h)anthracene</b>	<b>14</b>		<b>8.0</b>	<b>µg/Kg-dry</b>	1	7/24/2015 03:51 AM
<b>Fluoranthene</b>	<b>67</b>		<b>8.0</b>	<b>µg/Kg-dry</b>	1	7/24/2015 03:51 AM
Fluorene	ND		8.0	µg/Kg-dry	1	7/24/2015 03:51 AM
<b>Indeno(1,2,3-cd)pyrene</b>	<b>35</b>		<b>8.0</b>	<b>µg/Kg-dry</b>	1	7/24/2015 03:51 AM
Naphthalene	ND		8.0	µg/Kg-dry	1	7/24/2015 03:51 AM
<b>Pyrene</b>	<b>56</b>		<b>8.0</b>	<b>µg/Kg-dry</b>	1	7/24/2015 03:51 AM
Surr: 2-Fluorobiphenyl	81.7		12-100	%REC	1	7/24/2015 03:51 AM
Surr: 4-Terphenyl-d14	85.5		25-137	%REC	1	7/24/2015 03:51 AM
Surr: Nitrobenzene-d5	90.0		37-107	%REC	1	7/24/2015 03:51 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8260B</b>		Prep: SW5035 / 7/23/15	Analyst: <b>AK</b>
<b>Benzene</b>	<b>ND</b>		<b>36</b>	<b>µg/Kg-dry</b>	1	7/23/2015 03:08 PM
<b>Ethylbenzene</b>	<b>ND</b>		<b>36</b>	<b>µg/Kg-dry</b>	1	7/23/2015 03:08 PM
<b>m,p-Xylene</b>	<b>ND</b>		<b>73</b>	<b>µg/Kg-dry</b>	1	7/23/2015 03:08 PM
<b>o-Xylene</b>	<b>ND</b>		<b>36</b>	<b>µg/Kg-dry</b>	1	7/23/2015 03:08 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 28-Jul-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure  
**Sample ID:** East Wall  
**Collection Date:** 7/21/2015 02:20 PM

**Work Order:** 15071267  
**Lab ID:** 15071267-03  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Toluene	ND		36	µg/Kg-dry	1	7/23/2015 03:08 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	7/23/2015 03:08 PM
Surr: 1,2-Dichloroethane-d4	97.3		70-130	%REC	1	7/23/2015 03:08 PM
Surr: 4-Bromofluorobenzene	98.0		70-130	%REC	1	7/23/2015 03:08 PM
Surr: Dibromofluoromethane	94.9		70-130	%REC	1	7/23/2015 03:08 PM
Surr: Toluene-d8	95.6		70-130	%REC	1	7/23/2015 03:08 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 7/27/15		Analyst: JB
Electrical Conductivity @ Saturation	2.8		0.050	mmhos/cm @2	10	7/27/2015 02:00 PM
MOISTURE			E160.3M			Analyst: EVB
Moisture	18		0.050	% of sample	1	7/23/2015 01:35 PM
PH			SW9045D	Prep: EXTRACT / 7/23/15		Analyst: STP
pH	8.2			s.u.	1	7/23/2015 04:00 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 28-Jul-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure  
**Sample ID:** West Wall  
**Collection Date:** 7/21/2015 02:30 PM

**Work Order:** 15071267  
**Lab ID:** 15071267-04  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep: SW3541 / 7/23/15	Analyst: <b>IT</b>
<b>DRO (C10-C28)</b>	<b>99</b>		<b>4.9</b>	<b>mg/Kg-dry</b>	1	7/23/2015 11:08 PM
Surr: 4-Terphenyl-d14	64.4		39-133	%REC	1	7/23/2015 11:08 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015D</b>		Prep: SW5035 / 7/23/15	Analyst: <b>IT</b>
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>3.0</b>	<b>mg/Kg-dry</b>	1	7/23/2015 09:22 PM
Surr: Toluene-d8	95.2		50-150	%REC	1	7/23/2015 09:22 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW846 6010C</b>		Prep: USDA Method 20B / 7/27/15	Analyst: <b>JEC</b>
<b>Calcium</b>	<b>540</b>		<b>5.0</b>	<b>mg/L</b>	10	7/28/2015 02:27 PM
<b>Magnesium</b>	<b>120</b>		<b>2.0</b>	<b>mg/L</b>	10	7/28/2015 02:27 PM
<b>Sodium</b>	<b>1,200</b>		<b>2.0</b>	<b>mg/L</b>	10	7/28/2015 02:27 PM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 7/27/15	Analyst: <b>JEC</b>
<b>Sodium Adsorption Ratio</b>	<b>12</b>		<b>0.010</b>	<b>none</b>	1	7/28/2015
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW846 8270D</b>		Prep: SW3541 / 7/23/15	Analyst: <b>RM</b>
Acenaphthene	ND		7.9	µg/Kg-dry	1	7/24/2015 04:11 AM
Acenaphthylene	ND		7.9	µg/Kg-dry	1	7/24/2015 04:11 AM
Anthracene	ND		7.9	µg/Kg-dry	1	7/24/2015 04:11 AM
Benzo(a)anthracene	ND		7.9	µg/Kg-dry	1	7/24/2015 04:11 AM
Benzo(a)pyrene	ND		7.9	µg/Kg-dry	1	7/24/2015 04:11 AM
Benzo(b)fluoranthene	ND		7.9	µg/Kg-dry	1	7/24/2015 04:11 AM
Benzo(g,h,i)perylene	ND		7.9	µg/Kg-dry	1	7/24/2015 04:11 AM
Benzo(k)fluoranthene	ND		7.9	µg/Kg-dry	1	7/24/2015 04:11 AM
Chrysene	ND		7.9	µg/Kg-dry	1	7/24/2015 04:11 AM
Dibenzo(a,h)anthracene	ND		7.9	µg/Kg-dry	1	7/24/2015 04:11 AM
<b>Fluoranthene</b>	<b>8.2</b>		<b>7.9</b>	<b>µg/Kg-dry</b>	1	7/24/2015 04:11 AM
Fluorene	ND		7.9	µg/Kg-dry	1	7/24/2015 04:11 AM
Indeno(1,2,3-cd)pyrene	ND		7.9	µg/Kg-dry	1	7/24/2015 04:11 AM
Naphthalene	ND		7.9	µg/Kg-dry	1	7/24/2015 04:11 AM
<b>Pyrene</b>	<b>18</b>		<b>7.9</b>	<b>µg/Kg-dry</b>	1	7/24/2015 04:11 AM
Surr: 2-Fluorobiphenyl	76.7		12-100	%REC	1	7/24/2015 04:11 AM
Surr: 4-Terphenyl-d14	77.3		25-137	%REC	1	7/24/2015 04:11 AM
Surr: Nitrobenzene-d5	85.2		37-107	%REC	1	7/24/2015 04:11 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8260B</b>		Prep: SW5035 / 7/23/15	Analyst: <b>AK</b>
<b>Benzene</b>	<b>ND</b>		<b>36</b>	<b>µg/Kg-dry</b>	1	7/23/2015 03:33 PM
<b>Ethylbenzene</b>	<b>ND</b>		<b>36</b>	<b>µg/Kg-dry</b>	1	7/23/2015 03:33 PM
<b>m,p-Xylene</b>	<b>ND</b>		<b>72</b>	<b>µg/Kg-dry</b>	1	7/23/2015 03:33 PM
<b>o-Xylene</b>	<b>ND</b>		<b>36</b>	<b>µg/Kg-dry</b>	1	7/23/2015 03:33 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 28-Jul-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure  
**Sample ID:** West Wall  
**Collection Date:** 7/21/2015 02:30 PM

**Work Order:** 15071267  
**Lab ID:** 15071267-04  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Toluene	ND		36	µg/Kg-dry	1	7/23/2015 03:33 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	7/23/2015 03:33 PM
Surr: 1,2-Dichloroethane-d4	96.4		70-130	%REC	1	7/23/2015 03:33 PM
Surr: 4-Bromofluorobenzene	102		70-130	%REC	1	7/23/2015 03:33 PM
Surr: Dibromofluoromethane	94.6		70-130	%REC	1	7/23/2015 03:33 PM
Surr: Toluene-d8	95.7		70-130	%REC	1	7/23/2015 03:33 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 7/27/15		Analyst: JB
Electrical Conductivity @ Saturation	10		0.050	mmhos/cm @2	10	7/27/2015 02:00 PM
MOISTURE			E160.3M			Analyst: EVB
Moisture	16		0.050	% of sample	1	7/23/2015 01:35 PM
PH			SW9045D	Prep: EXTRACT / 7/23/15		Analyst: STP
pH	7.8			s.u.	1	7/23/2015 04:00 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 28-Jul-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure  
**Sample ID:** South Wall  
**Collection Date:** 7/21/2015 02:15 PM

**Work Order:** 15071267  
**Lab ID:** 15071267-05  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep: SW3541 / 7/23/15	Analyst: <b>IT</b>
<b>DRO (C10-C28)</b>	<b>83</b>		<b>5.2</b>	<b>mg/Kg-dry</b>	1	7/23/2015 11:38 PM
Surr: 4-Terphenyl-d14	64.3		39-133	%REC	1	7/23/2015 11:38 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015D</b>		Prep: SW5035 / 7/23/15	Analyst: <b>IT</b>
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>3.1</b>	<b>mg/Kg-dry</b>	1	7/23/2015 09:46 PM
Surr: Toluene-d8	103		50-150	%REC	1	7/23/2015 09:46 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW846 6010C</b>		Prep: USDA Method 20B / 7/27/15	Analyst: <b>JEC</b>
<b>Calcium</b>	<b>58</b>		<b>5.0</b>	<b>mg/L</b>	10	7/28/2015 02:32 PM
<b>Magnesium</b>	<b>9.4</b>		<b>2.0</b>	<b>mg/L</b>	10	7/28/2015 02:32 PM
<b>Sodium</b>	<b>830</b>		<b>2.0</b>	<b>mg/L</b>	10	7/28/2015 02:32 PM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 7/27/15	Analyst: <b>JEC</b>
<b>Sodium Adsorption Ratio</b>	<b>27</b>		<b>0.010</b>	<b>none</b>	1	7/28/2015
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW846 8270D</b>		Prep: SW3541 / 7/23/15	Analyst: <b>RM</b>
Acenaphthene	ND		8.2	µg/Kg-dry	1	7/24/2015 04:31 AM
Acenaphthylene	ND		8.2	µg/Kg-dry	1	7/24/2015 04:31 AM
Anthracene	ND		8.2	µg/Kg-dry	1	7/24/2015 04:31 AM
Benzo(a)anthracene	ND		8.2	µg/Kg-dry	1	7/24/2015 04:31 AM
Benzo(a)pyrene	ND		8.2	µg/Kg-dry	1	7/24/2015 04:31 AM
Benzo(b)fluoranthene	ND		8.2	µg/Kg-dry	1	7/24/2015 04:31 AM
Benzo(g,h,i)perylene	ND		8.2	µg/Kg-dry	1	7/24/2015 04:31 AM
Benzo(k)fluoranthene	ND		8.2	µg/Kg-dry	1	7/24/2015 04:31 AM
Chrysene	ND		8.2	µg/Kg-dry	1	7/24/2015 04:31 AM
Dibenzo(a,h)anthracene	ND		8.2	µg/Kg-dry	1	7/24/2015 04:31 AM
Fluoranthene	ND		8.2	µg/Kg-dry	1	7/24/2015 04:31 AM
Fluorene	ND		8.2	µg/Kg-dry	1	7/24/2015 04:31 AM
Indeno(1,2,3-cd)pyrene	ND		8.2	µg/Kg-dry	1	7/24/2015 04:31 AM
Naphthalene	ND		8.2	µg/Kg-dry	1	7/24/2015 04:31 AM
<b>Pyrene</b>	<b>9.9</b>		<b>8.2</b>	<b>µg/Kg-dry</b>	1	7/24/2015 04:31 AM
Surr: 2-Fluorobiphenyl	79.9		12-100	%REC	1	7/24/2015 04:31 AM
Surr: 4-Terphenyl-d14	81.1		25-137	%REC	1	7/24/2015 04:31 AM
Surr: Nitrobenzene-d5	93.4		37-107	%REC	1	7/24/2015 04:31 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8260B</b>		Prep: SW5035 / 7/23/15	Analyst: <b>AK</b>
<b>Benzene</b>	<b>ND</b>		<b>37</b>	<b>µg/Kg-dry</b>	1	7/23/2015 03:58 PM
<b>Ethylbenzene</b>	<b>ND</b>		<b>37</b>	<b>µg/Kg-dry</b>	1	7/23/2015 03:58 PM
<b>m,p-Xylene</b>	<b>ND</b>		<b>75</b>	<b>µg/Kg-dry</b>	1	7/23/2015 03:58 PM
<b>o-Xylene</b>	<b>ND</b>		<b>37</b>	<b>µg/Kg-dry</b>	1	7/23/2015 03:58 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 28-Jul-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure  
**Sample ID:** South Wall  
**Collection Date:** 7/21/2015 02:15 PM

**Work Order:** 15071267  
**Lab ID:** 15071267-05  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Toluene	ND		37	µg/Kg-dry	1	7/23/2015 03:58 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	7/23/2015 03:58 PM
Surr: 1,2-Dichloroethane-d4	96.7		70-130	%REC	1	7/23/2015 03:58 PM
Surr: 4-Bromofluorobenzene	99.6		70-130	%REC	1	7/23/2015 03:58 PM
Surr: Dibromofluoromethane	94.2		70-130	%REC	1	7/23/2015 03:58 PM
Surr: Toluene-d8	97.0		70-130	%REC	1	7/23/2015 03:58 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO		Prep: USDA Method 20B / 7/27/15	Analyst: JB
Electrical Conductivity @ Saturation	4.5		0.12	mmhos/cm @2	25	7/27/2015 02:00 PM
MOISTURE			E160.3M			Analyst: EVB
Moisture	20		0.050	% of sample	1	7/23/2015 01:35 PM
PH			SW9045D		Prep: EXTRACT / 7/23/15	Analyst: STP
pH	9.2			s.u.	1	7/23/2015 04:00 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 28-Jul-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure  
**Sample ID:** BKGD 1  
**Collection Date:** 7/21/2015 02:50 PM

**Work Order:** 15071267  
**Lab ID:** 15071267-06  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>METALS ANALYSIS BY ICP</b>						
Arsenic	7.6		SW846 6010C 0.44	mg/Kg-dry	Prep: SW3050B / 7/23/15 1	Analyst: RH 7/23/2015 05:26 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
Calcium	180		SW846 6010C 5.0	mg/L	Prep: USDA Method 20B / 7/27/15 10	Analyst: JEC 7/28/2015 02:38 PM
Magnesium	25		2.0	mg/L	10	7/28/2015 02:38 PM
Sodium	11		2.0	mg/L	10	7/28/2015 02:38 PM
<b>SODIUM ADSORPTION RATIO</b>						
Sodium Adsorption Ratio	0.21		USDA H60 METHO 0.010	none	Prep: USDA Method 20B / 7/27/15 1	Analyst: JEC 7/28/2015
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>						
Electrical Conductivity @ Saturation	1.1		USDA H60 METHO 0.050	mmhos/cm @2	Prep: USDA Method 20B / 7/27/15 10	Analyst: JB 7/27/2015 02:00 PM
<b>MOISTURE</b>						
Moisture	9.6		E160.3M 0.050	% of sample	1	Analyst: EVB 7/23/2015 01:35 PM
<b>PH</b>						
pH	7.0		SW9045D	s.u.	Prep: EXTRACT / 7/23/15 1	Analyst: STP 7/23/2015 04:00 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp****Date:** 28-Jul-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure  
**Sample ID:** BKGD 2  
**Collection Date:** 7/21/2015 02:55 PM

**Work Order:** 15071267  
**Lab ID:** 15071267-07  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>						
<b>METALS ANALYSIS BY ICP</b>			<b>SW846 6010C</b>		Prep: SW3050B / 7/23/15	Analyst: <b>RH</b>
Arsenic	8.1		0.45	mg/Kg-dry	1	7/23/2015 05:31 PM
<b>MOISTURE</b>			<b>E160.3M</b>			Analyst: <b>EVB</b>
Moisture	17		0.050	% of sample	1	7/23/2015 01:35 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp****Date:** 28-Jul-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure  
**Sample ID:** BKGD 3  
**Collection Date:** 7/21/2015 03:00 PM

**Work Order:** 15071267  
**Lab ID:** 15071267-08  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>METALS ANALYSIS BY ICP</b>						
Arsenic	8.7		SW846 6010C 0.37	mg/Kg-dry	Prep: SW3050B / 7/23/15 1	Analyst: RH 7/23/2015 05:37 PM
<b>MOISTURE</b>						
Moisture	11		E160.3M 0.050	% of sample	1	Analyst: EVB 7/23/2015 01:35 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

Client: HRL Compliance Solutions, Inc

Work Order: 15071267

Project: WPX Energy - AP 41-14-695 - Pit Closure

# QC BATCH REPORT

Batch ID: 73893

Instrument ID GC8

Method: SW8015M

<b>MBLK</b>		Sample ID: <b>DBLKS1-73893-73893</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/23/2015 05:38 PM</b>		
Client ID:		Run ID: <b>GC8_150723A</b>				SeqNo: <b>3385165</b>		Prep Date: <b>7/23/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	ND	5.0								
Surr: 4-Terphenyl-d14	1.615	0	2	0	80.8	39-133	0			

<b>LCS</b>		Sample ID: <b>DLCSS1-73893-73893</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/23/2015 06:08 PM</b>		
Client ID:		Run ID: <b>GC8_150723A</b>				SeqNo: <b>3385167</b>		Prep Date: <b>7/23/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	178	5.0	200	0	89	61-109	0			
Surr: 4-Terphenyl-d14	1.693	0	2	0	84.6	39-133	0			

<b>MS</b>		Sample ID: <b>15071236-01A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/23/2015 06:38 PM</b>		
Client ID:		Run ID: <b>GC8_150723A</b>				SeqNo: <b>3385169</b>		Prep Date: <b>7/23/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	456.3	8.1	322.5	311.9	44.8	48-110	0			S
Surr: 4-Terphenyl-d14	3.423	0	3.225	0	106	39-133	0			

<b>MSD</b>		Sample ID: <b>15071236-01A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/23/2015 07:08 PM</b>		
Client ID:		Run ID: <b>GC8_150723A</b>				SeqNo: <b>3385170</b>		Prep Date: <b>7/23/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	434.9	8.1	322.4	311.9	38.1	48-110	456.3	4.81	30	S
Surr: 4-Terphenyl-d14	3.354	0	3.224	0	104	39-133	3.423	2.03	30	

The following samples were analyzed in this batch:

15071267-01A	15071267-02A	15071267-03A
15071267-04A	15071267-05A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 15071267  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure

## QC BATCH REPORT

Batch ID: **73900**      Instrument ID **GC10**      Method: **SW8015D**

<b>MBLK</b>		Sample ID: <b>MBLK-73900-73900</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>7/23/2015 04:55 PM</b>		
Client ID:		Run ID: <b>GC10_150723A</b>				SeqNo: <b>3385136</b>		Prep Date: <b>7/23/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	ND	2,500								
Surr: Toluene-d8	4963	0	5000	0	99.3	50-150	0			

<b>LCS</b>		Sample ID: <b>LCS-73900-73900</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>7/23/2015 04:30 PM</b>		
Client ID:		Run ID: <b>GC10_150723A</b>				SeqNo: <b>3385135</b>		Prep Date: <b>7/23/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	592100	2,500	500000	0	118	70-130	0			
Surr: Toluene-d8	4868	0	5000	0	97.4	50-150	0			

<b>MS</b>		Sample ID: <b>15071247-02A MS</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>7/23/2015 07:45 PM</b>		
Client ID:		Run ID: <b>GC10_150723A</b>				SeqNo: <b>3385143</b>		Prep Date: <b>7/23/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	586000	2,500	500000	0	117	70-130	0			
Surr: Toluene-d8	4710	0	5000	0	94.2	50-150	0			

<b>MSD</b>		Sample ID: <b>15071247-02A MSD</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>7/23/2015 08:09 PM</b>		
Client ID:		Run ID: <b>GC10_150723A</b>				SeqNo: <b>3385144</b>		Prep Date: <b>7/23/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	605900	2,500	500000	0	121	70-130	586000	3.33	30	
Surr: Toluene-d8	4870	0	5000	0	97.4	50-150	4710	3.32	30	

The following samples were analyzed in this batch:

15071267-01A	15071267-02A	15071267-03A
15071267-04A	15071267-05A	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 15071267  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure

## QC BATCH REPORT

Batch ID: **73937** Instrument ID **HG1** Method: **SW7471B**

<b>MBLK</b>		Sample ID: <b>MBLK-73937-73937</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/24/2015 03:24 PM</b>		
Client ID:		Run ID: <b>HG1_150724A</b>				SeqNo: <b>3385740</b>		Prep Date: <b>7/24/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury ND 0.020

<b>LCS</b>		Sample ID: <b>LCS-73937-73937</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/24/2015 03:26 PM</b>		
Client ID:		Run ID: <b>HG1_150724A</b>				SeqNo: <b>3385741</b>		Prep Date: <b>7/24/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1797 0.020 0.1665 0 108 80-120 0

<b>MS</b>		Sample ID: <b>15071308-02BMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/24/2015 03:31 PM</b>		
Client ID:		Run ID: <b>HG1_150724A</b>				SeqNo: <b>3385744</b>		Prep Date: <b>7/24/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1191 0.013 0.105 0.005277 108 75-125 0

<b>MSD</b>		Sample ID: <b>15071308-02BMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/24/2015 03:33 PM</b>		
Client ID:		Run ID: <b>HG1_150724A</b>				SeqNo: <b>3385745</b>		Prep Date: <b>7/24/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.123 0.013 0.1063 0.005277 111 75-125 0.1191 3.22 35

The following samples were analyzed in this batch:

15071267-01A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 15071267  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure

## QC BATCH REPORT

Batch ID: **73903** Instrument ID **ICP2** Method: **SW846 6010C**

<b>MBLK</b>		Sample ID: <b>MBLK-73903-73903</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/23/2015 03:19 PM</b>		
Client ID:		Run ID: <b>ICP2_150723B</b>				SeqNo: <b>3384731</b>		Prep Date: <b>7/23/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	ND	0.50								
Chromium	0.01415	0.25								J
Copper	ND	0.50								
Lead	ND	0.25								
Nickel	ND	0.25								
Selenium	ND	0.50								
Silver	ND	0.25								
Zinc	ND	0.50								

<b>LCS</b>		Sample ID: <b>LCS-73903-73903</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/23/2015 03:25 PM</b>		
Client ID:		Run ID: <b>ICP2_150723B</b>				SeqNo: <b>3384732</b>		Prep Date: <b>7/23/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.951	0.25	5	0	99	80-120	0			
Barium	4.985	0.25	5	0	99.7	80-120	0			
Cadmium	4.788	0.50	5	0	95.8	80-120	0			
Chromium	5.173	0.25	5	0	103	80-120	0			
Copper	5.242	0.50	5	0	105	80-120	0			
Lead	5.148	0.25	5	0	103	80-120	0			
Nickel	5.23	0.25	5	0	105	80-120	0			
Selenium	5.08	0.50	5	0	102	80-120	0			
Silver	4.896	0.25	5	0	97.9	80-120	0			
Zinc	4.863	0.50	5	0	97.3	80-120	0			

<b>MS</b>		Sample ID: <b>15071247-03AMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/23/2015 04:26 PM</b>		
Client ID:		Run ID: <b>ICP2_150723B</b>				SeqNo: <b>3384743</b>		Prep Date: <b>7/23/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	15.93	0.37	7.474	8.174	104	75-125	0			
Barium	308.8	0.37	7.474	282.9	346	75-125	0			SO
Cadmium	6.987	0.75	7.474	-0.09547	94.8	75-125	0			
Chromium	67.08	0.37	7.474	57.1	133	75-125	0			SO
Copper	19.94	0.75	7.474	11.46	113	75-125	0			
Lead	13.45	0.37	7.474	6.96	86.8	75-125	0			
Nickel	44.66	0.37	7.474	34.07	142	75-125	0			SO
Selenium	8.028	0.75	7.474	0.4858	101	75-125	0			
Silver	7.392	0.37	7.474	-0.04362	99.5	75-125	0			
Zinc	36.56	0.75	7.474	26.31	137	75-125	0			S

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 15071267  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure

## QC BATCH REPORT

Batch ID: **73903**      Instrument ID **ICP2**      Method: **SW846 6010C**

MSD		Sample ID: <b>15071247-03AMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/23/2015 04:31 PM</b>		
Client ID:		Run ID: <b>ICP2_150723B</b>				SeqNo: <b>3384744</b>		Prep Date: <b>7/23/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	15.86	0.37	7.452	8.174	103	75-125	15.93	0.44	20	
Barium	308.3	0.37	7.452	282.9	341	75-125	308.8	0.165	20	SO
Cadmium	7.012	0.75	7.452	-0.09547	95.4	75-125	6.987	0.351	20	
Chromium	69.15	0.37	7.452	57.1	162	75-125	67.08	3.04	20	SO
Copper	19.81	0.75	7.452	11.46	112	75-125	19.94	0.631	20	
Lead	13.53	0.37	7.452	6.96	88.1	75-125	13.45	0.593	20	
Nickel	45.67	0.37	7.452	34.07	156	75-125	44.66	2.25	20	SO
Selenium	8.094	0.75	7.452	0.4858	102	75-125	8.028	0.82	20	
Silver	7.434	0.37	7.452	-0.04362	100	75-125	7.392	0.56	20	
Zinc	35.46	0.75	7.452	26.31	123	75-125	36.56	3.05	20	

The following samples were analyzed in this batch:

15071267-01A	15071267-06A	15071267-07A
15071267-08A		

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 15071267  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure

## QC BATCH REPORT

Batch ID: **73922**      Instrument ID **ICP2**      Method: **SW846 6010C**

<b>DUP</b>		Sample ID: <b>15071236-01ADUP</b>				Units: <b>mg/L</b>		Analysis Date: <b>7/28/2015 11:18 AM</b>		
Client ID:		Run ID: <b>ICP2_150728A</b>				SeqNo: <b>3390043</b>		Prep Date: <b>7/27/2015</b>		DF: <b>10</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	185.4	5.0	0	0	0	0-0	166.2	10.9		
Magnesium	2.456	2.0	0	0	0	0-0	2.614	6.24		
Sodium	1258	2.0	0	0	0	0-0	1153	8.71		

<b>DUP</b>		Sample ID: <b>15071236-01ADUP</b>				Units: <b>none</b>		Analysis Date: <b>7/28/2015</b>		
Client ID:		Run ID: <b>SAR_150728A</b>				SeqNo: <b>3390155</b>		Prep Date: <b>7/27/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	25.17	0.010	0	0	0		24.31	3.46	50	

The following samples were analyzed in this batch:

15071267-01A	15071267-02A	15071267-03A
15071267-04A	15071267-05A	15071267-06A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 15071267  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure

## QC BATCH REPORT

Batch ID: **73897**      Instrument ID **SVMS5**      Method: **SW846 8270D**

<b>MBLK</b>		Sample ID: <b>SBLKS1-73897-73897</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>7/23/2015 04:39 PM</b>		
Client ID:		Run ID: <b>SVMS5_150723A</b>				SeqNo: <b>3385063</b>		Prep Date: <b>7/23/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	6.7								
Acenaphthylene	ND	6.7								
Anthracene	ND	6.7								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(g,h,i)perylene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Chrysene	ND	6.7								
Dibenzo(a,h)anthracene	ND	6.7								
Fluoranthene	ND	6.7								
Fluorene	ND	6.7								
Indeno(1,2,3-cd)pyrene	ND	6.7								
Naphthalene	ND	6.7								
Pyrene	ND	6.7								
<i>Surr: 2,4,6-Tribromophenol</i>	1646	0	1667	0	98.8	34-140	0			
<i>Surr: 2-Fluorobiphenyl</i>	1500	0	1667	0	90	12-100	0			
<i>Surr: 2-Fluorophenol</i>	1626	0	1667	0	97.5	33-117	0			
<i>Surr: 4-Terphenyl-d14</i>	1620	0	1667	0	97.2	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1513	0	1667	0	90.8	37-107	0			
<i>Surr: Phenol-d6</i>	1589	0	1667	0	95.3	40-106	0			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 15071267  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure

## QC BATCH REPORT

Batch ID: **73897**      Instrument ID **SVMS5**      Method: **SW846 8270D**

LCS		Sample ID: <b>SLCSS1-73897-73897</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>7/23/2015 05:01 PM</b>		
Client ID:		Run ID: <b>SVMS5_150723A</b>				SeqNo: <b>3385064</b>		Prep Date: <b>7/23/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	619.3	6.7	666.7	0	92.9	45-110	0			
Acenaphthylene	618.7	6.7	666.7	0	92.8	45-105	0			
Anthracene	660.7	6.7	666.7	0	99.1	55-105	0			
Benzo(a)anthracene	663	6.7	666.7	0	99.4	50-110	0			
Benzo(a)pyrene	649	6.7	666.7	0	97.3	50-110	0			
Benzo(b)fluoranthene	687.7	6.7	666.7	0	103	45-115	0			
Benzo(g,h,i)perylene	635	6.7	666.7	0	95.2	40-125	0			
Benzo(k)fluoranthene	665.7	6.7	666.7	0	99.8	45-115	0			
Chrysene	656	6.7	666.7	0	98.4	55-110	0			
Dibenzo(a,h)anthracene	635	6.7	666.7	0	95.2	40-125	0			
Fluoranthene	664.3	6.7	666.7	0	99.6	55-115	0			
Fluorene	623.3	6.7	666.7	0	93.5	50-110	0			
Indeno(1,2,3-cd)pyrene	612	6.7	666.7	0	91.8	40-120	0			
Naphthalene	452.3	6.7	666.7	0	67.8	40-105	0			
Pyrene	695	6.7	666.7	0	104	45-125	0			
<i>Surr: 2,4,6-Tribromophenol</i>										
	1940	0	1667	0	116	34-140	0			
<i>Surr: 2-Fluorobiphenyl</i>										
	1514	0	1667	0	90.9	12-100	0			
<i>Surr: 2-Fluorophenol</i>										
	1599	0	1667	0	96	33-117	0			
<i>Surr: 4-Terphenyl-d14</i>										
	1632	0	1667	0	97.9	25-137	0			
<i>Surr: Nitrobenzene-d5</i>										
	1512	0	1667	0	90.7	37-107	0			
<i>Surr: Phenol-d6</i>										
	1535	0	1667	0	92.1	40-106	0			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 15071267  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure

## QC BATCH REPORT

Batch ID: **73897**      Instrument ID **SVMS5**      Method: **SW846 8270D**

MS				Sample ID: <b>15071267-01A MS</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>7/23/2015 07:39 PM</b>	
Client ID: <b>Pit Bottom</b>				Run ID: <b>SVMS5_150723A</b>			SeqNo: <b>3385065</b>		Prep Date: <b>7/23/2015</b>	
							DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1153	13	1314	0	87.7	45-110	0			
Acenaphthylene	1160	13	1314	0	88.3	45-105	0			
Anthracene	1277	13	1314	0	97.2	55-105	0			
Benzo(a)anthracene	1244	13	1314	0	94.7	50-110	0			
Benzo(a)pyrene	1201	13	1314	0	91.4	50-110	0			
Benzo(b)fluoranthene	1243	13	1314	0	94.6	45-115	0			
Benzo(g,h,i)perylene	1175	13	1314	0	89.4	40-125	0			
Benzo(k)fluoranthene	1218	13	1314	0	92.7	45-115	0			
Chrysene	1218	13	1314	0	92.7	55-110	0			
Dibenzo(a,h)anthracene	1156	13	1314	0	88	40-125	0			
Fluoranthene	1316	13	1314	0	100	55-115	0			
Fluorene	1205	13	1314	0	91.7	50-110	0			
Indeno(1,2,3-cd)pyrene	1147	13	1314	0	87.3	40-120	0			
Naphthalene	688.3	13	1314	0	52.4	40-105	0			
Pyrene	1285	13	1314	0	97.8	45-125	0			
Surr: 2,4,6-Tribromophenol	3799	0	3284	0	116	34-140	0			
Surr: 2-Fluorobiphenyl	2632	0	3284	0	80.1	12-100	0			
Surr: 2-Fluorophenol	2253	0	3284	0	68.6	33-117	0			
Surr: 4-Terphenyl-d14	3078	0	3284	0	93.7	25-137	0			
Surr: Nitrobenzene-d5	2173	0	3284	0	66.2	37-107	0			
Surr: Phenol-d6	2438	0	3284	0	74.2	40-106	0			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 15071267  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure

## QC BATCH REPORT

Batch ID: **73897**      Instrument ID **SVMS5**      Method: **SW846 8270D**

MSD				Sample ID: 15071267-01A MSD			Units: µg/Kg		Analysis Date: 7/23/2015 08:01 PM	
Client ID: Pit Bottom				Run ID: SVMS5_150723A			SeqNo: 3385066		Prep Date: 7/23/2015	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1183	13	1266	0	93.5	45-110	1153	2.63	30	
Acenaphthylene	1187	13	1266	0	93.8	45-105	1160	2.33	30	
Anthracene	1171	13	1266	0	92.5	55-105	1277	8.66	30	
Benzo(a)anthracene	1059	13	1266	0	83.6	50-110	1244	16.1	30	
Benzo(a)pyrene	1030	13	1266	0	81.3	50-110	1201	15.3	30	
Benzo(b)fluoranthene	1063	13	1266	0	84	45-115	1243	15.6	30	
Benzo(g,h,i)perylene	1003	13	1266	0	79.2	40-125	1175	15.8	30	
Benzo(k)fluoranthene	1011	13	1266	0	79.8	45-115	1218	18.6	30	
Chrysene	1025	13	1266	0	81	55-110	1218	17.2	30	
Dibenzo(a,h)anthracene	986.6	13	1266	0	77.9	40-125	1156	15.8	30	
Fluoranthene	1135	13	1266	0	89.7	55-115	1316	14.7	30	
Fluorene	1175	13	1266	0	92.8	50-110	1205	2.52	30	
Indeno(1,2,3-cd)pyrene	1007	13	1266	0	79.5	40-120	1147	13	30	
Naphthalene	836.6	13	1266	0	66.1	40-105	688.3	19.5	30	
Pyrene	1118	13	1266	0	88.3	45-125	1285	13.9	30	
Surr: 2,4,6-Tribromophenol	3500	0	3164	0	111	34-140	3799	8.2	40	
Surr: 2-Fluorobiphenyl	2793	0	3164	0	88.3	12-100	2632	5.94	40	
Surr: 2-Fluorophenol	2942	0	3164	0	93	33-117	2253	26.5	40	
Surr: 4-Terphenyl-d14	2517	0	3164	0	79.5	25-137	3078	20.1	40	
Surr: Nitrobenzene-d5	2748	0	3164	0	86.9	37-107	2173	23.4	40	
Surr: Phenol-d6	2861	0	3164	0	90.4	40-106	2438	16	40	

The following samples were analyzed in this batch:

15071267-01A	15071267-02A	15071267-03A
15071267-04A	15071267-05A	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 15071267  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure

## QC BATCH REPORT

Batch ID: **73901**      Instrument ID **VMS9**      Method: **SW8260B**

MBLK				Sample ID: MBLK-73901-73901				Units: µg/Kg			Analysis Date: 7/23/2015 02:50 PM			
Client ID:				Run ID: VMS9_150723A				SeqNo: 3384695			Prep Date: 7/23/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Benzene	ND	30												
Ethylbenzene	ND	30												
m,p-Xylene	ND	60												
o-Xylene	ND	30												
Toluene	ND	30												
Xylenes, Total	ND	90												
Surr: 1,2-Dichloroethane-d4	1048	0	1000	0	105	70-130		0						
Surr: 4-Bromofluorobenzene	826.5	0	1000	0	82.6	70-130		0						
Surr: Dibromofluoromethane	1086	0	1000	0	109	70-130		0						
Surr: Toluene-d8	926.5	0	1000	0	92.6	70-130		0						

LCS				Sample ID: LCS-73901-73901			Units: µg/Kg		Analysis Date: 7/23/2015 12:42 PM		
Client ID:			Run ID: VMS9_150723A			SeqNo: 3384694		Prep Date: 7/23/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	937.5	30	1000	0	93.8	75-125	0				
Ethylbenzene	882.5	30	1000	0	88.2	75-125	0				
m,p-Xylene	1818	60	2000	0	90.9	80-125	0				
o-Xylene	885.5	30	1000	0	88.6	75-125	0				
Toluene	875.5	30	1000	0	87.6	70-125	0				
Xylenes, Total	2703	90	3000	0	90.1	75-125	0				
Surr: 1,2-Dichloroethane-d4	1020	0	1000	0	102	70-130	0				
Surr: 4-Bromofluorobenzene	1018	0	1000	0	102	70-130	0				
Surr: Dibromofluoromethane	1058	0	1000	0	106	70-130	0				
Surr: Toluene-d8	986.5	0	1000	0	98.6	70-130	0				

MS				Sample ID: 15071247-02A MS				Units: µg/Kg		Analysis Date: 7/24/2015 03:19 AM	
Client ID:			Run ID: VMS5_150723A			SeqNo: 3385618		Prep Date: 7/23/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1110	30	1000	0	111	75-125	0				
Ethylbenzene	1112	30	1000	0	111	75-125	0				
m,p-Xylene	2242	60	2000	0	112	80-125	0				
o-Xylene	1050	30	1000	0	105	75-125	0				
Toluene	1098	30	1000	12	109	70-125	0				
Xylenes, Total	3292	90	3000	0	110	75-125	0				
Surr: 1,2-Dichloroethane-d4	1015	0	1000	0	102	70-130	0				
Surr: 4-Bromofluorobenzene	960	0	1000	0	96	70-130	0				
Surr: Dibromofluoromethane	984.5	0	1000	0	98.4	70-130	0				
Surr: Toluene-d8	998	0	1000	0	99.8	70-130	0				

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 15071267  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure

## QC BATCH REPORT

Batch ID: **73901** Instrument ID **VMS9** Method: **SW8260B**

MSD					Sample ID: 15071247-02A MSD			Units: µg/Kg		Analysis Date: 7/24/2015 03:44 AM	
Client ID:			Run ID: VMS5_150723A			SeqNo: 3385619		Prep Date: 7/23/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1162	30	1000	0	116	75-125	1110	4.49	30		
Ethylbenzene	1140	30	1000	0	114	75-125	1112	2.49	30		
m,p-Xylene	2338	60	2000	0	117	80-125	2242	4.19	30		
o-Xylene	1107	30	1000	0	111	75-125	1050	5.29	30		
Toluene	1126	30	1000	12	111	70-125	1098	2.52	30		
Xylenes, Total	3444	90	3000	0	115	75-125	3292	4.54	30		
Surr: 1,2-Dichloroethane-d4	1056	0	1000	0	106	70-130	1015	3.96	30		
Surr: 4-Bromofluorobenzene	1007	0	1000	0	101	70-130	960	4.78	30		
Surr: Dibromofluoromethane	1024	0	1000	0	102	70-130	984.5	3.93	30		
Surr: Toluene-d8	1012	0	1000	0	101	70-130	998	1.44	30		

The following samples were analyzed in this batch:

15071267-01A	15071267-02A	15071267-03A
15071267-04A	15071267-05A	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 15071267  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure

## QC BATCH REPORT

Batch ID: **73922** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

<b>DUP</b>		Sample ID: <b>15071236-01A DUP</b>				Units: <b>mmhos/cm @25°</b>		Analysis Date: <b>7/27/2015 02:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_150727J</b>				SeqNo: <b>3387952</b>		Prep Date: <b>7/27/2015</b>		DF: <b>10</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	7.12	0.050	0	0	0		6.98	1.99	50	

The following samples were analyzed in this batch:

15071267-01A	15071267-02A	15071267-03A
15071267-04A	15071267-05A	15071267-06A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 15071267  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure

## QC BATCH REPORT

Batch ID: **73934** Instrument ID **WETCHEM** Method: **SW9045D**

LCS		Sample ID: LCS-73934-73934				Units: s.u.		Analysis Date: 7/23/2015 04:00 PM		
Client ID:		Run ID: WETCHEM_150723P			SeqNo: 3384351		Prep Date: 7/23/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	4.01	0	4	0	100	90-110	0			

DUP		Sample ID: 15071267-01A DUP				Units: s.u.		Analysis Date: 7/23/2015 04:00 PM		
Client ID: Pit Bottom		Run ID: WETCHEM_150723P				SeqNo: 3384353		Prep Date: 7/23/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.5	0	0	0	0	0-0	7.47	0.401	20	

The following samples were analyzed in this batch:

15071267-01A	15071267-02A	15071267-03A
15071267-04A	15071267-05A	15071267-06A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 15071267  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure

## QC BATCH REPORT

Batch ID: **73989**      Instrument ID **WETCHEM**      Method: **SW7196A**

<b>MBLK</b>		Sample ID: <b>MBLK-73989-73989</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/24/2015 10:00 AM</b>		
Client ID:		Run ID: <b>WETCHEM_150724B</b>		SeqNo: <b>3385242</b>		Prep Date: <b>7/23/2015</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent      ND      1.0

<b>LCS</b>		Sample ID: <b>LCS-73989-73989</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/24/2015 10:00 AM</b>		
Client ID:		Run ID: <b>WETCHEM_150724B</b>		SeqNo: <b>3385241</b>		Prep Date: <b>7/23/2015</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent      4.81      1.0      5      0      96.2      80-120      0

<b>MS</b>		Sample ID: <b>15071160-04A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/24/2015 10:00 AM</b>		
Client ID:		Run ID: <b>WETCHEM_150724B</b>		SeqNo: <b>3385233</b>		Prep Date: <b>7/23/2015</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent      4.129      0.99      4.95      0.45      74.3      75-125      0      S

<b>MS</b>		Sample ID: <b>15071160-04A MSI</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/24/2015 10:00 AM</b>		
Client ID:		Run ID: <b>WETCHEM_150724B</b>		SeqNo: <b>3385235</b>		Prep Date: <b>7/23/2015</b>		DF: <b>100</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent      2584      97      2734      0.45      94.5      75-125      0

<b>MSD</b>		Sample ID: <b>15071160-04A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/24/2015 10:00 AM</b>		
Client ID:		Run ID: <b>WETCHEM_150724B</b>		SeqNo: <b>3385234</b>		Prep Date: <b>7/23/2015</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent      4.095      0.95      4.762      0.45      76.6      75-125      4.129      0.814      20

The following samples were analyzed in this batch:

15071267-01A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 15071267  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure

## QC BATCH REPORT

Batch ID: **R168292**      Instrument ID **MOIST**      Method: **E160.3M**

<b>MBLK</b>		Sample ID: <b>WBLKS-R168292</b>				Units: % of sample		Analysis Date: <b>7/23/2015 01:35 PM</b>		
Client ID:		Run ID: <b>MOIST_150723C</b>				SeqNo: <b>3385407</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture      ND      0.050

<b>LCS</b>		Sample ID: <b>LCS-R168292</b>				Units: % of sample		Analysis Date: <b>7/23/2015 01:35 PM</b>		
Client ID:		Run ID: <b>MOIST_150723C</b>				SeqNo: <b>3385406</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture      100      0.050      100      0      100      99.5-100.5      0

<b>DUP</b>		Sample ID: <b>15071166-01A DUP</b>				Units: % of sample		Analysis Date: <b>7/23/2015 01:35 PM</b>		
Client ID:		Run ID: <b>MOIST_150723C</b>				SeqNo: <b>3385386</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture      6.15      0.050      0      0      0      6.21      0.971      20

<b>DUP</b>		Sample ID: <b>15071267-01A DUP</b>				Units: % of sample		Analysis Date: <b>7/23/2015 01:35 PM</b>		
Client ID: <b>Pit Bottom</b>		Run ID: <b>MOIST_150723C</b>				SeqNo: <b>3385398</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture      4.25      0.050      0      0      0      4.14      2.62      20

The following samples were analyzed in this batch:

15071267-01A	15071267-02A	15071267-03A
15071267-04A	15071267-05A	15071267-06A
15071267-07A	15071267-08A	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.



# ALS Laboratory Group

225 Commerce Drive, Fort Collins, Colorado 80524  
TF: (800) 443-1511 PH: (970) 490-1511 FX: (970) 490-1522

## Chain-of-Custody

Form 202-8

WORKORDER #

15071267

PAGE

1 of 2

DISPOSAL

By Lab or Return to Client

PROJECT NAME WPX Energy - AP 41-14-695 - Pit Closure

SAMPLER Kris Rowe

DATE 7/21/2015

SITE ID Allen Point 41-14-695 Pad

TURNAROUND 24 hr TAT - STD

EDD FORMAT

PURCHASE ORDER

COMPANY NAME HRL COMPLIANCE SOLUTIONS Inc.

BILL TO COMPANY WPX

SEND REPORT TO KRIS ROWE

INVOICE ATTN TO Karolna Blaney

ADDRESS 2385 F 1/2

ADDRESS

CITY / STATE / ZIP GRAND JUNCTION CO 81605

CITY / STATE / ZIP

PHONE 970-243-3271

PHONE

FAX 970-243-3280

FAX

E-MAIL KROWE@HRLCOMP.COM

E-MAIL

Lab ID

Field ID

Matrix

Sample Date

Sample Time

# Bottles

Pres.

QC

1

Pit Bottom

S

7/21/2015

1440

1

x

x

x

x

x

x

2

North Wall

S

7/21/2015

1400

1

x

x

x

x

x

3

East Wall

S

7/21/2015

1420

1

x

x

x

x

x

4

West Wall

S

7/21/2015

1430

1

x

x

x

x

x

5

South Wall

S

7/21/2015

1415

1

x

x

x

x

x

6

BKGD 1

S

7/21/2015

1450

1

x

x

7

BKGD 2

S

7/21/2015

1455

1

x

8

BKGD 3

S

7/21/2015

1500

1

x

\*Time Zone (Circle): EST CST MST PST Matrix: O=oil S=soil NS=non-soil solid W=water L=liquid E=extract F=filter

For metals or anions, please detail analytes below.

Comments:

QC PACKAGE (check below)

LEVEL II (Standard QC)

LEVEL III (Std QC + forms)

LEVEL IV (Std QC + forms + raw data)

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035

SIGNATURE

PRINTED NAME

DATE

TIME

RELINQUISHED BY

Kris Rowe

7/21/2015

RECEIVED BY

RELINQUISHED BY

RECEIVED BY

RELINQUISHED BY

RECEIVED BY

7-22-15

7-22-15

KEITH WILKINSON

7/23/15

6:09 PM

6:20

0930

ORIGIN ID: RLA (616) 288-1033  
 NICK MARTINEZ  
 ALS ENVIRONMENTAL PARACHUTE  
 PARACHUTE SERVICE CENTER  
 127 EAST 1ST ST  
 PARACHUTE, CO 81635  
 UNITED STATES US

SHIP DATE: 22 JUL 15  
 ACTWGT: 64.00 LB  
 CAD: 2264840/NET3870  
 DIMS: 26x16x16 IN  
 BILL SENDER

TO **SAMPLE RECEIVING**  
**ALS ENVIRONMENTAL HOLLAND LAB**  
**3352 128TH AVE**

**HOLLAND MI 49424**

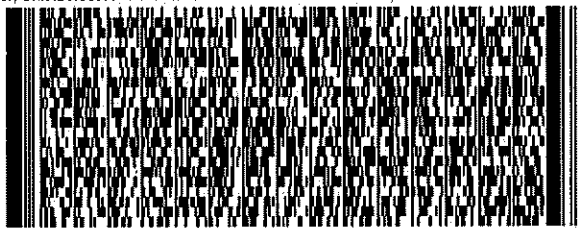
(616) 399-6070

REF: 072215-1

INV

PO PARACHUTE

DEPT:



**FedEx**  
Express



REL#  
3785346

539.0314153100

6 of 6

MPGS#

0263

**7741 1538 0881**

Mstr# 7741 1538 0127

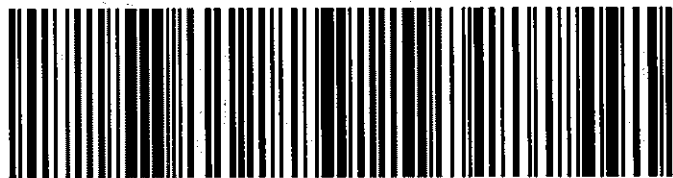
0201

**THU - 23 JUL 10:30A**  
**PRIORITY OVERNIGHT**

**XX HLMA**

MI-US

**49424**  
**GRR**



**After printing this label:**

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

**Warning:** Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number. Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on [fedex.com](http://fedex.com). FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Sample Receipt Checklist

Client Name: HRL

Date/Time Received: 23-Jul-15 09:30

Work Order: 15071267

Received by: KRW

Checklist completed by Keith Wurenga  
eSignature

23-Jul-15  
Date

Reviewed by: Chad Whelton  
eSignature

23-Jul-15  
Date

Matrices: Soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>4.2 C</u> <u>SR2</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>7/23/2015 10:53:20 AM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:			

Login Notes:

-----

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

## **Appendix 2: Additional East Wall Sampling Raw Analytical Results**



29-Jul-2015

Kris Rowe  
HRL Compliance Solutions, Inc  
2385 F 1/2 Road  
Grand Junction, CO 81505

Re: **WPX - AP 41-14-695 - Pit Closure**

Work Order: **15071532**

Dear Kris,

ALS Environmental received 1 sample on 28-Jul-2015 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 10.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Les Arnold".

Electronically approved by: Les Arnold

Les Arnold  
Senior Project Manager



Certificate No: MN 532786

### Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental

[www.alsglobal.com](http://www.alsglobal.com)

RIGHT SOLUTIONS RIGHT PARTNER

---

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX - AP 41-14-695 - Pit Closure  
**Work Order:** 15071532

---

**Work Order Sample Summary**

---

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
15071532-01	East Wall @ 2 ft	Soil		7/27/2015 14:05	7/28/2015 09:30	<input type="checkbox"/>

---

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX - AP 41-14-695 - Pit Closure  
**WorkOrder:** 15071532

## **QUALIFIERS, ACRONYMS, UNITS**

<b><u>Qualifier</u></b>	<b><u>Description</u></b>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

<b><u>Acronym</u></b>	<b><u>Description</u></b>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<b><u>Units Reported</u></b>	<b><u>Description</u></b>
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight

**ALS Group USA, Corp****Date:** 29-Jul-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX - AP 41-14-695 - Pit Closure  
**Sample ID:** East Wall @ 2 ft  
**Collection Date:** 7/27/2015 02:05 PM

**Work Order:** 15071532  
**Lab ID:** 15071532-01  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
<b>DRO (C10-C28)</b>	<b>45</b>		<b>SW8015M</b>		Prep: SW3541 / 7/28/15	Analyst: <b>IT</b>
			<b>4.8</b>	<b>mg/Kg-dry</b>	<b>1</b>	7/29/2015 03:23 PM
<i>Surr: 4-Terphenyl-d14</i>	<i>88.5</i>		<i>39-133</i>	<i>%REC</i>	<i>1</i>	7/29/2015 03:23 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>SW8015D</b>		Prep: SW5035 / 7/28/15	Analyst: <b>IT</b>
			<b>2.9</b>	<b>mg/Kg-dry</b>	<b>1</b>	7/28/2015 04:09 PM
<i>Surr: Toluene-d8</i>	<i>100</i>		<i>50-150</i>	<i>%REC</i>	<i>1</i>	7/28/2015 04:09 PM
<b>MOISTURE</b>						
<b>Moisture</b>	<b>15</b>		<b>E160.3M</b>			Analyst: <b>EVB</b>
			<b>0.050</b>	<b>% of sample</b>	<b>1</b>	7/28/2015 01:02 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 15071532  
**Project:** WPX - AP 41-14-695 - Pit Closure

# QC BATCH REPORT

Batch ID: **74124** Instrument ID **GC8** Method: **SW8015M**

<b>MBLK</b>		Sample ID: <b>DBLKS1-74124-74124</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/29/2015 01:25 PM</b>		
Client ID:		Run ID: <b>GC8_150729A</b>				SeqNo: <b>3393430</b>		Prep Date: <b>7/28/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	5.0								
Surr: 4-Terphenyl-d14	1.494	0	2	0	74.7	39-133	0			

<b>LCS</b>		Sample ID: <b>DLCSS1-74124-74124</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/29/2015 01:53 PM</b>		
Client ID:		Run ID: <b>GC8_150729A</b>				SeqNo: <b>3393431</b>		Prep Date: <b>7/28/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	146.8	5.0	200	0	73.4	61-109	0			
Surr: 4-Terphenyl-d14	1.317	0	2	0	65.9	39-133	0			

<b>MS</b>		Sample ID: <b>15071532-01A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/29/2015 02:23 PM</b>		
Client ID: <b>East Wall @ 2 ft</b>		Run ID: <b>GC8_150729A</b>				SeqNo: <b>3393432</b>		Prep Date: <b>7/28/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	239.1	8.3	332.8	38.05	60.4	48-110	0			
Surr: 4-Terphenyl-d14	2.24	0	3.328	0	67.3	39-133	0			

<b>MSD</b>		Sample ID: <b>15071532-01A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/29/2015 02:53 PM</b>		
Client ID: <b>East Wall @ 2 ft</b>		Run ID: <b>GC8_150729A</b>				SeqNo: <b>3393433</b>		Prep Date: <b>7/28/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	252.5	8.1	322.6	38.05	66.5	48-110	239.1	5.47	30	
Surr: 4-Terphenyl-d14	2.351	0	3.226	0	72.9	39-133	2.24	4.85	30	

The following samples were analyzed in this batch:

15071532-01A

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 15071532  
**Project:** WPX - AP 41-14-695 - Pit Closure

## QC BATCH REPORT

Batch ID: **74111**      Instrument ID **GC10**      Method: **SW8015D**

<b>MBLK</b>		Sample ID: <b>MBLK-74111-74111</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>7/28/2015 03:44 PM</b>		
Client ID:		Run ID: <b>GC10_150728A</b>				SeqNo: <b>3392173</b>		Prep Date: <b>7/28/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	ND	2,500								
Surr: Toluene-d8	5080	0	5000	0	102	50-150	0			

<b>LCS</b>		Sample ID: <b>LCS-74111-74111</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>7/28/2015 03:20 PM</b>		
Client ID:		Run ID: <b>GC10_150728A</b>				SeqNo: <b>3392172</b>		Prep Date: <b>7/28/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	570900	2,500	500000	0	114	70-130	0			
Surr: Toluene-d8	4832	0	5000	0	96.6	50-150	0			

<b>MS</b>		Sample ID: <b>15071491-01A MS</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>7/28/2015 05:43 PM</b>		
Client ID:		Run ID: <b>GC10_150728A</b>				SeqNo: <b>3392181</b>		Prep Date: <b>7/28/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	566200	2,500	500000	19080	109	70-130	0			
Surr: Toluene-d8	4714	0	5000	0	94.3	50-150	0			

<b>MSD</b>		Sample ID: <b>15071491-01A MSD</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>7/28/2015 06:08 PM</b>		
Client ID:		Run ID: <b>GC10_150728A</b>				SeqNo: <b>3392183</b>		Prep Date: <b>7/28/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	547400	2,500	500000	19080	106	70-130	566200	3.38	30	
Surr: Toluene-d8	4694	0	5000	0	93.9	50-150	4714	0.415	30	

The following samples were analyzed in this batch:

15071532-01A
--------------

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 15071532  
**Project:** WPX - AP 41-14-695 - Pit Closure

## QC BATCH REPORT

Batch ID: **R168553** Instrument ID **MOIST** Method: **E160.3M**

<b>MBLK</b>		Sample ID: <b>WBLKS-R168553</b>				Units: % of sample			Analysis Date: <b>7/28/2015 01:02 PM</b>		
Client ID:		Run ID: <b>MOIST_150728A</b>				SeqNo: <b>3391618</b>			Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture ND 0.050

<b>LCS</b>		Sample ID: <b>LCS-R168553</b>				Units: % of sample			Analysis Date: <b>7/28/2015 01:02 PM</b>		
Client ID:		Run ID: <b>MOIST_150728A</b>				SeqNo: <b>3391617</b>			Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 99.99 0.050 100 0 100 99.5-100.5 0

<b>DUP</b>		Sample ID: <b>15071336-01B DUP</b>				Units: % of sample			Analysis Date: <b>7/28/2015 01:02 PM</b>		
Client ID:		Run ID: <b>MOIST_150728A</b>				SeqNo: <b>3391573</b>			Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 8.77 0.050 0 0 0 9.38 6.72 20

<b>DUP</b>		Sample ID: <b>15071492-01A DUP</b>				Units: % of sample			Analysis Date: <b>7/28/2015 01:02 PM</b>		
Client ID:		Run ID: <b>MOIST_150728A</b>				SeqNo: <b>3391585</b>			Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 6.53 0.050 0 0 0 7.59 15 20

The following samples were analyzed in this batch:

15071532-01A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.



# ALS Laboratory Group

3352 128th Avenue, Holland, MI 49424  
TF: (616) 399-6070 FX: (616) 399-6185

## Chain-of-Custody

Form 202r#

WORKORDER #

15071532

PAGE

1 of 1

DISPOSAL

By Lab or Return to Client

PROJECT NAME WPX - AP 41-14-695 - Pk Closure

SAMPLER Jordan Carlo

DATE

7/27/2015

SITE ID AP 41-14-695

TURNAROUND

24 hour RUSH

PROJECT No.

EDD FORMAT

PURCHASE ORDER

COMPANY NAME HRL Compliance Solutions, Inc.

BILL TO COMPANY WPX

SEND REPORT TO HRL - Kris Rowe, Jordan Carlo

INVOICE ATTN TO Karolina Blaney

ADDRESS 2385 F 1/2 Road

ADDRESS

CITY / STATE / ZIP Grand Junction, CO, 81505

CITY / STATE / ZIP

PHONE 970-243-3271

PHONE

FAX 970-243-3280

FAX

E-MAIL krowe@hrlcomp.com, jcario@hrlcomp.com

E-MAIL

DRO

GRO

Lab ID

Field ID

Matrix

Sample Date

Sample Time

# Bottles

Pres.

QC

1 East Wall @ 2ft

S

7/27/2015

2:05

1

8

X

X

\*Time Zone (Circle): EST CST MST PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

For metals or anions, please detail analytes below.

Comments:

24 Hour Rush

38°C

QC PACKAGE (check below)

LEVEL II (Standard QC)

LEVEL III (Std QC + forms)

LEVEL IV (Std QC + forms + raw data)

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035

SIGNATURE

PRINTED NAME

DATE

TIME

RELINQUISHED BY

Jordan Carlo

7/27/2015

16:00

RECEIVED BY

MM

7-27-15

1000

RELINQUISHED BY

MM

7-27-15

1000

RECEIVED BY

Diane F. Shea

7/28/15

0930

RELINQUISHED BY

RECEIVED BY

ORIGIN ID: RILA (616) 288-1033  
 NICK MARTINEZ  
 ALS ENVIRONMENTAL PARACHUTE  
 PARACHUTE SERVICE CENTER  
 127 EAST 1ST ST  
 PARACHUTE, CO 81635  
 UNITED STATES US

SHIP DATE: 27 JUL 15  
 ACTWGT: 50.00 LB  
 CAD: 2204840/NET3870  
 DMS: 24x15x15 IN  
 BILL SENDER

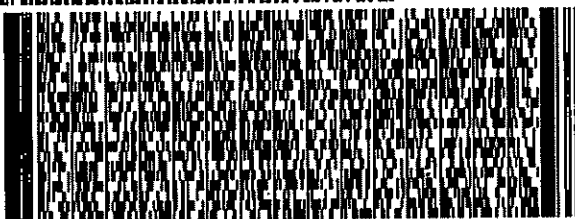
TO **SAMPLE RECEIVING**  
**ALS ENVIRONMENTAL HOLLAND LAB**  
**3352 128TH AVE**

**HOLLAND MI 49424**

(616) 398-6070  
 INV: PO: PARACHUTE

REF: 072715-1

DEPT:



**FedEx**  
 Express



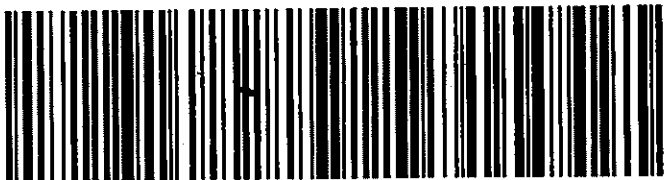
REL#  
 3785346

**TUE - 28 JUL 10:30A**  
**PRIORITY OVERNIGHT**

1 of 2  
 TRK# **7741 4649 8381**  
 0201  
 ## MASTER ##

**XX HLMA**

**49424**  
**GRR**  
 MI-US



539,311/156100

**After printing this label:**

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

**Warning:** Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number. Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of extraordinary value is \$1,000, e.g. jewelry, precious items, and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see negotiable instrument act.

Name

Time

Date

ALS Parachute Custody Seal

Sample Receipt Checklist

Client Name: **HRL**

Date/Time Received: **28-Jul-15 09:30**

Work Order: **15071532**

Received by: **DS**

Checklist completed by Diane Shaw 28-Jul-15  
eSignature Date

Reviewed by: Chad Whelton 28-Jul-15  
eSignature Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.8 c</u> <u>SR2</u>		
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>7/28/2015 10:20:39 AM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:

-----

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

### **Appendix 3: Background Raw Analytical Results**

# ALS Group USA, Corp

Date: 28-Jul-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure  
**Sample ID:** BKGD 1  
**Collection Date:** 7/21/2015 02:50 PM

**Work Order:** 15071267  
**Lab ID:** 15071267-06  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>METALS ANALYSIS BY ICP</b>						
Arsenic	7.6		SW846 6010C 0.44	mg/Kg-dry	Prep: SW3050B / 7/23/15 1	Analyst: RH 7/23/2015 05:26 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
Calcium	180		SW846 6010C 5.0	mg/L	Prep: USDA Method 20B / 7/27/15 10	Analyst: JEC 7/28/2015 02:38 PM
Magnesium	25		2.0	mg/L	10	7/28/2015 02:38 PM
Sodium	11		2.0	mg/L	10	7/28/2015 02:38 PM
<b>SODIUM ADSORPTION RATIO</b>						
Sodium Adsorption Ratio	0.21		USDA H60 METHO 0.010	none	Prep: USDA Method 20B / 7/27/15 1	Analyst: JEC 7/28/2015
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>						
Electrical Conductivity @ Saturation	1.1		USDA H60 METHO 0.050	mmhos/cm @2	Prep: USDA Method 20B / 7/27/15 10	Analyst: JB 7/27/2015 02:00 PM
<b>MOISTURE</b>						
Moisture	9.6		E160.3M 0.050	% of sample	1	Analyst: EVB 7/23/2015 01:35 PM
<b>PH</b>						
pH	7.0		SW9045D s.u.		Prep: EXTRACT / 7/23/15 1	Analyst: STP 7/23/2015 04:00 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp****Date:** 28-Jul-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure  
**Sample ID:** BKGD 2  
**Collection Date:** 7/21/2015 02:55 PM

**Work Order:** 15071267  
**Lab ID:** 15071267-07  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>						
<b>METALS ANALYSIS BY ICP</b>			<b>SW846 6010C</b>		Prep: SW3050B / 7/23/15	Analyst: <b>RH</b>
Arsenic	8.1		0.45	mg/Kg-dry	1	7/23/2015 05:31 PM
<b>MOISTURE</b>			<b>E160.3M</b>			Analyst: <b>EVB</b>
Moisture	17		0.050	% of sample	1	7/23/2015 01:35 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp****Date:** 28-Jul-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - AP 41-14-695 - Pit Closure  
**Sample ID:** BKGD 3  
**Collection Date:** 7/21/2015 03:00 PM

**Work Order:** 15071267  
**Lab ID:** 15071267-08  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>						
<b>METALS ANALYSIS BY ICP</b>			<b>SW846 6010C</b>		Prep: SW3050B / 7/23/15	Analyst: <b>RH</b>
Arsenic	8.7		0.37	mg/Kg-dry	1	7/23/2015 05:37 PM
<b>MOISTURE</b>			<b>E160.3M</b>			Analyst: <b>EVB</b>
Moisture	11		0.050	% of sample	1	7/23/2015 01:35 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

## **Appendix 4: Landfarm Raw Analytical Results**



17-Aug-2015

Karolina Blaney  
WPX Energy Rocky Mountain, LLC  
1058 Country Rd 215  
Parachute, CO 81635

Re: **AP 41-14-695 Landfarm**

Work Order: **1508441**

Dear Karolina,

ALS Environmental received 1 sample on 08-Aug-2015 10:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 23.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

*Chad Whelton*

Electronically approved by: Chad Whelton

Chad Whelton  
Project Manager



Certificate No: MN 532786

### Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

[www.alsglobal.com](http://www.alsglobal.com)

RIGHT SOLUTIONS RIGHT PARTNER

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**Client:** WPX Energy Rocky Mountain, LLC  
**Project:** AP 41-14-695 Landfarm  
**Work Order:** 1508441

**Work Order Sample Summary**

---

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1508441-01	AP 41-14-695 Landfarm	Soil		8/7/2015 11:00	8/8/2015 10:30	<input type="checkbox"/>

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**Client:** WPX Energy Rocky Mountain, LLC**Project:** AP 41-14-695 Landfarm**Work Order:** 1508441**Case Narrative**

---

Batch 74663, Method GRO\_8015\_S, Sample 1508441-01A MS/MSD: The MS and MSD recovery was above the upper control limit for GRO. The corresponding result in the parent sample was non-detect, therefore no qualification is required.

Batch 74680, Method CR6\_7196\_S, Sample 1508441-01A MS/MSD: The MS and MSD recovery was below the lower control limit for Hexavalent Chromium. The corresponding result in the parent sample may be biased low.

<b><u>Qualifier</u></b>	<b><u>Description</u></b>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

<b><u>Acronym</u></b>	<b><u>Description</u></b>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<b><u>Units Reported</u></b>	<b><u>Description</u></b>
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight
mg/Kg-dry	Milligrams per Kilogram Dry Weight
mg/L	Milligrams per Liter
mmhos/cm @25°C	Millimhos-Centimeter at 25 Degrees Celcius
none	
s.u.	Standard Units

# ALS Group USA, Corp

Date: 17-Aug-15

**Client:** WPX Energy Rocky Mountain, LLC  
**Project:** AP 41-14-695 Landfarm  
**Sample ID:** AP 41-14-695 Landfarm  
**Collection Date:** 8/7/2015 11:00 AM

**Work Order:** 1508441  
**Lab ID:** 1508441-01  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep: SW3541 / 8/10/15	Analyst: <b>IT</b>
<b>DRO (C10-C28)</b>	<b>1,000</b>		<b>4.6</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/11/2015 02:55 PM
Surr: 4-Terphenyl-d14	95.0		39-133	%REC	1	8/11/2015 02:55 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015D</b>		Prep: SW5035 / 8/11/15	Analyst: <b>IT</b>
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>2.8</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/11/2015 04:05 PM
Surr: Toluene-d8	100		50-150	%REC	1	8/11/2015 04:05 PM
<b>MERCURY BY CVAA</b>						
			<b>SW7471B</b>		Prep: SW7471 / 8/11/15	Analyst: <b>LR</b>
<b>Mercury</b>	<b>0.037</b>		<b>0.015</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/11/2015 08:49 PM
<b>METALS ANALYSIS BY ICP</b>						
			<b>SW846 6010C</b>		Prep: SW3050B / 8/10/15	Analyst: <b>JEC</b>
<b>Arsenic</b>	<b>13</b>		<b>0.44</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/12/2015 04:35 PM
<b>Barium</b>	<b>820</b>		<b>0.44</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/12/2015 04:35 PM
Cadmium	ND		0.87	mg/Kg-dry	1	8/12/2015 04:35 PM
<b>Chromium</b>	<b>41</b>		<b>0.44</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/12/2015 04:35 PM
<b>Copper</b>	<b>25</b>		<b>0.87</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/12/2015 04:35 PM
<b>Lead</b>	<b>7.4</b>		<b>0.44</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/12/2015 04:35 PM
<b>Nickel</b>	<b>44</b>		<b>0.44</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/12/2015 04:35 PM
Selenium	ND		0.87	mg/Kg-dry	1	8/12/2015 04:35 PM
Silver	ND		0.44	mg/Kg-dry	1	8/12/2015 04:35 PM
<b>Zinc</b>	<b>39</b>		<b>0.87</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/12/2015 04:35 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW846 6010C</b>		Prep: USDA Method 20B / 8/12/15	Analyst: <b>JEC</b>
<b>Calcium</b>	<b>200</b>		<b>5.0</b>	<b>mg/L</b>	<b>10</b>	8/14/2015 11:42 AM
<b>Magnesium</b>	<b>36</b>		<b>2.0</b>	<b>mg/L</b>	<b>10</b>	8/14/2015 11:42 AM
<b>Sodium</b>	<b>760</b>		<b>2.0</b>	<b>mg/L</b>	<b>10</b>	8/14/2015 11:42 AM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 8/12/15	Analyst: <b>JEC</b>
<b>Sodium Adsorption Ratio</b>	<b>13</b>		<b>0.010</b>	<b>none</b>	<b>1</b>	8/14/2015
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW846 8270D</b>		Prep: SW3541 / 8/11/15	Analyst: <b>RM</b>
Acenaphthene	ND		7.3	µg/Kg-dry	1	8/12/2015 10:05 PM
Anthracene	ND		7.3	µg/Kg-dry	1	8/12/2015 10:05 PM
Benzo(a)anthracene	ND		7.3	µg/Kg-dry	1	8/12/2015 10:05 PM
Benzo(a)pyrene	ND		7.3	µg/Kg-dry	1	8/12/2015 10:05 PM
Benzo(b)fluoranthene	ND		7.3	µg/Kg-dry	1	8/12/2015 10:05 PM
Benzo(g,h,i)perylene	ND		7.3	µg/Kg-dry	1	8/12/2015 10:05 PM
Benzo(k)fluoranthene	ND		7.3	µg/Kg-dry	1	8/12/2015 10:05 PM
Chrysene	ND		7.3	µg/Kg-dry	1	8/12/2015 10:05 PM
Dibenzo(a,h)anthracene	ND		7.3	µg/Kg-dry	1	8/12/2015 10:05 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 17-Aug-15

**Client:** WPX Energy Rocky Mountain, LLC  
**Project:** AP 41-14-695 Landfarm  
**Sample ID:** AP 41-14-695 Landfarm  
**Collection Date:** 8/7/2015 11:00 AM

**Work Order:** 1508441  
**Lab ID:** 1508441-01  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	ND		7.3	µg/Kg-dry	1	8/12/2015 10:05 PM
Fluorene	ND		7.3	µg/Kg-dry	1	8/12/2015 10:05 PM
Indeno(1,2,3-cd)pyrene	ND		7.3	µg/Kg-dry	1	8/12/2015 10:05 PM
Naphthalene	ND		7.3	µg/Kg-dry	1	8/12/2015 10:05 PM
Pyrene	ND		7.3	µg/Kg-dry	1	8/12/2015 10:05 PM
Surr: 2-Fluorobiphenyl	75.4		12-100	%REC	1	8/12/2015 10:05 PM
Surr: 4-Terphenyl-d14	71.8		25-137	%REC	1	8/12/2015 10:05 PM
Surr: Nitrobenzene-d5	62.6		37-107	%REC	1	8/12/2015 10:05 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>	Prep: SW5035 / 8/11/15	Analyst: <b>JNJ</b>	
Benzene	ND		33	µg/Kg-dry	1	8/12/2015 04:33 AM
Ethylbenzene	ND		33	µg/Kg-dry	1	8/12/2015 04:33 AM
m,p-Xylene	ND		67	µg/Kg-dry	1	8/12/2015 04:33 AM
o-Xylene	ND		33	µg/Kg-dry	1	8/12/2015 04:33 AM
Toluene	ND		33	µg/Kg-dry	1	8/12/2015 04:33 AM
Xylenes, Total	ND		100	µg/Kg-dry	1	8/12/2015 04:33 AM
Surr: 1,2-Dichloroethane-d4	102		70-130	%REC	1	8/12/2015 04:33 AM
Surr: 4-Bromofluorobenzene	98.3		70-130	%REC	1	8/12/2015 04:33 AM
Surr: Dibromofluoromethane	95.6		70-130	%REC	1	8/12/2015 04:33 AM
Surr: Toluene-d8	95.0		70-130	%REC	1	8/12/2015 04:33 AM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>	Prep: USDA Method 20B / 8/12/15	Analyst: <b>JB</b>	
Electrical Conductivity @ Saturation	5.6		0.050	mmhos/cm @2	10	8/12/2015 10:00 AM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>	Analyst: <b>MB</b>		
Chromium, Trivalent	41		0.56	mg/Kg-dry	1	8/14/2015 01:00 PM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>	Prep: SW3060A / 8/10/15	Analyst: <b>MB</b>	
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	8/11/2015 01:00 PM
<b>MOISTURE</b>			<b>E160.3M</b>	Analyst: <b>EVB</b>		
Moisture	10		0.050	% of sample	1	8/13/2015 04:38 PM
<b>PH</b>			<b>SW9045D</b>	Prep: EXTRACT / 8/12/15	Analyst: <b>JB</b>	
pH	8.4			s.u.	1	8/12/2015 01:00 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 17-Aug-15

**Client:** WPX Energy Rocky Mountain, LLC  
**Work Order:** 1508441  
**Project:** AP 41-14-695 Landfarm

## QC BATCH REPORT

Batch ID: **74598** Instrument ID **GC8** Method: **SW8015M**

<b>MBLK</b>		Sample ID: <b>DBLKS1-74598-74598</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/10/2015 07:36 PM</b>		
Client ID:		Run ID: <b>GC8_150810B</b>				SeqNo: <b>3411361</b>		Prep Date: <b>8/10/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) ND 5.0  
*Surr: 4-Terphenyl-d14* 1.476 0 2 0 73.8 39-133 0

<b>LCS</b>		Sample ID: <b>DLCSS1-74598-74598</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/10/2015 08:06 PM</b>		
Client ID:		Run ID: <b>GC8_150810B</b>				SeqNo: <b>3411365</b>		Prep Date: <b>8/10/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) 137.7 5.0 200 0 68.9 61-109 0  
*Surr: 4-Terphenyl-d14* 1.442 0 2 0 72.1 39-133 0

<b>MS</b>		Sample ID: <b>1508383-05C MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/10/2015 08:37 PM</b>		
Client ID:		Run ID: <b>GC8_150810B</b>				SeqNo: <b>3411368</b>		Prep Date: <b>8/10/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) 338.3 11 435.2 6.904 76.1 48-110 0  
*Surr: 4-Terphenyl-d14* 3.828 0 4.352 0 88 39-133 0

<b>MSD</b>		Sample ID: <b>1508383-05C MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/10/2015 09:07 PM</b>		
Client ID:		Run ID: <b>GC8_150810B</b>				SeqNo: <b>3411370</b>		Prep Date: <b>8/10/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) 318.5 11 429.6 6.904 72.5 48-110 338.3 6.05 30  
*Surr: 4-Terphenyl-d14* 3.651 0 4.296 0 85 39-133 3.828 4.75 30

The following samples were analyzed in this batch: 1508441-01A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** WPX Energy Rocky Mountain, LLC  
**Work Order:** 1508441  
**Project:** AP 41-14-695 Landfarm

## QC BATCH REPORT

Batch ID: **74663**      Instrument ID **GC10**      Method: **SW8015D**

<b>MBLK</b>		Sample ID: <b>MBLK-74663-74663</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>8/11/2015 03:41 PM</b>		
Client ID:		Run ID: <b>GC10_150811A</b>				SeqNo: <b>3414240</b>		Prep Date: <b>8/11/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	2,500								
Surr: Toluene-d8	4862	0	5000	0	97.2	50-150	0			

<b>LCS</b>		Sample ID: <b>LCS-74663-74663</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>8/11/2015 03:16 PM</b>		
Client ID:		Run ID: <b>GC10_150811A</b>				SeqNo: <b>3414239</b>		Prep Date: <b>8/11/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	581700	2,500	500000	0	116	70-130	0			
Surr: Toluene-d8	5461	0	5000	0	109	50-150	0			

<b>MS</b>		Sample ID: <b>1508441-01A MS</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>8/11/2015 04:57 PM</b>		
Client ID: <b>AP 41-14-695 Landfarm</b>		Run ID: <b>GC10_150811A</b>				SeqNo: <b>3414242</b>		Prep Date: <b>8/11/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	672200	2,500	500000	0	134	70-130	0			S
Surr: Toluene-d8	4682	0	5000	0	93.6	50-150	0			

<b>MSD</b>		Sample ID: <b>1508441-01A MSD</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>8/11/2015 05:21 PM</b>		
Client ID: <b>AP 41-14-695 Landfarm</b>		Run ID: <b>GC10_150811A</b>				SeqNo: <b>3414243</b>		Prep Date: <b>8/11/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	653000	2,500	500000	0	131	70-130	672200	2.9	30	S
Surr: Toluene-d8	4844	0	5000	0	96.9	50-150	4682	3.38	30	

The following samples were analyzed in this batch:

1508441-01A

**Client:** WPX Energy Rocky Mountain, LLC  
**Work Order:** 1508441  
**Project:** AP 41-14-695 Landfarm

## QC BATCH REPORT

Batch ID: **74675** Instrument ID **HG1** Method: **SW7471B**

MBLK		Sample ID: MBLK-74675-74675				Units: mg/Kg		Analysis Date: 8/11/2015 07:31 PM		
Client ID:		Run ID: HG1_150811A				SeqNo: 3413640		Prep Date: 8/11/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury ND 0.020

LCS		Sample ID: LCS-74675-74675					Units: mg/Kg		Analysis Date: 8/11/2015 07:33 PM		
Client ID:			Run ID: HG1_150811A			SeqNo: 3413643		Prep Date: 8/11/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury 0.1894 0.020 0.1665 0 114 80-120 0

MS		Sample ID: 1508383-05CMS				Units: mg/Kg		Analysis Date: 8/11/2015 08:24 PM		
Client ID:		Run ID: HG1_150811A			SeqNo: 3413677		Prep Date: 8/11/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1451 0.013 0.1065 0.02943 109 75-125 0

<b>MSD</b>				Sample ID: <b>1508383-05CMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/11/2015 08:26 PM</b>			
Client ID:				Run ID: <b>HG1_150811A</b>				SeqNo: <b>3413678</b>		Prep Date: <b>8/11/2015</b>		DF: <b>1</b>	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		

Mercury 0.1439 0.013 0.1068 0.02943 107 75-125 0.1451 0.899 35

The following samples were analyzed in this batch:

1508441-01A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** WPX Energy Rocky Mountain, LLC  
**Work Order:** 1508441  
**Project:** AP 41-14-695 Landfarm

# QC BATCH REPORT

Batch ID: **74606** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK		Sample ID: <b>MBLK-74606-74606</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/10/2015 02:05 PM</b>		
Client ID:		Run ID: <b>ICP2_150810A</b>				SeqNo: <b>3410200</b>		Prep Date: <b>8/10/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	ND	0.50								
Chromium	ND	0.25								
Copper	0.04874	0.50								J
Lead	ND	0.25								
Nickel	ND	0.25								
Selenium	ND	0.50								
Silver	ND	0.25								
Zinc	ND	0.50								

LCS		Sample ID: <b>LCS-74606-74606</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/10/2015 02:11 PM</b>		
Client ID:		Run ID: <b>ICP2_150810A</b>				SeqNo: <b>3410201</b>		Prep Date: <b>8/10/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	5.244	0.25	5	0	105	80-120	0			
Barium	5.027	0.25	5	0	101	80-120	0			
Cadmium	4.417	0.50	5	0	88.3	80-120	0			
Chromium	5.132	0.25	5	0	103	80-120	0			
Copper	5.268	0.50	5	0	105	80-120	0			
Lead	5.025	0.25	5	0	100	80-120	0			
Nickel	5.023	0.25	5	0	100	80-120	0			
Selenium	5.407	0.50	5	0	108	80-120	0			
Silver	5.135	0.25	5	0	103	80-120	0			
Zinc	4.681	0.50	5	0	93.6	80-120	0			

MS		Sample ID: <b>1508443-04AMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/10/2015 02:28 PM</b>		
Client ID:		Run ID: <b>ICP2_150810A</b>				SeqNo: <b>3410204</b>		Prep Date: <b>8/10/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	20.3	0.41	8.251	10.46	119	75-125	0			
Barium	280.5	0.41	8.251	242.4	461	75-125	0			SO
Cadmium	7.971	0.83	8.251	0.2306	93.8	75-125	0			
Chromium	18.93	0.41	8.251	10.38	104	75-125	0			
Copper	26.59	0.83	8.251	17.16	114	75-125	0			
Lead	15.98	0.41	8.251	7.627	101	75-125	0			
Nickel	35.78	0.41	8.251	27.09	105	75-125	0			
Selenium	10.47	0.83	8.251	0.7396	118	75-125	0			
Silver	9.046	0.41	8.251	-0.1389	111	75-125	0			
Zinc	63.2	0.83	8.251	48.44	179	75-125	0			SO

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** WPX Energy Rocky Mountain, LLC  
**Work Order:** 1508441  
**Project:** AP 41-14-695 Landfarm

## QC BATCH REPORT

Batch ID: **74606** Instrument ID **ICP2** Method: **SW846 6010C**

MSD		Sample ID: 1508443-04AMSD				Units: mg/Kg		Analysis Date: 8/10/2015 02:33 PM		
Client ID:		Run ID: ICP2_150810A				SeqNo: 3410205		Prep Date: 8/10/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	20.04	0.41	8.251	10.46	116	75-125	20.3	1.28	20	
Barium	261.7	0.41	8.251	242.4	234	75-125	280.5	6.93	20	SO
Cadmium	7.815	0.83	8.251	0.2306	91.9	75-125	7.971	1.98	20	
Chromium	18.64	0.41	8.251	10.38	100	75-125	18.93	1.58	20	
Copper	26.12	0.83	8.251	17.16	109	75-125	26.59	1.8	20	
Lead	15.51	0.41	8.251	7.627	95.6	75-125	15.98	2.98	20	
Nickel	35.43	0.41	8.251	27.09	101	75-125	35.78	0.972	20	
Selenium	10.21	0.83	8.251	0.7396	115	75-125	10.47	2.48	20	
Silver	8.879	0.41	8.251	-0.1389	109	75-125	9.046	1.87	20	
Zinc	58.91	0.83	8.251	48.44	127	75-125	63.2	7.03	20	SO

The following samples were analyzed in this batch: 1508441-01A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** WPX Energy Rocky Mountain, LLC  
**Work Order:** 1508441  
**Project:** AP 41-14-695 Landfarm

## QC BATCH REPORT

Batch ID: **74653** Instrument ID **ICP2** Method: **SW846 6010C**

<b>DUP</b>		Sample ID: <b>1508441-01ADUP</b>				Units: <b>mg/L</b>		Analysis Date: <b>8/14/2015 11:47 AM</b>		
Client ID: <b>AP 41-14-695 Landfarm</b>		Run ID: <b>ICP2_150814A</b>				SeqNo: <b>3417379</b>		Prep Date: <b>8/12/2015</b>		DF: <b>10</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	191.5	5.0	0	0	0	0-0	195.6	2.1		
Magnesium	36.96	2.0	0	0	0	0-0	36.09	2.38		
Sodium	734.4	2.0	0	0	0	0-0	759.3	3.33		

<b>DUP</b>		Sample ID: <b>1508441-01ADUP</b>				Units: <b>none</b>		Analysis Date: <b>8/14/2015</b>		
Client ID: <b>AP 41-14-695 Landfarm</b>		Run ID: <b>SAR_150814A</b>				SeqNo: <b>3417505</b>		Prep Date: <b>8/12/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	12.73	0.010	0	0	0		13.09	2.82	50	

The following samples were analyzed in this batch: | 1508441-01A |

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** WPX Energy Rocky Mountain, LLC  
**Work Order:** 1508441  
**Project:** AP 41-14-695 Landfarm

# QC BATCH REPORT

Batch ID: **74658**      Instrument ID **SVMS5**      Method: **SW846 8270D**

MBLK		Sample ID: <b>SBLKS1-74658-74658</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>8/11/2015 04:35 PM</b>		
Client ID:		Run ID: <b>SVMS5_150811A</b>				SeqNo: <b>3413528</b>		Prep Date: <b>8/11/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	6.7								
Anthracene	ND	6.7								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(g,h,i)perylene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Chrysene	ND	6.7								
Dibenzo(a,h)anthracene	ND	6.7								
Fluoranthene	ND	6.7								
Fluorene	ND	6.7								
Indeno(1,2,3-cd)pyrene	ND	6.7								
Naphthalene	ND	6.7								
Pyrene	ND	6.7								
<i>Surr: 2-Fluorobiphenyl</i>	1317	0	1667	0	79	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1540	0	1667	0	92.4	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1358	0	1667	0	81.5	37-107	0			

LCS		Sample ID: <b>SLCSS1-74658-74658</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>8/11/2015 04:58 PM</b>		
Client ID:		Run ID: <b>SVMS5_150811A</b>				SeqNo: <b>3413530</b>		Prep Date: <b>8/11/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	560.7	6.7	666.7	0	84.1	45-110	0			
Anthracene	665	6.7	666.7	0	99.7	55-105	0			
Benzo(a)anthracene	660.7	6.7	666.7	0	99.1	50-110	0			
Benzo(a)pyrene	670.3	6.7	666.7	0	101	50-110	0			
Benzo(b)fluoranthene	689	6.7	666.7	0	103	45-115	0			
Benzo(g,h,i)perylene	661.3	6.7	666.7	0	99.2	40-125	0			
Benzo(k)fluoranthene	662.3	6.7	666.7	0	99.3	45-115	0			
Chrysene	638.7	6.7	666.7	0	95.8	55-110	0			
Dibenzo(a,h)anthracene	709.7	6.7	666.7	0	106	40-125	0			
Fluoranthene	667.7	6.7	666.7	0	100	55-115	0			
Fluorene	612.3	6.7	666.7	0	91.8	50-110	0			
Indeno(1,2,3-cd)pyrene	697	6.7	666.7	0	105	40-120	0			
Naphthalene	484.7	6.7	666.7	0	72.7	40-105	0			
Pyrene	673.7	6.7	666.7	0	101	45-125	0			
<i>Surr: 2-Fluorobiphenyl</i>	1261	0	1667	0	75.7	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1540	0	1667	0	92.4	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1214	0	1667	0	72.8	37-107	0			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** WPX Energy Rocky Mountain, LLC  
**Work Order:** 1508441  
**Project:** AP 41-14-695 Landfarm

# QC BATCH REPORT

Batch ID: **74658**      Instrument ID **SVMS5**      Method: **SW846 8270D**

MS				Sample ID: 1508442-01A MS			Units: µg/Kg		Analysis Date: 8/11/2015 06:06 PM	
Client ID:				Run ID: SVMS5_150811A			SeqNo: 3414005		Prep Date: 8/11/2015	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	514.4	6.6	655.4	0	78.5	45-110	0			
Anthracene	562.9	6.6	655.4	0	85.9	55-105	0			
Benzo(a)anthracene	531.1	6.6	655.4	0	81	50-110	0			
Benzo(a)pyrene	538	6.6	655.4	0	82.1	50-110	0			
Benzo(b)fluoranthene	559	6.6	655.4	0	85.3	45-115	0			
Benzo(g,h,i)perylene	527.2	6.6	655.4	0	80.4	40-125	0			
Benzo(k)fluoranthene	526.2	6.6	655.4	0	80.3	45-115	0			
Chrysene	511.5	6.6	655.4	0	78	55-110	0			
Dibenzo(a,h)anthracene	569.2	6.6	655.4	0	86.8	40-125	0			
Fluoranthene	548.2	6.6	655.4	0	83.6	55-115	0			
Fluorene	580.3	6.6	655.4	38.64	82.7	50-110	0			
Indeno(1,2,3-cd)pyrene	566.5	6.6	655.4	0	86.4	40-120	0			
Naphthalene	498.4	6.6	655.4	52.06	68.1	40-105	0			
Pyrene	581.3	6.6	655.4	0	88.7	45-125	0			
Surr: 2-Fluorobiphenyl	1087	0	1638	0	66.3	12-100	0			
Surr: 4-Terphenyl-d14	1332	0	1638	0	81.3	25-137	0			
Surr: Nitrobenzene-d5	1007	0	1638	0	61.5	37-107	0			

MSD				Sample ID: 1508442-01A MSD			Units: µg/Kg		Analysis Date: 8/11/2015 06:29 PM	
Client ID:				Run ID: SVMS5_150811A			SeqNo: 3414006		Prep Date: 8/11/2015	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	465.1	6.5	649.2	0	71.6	45-110	514.4	10.1	30	
Anthracene	546.9	6.5	649.2	0	84.2	55-105	562.9	2.89	30	
Benzo(a)anthracene	532	6.5	649.2	0	81.9	50-110	531.1	0.159	30	
Benzo(a)pyrene	533.9	6.5	649.2	0	82.2	50-110	538	0.763	30	
Benzo(b)fluoranthene	548.5	6.5	649.2	0	84.5	45-115	559	1.89	30	
Benzo(g,h,i)perylene	513.2	6.5	649.2	0	79	40-125	527.2	2.7	30	
Benzo(k)fluoranthene	529.7	6.5	649.2	0	81.6	45-115	526.2	0.66	30	
Chrysene	508	6.5	649.2	0	78.2	55-110	511.5	0.69	30	
Dibenzo(a,h)anthracene	561.8	6.5	649.2	0	86.5	40-125	569.2	1.29	30	
Fluoranthene	543	6.5	649.2	0	83.6	55-115	548.2	0.946	30	
Fluorene	557	6.5	649.2	38.64	79.8	50-110	580.3	4.1	30	
Indeno(1,2,3-cd)pyrene	559.9	6.5	649.2	0	86.2	40-120	566.5	1.18	30	
Naphthalene	313.2	6.5	649.2	52.06	40.2	40-105	498.4	45.6	30	R
Pyrene	579.1	6.5	649.2	0	89.2	45-125	581.3	0.384	30	
Surr: 2-Fluorobiphenyl	1006	0	1623	0	62	12-100	1087	7.71	40	
Surr: 4-Terphenyl-d14	1304	0	1623	0	80.3	25-137	1332	2.16	40	
Surr: Nitrobenzene-d5	509.6	0	1623	0	31.4	37-107	1007	65.6	40	SR

The following samples were analyzed in this batch: 1508441-01A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** WPX Energy Rocky Mountain, LLC  
**Work Order:** 1508441  
**Project:** AP 41-14-695 Landfarm

# QC BATCH REPORT

Batch ID: **74662**      Instrument ID **VMS5**      Method: **SW8260B**

MBLK				Sample ID: MBLK-74662-74662				Units: µg/Kg			Analysis Date: 8/11/2015 01:16 PM			
Client ID:				Run ID: VMS5_150811A				SeqNo: 3414026			Prep Date: 8/11/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Benzene	ND	30												
Ethylbenzene	ND	30												
m,p-Xylene	ND	60												
o-Xylene	ND	30												
Toluene	ND	30												
Xylenes, Total	ND	90												
Surr: 1,2-Dichloroethane-d4	928	0	1000	0	92.8	70-130		0						
Surr: 4-Bromofluorobenzene	991	0	1000	0	99.1	70-130		0						
Surr: Dibromofluoromethane	976.5	0	1000	0	97.6	70-130		0						
Surr: Toluene-d8	930	0	1000	0	93	70-130		0						

LCS				Sample ID: LCS-74662-74662			Units: µg/Kg		Analysis Date: 8/11/2015 11:59 AM		
Client ID:			Run ID: VMS5_150811A			SeqNo: 3414025		Prep Date: 8/11/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1092	30	1000	0	109	75-125	0				
Ethylbenzene	976.5	30	1000	0	97.6	75-125	0				
m,p-Xylene	1964	60	2000	0	98.2	80-125	0				
o-Xylene	946.5	30	1000	0	94.6	75-125	0				
Toluene	1008	30	1000	0	101	70-125	0				
Xylenes, Total	2910	90	3000	0	97	75-125	0				
Surr: 1,2-Dichloroethane-d4	898.5	0	1000	0	89.8	70-130	0				
Surr: 4-Bromofluorobenzene	997	0	1000	0	99.7	70-130	0				
Surr: Dibromofluoromethane	968.5	0	1000	0	96.8	70-130	0				
Surr: Toluene-d8	936	0	1000	0	93.6	70-130	0				

MS				Sample ID: 1508441-01A MS			Units: µg/Kg		Analysis Date: 8/12/2015 05:51 AM		
Client ID: AP 41-14-695 Landfarm			Run ID: VMS6_150811A		SeqNo: 3414349		Prep Date: 8/11/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1080	30	1000	0	108	75-125	0				
Ethylbenzene	1002	30	1000	0	100	75-125	0				
m,p-Xylene	2054	60	2000	21.5	102	80-125	0				
o-Xylene	1002	30	1000	0	100	75-125	0				
Toluene	1048	30	1000	17	103	70-125	0				
Xylenes, Total	3056	90	3000	0	102	75-125	0				
Surr: 1,2-Dichloroethane-d4	991.5	0	1000	0	99.2	70-130	0				
Surr: 4-Bromofluorobenzene	1022	0	1000	0	102	70-130	0				
Surr: Dibromofluoromethane	990	0	1000	0	99	70-130	0				
Surr: Toluene-d8	961	0	1000	0	96.1	70-130	0				

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** WPX Energy Rocky Mountain, LLC  
**Work Order:** 1508441  
**Project:** AP 41-14-695 Landfarm

# QC BATCH REPORT

Batch ID: **74662**      Instrument ID **VMS5**      Method: **SW8260B**

MS				Sample ID: 1508460-12A MS				Units: µg/Kg			Analysis Date: 8/12/2015 09:20 PM			
Client ID:				Run ID: VMS5_150812A				SeqNo: 3415727			Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Benzene	1235	30	1000	0	124	75-125	0							
Ethylbenzene	1046	30	1000	0	105	75-125	0							
m,p-Xylene	2093	60	2000	0	105	80-125	0							
o-Xylene	1007	30	1000	0	101	75-125	0							
Toluene	1084	30	1000	0	108	70-125	0							
Xylenes, Total	3100	90	3000	0	103	75-125	0							
Surr: 1,2-Dichloroethane-d4	880.5	0	1000	0	88	70-130	0							
Surr: 4-Bromofluorobenzene	1018	0	1000	0	102	70-130	0							
Surr: Dibromofluoromethane	974.5	0	1000	0	97.4	70-130	0							
Surr: Toluene-d8	901	0	1000	0	90.1	70-130	0							

MSD					Sample ID: 1508441-01A MSD		Units: µg/Kg		Analysis Date: 8/12/2015 06:17 AM	
Client ID: AP 41-14-695 Landfarm				Run ID: VMS6_150811A		SeqNo: 3414350		Prep Date: 8/11/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1143	30	1000	0	114	75-125	1080	5.71	30	
Ethylbenzene	1049	30	1000	0	105	75-125	1002	4.63	30	
m,p-Xylene	2137	60	2000	21.5	106	80-125	2054	3.99	30	
o-Xylene	1037	30	1000	0	104	75-125	1002	3.43	30	
Toluene	1082	30	1000	17	107	70-125	1048	3.19	30	
Xylenes, Total	3174	90	3000	0	106	75-125	3056	3.8	30	
Surr: 1,2-Dichloroethane-d4	1000	0	1000	0	100	70-130	991.5	0.904	30	
Surr: 4-Bromofluorobenzene	1034	0	1000	0	103	70-130	1022	1.12	30	
Surr: Dibromofluoromethane	985.5	0	1000	0	98.6	70-130	990	0.456	30	
Surr: Toluene-d8	961.5	0	1000	0	96.2	70-130	961	0.052	30	

MSD				Sample ID: 1508460-12A MSD			Units: µg/Kg		Analysis Date: 8/12/2015 09:45 PM		
Client ID:			Run ID: VMS5_150812A			SeqNo: 3415728		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1183	30	1000	0	118	75-125	1235	4.3	30		
Ethylbenzene	1026	30	1000	0	103	75-125	1046	2.03	30		
m,p-Xylene	2069	60	2000	0	103	80-125	2093	1.15	30		
o-Xylene	997.5	30	1000	0	99.8	75-125	1007	0.948	30		
Toluene	1056	30	1000	0	106	70-125	1084	2.71	30		
Xylenes, Total	3066	90	3000	0	102	75-125	3100	1.09	30		
Surr: 1,2-Dichloroethane-d4	872.5	0	1000	0	87.2	70-130	880.5	0.913	30		
Surr: 4-Bromofluorobenzene	1018	0	1000	0	102	70-130	1018	0	30		
Surr: Dibromofluoromethane	952.5	0	1000	0	95.2	70-130	974.5	2.28	30		
Surr: Toluene-d8	902	0	1000	0	90.2	70-130	901	0.111	30		

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** WPX Energy Rocky Mountain, LLC  
**Work Order:** 1508441  
**Project:** AP 41-14-695 Landfarm

**QC BATCH REPORT**

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Batch ID: **74662**      Instrument ID **VMS5**      Method: **SW8260B**

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**The following samples were analyzed in this batch:** 1508441-01A

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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** WPX Energy Rocky Mountain, LLC  
**Work Order:** 1508441  
**Project:** AP 41-14-695 Landfarm

## QC BATCH REPORT

Batch ID: **74653** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

<b>DUP</b>		Sample ID: <b>1508441-01A DUP</b>				Units: <b>mmhos/cm @25°</b>		Analysis Date: <b>8/12/2015 10:00 AM</b>		
Client ID: <b>AP 41-14-695 Landfarm</b>			Run ID: <b>WETCHEM_150812B</b>		SeqNo: <b>3413740</b>		Prep Date: <b>8/12/2015</b>		DF: <b>10</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	5.73	0.050	0	0	0		5.63	1.76	50	

The following samples were analyzed in this batch:

1508441-01A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** WPX Energy Rocky Mountain, LLC  
**Work Order:** 1508441  
**Project:** AP 41-14-695 Landfarm

## QC BATCH REPORT

Batch ID: **74680**      Instrument ID **WETCHEM**      Method: **SW7196A**

<b>MBLK</b>		Sample ID: <b>MBLK-74680-74680</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/11/2015 01:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_150811K</b>				SeqNo: <b>3412900</b>		Prep Date: <b>8/10/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.32	1.0								J

<b>LCS</b>		Sample ID: <b>LCS-74680-74680</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/11/2015 01:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_150811K</b>				SeqNo: <b>3412899</b>		Prep Date: <b>8/10/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	5.45	1.0	5	0	109	80-120	0			

<b>MS</b>		Sample ID: <b>1508441-01A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/11/2015 01:00 PM</b>		
Client ID: <b>AP 41-14-695 Landfarm</b>		Run ID: <b>WETCHEM_150811K</b>				SeqNo: <b>3412895</b>		Prep Date: <b>8/10/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	ND	0.98	4.902	0	0	75-125	0			S

<b>MS</b>		Sample ID: <b>1508441-01A MSI</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/11/2015 01:00 PM</b>		
Client ID: <b>AP 41-14-695 Landfarm</b>		Run ID: <b>WETCHEM_150811K</b>				SeqNo: <b>3412897</b>		Prep Date: <b>8/10/2015</b>		DF: <b>100</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	2916	99	3027	0	96.3	75-125	0			

<b>MSD</b>		Sample ID: <b>1508441-01A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/11/2015 01:00 PM</b>		
Client ID: <b>AP 41-14-695 Landfarm</b>		Run ID: <b>WETCHEM_150811K</b>				SeqNo: <b>3412896</b>		Prep Date: <b>8/10/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.4327	0.96	4.808	0	9	75-125	2916	0	20	JS

The following samples were analyzed in this batch:

1508441-01A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** WPX Energy Rocky Mountain, LLC  
**Work Order:** 1508441  
**Project:** AP 41-14-695 Landfarm

## QC BATCH REPORT

Batch ID: **74708** Instrument ID **WETCHEM** Method: **SW9045D**

LCS				Sample ID: LCS-74708-74708				Units: s.u.			Analysis Date: 8/12/2015 01:00 PM		
Client ID:				Run ID: WETCHEM_150812H				SeqNo: 3414137		Prep Date: 8/12/2015		DF: 1	
Analyte				Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

pH	3.95	0	4	0	98.8	90-110	0			
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DUP				Sample ID: 1508361-01A DUP				Units: s.u.			Analysis Date: 8/12/2015 01:00 PM			
Client ID:				Run ID: WETCHEM_150812H				SeqNo: 3414139			Prep Date: 8/12/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

pH	8.25	0	0	0	0	0-0	8.13	1.47	20	
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DUP		Sample ID: 1508443-05A DUP				Units: s.u.		Analysis Date: 8/12/2015 01:00 PM		
Client ID:		Run ID: WETCHEM_150812H				SeqNo: 3414147		Prep Date: 8/12/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

pH	8.13	0	0	0	0	0-0	8.19	0.735	20	
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The following samples were analyzed in this batch:

1508441-01A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** WPX Energy Rocky Mountain, LLC  
**Work Order:** 1508441  
**Project:** AP 41-14-695 Landfarm

## QC BATCH REPORT

Batch ID: **R169644** Instrument ID **MOIST** Method: **E160.3M**

<b>MBLK</b>		Sample ID: <b>WBLKS-R169644</b>				Units: % of sample		Analysis Date: <b>8/13/2015 04:38 PM</b>		
Client ID:		Run ID: <b>MOIST_150813A</b>				SeqNo: <b>3417574</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture ND 0.050

LCS		Sample ID: LCS-R169644					Units: % of sample		Analysis Date: 8/13/2015 04:38 PM		
Client ID:			Run ID: MOIST_150813A			SeqNo: 3417573		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 100 0.050 100 0 100 99.5-100.5 0

<b>DUP</b>				Sample ID: <b>1508443-01A DUP</b>				Units: % of sample			Analysis Date: <b>8/13/2015 04:38 PM</b>			
Client ID:				Run ID: <b>MOIST_150813A</b>				SeqNo: <b>3417552</b>			Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

Moisture 8.43 0.050 0 0 0 8.49 0.709 20

<b>DUP</b>				Sample ID: <b>1508460-06B DUP</b>				Units: % of sample			Analysis Date: <b>8/13/2015 04:38 PM</b>			
Client ID:				Run ID: <b>MOIST_150813A</b>				SeqNo: <b>3417565</b>			Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

Moisture 14.21 0.050 0 0 0 13.44 5.57 20

The following samples were analyzed in this batch:

1508441-01A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

WORKORDER  
#

1508441

PAGE

1 of 1

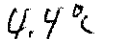
## DISPOSAL

By Lab or Return to Client

[illegible]

\*Time Zone (Circle): EST CST MST PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

**For metals or anions, please detail analytes below.**

<b>Comments:</b>    <div style="text-align: center;">  </div>	<b>QC PACKAGE (check below)</b>	
	<input checked="" type="checkbox"/> X	LEVEL II (Standard QC)
	<input type="checkbox"/>	LEVEL III (Std QC + forms)
	<input type="checkbox"/>	LEVEL IV (Std QC + forms + raw data)
	<input type="checkbox"/>	
<b>Preservative Key:</b> 1-HCl   2-HNO <sub>3</sub> 3-H <sub>2</sub> SO <sub>4</sub> 4-NaOH   5-NaHSO <sub>4</sub> 7-Other   8-4 degrees C   9-5035		

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	<i>Karolina Blaney</i>	Karolina Blaney	8/7/2015	16:00:00 PM
RECEIVED BY	<i>[Signature]</i>	<i>[Signature]</i>	8-7-15	1600
RELINQUISHED BY	<i>[Signature]</i>	<i>[Signature]</i>	8-7-15	1600
RECEIVED BY	<i>[Signature]</i>	Kerry Wierzbicka	8/8/15	1030
RELINQUISHED BY				
RECEIVED BY				

Sample Receipt Checklist

Client Name: **WPX**

Date/Time Received: **08-Aug-15 10:30**

Work Order: **1508441**

Received by: **KRW**

Checklist completed by Keith Wurenga  
eSignature

08-Aug-15  
Date

Reviewed by: Chad Whelton  
eSignature

10-Aug-15  
Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition? Yes ☒ No ☐ Not Present ☐

Custody seals intact on shipping container/cooler? Yes ☒ No ☐ Not Present ☐

Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒

Chain of custody present? Yes ☒ No ☐

Chain of custody signed when relinquished and received? Yes ☒ No ☐

Chain of custody agrees with sample labels? Yes ☒ No ☐

Samples in proper container/bottle? Yes ☒ No ☐

Sample containers intact? Yes ☒ No ☐

Sufficient sample volume for indicated test? Yes ☒ No ☐

All samples received within holding time? Yes ☒ No ☐

Container/Temp Blank temperature in compliance? Yes ☒ No ☐

Sample(s) received on ice? Yes ☒ No ☐

Temperature(s)/Thermometer(s): 4.4/4.4 C SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 8/8/2015 10:46:05 AM

Water - VOA vials have zero headspace? Yes ☐ No ☐ No VOA vials submitted ☒

Water - pH acceptable upon receipt? Yes ☐ No ☐ N/A ☒

pH adjusted? Yes ☐ No ☐ N/A ☒

pH adjusted by:

Login Notes:

-----

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



03-Sep-2015

Karolina Blaney  
WPX Energy Rocky Mountain, LLC  
1058 Country Rd 215  
Parachute, CO 81635

Re: **AP 41-14-695 Landfarm**

Work Order: **1509093**

Dear Karolina,

ALS Environmental received 1 sample on 02-Sep-2015 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 11.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Les Arnold".

Electronically approved by: Les Arnold

Les Arnold  
Senior Project Manager



Certificate No: MN 532786

### Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

[www.alsglobal.com](http://www.alsglobal.com)

RIGHT SOLUTIONS RIGHT PARTNER

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**Client:** WPX Energy Rocky Mountain, LLC  
**Project:** AP 41-14-695 Landfarm  
**Work Order:** 1509093

**Work Order Sample Summary**

---

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1509093-01	AP 41-14-695 Landfarm	Soil		9/1/2015 10:00	9/2/2015 09:30	<input type="checkbox"/>

---

**Client:** WPX Energy Rocky Mountain, LLC  
**Project:** AP 41-14-695 Landfarm  
**Work Order:** 1509093

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**Case Narrative**

Samples for the above noted Work Order were received on 09/02/2015. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting.

With the following exceptions, all sample analyses achieved analytical criteria.

**Sample Receiving:**

No deviations or anomalies were noted.

**Volatile Organics:**

No deviations or anomalies were noted.

**Extractable Organics:**

No deviations or anomalies were noted.

**Metals:**

No deviations or anomalies were noted.

**Wet Chemistry:**

No deviations or anomalies were noted.

**ALS Group USA, Corp****Date:** 03-Sep-15**Client:** WPX Energy Rocky Mountain, LLC**Project:** AP 41-14-695 Landfarm**Work Order:** 1509093**Sample ID:** AP 41-14-695 Landfarm**Lab ID:** 1509093-01**Collection Date:** 9/1/2015 10:00 AM**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
<b>DRO (C10-C28)</b>	<b>190</b>		<b>SW8015M</b>		Prep: SW3550 / 9/2/15	Analyst: <b>IT</b>
			<b>5.0</b>	<b>mg/Kg-dry</b>	1	9/3/2015 10:26 AM
<i>Surr: 4-Terphenyl-d14</i>	<i>63.1</i>		<i>39-133</i>	<i>%REC</i>	1	9/3/2015 10:26 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>SW8015D</b>		Prep: SW5035 / 9/2/15	Analyst: <b>IT</b>
			<b>3.1</b>	<b>mg/Kg-dry</b>	1	9/2/2015 06:17 PM
<i>Surr: Toluene-d8</i>	<i>118</i>		<i>50-150</i>	<i>%REC</i>	1	9/2/2015 06:17 PM
<b>MOISTURE</b>						
<b>Moisture</b>	<b>18</b>		<b>E160.3M</b>			Analyst: <b>EVB</b>
			<b>0.050</b>	<b>% of sample</b>	1	9/2/2015 03:21 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**Client:** WPX Energy Rocky Mountain, LLC  
**Project:** AP 41-14-695 Landfarm  
**WorkOrder:** 1509093

## **QUALIFIERS, ACRONYMS, UNITS**

<b><u>Qualifier</u></b>	<b><u>Description</u></b>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

<b><u>Acronym</u></b>	<b><u>Description</u></b>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<b><u>Units Reported</u></b>	<b><u>Description</u></b>
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight

# ALS Group USA, Corp

Date: 03-Sep-15

**Client:** WPX Energy Rocky Mountain, LLC  
**Work Order:** 1509093  
**Project:** AP 41-14-695 Landfarm

## QC BATCH REPORT

Batch ID: **75546** Instrument ID **GC8** Method: **SW8015M**

<b>MBLK</b>		Sample ID: <b>DBLKS1-75546-75546</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>9/3/2015 09:28 AM</b>		
Client ID:		Run ID: <b>GC8_150903A</b>				SeqNo: <b>3444117</b>		Prep Date: <b>9/2/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	ND	5.0								
<i>Surr: 4-Terphenyl-d14</i>	1.418	0	2	0	70.9	39-133	0			

<b>LCS</b>		Sample ID: <b>DLCSS1-75546-75546</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>9/3/2015 09:58 AM</b>		
Client ID:		Run ID: <b>GC8_150903A</b>				SeqNo: <b>3444118</b>		Prep Date: <b>9/2/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	162	5.0	200	0	81	61-109	0			
<i>Surr: 4-Terphenyl-d14</i>	1.19	0	2	0	59.5	39-133	0			

<b>MS</b>		Sample ID: <b>1509093-01A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>9/3/2015 11:55 AM</b>		
Client ID: <b>AP 41-14-695 Landfarm</b>		Run ID: <b>GC8_150903A</b>				SeqNo: <b>3444274</b>		Prep Date: <b>9/2/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	239	4.1	164	152.1	53	48-110	0			
<i>Surr: 4-Terphenyl-d14</i>	0.9955	0	1.64	0	60.7	39-133	0			

<b>MSD</b>		Sample ID: <b>1509093-01A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>9/3/2015 12:25 PM</b>		
Client ID: <b>AP 41-14-695 Landfarm</b>		Run ID: <b>GC8_150903A</b>				SeqNo: <b>3444275</b>		Prep Date: <b>9/2/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	269	4.1	165.8	152.1	70.5	48-110	239	11.8	30	
<i>Surr: 4-Terphenyl-d14</i>	1.053	0	1.658	0	63.5	39-133	0.9955	5.61	30	

The following samples were analyzed in this batch: 1509093-01A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** WPX Energy Rocky Mountain, LLC  
**Work Order:** 1509093  
**Project:** AP 41-14-695 Landfarm

## QC BATCH REPORT

Batch ID: **75545**      Instrument ID **GC9**      Method: **SW8015D**

<b>MBLK</b>		Sample ID: <b>MBLK-75545-75545</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>9/2/2015 05:52 PM</b>		
Client ID:		Run ID: <b>GC9_150902A</b>				SeqNo: <b>3443510</b>		Prep Date: <b>9/2/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	ND	2,500								
Surr: Toluene-d8	5341	0	5000	0	107	50-150	0			

<b>LCS</b>		Sample ID: <b>LCS-75545-75545</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>9/2/2015 05:28 PM</b>		
Client ID:		Run ID: <b>GC9_150902A</b>				SeqNo: <b>3443508</b>		Prep Date: <b>9/2/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	568000	2,500	500000	0	114	70-130	0			
Surr: Toluene-d8	5386	0	5000	0	108	50-150	0			

<b>MS</b>		Sample ID: <b>1509093-01A MS</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>9/2/2015 07:56 PM</b>		
Client ID: <b>AP 41-14-695 Landfarm</b>		Run ID: <b>GC9_150902A</b>				SeqNo: <b>3443519</b>		Prep Date: <b>9/2/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	637600	2,500	500000	0	128	70-130	0			
Surr: Toluene-d8	5492	0	5000	0	110	50-150	0			

<b>MSD</b>		Sample ID: <b>1509093-01A MSD</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>9/2/2015 08:21 PM</b>		
Client ID: <b>AP 41-14-695 Landfarm</b>		Run ID: <b>GC9_150902A</b>				SeqNo: <b>3443521</b>		Prep Date: <b>9/2/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	633300	2,500	500000	0	127	70-130	637600	0.675	30	
Surr: Toluene-d8	5556	0	5000	0	111	50-150	5492	1.14	30	

The following samples were analyzed in this batch:

1509093-01A

**Client:** WPX Energy Rocky Mountain, LLC  
**Work Order:** 1509093  
**Project:** AP 41-14-695 Landfarm

## QC BATCH REPORT

Batch ID: **R170934** Instrument ID **MOIST** Method: **E160.3M**

MBLK				Sample ID: WBLKS-R170934				Units: % of sample			Analysis Date: 9/2/2015 03:21 PM			
Client ID:				Run ID: MOIST_150902C				SeqNo: 3444071			Prep Date:		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Moisture		0.03	0.050								J			

LCS		Sample ID: LCS-R170934				Units: % of sample		Analysis Date: 9/2/2015 03:21 PM		
Client ID:		Run ID: MOIST_150902C			SeqNo: 3444070		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	99.99	0.050	100	0	100	99.5-100.5	0			

DUP		Sample ID: 15081636-01C DUP					Units: % of sample		Analysis Date: 9/2/2015 03:21 PM		
Client ID:		Run ID: MOIST_150902C			SeqNo: 3444049		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Moisture	42.84	0.050	0	0	0		37.35	13.7	20		

DUP				Sample ID: 15081638-06B DUP				Units: % of sample			Analysis Date: 9/2/2015 03:21 PM			
Client ID:				Run ID: MOIST_150902C				SeqNo: 3444056			Prep Date:		DF: 1	
Analyte				Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Moisture				14.94	0.050	0	0	0		12.56	17.3	20		

The following samples were analyzed in this batch:

1509093-01A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.



# ALS Laboratory Group

HOLLAND, Michigan 49424

## Chain-of-Custody

Form 202r8

WORKORDER  
#

1509093

PROJECT NAME		AP 41-14-895 landfarm		SAMPLER				DATE		9/1/2015		PAGE		1 of 1	
PROJECT No.				SITE ID		AP 41-14-895 landfarm		TURNAROUND		24 hrs		DISPOSAL		By Lab or Return to Client	
EDD FORMAT				PURCHASE ORDER				DRO + GRO							
COMPANY NAME		WPX Energy		BILL TO COMPANY		WPX Energy									
SEND REPORT TO		Blaney		INVOICE ATTN TO		Karolina Blaney; Leo Braun									
ADDRESS				ADDRESS		1058 Co Rd 215									
CITY / STATE / ZIP				CITY / STATE / ZIP		Parachute CO 81635									
PHONE				PHONE		970-883-2295									
FAX				FAX											
E-MAIL		Karolina.blaney@wpxenergy.com;		E-MAIL		Karolina.blaney@wpxenergy.com; leo.braun@wpxenergy.com									
Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC								
1	AP 41-14-895 landfarm	S	9/1/2015	10:00	1		x	x							

\*Time Zone (Circle): EST CST MST PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

For metals or anions, please detail analytes below.

Comments:	QC PACKAGE (check below)
2.8°C	X LEVEL II (Standard QC)
	LEVEL III (Std QC + forms)
	LEVEL IV (Std QC + forms + raw data)
Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035	

SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY <i>Karolina Blaney</i>	Karolina Blaney	9/1/2015	18:00:00 PM
RECEIVED BY <i>Wor</i>		9-1-15	1600
RELINQUISHED BY <i>KEITH WIERENKA</i>	KEITH WIERENKA	9-1-15	1605
RECEIVED BY <i>Keith Wierenska</i>		9/2/15	0930
RELINQUISHED BY			
RECEIVED BY			

ORIGIN ID: RLA (616) 298-1033  
 NICK MARTINEZ  
 ALS ENVIRONMENTAL PARACHUTE  
 PARACHUTE SERVICE CENTER  
 127 EAST 1ST ST  
 PARACHUTE, CO 81635  
 UNITED STATES US

SHIP DATE: 01SEP15  
 ACTWGT: 42.00 LB  
 CAD: 2264840/NET3870  
 DIMS: 18x18x14 IN  
 BILL SENDER

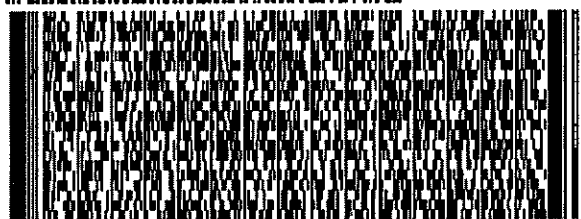
TO **SAMPLE RECEIVING**  
**ALS ENVIRONMENTAL HOLLAND LAB**  
**3352 128TH AVE**

**HOLLAND MI 49424**

(616) 399-6070  
 INV.  
 PO: PARACHUTE

REF: 090115-2

DEPT:



**FedEx**  
 Express



REL#  
 3785346

TRK#  
 0201 **7744 1876 4092**

**WED - 02 SEP 10:30A**  
**PRIORITY OVERNIGHT**

**XX HLMA**

**49424**  
**GRR**  
 MI-US



539.12/03869/3100

**After printing this label:**

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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Sample Receipt Checklist

Client Name: **WPX**

Date/Time Received: **02-Sep-15 09:30**

Work Order: **1509093**

Received by: **KRW**

Checklist completed by Keith Wurenga  
eSignature

02-Sep-15  
Date

Reviewed by: Lee Arnold  
eSignature

02-Sep-15  
Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition? Yes ☒ No ☐ Not Present ☐

Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☒

Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒

Chain of custody present? Yes ☒ No ☐

Chain of custody signed when relinquished and received? Yes ☒ No ☐

Chain of custody agrees with sample labels? Yes ☒ No ☐

Samples in proper container/bottle? Yes ☒ No ☐

Sample containers intact? Yes ☒ No ☐

Sufficient sample volume for indicated test? Yes ☒ No ☐

All samples received within holding time? Yes ☒ No ☐

Container/Temp Blank temperature in compliance? Yes ☒ No ☐

Sample(s) received on ice? Yes ☒ No ☐

Temperature(s)/Thermometer(s): 2.8/2.8 C SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 9/2/2015 10:47:50 AM

Water - VOA vials have zero headspace? Yes ☐ No ☐ No VOA vials submitted ☒

Water - pH acceptable upon receipt? Yes ☐ No ☐ N/A ☒

pH adjusted? Yes ☐ No ☐ N/A ☒

pH adjusted by:

Login Notes:

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Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction: