

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
Document 2315505
Received 9/21/2015
REM 9185

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: 96850

Name of Operator: WPX Energy Rocky Mountain LLC

Address: 1058 County Road 215

City: Parachute State: CO Zip: 81635

Contact Name and Telephone:

Karolina Blaney

No: 970-683-2295

Fax: 970-285-9573

API Number: _____

County: Garfield

Facility Name: Cottonwood Gulch

Facility Number: 414567

Well Name: _____

Well Number: _____

Location: (QtrQtr, Sec, Twp, Rng, Meridian): NWSE Sec 28, T6S, R95W, 6th PM Latitude: 39.4944 Longitude: -108.0026

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: Heldt clay loam 3 to 6% slopes, Rock outcrops - torriorthents, very steep

Potential receptors (water wells within 1/4 mi, surface waters, etc.): See attached hydrology map

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

Impacted Media (check):

Extent of Impact:

How Determined:

☐

Soils

☐

Vegetation

☐

Groundwater

☐

Surface Water

REMEDIALATION 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: August 24, 2015 Date Site Investigation Completed: August 24, 2015 Date Remediation Plan Submitted: July 19, 2015
Remediation Start Date: N/A Anticipated Completion Date: September 1, 2015 Actual Completion Date: September 1, 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: 9/17/15

OGCC Approved: _____ Title: EPS Northwest Date: 9/21/15

Sensitive Area Determination Checklist

WPX Energy Rocky Mountain, LLC (WPX)		
Person(s) Conducting Field Inspection	Ashlee Lane 11/3/2011	Revised 7/18/2015
	<i>Biologist</i>	
Site Information		
Location:	PA 33-28 (Cottonwood Frac Pad)	Time: 1230
Type of Facility:	Hydraulic Fracturing (Frac) Pad	
Environmental Conditions	Clear and calm; soil conditions dry.	
Temperature (°F)	58°	

Has the proposed, new or existing location been designated as a sensitive area?

☒ Yes ☐ No

SURFACE WATER

1. Are there any surface water features or SWSAs adjacent to or within ¼ mile of the proposed/new or existing facility?

☒ Yes ☐ No

If yes, list type of surface water feature(s), i.e. rivers, creeks, streams, seeps, springs, wetlands: Cottonwood Gulch, a USGS identified intermittent drainage; and two (2) USGS identified unnamed intermittent drainages.

If yes, describe location relative to facility: Cottonwood Gulch is located 144 feet south, one of the unnamed intermittent drainages is located 250 feet to the northwest and the other unnamed intermittent drainage is located 500 feet to the east of the existing facility.

2. Could a potential release from the facility reach surface water features?

☒ Yes ☐ No

If yes, describe the pathway a release from the facility would likely follow to determine if the potential to impact surface water is high or low. A release, if it were to migrate off the facility, would likely flow to the south, southeast towards Cottonwood Gulch.

3. Is the potential to impact surface water from a facility release high or low?

☒ High ☐ Low

GROUNDWATER


1. Will the proposed/new or existing facility have any pits which will contain hydrocarbons and chlorides or other E&P wastes?
☒ Yes ☐ No
 If yes, List the pit type(s): Hydraulic fracturing (frac) pit.
2. Is the site of the proposed facility underlain by an unconfined aquifer or recharge zone?
☒ Yes ☐ No
3. Is the hydraulic conductivity of the underlying soil or geologic material $\leq 1.0 \times 10^{-7}$ cm/sec?
☐ Yes ☒ No
4. Is the proposed facility located within 1/8 mile of a domestic water well or 1/4 mile of a public water supply well which would use the same aquifer?
☐ Yes ☒ No
5. Is the proposed facility located within a 100 year floodplain?
☐ Yes (*Sensitive Area*) ☒ No (*If no, proceed to question #6.*)
6. Is the depth to groundwater known?
☐ Yes (*If yes, follow instructions provided in 6(a) of this section.*)
☒ No (*If no, follow instructions provided in 6(b) of this section.*)
 - (a) If yes, could a potential release from the proposed facility reach groundwater?
☐ Yes ☐ No
 If yes, explain:
 - (b) If no:
 - (i) Evaluate surrounding soils, topography, and vegetation which may suggest the presence of shallow groundwater.
 - (ii) Gather information from surrounding well data in order to determine a depth to groundwater, i.e. State Engineers Office.
7. Is the potential to impact ground water from the facility in the event of a release high or low?
☒ Moderate ☐ Low

Additional Comments:

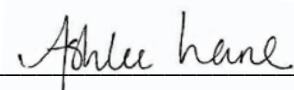
As stated in the surface water section of this sensitive area determination, Cottonwood Gulch, a USGS identified intermittent drainage is located 144 feet south of the facility. Cottonwood Gulch experiences seasonal flows from early spring until early winter. Cottonwood Gulch flows directly into the Colorado River. The other two (2) intermittent drainages to the east and west of the facility flow into Cottonwood Gulch. The facility as it is currently constructed, limits the direction of a potential release to the southeastern and southwestern sides. A potential release, if it were migrate off the facility, would flow directly towards and most likely into Cottonwood Gulch. However there are currently adequate Best Management Practices (BMPs) in the form of an earthen berm surrounding southwestern southeastern sides of the facility. In addition, WPX has installed a gate valve downstream of the Cottonwood Frac Pad in Cottonwood Gulch to stop live water flows to the Colorado River in the event a release was to migrate off of the location impact Cottonwood Gulch.

The State Engineer's Office records were reviewed for depth to ground water and no ground water wells are located within the immediate vicinity of the location. The nearest permitted water well is located 1,301 feet south of the existing facility. This ground water well has a noted depth to groundwater at 130 feet. However due to the proximity of the facility to Cottonwood Gulch, there is potential for shallow groundwater in the fluvial sediments in the immediate vicinity of Cottonwood Gulch during periods of no surface flow. Based on the topographical setting of the facility and past remediation activities, groundwater was not encountered above 20 feet. However that does not preclude the potential that shallow groundwater may still be present at a depth greater than 20 feet. Therefore the assumption could be made that groundwater, if present, would most likely be at a depth greater than 20 feet.

Based on the information collected during the site investigation and desktop review, the potential to impact surface water has been deemed high especially during periods of intermittent flow. In addition, by COGCC rule the close proximity of all the identified drainages would classify the facility as being in a sensitive area. With the close proximity of Cottonwood Gulch, the potential to impact shallow groundwater, if present, would be deemed moderate as well. With the potential for impacts to surface water, potentially shallow groundwater, and by COGCC rule the facility should be classified as being in a sensitive area.

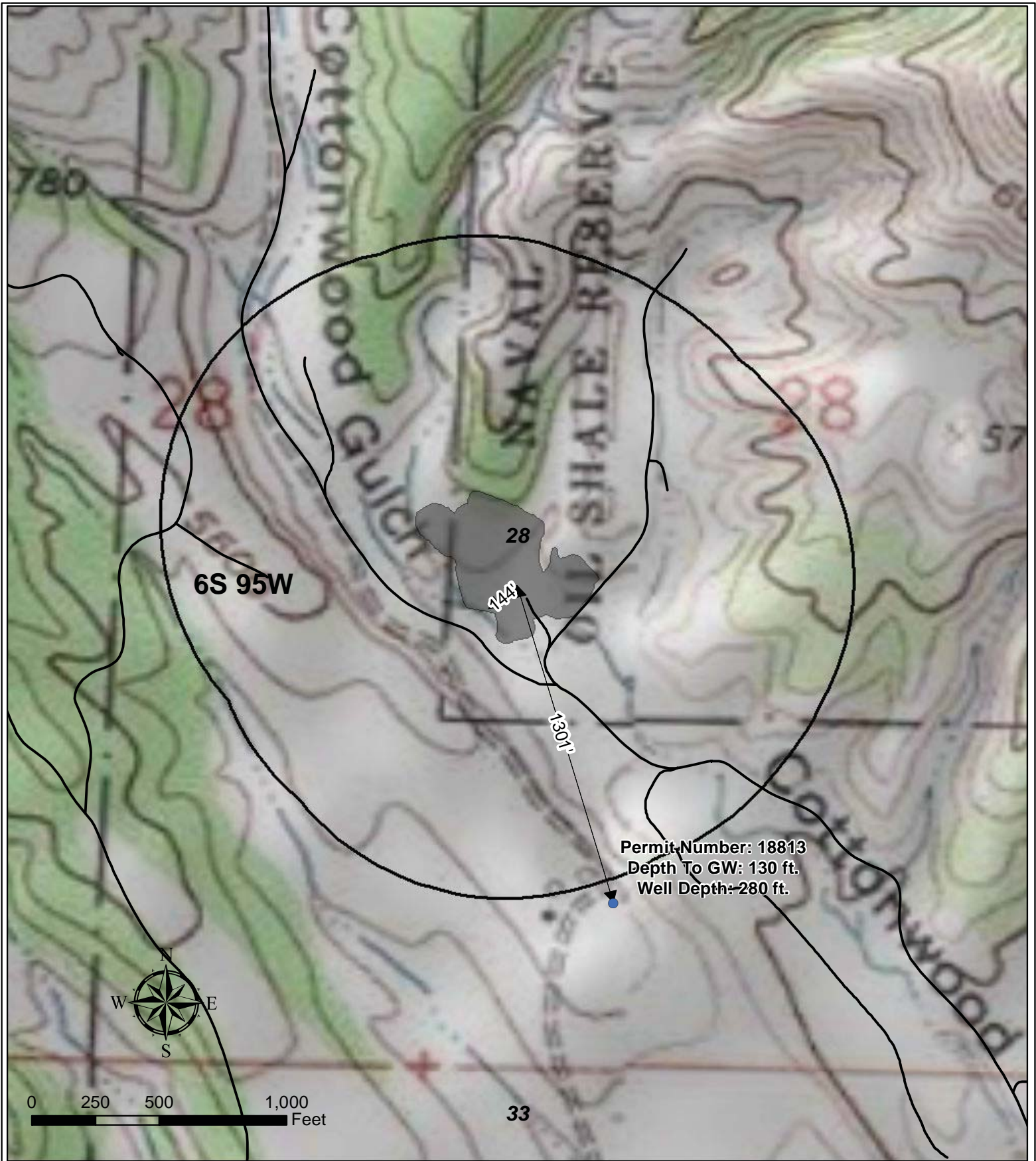
Inspector Signature(s):  Date: 7/18/2105

Mark E. Mumby, *Project Manager/RPG*
HRL Compliance Solutions, Inc.

 Date: 11/4/2011

Ashlee Lane, *Biologist*

Hydrology Map



Legend

- Water Well
- Existing Road
- Pad
- 1000' Buffer (from edge of pad)

WPX Energy Rocky Mountain, LLC

Plat 5C

Cottonwood Frac Pit Hydrology Map
T6S R95W, Section 28



***WPX ENERGY ROCKY MOUNTAIN LLC
GRAND VALLEY FIELD
NOTICE OF COMPLETION REPORT FOR
COTTONWOOD GULCH PRODUCTION PIT
REMEDATION # 9185***

Prepared For:



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

Prepared By:



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 Cottonwood Gulch Production Pit (COGCC Facility ID number 414567; hereinafter referred to as Cottonwood Gulch – is to provide detailed information and result analysis for the previously submitted and approved remediation number 9185, 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 July 19, 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), at which time the aforementioned remediation number was issued. Closure activities began in August 24th, 2015 and were concluded on September 1, 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 2 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. In doing so, the pit was divided into a six (6) quadrants in order to accurately characterize the pit as a whole by investigating individual quadrants and dividing the pit bottom into two sections. The six (6) 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 w and bottom, but did not contain any hydrocarbon odor and was suspected to be from the felt liner pres 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 August 11, 2015 for constituents outlined in COGCC Table 910-1.

- 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. Two (2) additional grab sample was collected from the base of the pit (east bottom & west bottom), which included the low points 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 1 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: Cottonwood Gulch
Remediation: 9185
Facility ID: 414567

Name of Operator: WPX Energy Rocky Mountain, LLC
Latitude: 39.4944 Longitude -108.0026
Location (QtrQty, Sec, Twp, Rng, Meridian): NWSE, Sec 28, T6S, R95W

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

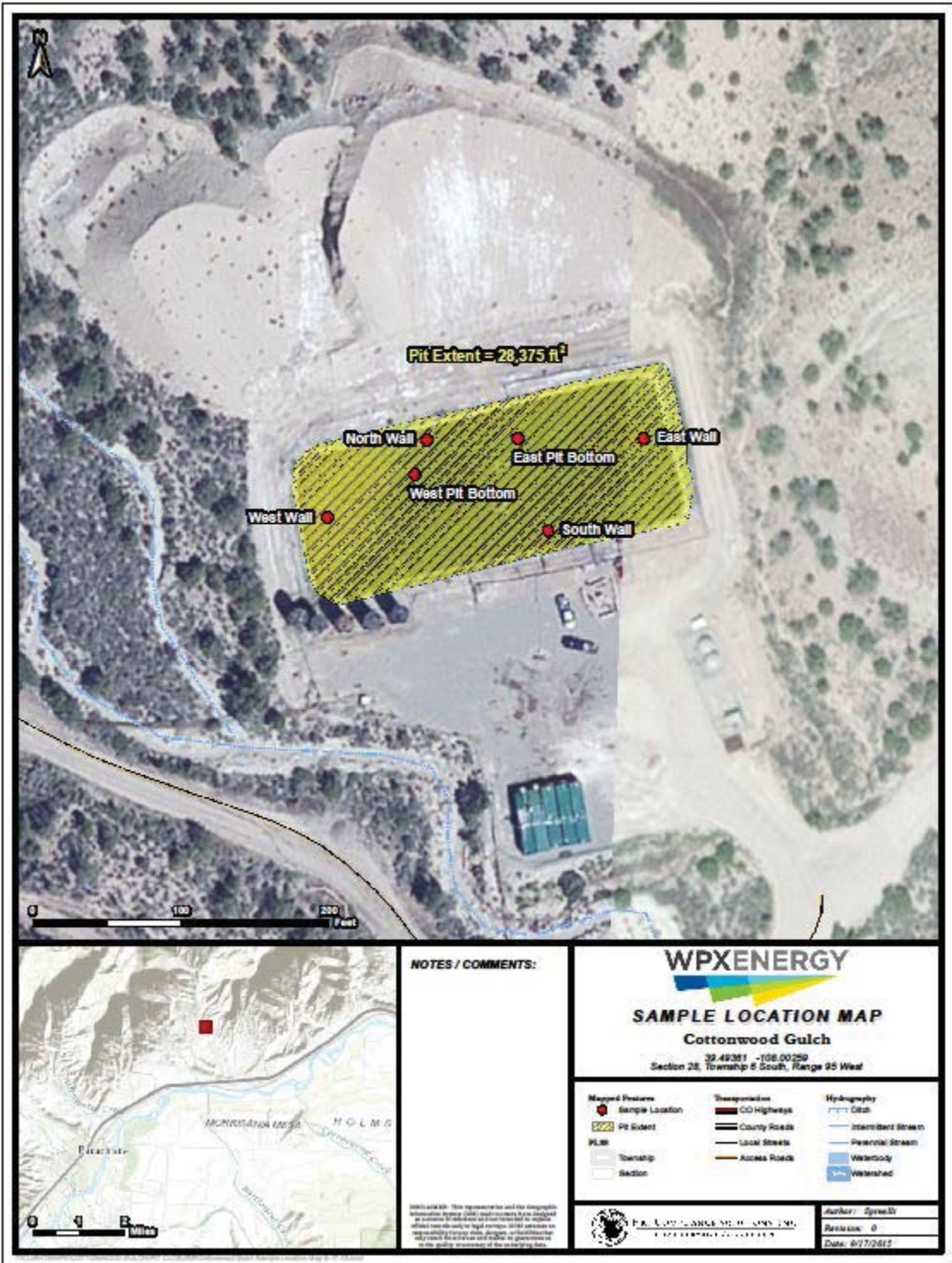


FIGURE 2: PIT SUBSOILS



TABLES

TABLE 1: PIT BOTTOM AND SIDE WALL ANALYTICAL RESULTS

Pit Bottom and Walls	Sample Locations					West Pit Bottom
	North Wall	South Wall	East Wall	West Wall	East Pit Bottom	
TEPH (DRO)	ND	20	ND	ND	12	13
TVPH (GRO)	ND	ND	ND	ND	ND	ND
BENZENE	ND	ND	ND	ND	ND	ND
TOLUENE	ND	ND	ND	ND	ND	ND
ETHYLBENZENE	ND	ND	ND	ND	ND	ND
XYLENE TOTAL	ND	ND	ND	ND	ND	ND
ACENAPHTHENE	ND	ND	ND	ND	ND	ND
ANTHRACENE	ND	ND	ND	ND	ND	ND
BENZO(A)ANTHRACENE	ND	ND	ND	ND	ND	ND
BENZO(A)PYRENE	ND	ND	ND	ND	ND	ND
BENZO(B)FLUORANTHENE	ND	ND	ND	ND	ND	ND
BENZO(G,H,I)PERYLEN	ND	ND	ND	ND	ND	ND
BENZO(K)FLUORANTHENE	ND	ND	ND	ND	ND	ND
CHRYSENE (mg/kg)	ND	ND	ND	ND	ND	ND
DIBENZO(A,H)ANTHRACENE	ND	ND	ND	ND	ND	ND
FLUORANTHENE	ND	ND	ND	ND	ND	ND
FLUORENE	ND	ND	ND	ND	ND	ND
INDENO(1,2,3-CD)PYRENE	ND	ND	ND	ND	ND	ND
NAPHTHALENE	ND	ND	ND	ND	ND	ND
PYRENE	ND	ND	ND	ND	ND	ND
ARSENIC	-	-	-	-	9.6	15
BARIUM	-	-	-	-	190	250
CADMIUM	-	-	-	-	ND	ND
CHROMIUM	-	-	-	-	12	14
CHROMIUM (III)	-	-	-	-	12	14
CHROMIUM (IV)	-	-	-	-	ND	ND
COPPER	-	-	-	-	14	23
LEAD	-	-	-	-	6.1	6.9
MERCURY	-	-	-	-	0.025	0.031
NICKEL	-	-	-	-	33	34
SELENIUM	-	-	-	-	ND	ND
SILVER	-	-	-	-	ND	ND
ZINC	-	-	-	-	42	35
ELECTRICAL CONDUCTIVITY (EC) (mmho/cm)	23	19	20	9.3	9.8	7.2
pH	8.5	8.3	8.5	8.6	8.4	8.8
SODIUM ADSORPTION RATIO (SAR)	35	28	31	14	8.7	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 2: BACKGROUND ANALYTICAL RESULTS

Sample ID	Arsenic (mg/kg)	Conductivity(mmho/cm)	pH (s.u.)	Sodium Adsorbtion Ratio
BKGD 1	5.8	0.33	8.46	0.25
BKGD 2	7.6	N/A	N/A	N/A
BKGD 3	6.7	N/A	N/A	N/A

Results above state limits are highlighted in yellow

APPENDIX 1: PIT BOTTOM AND SIDE WALL RAW DATA



10-Sep-2015

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

Re: **WPX - Cotton Gulch - Pit Closure**

Work Order: **1509353**

Dear Kris,

ALS Environmental received 6 samples on 05-Sep-2015 10:00 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 34.

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

RIGHT SOLUTIONS RIGHT PARTNER

Client: HRL Compliance Solutions, Inc
Project: WPX - Cotton Gulch - Pit Closure
Work Order: 1509353

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>
1509353-01	North Wall @ 1ft	Soil		9/1/2015 13:56	9/5/2015 10:00	<input type="checkbox"/>
1509353-02	East Wall @ 1ft	Soil		9/1/2015 13:40	9/5/2015 10:00	<input type="checkbox"/>
1509353-03	South Wall @ 1ft	Soil		9/1/2015 14:22	9/5/2015 10:00	<input type="checkbox"/>
1509353-04	West Wall @ 1ft	Soil		9/1/2015 14:16	9/5/2015 10:00	<input type="checkbox"/>
1509353-05	East Pit Bottom @ 1ft	Soil		9/1/2015 13:48	9/5/2015 10:00	<input type="checkbox"/>
1509353-06	West Pit Bottom @ 1ft	Soil		9/1/2015 14:05	9/5/2015 10:00	<input type="checkbox"/>

Client: HRL Compliance Solutions, Inc
Project: WPX - Cotton Gulch - Pit Closure
Work Order: 1509353

Case Narrative

Samples for the above noted Work Order were received on 09/05/2015. 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: 10-Sep-15

Client: HRL Compliance Solutions, Inc
Project: WPX - Cotton Gulch - Pit Closure
Sample ID: North Wall @ 1ft
Collection Date: 9/1/2015 01:56 PM

Work Order: 1509353
Lab ID: 1509353-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3550 / 9/5/15	Analyst: IT
DRO (C10-C28)	ND		4.8	mg/Kg-dry	1	9/8/2015 12:22 PM
Surr: 4-Terphenyl-d14	63.3		39-133	%REC	1	9/8/2015 12:22 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 9/8/15	Analyst: IT
GRO (C6-C10)	ND		3.0	mg/Kg-dry	1	9/8/2015 02:07 PM
Surr: Toluene-d8	103		50-150	%REC	1	9/8/2015 02:07 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 9/10/15	Analyst: JEC
Calcium	440		5.0	mg/L	10	9/10/2015 11:25 AM
Magnesium	340		2.0	mg/L	10	9/10/2015 11:25 AM
Sodium	4,000		4.0	mg/L	20	9/10/2015 02:31 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 9/10/15	Analyst: JEC
Sodium Adsorption Ratio	35		0.010	none	1	9/10/2015
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3550 / 9/5/15	Analyst: RM
Acenaphthene	ND		0.0076	mg/Kg-dry	1	9/6/2015 09:23 PM
Anthracene	ND		0.0076	mg/Kg-dry	1	9/6/2015 09:23 PM
Benzo(a)anthracene	ND		0.0076	mg/Kg-dry	1	9/6/2015 09:23 PM
Benzo(a)pyrene	ND		0.0076	mg/Kg-dry	1	9/6/2015 09:23 PM
Benzo(b)fluoranthene	ND		0.0076	mg/Kg-dry	1	9/6/2015 09:23 PM
Benzo(g,h,i)perylene	ND		0.0076	mg/Kg-dry	1	9/6/2015 09:23 PM
Benzo(k)fluoranthene	ND		0.0076	mg/Kg-dry	1	9/6/2015 09:23 PM
Chrysene	ND		0.0076	mg/Kg-dry	1	9/6/2015 09:23 PM
Dibenzo(a,h)anthracene	ND		0.0076	mg/Kg-dry	1	9/6/2015 09:23 PM
Fluoranthene	ND		0.0076	mg/Kg-dry	1	9/6/2015 09:23 PM
Fluorene	ND		0.0076	mg/Kg-dry	1	9/6/2015 09:23 PM
Indeno(1,2,3-cd)pyrene	ND		0.0076	mg/Kg-dry	1	9/6/2015 09:23 PM
Naphthalene	ND		0.0076	mg/Kg-dry	1	9/6/2015 09:23 PM
Pyrene	ND		0.0076	mg/Kg-dry	1	9/6/2015 09:23 PM
Surr: 2-Fluorobiphenyl	64.5		12-100	%REC	1	9/6/2015 09:23 PM
Surr: 4-Terphenyl-d14	95.8		25-137	%REC	1	9/6/2015 09:23 PM
Surr: Nitrobenzene-d5	65.0		37-107	%REC	1	9/6/2015 09:23 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 / 9/8/15	Analyst: AK
Benzene	ND		0.036	mg/Kg-dry	1	9/8/2015 02:36 PM
Ethylbenzene	ND		0.036	mg/Kg-dry	1	9/8/2015 02:36 PM
m,p-Xylene	ND		0.071	mg/Kg-dry	1	9/8/2015 02:36 PM
o-Xylene	ND		0.036	mg/Kg-dry	1	9/8/2015 02:36 PM
Toluene	ND		0.036	mg/Kg-dry	1	9/8/2015 02:36 PM

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

ALS Group USA, Corp

Date: 10-Sep-15

Client: HRL Compliance Solutions, Inc
Project: WPX - Cotton Gulch - Pit Closure
Sample ID: North Wall @ 1ft
Collection Date: 9/1/2015 01:56 PM

Work Order: 1509353
Lab ID: 1509353-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Xylenes, Total	ND		0.11	mg/Kg-dry	1	9/8/2015 02:36 PM
Surr: 1,2-Dichloroethane-d4	102		70-130	%REC	1	9/8/2015 02:36 PM
Surr: 4-Bromofluorobenzene	98.6		70-130	%REC	1	9/8/2015 02:36 PM
Surr: Dibromofluoromethane	97.4		70-130	%REC	1	9/8/2015 02:36 PM
Surr: Toluene-d8	97.2		70-130	%REC	1	9/8/2015 02:36 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 9/10/15		Analyst: JB
Electrical Conductivity @ Saturation	23		0.050	mmhos/cm @2	10	9/10/2015 11:30 AM
MOISTURE			E160.3M			Analyst: RLM
Moisture	16		0.050	% of sample	1	9/8/2015 05:30 PM
PH			SW9045D	Prep: EXTRACT / 9/8/15		Analyst: KF
pH	8.5			s.u.	1	9/8/2015 01:00 PM

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

ALS Group USA, Corp

Date: 10-Sep-15

Client: HRL Compliance Solutions, Inc
Project: WPX - Cotton Gulch - Pit Closure
Sample ID: East Wall @ 1ft
Collection Date: 9/1/2015 01:40 PM

Work Order: 1509353
Lab ID: 1509353-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3550 / 9/5/15	Analyst: IT
DRO (C10-C28)	ND		4.9	mg/Kg-dry	1	9/8/2015 12:52 PM
Surr: 4-Terphenyl-d14	67.1		39-133	%REC	1	9/8/2015 12:52 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 9/8/15	Analyst: IT
GRO (C6-C10)	ND		2.9	mg/Kg-dry	1	9/8/2015 02:32 PM
Surr: Toluene-d8	101		50-150	%REC	1	9/8/2015 02:32 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 9/10/15	Analyst: JEC
Calcium	440		5.0	mg/L	10	9/10/2015 11:31 AM
Magnesium	250		2.0	mg/L	10	9/10/2015 11:31 AM
Sodium	3,300		2.0	mg/L	10	9/10/2015 11:31 AM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 9/10/15	Analyst: JEC
Sodium Adsorption Ratio	31		0.010	none	1	9/10/2015
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3550 / 9/5/15	Analyst: RM
Acenaphthene	ND		0.0078	mg/Kg-dry	1	9/6/2015 09:42 PM
Anthracene	ND		0.0078	mg/Kg-dry	1	9/6/2015 09:42 PM
Benzo(a)anthracene	ND		0.0078	mg/Kg-dry	1	9/6/2015 09:42 PM
Benzo(a)pyrene	ND		0.0078	mg/Kg-dry	1	9/6/2015 09:42 PM
Benzo(b)fluoranthene	ND		0.0078	mg/Kg-dry	1	9/6/2015 09:42 PM
Benzo(g,h,i)perylene	ND		0.0078	mg/Kg-dry	1	9/6/2015 09:42 PM
Benzo(k)fluoranthene	ND		0.0078	mg/Kg-dry	1	9/6/2015 09:42 PM
Chrysene	ND		0.0078	mg/Kg-dry	1	9/6/2015 09:42 PM
Dibenzo(a,h)anthracene	ND		0.0078	mg/Kg-dry	1	9/6/2015 09:42 PM
Fluoranthene	ND		0.0078	mg/Kg-dry	1	9/6/2015 09:42 PM
Fluorene	ND		0.0078	mg/Kg-dry	1	9/6/2015 09:42 PM
Indeno(1,2,3-cd)pyrene	ND		0.0078	mg/Kg-dry	1	9/6/2015 09:42 PM
Naphthalene	ND		0.0078	mg/Kg-dry	1	9/6/2015 09:42 PM
Pyrene	ND		0.0078	mg/Kg-dry	1	9/6/2015 09:42 PM
Surr: 2-Fluorobiphenyl	52.0		12-100	%REC	1	9/6/2015 09:42 PM
Surr: 4-Terphenyl-d14	95.6		25-137	%REC	1	9/6/2015 09:42 PM
Surr: Nitrobenzene-d5	55.9		37-107	%REC	1	9/6/2015 09:42 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 / 9/8/15	Analyst: AK
Benzene	ND		0.035	mg/Kg-dry	1	9/8/2015 03:02 PM
Ethylbenzene	ND		0.035	mg/Kg-dry	1	9/8/2015 03:02 PM
m,p-Xylene	ND		0.071	mg/Kg-dry	1	9/8/2015 03:02 PM
o-Xylene	ND		0.035	mg/Kg-dry	1	9/8/2015 03:02 PM
Toluene	ND		0.035	mg/Kg-dry	1	9/8/2015 03:02 PM

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

ALS Group USA, Corp**Date:** 10-Sep-15

Client: HRL Compliance Solutions, Inc
Project: WPX - Cotton Gulch - Pit Closure
Sample ID: East Wall @ 1ft
Collection Date: 9/1/2015 01:40 PM

Work Order: 1509353
Lab ID: 1509353-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Xylenes, Total	ND		0.11	mg/Kg-dry	1	9/8/2015 03:02 PM
Surr: 1,2-Dichloroethane-d4	102		70-130	%REC	1	9/8/2015 03:02 PM
Surr: 4-Bromofluorobenzene	98.3		70-130	%REC	1	9/8/2015 03:02 PM
Surr: Dibromofluoromethane	96.4		70-130	%REC	1	9/8/2015 03:02 PM
Surr: Toluene-d8	98.1		70-130	%REC	1	9/8/2015 03:02 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 9/10/15		Analyst: JB
Electrical Conductivity @ Saturation	20		0.050	mmhos/cm @2	10	9/10/2015 11:30 AM
MOISTURE			E160.3M			Analyst: RLM
Moisture	15		0.050	% of sample	1	9/8/2015 05:30 PM
PH			SW9045D	Prep: EXTRACT / 9/8/15		Analyst: KF
pH	8.5			s.u.	1	9/8/2015 01:00 PM

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

ALS Group USA, Corp

Date: 10-Sep-15

Client: HRL Compliance Solutions, Inc
Project: WPX - Cotton Gulch - Pit Closure
Sample ID: South Wall @ 1ft
Collection Date: 9/1/2015 02:22 PM

Work Order: 1509353
Lab ID: 1509353-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3550 / 9/5/15	Analyst: IT
DRO (C10-C28)	20		4.7	mg/Kg-dry	1	9/8/2015 01:22 PM
Surr: 4-Terphenyl-d14	64.2		39-133	%REC	1	9/8/2015 01:22 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 9/8/15	Analyst: IT
GRO (C6-C10)	ND		2.9	mg/Kg-dry	1	9/8/2015 02:57 PM
Surr: Toluene-d8	104		50-150	%REC	1	9/8/2015 02:57 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 9/10/15	Analyst: JEC
Calcium	550		5.0	mg/L	10	9/10/2015 11:48 AM
Magnesium	260		2.0	mg/L	10	9/10/2015 11:48 AM
Sodium	3,200		2.0	mg/L	10	9/10/2015 11:48 AM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 9/10/15	Analyst: JEC
Sodium Adsorption Ratio	28		0.010	none	1	9/10/2015
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3550 / 9/5/15	Analyst: RM
Acenaphthene	ND		0.0076	mg/Kg-dry	1	9/6/2015 10:01 PM
Anthracene	ND		0.0076	mg/Kg-dry	1	9/6/2015 10:01 PM
Benzo(a)anthracene	ND		0.0076	mg/Kg-dry	1	9/6/2015 10:01 PM
Benzo(a)pyrene	ND		0.0076	mg/Kg-dry	1	9/6/2015 10:01 PM
Benzo(b)fluoranthene	ND		0.0076	mg/Kg-dry	1	9/6/2015 10:01 PM
Benzo(g,h,i)perylene	ND		0.0076	mg/Kg-dry	1	9/6/2015 10:01 PM
Benzo(k)fluoranthene	ND		0.0076	mg/Kg-dry	1	9/6/2015 10:01 PM
Chrysene	ND		0.0076	mg/Kg-dry	1	9/6/2015 10:01 PM
Dibenzo(a,h)anthracene	ND		0.0076	mg/Kg-dry	1	9/6/2015 10:01 PM
Fluoranthene	ND		0.0076	mg/Kg-dry	1	9/6/2015 10:01 PM
Fluorene	ND		0.0076	mg/Kg-dry	1	9/6/2015 10:01 PM
Indeno(1,2,3-cd)pyrene	ND		0.0076	mg/Kg-dry	1	9/6/2015 10:01 PM
Naphthalene	ND		0.0076	mg/Kg-dry	1	9/6/2015 10:01 PM
Pyrene	ND		0.0076	mg/Kg-dry	1	9/6/2015 10:01 PM
Surr: 2-Fluorobiphenyl	63.1		12-100	%REC	1	9/6/2015 10:01 PM
Surr: 4-Terphenyl-d14	97.0		25-137	%REC	1	9/6/2015 10:01 PM
Surr: Nitrobenzene-d5	66.0		37-107	%REC	1	9/6/2015 10:01 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 / 9/8/15	Analyst: AK
Benzene	ND		0.035	mg/Kg-dry	1	9/8/2015 03:27 PM
Ethylbenzene	ND		0.035	mg/Kg-dry	1	9/8/2015 03:27 PM
m,p-Xylene	ND		0.070	mg/Kg-dry	1	9/8/2015 03:27 PM
o-Xylene	ND		0.035	mg/Kg-dry	1	9/8/2015 03:27 PM
Toluene	ND		0.035	mg/Kg-dry	1	9/8/2015 03:27 PM

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

ALS Group USA, Corp**Date:** 10-Sep-15

Client: HRL Compliance Solutions, Inc
Project: WPX - Cotton Gulch - Pit Closure
Sample ID: South Wall @ 1ft
Collection Date: 9/1/2015 02:22 PM

Work Order: 1509353
Lab ID: 1509353-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Xylenes, Total	ND		0.10	mg/Kg-dry	1	9/8/2015 03:27 PM
Surr: 1,2-Dichloroethane-d4	99.5		70-130	%REC	1	9/8/2015 03:27 PM
Surr: 4-Bromofluorobenzene	99.2		70-130	%REC	1	9/8/2015 03:27 PM
Surr: Dibromofluoromethane	96.5		70-130	%REC	1	9/8/2015 03:27 PM
Surr: Toluene-d8	99.2		70-130	%REC	1	9/8/2015 03:27 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 9/10/15		Analyst: JB
Electrical Conductivity @ Saturation	19		0.050	mmhos/cm @2	10	9/10/2015 11:30 AM
MOISTURE			E160.3M			Analyst: RLM
Moisture	14		0.050	% of sample	1	9/8/2015 05:30 PM
PH			SW9045D	Prep: EXTRACT / 9/8/15		Analyst: KF
pH	8.3			s.u.	1	9/8/2015 01:00 PM

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

ALS Group USA, Corp

Date: 10-Sep-15

Client: HRL Compliance Solutions, Inc
Project: WPX - Cotton Gulch - Pit Closure
Sample ID: West Wall @ 1ft
Collection Date: 9/1/2015 02:16 PM

Work Order: 1509353
Lab ID: 1509353-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3550 / 9/5/15	Analyst: IT
DRO (C10-C28)	ND		4.7	mg/Kg-dry	1	9/8/2015 01:52 PM
Surr: 4-Terphenyl-d14	63.1		39-133	%REC	1	9/8/2015 01:52 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 9/8/15	Analyst: IT
GRO (C6-C10)	ND		2.8	mg/Kg-dry	1	9/8/2015 04:14 PM
Surr: Toluene-d8	105		50-150	%REC	1	9/8/2015 04:14 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 9/10/15	Analyst: JEC
Calcium	240		5.0	mg/L	10	9/10/2015 11:54 AM
Magnesium	240		2.0	mg/L	10	9/10/2015 11:54 AM
Sodium	1,300		2.0	mg/L	10	9/10/2015 11:54 AM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 9/10/15	Analyst: JEC
Sodium Adsorption Ratio	14		0.010	none	1	9/10/2015
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3550 / 9/5/15	Analyst: RM
Acenaphthene	ND		0.0075	mg/Kg-dry	1	9/6/2015 10:21 PM
Anthracene	ND		0.0075	mg/Kg-dry	1	9/6/2015 10:21 PM
Benzo(a)anthracene	ND		0.0075	mg/Kg-dry	1	9/6/2015 10:21 PM
Benzo(a)pyrene	ND		0.0075	mg/Kg-dry	1	9/6/2015 10:21 PM
Benzo(b)fluoranthene	ND		0.0075	mg/Kg-dry	1	9/6/2015 10:21 PM
Benzo(g,h,i)perylene	ND		0.0075	mg/Kg-dry	1	9/6/2015 10:21 PM
Benzo(k)fluoranthene	ND		0.0075	mg/Kg-dry	1	9/6/2015 10:21 PM
Chrysene	ND		0.0075	mg/Kg-dry	1	9/6/2015 10:21 PM
Dibenzo(a,h)anthracene	ND		0.0075	mg/Kg-dry	1	9/6/2015 10:21 PM
Fluoranthene	ND		0.0075	mg/Kg-dry	1	9/6/2015 10:21 PM
Fluorene	ND		0.0075	mg/Kg-dry	1	9/6/2015 10:21 PM
Indeno(1,2,3-cd)pyrene	ND		0.0075	mg/Kg-dry	1	9/6/2015 10:21 PM
Naphthalene	ND		0.0075	mg/Kg-dry	1	9/6/2015 10:21 PM
Pyrene	ND		0.0075	mg/Kg-dry	1	9/6/2015 10:21 PM
Surr: 2-Fluorobiphenyl	53.9		12-100	%REC	1	9/6/2015 10:21 PM
Surr: 4-Terphenyl-d14	96.3		25-137	%REC	1	9/6/2015 10:21 PM
Surr: Nitrobenzene-d5	54.7		37-107	%REC	1	9/6/2015 10:21 PM
VOLATILE ORGANIC COMPOUNDS						
			SW8260B		Prep: SW5035 / 9/8/15	Analyst: AK
Benzene	ND		0.034	mg/Kg-dry	1	9/8/2015 03:52 PM
Ethylbenzene	ND		0.034	mg/Kg-dry	1	9/8/2015 03:52 PM
m,p-Xylene	ND		0.068	mg/Kg-dry	1	9/8/2015 03:52 PM
o-Xylene	ND		0.034	mg/Kg-dry	1	9/8/2015 03:52 PM
Toluene	ND		0.034	mg/Kg-dry	1	9/8/2015 03:52 PM

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

ALS Group USA, Corp

Date: 10-Sep-15

Client: HRL Compliance Solutions, Inc
Project: WPX - Cotton Gulch - Pit Closure
Sample ID: West Wall @ 1ft
Collection Date: 9/1/2015 02:16 PM

Work Order: 1509353
Lab ID: 1509353-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Xylenes, Total	ND		0.10	mg/Kg-dry	1	9/8/2015 03:52 PM
Surr: 1,2-Dichloroethane-d4	99.8		70-130	%REC	1	9/8/2015 03:52 PM
Surr: 4-Bromofluorobenzene	101		70-130	%REC	1	9/8/2015 03:52 PM
Surr: Dibromofluoromethane	97.0		70-130	%REC	1	9/8/2015 03:52 PM
Surr: Toluene-d8	97.4		70-130	%REC	1	9/8/2015 03:52 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 9/10/15		Analyst: JB
Electrical Conductivity @ Saturation	9.3		0.050	mmhos/cm @2	10	9/10/2015 11:30 AM
MOISTURE			E160.3M			Analyst: RLM
Moisture	12		0.050	% of sample	1	9/8/2015 05:30 PM
PH			SW9045D	Prep: EXTRACT / 9/8/15		Analyst: KF
pH	8.6			s.u.	1	9/8/2015 01:00 PM

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

ALS Group USA, Corp

Date: 10-Sep-15

Client: HRL Compliance Solutions, Inc
Project: WPX - Cotton Gulch - Pit Closure
Sample ID: East Pit Bottom @ 1ft
Collection Date: 9/1/2015 01:48 PM

Work Order: 1509353
Lab ID: 1509353-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3550 / 9/5/15	Analyst: IT
DRO (C10-C28)	12		4.8	mg/Kg-dry	1	9/8/2015 02:22 PM
Surr: 4-Terphenyl-d14	58.3		39-133	%REC	1	9/8/2015 02:22 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 9/8/15	Analyst: IT
GRO (C6-C10)	ND		2.9	mg/Kg-dry	1	9/8/2015 04:39 PM
Surr: Toluene-d8	106		50-150	%REC	1	9/8/2015 04:39 PM
MERCURY BY CVAA						
			SW7471B		Prep: SW7471 / 9/8/15	Analyst: RG
Mercury	0.025		0.018	mg/Kg-dry	1	9/8/2015 05:36 PM
METALS ANALYSIS BY ICP						
			SW846 6010C		Prep: SW3050B / 9/8/15	Analyst: JEC
Arsenic	9.6		2.2	mg/Kg-dry	5	9/9/2015 10:45 AM
Barium	190		0.44	mg/Kg-dry	1	9/9/2015 10:00 AM
Cadmium	ND		0.89	mg/Kg-dry	1	9/9/2015 10:00 AM
Chromium	12		2.2	mg/Kg-dry	5	9/9/2015 10:45 AM
Copper	14		0.89	mg/Kg-dry	1	9/9/2015 10:00 AM
Lead	6.1		2.2	mg/Kg-dry	5	9/9/2015 10:45 AM
Nickel	33		0.44	mg/Kg-dry	1	9/9/2015 10:00 AM
Selenium	ND		4.4	mg/Kg-dry	5	9/9/2015 10:45 AM
Silver	ND		0.44	mg/Kg-dry	1	9/9/2015 10:00 AM
Zinc	42		4.4	mg/Kg-dry	5	9/9/2015 10:45 AM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 9/10/15	Analyst: JEC
Calcium	510		5.0	mg/L	10	9/10/2015 12:00 PM
Magnesium	220		2.0	mg/L	10	9/10/2015 12:00 PM
Sodium	940		2.0	mg/L	10	9/10/2015 12:00 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 9/10/15	Analyst: JEC
Sodium Adsorption Ratio	8.7		0.010	none	1	9/10/2015
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3550 / 9/5/15	Analyst: RM
Acenaphthene	ND		0.0077	mg/Kg-dry	1	9/6/2015 10:40 PM
Anthracene	ND		0.0077	mg/Kg-dry	1	9/6/2015 10:40 PM
Benzo(a)anthracene	ND		0.0077	mg/Kg-dry	1	9/6/2015 10:40 PM
Benzo(a)pyrene	ND		0.0077	mg/Kg-dry	1	9/6/2015 10:40 PM
Benzo(b)fluoranthene	ND		0.0077	mg/Kg-dry	1	9/6/2015 10:40 PM
Benzo(g,h,i)perylene	ND		0.0077	mg/Kg-dry	1	9/6/2015 10:40 PM
Benzo(k)fluoranthene	ND		0.0077	mg/Kg-dry	1	9/6/2015 10:40 PM
Chrysene	ND		0.0077	mg/Kg-dry	1	9/6/2015 10:40 PM
Dibenzo(a,h)anthracene	ND		0.0077	mg/Kg-dry	1	9/6/2015 10:40 PM

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

ALS Group USA, Corp

Date: 10-Sep-15

Client: HRL Compliance Solutions, Inc
Project: WPX - Cotton Gulch - Pit Closure
Sample ID: East Pit Bottom @ 1ft
Collection Date: 9/1/2015 01:48 PM

Work Order: 1509353
Lab ID: 1509353-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	ND		0.0077	mg/Kg-dry	1	9/6/2015 10:40 PM
Fluorene	ND		0.0077	mg/Kg-dry	1	9/6/2015 10:40 PM
Indeno(1,2,3-cd)pyrene	ND		0.0077	mg/Kg-dry	1	9/6/2015 10:40 PM
Naphthalene	0.014		0.0077	mg/Kg-dry	1	9/6/2015 10:40 PM
Pyrene	ND		0.0077	mg/Kg-dry	1	9/6/2015 10:40 PM
Surr: 2-Fluorobiphenyl	60.2		12-100	%REC	1	9/6/2015 10:40 PM
Surr: 4-Terphenyl-d14	87.1		25-137	%REC	1	9/6/2015 10:40 PM
Surr: Nitrobenzene-d5	60.6		37-107	%REC	1	9/6/2015 10:40 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 9/8/15		Analyst: AK
Benzene	ND		0.035	mg/Kg-dry	1	9/8/2015 04:17 PM
Ethylbenzene	ND		0.035	mg/Kg-dry	1	9/8/2015 04:17 PM
m,p-Xylene	ND		0.070	mg/Kg-dry	1	9/8/2015 04:17 PM
o-Xylene	ND		0.035	mg/Kg-dry	1	9/8/2015 04:17 PM
Toluene	ND		0.035	mg/Kg-dry	1	9/8/2015 04:17 PM
Xylenes, Total	ND		0.10	mg/Kg-dry	1	9/8/2015 04:17 PM
Surr: 1,2-Dichloroethane-d4	99.6		70-130	%REC	1	9/8/2015 04:17 PM
Surr: 4-Bromofluorobenzene	99.2		70-130	%REC	1	9/8/2015 04:17 PM
Surr: Dibromofluoromethane	98.6		70-130	%REC	1	9/8/2015 04:17 PM
Surr: Toluene-d8	98.5		70-130	%REC	1	9/8/2015 04:17 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 9/10/15		Analyst: JB
Electrical Conductivity @ Saturation	9.8		0.050	mmhos/cm @2	10	9/10/2015 11:30 AM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: MB
Chromium, Trivalent	12		0.58	mg/Kg-dry	1	9/9/2015 02:56 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 9/6/15		Analyst: MB
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	9/9/2015 10:30 AM
MOISTURE			E160.3M			Analyst: RLM
Moisture	14		0.050	% of sample	1	9/8/2015 05:30 PM
PH			SW9045D	Prep: EXTRACT / 9/8/15		Analyst: KF
pH	8.4		s.u.		1	9/8/2015 01:00 PM

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

ALS Group USA, Corp

Date: 10-Sep-15

Client: HRL Compliance Solutions, Inc
Project: WPX - Cotton Gulch - Pit Closure
Sample ID: West Pit Bottom @ 1ft
Collection Date: 9/1/2015 02:05 PM

Work Order: 1509353
Lab ID: 1509353-06
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3550 / 9/5/15	Analyst: IT
DRO (C10-C28)	13		4.7	mg/Kg-dry	1	9/8/2015 02:51 PM
Surr: 4-Terphenyl-d14	51.9		39-133	%REC	1	9/8/2015 02:51 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 9/8/15	Analyst: IT
GRO (C6-C10)	ND		2.9	mg/Kg-dry	1	9/8/2015 05:04 PM
Surr: Toluene-d8	106		50-150	%REC	1	9/8/2015 05:04 PM
MERCURY BY CVAA						
			SW7471B		Prep: SW7471 / 9/8/15	Analyst: RG
Mercury	0.031		0.018	mg/Kg-dry	1	9/8/2015 05:39 PM
METALS ANALYSIS BY ICP						
			SW846 6010C		Prep: SW3050B / 9/8/15	Analyst: JEC
Arsenic	15		2.1	mg/Kg-dry	5	9/9/2015 10:50 AM
Barium	250		0.42	mg/Kg-dry	1	9/9/2015 10:05 AM
Cadmium	ND		0.84	mg/Kg-dry	1	9/9/2015 10:05 AM
Chromium	14		2.1	mg/Kg-dry	5	9/9/2015 10:50 AM
Copper	23		0.84	mg/Kg-dry	1	9/9/2015 10:05 AM
Lead	6.9		2.1	mg/Kg-dry	5	9/9/2015 10:50 AM
Nickel	34		0.42	mg/Kg-dry	1	9/9/2015 10:05 AM
Selenium	ND		4.2	mg/Kg-dry	5	9/9/2015 10:50 AM
Silver	ND		0.42	mg/Kg-dry	1	9/9/2015 10:05 AM
Zinc	35		4.2	mg/Kg-dry	5	9/9/2015 10:50 AM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 9/10/15	Analyst: JEC
Calcium	180		5.0	mg/L	10	9/10/2015 12:05 PM
Magnesium	100		2.0	mg/L	10	9/10/2015 12:05 PM
Sodium	1,000		2.0	mg/L	10	9/10/2015 12:05 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 9/10/15	Analyst: JEC
Sodium Adsorption Ratio	15		0.010	none	1	9/10/2015
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3550 / 9/5/15	Analyst: RM
Acenaphthene	ND		0.0075	mg/Kg-dry	1	9/6/2015 06:08 PM
Anthracene	ND		0.0075	mg/Kg-dry	1	9/6/2015 06:08 PM
Benzo(a)anthracene	ND		0.0075	mg/Kg-dry	1	9/6/2015 06:08 PM
Benzo(a)pyrene	ND		0.0075	mg/Kg-dry	1	9/6/2015 06:08 PM
Benzo(b)fluoranthene	ND		0.0075	mg/Kg-dry	1	9/6/2015 06:08 PM
Benzo(g,h,i)perylene	ND		0.0075	mg/Kg-dry	1	9/6/2015 06:08 PM
Benzo(k)fluoranthene	ND		0.0075	mg/Kg-dry	1	9/6/2015 06:08 PM
Chrysene	ND		0.0075	mg/Kg-dry	1	9/6/2015 06:08 PM
Dibenzo(a,h)anthracene	ND		0.0075	mg/Kg-dry	1	9/6/2015 06:08 PM

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

ALS Group USA, Corp

Date: 10-Sep-15

Client: HRL Compliance Solutions, Inc
Project: WPX - Cotton Gulch - Pit Closure
Sample ID: West Pit Bottom @ 1ft
Collection Date: 9/1/2015 02:05 PM

Work Order: 1509353
Lab ID: 1509353-06
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	ND		0.0075	mg/Kg-dry	1	9/6/2015 06:08 PM
Fluorene	ND		0.0075	mg/Kg-dry	1	9/6/2015 06:08 PM
Indeno(1,2,3-cd)pyrene	ND		0.0075	mg/Kg-dry	1	9/6/2015 06:08 PM
Naphthalene	ND		0.0075	mg/Kg-dry	1	9/6/2015 06:08 PM
Pyrene	ND		0.0075	mg/Kg-dry	1	9/6/2015 06:08 PM
Surr: 2-Fluorobiphenyl	60.9		12-100	%REC	1	9/6/2015 06:08 PM
Surr: 4-Terphenyl-d14	85.7		25-137	%REC	1	9/6/2015 06:08 PM
Surr: Nitrobenzene-d5	59.6		37-107	%REC	1	9/6/2015 06:08 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 9/8/15		Analyst: AK
Benzene	ND		0.034	mg/Kg-dry	1	9/8/2015 04:42 PM
Ethylbenzene	ND		0.034	mg/Kg-dry	1	9/8/2015 04:42 PM
m,p-Xylene	ND		0.068	mg/Kg-dry	1	9/8/2015 04:42 PM
o-Xylene	ND		0.034	mg/Kg-dry	1	9/8/2015 04:42 PM
Toluene	ND		0.034	mg/Kg-dry	1	9/8/2015 04:42 PM
Xylenes, Total	ND		0.10	mg/Kg-dry	1	9/8/2015 04:42 PM
Surr: 1,2-Dichloroethane-d4	101		70-130	%REC	1	9/8/2015 04:42 PM
Surr: 4-Bromofluorobenzene	100		70-130	%REC	1	9/8/2015 04:42 PM
Surr: Dibromofluoromethane	98.0		70-130	%REC	1	9/8/2015 04:42 PM
Surr: Toluene-d8	98.9		70-130	%REC	1	9/8/2015 04:42 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 9/10/15		Analyst: JB
Electrical Conductivity @ Saturation	7.2		0.050	mmhos/cm @2	10	9/10/2015 11:30 AM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: MB
Chromium, Trivalent	14		0.57	mg/Kg-dry	1	9/9/2015 02:56 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 9/6/15		Analyst: MB
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	9/9/2015 10:30 AM
MOISTURE			E160.3M			Analyst: RLM
Moisture	12		0.050	% of sample	1	9/8/2015 05:30 PM
PH			SW9045D	Prep: EXTRACT / 9/8/15		Analyst: KF
pH	8.8		s.u.		1	9/8/2015 01:00 PM

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

<u>Qualifier</u>	<u>Description</u>
*	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.

<u>Acronym</u>	<u>Description</u>
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

<u>Units Reported</u>	<u>Description</u>
% 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

ALS Group USA, Corp

Date: 10-Sep-15

Client: HRL Compliance Solutions, Inc
Work Order: 1509353
Project: WPX - Cotton Gulch - Pit Closure

QC BATCH REPORT

Batch ID: **75708** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-75708-75708				Units: mg/Kg		Analysis Date: 9/8/2015 10:22 AM		
Client ID:		Run ID: GC8_150908A				SeqNo: 3449716		Prep Date: 9/5/2015		DF: 1
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	1.391	0	2	0	69.6	39-133		0		

LCS		Sample ID: DLCSS1-75708-75708				Units: mg/Kg		Analysis Date: 9/8/2015 10:52 AM		
Client ID:		Run ID: GC8_150908A				SeqNo: 3449717		Prep Date: 9/5/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	174.8	5.0	200	0	87.4	61-109		0		
Surr: 4-Terphenyl-d14	1.214	0	2	0	60.7	39-133		0		

MS		Sample ID: 1509353-01A MS				Units: mg/Kg		Analysis Date: 9/8/2015 11:22 AM		
Client ID: North Wall @ 1ft		Run ID: GC8_150908A				SeqNo: 3449718		Prep Date: 9/5/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	122.6	4.1	163.8	0	74.9	48-110		0		
Surr: 4-Terphenyl-d14	0.9442	0	1.638	0	57.7	39-133		0		

MSD		Sample ID: 1509353-01A MSD				Units: mg/Kg		Analysis Date: 9/8/2015 11:52 AM		
Client ID: North Wall @ 1ft		Run ID: GC8_150908A				SeqNo: 3449719		Prep Date: 9/5/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	131.3	4.2	166.2	0	79	48-110	122.6	6.84	30	
Surr: 4-Terphenyl-d14	1.015	0	1.662	0	61.1	39-133	0.9442	7.22	30	

The following samples were analyzed in this batch:

1509353-01A	1509353-02A	1509353-03A
1509353-04A	1509353-05A	1509353-06A

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

Client: HRL Compliance Solutions, Inc
Work Order: 1509353
Project: WPX - Cotton Gulch - Pit Closure

QC BATCH REPORT

Batch ID: **75734** Instrument ID **GC9** Method: **SW8015D**

MBLK		Sample ID: MBLK-75734-75734				Units: µg/Kg		Analysis Date: 9/8/2015 01:42 PM		
Client ID:		Run ID: GC9_150908A				SeqNo: 3449771		Prep Date: 9/8/2015		DF: 1
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	4700	0	5000	0	94	50-150	0			

LCS		Sample ID: LCS-75734-75734				Units: µg/Kg		Analysis Date: 9/8/2015 01:17 PM		
Client ID:		Run ID: GC9_150908A				SeqNo: 3449770		Prep Date: 9/8/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	464200	2,500	500000	0	92.8	70-130	0			
Surr: Toluene-d8	5362	0	5000	0	107	50-150	0			

MS		Sample ID: 1509370-01A MS				Units: µg/Kg		Analysis Date: 9/8/2015 09:12 PM		
Client ID:		Run ID: GC9_150908A				SeqNo: 3449814		Prep Date: 9/8/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	498300	2,500	500000	0	99.7	70-130	0			
Surr: Toluene-d8	5078	0	5000	0	102	50-150	0			

MSD		Sample ID: 1509370-01A MSD				Units: µg/Kg		Analysis Date: 9/8/2015 09:37 PM		
Client ID:		Run ID: GC9_150908A				SeqNo: 3449817		Prep Date: 9/8/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	503300	2,500	500000	0	101	70-130	498300	1	30	
Surr: Toluene-d8	5286	0	5000	0	106	50-150	5078	4	30	

The following samples were analyzed in this batch:

1509353-01A	1509353-02A	1509353-03A
1509353-04A	1509353-05A	1509353-06A

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

Client: HRL Compliance Solutions, Inc
Work Order: 1509353
Project: WPX - Cotton Gulch - Pit Closure

QC BATCH REPORT

Batch ID: **75736** Instrument ID **HG1** Method: **SW7471B**

MBLK		Sample ID: MBLK-75736-75736				Units: mg/Kg		Analysis Date: 9/8/2015 05:31 PM		
Client ID:		Run ID: HG1_150908C				SeqNo: 3449233		Prep Date: 9/8/2015		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-75736-75736				Units: mg/Kg		Analysis Date: 9/8/2015 05:34 PM		
Client ID:		Run ID: HG1_150908C				SeqNo: 3449235		Prep Date: 9/8/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1775 0.020 0.1665 0 107 80-120 0

MS		Sample ID: 1509353-06AMS				Units: mg/Kg		Analysis Date: 9/8/2015 05:41 PM		
Client ID: West Pit Bottom @ 1ft		Run ID: HG1_150908C				SeqNo: 3449238		Prep Date: 9/8/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1499 0.015 0.1274 0.02689 96.5 75-125 0

MSD		Sample ID: 1509353-06AMSD				Units: mg/Kg		Analysis Date: 9/8/2015 05:43 PM		
Client ID: West Pit Bottom @ 1ft		Run ID: HG1_150908C				SeqNo: 3449239		Prep Date: 9/8/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1529 0.015 0.1273 0.02689 99 75-125 0.1499 1.98 35

The following samples were analyzed in this batch:

1509353-05A 1509353-06A

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

Client: HRL Compliance Solutions, Inc
Work Order: 1509353
Project: WPX - Cotton Gulch - Pit Closure

QC BATCH REPORT

Batch ID: **75735** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK		Sample ID: MBLK-75735-75735				Units: mg/Kg		Analysis Date: 9/9/2015 09:49 AM		
Client ID:		Run ID: ICP2_150909A				SeqNo: 3450044		Prep Date: 9/8/2015		DF: 1
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	0.01125	0.25								J
Copper	0.03858	0.50								J
Lead	ND	0.25								
Nickel	ND	0.25								
Selenium	0.1618	0.50								J
Silver	ND	0.25								
Zinc	ND	0.50								

LCS		Sample ID: LCS-75735-75735				Units: mg/Kg		Analysis Date: 9/9/2015 09:54 AM		
Client ID:		Run ID: ICP2_150909A				SeqNo: 3450046		Prep Date: 9/8/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.849	0.25	5	0	97	80-120	0			
Barium	4.806	0.25	5	0	96.1	80-120	0			
Cadmium	4.491	0.50	5	0	89.8	80-120	0			
Chromium	5.087	0.25	5	0	102	80-120	0			
Copper	5.114	0.50	5	0	102	80-120	0			
Lead	4.912	0.25	5	0	98.2	80-120	0			
Nickel	5.178	0.25	5	0	104	80-120	0			
Selenium	5.028	0.50	5	0	101	80-120	0			
Silver	4.809	0.25	5	0	96.2	80-120	0			
Zinc	4.428	0.50	5	0	88.6	80-120	0			

MS		Sample ID: 1509370-03AMS				Units: mg/Kg		Analysis Date: 9/9/2015 10:17 AM		
Client ID:		Run ID: ICP2_150909A				SeqNo: 3450051		Prep Date: 9/8/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	82.86	0.38	7.634	73.21	127	75-125	0			SO
Cadmium	6.914	0.76	7.634	-0.01852	90.8	75-125	0			
Copper	21.31	0.76	7.634	12.8	111	75-125	0			
Nickel	35.87	0.38	7.634	26.27	126	75-125	0			S
Silver	7.853	0.38	7.634	-0.02121	103	75-125	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 1509353
Project: WPX - Cotton Gulch - Pit Closure

QC BATCH REPORT

Batch ID: **75735** Instrument ID **ICP2** Method: **SW846 6010C**

MS					Sample ID: 1509370-03AMS		Units: mg/Kg		Analysis Date: 9/9/2015 11:01 AM		
Client ID:			Run ID: ICP2_150909A			SeqNo: 3450059		Prep Date: 9/8/2015		DF: 5	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	14.09	1.9	7.634	5.673	110	75-125	0				
Chromium	21.81	1.9	7.634	8.864	170	75-125	0			S	
Lead	17.55	1.9	7.634	9.669	103	75-125	0				
Selenium	8.704	3.8	7.634	1.321	96.7	75-125	0				
Zinc	62.11	3.8	7.634	52.5	126	75-125	0			SO	

MSD				Sample ID: 1509370-03AMSD			Units: mg/Kg		Analysis Date: 9/9/2015 10:23 AM		
Client ID:		Run ID: ICP2_150909A			SeqNo: 3450052		Prep Date: 9/8/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Barium	73.08	0.38	7.669	73.21	-1.67	75-125	82.86	12.5	20	SO	
Cadmium	6.872	0.77	7.669	-0.01852	89.9	75-125	6.914	0.61	20		
Copper	20	0.77	7.669	12.8	93.9	75-125	21.31	6.33	20		
Nickel	33.95	0.38	7.669	26.27	100	75-125	35.87	5.49	20		
Silver	7.801	0.38	7.669	-0.02121	102	75-125	7.853	0.654	20		

MSD					Sample ID: 1509370-03AMSD		Units: mg/Kg		Analysis Date: 9/9/2015 11:07 AM		
Client ID:			Run ID: ICP2_150909A			SeqNo: 3450060		Prep Date: 9/8/2015		DF: 5	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	13.23	1.9	7.669	5.673	98.6	75-125	14.09	6.24	20		
Chromium	20.8	1.9	7.669	8.864	156	75-125	21.81	4.78	20	S	
Lead	17.47	1.9	7.669	9.669	102	75-125	17.55	0.463	20		
Selenium	9.202	3.8	7.669	1.321	103	75-125	8.704	5.56	20		
Zinc	59.43	3.8	7.669	52.5	90.3	75-125	62.11	4.42	20	O	

The following samples were analyzed in this batch:

1509353-05A 1509353-06A

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

Client: HRL Compliance Solutions, Inc
Work Order: 1509353
Project: WPX - Cotton Gulch - Pit Closure

QC BATCH REPORT

Batch ID: **75815** Instrument ID **ICP2** Method: **SW846 6010C**

DUP				Sample ID: 1509370-04BDUP				Units: mg/L			Analysis Date: 9/10/2015 12:17 PM			
Client ID:				Run ID: ICP2_150910A				SeqNo: 3452262			Prep Date: 9/10/2015		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Calcium	451.4	5.0	0	0	0	0-0	435.9	3.5						
Magnesium	674.9	2.0	0	0	0	0-0	645.7	4.43						
Sodium	1196	2.0	0	0	0	0-0	1158	3.23						

DUP				Sample ID: 1509370-04BDUP				Units: none			Analysis Date: 9/10/2015			
Client ID:				Run ID: SAR_150910A				SeqNo: 3452516			Prep Date: 9/10/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Sodium Adsorption Ratio	8.325	0.010	0	0	0		8.23	1.15	50					

The following samples were analyzed in this batch:

1509353-01B	1509353-02B	1509353-03B
1509353-04B	1509353-05B	1509353-06B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1509353
Project: WPX - Cotton Gulch - Pit Closure

QC BATCH REPORT

Batch ID: **75707** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKS1-75707-75707				Units: µg/Kg		Analysis Date: 9/6/2015 04:49 PM		
Client ID:		Run ID: SVMS8_150906A				SeqNo: 3447984		Prep Date: 9/5/2015		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(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								
Surr: 2-Fluorobiphenyl	1403	0	1667	0	84.2	12-100	0			
Surr: 4-Terphenyl-d14	1896	0	1667	0	114	25-137	0			
Surr: Nitrobenzene-d5	1489	0	1667	0	89.3	37-107	0			

LCS		Sample ID: SLCSS1-75707-75707				Units: µg/Kg		Analysis Date: 9/6/2015 05:09 PM		
Client ID:		Run ID: SVMS8_150906A				SeqNo: 3447985		Prep Date: 9/5/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	597	6.7	666.7	0	89.5	45-110	0			
Anthracene	715.7	6.7	666.7	0	107	55-105	0			S
Benzo(a)anthracene	724	6.7	666.7	0	109	50-110	0			
Benzo(a)pyrene	794.7	6.7	666.7	0	119	50-110	0			S
Benzo(b)fluoranthene	796.3	6.7	666.7	0	119	45-115	0			S
Benzo(g,h,i)perylene	683.3	6.7	666.7	0	102	40-125	0			
Benzo(k)fluoranthene	767.3	6.7	666.7	0	115	45-115	0			S
Chrysene	688.7	6.7	666.7	0	103	55-110	0			
Dibenzo(a,h)anthracene	695	6.7	666.7	0	104	40-125	0			
Fluoranthene	660	6.7	666.7	0	99	55-115	0			
Fluorene	621.7	6.7	666.7	0	93.2	50-110	0			
Indeno(1,2,3-cd)pyrene	731	6.7	666.7	0	110	40-120	0			
Naphthalene	585.3	6.7	666.7	0	87.8	40-105	0			
Pyrene	873.3	6.7	666.7	0	131	45-125	0			S
Surr: 2-Fluorobiphenyl	1387	0	1667	0	83.2	12-100	0			
Surr: 4-Terphenyl-d14	1938	0	1667	0	116	25-137	0			
Surr: Nitrobenzene-d5	1451	0	1667	0	87	37-107	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 1509353
Project: WPX - Cotton Gulch - Pit Closure

QC BATCH REPORT

Batch ID: **75707** Instrument ID **SVMS8** Method: **SW846 8270D**

MS				Sample ID: 1509353-06A MS			Units: µg/Kg		Analysis Date: 9/6/2015 05:29 PM	
Client ID: West Pit Bottom @ 1ft				Run ID: SVMS8_150906A			SeqNo: 3447986		Prep Date: 9/5/2015	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	436.1	6.6	659.3	0	66.1	45-110	0			
Anthracene	561.7	6.6	659.3	0	85.2	55-105	0			
Benzo(a)anthracene	551.2	6.6	659.3	0	83.6	50-110	0			
Benzo(a)pyrene	624.3	6.6	659.3	0	94.7	50-110	0			
Benzo(b)fluoranthene	643.1	6.6	659.3	0	97.5	45-115	0			
Benzo(g,h,i)perylene	535.3	6.6	659.3	0	81.2	40-125	0			
Benzo(k)fluoranthene	604.6	6.6	659.3	0	91.7	45-115	0			
Chrysene	522.8	6.6	659.3	0	79.3	55-110	0			
Dibenzo(a,h)anthracene	537.3	6.6	659.3	0	81.5	40-125	0			
Fluoranthene	530.4	6.6	659.3	0	80.4	55-115	0			
Fluorene	488.5	6.6	659.3	0	74.1	50-110	0			
Indeno(1,2,3-cd)pyrene	580.5	6.6	659.3	0	88	40-120	0			
Naphthalene	401.2	6.6	659.3	0	60.8	40-105	0			
Pyrene	713.3	6.6	659.3	0	108	45-125	0			
Surr: 2-Fluorobiphenyl	912.4	0	1648	0	55.4	12-100	0			
Surr: 4-Terphenyl-d14	1569	0	1648	0	95.2	25-137	0			
Surr: Nitrobenzene-d5	967.2	0	1648	0	58.7	37-107	0			

MSD				Sample ID: 1509353-06A MSD			Units: µg/Kg		Analysis Date: 9/6/2015 05:48 PM	
Client ID: West Pit Bottom @ 1ft				Run ID: SVMS8_150906A			SeqNo: 3447987		Prep Date: 9/5/2015	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	534.7	6.7	665.1	0	80.4	45-110	436.1	20.3	30	
Anthracene	631.4	6.7	665.1	0	94.9	55-105	561.7	11.7	30	
Benzo(a)anthracene	634.8	6.7	665.1	0	95.4	50-110	551.2	14.1	30	
Benzo(a)pyrene	702.6	6.7	665.1	0	106	50-110	624.3	11.8	30	
Benzo(b)fluoranthene	691	6.7	665.1	0	104	45-115	643.1	7.17	30	
Benzo(g,h,i)perylene	672.3	6.7	665.1	0	101	40-125	535.3	22.7	30	
Benzo(k)fluoranthene	658.4	6.7	665.1	0	99	45-115	604.6	8.52	30	
Chrysene	603.2	6.7	665.1	0	90.7	55-110	522.8	14.3	30	
Dibenzo(a,h)anthracene	661.4	6.7	665.1	0	99.4	40-125	537.3	20.7	30	
Fluoranthene	570.3	6.7	665.1	0	85.7	55-115	530.4	7.24	30	
Fluorene	563.9	6.7	665.1	0	84.8	50-110	488.5	14.3	30	
Indeno(1,2,3-cd)pyrene	707.6	6.7	665.1	0	106	40-120	580.5	19.7	30	
Naphthalene	501.8	6.7	665.1	0	75.4	40-105	401.2	22.3	30	
Pyrene	775.4	6.7	665.1	0	117	45-125	713.3	8.34	30	
Surr: 2-Fluorobiphenyl	1168	0	1663	0	70.2	12-100	912.4	24.5	40	
Surr: 4-Terphenyl-d14	1705	0	1663	0	103	25-137	1569	8.29	40	
Surr: Nitrobenzene-d5	1186	0	1663	0	71.4	37-107	967.2	20.4	40	

The following samples were analyzed in this batch:

1509353-01A	1509353-02A	1509353-03A
1509353-04A	1509353-05A	1509353-06A

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

Client: HRL Compliance Solutions, Inc
Work Order: 1509353
Project: WPX - Cotton Gulch - Pit Closure

QC BATCH REPORT

Batch ID: **75733** Instrument ID **VMS7** Method: **SW8260B**

MBLK				Sample ID: MBLK-75733-75733				Units: µg/Kg			Analysis Date: 9/8/2015 12:29 PM			
Client ID:				Run ID: VMS7_150908A				SeqNo: 3448435			Prep Date: 9/8/2015		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	1020	0	1000	0	102	70-130		0						
Surr: 4-Bromofluorobenzene	992.5	0	1000	0	99.2	70-130		0						
Surr: Dibromofluoromethane	983.5	0	1000	0	98.4	70-130		0						
Surr: Toluene-d8	988	0	1000	0	98.8	70-130		0						

LCS				Sample ID: LCS-75733-75733			Units: µg/Kg		Analysis Date: 9/8/2015 10:47 AM		
Client ID:		Run ID: VMS7_150908A			SeqNo: 3448434		Prep Date: 9/8/2015		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	0				
Ethylbenzene	1087	30	1000	0	109	75-125	0				
m,p-Xylene	2202	60	2000	0	110	80-125	0				
o-Xylene	1062	30	1000	0	106	75-125	0				
Toluene	1108	30	1000	0	111	70-125	0				
Xylenes, Total	3263	90	3000	0	109	75-125	0				
Surr: 1,2-Dichloroethane-d4	995.5	0	1000	0	99.6	70-130	0				
Surr: 4-Bromofluorobenzene	1018	0	1000	0	102	70-130	0				
Surr: Dibromofluoromethane	1018	0	1000	0	102	70-130	0				
Surr: Toluene-d8	995	0	1000	0	99.5	70-130	0				

MS				Sample ID: 1509370-01A MS				Units: µg/Kg		Analysis Date: 9/8/2015 09:37 PM	
Client ID:			Run ID: VMS9_150908A			SeqNo: 3449177		Prep Date: 9/8/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1010	30	1000	0	101	75-125	0				
Ethylbenzene	921	30	1000	0	92.1	75-125	0				
m,p-Xylene	1914	60	2000	0	95.7	80-125	0				
o-Xylene	922	30	1000	0	92.2	75-125	0				
Toluene	971.5	30	1000	0	97.2	70-125	0				
Xylenes, Total	2836	90	3000	0	94.5	75-125	0				
Surr: 1,2-Dichloroethane-d4	962.5	0	1000	0	96.2	70-130	0				
Surr: 4-Bromofluorobenzene	1060	0	1000	0	106	70-130	0				
Surr: Dibromofluoromethane	1032	0	1000	0	103	70-130	0				
Surr: Toluene-d8	968	0	1000	0	96.8	70-130	0				

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

Client: HRL Compliance Solutions, Inc
Work Order: 1509353
Project: WPX - Cotton Gulch - Pit Closure

QC BATCH REPORT

Batch ID: **75733** Instrument ID **VMS7** Method: **SW8260B**

MSD				Sample ID: 1509370-01A MSD			Units: µg/Kg		Analysis Date: 9/8/2015 10:02 PM		
Client ID:		Run ID: VMS9_150908A			SeqNo: 3449180		Prep Date: 9/8/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1052	30	1000	0	105	75-125	1010	4.17	30		
Ethylbenzene	953	30	1000	0	95.3	75-125	921	3.42	30		
m,p-Xylene	1961	60	2000	0	98	80-125	1914	2.45	30		
o-Xylene	938.5	30	1000	0	93.8	75-125	922	1.77	30		
Toluene	1008	30	1000	0	101	70-125	971.5	3.69	30		
Xylenes, Total	2900	90	3000	0	96.6	75-125	2836	2.23	30		
Surr: 1,2-Dichloroethane-d4	970.5	0	1000	0	97	70-130	962.5	0.828	30		
Surr: 4-Bromofluorobenzene	1061	0	1000	0	106	70-130	1060	0.0943	30		
Surr: Dibromofluoromethane	969	0	1000	0	96.9	70-130	1032	6.35	30		
Surr: Toluene-d8	970.5	0	1000	0	97	70-130	968	0.258	30		

The following samples were analyzed in this batch:

1509353-01A	1509353-02A	1509353-03A
1509353-04A	1509353-05A	1509353-06A

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

Client: HRL Compliance Solutions, Inc
Work Order: 1509353
Project: WPX - Cotton Gulch - Pit Closure

QC BATCH REPORT

Batch ID: **75768** Instrument ID **WETCHEM** Method: **SW9045D**

LCS		Sample ID: LCS-75768-75768				Units: s.u.		Analysis Date: 9/8/2015 01:00 PM		
Client ID:		Run ID: WETCHEM_150908D				SeqNo: 3448283		Prep Date: 9/8/2015		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: 1509238-01A DUP				Units: s.u.			Analysis Date: 9/8/2015 01:00 PM			
Client ID:				Run ID: WETCHEM_150908D				SeqNo: 3448285			Prep Date: 9/8/2015		DF: 1	
Analyte				Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

pH 6.35 0 0 0 0 0-0 6.31 0.632 20

DUP		Sample ID: 1509371-01B DUP					Units: s.u.		Analysis Date: 9/8/2015 01:00 PM		
Client ID:			Run ID: WETCHEM_150908D			SeqNo: 3448302		Prep Date: 9/8/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH 8.41 0 0 0 0 0-0 8.26 1.8 20

The following samples were analyzed in this batch:

1509353-01A	1509353-02A	1509353-03A
1509353-04A	1509353-05A	1509353-06A

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

Client: HRL Compliance Solutions, Inc
Work Order: 1509353
Project: WPX - Cotton Gulch - Pit Closure

QC BATCH REPORT

Batch ID: **75815** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

DUP				Sample ID: 1509370-04B DUP				Units: mmhos/cm @25°			Analysis Date: 9/10/2015 11:30 AM			
Client ID:				Run ID: WETCHEM_150910G				SeqNo: 3451992			Prep Date: 9/10/2015		DF: 10	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Electrical Conductivity @ Saturation		12.91	0.050	0	0	0		12.25	5.25	50				

The following samples were analyzed in this batch:

1509353-01B	1509353-02B	1509353-03B
1509353-04B	1509353-05B	1509353-06B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1509353
Project: WPX - Cotton Gulch - Pit Closure

QC BATCH REPORT

Batch ID: **75842** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK		Sample ID: MBLK-75842-75842				Units: mg/Kg		Analysis Date: 9/9/2015 10:30 AM		
Client ID:		Run ID: WETCHEM_150909H				SeqNo: 3450424		Prep Date: 9/6/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 1.0

LCS		Sample ID: LCS-75842-75842				Units: mg/Kg		Analysis Date: 9/9/2015 10:30 AM		
Client ID:		Run ID: WETCHEM_150909H				SeqNo: 3450423		Prep Date: 9/6/2015		DF: 1
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

MS		Sample ID: 1509353-06A MS				Units: mg/Kg		Analysis Date: 9/9/2015 10:30 AM		
Client ID: West Pit Bottom @ 1ft		Run ID: WETCHEM_150909H				SeqNo: 3450419		Prep Date: 9/6/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.68 1.0 5 0.4245 85.1 75-125 0

MS		Sample ID: 1509353-06A MSI				Units: mg/Kg		Analysis Date: 9/9/2015 10:30 AM		
Client ID: West Pit Bottom @ 1ft		Run ID: WETCHEM_150909H				SeqNo: 3450421		Prep Date: 9/6/2015		DF: 100
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 2409 98 2492 0.4245 96.6 75-125 0

MSD		Sample ID: 1509353-06A MSD				Units: mg/Kg		Analysis Date: 9/9/2015 10:30 AM		
Client ID: West Pit Bottom @ 1ft		Run ID: WETCHEM_150909H				SeqNo: 3450420		Prep Date: 9/6/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.179 0.94 4.717 0.4245 79.6 75-125 4.68 11.3 20

The following samples were analyzed in this batch:

1509353-05A 1509353-06A

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

Client: HRL Compliance Solutions, Inc
Work Order: 1509353
Project: WPX - Cotton Gulch - Pit Closure

QC BATCH REPORT

Batch ID: **R171226** Instrument ID **MOIST** Method: **E160.3M**

MBLK		Sample ID: WBLKS-R171226					Units: % of sample		Analysis Date: 9/8/2015 05:30 PM		
Client ID:			Run ID: MOIST_150908B			SeqNo: 3449715		Prep Date:		DF: 1	
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-R171226				Units: % of sample		Analysis Date: 9/8/2015 05:30 PM		
Client ID:		Run ID: MOIST_150908B				SeqNo: 3449714		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

DUP				Sample ID: 1509353-01A DUP				Units: % of sample			Analysis Date: 9/8/2015 05:30 PM			
Client ID: North Wall @ 1ft				Run ID: MOIST_150908B				SeqNo: 3449695			Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

Moisture 15.12 0.050 0 0 0 15.59 3.06 20

DUP		Sample ID: 1509368-01A DUP				Units: % of sample		Analysis Date: 9/8/2015 05:30 PM		
Client ID:		Run ID: MOIST_150908B			SeqNo: 3449704		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 13.68 0.050 0 0 0 13.84 1.16 20

The following samples were analyzed in this batch:

1509353-01A	1509353-02A	1509353-03A
1509353-04A	1509353-05A	1509353-06A

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 202a

WORKORDER #

1509353

PAGE

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DISPOSAL

By Lab or Return to Client

PROJECT NAME		WPX Energy - Cottonwood Gulch - Pit Closure		SAMPLER		Jordan Carlo		DATE		9/3/2015		TURNAROUND		24hr RUSH	
PROJECT No.				SITE ID		Cottonwood Gulch Frac Pit		910-1 Metals*		Semi Vols* - PAH		SAR / EC / pH			
COMPANY NAME		HRL Compliance Solutions, Inc.		EDD FORMAT				GRO		BTEX					
SEND REPORT TO		HRL - Kris Rowe, Jordan Carlo - Karolina Blaney		PURCHASE ORDER				DRO							
ADDRESS		2385 F 1/2 Road		BILL TO COMPANY		WPX Energy									
CITY / STATE / ZIP		Grand Junction, CO, 81505		INVOICE ATTN TO		Karolina Blaney									
PHONE		970-243-3271		ADDRESS		1058 CR 215									
FAX		970-243-3280		CITY / STATE / ZIP		Parachute, CO 81650									
E-MAIL		krowe@hrlcomp.com, jcarlo@hrlcomp.com, karolina.blaney@wpxenergy.com		PHONE		970-683-2295									
				E-MAIL		karolina.blaney@wpxenergy.com									

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	DRO	GRO	BTEX	910-1 Metals*	Semi Vols* - PAH	SAR / EC / pH
1	North Wall @ 1ft	S	9/1/2015	1:56	2	8		X	X	X		X	X
2	East Wall @ 1ft	S	9/1/2015	1:40	2	8		X	X	X		X	X
3	South Wall @ 1ft	S	9/1/2015	2:22	2	8		X	X	X		X	X
4	West Wall @ 1ft	S	9/1/2015	2:16	2	8		X	X	X		X	X
5	East Pit Bottom @ 1ft	S	9/1/2015	1:48	2	8		X	X	X	X	X	X
6	West Pit Bottom @ 1ft	S	9/1/2015	2:05	2	8		X	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)
See attached Analytical Table (COGCC Table 910-1)	LEVEL II (Standard QC)
24hr RUSH	LEVEL III (Std QC + forms)
Cooler Temp = 1-2°C / 1.2°C	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>Jordan Carlo</i>	Jordan Carlo	9/3/2015	15:45
RECEIVED BY	<i>N. J. R.</i>	N. J. R.	9-3-15	1545
RELINQUISHED BY	<i>Jeff Blaney</i>	Jeff Blaney	9-3-15	1555
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