

State of Colorado  
**Oil and Gas Conservation Commission**

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax:(303)894-2109



FOR OGCC USE ONLY

REM 4944

Received 10/19/2015  
Document 2315666

OGCC Employee:

☐ Spill ☐ Complaint  
☐ Inspection ☐ NOAV

Tracking No:

**SITE INVESTIGATION AND REMEDIATION WORKPLAN**

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

**CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED**

☐ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☒ Site/Facility Closure ☐ Other (describe): \_\_\_\_\_

OGCC Operator Number: <u>96850</u>	Contact Name and Telephone: _____
Name of Operator: <u>WPX Energy Rocky Mountain LLC</u>	<u>Karolina Blaney</u>
Address: <u>1058 County Road 215</u>	No: <u>970-683-2295</u>
City: <u>Parachute</u> State: <u>CO</u> Zip: <u>81635</u>	Fax: <u>970-285-9573</u>
API Number: _____	County: <u>Garfield</u>
Facility Name: <u>TR 24-28-597</u>	Facility Number: <u>277098</u>
Well Name: _____	Well Number: _____
Location: (QtrQtr, Sec, Twp, Rng, Meridian): <u>SESW, Sec 28, T5S, R97W, 6th PM</u> Latitude: <u>39.579026</u> Longitude: <u>-108.285433</u>	

**TECHNICAL CONDITIONS**

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): Produced Water

Site Conditions: Is location within a sensitive area (according to Rule 901e)? ☐ Y ☒ N If yes, attach evaluation.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): Rangeland, non-crop land

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Parachute-Irigul, 5-30% Slope & Parachute -Irigul Rhone 25-50% Slope

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Unnamed tributary of Clear Creek lies approximately 1290ft to the east.

Description of Impact (if previously provided, refer to that form or document):

Impacted Media (check):	Extent of Impact:	How Determined:
<input checked="" type="checkbox"/> Soils	<u>See Attached Notice of Completion Report</u>	<u>Visual observations, laboratory data, and field screening instruments.</u>
<input type="checkbox"/> Vegetation	_____	_____
<input type="checkbox"/> Groundwater	_____	_____
<input type="checkbox"/> Surface Water	_____	_____

**REMEDIATION WORKPLAN**

Describe initial action taken (if previously provided, refer to that form or document):  
See Attached Notice of Completion (NOC) Report

Describe how source is to be removed:  
See Attached Notice of Completion (NOC) Report

Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:  
See Attached Notice of Completion (NOC) Report



Tracking Number: \_\_\_\_\_  
Name of Operator: \_\_\_\_\_  
OGCC Operator No: \_\_\_\_\_  
Received Date: \_\_\_\_\_  
Well Name & No: \_\_\_\_\_  
Facility Name & No: \_\_\_\_\_

OGCC Employee: \_\_\_\_\_

**If groundwater has been impacted, describe proposed monitoring plan** (# of wells or sample points, sampling schedule, analytical methods, etc.):  
**See Attached Notice of Completion (NOC) Report**

**Describe reclamation plan.** Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing. Use additional sheet for description if required.  
**See Attached Notice of Completion (NOC) Report**

**Attach samples and analytical results taken to verify remediation of impacts.** Show locations of samples on an onsite schematic or drawing.

**Is further site investigation required?** ☐ Y ☒ N If yes, describe:  
**See Attached Notice of Completion (NOC) Report**

**Final disposition of E&P waste** (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):  
**See Attached Notice of Completion (NOC) Report**

### IMPLEMENTATION SCHEDULE

Date Site Investigation Began: October 5, 2015 Date Site Investigation Completed: October 5, 2015 Date Remediation Plan Submitted: September 8, 2009  
Remediation Start Date: No Remediation Necessary Anticipated Completion Date: No Remediation Necessary Actual Completion Date: October 5, 2015

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Karolina Blaney Signed: Karolina Blaney  
Title: Environmental Specialist Date: 10-15-15

OGCC Approved: \_\_\_\_\_ Title: EPS Northwest Date: 10/19/15

***WPX ENERGY ROCKY MOUNTAIN LLC  
TRAIL RIDGE FIELD  
NOTICE OF COMPLETION REPORT FOR  
TR 24-28-597 PRODUCTION PIT  
REMEDATION # 4944***

Prepared For:



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

Prepared By:



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

2385 F ½ RD  
Grand Junction, CO81505  
Phone: 970-243-3271  
Fax: 970-243-3280

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Appendix 2: Background Raw Analytical Results

## **Introduction**

The purpose of this Notice of Completion report – for the closure of the TR 24-28-597 Production Pit (COGCC Facility ID number 277098; hereinafter referred to as TR 24-28-597 – is to provide detailed information and result analysis for the previously submitted and approved remediation number 4944, 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 submitted electronically on September 8, 2009. 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 March, 31, 2010; at which time the aforementioned remediation number was issued. Closure activities began in September 21, 2015 and were concluded on October 5, 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 and managed at WPX Centralized E&P waste treatment facilities. Once the liquids were removed from the pit, the residual pit contents remaining on the liner were removed using a pressure washer and vac truck and managed at the WPX centralized E&P waste treatment facilities accordingly.

## **Background Sampling**

Three grab samples were collected from the upgradient, 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 2 for background sampling results.

## **Pit Liner Investigation and Integrity Assessment**

The pit liner consisted of a four layer system. These layers included: a 12mm poly synthetic material, a felt fabric, a tarpaulin textile, and a poly synthetic net. The liner system did not identify any visible tears or rips prior to removal.

## **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 staining and possibly impacts. Because of the layout of the pit construction, the pit was divided into a four (4) quadrants in order to accurately characterize the pit as a whole by investigating individual quadrants. The five quadrants were named by their geographical direction in relation to the pit bottom and are defined in Figure 1.

For each quadrant, soils were visually inspected for impacts. Minor staining was present on pit side walls and bottom, but did not contain any hydrocarbon odor and was suspected to be from the felt liner present below the poly liner system.

## **Remediation Activities**

Due to visual observations indicating no presents of impacts, confirmation samples were collected from each of the side walls, and the lowest point of the pit bottom. Samples were collected from six (6) inches to a foot below the surface. Samples were submitted to ALS Laboratory on October 5, 2015 for constituents outlined in COGCC Table 910-1.

- Confirmation samples were collected in accordance with Rule 905.b.(4), from all three 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. 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 location from the pit walls and pit bottom.
- Visual inspection of the pit bottoms, field screening techniques, and sampling procedures were followed in accordance with WPX Pit Closure Plan (COGCC document #2313312).

## **Sample Analysis**

Sampling was performed in accordance with WPX Pit Closure Plan, Phase IV, Task 2. See attached Table 2 for summary of confirmation sampling results. Additional detailed provided in Appendix 1.

## **Backfill Material**

Material utilized to backfill the pit will be the original excavated soil from construction 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.

Facility Name: TR 24-28-597  
Remediation: 4944  
Facility ID: 277098

Name of Operator: WPX Energy Rocky Mountain, LLC  
Latitude: 39.579026 Longitude -108.285433  
Location (QtrQty, Sec, Twp, Rng, Meridian): SESW, Sec 28, T5S, R97W

COGCC Operator # 96850  
County: Garfield

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

The only exceedances with regards to COGCC Table 910-1 were within the arsenic analysis. WPX is requesting that an allowance for arsenic be considered as it is relative to background arsenic levels. Any concern to inorganic concentrations will be covered with 3ft of native material.

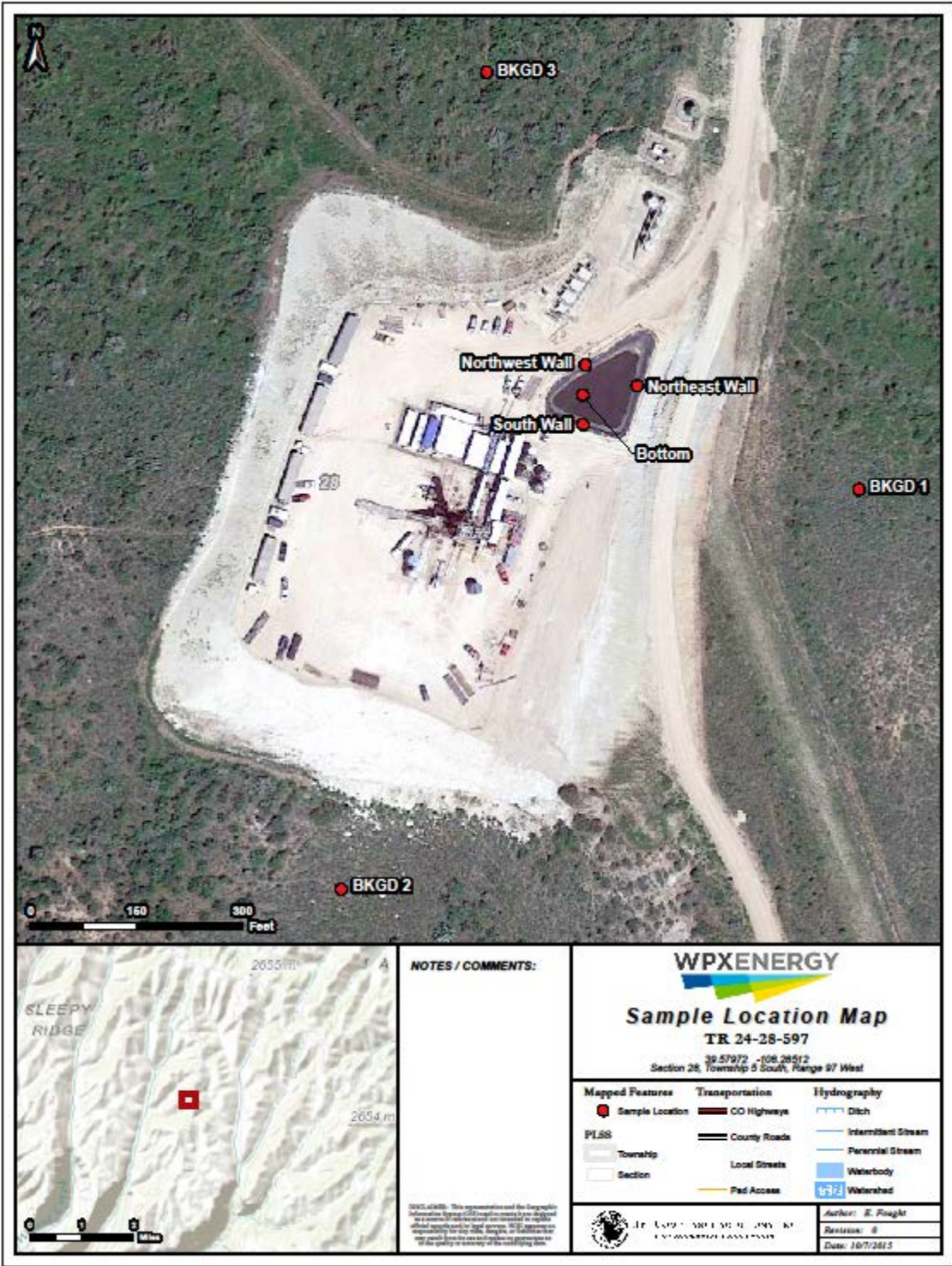
### **Analytical Data Management**

Refer to Appendix 1 for the raw analytical analysis for samples collected along the pit bottom and side walls, which are also presented in Table 1. Table 2 includes background sample results with raw analytical data available in Appendix 2.

## FIGURES



FIGURE 1: SAMPLE LOCATION MAP





**FIGURE 2: PIT SUBSOILS**



Subsoils post liner removal. Liquid if from precipitation event that day and from the previous night.

## TABLES

**TABLE 1: PIT BOTTOM AND SIDE WALL ANALYTICAL RESULTS**

Pit Confirmation Data	Northeast Wall	Northwest wall	South Wall	Pit Bottom
TEPH (DRO)	19	27	23	31
TVPH (GRO)	ND	ND	ND	43
BENZENE	ND	ND		ND
TOLUENE	ND	ND		ND
ETHYLBENZENE	ND	ND		ND
XYLENE TOTAL	ND	ND		0.17
ACENAPHTHENE	ND	ND		ND
ANTHRACENE	ND	ND		ND
BENZO(A)ANTHRACENE	ND	ND		ND
BENZO(A)PYRENE	ND	ND		ND
BENZO(B)FLUORANTHENE	ND	ND		ND
BENZO(G,H,I)PERYLEN	ND	ND		ND
BENZO(K)FLUORANTHENE	ND	ND		ND
CHRYSENE (mg/kg)	ND	ND		ND
DIBENZO(A,H)ANTHRACENE	ND	ND		ND
FLUORANTHENE	ND	ND		ND
FLUORENE	ND	ND		ND
INDENO(1,2,3-CD)PYRENE	ND	ND		ND
NAPHTHALENE	ND	ND		0.040
PYRENE	ND	ND		ND
ARSENIC	-	-		5.7
BARIUM	-	-		470
CADMIUM	-	-		ND
CHROMIUM	-	-		35
CHROMIUM (III)	-	-		35
CHROMIUM (IV)	-	-		ND
COPPER	-	-		10
LEAD	-	-		7.0
MERCURY	-	-		ND
NICKEL	-	-		21
SELENIUM	-	-		ND
SILVER	-	-		ND
ZINC	-	-		30
ELECTRICAL CONDUCTIVITY (EC) (mmho/cm)	2.3	1.7	7.2	18
pH	7.9	7.8	7.4	8.2
SODIUM ADSORPTION RATIO (SAR)	0.21	0.56	6.5	93

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 2: BACKGROUND ANALYTICAL RESULTS**

Sample ID	Arsenic (mg/kg)	Conductivity(mmho/cm)	pH (s.u.)	Sodium Adsorbion Ratio
BKGD 1	9.1	N/A	N/A	N/A
BKGD 2	9.1	N/A	N/A	N/A
BKGD 3	9.2	0.78	6.5	0.074

Results above state limits are highlighted in yellow

**APPENDIX 1: PIT SIDE WALL AND BOTTOM CONFIRMATION RAW DATA**



08-Oct-2015

Mark Mumby  
HRL Compliance Solutions, Inc  
2385 F 1/2 Road  
Grand Junction, CO 81505

Re: **WPX Energy - TR 24-28-597 - Pit Closure**

Work Order: **1510322**

Dear Mark,

ALS Environmental received 4 samples on 06-Oct-2015 02:30 PM 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 31.

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

Sincerely,

A handwritten signature in black ink, appearing to read "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 Energy - TR 24-28-597 - Pit Closure  
**Work Order:** 1510322

## 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>
1510322-01	Pit Bottom	Soil		10/5/2015 13:00	10/6/2015 14:30	<input type="checkbox"/>
1510322-02	Northeast Wall	Soil		10/5/2015 13:15	10/6/2015 14:30	<input type="checkbox"/>
1510322-03	Northwest Wall	Soil		10/5/2015 13:30	10/6/2015 14:30	<input type="checkbox"/>
1510322-04	South Wall	Soil		10/5/2015 13:45	10/6/2015 14:30	<input type="checkbox"/>



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**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - TR 24-28-597 - Pit Closure  
**Work Order:** 1510322

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**Case Narrative**

Samples for the above noted Work Order were received on 10/06/2015. 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: 08-Oct-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - TR 24-28-597 - Pit Closure  
**Sample ID:** Pit Bottom  
**Collection Date:** 10/5/2015 01:00 PM

**Work Order:** 1510322  
**Lab ID:** 1510322-01  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep: SW3550 / 10/6/15	Analyst: <b>IT</b>
<b>DRO (C10-C28)</b>	<b>31</b>		<b>5.3</b>	<b>mg/Kg-dry</b>	1	10/7/2015 12:29 PM
Surr: 4-Terphenyl-d14	65.0		39-133	%REC	1	10/7/2015 12:29 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015D</b>		Prep: SW5035 / 10/6/15	Analyst: <b>IT</b>
<b>GRO (C6-C10)</b>	<b>43</b>		<b>3.2</b>	<b>mg/Kg-dry</b>	1	10/6/2015 08:06 PM
Surr: Toluene-d8	111		50-150	%REC	1	10/6/2015 08:06 PM
<b>MERCURY BY CVAA</b>						
			<b>SW7471B</b>		Prep: SW7471 / 10/6/15	Analyst: <b>LR</b>
Mercury	ND		0.016	mg/Kg-dry	1	10/6/2015 08:34 PM
<b>METALS ANALYSIS BY ICP</b>						
			<b>SW846 6010C</b>		Prep: SW3050B / 10/6/15	Analyst: <b>JEC</b>
<b>Arsenic</b>	<b>5.7</b>		<b>0.51</b>	<b>mg/Kg-dry</b>	1	10/7/2015 11:26 AM
<b>Barium</b>	<b>470</b>		<b>0.51</b>	<b>mg/Kg-dry</b>	1	10/7/2015 11:26 AM
Cadmium	ND		1.0	mg/Kg-dry	1	10/7/2015 11:26 AM
<b>Chromium</b>	<b>35</b>		<b>0.51</b>	<b>mg/Kg-dry</b>	1	10/7/2015 11:26 AM
<b>Copper</b>	<b>10</b>		<b>1.0</b>	<b>mg/Kg-dry</b>	1	10/7/2015 11:26 AM
<b>Lead</b>	<b>7.0</b>		<b>0.51</b>	<b>mg/Kg-dry</b>	1	10/7/2015 11:26 AM
<b>Nickel</b>	<b>21</b>		<b>0.51</b>	<b>mg/Kg-dry</b>	1	10/7/2015 11:26 AM
Selenium	ND		1.0	mg/Kg-dry	1	10/7/2015 11:26 AM
Silver	ND		0.51	mg/Kg-dry	1	10/7/2015 11:26 AM
<b>Zinc</b>	<b>30</b>		<b>1.0</b>	<b>mg/Kg-dry</b>	1	10/7/2015 11:26 AM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW846 6010C</b>		Prep: USDA Method 20B / 10/8/15	Analyst: <b>JEC</b>
<b>Calcium</b>	<b>72</b>		<b>5.0</b>	<b>mg/L</b>	10	10/8/2015 11:50 AM
<b>Magnesium</b>	<b>7.1</b>		<b>2.0</b>	<b>mg/L</b>	10	10/8/2015 11:50 AM
<b>Sodium</b>	<b>3,100</b>		<b>2.0</b>	<b>mg/L</b>	10	10/8/2015 11:50 AM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 10/8/15	Analyst: <b>JEC</b>
<b>Exchangeable Sodium Percentage</b>	<b>58</b>		<b>0.010</b>	<b>none</b>	1	10/8/2015
<b>Sodium Adsorption Ratio</b>	<b>93</b>		<b>0.010</b>	<b>none</b>	1	10/8/2015
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW846 8270D</b>		Prep: SW3550 / 10/6/15	Analyst: <b>RS</b>
Acenaphthene	ND		0.0084	mg/Kg-dry	1	10/7/2015 12:44 PM
Anthracene	ND		0.0084	mg/Kg-dry	1	10/7/2015 12:44 PM
Benzo(a)anthracene	ND		0.0084	mg/Kg-dry	1	10/7/2015 12:44 PM
Benzo(a)pyrene	ND		0.0084	mg/Kg-dry	1	10/7/2015 12:44 PM
Benzo(b)fluoranthene	ND		0.0084	mg/Kg-dry	1	10/7/2015 12:44 PM
Benzo(k)fluoranthene	ND		0.0084	mg/Kg-dry	1	10/7/2015 12:44 PM
Chrysene	ND		0.0084	mg/Kg-dry	1	10/7/2015 12:44 PM
Dibenzo(a,h)anthracene	ND		0.0084	mg/Kg-dry	1	10/7/2015 12:44 PM

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

# ALS Group USA, Corp

Date: 08-Oct-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - TR 24-28-597 - Pit Closure  
**Sample ID:** Pit Bottom  
**Collection Date:** 10/5/2015 01:00 PM

**Work Order:** 1510322  
**Lab ID:** 1510322-01  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	ND		0.0084	mg/Kg-dry	1	10/7/2015 12:44 PM
Fluorene	ND		0.0084	mg/Kg-dry	1	10/7/2015 12:44 PM
Indeno(1,2,3-cd)pyrene	ND		0.0084	mg/Kg-dry	1	10/7/2015 12:44 PM
<b>Naphthalene</b>	<b>0.040</b>		<b>0.0084</b>	<b>mg/Kg-dry</b>	1	10/7/2015 12:44 PM
Pyrene	ND		0.0084	mg/Kg-dry	1	10/7/2015 12:44 PM
Surr: 2-Fluorobiphenyl	66.7		12-100	%REC	1	10/7/2015 12:44 PM
Surr: 4-Terphenyl-d14	70.5		25-137	%REC	1	10/7/2015 12:44 PM
Surr: Nitrobenzene-d5	93.7		37-107	%REC	1	10/7/2015 12:44 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>	Prep: SW5035 / 10/6/15	Analyst: <b>BG</b>	
Benzene	ND		0.038	mg/Kg-dry	1	10/6/2015 06:44 PM
Ethylbenzene	ND		0.038	mg/Kg-dry	1	10/6/2015 06:44 PM
<b>m,p-Xylene</b>	<b>0.13</b>		<b>0.077</b>	<b>mg/Kg-dry</b>	1	10/6/2015 06:44 PM
<b>o-Xylene</b>	<b>0.043</b>		<b>0.038</b>	<b>mg/Kg-dry</b>	1	10/6/2015 06:44 PM
Toluene	ND		0.038	mg/Kg-dry	1	10/6/2015 06:44 PM
<b>Xylenes, Total</b>	<b>0.17</b>		<b>0.11</b>	<b>mg/Kg-dry</b>	1	10/6/2015 06:44 PM
Surr: 1,2-Dichloroethane-d4	106		70-130	%REC	1	10/6/2015 06:44 PM
Surr: 4-Bromofluorobenzene	92.4		70-130	%REC	1	10/6/2015 06:44 PM
Surr: Dibromofluoromethane	101		70-130	%REC	1	10/6/2015 06:44 PM
Surr: Toluene-d8	106		70-130	%REC	1	10/6/2015 06:44 PM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>	Prep: USDA Method 20B / 10/8/15	Analyst: <b>JB</b>	
<b>Electrical Conductivity @ Saturation</b>	<b>18</b>		<b>0.050</b>	<b>mmhos/cm @2</b>	10	10/8/2015 02:45 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>	Analyst: <b>JJG</b>		
<b>Chromium, Trivalent</b>	<b>35</b>		<b>0.64</b>	<b>mg/Kg-dry</b>	1	10/8/2015 08:45 AM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>	Prep: SW3060A / 10/6/15	Analyst: <b>MB</b>	
<b>Chromium, Hexavalent</b>	ND		1.2	mg/Kg-dry	1	10/7/2015 03:30 PM
<b>MOISTURE</b>			<b>E160.3M</b>	Analyst: <b>EVB</b>		
<b>Moisture</b>	<b>22</b>		<b>0.050</b>	<b>% of sample</b>	1	10/6/2015 05:30 PM
<b>PH</b>			<b>SW9045D</b>	Prep: EXTRACT / 10/6/15	Analyst: <b>JB</b>	
<b>pH</b>	<b>8.2</b>			<b>s.u.</b>	1	10/6/2015 03:45 PM

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

# ALS Group USA, Corp

Date: 08-Oct-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - TR 24-28-597 - Pit Closure  
**Sample ID:** Northeast Wall  
**Collection Date:** 10/5/2015 01:15 PM

**Work Order:** 1510322  
**Lab ID:** 1510322-02  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep: SW3550 / 10/6/15	Analyst: <b>IT</b>
<b>DRO (C10-C28)</b>	<b>19</b>		<b>4.7</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/7/2015 12:59 PM
Surr: 4-Terphenyl-d14	61.6		39-133	%REC	1	10/7/2015 12:59 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015D</b>		Prep: SW5035 / 10/6/15	Analyst: <b>IT</b>
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>2.9</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/6/2015 08:31 PM
Surr: Toluene-d8	107		50-150	%REC	1	10/6/2015 08:31 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW846 6010C</b>		Prep: USDA Method 20B / 10/8/15	Analyst: <b>JEC</b>
<b>Calcium</b>	<b>240</b>		<b>5.0</b>	<b>mg/L</b>	<b>10</b>	10/8/2015 11:56 AM
<b>Magnesium</b>	<b>47</b>		<b>2.0</b>	<b>mg/L</b>	<b>10</b>	10/8/2015 11:56 AM
<b>Sodium</b>	<b>65</b>		<b>2.0</b>	<b>mg/L</b>	<b>10</b>	10/8/2015 11:56 AM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 10/8/15	Analyst: <b>JEC</b>
<b>Exchangeable Sodium Percentage</b>	<b>0.21</b>		<b>0.010</b>	<b>none</b>	<b>1</b>	10/8/2015
<b>Sodium Adsorption Ratio</b>	<b>1.0</b>		<b>0.010</b>	<b>none</b>	<b>1</b>	10/8/2015
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW846 8270D</b>		Prep: SW3550 / 10/6/15	Analyst: <b>RS</b>
Acenaphthene	ND		0.0076	mg/Kg-dry	1	10/7/2015 01:10 AM
Anthracene	ND		0.0076	mg/Kg-dry	1	10/7/2015 01:10 AM
Benzo(a)anthracene	ND		0.0076	mg/Kg-dry	1	10/7/2015 01:10 AM
Benzo(a)pyrene	ND		0.0076	mg/Kg-dry	1	10/7/2015 01:10 AM
Benzo(b)fluoranthene	ND		0.0076	mg/Kg-dry	1	10/7/2015 01:10 AM
Benzo(k)fluoranthene	ND		0.0076	mg/Kg-dry	1	10/7/2015 01:10 AM
Chrysene	ND		0.0076	mg/Kg-dry	1	10/7/2015 01:10 AM
Dibenzo(a,h)anthracene	ND		0.0076	mg/Kg-dry	1	10/7/2015 01:10 AM
Fluoranthene	ND		0.0076	mg/Kg-dry	1	10/7/2015 01:10 AM
Fluorene	ND		0.0076	mg/Kg-dry	1	10/7/2015 01:10 AM
Indeno(1,2,3-cd)pyrene	ND		0.0076	mg/Kg-dry	1	10/7/2015 01:10 AM
Naphthalene	ND		0.0076	mg/Kg-dry	1	10/7/2015 01:10 AM
Pyrene	ND		0.0076	mg/Kg-dry	1	10/7/2015 01:10 AM
Surr: 2-Fluorobiphenyl	64.1		12-100	%REC	1	10/7/2015 01:10 AM
Surr: 4-Terphenyl-d14	68.9		25-137	%REC	1	10/7/2015 01:10 AM
Surr: Nitrobenzene-d5	91.7		37-107	%REC	1	10/7/2015 01:10 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8260B</b>		Prep: SW5035 / 10/6/15	Analyst: <b>BG</b>
<b>Benzene</b>	<b>ND</b>		<b>0.034</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/6/2015 07:10 PM
<b>Ethylbenzene</b>	<b>ND</b>		<b>0.034</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/6/2015 07:10 PM
<b>m,p-Xylene</b>	<b>ND</b>		<b>0.069</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/6/2015 07:10 PM
<b>o-Xylene</b>	<b>ND</b>		<b>0.034</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/6/2015 07:10 PM
<b>Toluene</b>	<b>ND</b>		<b>0.034</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/6/2015 07:10 PM

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

**ALS Group USA, Corp****Date:** 08-Oct-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - TR 24-28-597 - Pit Closure  
**Sample ID:** Northeast Wall  
**Collection Date:** 10/5/2015 01:15 PM

**Work Order:** 1510322  
**Lab ID:** 1510322-02  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Xylenes, Total	ND		0.10	mg/Kg-dry	1	10/6/2015 07:10 PM
Surr: 1,2-Dichloroethane-d4	108		70-130	%REC	1	10/6/2015 07:10 PM
Surr: 4-Bromofluorobenzene	94.6		70-130	%REC	1	10/6/2015 07:10 PM
Surr: Dibromofluoromethane	102		70-130	%REC	1	10/6/2015 07:10 PM
Surr: Toluene-d8	109		70-130	%REC	1	10/6/2015 07:10 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 10/8/15		Analyst: JB
Electrical Conductivity @ Saturation	2.3		0.050	mmhos/cm @2	10	10/8/2015 02:45 PM
MOISTURE			E160.3M			Analyst: EVB
Moisture	12		0.050	% of sample	1	10/6/2015 05:30 PM
PH			SW9045D	Prep: EXTRACT / 10/6/15		Analyst: JB
pH	7.9			s.u.	1	10/6/2015 03:45 PM

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

# ALS Group USA, Corp

Date: 08-Oct-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - TR 24-28-597 - Pit Closure  
**Sample ID:** Northwest Wall  
**Collection Date:** 10/5/2015 01:30 PM

**Work Order:** 1510322  
**Lab ID:** 1510322-03  
**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>27</b>		<b>SW8015M</b>		Prep: SW3550 / 10/6/15	Analyst: <b>IT</b>
<i>Surr: 4-Terphenyl-d14</i>	<i>54.5</i>		<i>39-133</i>	<i>%REC</i>	<i>1</i>	<i>10/7/2015 01:29 AM</i>
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>SW8015D</b>		Prep: SW5035 / 10/6/15	Analyst: <b>IT</b>
<i>Surr: Toluene-d8</i>	<i>101</i>		<i>50-150</i>	<i>%REC</i>	<i>1</i>	<i>10/6/2015 08:56 PM</i>
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW846 6010C</b>		Prep: USDA Method 20B / 10/8/15	Analyst: <b>JEC</b>
<b>Calcium</b>	<b>210</b>		<b>5.0</b>	<b>mg/L</b>	<b>10</b>	<b>10/8/2015 12:01 PM</b>
<b>Magnesium</b>	<b>41</b>		<b>2.0</b>	<b>mg/L</b>	<b>10</b>	<b>10/8/2015 12:01 PM</b>
<b>Sodium</b>	<b>34</b>		<b>2.0</b>	<b>mg/L</b>	<b>10</b>	<b>10/8/2015 12:01 PM</b>
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 10/8/15	Analyst: <b>JEC</b>
Exchangeable Sodium Percentage	ND		0.010	none	1	10/8/2015
<b>Sodium Adsorption Ratio</b>	<b>0.56</b>		<b>0.010</b>	<b>none</b>	<b>1</b>	<b>10/8/2015</b>
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW846 8270D</b>		Prep: SW3550 / 10/6/15	Analyst: <b>RS</b>
Acenaphthene	ND		0.0075	mg/Kg-dry	1	10/7/2015 01:36 AM
Anthracene	ND		0.0075	mg/Kg-dry	1	10/7/2015 01:36 AM
Benzo(a)anthracene	ND		0.0075	mg/Kg-dry	1	10/7/2015 01:36 AM
Benzo(a)pyrene	ND		0.0075	mg/Kg-dry	1	10/7/2015 01:36 AM
Benzo(b)fluoranthene	ND		0.0075	mg/Kg-dry	1	10/7/2015 01:36 AM
Benzo(k)fluoranthene	ND		0.0075	mg/Kg-dry	1	10/7/2015 01:36 AM
Chrysene	ND		0.0075	mg/Kg-dry	1	10/7/2015 01:36 AM
Dibenzo(a,h)anthracene	ND		0.0075	mg/Kg-dry	1	10/7/2015 01:36 AM
Fluoranthene	ND		0.0075	mg/Kg-dry	1	10/7/2015 01:36 AM
Fluorene	ND		0.0075	mg/Kg-dry	1	10/7/2015 01:36 AM
Indeno(1,2,3-cd)pyrene	ND		0.0075	mg/Kg-dry	1	10/7/2015 01:36 AM
Naphthalene	ND		0.0075	mg/Kg-dry	1	10/7/2015 01:36 AM
Pyrene	ND		0.0075	mg/Kg-dry	1	10/7/2015 01:36 AM
<i>Surr: 2-Fluorobiphenyl</i>	<i>53.3</i>		<i>12-100</i>	<i>%REC</i>	<i>1</i>	<i>10/7/2015 01:36 AM</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>54.8</i>		<i>25-137</i>	<i>%REC</i>	<i>1</i>	<i>10/7/2015 01:36 AM</i>
<i>Surr: Nitrobenzene-d5</i>	<i>80.4</i>		<i>37-107</i>	<i>%REC</i>	<i>1</i>	<i>10/7/2015 01:36 AM</i>
<b>VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8260B</b>		Prep: SW5035 / 10/6/15	Analyst: <b>BG</b>
Benzene	ND		0.034	mg/Kg-dry	1	10/6/2015 07:36 PM
Ethylbenzene	ND		0.034	mg/Kg-dry	1	10/6/2015 07:36 PM
m,p-Xylene	ND		0.068	mg/Kg-dry	1	10/6/2015 07:36 PM
o-Xylene	ND		0.034	mg/Kg-dry	1	10/6/2015 07:36 PM
Toluene	ND		0.034	mg/Kg-dry	1	10/6/2015 07:36 PM

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

**ALS Group USA, Corp****Date:** 08-Oct-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - TR 24-28-597 - Pit Closure  
**Sample ID:** Northwest Wall  
**Collection Date:** 10/5/2015 01:30 PM

**Work Order:** 1510322  
**Lab ID:** 1510322-03  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Xylenes, Total	ND		0.10	mg/Kg-dry	1	10/6/2015 07:36 PM
Surr: 1,2-Dichloroethane-d4	107		70-130	%REC	1	10/6/2015 07:36 PM
Surr: 4-Bromofluorobenzene	93.0		70-130	%REC	1	10/6/2015 07:36 PM
Surr: Dibromofluoromethane	98.2		70-130	%REC	1	10/6/2015 07:36 PM
Surr: Toluene-d8	109		70-130	%REC	1	10/6/2015 07:36 PM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>			Prep: USDA Method 20B / 10/8/15
Electrical Conductivity @ Saturation	1.7		0.12	mmhos/cm @2	25	Analyst: <b>JB</b> 10/8/2015 02:45 PM
<b>MOISTURE</b>			<b>E160.3M</b>			Analyst: <b>EVB</b>
Moisture	12		0.050	% of sample	1	10/6/2015 05:30 PM
<b>PH</b>			<b>SW9045D</b>			Prep: EXTRACT / 10/6/15
pH	7.8			s.u.	1	Analyst: <b>JB</b> 10/6/2015 03:45 PM

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

# ALS Group USA, Corp

Date: 08-Oct-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - TR 24-28-597 - Pit Closure  
**Sample ID:** South Wall  
**Collection Date:** 10/5/2015 01:45 PM

**Work Order:** 1510322  
**Lab ID:** 1510322-04  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep: SW3550 / 10/6/15	Analyst: <b>IT</b>
<b>DRO (C10-C28)</b>	<b>23</b>		<b>4.8</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/6/2015 10:00 PM
Surr: 4-Terphenyl-d14	56.2		39-133	%REC	1	10/6/2015 10:00 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015D</b>		Prep: SW5035 / 10/6/15	Analyst: <b>IT</b>
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>2.9</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/6/2015 11:31 PM
Surr: Toluene-d8	101		50-150	%REC	1	10/6/2015 11:31 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW846 6010C</b>		Prep: USDA Method 20B / 10/8/15	Analyst: <b>JEC</b>
<b>Calcium</b>	<b>470</b>		<b>5.0</b>	<b>mg/L</b>	<b>10</b>	10/8/2015 12:07 PM
<b>Magnesium</b>	<b>96</b>		<b>2.0</b>	<b>mg/L</b>	<b>10</b>	10/8/2015 12:07 PM
<b>Sodium</b>	<b>590</b>		<b>2.0</b>	<b>mg/L</b>	<b>10</b>	10/8/2015 12:07 PM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 10/8/15	Analyst: <b>JEC</b>
<b>Exchangeable Sodium Percentage</b>	<b>7.6</b>		<b>0.010</b>	<b>none</b>	<b>1</b>	10/8/2015
<b>Sodium Adsorption Ratio</b>	<b>6.5</b>		<b>0.010</b>	<b>none</b>	<b>1</b>	10/8/2015
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW846 8270D</b>		Prep: SW3550 / 10/6/15	Analyst: <b>RS</b>
Acenaphthene	ND		0.0077	mg/Kg-dry	1	10/6/2015 11:53 PM
Anthracene	ND		0.0077	mg/Kg-dry	1	10/6/2015 11:53 PM
Benzo(a)anthracene	ND		0.0077	mg/Kg-dry	1	10/6/2015 11:53 PM
Benzo(a)pyrene	ND		0.0077	mg/Kg-dry	1	10/6/2015 11:53 PM
Benzo(b)fluoranthene	ND		0.0077	mg/Kg-dry	1	10/6/2015 11:53 PM
Benzo(k)fluoranthene	ND		0.0077	mg/Kg-dry	1	10/6/2015 11:53 PM
Chrysene	ND		0.0077	mg/Kg-dry	1	10/6/2015 11:53 PM
Dibenzo(a,h)anthracene	ND		0.0077	mg/Kg-dry	1	10/6/2015 11:53 PM
Fluoranthene	ND		0.0077	mg/Kg-dry	1	10/6/2015 11:53 PM
Fluorene	ND		0.0077	mg/Kg-dry	1	10/6/2015 11:53 PM
Indeno(1,2,3-cd)pyrene	ND		0.0077	mg/Kg-dry	1	10/6/2015 11:53 PM
Naphthalene	ND		0.0077	mg/Kg-dry	1	10/6/2015 11:53 PM
Pyrene	ND		0.0077	mg/Kg-dry	1	10/6/2015 11:53 PM
Surr: 2-Fluorobiphenyl	59.0		12-100	%REC	1	10/6/2015 11:53 PM
Surr: 4-Terphenyl-d14	63.0		25-137	%REC	1	10/6/2015 11:53 PM
Surr: Nitrobenzene-d5	87.8		37-107	%REC	1	10/6/2015 11:53 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8260B</b>		Prep: SW5035 / 10/6/15	Analyst: <b>BG</b>
<b>Benzene</b>	<b>ND</b>		<b>0.035</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/6/2015 08:02 PM
<b>Ethylbenzene</b>	<b>ND</b>		<b>0.035</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/6/2015 08:02 PM
<b>m,p-Xylene</b>	<b>ND</b>		<b>0.071</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/6/2015 08:02 PM
<b>o-Xylene</b>	<b>ND</b>		<b>0.035</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/6/2015 08:02 PM
<b>Toluene</b>	<b>ND</b>		<b>0.035</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/6/2015 08:02 PM

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



# ALS Group USA, Corp

Date: 08-Oct-15

**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - TR 24-28-597 - Pit Closure  
**Sample ID:** South Wall  
**Collection Date:** 10/5/2015 01:45 PM

**Work Order:** 1510322  
**Lab ID:** 1510322-04  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Xylenes, Total	ND		0.11	mg/Kg-dry	1	10/6/2015 08:02 PM
Surr: 1,2-Dichloroethane-d4	107		70-130	%REC	1	10/6/2015 08:02 PM
Surr: 4-Bromofluorobenzene	92.8		70-130	%REC	1	10/6/2015 08:02 PM
Surr: Dibromofluoromethane	98.6		70-130	%REC	1	10/6/2015 08:02 PM
Surr: Toluene-d8	109		70-130	%REC	1	10/6/2015 08:02 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 10/8/15		Analyst: JB
Electrical Conductivity @ Saturation	7.2		0.050	mmhos/cm @2	10	10/8/2015 02:45 PM
MOISTURE			E160.3M			Analyst: EVB
Moisture	15		0.050	% of sample	1	10/6/2015 05:30 PM
PH			SW9045D	Prep: EXTRACT / 10/6/15		Analyst: JB
pH	7.4			s.u.	1	10/6/2015 03:45 PM

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

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**Client:** HRL Compliance Solutions, Inc  
**Project:** WPX Energy - TR 24-28-597 - Pit Closure  
**WorkOrder:** 1510322

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**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
mg/L	Milligrams per Liter
mmhos/cm @25°C	Millimhos-Centimeter at 25 Degrees Celcius
none	
s.u.	Standard Units

Client: HRL Compliance Solutions, Inc

Work Order: 1510322

Project: WPX Energy - TR 24-28-597 - Pit Closure

# QC BATCH REPORT

Batch ID: 77054

Instrument ID GC8

Method: SW8015M

<b>MBLK</b>		Sample ID: <b>DBLKS1-77054-77054</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/6/2015 09:00 PM</b>		
Client ID:		Run ID: <b>GC8_151006A</b>				SeqNo: <b>3494904</b>		Prep Date: <b>10/6/2015</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	1.624	0	2	0	81.2	39-133	0			

<b>LCS</b>		Sample ID: <b>DLCSS1-77054-77054</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/6/2015 09:30 PM</b>		
Client ID:		Run ID: <b>GC8_151006A</b>				SeqNo: <b>3494905</b>		Prep Date: <b>10/6/2015</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)	183.8	5.0	200	0	91.9	61-109	0			
Surr: 4-Terphenyl-d14	1.364	0	2	0	68.2	39-133	0			

<b>MS</b>		Sample ID: <b>1510322-04A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/6/2015 11:00 PM</b>		
Client ID: <b>South Wall</b>		Run ID: <b>GC8_151006A</b>				SeqNo: <b>3494907</b>		Prep Date: <b>10/6/2015</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)	136.3	4.2	166.4	19.24	70.4	48-110	0			
Surr: 4-Terphenyl-d14	0.9306	0	1.664	0	55.9	39-133	0			

<b>MSD</b>		Sample ID: <b>1510322-04A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/6/2015 11:29 PM</b>		
Client ID: <b>South Wall</b>		Run ID: <b>GC8_151006A</b>				SeqNo: <b>3494908</b>		Prep Date: <b>10/6/2015</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)	141.5	4.1	165.5	19.24	73.9	48-110	136.3	3.74	30	
Surr: 4-Terphenyl-d14	1.025	0	1.655	0	61.9	39-133	0.9306	9.66	30	

The following samples were analyzed in this batch:

1510322-01A	1510322-02A	1510322-03A
1510322-04A		

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 1510322  
**Project:** WPX Energy - TR 24-28-597 - Pit Closure

## QC BATCH REPORT

Batch ID: **77029**      Instrument ID **GC9**      Method: **SW8015D**

<b>MBLK</b>		Sample ID: <b>MBLK-77029-77029</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>10/6/2015 07:17 PM</b>		
Client ID:		Run ID: <b>GC9_151006A</b>				SeqNo: <b>3494676</b>		Prep Date: <b>10/6/2015</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								
<i>Surr: Toluene-d8</i>	4609	0	5000	0	92.2	50-150	0			

<b>MBLK</b>		Sample ID: <b>MBLK-77029-77029</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>10/8/2015 03:52 AM</b>		
Client ID:		Run ID: <b>GC9_151007B</b>				SeqNo: <b>3498179</b>		Prep Date: <b>10/6/2015</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								
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<b>LCS</b>		Sample ID: <b>LCS-77029-77029</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>10/6/2015 06:52 PM</b>		
Client ID:		Run ID: <b>GC9_151006A</b>				SeqNo: <b>3494671</b>		Prep Date: <b>10/6/2015</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)	522900	2,500	500000	0	105	70-130	0			
<i>Surr: Toluene-d8</i>	5100	0	5000	0	102	50-150	0			

<b>LCS</b>		Sample ID: <b>LCS-77029-77029</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>10/8/2015 03:26 AM</b>		
Client ID:		Run ID: <b>GC9_151007B</b>				SeqNo: <b>3498178</b>		Prep Date: <b>10/6/2015</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)	15680	2,500	10000	0	157	80-120	0			S
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<b>LCSD</b>		Sample ID: <b>LCSD-77029-77029</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>10/8/2015 06:31 AM</b>		
Client ID:		Run ID: <b>GC9_151007B</b>				SeqNo: <b>3498192</b>		Prep Date: <b>10/6/2015</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)	17690	2,500	10000	0	177	80-120	15680	12.1	20	S
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<b>MS</b>		Sample ID: <b>1510320-01A MS</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>10/6/2015 10:17 PM</b>		
Client ID:		Run ID: <b>GC9_151006A</b>				SeqNo: <b>3494690</b>		Prep Date: <b>10/6/2015</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)	740000	2,500	500000	63570	135	70-130	0			S
<i>Surr: Toluene-d8</i>	5460	0	5000	0	109	50-150	0			

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

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 1510322  
**Project:** WPX Energy - TR 24-28-597 - Pit Closure

## QC BATCH REPORT

Batch ID: **77029** Instrument ID **GC9** Method: **SW8015D**

MSD				Sample ID: 1510320-01A MSD			Units: µg/Kg		Analysis Date: 10/6/2015 10:41 PM		
Client ID:		Run ID: GC9_151006A			SeqNo: 3494692		Prep Date: 10/6/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
GRO (C6-C10)	744000	2,500	500000	63570	136	70-130	740000	0.539	30	S	
Surr: Toluene-d8	5558	0	5000	0	111	50-150	5460	1.77	30		

The following samples were analyzed in this batch:

1510322-01A	1510322-02A	1510322-03A
1510322-04A		

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

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 1510322  
**Project:** WPX Energy - TR 24-28-597 - Pit Closure

## QC BATCH REPORT

Batch ID: **77042**      Instrument ID **HG1**      Method: **SW7471B**

<b>MBLK</b>		Sample ID: <b>MBLK-77042-77042</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/6/2015 07:25 PM</b>		
Client ID:		Run ID: <b>HG1_151006A</b>				SeqNo: <b>3494497</b>		Prep Date: <b>10/6/2015</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-77042-77042</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/6/2015 07:27 PM</b>		
Client ID:		Run ID: <b>HG1_151006A</b>				SeqNo: <b>3494498</b>		Prep Date: <b>10/6/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury      0.1883      0.020      0.1665      0      113      80-120      0

<b>MS</b>		Sample ID: <b>1510067-07BMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/6/2015 07:46 PM</b>		
Client ID:		Run ID: <b>HG1_151006A</b>				SeqNo: <b>3494506</b>		Prep Date: <b>10/6/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury      0.1338      0.013      0.1053      0.01416      114      75-125      0

<b>MSD</b>		Sample ID: <b>1510067-07BMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/6/2015 07:49 PM</b>		
Client ID:		Run ID: <b>HG1_151006A</b>				SeqNo: <b>3494507</b>		Prep Date: <b>10/6/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury      0.1286      0.012      0.1036      0.01416      110      75-125      0.1338      3.96      35

The following samples were analyzed in this batch:

1510322-01A

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

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 1510322  
**Project:** WPX Energy - TR 24-28-597 - Pit Closure

## QC BATCH REPORT

Batch ID: **77016** Instrument ID **ICP2** Method: **SW846 6010C**

<b>MBLK</b>		Sample ID: <b>MBLK-77016-77016</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/6/2015 11:31 AM</b>		
Client ID:		Run ID: <b>ICP2_151006A</b>				SeqNo: <b>3493032</b>		Prep Date: <b>10/6/2015</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	0.01131	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-77016-77016</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/6/2015 11:36 AM</b>		
Client ID:		Run ID: <b>ICP2_151006A</b>				SeqNo: <b>3493033</b>		Prep Date: <b>10/6/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	5.054	0.25	5	0	101	80-120	0			
Barium	5.014	0.25	5	0	100	80-120	0			
Cadmium	5.223	0.50	5	0	104	80-120	0			
Chromium	5.458	0.25	5	0	109	80-120	0			
Copper	5.361	0.50	5	0	107	80-120	0			
Lead	5.289	0.25	5	0	106	80-120	0			
Nickel	5.457	0.25	5	0	109	80-120	0			
Selenium	5.406	0.50	5	0	108	80-120	0			
Silver	5.306	0.25	5	0	106	80-120	0			
Zinc	5.269	0.50	5	0	105	80-120	0			

<b>MS</b>		Sample ID: <b>1510282-01BMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/6/2015 11:47 AM</b>		
Client ID:		Run ID: <b>ICP2_151006A</b>				SeqNo: <b>3493035</b>		Prep Date: <b>10/6/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	13.73	0.34	6.748	7.37	94.3	75-125	0			
Barium	34.44	0.34	6.748	29.59	71.9	75-125	0			SO
Cadmium	6.997	0.67	6.748	0.1705	101	75-125	0			
Chromium	16.14	0.34	6.748	9.419	99.7	75-125	0			
Copper	19.53	0.67	6.748	14.03	81.5	75-125	0			
Lead	50.68	0.34	6.748	43.13	112	75-125	0			O
Nickel	23.9	0.34	6.748	20.38	52.2	75-125	0			S
Selenium	8.088	0.67	6.748	0.4794	113	75-125	0			
Silver	6.925	0.34	6.748	-0.1816	105	75-125	0			
Zinc	65.86	0.67	6.748	66.18	-4.72	75-125	0			SO

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



**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 1510322  
**Project:** WPX Energy - TR 24-28-597 - Pit Closure

## QC BATCH REPORT

Batch ID: **77016** Instrument ID **ICP2** Method: **SW846 6010C**

MSD		Sample ID: 1510282-01BMSD				Units: mg/Kg		Analysis Date: 10/6/2015 11:52 AM		
Client ID:		Run ID: ICP2_151006A				SeqNo: 3493036		Prep Date: 10/6/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	15.11	0.34	6.729	7.37	115	75-125	13.73	9.57	20	
Barium	41.9	0.34	6.729	29.59	183	75-125	34.44	19.5	20	SO
Cadmium	7.138	0.67	6.729	0.1705	104	75-125	6.997	1.99	20	
Chromium	18.72	0.34	6.729	9.419	138	75-125	16.14	14.8	20	S
Copper	22.69	0.67	6.729	14.03	129	75-125	19.53	15	20	S
Lead	50.27	0.34	6.729	43.13	106	75-125	50.68	0.81	20	O
Nickel	28.33	0.34	6.729	20.38	118	75-125	23.9	16.9	20	
Selenium	7.93	0.67	6.729	0.4794	111	75-125	8.088	1.97	20	
Silver	7.038	0.34	6.729	-0.1816	107	75-125	6.925	1.62	20	
Zinc	65.47	0.67	6.729	66.18	-10.5	75-125	65.86	0.595	20	SO

The following samples were analyzed in this batch: 1510322-01A

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

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 1510322  
**Project:** WPX Energy - TR 24-28-597 - Pit Closure

## QC BATCH REPORT

Batch ID: **77102** Instrument ID **ICP2** Method: **SW846 6010C**

<b>DUP</b>		Sample ID: <b>1510326-02ADUP</b>				Units: <b>mg/L</b>		Analysis Date: <b>10/8/2015 12:24 PM</b>		
Client ID:		Run ID: <b>ICP2_151008A</b>				SeqNo: <b>3497560</b>		Prep Date: <b>10/8/2015</b>		DF: <b>10</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	452.4	5.0	0	0	0	0-0	453	0.116		
Magnesium	103.1	2.0	0	0	0	0-0	103.7	0.569		
Sodium	1780	2.0	0	0	0	0-0	1775	0.283		

<b>DUP</b>		Sample ID: <b>1510326-02ADUP</b>				Units: <b>none</b>		Analysis Date: <b>10/8/2015</b>		
Client ID:		Run ID: <b>SAR_151008B</b>				SeqNo: <b>3497692</b>		Prep Date: <b>10/8/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Exchangeable Sodium Percentage	21.71	0.010	0	0	0		21.63	0.33	50	
Sodium Adsorption Ratio	19.65	0.010	0	0	0		19.57	0.403	50	

The following samples were analyzed in this batch:

1510322-01B	1510322-02B	1510322-03B
1510322-04B		

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

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 1510322  
**Project:** WPX Energy - TR 24-28-597 - Pit Closure

## QC BATCH REPORT

Batch ID: **77053**      Instrument ID **SVMS4**      Method: **SW846 8270D**

MBLK				Sample ID: SBLKS1-77053-77053				Units: µg/Kg			Analysis Date: 10/6/2015 06:51 PM		
Client ID:			Run ID: SVMS4_151006A				SeqNo: 3495261			Prep Date: 10/6/2015		DF: 1	
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(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											
Surr: 2-Fluorobiphenyl	1420	0	1667	0	85.2	12-100	0						
Surr: 4-Terphenyl-d14	1567	0	1667	0	94	25-137	0						
Surr: Nitrobenzene-d5	1550	0	1667	0	93	37-107	0						

LCS				Sample ID: <b>SLCSS1-77053-77053</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>10/6/2015 07:17 PM</b>	
Client ID:			Run ID: <b>SVMS4_151006A</b>			SeqNo: <b>3495266</b>		Prep Date: <b>10/6/2015</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	495	6.7	666.7	0	74.2	45-110	0				
Anthracene	574	6.7	666.7	0	86.1	55-105	0				
Benzo(a)anthracene	589	6.7	666.7	0	88.3	50-110	0				
Benzo(a)pyrene	592.7	6.7	666.7	0	88.9	50-110	0				
Benzo(b)fluoranthene	584.7	6.7	666.7	0	87.7	45-115	0				
Benzo(k)fluoranthene	583.3	6.7	666.7	0	87.5	45-115	0				
Chrysene	586.7	6.7	666.7	0	88	55-110	0				
Dibenzo(a,h)anthracene	606	6.7	666.7	0	90.9	40-125	0				
Fluoranthene	582.7	6.7	666.7	0	87.4	55-115	0				
Fluorene	522	6.7	666.7	0	78.3	50-110	0				
Indeno(1,2,3-cd)pyrene	612.7	6.7	666.7	0	91.9	40-120	0				
Naphthalene	447.3	6.7	666.7	0	67.1	40-105	0				
Pyrene	637.3	6.7	666.7	0	95.6	45-125	0				
<i>Surr: 2-Fluorobiphenyl</i>	<i>1141</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>68.5</i>	<i>12-100</i>	<i>0</i>				
<i>Surr: 4-Terphenyl-d14</i>	<i>1420</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>85.2</i>	<i>25-137</i>	<i>0</i>				
<i>Surr: Nitrobenzene-d5</i>	<i>1348</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>80.9</i>	<i>37-107</i>	<i>0</i>				

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

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 1510322  
**Project:** WPX Energy - TR 24-28-597 - Pit Closure

# QC BATCH REPORT

Batch ID: **77053**      Instrument ID **SVMS4**      Method: **SW846 8270D**

MS				Sample ID: 1510322-04A MS			Units: µg/Kg		Analysis Date: 10/6/2015 11:00 PM	
Client ID: South Wall				Run ID: SVMS4_151006A			SeqNo: 3495270		Prep Date: 10/6/2015	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	464.7	6.6	658.3	0	70.6	45-110	0			
Anthracene	551.6	6.6	658.3	0	83.8	55-105	0			
Benzo(a)anthracene	553.9	6.6	658.3	0	84.1	50-110	0			
Benzo(a)pyrene	585.2	6.6	658.3	0	88.9	50-110	0			
Benzo(b)fluoranthene	565.7	6.6	658.3	0	85.9	45-115	0			
Benzo(k)fluoranthene	538.1	6.6	658.3	0	81.7	45-115	0			
Chrysene	547.3	6.6	658.3	0	83.1	55-110	0			
Dibenzo(a,h)anthracene	541.4	6.6	658.3	0	82.2	40-125	0			
Fluoranthene	582.9	6.6	658.3	0	88.5	55-115	0			
Fluorene	491.7	6.6	658.3	0	74.7	50-110	0			
Indeno(1,2,3-cd)pyrene	607.9	6.6	658.3	0	92.3	40-120	0			
Naphthalene	462.1	6.6	658.3	0	70.2	40-105	0			
Pyrene	559.5	6.6	658.3	0	85	45-125	0			
Surr: 2-Fluorobiphenyl	1230	0	1646	0	74.7	12-100	0			
Surr: 4-Terphenyl-d14	1311	0	1646	0	79.6	25-137	0			
Surr: Nitrobenzene-d5	1710	0	1646	0	104	37-107	0			

MSD				Sample ID: 1510322-04A MSD			Units: µg/Kg		Analysis Date: 10/6/2015 11:27 PM	
Client ID: South Wall				Run ID: SVMS4_151006A			SeqNo: 3495271		Prep Date: 10/6/2015	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	425.8	6.6	660.8	0	64.4	45-110	464.7	8.73	30	
Anthracene	486.6	6.6	660.8	0	73.6	55-105	551.6	12.5	30	
Benzo(a)anthracene	488.3	6.6	660.8	0	73.9	50-110	553.9	12.6	30	
Benzo(a)pyrene	512.1	6.6	660.8	0	77.5	50-110	585.2	13.3	30	
Benzo(b)fluoranthene	502.5	6.6	660.8	0	76	45-115	565.7	11.8	30	
Benzo(k)fluoranthene	473.1	6.6	660.8	0	71.6	45-115	538.1	12.9	30	
Chrysene	472.7	6.6	660.8	0	71.5	55-110	547.3	14.6	30	
Dibenzo(a,h)anthracene	485	6.6	660.8	0	73.4	40-125	541.4	11	30	
Fluoranthene	505.8	6.6	660.8	0	76.5	55-115	582.9	14.2	30	
Fluorene	446.6	6.6	660.8	0	67.6	50-110	491.7	9.6	30	
Indeno(1,2,3-cd)pyrene	536.2	6.6	660.8	0	81.1	40-120	607.9	12.5	30	
Naphthalene	414.3	6.6	660.8	0	62.7	40-105	462.1	10.9	30	
Pyrene	494.5	6.6	660.8	0	74.8	45-125	559.5	12.3	30	
Surr: 2-Fluorobiphenyl	1058	0	1652	0	64.1	12-100	1230	15	40	
Surr: 4-Terphenyl-d14	1063	0	1652	0	64.4	25-137	1311	20.8	40	
Surr: Nitrobenzene-d5	1533	0	1652	0	92.8	37-107	1710	11	40	

The following samples were analyzed in this batch:

1510322-01A	1510322-02A	1510322-03A
1510322-04A		

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

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 1510322  
**Project:** WPX Energy - TR 24-28-597 - Pit Closure

## QC BATCH REPORT

Batch ID: **77052**      Instrument ID **VMS7**      Method: **SW8260B**

<b>MBLK</b>		Sample ID: <b>MBLK-77052-77052</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>10/6/2015 05:06 PM</b>		
Client ID:		Run ID: <b>VMS7_151006A</b>				SeqNo: <b>3494883</b>		Prep Date: <b>10/6/2015</b>		DF: <b>1</b>
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	24.5	60								J
o-Xylene	ND	30								
Toluene	ND	30								
Xylenes, Total	24	90								J
Surr: 1,2-Dichloroethane-d4	1014	0	1000	0	101	70-130	0			
Surr: 4-Bromofluorobenzene	993.5	0	1000	0	99.4	70-130	0			
Surr: Dibromofluoromethane	995	0	1000	0	99.5	70-130	0			
Surr: Toluene-d8	945.5	0	1000	0	94.6	70-130	0			

<b>LCS</b>		Sample ID: <b>LCS-77052-77052</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>10/6/2015 03:26 PM</b>		
Client ID:		Run ID: <b>VMS7_151006A</b>				SeqNo: <b>3494882</b>		Prep Date: <b>10/6/2015</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	980.5	30	1000	0	98	75-125	0			
Ethylbenzene	968.5	30	1000	0	96.8	75-125	0			
m,p-Xylene	1970	60	2000	0	98.5	80-125	0			
o-Xylene	941	30	1000	0	94.1	75-125	0			
Toluene	925.5	30	1000	0	92.6	70-125	0			
Xylenes, Total	2912	90	3000	0	97	75-125	0			
Surr: 1,2-Dichloroethane-d4	1008	0	1000	0	101	70-130	0			
Surr: 4-Bromofluorobenzene	1044	0	1000	0	104	70-130	0			
Surr: Dibromofluoromethane	1000	0	1000	0	100	70-130	0			
Surr: Toluene-d8	971.5	0	1000	0	97.2	70-130	0			

The following samples were analyzed in this batch:

1510322-01A	1510322-02A	1510322-03A
1510322-04A		

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

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 1510322  
**Project:** WPX Energy - TR 24-28-597 - Pit Closure

# QC BATCH REPORT

Batch ID: **77055**      Instrument ID **WETCHEM**      Method: **SW9045D**

LCS				Sample ID: LCS-77055-77055				Units: s.u.			Analysis Date: 10/6/2015 03:45 PM		
Client ID:				Run ID: WETCHEM_151006R				SeqNo: 3493617		Prep Date: 10/6/2015		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		

pH      3.96      0      4      0      99      90-110      0

DUP		Sample ID: 1510304-01A DUP					Units: s.u.		Analysis Date: 10/6/2015 03:45 PM		
Client ID:			Run ID: WETCHEM_151006R			SeqNo: 3493624		Prep Date: 10/6/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH      8.08      0      0      0      0      0-0      8.13      0.617      20

DUP				Sample ID: 1510322-01A DUP				Units: s.u.			Analysis Date: 10/6/2015 03:45 PM			
Client ID: Pit Bottom				Run ID: WETCHEM_151006R				SeqNo: 3493626			Prep Date: 10/6/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

pH      8.04      0      0      0      0      0-0      8.17      1.6      20

The following samples were analyzed in this batch:

1510322-01A	1510322-02A	1510322-03A
1510322-04A		

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

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 1510322  
**Project:** WPX Energy - TR 24-28-597 - Pit Closure

## QC BATCH REPORT

Batch ID: **77102** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

<b>DUP</b>		Sample ID: <b>1510326-02A DUP</b>				Units: <b>mmhos/cm @25°</b>		Analysis Date: <b>10/8/2015 02:45 PM</b>		
Client ID:		Run ID: <b>WETCHEM_151008L</b>				SeqNo: <b>3497925</b>		Prep Date: <b>10/8/2015</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	12.63	0.050	0	0	0		12.37	2.08	50	

The following samples were analyzed in this batch:

1510322-01B	1510322-02B	1510322-03B
1510322-04B		

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

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 1510322  
**Project:** WPX Energy - TR 24-28-597 - Pit Closure

## QC BATCH REPORT

Batch ID: **77106**      Instrument ID **WETCHEM**      Method: **SW7196A**

<b>MBLK</b>		Sample ID: <b>MBLK-77106-77106</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/7/2015 03:30 PM</b>		
Client ID:		Run ID: <b>WETCHEM_151007U</b>				SeqNo: <b>3495868</b>		Prep Date: <b>10/6/2015</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-77106-77106</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/7/2015 03:30 PM</b>		
Client ID:		Run ID: <b>WETCHEM_151007U</b>				SeqNo: <b>3495867</b>		Prep Date: <b>10/6/2015</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      4.67      1.0      5      0      93.4      80-120      0

<b>MS</b>		Sample ID: <b>1510326-02A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/7/2015 03:30 PM</b>		
Client ID:		Run ID: <b>WETCHEM_151007U</b>				SeqNo: <b>3495863</b>		Prep Date: <b>10/6/2015</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      0.3529      0.98      4.902      0      7.2      75-125      0      JS

<b>MS</b>		Sample ID: <b>1510326-02A MSI</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/7/2015 03:30 PM</b>		
Client ID:		Run ID: <b>WETCHEM_151007U</b>				SeqNo: <b>3495865</b>		Prep Date: <b>10/6/2015</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      2685      100      2719      0      98.7      75-125      0

<b>MS</b>		Sample ID: <b>1508386-02A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/7/2015 03:30 PM</b>		
Client ID:		Run ID: <b>WETCHEM_151007U</b>				SeqNo: <b>3495870</b>		Prep Date: <b>10/6/2015</b>		DF: <b>10</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent      142.5      9.8      4.902      132.7      198      75-125      0      SOH

<b>MS</b>		Sample ID: <b>1508386-02A MSI</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/7/2015 03:30 PM</b>		
Client ID:		Run ID: <b>WETCHEM_151007U</b>				SeqNo: <b>3495872</b>		Prep Date: <b>10/6/2015</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      3256      99      3059      132.7      102      75-125      0      H

<b>MSD</b>		Sample ID: <b>1510326-02A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/7/2015 03:30 PM</b>		
Client ID:		Run ID: <b>WETCHEM_151007U</b>				SeqNo: <b>3495864</b>		Prep Date: <b>10/6/2015</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      0.99      4.95      0      0      75-125      2685      0      20      S

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



**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 1510322  
**Project:** WPX Energy - TR 24-28-597 - Pit Closure

## QC BATCH REPORT

Batch ID: **77106** Instrument ID **WETCHEM** Method: **SW7196A**

<b>MSD</b>		Sample ID: <b>1508386-02A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/7/2015 03:30 PM</b>			
Client ID:		Run ID: <b>WETCHEM_151007U</b>				SeqNo: <b>3495871</b>		Prep Date: <b>10/6/2015</b>		DF: <b>10</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Chromium, Hexavalent	142.6	9.9	4.95	132.7	200	75-125	142.5	0.136	20	SOH	

The following samples were analyzed in this batch:

1510322-01A

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

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 1510322  
**Project:** WPX Energy - TR 24-28-597 - Pit Closure

## QC BATCH REPORT

Batch ID: **R173214**      Instrument ID **MOIST**      Method: **E160.3M**

<b>MBLK</b>		Sample ID: <b>WBLKS-R173214</b>				Units: % of sample		Analysis Date: <b>10/6/2015 05:30 PM</b>		
Client ID:		Run ID: <b>MOIST_151006C</b>				SeqNo: <b>3494733</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-R173214</b>				Units: % of sample		Analysis Date: <b>10/6/2015 05:30 PM</b>		
Client ID:		Run ID: <b>MOIST_151006C</b>				SeqNo: <b>3494730</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>1510283-06A DUP</b>				Units: % of sample		Analysis Date: <b>10/6/2015 05:30 PM</b>		
Client ID:		Run ID: <b>MOIST_151006C</b>				SeqNo: <b>3494711</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      17.03      0.050      0      0      0      17.46      2.49      20

<b>DUP</b>		Sample ID: <b>1510320-01B DUP</b>				Units: % of sample		Analysis Date: <b>10/6/2015 05:30 PM</b>		
Client ID:		Run ID: <b>MOIST_151006C</b>				SeqNo: <b>3494724</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      13.89      0.050      0      0      0      14.01      0.86      20

The following samples were analyzed in this batch:

1510322-01A	1510322-02A	1510322-03A
1510322-04A		

**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 202a

WORKORDER #	1510322
-------------	---------

PROJECT NAME		WPX Energy - TR 24-28-597 - Pit Closure		SAMPLER		Kris Rowe		DATE		10/5/2015		PAGE		1 of 2	
PROJECT No.				SITE ID		TR 24-28-597 Pad		TURNAROUND		Rush 24hr		DISPOSAL		By Lab or Return to Client	
COMPANY NAME		HRL COMPLIANCE SOLUTIONS Inc.		EDD FORMAT				DRO							
SEND REPORT TO		KRIS ROWE		PURCHASE ORDER				GRO							
ADDRESS		2385 F 1/2		BILL TO COMPANY		WPX		BTEX							
CITY / STATE / ZIP		GRAND JUNCTION CO 81505		INVOICE ATTN TO		Karolina Blaney		910-1 Metals							
PHONE		970-243-3271		ADDRESS				Semi Vols - PAH							
FAX		970-243-3280		CITY / STATE / ZIP				SAR / EC / pH							
E-MAIL		KROWE@HRLCOMP.COM		PHONE				ARSENIC							
E-MAIL				FAX											
E-MAIL				E-MAIL											
Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC								
1	Pit Bottom	S	10/5/2015	1300	2			x	x	x	x	x	x		
2	<del>Pit</del> Northeast wall	S	10/5/2015	1315	2			x	x	x		x	x		
3	<del>Pit</del> Northwest wall	S	10/5/2015	1330	2			x	x	x		x	x		
4	<del>Pit</del> South wall	S	10/5/2015	1345	2			x	x	x		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)	
	<input type="checkbox"/>	LEVEL II (Standard QC)
	<input type="checkbox"/>	LEVEL III (Std QC + forms)
	<input type="checkbox"/>	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
<i>[Signature]</i>	Kris Rowe	10/5/2015	
<i>[Signature]</i>		10-5-15	1500
<i>[Signature]</i>		10-5-15	1520
<i>[Signature]</i>	Diane E. Sh	10/6/15	1430
RELINQUISHED BY			
RECEIVED BY			
RELINQUISHED BY			
RECEIVED BY			
RELINQUISHED BY			
RECEIVED BY			

ORIGIN ID: RILA (816) 298-1033  
NICK MARTINEZ  
ALS ENVIRONMENTAL PARACHUTE  
PARACHUTE SERVICE CENTER  
127 EAST 1ST ST  
PARACHUTE, CO 81835  
UNITED STATES US

SHIP DATE: 05OCT15  
ACTWGT: 55.00 LB  
CAD: 22648400 NET 3870  
DIMS: 14x26x15 IN  
BILL SENDER

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

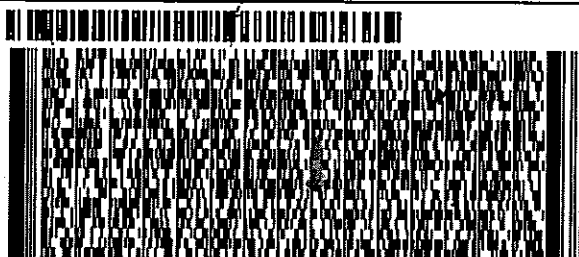
**HOLLAND MI 49424**

(816) 399-6070  
INV  
PO PARACHUTE

REF: 100515-1

DEPT:

539.03401 AG100



**FedEx**  
Express



REL#  
3785346

TRK#  
0201

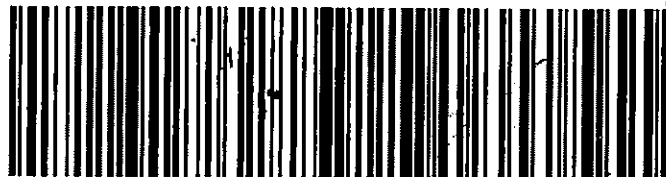
**7746 6949 7482**

**TUE - 06 OCT 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. 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.

ALS Parachute Custody Seal

Time 1800 Date 10/6/15

Name NA

Sample Receipt Checklist

Client Name: **HRL**

Date/Time Received: **06-Oct-15 14:30**

Work Order: **1510322**

Received by: **DS**

Checklist completed by Diane Shaw  
eSignature

06-Oct-15  
Date

Reviewed by: Lee Arnold  
eSignature

06-Oct-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 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>3.6/3.6 c</u> <u>SR2</u>		
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>10/6/2015 2:43:48 PM</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 2: BACKGROUND RAW ANALYTICAL DATA**

## ALS Group USA, Corp

Date: 08-Sep-15

Client: HRL Compliance Solutions, Inc

Project: TR 24-28

Work Order: 1509031

Sample ID: BKGD 1

Lab ID: 1509031-02

Collection Date: 8/28/2015 01:47 PM

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 / 9/1/15	Analyst: <b>JEC</b>
Arsenic	9.1		0.42	mg/Kg-dry	1	9/3/2015 04:53 PM
<b>MOISTURE</b>			<b>E160.3M</b>			Analyst: <b>TM</b>
Moisture	11		0.050	% of sample	1	9/4/2015 10:33 AM

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

## ALS Group USA, Corp

Date: 08-Sep-15

Client: HRL Compliance Solutions, Inc

Project: TR 24-28

Work Order: 1509031

Sample ID: BKGD 2

Lab ID: 1509031-03

Collection Date: 8/28/2015 01:49 PM

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 / 9/1/15	Analyst: <b>JEC</b>
Arsenic	9.1		0.43	mg/Kg-dry	1	9/3/2015 04:59 PM
<b>MOISTURE</b>			<b>E160.3M</b>			Analyst: <b>TM</b>
Moisture	12		0.050	% of sample	1	9/4/2015 10:33 AM

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



# ALS Group USA, Corp

Date: 08-Sep-15

Client: HRL Compliance Solutions, Inc

Project: TR 24-28

Sample ID: BKGD 3

Collection Date: 8/28/2015 01:51 PM

Work Order: 1509031

Lab ID: 1509031-04

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>METALS ANALYSIS BY ICP</b>						
Arsenic	9.2		SW846 6010C 0.44	mg/Kg-dry	Prep: SW3050B / 9/1/15 1	Analyst: JEC 9/3/2015 05:05 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
Calcium	110		SW846 6010C 5.0	mg/L	Prep: USDA Method 20B / 9/3/15 10	Analyst: JEC 9/3/2015 12:38 PM
Magnesium	24		2.0	mg/L	10	9/3/2015 12:38 PM
Sodium	3.3		2.0	mg/L	10	9/3/2015 05:34 PM
<b>SODIUM ADSORPTION RATIO</b>						
Sodium Adsorption Ratio	0.074		USDA H60 METHO 0.010	none	Prep: USDA Method 20B / 9/3/15 1	Analyst: JEC 9/3/2015
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>						
Electrical Conductivity @ Saturation	0.78		USDA H60 METHO 0.050	mmhos/cm @25	Prep: USDA Method 20B / 9/3/15 10	Analyst: JB 9/3/2015 01:00 PM
<b>MOISTURE</b>						
Moisture	11		E160.3M 0.050	% of sample	1	Analyst: TM 9/4/2015 10:33 AM
<b>PH</b>						
pH	6.5		SW9045D s.u.		Prep: EXTRACT / 9/2/15 1	Analyst: KF 9/2/2015 06:09 PM

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