

FORM  
**27**  
Rev 6/99

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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

**RECEIVED**  
**6/16/2014**

**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): Production Pit Closure

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: N/A

County: Garfield

Facility Name: TR 44-35-597 Pit

Facility Number: 277096

Well Name: N/A

Well Number: N/A

Location: (QtrQtr, Sec, Twp, Rng, Meridian): SESE, S35, T5S, R97W, 6th PM Latitude: 39.564506 Longitude: -108.238411

**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.): Non-crop land, rangeland

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Parachute-Irigul complex 5 to 30 percent slopes, Parachute-Irigul-Rhone association 25 to 30 percent slopes

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Willow Creek lies approximately 1,005 ft to the east.

An unnamed tributary to Crystal Creek lies approximately 1,350 ft to the southwest.

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

Impacted Media (check):



Soils



Vegetation



Groundwater



Surface Water

Extent of Impact:

Please see the attached Notice of Completion Report for Remediation #5259

How Determined:

Visual observations, field screening, and analytical analysis

**REMEDIATION WORKPLAN**

Describe initial action taken (if previously provided, refer to that form or document):

See attached Notice of Completion Report for Remediation #5259

Describe how source is to be removed:

See attached Notice of Completion Report for Remediation #5259.

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 Report for Remediation #5259





**REMEDIATION WORKPLAN (Cont.)**

OGCC Employee:

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

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

See attached Notice of Completion Report for remediation #5259

**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 Report for remediation #5259

**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 Report for remediation #5259

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

See attached Notice of Completion Report for remediation #5259

**IMPLEMENTATION SCHEDULE**

Date Site Investigation Began: 7/26/2013 Date Site Investigation Completed: 7/26/2013 Date Remediation Plan Submitted: 9/27/2013  
Remediation Start Date: 7/26/2013 Anticipated Completion Date: Spring 2014 Actual Completion Date: TBD

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: 12/26/2013

OGCC Approved: Stanley C. Spencer Title: EPS Northwest Date: 6/17/14



**WPX ENERGY ROCKY MOUNTAIN LLC  
TRAIL RIDGE FIELD  
NOTICE OF COMPLETION REPORT FOR  
TR 44-35-597 PRODUCTION PIT  
REMEDATION # 5259**

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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## **Introduction**

The purpose of this Notice of Completion report – for the closure of the TR 44-35-597 Production Pit (COGCC Facility ID number 277096; hereinafter referred to as TR 44-35-597) – is to provide detailed information and result analysis for the previously submitted and approved remediation number 5259, 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 delivered via electronic email on September 27, 2010. 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 September 28, 2010; at which time the aforementioned remediation number was issued. Closure activities began on July 26, 2013 and were concluded on November 18, 2013. Information included in this report includes but is not limited to; field screening results, laboratory analytical, sub liner soil investigation, soil treatment, and liner recycling.

## **Evacuation of Pit Contents**

Produced water and free liquids were removed from the pit utilizing a vacuum truck. Once the liquids were removed from the pit, the residual pit contents remaining on the liner were removed using a pressure washer. All liquids were suctioned off via vacuum truck and hauled to an approved disposal/evaporation facility.

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

The pit liner consisted of a two layer system. These layers included: a 12mm poly synthetic material, and a felt fabric. No rips or holes were observed in the primary liner during the pit liner investigation conducted on July 26, 2013.

## **Pit Liner Removal**

Once the pit liner was cleaned of residual pit contents, the entire liner system was removed from the pit. A track hoe was utilized to pull the liner off the ground surface and out of the pit. The liner material was moved to an earthen bermed containment cell where it was compacted, bailed and processed for transport to a recycling center.

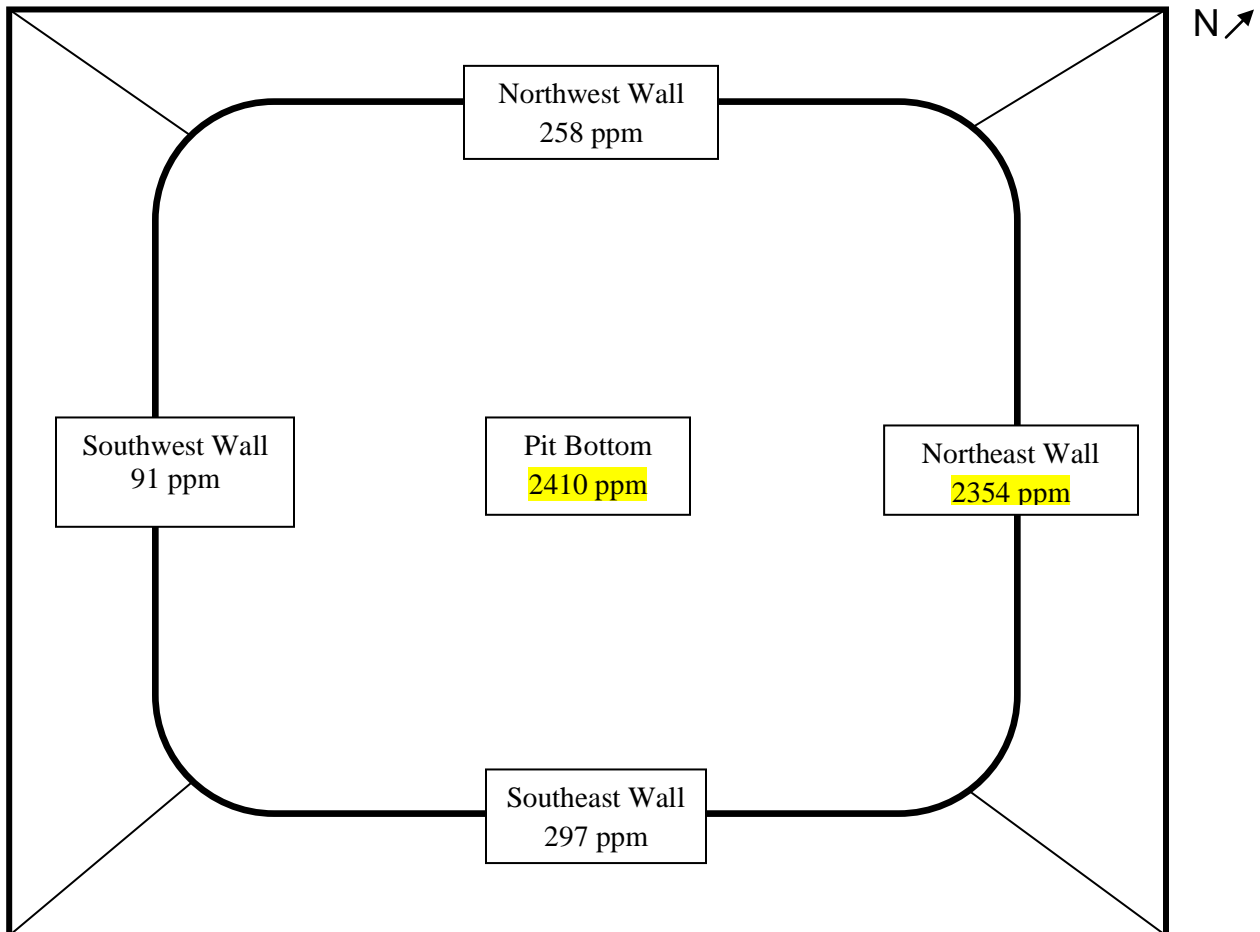
## **Evaluation of Pit Sub-Soils**

After the liner was removed, the pit sub-soils were evaluated for evidence of contamination. In doing so, the pit was divided into a five zones in order to create a composite characterization of the pit as a whole by investigating individual zones. The five zones were named by their directional relationship to the pit bottom and are defined in Figure 1.



For each zone, soils were visually inspected for impacts and field screened using a PetroFlag Hydrocarbon Detection Unit (PetroFlag) in order to identify any areas of impact. In addition, special consideration was paid to areas where holes/tears were observed through a more detailed investigation process utilizing the PetroFlag field screening instrument. Figure 1 outlines the initial sub soil evaluation and field screening results.

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





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

Sample ID	Result (0-6")
Northwest Wall	258
Southwest Wall	91
Northeast Wall	2354
Southeast Wall	297
Pit Bottom	2410

Note: All results are in mg/kg

Highlighted numbers indicate areas that warranted additional inspection and analysis

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

### **Remediation Activities**

Pit excavation activities began on August 2, 2013. A track hoe was utilized to excavate the contaminated soil from within the pit. The excavated material was transferred to an onsite bermed containment cell for treatment.

The track hoe excavated the pit bottom in order to delineate the extent of the impacted soil. Black stained sandy silt was observed from the pit bottom to a depth of three (3) feet below the original pit bottom surface. Below said depth, brown, dry fractured bedrock and sand were observed with no visual indication of hydrocarbon impacts. Field screen readings were collected from the pit bottom at this depth of three feet below the original pit bottom surface. Results from the Petroflag® field screen device indicated that the hydrocarbon concentrations were below the 500 mg/kg COGCC Table 910-1 threshold.



Impacted soil from the northeast wall was excavated down approximately two and a half (2.5) feet from the original pit wall dimensions. At said depth, the soil was dry, brown and had no visual impacts. Field screen results were below the threshold criteria outlined by COGCC Table 910-1. All impacted soil was stockpiled within the onsite bermed containment cell.

Initial analytical results from the southeast wall were above the COGCC Table 910-1 threshold. Continued excavation of impacted soil was conducted on the southeast wall to a depth of approximately eight (8) feet from the original dimension of the pit wall. At this depth, field screen readings were below the 500 mg/kg COGCC Table 910-1 threshold.

Based on visual and field screening results, all impacted soils had been sufficiently removed and no additional excavation was required. Field screening tests were conducted utilizing the Petroflag® instrument with results indicating hydrocarbon concentrations below the 500 mg/kg threshold. In total, approximately three (3) vertical feet of impacted soil was removed from the pit bottom, eight (8) lateral feet from the southeast wall, two and a half (2.5) lateral feet from the northeast wall and less than one (1) foot lateral from the remaining northwest, and southwest walls. The excavated soils were transferred to a bermed containment for later onsite treatment. Confirmation samples were collected and analyzed for 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; as well as verification of field screening analysis. One additional grab sample was collected from the base of the pit at the lowest point and was analyzed for the 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 #01175818).

### **Sample Analysis**

Sampling was performed in accordance with WPX Pit Closure Plan, Phase IV, Task 2. See attached Table 2 for summary of excavation analytical results. Additional detailed analytical is 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 is currently stockpiled northwest corner of the pit near the backside of the well pad.

- 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 support 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.

### **Stockpiled soils management**

Impacted soil removed from the pit bottom and side walls were treated using techniques that have been proven to be environmentally safe and efficient at reducing hydrocarbon concentrations by enhancing the degradation of hydrocarbon molecules by indigenous bacteria. These indigenous bacteria were stimulated by addition of water, nutrients, and oxygen. Impacted soils were remediated in 3 batches consisting of four to six active treatment cells. The soil samples were collected from the middle of 2 to 3 random treatment cells of each batch and analyzed for constituents listed in COGCC Table 910-1. Analytical presented in Table 4 indicated that soils are below hydrocarbon standards outlined in COGCC Table 910-1. These soils will be used as additional backfill material once approval from the COGCC has been obtained.

### **Background Sampling**

Three grab samples were collected from the undisturbed soil surrounding the pad to establish cleanup concentrations for arsenic. All three samples were analyzed for arsenic, as well as an additional analysis (SAR) at one location which included inorganic parameters listed in COGCC Table 910-1. Refer to Table 3 and Appendix 2 for background sampling results.

### **Analytical Data Results and Management**

All samples collected from the pit bottom, pit walls, and the excavated material, tested below the COGCC Table 910-1 and the footnote 1 to the Table 910-1 with exception of the inorganics. Therefore, in accordance with COGCC guideline Q32 regarding inorganics, the TR 44-35-597 pit area will be covered with 3' of clean soil in order to account for this exceedance.

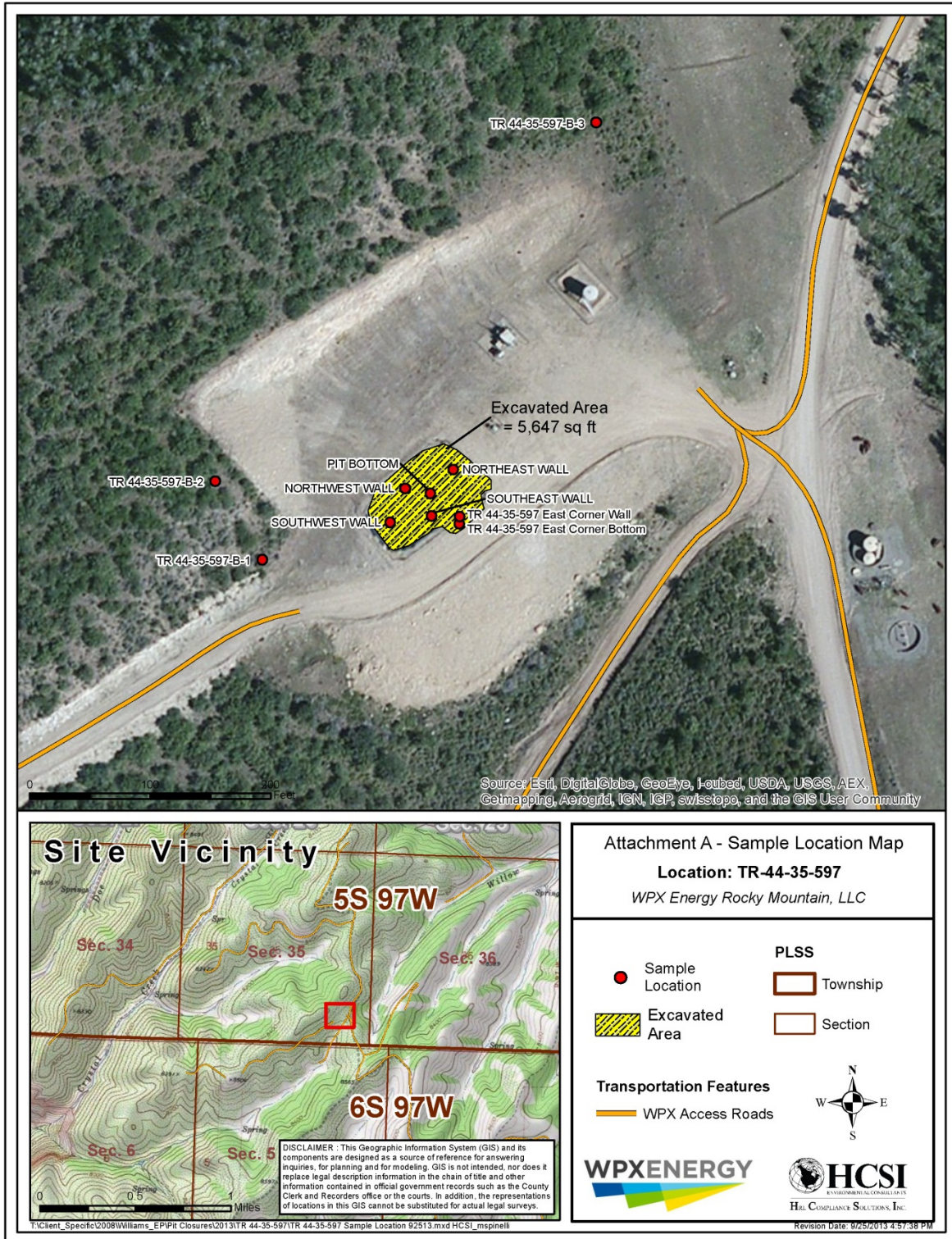
Refer to Appendix 1 for the raw analytical analysis for samples collected along the pit bottom and side walls. Table 2 includes all analytical results of samples collected within the pit, highlighting areas exceeding COGCC Table 910-1 concentrations. Appendix 2 includes the background samples raw analytical results and Table 3 has all background analytical results. Refer to Appendix 3 for the raw analytical results for the samples collected from the landfarms. Table 4 includes all analytical results collected from the landfarm highlighting areas exceeding COGCC Table 910-1 concentrations.



## FIGURES



**FIGURE 2: GIS MAP OF THE SAMPLE LOCATIONS**





**FIGURE 3:**



Visual representation of the impacted soils on pit bottom and pit walls prior to excavation



**FIGURE 4:**



Visual representation of the soils on pit bottom and pit walls post excavation



## TABLES



**TABLE 2: CONFIRMATION ANALYTICAL RESULTS. PIT BOTTOM AND PIT WALLS.**

**POST EXCAVATION PIT BOTTOM AND WALLS CONFIRMATION ANALYTICAL RESULTS. 8/6/13**

COGCC TABLE 910-1	SAMPLE LOCATIONS				
	NORTHEAST WALL	NORTHWEST WALL	SOUTHEAST WALL	SOUTHWEST WALL	PIT BOTTOM
TEPH (DRO)	21	38	1,900	21	27
TVPH (GRO)	38	ND	260	ND	ND
BENZENE	ND	ND	ND	ND	ND
TOLUENE	ND	ND	ND	ND	ND
ETHYLBENZENE	ND	ND	ND	ND	ND
XYLENE TOTAL	ND	ND	ND	ND	ND
ACENAPHTHENE	ND	ND	ND	ND	ND
ACENAPHTHYLENE	ND	ND	ND	ND	ND
ANTHRACENE	ND	ND	0.075	ND	ND
BENZO(A)ANTHRACENE	ND	ND	ND	0.044	ND
BENZO(A)PYRENE	ND	ND	ND	0.078	ND
BENZO(B)FLUORANTHENE	ND	ND	ND	0.072	ND
BENZO(G,H,I)PERYLEN	ND	ND	ND	0.038	ND
BENZO(K)FLUORANTHENE	ND	ND	ND	0.042	ND
CHRYSENE (mg/kg)	ND	ND	ND	0.02	ND
DIBENZO(A,H)ANTHRACENE	ND	ND	ND	0.025	ND
FLUORANTHENE	ND	0.042	0.044	0.072	ND
FLUORENE	ND	ND	0.30	ND	ND
INDENO(1,2,3-CD)PYRENE	ND	ND	ND	0.049	ND
1-METHYLNAPHTHALENE	NS	NS	NS	NS	NS
2-METHYLNAPHTHALENE	NS	NS	NS	NS	NS
NAPHTHALENE	ND	ND	ND	ND	ND
PHENANTHRENE	NS	NS	NS	NS	NS
PYRENE	ND	0.027	0.03	0.054	ND
ARSENIC	NS	NS	NS	NS	6.5
BARIUM	NS	NS	NS	NS	530
CADMIUM	NS	NS	NS	NS	ND
CHROMIUM	NS	NS	NS	NS	69
CHROMIUM (III)	NS	NS	NS	NS	69
CHROMIUM (IV)	NS	NS	NS	NS	ND
COPPER	NS	NS	NS	NS	19
LEAD	NS	NS	NS	NS	17
MERCURY	NS	NS	NS	NS	0.022
NICKEL	NS	NS	NS	NS	29
SELENIUM	NS	NS	NS	NS	ND
SILVER	NS	NS	NS	NS	ND
ZINC	NS	NS	NS	NS	53
SAR (unitless)	NS	NS	NS	NS	1.9
EC (mmhos/cm)	NS	NS	NS	NS	6.8
pH	NS	NS	NS	NS	7.1

All results in mg/kg unless noted

Readings above state limits are highlighted in yellow

ND = Non Detect

NS = Not Sampled



# **ADDITIONAL EXCAVATION. PIT WALL CONFIRMATION RESULTS: SOUTHWEST WALL 9/20/13**

ANALYTE	SAMPLE LOCATION
	SOUTHWEST WALL
BENZON(A)PYRENE	ND
DIBENZO(A,H)ANTHRACENE	ND

All results in mg/kg

ND = Non Detect

# **ADDITIONAL EXCAVATION. PIT WALL CONFIRMATION RESULTS: SOUTHEAST WALL 10/16/13**

COGCC TABLE 910-1	SAMPLE ID	
	SOUTHEAST WALL	SOUTHEAST BOTTOM
TEPH (DRO)	36	18
TVPH (GRO)	18	ND
BENZENE	ND	ND
TOLUENE	ND	ND
ETHYLBENZENE	ND	ND
XYLENE TOTAL	0.56	ND
ACENAPHTHENE	ND	ND
ACENAPHTHYLENE	ND	0.058
ANTHRACENE	ND	0.064
BENZO(A)ANTHRACENE	ND	0.11
BENZO(A)PYRENE	ND	0.15
BENZO(B)FLUORANTHENE	ND	0.11
BENZO(G,H,I)PERYLEN	ND	0.097
BENZO(K)FLUORANTHENE	ND	0.056
CHRYSENE	ND	0.069
DIBENZO(A,H)ANTHRACENE	ND	ND
FLUORANTHENE	ND	0.15
FLUORENE	ND	ND
INDENO(1,2,3-CD)PYRENE	ND	0.14
1-METHYLNAPHTHALENE	NS	NS
2-METHYLNAPHTHALENE	NS	NS
NAPHTHALENE	ND	0.022
PHENANTHRENE	NS	NS
PYRENE	ND	0.13
ARSENIC	8.1	6.7
BARIUM	510	630
CADMIUM	ND	ND
CHROMIUM	82	68
CHROMIUM (III)	82	69
CHROMIUM (IV)	ND	ND
COPPER	14	15
LEAD	13	13
MERCURY	0.045	0.036
NICKEL	30	34
SELENIUM	ND	ND
SILVER	ND	ND
ZINC	52	52
SAR (unitless)	27	38
EC (mmhos/cm)	2.3	3.4
pH	8.7	9.1

All results in mg/kg unless noted

Readings above state limits are highlighted in yellow

ND = Non Detect

NS = Not Sampled



# **ADDITIONAL EXCAVATION PIT WALL CONFIRMATION RESULTS: SOUTHEAST WALL 11/4/13**

ANALYTE	SAMPLE LOCATION
	SOUTHEAST BOTTOM
<b>BENZO(A)PYRENE</b>	ND

All results in mg/kg

ND = Non Detect

**TABLE 3: BACKGROUND ANALYTICAL RESULTS**

ANALYTE	SAMPLE LOCATION		
	TR 44-35-597-B-1	TR 44-35-597-B-2	TR 44-35-597-B-3
<b>ARSENIC (mg/kg)</b>	4.6	5.0	5.9
<b>SAR (unitless)</b>	NS	NS	0.12
<b>EC (mmho/cm)</b>	NS	NS	0.64
<b>pH</b>	NS	NS	6.4

Results above state limits are highlighted in yellow.

NS = Not sampled



**TABLE 4: LANDFARM ANALYTICAL RESULTS: 9/17/13**

COGCC TABLE 910-1	SAMPLE LOCATION				
	Batch 1		Batch 2		
	TREATMENT CELL 1/4	TREATMENT CELL 3/4	TREATMENT CELL 2/6	TREATMENT CELL 3/6	TREATMENT CELL 5/6
TEPH (DRO)	200	250	93	200	180
TVPH (GRO)	27	14	36	ND	ND
BENZENE	ND	ND	ND	ND	ND
TOLUENE	ND	ND	ND	ND	ND
ETHYLBENZENE	ND	ND	ND	ND	ND
XYLENE TOTAL	ND	ND	ND	ND	ND
ACENAPHTHENE	ND	ND	ND	ND	ND
ACENAPHTHYLENE	ND	ND	ND	ND	ND
ANTHRACENE	0.038	0.041	ND	0.039	0.054
BENZO(A)ANTHRACENE	0.036	0.036	0.04	0.037	0.052
BENZO(A)PYRENE	ND	ND	ND	ND	0.078
BENZO(B)FLUORANTHENE	ND	ND	0.05	0.048	0.058
BENZO(G,H,I)PERYLEN	ND	ND	ND	ND	0.052
BENZO(K)FLUORANTHENE	ND	ND	0.036	0.034	0.039
CHRYSENE	ND	ND	ND	ND	0.022
DIBENZO(A,H)ANTHRACENE	ND	ND	ND	ND	ND
FLUORANTHENE	ND	0.039	0.047	0.043	0.074
FLUORENE	ND	ND	ND	ND	ND
INDENO(1,2,3-CD)PYRENE	ND	ND	ND	ND	0.045
1-METHYLNAPHTHALENE	ND	ND	ND	ND	ND
2-METHYLNAPHTHALENE	ND	ND	ND	ND	ND
NAPHTHALENE	ND	ND	ND	ND	ND
PHENANTHRENE	ND	ND	ND	ND	ND
PYRENE	0.036	0.035	0.042	0.041	0.085
ARSENIC	6.1	6.4	6.1	5.9	6.8
BARIUM	490	540	490	510	490
CADMIUM	ND	ND	ND	ND	ND
CHROMIUM	69	73	72	74	75
CHROMIUM (III)	69	73	72	74	75
CHROMIUM (IV)	ND	ND	ND	ND	ND
COPPER	12	13	12	13	12
LEAD	13	13	13	14	13
MERCURY	0.018	0.017	0.021	0.024	0.02
NICKEL	30	31	29	31	32
SELENIUM	ND	ND	ND	ND	ND
SILVER	ND	ND	ND	ND	ND
ZINC	48	49	48	51	47
SAR (unitless)	16	12	18	28	26
EC (mmhos/cm)	2.6	2.2	4.4	4.2	6.0
pH (unitless)	8.4	8.4	8.3	8.2	8.5

All results in mg/kg unless noted

Readings above state limits are highlighted in yellow

ND = Non Detect

NS = Not Sampled

**LANDFARM ANALYTICAL RESULTS: 11/4/13**

ANALYTE	SAMPLE LOCATION		
	Batch 2		
	LANDFARM 1/6	LANDFARM 3/6	LANDFARM 5/6
BENZON(A)PYRENE	0.047	ND	ND

All results in mg/kg unless noted

Readings above state limits are highlighted in yellow

ND = Non Detect



# LANDFARM ANALYTICAL RESULTS: 11/18/13

ANALYTE	SAMPLE LOCATION		
	Batch 2		
	LANDFARM 2/6	LANDFARM 4/6	LANDFARM 5/6
BENZON(A)PYRENE	ND	ND	ND

All results in mg/kg unless noted

Readings above state limits are highlighted in yellow

ND = Non Detect

COGCC TABLE 910-1	SAMPLE LOCATION		
	Batch 3		
	TREATMENT CELL 3/6	TREATMENT CELL 1/6	TREATMENT CELL 6/6
TEPH (DRO)	410	250	320
TVPH (GRO)	46	35	17
BENZENE	ND	ND	ND
TOLUENE	ND	ND	ND
ETHYLBENZENE	ND	ND	ND
XYLENE TOTAL	ND	ND	ND
ACENAPHTHENE	ND	ND	ND
ACENAPHTHYLENE	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)PERYLENE	ND	ND	ND
BENZO(K)FLUORANTHENE	ND	ND	ND
CHRYSENE	ND	ND	ND
DIBENZO(A,H)ANTHRACENE	ND	ND	ND
FLUORANTHENE	ND	ND	ND
FLUORENE	0.067	0.023	0.040
INDENO(1,2,3-CD)PYRENE	ND	ND	ND
1-METHYLNAPHTHALENE	NS	NS	NS
2-METHYLNAPHTHALENE	NS	NS	NS
NAPHTHALENE	ND	ND	ND
PHENANTHRENE	NS	NS	NS
PYRENE	ND	ND	ND
ARSENIC	7.6	6.7	7.3
BARIUM	620	520	520
CADMIUM	ND	ND	ND
CHROMIUM	100	80	82
CHROMIUM (III)	100	80	82
CHROMIUM (IV)	ND	ND	ND
COPPER	17	14	14
LEAD	17	13	14
MERCURY	0.025	0.020	0.021
NICKEL	40	33	34
SELENIUM	ND	ND	ND
SILVER	ND	ND	ND
ZINC	66	52	53
SAR (unitless)	20	19	20
EC (mmhos/cm)	3.4	3.2	3.6
pH (unitless)	7.8	7.9	8.0

All results in mg/kg unless noted

Readings above state limits are highlighted in yellow

ND = Non Detect

NS = Not Sampled



## **APPENDICES**



## **APPENDIX 1: PIT BOTTOM AND WALL SAMPLING RAW ANALYTICAL RESULTS**





14-Aug-2013

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

Re: **WPX TR 44-35-597 Pit Closure 8/6/13**

Work Order: **1308257**

Dear Mark,

ALS Environmental received 8 samples on 07-Aug-2013 09:30 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 31.

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

Sincerely,

A handwritten signature in cursive script that reads "Ann Preston".

Electronically approved by: Ann Preston

Ann Preston  
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

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**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13  
**Work Order:** 1308257

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**Work Order Sample Summary**

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<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1308257-01	Pit Bottom	Soil		8/6/2013 11:45	8/7/2013 09:30	<input type="checkbox"/>
1308257-02	Northeast Wall	Soil		8/6/2013 11:00	8/7/2013 09:30	<input type="checkbox"/>
1308257-03	Northwest Wall	Soil		8/6/2013 11:30	8/7/2013 09:30	<input type="checkbox"/>
1308257-04	Southeast Wall	Soil		8/6/2013 11:10	8/7/2013 09:30	<input type="checkbox"/>
1308257-05	Southwest Wall	Soil		8/6/2013 11:20	8/7/2013 09:30	<input type="checkbox"/>
1308257-06	TR 44-35-597-B-1	Soil		8/6/2013 12:00	8/7/2013 09:30	<input type="checkbox"/>
1308257-07	TR 44-35-597-B-2	Soil		8/6/2013 12:10	8/7/2013 09:30	<input type="checkbox"/>
1308257-08	TR 44-35-597-B-3	Soil		8/6/2013 12:15	8/7/2013 09:30	<input type="checkbox"/>

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**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13  
**Work Order:** 1308257

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**Case Narrative**

Batch 50391 MS/MSD data for Metals is not related to this project's samples. No data requires qualification.

Batch 50419 sample 1308257-04 DRO surrogate recovery was high due to matrix interference. The corresponding result in the parent sample should be considered estimated for DRO.



**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13  
**WorkOrder:** 1308257

**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

<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
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

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



# ALS Group USA, Corp

Date: 14-Aug-13

Client: HRL Compliance Solutions

Project: WPX TR 44-35-597 Pit Closure 8/6/13

Sample ID: Pit Bottom

Collection Date: 8/6/2013 11:45 AM

Work Order: 1308257

Lab ID: 1308257-01

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
<b>DRO (C10-C28)</b>	<b>27</b>		<b>SW8015M</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RD</b>
			<b>4.9</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/13/2013 04:22 AM
Surr: 4-Terphenyl-d14	69.7		39-115	%REC	1	8/13/2013 04:22 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>SW8015</b>		Prep Date: <b>8/7/2013</b>	Analyst: <b>RD</b>
			<b>3.0</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/7/2013 04:38 PM
Surr: Toluene-d8	113		50-150	%REC	1	8/7/2013 04:38 PM
<b>MERCURY BY CVAA</b>						
<b>Mercury</b>	<b>0.022</b>		<b>SW7471</b>		Prep Date: <b>8/13/2013</b>	Analyst: <b>LR</b>
			<b>0.018</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/13/2013 03:54 PM
<b>METALS BY ICP-MS</b>						
<b>Arsenic</b>	<b>6.5</b>		<b>SW6020A</b>		Prep Date: <b>8/8/2013</b>	Analyst: <b>ML</b>
			<b>2.3</b>	<b>mg/Kg-dry</b>	<b>5</b>	8/9/2013 02:56 AM
<b>Barium</b>	<b>530</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	<b>5</b>	8/9/2013 02:56 AM
Cadmium	ND		0.91	mg/Kg-dry	5	8/9/2013 02:56 AM
<b>Chromium</b>	<b>69</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	<b>5</b>	8/9/2013 02:56 AM
<b>Copper</b>	<b>19</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	<b>5</b>	8/9/2013 02:56 AM
<b>Lead</b>	<b>17</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	<b>5</b>	8/9/2013 02:56 AM
<b>Nickel</b>	<b>29</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	<b>5</b>	8/9/2013 02:56 AM
Selenium	ND		2.3	mg/Kg-dry	5	8/9/2013 02:56 AM
Silver	ND		2.3	mg/Kg-dry	5	8/9/2013 02:56 AM
<b>Zinc</b>	<b>53</b>		<b>4.5</b>	<b>mg/Kg-dry</b>	<b>5</b>	8/9/2013 02:56 AM
<b>SOLUBLE CATIONS FOR SAR</b>						
<b>Calcium</b>	<b>670</b>		<b>SW6020A</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RH</b>
			<b>10</b>	<b>mg/L</b>	<b>20</b>	8/9/2013 03:58 PM
<b>Magnesium</b>	<b>150</b>		<b>4.0</b>	<b>mg/L</b>	<b>20</b>	8/9/2013 03:58 PM
<b>Sodium</b>	<b>210</b>		<b>4.0</b>	<b>mg/L</b>	<b>20</b>	8/9/2013 03:58 PM
<b>SODIUM ADSORPTION RATIO</b>						
<b>Sodium Adsorption Ratio</b>	<b>1.9</b>		<b>USDA H60 METHO</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RH</b>
			<b>0.010</b>	<b>none</b>	<b>1</b>	8/9/2013
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
<b>Acenaphthene</b>	<b>ND</b>		<b>SW8270</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RM</b>
			<b>18</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 01:26 AM
<b>Acenaphthylene</b>	<b>ND</b>		<b>35</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 01:26 AM
<b>Anthracene</b>	<b>ND</b>		<b>18</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 01:26 AM
<b>Benzo(a)anthracene</b>	<b>ND</b>		<b>20</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 01:26 AM
<b>Benzo(a)pyrene</b>	<b>ND</b>		<b>20</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 01:26 AM
<b>Benzo(b)fluoranthene</b>	<b>ND</b>		<b>21</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 01:26 AM
<b>Benzo(g,h,i)perylene</b>	<b>ND</b>		<b>33</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 01:26 AM
<b>Benzo(k)fluoranthene</b>	<b>ND</b>		<b>21</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 01:26 AM
<b>Chrysene</b>	<b>ND</b>		<b>18</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 01:26 AM
<b>Dibenzo(a,h)anthracene</b>	<b>ND</b>		<b>21</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 01:26 AM
<b>Fluoranthene</b>	<b>ND</b>		<b>18</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 01:26 AM

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



# ALS Group USA, Corp

Date: 14-Aug-13

**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13  
**Sample ID:** Pit Bottom  
**Collection Date:** 8/6/2013 11:45 AM

**Work Order:** 1308257  
**Lab ID:** 1308257-01  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		18	µg/Kg-dry	1	8/10/2013 01:26 AM
Indeno(1,2,3-cd)pyrene	ND		23	µg/Kg-dry	1	8/10/2013 01:26 AM
Naphthalene	ND		18	µg/Kg-dry	1	8/10/2013 01:26 AM
Pyrene	ND		18	µg/Kg-dry	1	8/10/2013 01:26 AM
Surr: 2-Fluorobiphenyl	78.6		12-100	%REC	1	8/10/2013 01:26 AM
Surr: 4-Terphenyl-d14	97.0		25-137	%REC	1	8/10/2013 01:26 AM
Surr: Nitrobenzene-d5	66.2		37-107	%REC	1	8/10/2013 01:26 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>		Prep Date: 8/7/2013	Analyst: AK
Benzene	ND		36	µg/Kg-dry	1	8/8/2013 06:09 AM
Ethylbenzene	ND		36	µg/Kg-dry	1	8/8/2013 06:09 AM
m,p-Xylene	ND		71	µg/Kg-dry	1	8/8/2013 06:09 AM
o-Xylene	ND		36	µg/Kg-dry	1	8/8/2013 06:09 AM
Toluene	ND		36	µg/Kg-dry	1	8/8/2013 06:09 AM
Xylenes, Total	ND		110	µg/Kg-dry	1	8/8/2013 06:09 AM
Surr: 1,2-Dichloroethane-d4	97.0		70-130	%REC	1	8/8/2013 06:09 AM
Surr: 4-Bromofluorobenzene	103		70-130	%REC	1	8/8/2013 06:09 AM
Surr: Dibromofluoromethane	95.2		70-130	%REC	1	8/8/2013 06:09 AM
Surr: Toluene-d8	92.8		70-130	%REC	1	8/8/2013 06:09 AM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>		Prep Date: 8/9/2013	Analyst: JB
Electrical Conductivity @ Saturation	6.8		0.025	mmhos/cm @25	5	8/9/2013 03:15 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: MB
Chromium, Trivalent	69		0.59	mg/Kg-dry	1	8/9/2013 02:30 PM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>		Prep Date: 8/8/2013	Analyst: MB
Chromium, Hexavalent	ND		0.58	mg/Kg-dry	1	8/9/2013 11:15 AM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: BD
Moisture	16		0.050	% of sample	1	8/7/2013 03:45 PM
<b>PH</b>			<b>SW9045D</b>		Prep Date: 8/7/2013	Analyst: CH
pH	7.1			s.u.	1	8/7/2013 03:30 PM

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



# ALS Group USA, Corp

Date: 14-Aug-13

Client: HRL Compliance Solutions

Project: WPX TR 44-35-597 Pit Closure 8/6/13

Sample ID: Northeast Wall

Collection Date: 8/6/2013 11:00 AM

Work Order: 1308257

Lab ID: 1308257-02

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>21</b>		<b>SW8015M</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RD</b>
			<b>4.9</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/13/2013 04:52 AM
Surr: 4-Terphenyl-d14	72.4		39-115	%REC	1	8/13/2013 04:52 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>38</b>		<b>SW8015</b>		Prep Date: <b>8/7/2013</b>	Analyst: <b>RD</b>
			<b>3.0</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/7/2013 08:22 PM
Surr: Toluene-d8	109		50-150	%REC	1	8/7/2013 08:22 PM
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8270</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RM</b>
Acenaphthene	ND		18	µg/Kg-dry	1	8/10/2013 01:48 AM
Acenaphthylene	ND		35	µg/Kg-dry	1	8/10/2013 01:48 AM
Anthracene	ND		18	µg/Kg-dry	1	8/10/2013 01:48 AM
Benzo(a)anthracene	ND		20	µg/Kg-dry	1	8/10/2013 01:48 AM
Benzo(a)pyrene	ND		20	µg/Kg-dry	1	8/10/2013 01:48 AM
Benzo(b)fluoranthene	ND		21	µg/Kg-dry	1	8/10/2013 01:48 AM
Benzo(g,h,i)perylene	ND		33	µg/Kg-dry	1	8/10/2013 01:48 AM
Benzo(k)fluoranthene	ND		21	µg/Kg-dry	1	8/10/2013 01:48 AM
Chrysene	ND		18	µg/Kg-dry	1	8/10/2013 01:48 AM
Dibenzo(a,h)anthracene	ND		21	µg/Kg-dry	1	8/10/2013 01:48 AM
Fluoranthene	ND		18	µg/Kg-dry	1	8/10/2013 01:48 AM
Fluorene	ND		18	µg/Kg-dry	1	8/10/2013 01:48 AM
Indeno(1,2,3-cd)pyrene	ND		24	µg/Kg-dry	1	8/10/2013 01:48 AM
Naphthalene	ND		18	µg/Kg-dry	1	8/10/2013 01:48 AM
Pyrene	ND		18	µg/Kg-dry	1	8/10/2013 01:48 AM
Surr: 2-Fluorobiphenyl	83.5		12-100	%REC	1	8/10/2013 01:48 AM
Surr: 4-Terphenyl-d14	105		25-137	%REC	1	8/10/2013 01:48 AM
Surr: Nitrobenzene-d5	67.8		37-107	%REC	1	8/10/2013 01:48 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8260B</b>		Prep Date: <b>8/7/2013</b>	Analyst: <b>AK</b>
Benzene	ND		36	µg/Kg-dry	1	8/8/2013 06:34 AM
Ethylbenzene	ND		36	µg/Kg-dry	1	8/8/2013 06:34 AM
m,p-Xylene	ND		72	µg/Kg-dry	1	8/8/2013 06:34 AM
o-Xylene	ND		36	µg/Kg-dry	1	8/8/2013 06:34 AM
Toluene	ND		36	µg/Kg-dry	1	8/8/2013 06:34 AM
Xylenes, Total	ND		110	µg/Kg-dry	1	8/8/2013 06:34 AM
Surr: 1,2-Dichloroethane-d4	98.8		70-130	%REC	1	8/8/2013 06:34 AM
Surr: 4-Bromofluorobenzene	106		70-130	%REC	1	8/8/2013 06:34 AM
Surr: Dibromofluoromethane	96.6		70-130	%REC	1	8/8/2013 06:34 AM
Surr: Toluene-d8	91.6		70-130	%REC	1	8/8/2013 06:34 AM
<b>MOISTURE</b>						
			<b>A2540 G</b>			Analyst: <b>BD</b>
<b>Moisture</b>	<b>16</b>		<b>0.050</b>	<b>% of sample</b>	<b>1</b>	8/7/2013 03:45 PM

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



# ALS Group USA, Corp

Date: 14-Aug-13

Client: HRL Compliance Solutions

Project: WPX TR 44-35-597 Pit Closure 8/6/13

Sample ID: Northwest Wall

Collection Date: 8/6/2013 11:30 AM

Work Order: 1308257

Lab ID: 1308257-03

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>38</b>		<b>SW8015M</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RD</b>
			<b>4.7</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/13/2013 05:22 AM
Surr: 4-Terphenyl-d14	70.7		39-115	%REC	1	8/13/2013 05:22 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>SW8015</b>		Prep Date: <b>8/7/2013</b>	Analyst: <b>RD</b>
			<b>2.8</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/7/2013 05:03 PM
Surr: Toluene-d8	114		50-150	%REC	1	8/7/2013 05:03 PM
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8270</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RM</b>
Acenaphthene	ND		17	µg/Kg-dry	1	8/10/2013 02:09 AM
Acenaphthylene	ND		34	µg/Kg-dry	1	8/10/2013 02:09 AM
Anthracene	ND		17	µg/Kg-dry	1	8/10/2013 02:09 AM
Benzo(a)anthracene	ND		19	µg/Kg-dry	1	8/10/2013 02:09 AM
Benzo(a)pyrene	ND		19	µg/Kg-dry	1	8/10/2013 02:09 AM
Benzo(b)fluoranthene	ND		20	µg/Kg-dry	1	8/10/2013 02:09 AM
Benzo(g,h,i)perylene	ND		32	µg/Kg-dry	1	8/10/2013 02:09 AM
Benzo(k)fluoranthene	ND		20	µg/Kg-dry	1	8/10/2013 02:09 AM
Chrysene	ND		17	µg/Kg-dry	1	8/10/2013 02:09 AM
Dibenzo(a,h)anthracene	ND		20	µg/Kg-dry	1	8/10/2013 02:09 AM
<b>Fluoranthene</b>	<b>42</b>		<b>17</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 02:09 AM
Fluorene	ND		17	µg/Kg-dry	1	8/10/2013 02:09 AM
Indeno(1,2,3-cd)pyrene	ND		23	µg/Kg-dry	1	8/10/2013 02:09 AM
Naphthalene	ND		17	µg/Kg-dry	1	8/10/2013 02:09 AM
<b>Pyrene</b>	<b>27</b>		<b>17</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 02:09 AM
Surr: 2-Fluorobiphenyl	80.4		12-100	%REC	1	8/10/2013 02:09 AM
Surr: 4-Terphenyl-d14	104		25-137	%REC	1	8/10/2013 02:09 AM
Surr: Nitrobenzene-d5	65.2		37-107	%REC	1	8/10/2013 02:09 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8260B</b>		Prep Date: <b>8/7/2013</b>	Analyst: <b>AK</b>
Benzene	ND		34	µg/Kg-dry	1	8/8/2013 04:18 AM
Ethylbenzene	ND		34	µg/Kg-dry	1	8/8/2013 04:18 AM
m,p-Xylene	ND		68	µg/Kg-dry	1	8/8/2013 04:18 AM
o-Xylene	ND		34	µg/Kg-dry	1	8/8/2013 04:18 AM
Toluene	ND		34	µg/Kg-dry	1	8/8/2013 04:18 AM
Xylenes, Total	ND		100	µg/Kg-dry	1	8/8/2013 04:18 AM
Surr: 1,2-Dichloroethane-d4	97.4		70-130	%REC	1	8/8/2013 04:18 AM
Surr: 4-Bromofluorobenzene	98.2		70-130	%REC	1	8/8/2013 04:18 AM
Surr: Dibromofluoromethane	94.8		70-130	%REC	1	8/8/2013 04:18 AM
Surr: Toluene-d8	97.4		70-130	%REC	1	8/8/2013 04:18 AM
<b>MOISTURE</b>						
			<b>A2540 G</b>			Analyst: <b>BD</b>
<b>Moisture</b>	<b>12</b>		<b>0.050</b>	<b>% of sample</b>	<b>1</b>	8/7/2013 03:45 PM

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



# ALS Group USA, Corp

Date: 14-Aug-13

Client: HRL Compliance Solutions

Project: WPX TR 44-35-597 Pit Closure 8/6/13

Sample ID: Southeast Wall

Collection Date: 8/6/2013 11:10 AM

Work Order: 1308257

Lab ID: 1308257-04

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>1,900</b>		<b>SW8015M</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RD</b>
			<b>4.9</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/13/2013 05:52 AM
Surr: 4-Terphenyl-d14	176	S	39-115	%REC	1	8/13/2013 05:52 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>260</b>		<b>SW8015</b>		Prep Date: <b>8/7/2013</b>	Analyst: <b>RD</b>
			<b>3.0</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/7/2013 07:57 PM
Surr: Toluene-d8	119		50-150	%REC	1	8/7/2013 07:57 PM
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8270</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RM</b>
Acenaphthene	ND		18	µg/Kg-dry	1	8/10/2013 02:31 AM
Acenaphthylene	ND		35	µg/Kg-dry	1	8/10/2013 02:31 AM
<b>Anthracene</b>	<b>75</b>		<b>18</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 02:31 AM
Benzo(a)anthracene	ND		20	µg/Kg-dry	1	8/10/2013 02:31 AM
Benzo(a)pyrene	ND		20	µg/Kg-dry	1	8/10/2013 02:31 AM
Benzo(b)fluoranthene	ND		21	µg/Kg-dry	1	8/10/2013 02:31 AM
Benzo(g,h,i)perylene	ND		33	µg/Kg-dry	1	8/10/2013 02:31 AM
Benzo(k)fluoranthene	ND		21	µg/Kg-dry	1	8/10/2013 02:31 AM
Chrysene	ND		18	µg/Kg-dry	1	8/10/2013 02:31 AM
Dibenzo(a,h)anthracene	ND		21	µg/Kg-dry	1	8/10/2013 02:31 AM
<b>Fluoranthene</b>	<b>44</b>		<b>18</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 02:31 AM
<b>Fluorene</b>	<b>300</b>		<b>18</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 02:31 AM
Indeno(1,2,3-cd)pyrene	ND		23	µg/Kg-dry	1	8/10/2013 02:31 AM
Naphthalene	ND		18	µg/Kg-dry	1	8/10/2013 02:31 AM
<b>Pyrene</b>	<b>30</b>		<b>18</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 02:31 AM
Surr: 2-Fluorobiphenyl	77.4		12-100	%REC	1	8/10/2013 02:31 AM
Surr: 4-Terphenyl-d14	95.1		25-137	%REC	1	8/10/2013 02:31 AM
Surr: Nitrobenzene-d5	60.4		37-107	%REC	1	8/10/2013 02:31 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8260B</b>		Prep Date: <b>8/7/2013</b>	Analyst: <b>AK</b>
Benzene	ND		35	µg/Kg-dry	1	8/8/2013 06:58 AM
Ethylbenzene	ND		35	µg/Kg-dry	1	8/8/2013 06:58 AM
m,p-Xylene	ND		71	µg/Kg-dry	1	8/8/2013 06:58 AM
o-Xylene	ND		35	µg/Kg-dry	1	8/8/2013 06:58 AM
Toluene	ND		35	µg/Kg-dry	1	8/8/2013 06:58 AM
Xylenes, Total	ND		110	µg/Kg-dry	1	8/8/2013 06:58 AM
Surr: 1,2-Dichloroethane-d4	100		70-130	%REC	1	8/8/2013 06:58 AM
Surr: 4-Bromofluorobenzene	104		70-130	%REC	1	8/8/2013 06:58 AM
Surr: Dibromofluoromethane	95.4		70-130	%REC	1	8/8/2013 06:58 AM
Surr: Toluene-d8	93.4		70-130	%REC	1	8/8/2013 06:58 AM
<b>MOISTURE</b>						
			<b>A2540 G</b>			Analyst: <b>BD</b>
<b>Moisture</b>	<b>15</b>		<b>0.050</b>	<b>% of sample</b>	<b>1</b>	8/7/2013 03:45 PM

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



# ALS Group USA, Corp

Date: 14-Aug-13

Client: HRL Compliance Solutions

Project: WPX TR 44-35-597 Pit Closure 8/6/13

Work Order: 1308257

Sample ID: Southwest Wall

Lab ID: 1308257-05

Collection Date: 8/6/2013 11:20 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
<b>DRO (C10-C28)</b>	<b>21</b>		<b>SW8015M</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RD</b>
			<b>4.8</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/13/2013 06:23 AM
Surr: 4-Terphenyl-d14	62.7		39-115	%REC	1	8/13/2013 06:23 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>SW8015</b>		Prep Date: <b>8/7/2013</b>	Analyst: <b>RD</b>
			<b>2.9</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/7/2013 05:28 PM
Surr: Toluene-d8	117		50-150	%REC	1	8/7/2013 05:28 PM
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8270</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RM</b>
Acenaphthene	ND		17	µg/Kg-dry	1	8/10/2013 02:53 AM
Acenaphthylene	ND		34	µg/Kg-dry	1	8/10/2013 02:53 AM
Anthracene	ND		17	µg/Kg-dry	1	8/10/2013 02:53 AM
Benzo(a)anthracene	44		20	µg/Kg-dry	1	8/10/2013 02:53 AM
Benzo(a)pyrene	78		20	µg/Kg-dry	1	8/10/2013 02:53 AM
Benzo(b)fluoranthene	72		21	µg/Kg-dry	1	8/10/2013 02:53 AM
Benzo(g,h,i)perylene	38		32	µg/Kg-dry	1	8/10/2013 02:53 AM
Benzo(k)fluoranthene	42		21	µg/Kg-dry	1	8/10/2013 02:53 AM
Chrysene	20		17	µg/Kg-dry	1	8/10/2013 02:53 AM
Dibenzo(a,h)anthracene	25		21	µg/Kg-dry	1	8/10/2013 02:53 AM
Fluoranthene	72		17	µg/Kg-dry	1	8/10/2013 02:53 AM
Fluorene	ND		17	µg/Kg-dry	1	8/10/2013 02:53 AM
Indeno(1,2,3-cd)pyrene	49		23	µg/Kg-dry	1	8/10/2013 02:53 AM
Naphthalene	ND		17	µg/Kg-dry	1	8/10/2013 02:53 AM
Pyrene	54		17	µg/Kg-dry	1	8/10/2013 02:53 AM
Surr: 2-Fluorobiphenyl	70.6		12-100	%REC	1	8/10/2013 02:53 AM
Surr: 4-Terphenyl-d14	93.3		25-137	%REC	1	8/10/2013 02:53 AM
Surr: Nitrobenzene-d5	56.4		37-107	%REC	1	8/10/2013 02:53 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8260B</b>		Prep Date: <b>8/7/2013</b>	Analyst: <b>AK</b>
Benzene	ND		35	µg/Kg-dry	1	8/8/2013 07:22 AM
Ethylbenzene	ND		35	µg/Kg-dry	1	8/8/2013 07:22 AM
m,p-Xylene	ND		70	µg/Kg-dry	1	8/8/2013 07:22 AM
o-Xylene	ND		35	µg/Kg-dry	1	8/8/2013 07:22 AM
Toluene	ND		35	µg/Kg-dry	1	8/8/2013 07:22 AM
Xylenes, Total	ND		110	µg/Kg-dry	1	8/8/2013 07:22 AM
Surr: 1,2-Dichloroethane-d4	97.4		70-130	%REC	1	8/8/2013 07:22 AM
Surr: 4-Bromofluorobenzene	108		70-130	%REC	1	8/8/2013 07:22 AM
Surr: Dibromofluoromethane	95.0		70-130	%REC	1	8/8/2013 07:22 AM
Surr: Toluene-d8	94.4		70-130	%REC	1	8/8/2013 07:22 AM
<b>MOISTURE</b>						
			<b>A2540 G</b>			Analyst: <b>BD</b>
Moisture	14		0.050	% of sample	1	8/7/2013 03:45 PM

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



## ALS Group USA, Corp

Date: 14-Aug-13

**Client:** HRL Compliance Solutions

**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

**Sample ID:** TR 44-35-597-B-1

**Collection Date:** 8/6/2013 12:00 PM

**Work Order:** 1308257

**Lab ID:** 1308257-06

**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>		Prep Date: <b>8/8/2013</b>	Analyst: <b>ML</b>
Arsenic	4.6		1.8	mg/Kg-dry	5	8/9/2013 03:03 AM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>BD</b>
Moisture	2.0		0.050	% of sample	1	8/7/2013 03:45 PM

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



## ALS Group USA, Corp

Date: 14-Aug-13

**Client:** HRL Compliance Solutions

**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

**Sample ID:** TR 44-35-597-B-2

**Collection Date:** 8/6/2013 12:10 PM

**Work Order:** 1308257

**Lab ID:** 1308257-07

**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>		Prep Date: <b>8/8/2013</b>	Analyst: <b>ML</b>
Arsenic	5.0		1.7	mg/Kg-dry	5	8/9/2013 03:09 AM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>BD</b>
Moisture	2.3		0.050	% of sample	1	8/7/2013 03:45 PM

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



# ALS Group USA, Corp

Date: 14-Aug-13

**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13  
**Sample ID:** TR 44-35-597-B-3  
**Collection Date:** 8/6/2013 12:15 PM

**Work Order:** 1308257  
**Lab ID:** 1308257-08  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>		Prep Date: <b>8/8/2013</b>	Analyst: <b>ML</b>
Arsenic	5.9		1.9	mg/Kg-dry	5	8/9/2013 03:15 AM
<b>SOLUBLE CATIONS FOR SAR</b>			<b>SW6020A</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RH</b>
Calcium	94		10	mg/L	20	8/9/2013 04:03 PM
Magnesium	16		4.0	mg/L	20	8/9/2013 04:03 PM
Sodium	4.8		4.0	mg/L	20	8/9/2013 04:03 PM
<b>SODIUM ADSORPTION RATIO</b>			<b>USDA H60 METHO</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RH</b>
Sodium Adsorption Ratio	0.12		0.010	none	1	8/9/2013
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	0.64		0.025	mmhos/cm @25	5	8/9/2013 03:15 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>BD</b>
Moisture	2.6		0.050	% of sample	1	8/7/2013 03:45 PM
<b>PH</b>			<b>SW9045D</b>		Prep Date: <b>8/7/2013</b>	Analyst: <b>CH</b>
pH	6.4			s.u.	1	8/7/2013 03:30 PM

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



# ALS Group USA, Corp

Date: 14-Aug-13

**Client:** HRL Compliance Solutions

**Work Order:** 1308257

**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **50419**

Instrument ID **GC8**

Method: **SW8015M**

<b>MBLK</b>		Sample ID: <b>DBLKS1-50419-50419</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/12/2013 12:18 PM</b>		
Client ID:		Run ID: <b>GC8_130812B</b>				SeqNo: <b>2412196</b>		Prep Date: <b>8/9/2013</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	4.2								
Surr: 4-Terphenyl-d14	1.1	0	1.667	0	66	39-115	0			

<b>LCS</b>		Sample ID: <b>DLCSS1-50419-50419</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/12/2013 12:48 PM</b>		
Client ID:		Run ID: <b>GC8_130812B</b>				SeqNo: <b>2412197</b>		Prep Date: <b>8/9/2013</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)	148.5	4.2	166.7	0	89.1	49-124	0			
Surr: 4-Terphenyl-d14	1.162	0	1.667	0	69.7	39-115	0			

<b>MS</b>		Sample ID: <b>1308284-14A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/12/2013 01:18 PM</b>		
Client ID:		Run ID: <b>GC8_130812B</b>				SeqNo: <b>2412198</b>		Prep Date: <b>8/9/2013</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)	576.6	12	472.9	0	122	49-130	0			
Surr: 4-Terphenyl-d14	3.28	0	4.729	0	69.4	39-115	0			

<b>MSD</b>		Sample ID: <b>1308284-14A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/12/2013 01:48 PM</b>		
Client ID:		Run ID: <b>GC8_130812B</b>				SeqNo: <b>2412199</b>		Prep Date: <b>8/9/2013</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)	524.7	12	470.8	0	111	49-130	576.6	9.42	30	
Surr: 4-Terphenyl-d14	3.332	0	4.708	0	70.8	39-115	3.28	1.58	30	

The following samples were analyzed in this batch:

1308257-01B	1308257-02B	1308257-03B
1308257-04B	1308257-05B	

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **50358**      Instrument ID **GC9**      Method: **SW8015**

<b>MBLK</b>	Sample ID: <b>MBLK-50358</b>					Units: <b>µg/Kg</b>		Analysis Date: <b>8/7/2013 01:42 PM</b>		
Client ID:	Run ID: <b>GC9_130807A</b>				SeqNo: <b>2407895</b>		Prep Date: <b>8/7/2013</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>	<i>5700</i>	<i>0</i>	<i>5000</i>	<i>0</i>	<i>114</i>	<i>50-150</i>	<i>0</i>			

<b>LCS</b>	Sample ID: <b>LCS-50358</b>					Units: <b>µg/Kg</b>		Analysis Date: <b>8/7/2013 01:18 PM</b>		
Client ID:	Run ID: <b>GC9_130807A</b>				SeqNo: <b>2407909</b>		Prep Date: <b>8/7/2013</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)	434400	2,500	500000	0	86.9	70-130	0			
<i>Surr: Toluene-d8</i>	<i>6128</i>	<i>0</i>	<i>5000</i>	<i>0</i>	<i>123</i>	<i>50-150</i>	<i>0</i>			

<b>MS</b>	Sample ID: <b>1308206-19A MS</b>					Units: <b>µg/Kg</b>		Analysis Date: <b>8/7/2013 10:35 PM</b>		
Client ID:	Run ID: <b>GC9_130807A</b>				SeqNo: <b>2408150</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
GRO (C6-C10)	482700	2,500	500000	0	96.5	70-130	0			
<i>Surr: Toluene-d8</i>	<i>6028</i>	<i>0</i>	<i>5000</i>	<i>0</i>	<i>121</i>	<i>50-150</i>	<i>0</i>			

<b>MSD</b>	Sample ID: <b>1308206-19A MSD</b>					Units: <b>µg/Kg</b>		Analysis Date: <b>8/7/2013 11:00 PM</b>		
Client ID:	Run ID: <b>GC9_130807A</b>				SeqNo: <b>2408151</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
GRO (C6-C10)	462900	2,500	500000	0	92.6	70-130	0			
<i>Surr: Toluene-d8</i>	<i>4986</i>	<i>0</i>	<i>5000</i>	<i>0</i>	<i>99.7</i>	<i>50-150</i>	<i>0</i>			

The following samples were analyzed in this batch:

1308257-01A	1308257-02A	1308257-03A
1308257-04A	1308257-05A	

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **50489**      Instrument ID **HG1**      Method: **SW7471**

<b>MBLK</b>		Sample ID: <b>MBLK-50489-50489</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/13/2013 03:20 PM</b>		
Client ID:		Run ID: <b>HG1_130813A</b>				SeqNo: <b>2412539</b>		Prep Date: <b>8/13/2013</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-50489-50489</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/13/2013 03:22 PM</b>		
Client ID:		Run ID: <b>HG1_130813A</b>				SeqNo: <b>2412544</b>		Prep Date: <b>8/13/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury      0.1859      0.020      0.1665      0      112      80-120      0

<b>MS</b>		Sample ID: <b>1308045-27AMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/13/2013 03:36 PM</b>		
Client ID:		Run ID: <b>HG1_130813A</b>				SeqNo: <b>2412551</b>		Prep Date: <b>8/13/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury      0.1723      0.016      0.1365      0.0269      107      75-125      0

<b>MSD</b>		Sample ID: <b>1308045-27AMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/13/2013 03:38 PM</b>		
Client ID:		Run ID: <b>HG1_130813A</b>				SeqNo: <b>2412555</b>		Prep Date: <b>8/13/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury      0.1652      0.016      0.1361      0.0269      102      75-125      0.1723      4.19      35

The following samples were analyzed in this batch:

1308257-01B

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **50372** Instrument ID **ICPMS2** Method: **SW6020A** **(Dissolve)**

<b>DUP</b>		Sample ID: <b>1308253-01BDUP</b>				Units: <b>mg/L</b>		Analysis Date: <b>8/9/2013 03:34 PM</b>		
Client ID:		Run ID: <b>ICPMS2_130809A</b>				SeqNo: <b>2409927</b>		Prep Date: <b>8/9/2013</b>		DF: <b>20</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	67.1	10	0	0	0	0-0	62.96	6.37		
Magnesium	18.17	4.0	0	0	0	0-0	17.54	3.54		
Sodium	5.038	4.0	0	0	0	0-0	4.89	2.98		

The following samples were analyzed in this batch:

1308257-01C 1308257-08A

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **50391**      Instrument ID **ICPMS1**      Method: **SW6020A**

<b>MBLK</b>		Sample ID: <b>MBLK-50391-50391</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/9/2013 01:48 AM</b>		
Client ID:		Run ID: <b>ICPMS1_130808A</b>				SeqNo: <b>2408789</b>		Prep Date: <b>8/8/2013</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	0.10								
Chromium	ND	0.25								
Copper	ND	0.25								
Lead	0.00741	0.25								J
Nickel	ND	0.25								
Selenium	ND	0.25								
Silver	ND	0.25								
Zinc	0.02912	0.50								J

<b>LCS</b>		Sample ID: <b>LCS-50391-50391</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/9/2013 01:54 AM</b>		
Client ID:		Run ID: <b>ICPMS1_130808A</b>				SeqNo: <b>2408791</b>		Prep Date: <b>8/8/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.463	0.25	5	0	89.3	80-120	0			
Barium	5.015	0.25	5	0	100	80-120	0			
Cadmium	4.832	0.10	5	0	96.6	80-120	0			
Chromium	4.85	0.25	5	0	97	80-120	0			
Copper	4.846	0.25	5	0	96.9	80-120	0			
Lead	4.924	0.25	5	0	98.5	80-120	0			
Nickel	4.848	0.25	5	0	97	80-120	0			
Selenium	4.416	0.25	5	0	88.3	80-120	0			
Silver	4.955	0.25	5	0	99.1	80-120	0			
Zinc	4.38	0.50	5	0	87.6	80-120	0			

<b>MS</b>		Sample ID: <b>1308278-07AMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/9/2013 05:02 AM</b>		
Client ID:		Run ID: <b>ICPMS1_130808A</b>				SeqNo: <b>2408836</b>		Prep Date: <b>8/8/2013</b>		DF: <b>4</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.149	1.4	7.163	2.526	92.5	75-125	0			
Barium	50.09	1.4	7.163	44.92	72.1	75-125	0			SO
Cadmium	7.269	0.57	7.163	0.143	99.5	75-125	0			
Chromium	11.93	1.4	7.163	4.611	102	75-125	0			
Copper	11.24	1.4	7.163	3.98	101	75-125	0			
Lead	18.01	1.4	7.163	11.86	85.8	75-125	0			
Nickel	11.31	1.4	7.163	4.032	102	75-125	0			
Selenium	7.458	1.4	7.163	0.3679	99	75-125	0			
Silver	6.991	1.4	7.163	-0.001092	97.6	75-125	0			
Zinc	33.27	2.9	7.163	23.92	130	75-125	0			S

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **50391**      Instrument ID **ICPMS1**      Method: **SW6020A**

MSD				Sample ID: 1308278-07AMSD		Units: mg/Kg		Analysis Date: 8/9/2013 05:08 AM		
Client ID:			Run ID: ICPMS1_130808A			SeqNo: 2408837		Prep Date: 8/8/2013		DF: 4
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.799	1.5	7.386	2.526	98.5	75-125	9.149	6.86	25	
Barium	52.76	1.5	7.386	44.92	106	75-125	50.09	5.2	25	O
Cadmium	7.734	0.59	7.386	0.143	103	75-125	7.269	6.2	25	
Chromium	12.85	1.5	7.386	4.611	112	75-125	11.93	7.4	25	
Copper	11.73	1.5	7.386	3.98	105	75-125	11.24	4.3	25	
Lead	19.44	1.5	7.386	11.86	103	75-125	18.01	7.65	25	
Nickel	12.36	1.5	7.386	4.032	113	75-125	11.31	8.88	25	
Selenium	7.976	1.5	7.386	0.3679	103	75-125	7.458	6.71	25	
Silver	7.326	1.5	7.386	-0.001092	99.2	75-125	6.991	4.68	25	
Zinc	34.48	3.0	7.386	23.92	143	75-125	33.27	3.57	25	S

The following samples were analyzed in this batch:

1308257-01B	1308257-06A	1308257-07A
1308257-08A		

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **50418**      Instrument ID **SVMS5**      Method: **SW8270**

MBLK Sample ID: <b>SBLKS1-50418-50418</b>				Units: <b>µg/Kg</b>			Analysis Date: <b>8/9/2013 04:42 PM</b>			
Client ID:		Run ID: <b>SVMS5_130809A</b>		SeqNo: <b>2412302</b>		Prep Date: <b>8/9/2013</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	30								
Acenaphthylene	ND	30								
Anthracene	ND	30								
Benzo(a)anthracene	ND	30								
Benzo(a)pyrene	ND	30								
Benzo(b)fluoranthene	ND	30								
Benzo(g,h,i)perylene	ND	30								
Benzo(k)fluoranthene	ND	30								
Chrysene	ND	30								
Dibenzo(a,h)anthracene	ND	30								
Fluoranthene	ND	30								
Fluorene	ND	30								
Indeno(1,2,3-cd)pyrene	ND	30								
Naphthalene	ND	30								
Pyrene	ND	30								
Surr: 2-Fluorobiphenyl	1351	0	1667	0	81	12-100	0			
Surr: 4-Terphenyl-d14	1930	0	1667	0	116	25-137	0			
Surr: Nitrobenzene-d5	1121	0	1667	0	67.3	37-107	0			

LCS Sample ID: <b>SLCSS1-50418-50418</b>				Units: <b>µg/Kg</b>			Analysis Date: <b>8/9/2013 05:04 PM</b>			
Client ID:		Run ID: <b>SVMS5_130809A</b>		SeqNo: <b>2412303</b>		Prep Date: <b>8/9/2013</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	633	30	666.7	0	94.9	45-110	0			
Acenaphthylene	582.3	30	666.7	0	87.3	45-105	0			
Anthracene	646	30	666.7	0	96.9	55-105	0			
Benzo(a)anthracene	627.3	30	666.7	0	94.1	50-110	0			
Benzo(a)pyrene	642.3	30	666.7	0	96.3	50-110	0			
Benzo(b)fluoranthene	659	30	666.7	0	98.8	45-115	0			
Benzo(g,h,i)perylene	688.7	30	666.7	0	103	40-125	0			
Benzo(k)fluoranthene	668.7	30	666.7	0	100	45-115	0			
Chrysene	707	30	666.7	0	106	55-110	0			
Dibenzo(a,h)anthracene	705	30	666.7	0	106	40-125	0			
Fluoranthene	637.3	30	666.7	0	95.6	55-115	0			
Fluorene	638.7	30	666.7	0	95.8	50-110	0			
Indeno(1,2,3-cd)pyrene	720.7	30	666.7	0	108	40-120	0			
Naphthalene	573.3	30	666.7	0	86	40-105	0			
Pyrene	684.7	30	666.7	0	103	45-125	0			
Surr: 2-Fluorobiphenyl	1414	0	1667	0	84.8	12-100	0			
Surr: 4-Terphenyl-d14	1830	0	1667	0	110	25-137	0			
Surr: Nitrobenzene-d5	1243	0	1667	0	74.6	37-107	0			

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

# QC BATCH REPORT

Batch ID: **50418**      Instrument ID **SVMS5**      Method: **SW8270**

MS				Units: µg/Kg			Analysis Date: 8/9/2013 05:27 PM			
Client ID:		Run ID: <b>SVMS5_130809A</b>		SeqNo: <b>2412304</b>		Prep Date: <b>8/9/2013</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1785	90	1999	0	89.3	45-110	0			
Acenaphthylene	1682	90	1999	114.1	78.4	45-105	0			
Anthracene	1994	90	1999	117.8	93.9	55-105	0			
Benzo(a)anthracene	1981	90	1999	372.7	80.5	50-110	0			
Benzo(a)pyrene	2022	90	1999	469.3	77.7	50-110	0			
Benzo(b)fluoranthene	1935	90	1999	455.5	74	45-115	0			
Benzo(g,h,i)perylene	2169	90	1999	277	94.6	40-125	0			
Benzo(k)fluoranthene	1853	90	1999	225.5	81.4	45-115	0			
Chrysene	2107	90	1999	330.4	88.9	55-110	0			
Dibenzo(a,h)anthracene	2168	90	1999	130.7	102	40-125	0			
Fluoranthene	1970	90	1999	438	76.6	55-115	0			
Fluorene	1910	90	1999	0	95.5	50-110	0			
Indeno(1,2,3-cd)pyrene	2358	90	1999	332.2	101	40-120	0			
Naphthalene	1572	90	1999	0	78.6	40-105	0			
Pyrene	2167	90	1999	523.6	82.2	45-125	0			
Surr: 2-Fluorobiphenyl	3895	0	4998	0	77.9	12-100	0			
Surr: 4-Terphenyl-d14	5110	0	4998	0	102	25-137	0			
Surr: Nitrobenzene-d5	3661	0	4998	0	73.3	37-107	0			

MSD				Units: µg/Kg			Analysis Date: 8/9/2013 05:49 PM			
Client ID:		Run ID: <b>SVMS5_130809A</b>		SeqNo: <b>2412305</b>		Prep Date: <b>8/9/2013</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1921	90	1994	0	96.3	45-110	1785	7.35	30	
Acenaphthylene	1769	90	1994	114.1	83	45-105	1682	5.02	30	
Anthracene	2140	90	1994	117.8	101	55-105	1994	7.04	30	
Benzo(a)anthracene	2163	90	1994	372.7	89.8	50-110	1981	8.76	30	
Benzo(a)pyrene	2167	90	1994	469.3	85.1	50-110	2022	6.9	30	
Benzo(b)fluoranthene	1879	90	1994	455.5	71.4	45-115	1935	2.92	30	
Benzo(g,h,i)perylene	2291	90	1994	277	101	40-125	2169	5.48	30	
Benzo(k)fluoranthene	2013	90	1994	225.5	89.6	45-115	1853	8.27	30	
Chrysene	2280	90	1994	330.4	97.8	55-110	2107	7.9	30	
Dibenzo(a,h)anthracene	2159	90	1994	130.7	102	40-125	2168	0.434	30	
Fluoranthene	2089	90	1994	438	82.8	55-115	1970	5.85	30	
Fluorene	2011	90	1994	0	101	50-110	1910	5.15	30	
Indeno(1,2,3-cd)pyrene	2536	90	1994	332.2	111	40-120	2358	7.3	30	
Naphthalene	1675	90	1994	0	84	40-105	1572	6.33	30	
Pyrene	2316	90	1994	523.6	89.9	45-125	2167	6.65	30	
Surr: 2-Fluorobiphenyl	4179	0	4985	0	83.8	12-100	3895	7.04	40	
Surr: 4-Terphenyl-d14	5467	0	4985	0	110	25-137	5110	6.73	40	
Surr: Nitrobenzene-d5	3714	0	4985	0	74.5	37-107	3661	1.43	40	

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

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Batch ID: **50418**      Instrument ID **SVMS5**      Method: **SW8270**

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**The following samples were analyzed in this batch:**

1308257-01B	1308257-02B	1308257-03B
1308257-04B	1308257-05B	

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **50358**      Instrument ID **VMS9**      Method: **SW8260B**

MBLK Sample ID: <b>MBLK-50358-50358</b>				Units: <b>µg/Kg</b>			Analysis Date: <b>8/7/2013 04:18 PM</b>			
Client ID:		Run ID: <b>VMS9_130807A</b>		SeqNo: <b>2406884</b>		Prep Date: <b>8/7/2013</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								
GRO (C6-C10)	ND	2,500								
m,p-Xylene	ND	60								
o-Xylene	ND	30								
Toluene	ND	30								
Xylenes, Total	ND	90								
Surr: 1,2-Dichloroethane-d4	993	0	1000	0	99.3	70-130	0			
Surr: 4-Bromofluorobenzene	924.5	0	1000	0	92.4	70-130	0			
Surr: Dibromofluoromethane	945	0	1000	0	94.5	70-130	0			
Surr: Toluene-d8	993.5	0	1000	0	99.4	70-130	0			

LCS Sample ID: <b>LCS-50358-50358</b>				Units: <b>µg/Kg</b>			Analysis Date: <b>8/7/2013 02:39 PM</b>			
Client ID:		Run ID: <b>VMS9_130807A</b>		SeqNo: <b>2406883</b>		Prep Date: <b>8/7/2013</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	943	30	1000	0	94.3	75-125	0			
Ethylbenzene	942	30	1000	0	94.2	75-125	0			
m,p-Xylene	1890	60	2000	0	94.5	80-125	0			
o-Xylene	957.5	30	1000	0	95.8	75-125	0			
Toluene	929	30	1000	0	92.9	70-125	0			
Xylenes, Total	2848	90	3000	0	94.9	75-125	0			
Surr: 1,2-Dichloroethane-d4	995.5	0	1000	0	99.6	70-130	0			
Surr: 4-Bromofluorobenzene	966	0	1000	0	96.6	70-130	0			
Surr: Dibromofluoromethane	1030	0	1000	0	103	70-130	0			
Surr: Toluene-d8	980	0	1000	0	98	70-130	0			

MS Sample ID: <b>1308257-03A MS</b>				Units: <b>µg/Kg</b>			Analysis Date: <b>8/8/2013 07:12 PM</b>			
Client ID: <b>Northwest Wall</b>		Run ID: <b>VMS8_130808A</b>		SeqNo: <b>2408698</b>		Prep Date: <b>8/7/2013</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	974.5	30	1000	0	97.4	75-125	0			
m,p-Xylene	1938	60	2000	0	96.9	80-125	0			
o-Xylene	984	30	1000	0	98.4	75-125	0			
Toluene	930.5	30	1000	0	93	70-125	0			
Xylenes, Total	2922	90	3000	0	97.4	75-125	0			
Surr: 1,2-Dichloroethane-d4	1002	0	1000	0	100	70-130	0			
Surr: 4-Bromofluorobenzene	1011	0	1000	0	101	70-130	0			
Surr: Dibromofluoromethane	993	0	1000	0	99.3	70-130	0			
Surr: Toluene-d8	954.5	0	1000	0	95.4	70-130	0			

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **50358**      Instrument ID **VMS9**      Method: **SW8260B**

MSD				Sample ID: 1308257-03A MSD				Units: µg/Kg		Analysis Date: 8/8/2013 07:36 PM	
Client ID: Northwest Wall			Run ID: VMS8_130808A		SeqNo: 2408701		Prep Date: 8/7/2013		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	970.5	30	1000	0	97	75-125	980.5	1.03	30		
Ethylbenzene	959.5	30	1000	0	96	75-125	974.5	1.55	30		
m,p-Xylene	1898	60	2000	0	94.9	80-125	1938	2.08	30		
o-Xylene	964	30	1000	0	96.4	75-125	984	2.05	30		
Toluene	920	30	1000	0	92	70-125	930.5	1.13	30		
Xylenes, Total	2862	90	3000	0	95.4	75-125	2922	2.07	30		
Surr: 1,2-Dichloroethane-d4	1032	0	1000	0	103	70-130	1002	2.95	30		
Surr: 4-Bromofluorobenzene	1016	0	1000	0	102	70-130	1011	0.444	30		
Surr: Dibromofluoromethane	1010	0	1000	0	101	70-130	993	1.7	30		
Surr: Toluene-d8	974.5	0	1000	0	97.4	70-130	954.5	2.07	30		

The following samples were analyzed in this batch:

1308257-01A	1308257-02A	1308257-03A
1308257-04A	1308257-05A	

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **50357**      Instrument ID **WETCHEM**      Method: **SW9045D**

LCS					Sample ID: LCS-50357-50357					Units: s.u.			Analysis Date: 8/7/2013 03:30 PM		
Client ID:				Run ID: WETCHEM_130807J				SeqNo: 2406192			Prep Date: 8/7/2013			DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
pH		4.34	0	4.4	0	98.6	90-110	0							

DUP					Sample ID: 1308246-05B DUP					Units: s.u.			Analysis Date: 8/7/2013 03:30 PM		
Client ID:				Run ID: WETCHEM_130807J				SeqNo: 2406197			Prep Date: 8/7/2013			DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
pH		8.52	0	0	0	0	0-0	8.48	0.471	20					

The following samples were analyzed in this batch:

1308257-01B	1308257-08A
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **50372** Instrument ID **WETCHEM** Method: **USDA H60 Method**

<b>DUP</b>		Sample ID: <b>1308253-01B DUP</b>				Units: <b>mmhos/cm @25°C</b>		Analysis Date: <b>8/9/2013 03:15 PM</b>		
Client ID:		Run ID: <b>WETCHEM_130809J</b>				SeqNo: <b>2409688</b>		Prep Date: <b>8/9/2013</b>		DF: <b>5</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	0.5615	0.025	0	0	0		0.5285	6.06	50	

The following samples were analyzed in this batch:

1308257-01C	1308257-08A
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **50428**      Instrument ID **WETCHEM**      Method: **SW7196A**

<b>MBLK</b>		Sample ID: <b>MBLK-50428-50428</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/9/2013 11:15 AM</b>		
Client ID:		Run ID: <b>WETCHEM_130809F</b>		SeqNo: <b>2409443</b>		Prep Date: <b>8/8/2013</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      0.50

<b>LCS</b>		Sample ID: <b>LCS-50428-50428</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/9/2013 11:15 AM</b>		
Client ID:		Run ID: <b>WETCHEM_130809F</b>		SeqNo: <b>2409442</b>		Prep Date: <b>8/8/2013</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      1.872      0.50      2      0      93.6      80-120      0

<b>MS</b>		Sample ID: <b>1308257-01B MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/9/2013 11:15 AM</b>		
Client ID: <b>Pit Bottom</b>		Run ID: <b>WETCHEM_130809F</b>		SeqNo: <b>2409440</b>		Prep Date: <b>8/8/2013</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      1.887      0.50      2.016      0.09055      89.1      75-125      0

<b>MSD</b>		Sample ID: <b>1308257-01B MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/9/2013 11:15 AM</b>		
Client ID: <b>Pit Bottom</b>		Run ID: <b>WETCHEM_130809F</b>		SeqNo: <b>2409441</b>		Prep Date: <b>8/8/2013</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      1.872      0.50      2      0.09055      89.1      75-125      1.887      0.803      20

The following samples were analyzed in this batch:

1308257-01B

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



Client: HRL Compliance Solutions  
 Work Order: 1308257  
 Project: WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **R124832** Instrument ID **MOIST** Method: **A2540 G**

MBLK	Sample ID: WBLKS-R124832					Units: % of sample			Analysis Date: 8/7/2013 03:45 PM		
Client ID:		Run ID: MOIST_130807D			SeqNo: 2407377		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-R124832					Units: % of sample			Analysis Date: 8/7/2013 03:45 PM		
Client ID:			Run ID: MOIST_130807D			SeqNo: 2407376		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: 1308256-02B DUP					Units: % of sample			Analysis Date: 8/7/2013 03:45 PM		
Client ID:		Run ID: MOIST_130807D			SeqNo: 2407366		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 48.32 0.050 0 0 0 0-0 48.61 0.598 20

DUP				Sample ID: 1308257-03B DUP				Units: % of sample			Analysis Date: 8/7/2013 03:45 PM			
Client ID: Northwest Wall				Run ID: MOIST_130807D				SeqNo: 2407370			Prep Date:		DF: 1	
Analyte		Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		

Moisture 12 0.050 0 0 0 0-0 12.17 1.41 20

The following samples were analyzed in this batch:

1308257-01B	1308257-02B	1308257-03B
1308257-04B	1308257-05B	1308257-06A
1308257-07A	1308257-08A	

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





# ALS Laboratory Group

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

## Chain-of-Custody

Form 202r8

WORKORDER #

1308257

PROJECT NAME		WPX TR 44-35-597 Pit Closure		SAMPLER		Reed Wold		DATE		8/6/2013		PAGE		1 of 1	
PROJECT No.				SITE ID		TR 44-35-597		TURNAROUND		5 day		DISPOSAL		By Lab or Return to Client	
COMPANY NAME		HRL Compliance		EDD FORMAT											
SEND REPORT TO		Mark Mumby		PURCHASE ORDER											
ADDRESS		2385 F 1/2 Rd		BILL TO COMPANY		WPX									
CITY / STATE / ZIP		Grand Junction, CO 81506		INVOICE ATTN TO		Karolina Blaney									
PHONE		970-243-3271		ADDRESS		1058 Co Rd 215									
FAX		970-243-3280		CITY / STATE / ZIP		Parachure CO 81635									
E-MAIL		krowe@hrlcomp.com rwold@hrlcomp.com		PHONE		970-683-2295									
				FAX											
				E-MAIL		Karolina.blaney@wpxenergy.com									
Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	BTEX/ GRO	DRO	PAH	Metals	SAR/ EC/ PH	Arsenic		
1	Pit Bottom	SO	8/6/2013	11:45	3	8		X	X	X	X	X			
2	Northeast Wall	SO	8/6/2013	11:00	2	8		X	X	X					
3	Northwest Wall	SO	8/6/2013	11:30	2	8		X	X	X					
4	Southeast Wall	SO	8/6/2013	11:10	2	8		X	X	X					
5	Southwest Wall	SO	8/6/2013	11:20	2	8		X	X	X					
6	TR 44-35-597-B-1	SO	8/6/2013	12:00	1	8						X			
7	TR 44-35-597-B-2	SO	8/6/2013	12:10	1	8						X			
8	TR 44-35-597-B-3	SO	8/6/2013	12:15	2	8					X	X			

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

For metals or anions, please detail analytes below.

Comments:	QC PACKAGE (check below)
	<input checked="" type="checkbox"/> LEVEL II (Standard QC)
	<input type="checkbox"/> LEVEL III (Std QC + forms)
	<input type="checkbox"/> LEVEL IV (Std QC + forms + raw data)
	<input type="checkbox"/>

2.8%

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	Reed Wold	8/6/13	2:10
RECEIVED BY	M.M.	8-6-13	2:10
RELINQUISHED BY	M.M.	8-6-13	2:15
RECEIVED BY	Diane F Sha	8/7/13	0930
RELINQUISHED BY			
RECEIVED BY			



Sample Receipt Checklist

Client Name: HRL

Date/Time Received: 07-Aug-13 09:30

Work Order: 1308257

Received by: DS

Checklist completed by Diane Shaw 07-Aug-13  
eSignature Date

Reviewed by: Ann Preston 08-Aug-13  
eSignature Date

Matrices: Soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.8 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>8/7/2013 12:52:33 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:			
Login Notes:			

-----

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



From: (970) 424-4749  
Lab Hub, LLC

Origin ID: RILA



J13201306280326

127 E First Street

PARACHUTE, CO 81635

Ship Date: 06AUG13  
ActWgt: 75.0 LB  
CAD: 103923490/NET3430

Dims: 25 X 14 X 15 IN

Delivery Address Bar Code



Ref # 1001-080613-1  
Invoice #  
PO #  
Dept #

SHIP TO: (616) 399-6070

BILL RECIPIENT

Sample receiving  
ALS Holland  
3352 128TH AVE

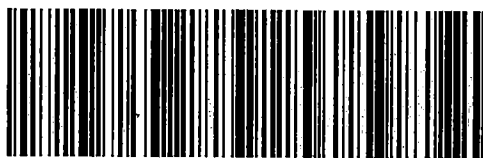
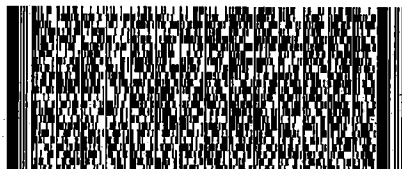
HOLLAND, MI 49424

WED - 07 AUG 3:00P  
STANDARD OVERNIGHT

TRK# 7964 0660 0674  
0201

**XX GRRRA**

49424  
MI-US  
GRR



51AG10989/1AGE

**After printing this label:**

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

**Warning:** Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

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







25-Sep-2013

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

Re: **WPX TR 44-35 -597 Pit Closure 9/20/13**

Work Order: **1309897**

Dear Mark,

ALS Environmental received 1 sample on 21-Sep-2013 09:00 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 8.

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

Sincerely,

A handwritten signature in cursive script that reads "Ann Preston".

Electronically approved by: Ann Preston

Ann Preston  
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

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**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35 -597 Pit Closure 9/20/13  
**Work Order:** 1309897

---

**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>
1309897-01	Southwest Wall	Soil		9/20/2013 11:00	9/21/2013 09:00	<input type="checkbox"/>

---



**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35 -597 Pit Closure 9/20/13  
**WorkOrder:** 1309897

## **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

<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
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

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



**ALS Group USA, Corp**

Date: 25-Sep-13

**Client:** HRL Compliance Solutions**Project:** WPX TR 44-35 -597 Pit Closure 9/20/13**Work Order:** 1309897**Sample ID:** Southwest Wall**Lab ID:** 1309897-01**Collection Date:** 9/20/2013 11:00 AM**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>		Prep Date: <b>9/23/2013</b>	Analyst: <b>HL</b>
Benzo(a)pyrene	ND		8.0	µg/Kg-dry	1	9/24/2013 01:44 PM
Dibenzo(a,h)anthracene	ND		8.0	µg/Kg-dry	1	9/24/2013 01:44 PM
Surr: 2-Fluorobiphenyl	81.3		12-100	%REC	1	9/24/2013 01:44 PM
Surr: 4-Terphenyl-d14	105		25-137	%REC	1	9/24/2013 01:44 PM
Surr: Nitrobenzene-d5	86.4		37-107	%REC	1	9/24/2013 01:44 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>MEB</b>
Moisture	17		0.050	% of sample	1	9/24/2013 10:45 AM

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



Client: HRL Compliance Solutions

# QC BATCH REPORT

Work Order: 1309897

Project: WPX TR 44-35 -597 Pit Closure 9/20/13

Batch ID: 51584

Instrument ID SVMS4

Method: SW8270

MBLK		Sample ID: SBLKS1-51584-51584				Units: µg/Kg		Analysis Date: 9/24/2013 10:21 AM		
Client ID:		Run ID: SVMS4_130924A				SeqNo: 2460990		Prep Date: 9/23/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(a)pyrene	ND	6.7								
Dibenzo(a,h)anthracene	ND	6.7								
Surr: 2-Fluorobiphenyl	1252	0	1667	0	75.1	12-100	0			
Surr: 4-Terphenyl-d14	1754	0	1667	0	105	25-137	0			
Surr: Nitrobenzene-d5	1334	0	1667	0	80	37-107	0			

LCS		Sample ID: SLCSS1-51584-51584				Units: µg/Kg		Analysis Date: 9/24/2013 08:45 AM		
Client ID:		Run ID: SVMS4_130924A				SeqNo: 2460985		Prep Date: 9/23/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(a)pyrene	616	6.7	666.7	0	92.4	50-110	0			
Dibenzo(a,h)anthracene	682.7	6.7	666.7	0	102	40-125	0			
Surr: 2-Fluorobiphenyl	1235	0	1667	0	74.1	12-100	0			
Surr: 4-Terphenyl-d14	1707	0	1667	0	102	25-137	0			
Surr: Nitrobenzene-d5	1342	0	1667	0	80.5	37-107	0			

The following samples were analyzed in this batch:

1309897-01A



**Client:** HRL Compliance Solutions  
**Work Order:** 1309897  
**Project:** WPX TR 44-35 -597 Pit Closure 9/20/13

## QC BATCH REPORT

Batch ID: **R127261**      Instrument ID **MOIST**      Method: **A2540 G**

<b>MBLK</b>		Sample ID: <b>WBLKS-R127261</b>				Units: % of sample		Analysis Date: <b>9/24/2013 10:45 AM</b>		
Client ID:		Run ID: <b>MOIST_130924C</b>				SeqNo: <b>2462191</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-R127261</b>				Units: % of sample		Analysis Date: <b>9/24/2013 10:45 AM</b>		
Client ID:		Run ID: <b>MOIST_130924C</b>				SeqNo: <b>2462187</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture      100      0.050      100      0      100      99.5-100.5      0

<b>DUP</b>		Sample ID: <b>1309707-06B DUP</b>				Units: % of sample		Analysis Date: <b>9/24/2013 10:45 AM</b>		
Client ID:		Run ID: <b>MOIST_130924C</b>				SeqNo: <b>2462179</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      3.16      0.050      0      0      0      0-0      3.16      0      20

<b>DUP</b>		Sample ID: <b>1309798-01A</b>				Units: % of sample		Analysis Date: <b>9/24/2013 10:45 AM</b>		
Client ID:		Run ID: <b>MOIST_130924C</b>				SeqNo: <b>2462183</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

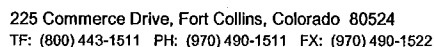
Moisture      78.91      0.050      0      0      0      0-0      79.54      0.795      20

The following samples were analyzed in this batch:

1309897-01A

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





136989-




Form 202r8

PAGE / of /

DISPOSAL ☒ By Lab ☐ or ☐ Return to Client

\*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.**

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY		McKE Mumby	9/20/13	17:30
RECEIVED BY		1	9/21/13	0900
RELINQUISHED BY				
RECEIVED BY		Ashley Be		
RELINQUISHED BY				
RECEIVED BY				



Sample Receipt Checklist

Client Name: HRL

Date/Time Received: 21-Sep-13 09:00

Work Order: 1309897

Received by: AB

Checklist completed by Ashley Beard 21-Sep-13  
eSignature Date

Reviewed by: Ann Preston 23-Sep-13  
eSignature Date

Matrices: soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>4.3</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>9/21/2013 12:25:51 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:			

Login Notes:

-----

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:





25-Oct-2013

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

Re: **WPX TR 44-35-597 Pit Closure 10.16.13**

Work Order: **1310923**

Dear Mark,

ALS Environmental received 2 samples on 17-Oct-2013 09:30 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 26.

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

Sincerely,

A handwritten signature in cursive script that reads "Ann Preston".

Electronically approved by: Ann Preston

Ann Preston  
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

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---

**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 10.16.13  
**Work Order:** 1310923

**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>
1310923-01	Southeast Wall	Soil		10/16/2013 11:30	10/17/2013 09:30	<input type="checkbox"/>
1310923-02	South east Bottom	Soil		10/16/2013 11:45	10/17/2013 09:30	<input type="checkbox"/>



---

**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 10.16.13  
**Work Order:** 1310923

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**Case Narrative**

Batch 52439 sample South east Bottom MS/MSD recoveries for Zinc, and MS recoveries for Barium, and Nickel were outside of the control limits; however, the results in the parent sample were greater than 4x the spiked amount. No qualification is required for Barium Nickel and Zinc.



**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 10.16.13  
**WorkOrder:** 1310923

**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

<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
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

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



# ALS Group USA, Corp

Date: 25-Oct-13

Client: HRL Compliance Solutions

Project: WPX TR 44-35-597 Pit Closure 10.16.13

Sample ID: Southeast Wall

Collection Date: 10/16/2013 11:30 AM

Work Order: 1310923

Lab ID: 1310923-01

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
<b>DRO (C10-C28)</b>	<b>36</b>		<b>SW8015M</b>		Prep Date: <b>10/18/2013</b>	Analyst: <b>CW</b>
			<b>5.0</b>	<b>mg/Kg-dry</b>	1	10/20/2013 05:23 PM
Surr: 4-Terphenyl-d14	48.6		39-115	%REC	1	10/20/2013 05:23 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>18</b>		<b>SW8015</b>		Prep Date: <b>10/17/2013</b>	Analyst: <b>CW</b>
			<b>3.1</b>	<b>mg/Kg-dry</b>	1	10/18/2013 02:19 AM
Surr: Toluene-d8	107		50-150	%REC	1	10/18/2013 02:19 AM
<b>MERCURY BY CVAA</b>						
<b>Mercury</b>	<b>0.045</b>		<b>SW7471</b>		Prep Date: <b>10/18/2013</b>	Analyst: <b>LR</b>
			<b>0.016</b>	<b>mg/Kg-dry</b>	1	10/21/2013 05:41 PM
<b>METALS BY ICP-MS</b>						
<b>Arsenic</b>	<b>8.1</b>		<b>SW6020A</b>		Prep Date: <b>10/18/2013</b>	Analyst: <b>ML</b>
			<b>2.3</b>	<b>mg/Kg-dry</b>	5	10/20/2013 02:19 AM
<b>Barium</b>	<b>510</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	5	10/20/2013 02:19 AM
Cadmium	ND		0.94	mg/Kg-dry	5	10/20/2013 02:19 AM
<b>Chromium</b>	<b>82</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	5	10/20/2013 02:19 AM
<b>Copper</b>	<b>14</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	5	10/20/2013 02:19 AM
<b>Lead</b>	<b>13</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	5	10/20/2013 02:19 AM
<b>Nickel</b>	<b>30</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	5	10/20/2013 02:19 AM
Selenium	ND		2.3	mg/Kg-dry	5	10/20/2013 02:19 AM
Silver	ND		2.3	mg/Kg-dry	5	10/20/2013 02:19 AM
<b>Zinc</b>	<b>52</b>		<b>4.7</b>	<b>mg/Kg-dry</b>	5	10/20/2013 02:19 AM
<b>SOLUBLE CATIONS FOR SAR</b>						
<b>Calcium</b>	<b>19</b>		<b>SW6020A</b>		Prep Date: <b>10/21/2013</b>	Analyst: <b>RH</b>
			<b>10</b>	<b>mg/L</b>	20	10/21/2013 11:14 PM
Magnesium	ND		4.0	mg/L	20	10/21/2013 11:14 PM
<b>Sodium</b>	<b>450</b>		<b>4.0</b>	<b>mg/L</b>	20	10/21/2013 11:14 PM
<b>SODIUM ADSORPTION RATIO</b>						
<b>Sodium Adsorption Ratio</b>	<b>27</b>		<b>USDA H60 METHO</b>		Prep Date: <b>10/21/2013</b>	Analyst: <b>RH</b>
			<b>0.010</b>	<b>none</b>	1	10/20/2013
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
<b>Acenaphthene</b>	<b>ND</b>		<b>SW8270</b>		Prep Date: <b>10/18/2013</b>	Analyst: <b>RM</b>
			<b>8.1</b>	<b>µg/Kg-dry</b>	1	10/18/2013 10:26 PM
<b>Acenaphthylene</b>	<b>ND</b>		<b>8.1</b>	<b>µg/Kg-dry</b>	1	10/18/2013 10:26 PM
<b>Anthracene</b>	<b>ND</b>		<b>8.1</b>	<b>µg/Kg-dry</b>	1	10/18/2013 10:26 PM
<b>Benzo(a)anthracene</b>	<b>ND</b>		<b>8.1</b>	<b>µg/Kg-dry</b>	1	10/18/2013 10:26 PM
<b>Benzo(a)pyrene</b>	<b>ND</b>		<b>8.1</b>	<b>µg/Kg-dry</b>	1	10/18/2013 10:26 PM
<b>Benzo(b)fluoranthene</b>	<b>ND</b>		<b>8.1</b>	<b>µg/Kg-dry</b>	1	10/18/2013 10:26 PM
<b>Benzo(g,h,i)perylene</b>	<b>ND</b>		<b>8.1</b>	<b>µg/Kg-dry</b>	1	10/18/2013 10:26 PM
<b>Benzo(k)fluoranthene</b>	<b>ND</b>		<b>8.1</b>	<b>µg/Kg-dry</b>	1	10/18/2013 10:26 PM
<b>Chrysene</b>	<b>ND</b>		<b>8.1</b>	<b>µg/Kg-dry</b>	1	10/18/2013 10:26 PM
<b>Dibenzo(a,h)anthracene</b>	<b>ND</b>		<b>8.1</b>	<b>µg/Kg-dry</b>	1	10/18/2013 10:26 PM
<b>Fluoranthene</b>	<b>ND</b>		<b>8.1</b>	<b>µg/Kg-dry</b>	1	10/18/2013 10:26 PM

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



# ALS Group USA, Corp

Date: 25-Oct-13

Client: HRL Compliance Solutions

Project: WPX TR 44-35-597 Pit Closure 10.16.13

Work Order: 1310923

Sample ID: Southeast Wall

Lab ID: 1310923-01

Collection Date: 10/16/2013 11:30 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		8.1	µg/Kg-dry	1	10/18/2013 10:26 PM
Indeno(1,2,3-cd)pyrene	ND		8.1	µg/Kg-dry	1	10/18/2013 10:26 PM
Naphthalene	ND		8.1	µg/Kg-dry	1	10/18/2013 10:26 PM
Pyrene	ND		8.1	µg/Kg-dry	1	10/18/2013 10:26 PM
Surr: 2-Fluorobiphenyl	78.4		12-100	%REC	1	10/18/2013 10:26 PM
Surr: 4-Terphenyl-d14	114		25-137	%REC	1	10/18/2013 10:26 PM
Surr: Nitrobenzene-d5	65.5		37-107	%REC	1	10/18/2013 10:26 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>		Prep Date: 10/17/2013	Analyst: AK
Benzene	ND		37	µg/Kg-dry	1	10/18/2013 06:29 PM
Ethylbenzene	ND		37	µg/Kg-dry	1	10/18/2013 06:29 PM
m,p-Xylene	450		75	µg/Kg-dry	1	10/18/2013 06:29 PM
o-Xylene	110		37	µg/Kg-dry	1	10/18/2013 06:29 PM
Toluene	ND		37	µg/Kg-dry	1	10/18/2013 06:29 PM
Xylenes, Total	560		110	µg/Kg-dry	1	10/18/2013 06:29 PM
Surr: 1,2-Dichloroethane-d4	99.6		70-130	%REC	1	10/18/2013 06:29 PM
Surr: 4-Bromofluorobenzene	96.9		70-130	%REC	1	10/18/2013 06:29 PM
Surr: Dibromofluoromethane	97.0		70-130	%REC	1	10/18/2013 06:29 PM
Surr: Toluene-d8	97.2		70-130	%REC	1	10/18/2013 06:29 PM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>		Prep Date: 10/21/2013	Analyst: JB
Electrical Conductivity @ Saturation	2.3		0.050	mmhos/cm @25	10	10/21/2013 05:45 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: MB
Chromium, Trivalent	82		0.62	mg/Kg-dry	1	10/21/2013 05:10 PM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>		Prep Date: 10/18/2013	Analyst: MB
Chromium, Hexavalent	ND		0.61	mg/Kg-dry	1	10/21/2013 03:30 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: MEB
Moisture	20		0.050	% of sample	1	10/17/2013 06:00 PM
<b>PH</b>			<b>SW9045D</b>		Prep Date: 10/17/2013	Analyst: DC
pH	8.7			s.u.	1	10/17/2013 09:00 AM

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



# ALS Group USA, Corp

Date: 25-Oct-13

**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 10.16.13  
**Sample ID:** South east Bottom  
**Collection Date:** 10/16/2013 11:45 AM

**Work Order:** 1310923  
**Lab ID:** 1310923-02  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep Date: <b>10/18/2013</b>	Analyst: <b>CW</b>
<b>DRO (C10-C28)</b>	<b>18</b>		<b>5.4</b>	<b>mg/Kg-dry</b>	1	10/20/2013 05:52 PM
Surr: 4-Terphenyl-d14	48.3		39-115	%REC	1	10/20/2013 05:52 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015</b>		Prep Date: <b>10/17/2013</b>	Analyst: <b>CW</b>
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>3.2</b>	<b>mg/Kg-dry</b>	1	10/18/2013 02:42 AM
Surr: Toluene-d8	109		50-150	%REC	1	10/18/2013 02:42 AM
<b>MERCURY BY CVAA</b>						
			<b>SW7471</b>		Prep Date: <b>10/18/2013</b>	Analyst: <b>LR</b>
<b>Mercury</b>	<b>0.036</b>		<b>0.017</b>	<b>mg/Kg-dry</b>	1	10/21/2013 05:43 PM
<b>METALS BY ICP-MS</b>						
			<b>SW6020A</b>		Prep Date: <b>10/18/2013</b>	Analyst: <b>ML</b>
<b>Arsenic</b>	<b>6.7</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	5	10/20/2013 02:26 AM
<b>Barium</b>	<b>630</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	5	10/20/2013 02:26 AM
Cadmium	ND		0.85	mg/Kg-dry	5	10/20/2013 02:26 AM
<b>Chromium</b>	<b>69</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	5	10/20/2013 02:26 AM
<b>Copper</b>	<b>15</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	5	10/20/2013 02:26 AM
<b>Lead</b>	<b>13</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	5	10/20/2013 02:26 AM
<b>Nickel</b>	<b>34</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	5	10/20/2013 02:26 AM
Selenium	ND		2.1	mg/Kg-dry	5	10/20/2013 02:26 AM
Silver	ND		2.1	mg/Kg-dry	5	10/20/2013 02:26 AM
<b>Zinc</b>	<b>52</b>		<b>4.3</b>	<b>mg/Kg-dry</b>	5	10/20/2013 02:26 AM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW6020A</b>		Prep Date: <b>10/21/2013</b>	Analyst: <b>RH</b>
<b>Calcium</b>	<b>21</b>		<b>10</b>	<b>mg/L</b>	20	10/21/2013 11:20 PM
Magnesium	ND		4.0	mg/L	20	10/21/2013 11:20 PM
<b>Sodium</b>	<b>670</b>		<b>4.0</b>	<b>mg/L</b>	20	10/21/2013 11:20 PM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep Date: <b>10/21/2013</b>	Analyst: <b>RH</b>
<b>Sodium Adsorption Ratio</b>	<b>38</b>		<b>0.010</b>	<b>none</b>	1	10/20/2013
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8270</b>		Prep Date: <b>10/18/2013</b>	Analyst: <b>RM</b>
Acenaphthene	ND		8.6	µg/Kg-dry	1	10/18/2013 10:46 PM
<b>Acenaphthylene</b>	<b>58</b>		<b>8.6</b>	<b>µg/Kg-dry</b>	1	10/18/2013 10:46 PM
<b>Anthracene</b>	<b>64</b>		<b>8.6</b>	<b>µg/Kg-dry</b>	1	10/18/2013 10:46 PM
<b>Benzo(a)anthracene</b>	<b>110</b>		<b>8.6</b>	<b>µg/Kg-dry</b>	1	10/18/2013 10:46 PM
<b>Benzo(a)pyrene</b>	<b>150</b>		<b>8.6</b>	<b>µg/Kg-dry</b>	1	10/18/2013 10:46 PM
<b>Benzo(b)fluoranthene</b>	<b>110</b>		<b>8.6</b>	<b>µg/Kg-dry</b>	1	10/18/2013 10:46 PM
<b>Benzo(g,h,i)perylene</b>	<b>97</b>		<b>8.6</b>	<b>µg/Kg-dry</b>	1	10/18/2013 10:46 PM
<b>Benzo(k)fluoranthene</b>	<b>56</b>		<b>8.6</b>	<b>µg/Kg-dry</b>	1	10/18/2013 10:46 PM
<b>Chrysene</b>	<b>69</b>		<b>8.6</b>	<b>µg/Kg-dry</b>	1	10/18/2013 10:46 PM
Dibenzo(a,h)anthracene	ND		8.6	µg/Kg-dry	1	10/18/2013 10:46 PM
<b>Fluoranthene</b>	<b>150</b>		<b>8.6</b>	<b>µg/Kg-dry</b>	1	10/18/2013 10:46 PM

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



# ALS Group USA, Corp

Date: 25-Oct-13

Client: HRL Compliance Solutions

Project: WPX TR 44-35-597 Pit Closure 10.16.13

Work Order: 1310923

Sample ID: South east Bottom

Lab ID: 1310923-02

Collection Date: 10/16/2013 11:45 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		8.6	µg/Kg-dry	1	10/18/2013 10:46 PM
Indeno(1,2,3-cd)pyrene	140		8.6	µg/Kg-dry	1	10/18/2013 10:46 PM
Naphthalene	22		8.6	µg/Kg-dry	1	10/18/2013 10:46 PM
Pyrene	130		8.6	µg/Kg-dry	1	10/18/2013 10:46 PM
Surr: 2-Fluorobiphenyl	76.8		12-100	%REC	1	10/18/2013 10:46 PM
Surr: 4-Terphenyl-d14	110		25-137	%REC	1	10/18/2013 10:46 PM
Surr: Nitrobenzene-d5	62.3		37-107	%REC	1	10/18/2013 10:46 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>		Prep Date: 10/17/2013	Analyst: RS
Benzene	ND		39	µg/Kg-dry	1	10/17/2013 09:33 PM
Ethylbenzene	ND		39	µg/Kg-dry	1	10/17/2013 09:33 PM
m,p-Xylene	ND		77	µg/Kg-dry	1	10/17/2013 09:33 PM
o-Xylene	ND		39	µg/Kg-dry	1	10/17/2013 09:33 PM
Toluene	ND		39	µg/Kg-dry	1	10/17/2013 09:33 PM
Xylenes, Total	ND		120	µg/Kg-dry	1	10/17/2013 09:33 PM
Surr: 1,2-Dichloroethane-d4	123		70-130	%REC	1	10/17/2013 09:33 PM
Surr: 4-Bromofluorobenzene	87.0		70-130	%REC	1	10/17/2013 09:33 PM
Surr: Dibromofluoromethane	124		70-130	%REC	1	10/17/2013 09:33 PM
Surr: Toluene-d8	92.8		70-130	%REC	1	10/17/2013 09:33 PM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>		Prep Date: 10/21/2013	Analyst: JB
Electrical Conductivity @ Saturation	3.4		0.050	mmhos/cm @25	10	10/21/2013 05:45 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: MB
Chromium, Trivalent	68		0.64	mg/Kg-dry	1	10/21/2013 05:10 PM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>		Prep Date: 10/18/2013	Analyst: MB
Chromium, Hexavalent	ND		0.63	mg/Kg-dry	1	10/21/2013 03:30 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: MEB
Moisture	22		0.050	% of sample	1	10/17/2013 06:00 PM
<b>PH</b>			<b>SW9045D</b>		Prep Date: 10/17/2013	Analyst: DC
pH	9.1			s.u.	1	10/17/2013 09:00 AM

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



Client: HRL Compliance Solutions

# QC BATCH REPORT

Work Order: 1310923

Project: WPX TR 44-35-597 Pit Closure 10.16.13

Batch ID: 52417

Instrument ID GC8

Method: SW8015M

<b>MBLK</b>		Sample ID: <b>DBLKS1-52417-52417</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/20/2013 07:52 AM</b>		
Client ID:		Run ID: <b>GC8_131020A</b>				SeqNo: <b>2496735</b>		Prep Date: <b>10/18/2013</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	4.2								
Surr: 4-Terphenyl-d14	1.028	0	1.667	0	61.7	39-115	0			

<b>LCS</b>		Sample ID: <b>DLCSS1-52417-52417</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/20/2013 08:22 AM</b>		
Client ID:		Run ID: <b>GC8_131020A</b>				SeqNo: <b>2496736</b>		Prep Date: <b>10/18/2013</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)	121.8	4.2	166.7	0	73.1	49-124	0			
Surr: 4-Terphenyl-d14	0.7287	0	1.667	0	43.7	39-115	0			

<b>MS</b>		Sample ID: <b>1310826-05A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/20/2013 08:52 AM</b>		
Client ID:		Run ID: <b>GC8_131020A</b>				SeqNo: <b>2496737</b>		Prep Date: <b>10/18/2013</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)	382.8	12	496.7	56.3	65.7	49-130	0			
Surr: 4-Terphenyl-d14	2.888	0	4.967	0	58.1	39-115	0			

<b>MSD</b>		Sample ID: <b>1310826-05A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/20/2013 09:22 AM</b>		
Client ID:		Run ID: <b>GC8_131020A</b>				SeqNo: <b>2496738</b>		Prep Date: <b>10/18/2013</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)	386.2	12	495.6	56.3	66.6	49-130	382.8	0.89	30	
Surr: 4-Terphenyl-d14	3.014	0	4.956	0	60.8	39-115	2.888	4.29	30	

The following samples were analyzed in this batch:

1310923-01B

1310923-02B



**Client:** HRL Compliance Solutions  
**Work Order:** 1310923  
**Project:** WPX TR 44-35-597 Pit Closure 10.16.13

## QC BATCH REPORT

Batch ID: **52378**      Instrument ID **GC10**      Method: **SW8015**

<b>MBLK</b>		Sample ID: <b>MBLK-52378-52378</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>10/17/2013 04:54 PM</b>		
Client ID:		Run ID: <b>GC10_131017A</b>				SeqNo: <b>2494394</b>		Prep Date: <b>10/17/2013</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>	4826	0	5000	0	96.5	50-150	0			

<b>LCS</b>		Sample ID: <b>LCS-52378-52378</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>10/17/2013 04:31 PM</b>		
Client ID:		Run ID: <b>GC10_131017A</b>				SeqNo: <b>2494393</b>		Prep Date: <b>10/17/2013</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)	402300	2,500	500000	0	80.5	70-130	0			
<i>Surr: Toluene-d8</i>	5435	0	5000	0	109	50-150	0			

<b>MS</b>		Sample ID: <b>1310818-03B MS</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>10/17/2013 10:24 PM</b>		
Client ID:		Run ID: <b>GC10_131017A</b>				SeqNo: <b>2494408</b>		Prep Date: <b>10/17/2013</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)	454300	2,700	537100	0	84.6	70-130	0			
<i>Surr: Toluene-d8</i>	6150	0	5371	0	115	50-150	0			

<b>MSD</b>		Sample ID: <b>1310818-03B MSD</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>10/17/2013 10:47 PM</b>		
Client ID:		Run ID: <b>GC10_131017A</b>				SeqNo: <b>2494409</b>		Prep Date: <b>10/17/2013</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)	446100	2,700	537100	0	83.1	70-130	454300	1.82	30	
<i>Surr: Toluene-d8</i>	6070	0	5371	0	113	50-150	6150	1.31	30	

The following samples were analyzed in this batch:

1310923-01A	1310923-02A
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.



**Client:** HRL Compliance Solutions  
**Work Order:** 1310923  
**Project:** WPX TR 44-35-597 Pit Closure 10.16.13

## QC BATCH REPORT

Batch ID: **52428**      Instrument ID **HG1**      Method: **SW7471**

MBLK				Sample ID: MBLK-52428-52428				Units: mg/Kg			Analysis Date: 10/21/2013 04:20 PM			
Client ID:				Run ID: HG1_131021A				SeqNo: 2498370			Prep Date: 10/18/2013		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-52428-52428				Units: mg/Kg		Analysis Date: 10/21/2013 04:22 PM		
Client ID:		Run ID: HG1_131021A				SeqNo: 2498371		Prep Date: 10/18/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury      0.1669      0.020      0.1665      0      100      80-120      0

MS		Sample ID: 1310818-03AMS					Units: mg/Kg		Analysis Date: 10/21/2013 04:33 PM		
Client ID:			Run ID: HG1_131021A			SeqNo: 2498376		Prep Date: 10/18/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury      0.1403      0.013      0.1052      0.03126      104      75-125      0

MSD		Sample ID: 1310818-03AMSD					Units: mg/Kg		Analysis Date: 10/21/2013 04:35 PM		
Client ID:			Run ID: HG1_131021A			SeqNo: 2498377		Prep Date: 10/18/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury      0.1407      0.012      0.1014      0.03126      108      75-125      0.1403      0.282      35

The following samples were analyzed in this batch:

1310923-01B      1310923-02B

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1310923  
**Project:** WPX TR 44-35-597 Pit Closure 10.16.13

## QC BATCH REPORT

Batch ID: **52402** Instrument ID **ICPMS2** Method: **SW6020A** **(Dissolve)**

<b>DUP</b>		Sample ID: <b>1310769-01CDUP</b>				Units: <b>mg/L</b>		Analysis Date: <b>10/21/2013 10:45 PM</b>		
Client ID:		Run ID: <b>ICPMS2_131020A</b>				SeqNo: <b>2499338</b>		Prep Date: <b>10/21/2013</b>		DF: <b>20</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	91.28	10	0	0	0	0-0	175.2	63		
Magnesium	1.903	4.0	0	0	0	0-0	1.419	0		J
Sodium	945.6	4.0	0	0	0	0-0	1692	56.6		

The following samples were analyzed in this batch:

1310923-01C 1310923-02C

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1310923  
**Project:** WPX TR 44-35-597 Pit Closure 10.16.13

## QC BATCH REPORT

Batch ID: **52439**      Instrument ID **ICPMS1**      Method: **SW6020A**

<b>MBLK</b>		Sample ID: <b>MBLK-52439-52439</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/19/2013 08:24 PM</b>		
Client ID:		Run ID: <b>ICPMS1_131019A</b>				SeqNo: <b>2497168</b>		Prep Date: <b>10/18/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Lead      ND      0.25

<b>MBLK</b>		Sample ID: <b>MBLK-52439-52439</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/21/2013 07:58 PM</b>		
Client ID:		Run ID: <b>ICPMS1_131021A</b>				SeqNo: <b>2498824</b>		Prep Date: <b>10/18/2013</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	0.03746	0.25								J
Cadmium	ND	0.10								
Chromium	ND	0.25								
Copper	ND	0.25								
Lead	ND	0.25								
Nickel	ND	0.25								
Selenium	ND	0.25								
Silver	ND	0.25								
Zinc	ND	0.50								

<b>LCS</b>		Sample ID: <b>LCS-52439-52439</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/19/2013 08:30 PM</b>		
Client ID:		Run ID: <b>ICPMS1_131019A</b>				SeqNo: <b>2497169</b>		Prep Date: <b>10/18/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Lead      4.918      0.25      5      0      98.4      80-120      0

<b>LCS</b>		Sample ID: <b>LCS-52439-52439</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/21/2013 06:36 PM</b>		
Client ID:		Run ID: <b>ICPMS1_131021A</b>				SeqNo: <b>2498811</b>		Prep Date: <b>10/18/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic	4.562	0.25	5	0	91.2	80-120	0			
Barium	4.822	0.25	5	0	96.4	80-120	0			
Cadmium	4.766	0.10	5	0	95.3	80-120	0			
Chromium	4.768	0.25	5	0	95.4	80-120	0			
Copper	4.818	0.25	5	0	96.4	80-120	0			
Lead	4.938	0.25	5	0	98.8	80-120	0			
Nickel	4.796	0.25	5	0	95.9	80-120	0			
Selenium	4.252	0.25	5	0	85	80-120	0			
Silver	5.005	0.25	5	0	100	80-120	0			
Zinc	4.595	0.50	5	0	91.9	80-120	0			

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1310923  
**Project:** WPX TR 44-35-597 Pit Closure 10.16.13

## QC BATCH REPORT

Batch ID: **52439**      Instrument ID **ICPMS1**      Method: **SW6020A**

MS				Sample ID: <b>1310923-02BMS</b>			Units: <b>mg/Kg</b>		Analysis Date: <b>10/20/2013 02:32 AM</b>	
Client ID: <b>South east Bottom</b>				Run ID: <b>ICPMS1_131019A</b>			SeqNo: <b>2497229</b>		Prep Date: <b>10/18/2013</b>	
									DF: <b>5</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.73	1.6	6.562	5.222	99.2	75-125	0			
Barium	484.9	1.6	6.562	485.1	-2.91	75-125	0			SO
Cadmium	6.716	0.66	6.562	0.2288	98.9	75-125	0			
Chromium	60.99	1.6	6.562	53.38	116	75-125	0			O
Copper	16.63	1.6	6.562	11.33	80.7	75-125	0			
Lead	16.98	1.6	6.562	10.39	100	75-125	0			
Nickel	30.99	1.6	6.562	26.45	69.2	75-125	0			SO
Selenium	6.614	1.6	6.562	1.167	83	75-125	0			
Silver	6.319	1.6	6.562	0.06646	95.3	75-125	0			
Zinc	45.51	3.3	6.562	40.7	73.3	75-125	0			SO

MSD				Sample ID: <b>1310923-02BMSD</b>			Units: <b>mg/Kg</b>		Analysis Date: <b>10/20/2013 03:04 AM</b>	
Client ID: <b>South east Bottom</b>				Run ID: <b>ICPMS1_131019A</b>			SeqNo: <b>2497234</b>		Prep Date: <b>10/18/2013</b>	
									DF: <b>5</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.85	1.7	6.702	5.222	98.9	75-125	11.73	1.05	25	
Barium	491.6	1.7	6.702	485.1	97.3	75-125	484.9	1.38	25	O
Cadmium	6.987	0.67	6.702	0.2288	101	75-125	6.716	3.96	25	
Chromium	61.53	1.7	6.702	53.38	122	75-125	60.99	0.877	25	O
Copper	17.07	1.7	6.702	11.33	85.6	75-125	16.63	2.63	25	
Lead	17.03	1.7	6.702	10.39	99	75-125	16.98	0.289	25	
Nickel	31.9	1.7	6.702	26.45	81.3	75-125	30.99	2.89	25	
Selenium	7.125	1.7	6.702	1.167	88.9	75-125	6.614	7.43	25	
Silver	6.532	1.7	6.702	0.06646	96.5	75-125	6.319	3.31	25	
Zinc	45.24	3.4	6.702	40.7	67.8	75-125	45.51	0.582	25	SO

The following samples were analyzed in this batch:

1310923-01B      1310923-02B

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1310923  
**Project:** WPX TR 44-35-597 Pit Closure 10.16.13

## QC BATCH REPORT

Batch ID: **52416**      Instrument ID **SVMS6**      Method: **SW8270**

MBLK		Sample ID: <b>SBLKS1-52416-52416</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>10/18/2013 05:27 PM</b>		
Client ID:		Run ID: <b>SVMS6_131018A</b>				SeqNo: <b>2497370</b>		Prep Date: <b>10/18/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	6.7								
Acenaphthylene	ND	6.7								
Anthracene	ND	6.7								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(g,h,i)perylene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Chrysene	ND	6.7								
Dibenzo(a,h)anthracene	ND	6.7								
Fluoranthene	ND	6.7								
Fluorene	ND	6.7								
Indeno(1,2,3-cd)pyrene	ND	6.7								
Naphthalene	ND	6.7								
Pyrene	ND	6.7								
<i>Surr: 2-Fluorobiphenyl</i>	1200	0	1667	0	72	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1955	0	1667	0	117	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1018	0	1667	0	61.1	37-107	0			

LCS		Sample ID: <b>SLCSS1-52416-52416</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>10/18/2013 05:47 PM</b>		
Client ID:		Run ID: <b>SVMS6_131018A</b>				SeqNo: <b>2497372</b>		Prep Date: <b>10/18/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	498	6.7	666.7	0	74.7	45-110	0			
Acenaphthylene	510.3	6.7	666.7	0	76.5	45-105	0			
Anthracene	581	6.7	666.7	0	87.1	55-105	0			
Benzo(a)anthracene	682.3	6.7	666.7	0	102	50-110	0			
Benzo(a)pyrene	714.7	6.7	666.7	0	107	50-110	0			
Benzo(b)fluoranthene	733	6.7	666.7	0	110	45-115	0			
Benzo(g,h,i)perylene	714.7	6.7	666.7	0	107	40-125	0			
Benzo(k)fluoranthene	704.3	6.7	666.7	0	106	45-115	0			
Chrysene	701.7	6.7	666.7	0	105	55-110	0			
Dibenzo(a,h)anthracene	731.3	6.7	666.7	0	110	40-125	0			
Fluoranthene	644	6.7	666.7	0	96.6	55-115	0			
Fluorene	551	6.7	666.7	0	82.6	50-110	0			
Indeno(1,2,3-cd)pyrene	714.7	6.7	666.7	0	107	40-120	0			
Naphthalene	466.3	6.7	666.7	0	69.9	40-105	0			
Pyrene	698.3	6.7	666.7	0	105	45-125	0			
<i>Surr: 2-Fluorobiphenyl</i>	1199	0	1667	0	72	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1998	0	1667	0	120	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	999	0	1667	0	59.9	37-107	0			

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1310923  
**Project:** WPX TR 44-35-597 Pit Closure 10.16.13

## QC BATCH REPORT

Batch ID: **52416**      Instrument ID: **SVMS6**      Method: **SW8270**

MS				Sample ID: <b>1310826-05A MS</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>10/18/2013 06:07 PM</b>	
Client ID:		Run ID: <b>SVMS6_131018A</b>			SeqNo: <b>2497374</b>		Prep Date: <b>10/18/2013</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1589	19	1947	0	81.6	45-110	0			
Acenaphthylene	1553	19	1947	0	79.7	45-105	0			
Anthracene	1771	19	1947	0	90.9	55-105	0			
Benzo(a)anthracene	2081	19	1947	178.3	97.7	50-110	0			
Benzo(a)pyrene	2162	19	1947	279.3	96.7	50-110	0			
Benzo(b)fluoranthene	2266	19	1947	197.3	106	45-115	0			
Benzo(g,h,i)perylene	2226	19	1947	156.3	106	40-125	0			
Benzo(k)fluoranthene	1982	19	1947	97.24	96.8	45-115	0			
Chrysene	2139	19	1947	113.4	104	55-110	0			
Dibenzo(a,h)anthracene	2109	19	1947	0	108	40-125	0			
Fluoranthene	2302	19	1947	324.1	102	55-115	0			
Fluorene	1698	19	1947	0	87.2	50-110	0			
Indeno(1,2,3-cd)pyrene	2345	19	1947	265	107	40-120	0			
Naphthalene	1437	19	1947	0	73.8	40-105	0			
Pyrene	2371	19	1947	257.4	109	45-125	0			
Surr: 2-Fluorobiphenyl	3705	0	4868	0	76.1	12-100	0			
Surr: 4-Terphenyl-d14	5667	0	4868	0	116	25-137	0			
Surr: Nitrobenzene-d5	3051	0	4868	0	62.7	37-107	0			

MSD				Sample ID: <b>1310826-05A MSD</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>10/18/2013 06:27 PM</b>	
Client ID:		Run ID: <b>SVMS6_131018A</b>			SeqNo: <b>2497377</b>		Prep Date: <b>10/18/2013</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1508	19	1919	0	78.6	45-110	1589	5.18	30	
Acenaphthylene	1527	19	1919	0	79.5	45-105	1553	1.69	30	
Anthracene	1659	19	1919	0	86.4	55-105	1771	6.51	30	
Benzo(a)anthracene	1921	19	1919	178.3	90.8	50-110	2081	8.01	30	
Benzo(a)pyrene	2022	19	1919	279.3	90.8	50-110	2162	6.71	30	
Benzo(b)fluoranthene	2043	19	1919	197.3	96.2	45-115	2266	10.4	30	
Benzo(g,h,i)perylene	2107	19	1919	156.3	102	40-125	2226	5.5	30	
Benzo(k)fluoranthene	1887	19	1919	97.24	93.2	45-115	1982	4.94	30	
Chrysene	1895	19	1919	113.4	92.8	55-110	2139	12.1	30	
Dibenzo(a,h)anthracene	2091	19	1919	0	109	40-125	2109	0.842	30	
Fluoranthene	1899	19	1919	324.1	82.1	55-115	2302	19.2	30	
Fluorene	1610	19	1919	0	83.9	50-110	1698	5.3	30	
Indeno(1,2,3-cd)pyrene	2218	19	1919	265	102	40-120	2345	5.59	30	
Naphthalene	1468	19	1919	0	76.5	40-105	1437	2.15	30	
Pyrene	2009	19	1919	257.4	91.3	45-125	2371	16.5	30	
Surr: 2-Fluorobiphenyl	3692	0	4798	0	76.9	12-100	3705	0.369	40	
Surr: 4-Terphenyl-d14	5428	0	4798	0	113	25-137	5667	4.3	40	
Surr: Nitrobenzene-d5	3171	0	4798	0	66.1	37-107	3051	3.87	40	

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1310923  
**Project:** WPX TR 44-35-597 Pit Closure 10.16.13

## QC BATCH REPORT

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Batch ID: **52416** Instrument ID **SVMS6** Method: **SW8270**

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**The following samples were analyzed in this batch:**

1310923-01B	1310923-02B
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.



**Client:** HRL Compliance Solutions  
**Work Order:** 1310923  
**Project:** WPX TR 44-35-597 Pit Closure 10.16.13

## QC BATCH REPORT

Batch ID: **52376**      Instrument ID **VMS8**      Method: **SW8260B**

MBLK				Sample ID: MBLK-52376-52376				Units: µg/Kg			Analysis Date: 10/18/2013 03:40 AM			
Client ID:				Run ID: VMS8_131017A				SeqNo: 2494845			Prep Date: 10/17/2013		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	996.5	0	1000	0	99.6	70-130	0							
Surr: 4-Bromofluorobenzene	960	0	1000	0	96	70-130	0							
Surr: Dibromofluoromethane	973.5	0	1000	0	97.4	70-130	0							
Surr: Toluene-d8	996	0	1000	0	99.6	70-130	0							

LCS				Sample ID: LCS-52376-52376			Units: µg/Kg		Analysis Date: 10/18/2013 01:39 AM		
Client ID:			Run ID: VMS8_131017A			SeqNo: 2494843		Prep Date: 10/17/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	947	30	1000	0	94.7	75-125	0				
Ethylbenzene	973.5	30	1000	0	97.4	75-125	0				
m,p-Xylene	1932	60	2000	0	96.6	80-125	0				
o-Xylene	973	30	1000	0	97.3	75-125	0				
Toluene	943	30	1000	0	94.3	70-125	0				
Xylenes, Total	2904	90	3000	0	96.8	75-125	0				
Surr: 1,2-Dichloroethane-d4	987.5	0	1000	0	98.8	70-130	0				
Surr: 4-Bromofluorobenzene	995.5	0	1000	0	99.6	70-130	0				
Surr: Dibromofluoromethane	1006	0	1000	0	101	70-130	0				
Surr: Toluene-d8	985	0	1000	0	98.5	70-130	0				

MS					Sample ID: 1310923-01A MS			Units: µg/Kg		Analysis Date: 10/19/2013 12:57 PM	
Client ID: Southeast Wall			Run ID: VMS8_131018A			SeqNo: 2497133		Prep Date: 10/17/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	956.5	30	1000	0	95.6	75-125	0				
Ethylbenzene	995	30	1000	14.5	98	75-125	0				
m,p-Xylene	2316	60	2000	358.5	97.9	80-125	0				
o-Xylene	1074	30	1000	89	98.6	75-125	0				
Toluene	972	30	1000	0	97.2	70-125	0				
Xylenes, Total	3391	90	3000	449	98.1	75-125	0				
Surr: 1,2-Dichloroethane-d4	1002	0	1000	0	100	70-130	0				
Surr: 4-Bromofluorobenzene	1004	0	1000	0	100	70-130	0				
Surr: Dibromofluoromethane	1007	0	1000	0	101	70-130	0				
Surr: Toluene-d8	1002	0	1000	0	100	70-130	0				

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1310923  
**Project:** WPX TR 44-35-597 Pit Closure 10.16.13

## QC BATCH REPORT

Batch ID: **52376**      Instrument ID **VMS8**      Method: **SW8260B**

MSD				Sample ID: <b>1310923-01A MSD</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>10/19/2013 01:21 AM</b>	
Client ID: <b>Southeast Wall</b>				Run ID: <b>VMS8_131018A</b>			SeqNo: <b>2497129</b>		Prep Date: <b>10/17/2013</b>	
									DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	892	30	1000	0	89.2	75-125	956.5	6.98	30	
Ethylbenzene	946	30	1000	14.5	93.2	75-125	995	5.05	30	
m,p-Xylene	2210	60	2000	358.5	92.6	80-125	2316	4.68	30	
o-Xylene	1020	30	1000	89	93.2	75-125	1074	5.16	30	
Toluene	924.5	30	1000	0	92.4	70-125	972	5.01	30	
Xylenes, Total	3231	90	3000	449	92.7	75-125	3391	4.83	30	
Surr: 1,2-Dichloroethane-d4	996.5	0	1000	0	99.6	70-130	1002	0.501	30	
Surr: 4-Bromofluorobenzene	989.5	0	1000	0	99	70-130	1004	1.45	30	
Surr: Dibromofluoromethane	1005	0	1000	0	100	70-130	1007	0.199	30	
Surr: Toluene-d8	1025	0	1000	0	102	70-130	1002	2.32	30	

The following samples were analyzed in this batch:      1310923-01A      1310923-02A

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1310923  
**Project:** WPX TR 44-35-597 Pit Closure 10.16.13

## QC BATCH REPORT

Batch ID: **52392** Instrument ID **WETCHEM** Method: **SW9045D**

LCS				Sample ID: LCS-52392-52392				Units: s.u.			Analysis Date: 10/17/2013 09:00 AM			
Client ID:				Run ID: WETCHEM_131017F				SeqNo: 2493435			Prep Date: 10/17/2013		DF: 1	
Analyte				Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH 3.92 0 4 0 98 90-110 0

DUP		Sample ID: 1310769-01BDUP					Units: s.u.		Analysis Date: 10/17/2013 09:00 AM	
Client ID:			Run ID: WETCHEM_131017F			SeqNo: 2493452		Prep Date: 10/17/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

pH 9.48 0 0 0 0 0-0 9.41 0.741 20

DUP		Sample ID: 1310876-02CDUP					Units: s.u.		Analysis Date: 10/17/2013 09:00 AM		
Client ID:			Run ID: WETCHEM_131017F			SeqNo: 2493453		Prep Date: 10/17/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH 7.85 0 0 0 0 0-0 7.85 0 20

The following samples were analyzed in this batch:

1310923-01B 1310923-02B

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1310923  
**Project:** WPX TR 44-35-597 Pit Closure 10.16.13

## QC BATCH REPORT

Batch ID: **52402** Instrument ID **WETCHEM** Method: **USDA H60 Method**

<b>DUP</b>		Sample ID: <b>1310769-01C DUP</b>				Units: <b>mmhos/cm @25°C</b>		Analysis Date: <b>10/21/2013 05:45 PM</b>		
Client ID:		Run ID: <b>WETCHEM_131021R</b>				SeqNo: <b>2498578</b>		Prep Date: <b>10/21/2013</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	8.45	0.050	0	0	0		8.41	0.474	50	

The following samples were analyzed in this batch:

1310923-01C	1310923-02C
-------------	-------------

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



Client: HRL Compliance Solutions  
 Work Order: 1310923  
 Project: WPX TR 44-35-597 Pit Closure 10.16.13

## QC BATCH REPORT

Batch ID: **52491** Instrument ID **WETCHEM** Method: **SW7196A**

<b>MBLK</b>		Sample ID: <b>MBLK-52491-52491</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/21/2013 03:30 PM</b>		
Client ID:		Run ID: <b>WETCHEM_131021I</b>				SeqNo: <b>2498300</b>		Prep Date: <b>10/18/2013</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 0.50

<b>LCS</b>		Sample ID: <b>LCS-52491-52491</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/21/2013 03:30 PM</b>		
Client ID:		Run ID: <b>WETCHEM_131021I</b>				SeqNo: <b>2498299</b>		Prep Date: <b>10/18/2013</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 1.98 0.50 2 0 99 80-120 0

<b>MS</b>		Sample ID: <b>1310923-01B MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/21/2013 03:30 PM</b>		
Client ID: <b>Southeast Wall</b>		Run ID: <b>WETCHEM_131021I</b>				SeqNo: <b>2498294</b>		Prep Date: <b>10/18/2013</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 1.831 0.50 2.008 0 91.2 75-125 0

<b>MS</b>		Sample ID: <b>1310923-01B MSI</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/21/2013 03:30 PM</b>		
Client ID: <b>Southeast Wall</b>		Run ID: <b>WETCHEM_131021I</b>				SeqNo: <b>2498296</b>		Prep Date: <b>10/18/2013</b>		DF: <b>50</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1045 26 1123 0 93.1 75-125 0

<b>MSD</b>		Sample ID: <b>1310923-01B MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/21/2013 03:30 PM</b>		
Client ID: <b>Southeast Wall</b>		Run ID: <b>WETCHEM_131021I</b>				SeqNo: <b>2498295</b>		Prep Date: <b>10/18/2013</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 1.794 0.51 2.024 0 88.6 75-125 1.831 2.09 20

The following samples were analyzed in this batch:

1310923-01B 1310923-02B

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1310923  
**Project:** WPX TR 44-35-597 Pit Closure 10.16.13

## QC BATCH REPORT

Batch ID: **R128779**      Instrument ID **MOIST**      Method: **A2540 G**

MBLK				Sample ID: WBLKS-R128779				Units: % of sample			Analysis Date: 10/17/2013 06:00 PM			
Client ID:				Run ID: MOIST_131017E				SeqNo: 2495292			Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Moisture	0.04	0.050								J				

LCS				Sample ID: LCS-R128779				Units: % of sample			Analysis Date: 10/17/2013 06:00 PM			
Client ID:				Run ID: MOIST_131017E				SeqNo: 2495288			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: 1310923-01ADUP				Units: % of sample			Analysis Date: 10/17/2013 06:00 PM			
Client ID: Southeast Wall				Run ID: MOIST_131017E				SeqNo: 2495268			Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Moisture	19.45	0.050	0	0	0	0-0	19.66	1.07	20					

DUP		Sample ID: 1310926-16BDUP					Units: % of sample		Analysis Date: 10/17/2013 06:00 PM		
Client ID:		Run ID: MOIST_131017E			SeqNo: 2495286		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Moisture	15.24	0.050	0	0	0	0-0	15.27	0.197	20		

The following samples were analyzed in this batch:

1310923-01A      1310923-02A

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



**WORKORDER**  
#

130923

PAGE 1 of 1

DISPOSAL ☒ By Lab or ☐ Return to Client

[illegible]

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

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

<b>Comments:</b>     	<b>QC PACKAGE (check below)</b>	
	<input checked="" type="checkbox"/>	LEVEL II (Standard QC)
	<input type="checkbox"/>	LEVEL III (Std QC + forms)
	<input type="checkbox"/>	LEVEL IV (Std QC + forms + raw data)
	<input type="checkbox"/>	
<b>Preservative Key:</b> 1-HCl   2-HNO3   3-H2SO4   4-NaOH   5-NaHSO4   7-Other   8-4 degrees C   9-5035		

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	<i>Reed Wild</i>	Reed Wild	10/16/13	2:45
RECEIVED BY	<i>Wm</i>	Wm	10-16	2:50
RELINQUISHED BY	<i>Wm</i>	Wm	10-16	2:55
RECEIVED BY	<i>Shirley Beard</i>	Shirley Beard	10/17/13	0930
RELINQUISHED BY				
RECEIVED BY				



Sample Receipt Checklist

Client Name: HRL

Date/Time Received: 17-Oct-13 09:30

Work Order: 1310923

Received by: AB

Checklist completed by Ashley Beard  
eSignature

17-Oct-13

Date

Reviewed by: Bill Carey  
eSignature

18-Oct-13

Date

Matrices: soil

Carrier name: FedEx

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

Not Present ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Container/Temp Blank temperature in compliance?

Yes ☒

No ☐

Sample(s) received on ice?

Yes ☒

No ☐

Temperature(s)/Thermometer(s):

4.0

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

10/17/2013 11:25:46 AM

Water - VOA vials have zero headspace?

Yes ☐

No ☐

No VOA vials submitted ☒

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

pH adjusted?

Yes ☐

No ☐

N/A ☒

pH adjusted by:

Login Notes:

-----

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



From: (970) 424-4749  
Lab Hub, LLC

Origin ID: RILA



127 E First Street

PARACHUTE, CO 81635

Ship Date: 16OCT13  
ActWgt: 47.0 LB  
CAD: 103923490/INET3430

Dims: 25 X 14 X 15 IN

Delivery Address Bar Code



SHIP TO: (616) 399-6070

BILL RECIPIENT

Sample recieving  
ALS Holland  
3352 128TH AVE

HOLLAND, MI 49424

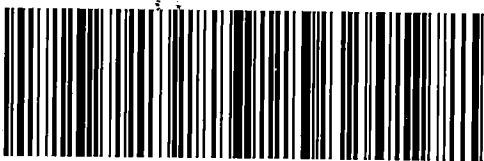
Ref # 1001-101613-4  
Invoice #  
PO #  
Dept #

THU - 17 OCT AA  
STANDARD OVERNIGHT

TRK# 7969 3080 1457  
0201

**XX GRRA**

49424  
MI-US  
GRR



51AG1/AB1/BI/AGE

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CA# 617





07-Nov-2013

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

Re: **WPX TR 44-35-597 Pit Closure 11.4.13**

Work Order: **1311188**

Dear Mark,

ALS Environmental received 4 samples on 05-Nov-2013 09:30 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 12.

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

Sincerely,

A handwritten signature in cursive script that reads "Ann Preston".

Electronically approved by: Ann Preston

Ann Preston  
Project Manager



Certificate No: MN 532786

### Report of Laboratory Analysis

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

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

Environmental 

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

RIGHT SOLUTIONS RIGHT PARTNER



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**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 11.4.13  
**Work Order:** 1311188**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>
1311188-01	SouthEast Pit Bottom	Soil		11/4/2013 11:00	11/5/2013 09:30	<input type="checkbox"/>
1311188-02	LandFarm 1/6	Soil		11/4/2013 11:15	11/5/2013 09:30	<input type="checkbox"/>
1311188-03	LandFarm 3/6	Soil		11/4/2013 11:20	11/5/2013 09:30	<input type="checkbox"/>
1311188-04	LandFarm 5/6	Soil		11/4/2013 11:25	11/5/2013 09:30	<input type="checkbox"/>



**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 11.4.13  
**WorkOrder:** 1311188

## **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

<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
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

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



**ALS Group USA, Corp**

Date: 07-Nov-13

**Client:** HRL Compliance Solutions**Project:** WPX TR 44-35-597 Pit Closure 11.4.13**Work Order:** 1311188**Sample ID:** SouthEast Pit Bottom**Lab ID:** 1311188-01**Collection Date:** 11/4/2013 11:00 AM**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>		Prep Date: <b>11/6/2013</b>	Analyst: <b>RM</b>
Benzo(a)pyrene	ND		8.7	µg/Kg-dry	1	11/6/2013 08:00 PM
Surr: 2-Fluorobiphenyl	81.0		12-100	%REC	1	11/6/2013 08:00 PM
Surr: 4-Terphenyl-d14	101		25-137	%REC	1	11/6/2013 08:00 PM
Surr: Nitrobenzene-d5	73.7		37-107	%REC	1	11/6/2013 08:00 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>MEB</b>
Moisture	23		0.050	% of sample	1	11/5/2013 04:40 PM

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



**ALS Group USA, Corp**

Date: 07-Nov-13

**Client:** HRL Compliance Solutions**Project:** WPX TR 44-35-597 Pit Closure 11.4.13**Work Order:** 1311188**Sample ID:** LandFarm 1/6**Lab ID:** 1311188-02**Collection Date:** 11/4/2013 11:15 AM**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>		Prep Date: <b>11/6/2013</b>	Analyst: <b>RM</b>
<b>Benzo(a)pyrene</b>	<b>47</b>		<b>8.5</b>	<b>µg/Kg-dry</b>	<b>1</b>	11/6/2013 08:20 PM
Surr: 2-Fluorobiphenyl	79.4		12-100	%REC	1	11/6/2013 08:20 PM
Surr: 4-Terphenyl-d14	104		25-137	%REC	1	11/6/2013 08:20 PM
Surr: Nitrobenzene-d5	79.0		37-107	%REC	1	11/6/2013 08:20 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>MEB</b>
<b>Moisture</b>	<b>22</b>		<b>0.050</b>	<b>% of sample</b>	<b>1</b>	11/5/2013 04:40 PM

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



**ALS Group USA, Corp**

Date: 07-Nov-13

**Client:** HRL Compliance Solutions**Project:** WPX TR 44-35-597 Pit Closure 11.4.13**Work Order:** 1311188**Sample ID:** LandFarm 3/6**Lab ID:** 1311188-03**Collection Date:** 11/4/2013 11:20 AM**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>		Prep Date: <b>11/6/2013</b>	Analyst: <b>RM</b>
Benzo(a)pyrene	ND		8.1	µg/Kg-dry	1	11/6/2013 08:40 PM
Surr: 2-Fluorobiphenyl	76.5		12-100	%REC	1	11/6/2013 08:40 PM
Surr: 4-Terphenyl-d14	94.6		25-137	%REC	1	11/6/2013 08:40 PM
Surr: Nitrobenzene-d5	79.3		37-107	%REC	1	11/6/2013 08:40 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>MEB</b>
Moisture	18		0.050	% of sample	1	11/5/2013 04:40 PM

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



**ALS Group USA, Corp**

Date: 07-Nov-13

**Client:** HRL Compliance Solutions**Project:** WPX TR 44-35-597 Pit Closure 11.4.13**Work Order:** 1311188**Sample ID:** LandFarm 5/6**Lab ID:** 1311188-04**Collection Date:** 11/4/2013 11:25 AM**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>		Prep Date: <b>11/6/2013</b>	Analyst: <b>RM</b>
Benzo(a)pyrene	ND		8.3	µg/Kg-dry	1	11/6/2013 09:00 PM
Surr: 2-Fluorobiphenyl	81.7		12-100	%REC	1	11/6/2013 09:00 PM
Surr: 4-Terphenyl-d14	104		25-137	%REC	1	11/6/2013 09:00 PM
Surr: Nitrobenzene-d5	84.5		37-107	%REC	1	11/6/2013 09:00 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>MEB</b>
Moisture	21		0.050	% of sample	1	11/5/2013 04:40 PM

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



# ALS Group USA, Corp

Date: 07-Nov-13

**Client:** HRL Compliance Solutions

**Work Order:** 1311188

**Project:** WPX TR 44-35-597 Pit Closure 11.4.13

## QC BATCH REPORT

Batch ID: **53029**

Instrument ID **SVMS6**

Method: **SW8270**

<b>MBLK</b>	Sample ID: <b>SBLKS1-53029-53029</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>11/6/2013 04:41 PM</b>			
Client ID:	Run ID: <b>SVMS6_131106A</b>				SeqNo: <b>2527089</b>		Prep Date: <b>11/6/2013</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(a)pyrene	ND	6.7								
Surr: 2-Fluorobiphenyl	1291	0	1667	0	77.5	12-100	0			
Surr: 4-Terphenyl-d14	1802	0	1667	0	108	25-137	0			
Surr: Nitrobenzene-d5	1271	0	1667	0	76.2	37-107	0			

The following samples were analyzed in this batch:

1311188-01A	1311188-02A	1311188-03A
1311188-04A		

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1311188  
**Project:** WPX TR 44-35-597 Pit Closure 11.4.13

## QC BATCH REPORT

Batch ID: **R130009**      Instrument ID **MOIST**      Method: **A2540 G**

<b>MBLK</b>		Sample ID: <b>WBLKS-R130009</b>				Units: % of sample		Analysis Date: <b>11/5/2013 04:40 PM</b>		
Client ID:		Run ID: <b>MOIST_131105C</b>				SeqNo: <b>2525556</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-R130009</b>				Units: % of sample		Analysis Date: <b>11/5/2013 04:40 PM</b>		
Client ID:		Run ID: <b>MOIST_131105C</b>				SeqNo: <b>2525552</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture      100      0.050      100      0      100      99.5-100.5      0

<b>DUP</b>		Sample ID: <b>1311198-02B DUP</b>				Units: % of sample		Analysis Date: <b>11/5/2013 04:40 PM</b>		
Client ID:		Run ID: <b>MOIST_131105C</b>				SeqNo: <b>2525522</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      13.92      0.050      0      0      0      0-0      13.92      0      20

<b>DUP</b>		Sample ID: <b>1311221-01A DUP</b>				Units: % of sample		Analysis Date: <b>11/5/2013 04:40 PM</b>		
Client ID:		Run ID: <b>MOIST_131105C</b>				SeqNo: <b>2525531</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

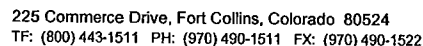
Moisture      12.41      0.050      0      0      0      0-0      11.54      7.27      20

The following samples were analyzed in this batch:

1311188-01A	1311188-02A	1311188-03A
1311188-04A		

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





## Form 202r8

1311	88
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PAGE 1 of 1

DISPOSAL By Lab or Return to Client

\*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.**

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	<i>[Signature]</i>	<i>[Signature]</i>	11/4/13	2:30
RECEIVED BY	<i>[Signature]</i>	<i>[Signature]</i>	11-4-13	2:30
RELINQUISHED BY	<i>[Signature]</i>	<i>[Signature]</i>	11-4	2:46
RECEIVED BY	<i>[Signature]</i>	Ashley Bean	11/5/13	0930
RELINQUISHED BY				
RECEIVED BY				



Sample Receipt Checklist

Client Name: HRL

Date/Time Received: 05-Nov-13 09:30

Work Order: 1311188

Received by: AB

Checklist completed by Ashley Beard  
eSignature

05-Nov-13

Date

Reviewed by: Ann Preston  
eSignature

06-Nov-13

Date

Matrices: soil

Carrier name: FedEx

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

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

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

Chain of custody present? Yes ☒ No ☐

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

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

Samples in proper container/bottle? Yes ☒ No ☐

Sample containers intact? Yes ☒ No ☐

Sufficient sample volume for indicated test? Yes ☒ No ☐

All samples received within holding time? Yes ☒ No ☐

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

Sample(s) received on ice? Yes ☒ No ☐

Temperature(s)/Thermometer(s): 4.0

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 11/5/2013 10:53:31 AM

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

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

pH adjusted? Yes ☐ No ☐ N/A ☒

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



From: (970) 424-4749  
Lab Hub, LLC

Origin ID: RILA



Ship Date: 04NOV13  
ActWgt: 60.0 LB  
CAD: 103923490/NET3430

Dims: 25 X 14 X 15 IN

127 E First Street

PARACHUTE, CO 81635



JH3201306280326

SHIP TO: (616) 399-6870  
Sample recieving  
ALS Holland  
3352 128TH AVE

BILL RECIPIENT

HOLLAND, MI 49424

Delivery Address Bar Code



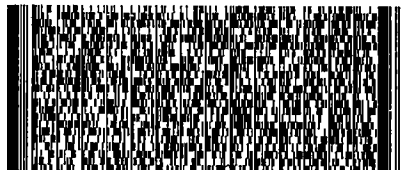
Ref # 1001-110413-4  
Invoice #  
PO #  
Dept #

TUE - 05 NOV AA  
STANDARD OVERNIGHT

TRK# 7970 7709 6720  
0201

**XX GRRRA**

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



51AG10556/1AGE

**After printing this label:**

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## **APPENDIX 2: BACKGROUND RAW ANALYTICAL RESULTS**





14-Aug-2013

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

Re: **WPX TR 44-35-597 Pit Closure 8/6/13**

Work Order: **1308257**

Dear Mark,

ALS Environmental received 8 samples on 07-Aug-2013 09:30 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 31.

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

Sincerely,

A handwritten signature in cursive script that reads "Ann Preston".

Electronically approved by: Ann Preston

Ann Preston  
Project Manager



Certificate No: MN 532786

### Report of Laboratory Analysis

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

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

Environmental 

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

RIGHT SOLUTIONS RIGHT PARTNER



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**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13  
**Work Order:** 1308257

---

**Work Order Sample Summary**

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<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1308257-01	Pit Bottom	Soil		8/6/2013 11:45	8/7/2013 09:30	<input type="checkbox"/>
1308257-02	Northeast Wall	Soil		8/6/2013 11:00	8/7/2013 09:30	<input type="checkbox"/>
1308257-03	Northwest Wall	Soil		8/6/2013 11:30	8/7/2013 09:30	<input type="checkbox"/>
1308257-04	Southeast Wall	Soil		8/6/2013 11:10	8/7/2013 09:30	<input type="checkbox"/>
1308257-05	Southwest Wall	Soil		8/6/2013 11:20	8/7/2013 09:30	<input type="checkbox"/>
1308257-06	TR 44-35-597-B-1	Soil		8/6/2013 12:00	8/7/2013 09:30	<input type="checkbox"/>
1308257-07	TR 44-35-597-B-2	Soil		8/6/2013 12:10	8/7/2013 09:30	<input type="checkbox"/>
1308257-08	TR 44-35-597-B-3	Soil		8/6/2013 12:15	8/7/2013 09:30	<input type="checkbox"/>

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**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13  
**Work Order:** 1308257

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**Case Narrative**

Batch 50391 MS/MSD data for Metals is not related to this project's samples. No data requires qualification.

Batch 50419 sample 1308257-04 DRO surrogate recovery was high due to matrix interference. The corresponding result in the parent sample should be considered estimated for DRO.



**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13  
**WorkOrder:** 1308257

**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

<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
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

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



# ALS Group USA, Corp

Date: 14-Aug-13

Client: HRL Compliance Solutions

Project: WPX TR 44-35-597 Pit Closure 8/6/13

Sample ID: Pit Bottom

Collection Date: 8/6/2013 11:45 AM

Work Order: 1308257

Lab ID: 1308257-01

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
<b>DRO (C10-C28)</b>	<b>27</b>		<b>SW8015M</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RD</b>
			<b>4.9</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/13/2013 04:22 AM
Surr: 4-Terphenyl-d14	69.7		39-115	%REC	1	8/13/2013 04:22 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>SW8015</b>		Prep Date: <b>8/7/2013</b>	Analyst: <b>RD</b>
			<b>3.0</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/7/2013 04:38 PM
Surr: Toluene-d8	113		50-150	%REC	1	8/7/2013 04:38 PM
<b>MERCURY BY CVAA</b>						
<b>Mercury</b>	<b>0.022</b>		<b>SW7471</b>		Prep Date: <b>8/13/2013</b>	Analyst: <b>LR</b>
			<b>0.018</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/13/2013 03:54 PM
<b>METALS BY ICP-MS</b>						
<b>Arsenic</b>	<b>6.5</b>		<b>SW6020A</b>		Prep Date: <b>8/8/2013</b>	Analyst: <b>ML</b>
			<b>2.3</b>	<b>mg/Kg-dry</b>	<b>5</b>	8/9/2013 02:56 AM
<b>Barium</b>	<b>530</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	<b>5</b>	8/9/2013 02:56 AM
Cadmium	ND		0.91	mg/Kg-dry	5	8/9/2013 02:56 AM
<b>Chromium</b>	<b>69</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	<b>5</b>	8/9/2013 02:56 AM
<b>Copper</b>	<b>19</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	<b>5</b>	8/9/2013 02:56 AM
<b>Lead</b>	<b>17</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	<b>5</b>	8/9/2013 02:56 AM
<b>Nickel</b>	<b>29</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	<b>5</b>	8/9/2013 02:56 AM
Selenium	ND		2.3	mg/Kg-dry	5	8/9/2013 02:56 AM
Silver	ND		2.3	mg/Kg-dry	5	8/9/2013 02:56 AM
<b>Zinc</b>	<b>53</b>		<b>4.5</b>	<b>mg/Kg-dry</b>	<b>5</b>	8/9/2013 02:56 AM
<b>SOLUBLE CATIONS FOR SAR</b>						
<b>Calcium</b>	<b>670</b>		<b>SW6020A</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RH</b>
			<b>10</b>	<b>mg/L</b>	<b>20</b>	8/9/2013 03:58 PM
<b>Magnesium</b>	<b>150</b>		<b>4.0</b>	<b>mg/L</b>	<b>20</b>	8/9/2013 03:58 PM
<b>Sodium</b>	<b>210</b>		<b>4.0</b>	<b>mg/L</b>	<b>20</b>	8/9/2013 03:58 PM
<b>SODIUM ADSORPTION RATIO</b>						
<b>Sodium Adsorption Ratio</b>	<b>1.9</b>		<b>USDA H60 METHO</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RH</b>
			<b>0.010</b>	<b>none</b>	<b>1</b>	8/9/2013
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
<b>Acenaphthene</b>	<b>ND</b>		<b>SW8270</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RM</b>
			<b>18</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 01:26 AM
<b>Acenaphthylene</b>	<b>ND</b>		<b>35</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 01:26 AM
<b>Anthracene</b>	<b>ND</b>		<b>18</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 01:26 AM
<b>Benzo(a)anthracene</b>	<b>ND</b>		<b>20</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 01:26 AM
<b>Benzo(a)pyrene</b>	<b>ND</b>		<b>20</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 01:26 AM
<b>Benzo(b)fluoranthene</b>	<b>ND</b>		<b>21</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 01:26 AM
<b>Benzo(g,h,i)perylene</b>	<b>ND</b>		<b>33</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 01:26 AM
<b>Benzo(k)fluoranthene</b>	<b>ND</b>		<b>21</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 01:26 AM
<b>Chrysene</b>	<b>ND</b>		<b>18</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 01:26 AM
<b>Dibenzo(a,h)anthracene</b>	<b>ND</b>		<b>21</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 01:26 AM
<b>Fluoranthene</b>	<b>ND</b>		<b>18</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 01:26 AM

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



# ALS Group USA, Corp

Date: 14-Aug-13

**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13  
**Sample ID:** Pit Bottom  
**Collection Date:** 8/6/2013 11:45 AM

**Work Order:** 1308257  
**Lab ID:** 1308257-01  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		18	µg/Kg-dry	1	8/10/2013 01:26 AM
Indeno(1,2,3-cd)pyrene	ND		23	µg/Kg-dry	1	8/10/2013 01:26 AM
Naphthalene	ND		18	µg/Kg-dry	1	8/10/2013 01:26 AM
Pyrene	ND		18	µg/Kg-dry	1	8/10/2013 01:26 AM
Surr: 2-Fluorobiphenyl	78.6		12-100	%REC	1	8/10/2013 01:26 AM
Surr: 4-Terphenyl-d14	97.0		25-137	%REC	1	8/10/2013 01:26 AM
Surr: Nitrobenzene-d5	66.2		37-107	%REC	1	8/10/2013 01:26 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>		Prep Date: 8/7/2013	Analyst: AK
Benzene	ND		36	µg/Kg-dry	1	8/8/2013 06:09 AM
Ethylbenzene	ND		36	µg/Kg-dry	1	8/8/2013 06:09 AM
m,p-Xylene	ND		71	µg/Kg-dry	1	8/8/2013 06:09 AM
o-Xylene	ND		36	µg/Kg-dry	1	8/8/2013 06:09 AM
Toluene	ND		36	µg/Kg-dry	1	8/8/2013 06:09 AM
Xylenes, Total	ND		110	µg/Kg-dry	1	8/8/2013 06:09 AM
Surr: 1,2-Dichloroethane-d4	97.0		70-130	%REC	1	8/8/2013 06:09 AM
Surr: 4-Bromofluorobenzene	103		70-130	%REC	1	8/8/2013 06:09 AM
Surr: Dibromofluoromethane	95.2		70-130	%REC	1	8/8/2013 06:09 AM
Surr: Toluene-d8	92.8		70-130	%REC	1	8/8/2013 06:09 AM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>		Prep Date: 8/9/2013	Analyst: JB
Electrical Conductivity @ Saturation	6.8		0.025	mmhos/cm @25	5	8/9/2013 03:15 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: MB
Chromium, Trivalent	69		0.59	mg/Kg-dry	1	8/9/2013 02:30 PM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>		Prep Date: 8/8/2013	Analyst: MB
Chromium, Hexavalent	ND		0.58	mg/Kg-dry	1	8/9/2013 11:15 AM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: BD
Moisture	16		0.050	% of sample	1	8/7/2013 03:45 PM
<b>PH</b>			<b>SW9045D</b>		Prep Date: 8/7/2013	Analyst: CH
pH	7.1			s.u.	1	8/7/2013 03:30 PM

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



# ALS Group USA, Corp

Date: 14-Aug-13

Client: HRL Compliance Solutions

Project: WPX TR 44-35-597 Pit Closure 8/6/13

Sample ID: Northeast Wall

Collection Date: 8/6/2013 11:00 AM

Work Order: 1308257

Lab ID: 1308257-02

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>21</b>		<b>SW8015M</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RD</b>
			<b>4.9</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/13/2013 04:52 AM
Surr: 4-Terphenyl-d14	72.4		39-115	%REC	1	8/13/2013 04:52 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>38</b>		<b>SW8015</b>		Prep Date: <b>8/7/2013</b>	Analyst: <b>RD</b>
			<b>3.0</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/7/2013 08:22 PM
Surr: Toluene-d8	109		50-150	%REC	1	8/7/2013 08:22 PM
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8270</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RM</b>
Acenaphthene	ND		18	µg/Kg-dry	1	8/10/2013 01:48 AM
Acenaphthylene	ND		35	µg/Kg-dry	1	8/10/2013 01:48 AM
Anthracene	ND		18	µg/Kg-dry	1	8/10/2013 01:48 AM
Benzo(a)anthracene	ND		20	µg/Kg-dry	1	8/10/2013 01:48 AM
Benzo(a)pyrene	ND		20	µg/Kg-dry	1	8/10/2013 01:48 AM
Benzo(b)fluoranthene	ND		21	µg/Kg-dry	1	8/10/2013 01:48 AM
Benzo(g,h,i)perylene	ND		33	µg/Kg-dry	1	8/10/2013 01:48 AM
Benzo(k)fluoranthene	ND		21	µg/Kg-dry	1	8/10/2013 01:48 AM
Chrysene	ND		18	µg/Kg-dry	1	8/10/2013 01:48 AM
Dibenzo(a,h)anthracene	ND		21	µg/Kg-dry	1	8/10/2013 01:48 AM
Fluoranthene	ND		18	µg/Kg-dry	1	8/10/2013 01:48 AM
Fluorene	ND		18	µg/Kg-dry	1	8/10/2013 01:48 AM
Indeno(1,2,3-cd)pyrene	ND		24	µg/Kg-dry	1	8/10/2013 01:48 AM
Naphthalene	ND		18	µg/Kg-dry	1	8/10/2013 01:48 AM
Pyrene	ND		18	µg/Kg-dry	1	8/10/2013 01:48 AM
Surr: 2-Fluorobiphenyl	83.5		12-100	%REC	1	8/10/2013 01:48 AM
Surr: 4-Terphenyl-d14	105		25-137	%REC	1	8/10/2013 01:48 AM
Surr: Nitrobenzene-d5	67.8		37-107	%REC	1	8/10/2013 01:48 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8260B</b>		Prep Date: <b>8/7/2013</b>	Analyst: <b>AK</b>
Benzene	ND		36	µg/Kg-dry	1	8/8/2013 06:34 AM
Ethylbenzene	ND		36	µg/Kg-dry	1	8/8/2013 06:34 AM
m,p-Xylene	ND		72	µg/Kg-dry	1	8/8/2013 06:34 AM
o-Xylene	ND		36	µg/Kg-dry	1	8/8/2013 06:34 AM
Toluene	ND		36	µg/Kg-dry	1	8/8/2013 06:34 AM
Xylenes, Total	ND		110	µg/Kg-dry	1	8/8/2013 06:34 AM
Surr: 1,2-Dichloroethane-d4	98.8		70-130	%REC	1	8/8/2013 06:34 AM
Surr: 4-Bromofluorobenzene	106		70-130	%REC	1	8/8/2013 06:34 AM
Surr: Dibromofluoromethane	96.6		70-130	%REC	1	8/8/2013 06:34 AM
Surr: Toluene-d8	91.6		70-130	%REC	1	8/8/2013 06:34 AM
<b>MOISTURE</b>						
			<b>A2540 G</b>			Analyst: <b>BD</b>
<b>Moisture</b>	<b>16</b>		<b>0.050</b>	<b>% of sample</b>	<b>1</b>	8/7/2013 03:45 PM

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



# ALS Group USA, Corp

Date: 14-Aug-13

Client: HRL Compliance Solutions

Project: WPX TR 44-35-597 Pit Closure 8/6/13

Sample ID: Northwest Wall

Collection Date: 8/6/2013 11:30 AM

Work Order: 1308257

Lab ID: 1308257-03

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>38</b>		<b>SW8015M</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RD</b>
			<b>4.7</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/13/2013 05:22 AM
Surr: 4-Terphenyl-d14	70.7		39-115	%REC	1	8/13/2013 05:22 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>SW8015</b>		Prep Date: <b>8/7/2013</b>	Analyst: <b>RD</b>
			<b>2.8</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/7/2013 05:03 PM
Surr: Toluene-d8	114		50-150	%REC	1	8/7/2013 05:03 PM
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8270</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RM</b>
Acenaphthene	ND		17	µg/Kg-dry	1	8/10/2013 02:09 AM
Acenaphthylene	ND		34	µg/Kg-dry	1	8/10/2013 02:09 AM
Anthracene	ND		17	µg/Kg-dry	1	8/10/2013 02:09 AM
Benzo(a)anthracene	ND		19	µg/Kg-dry	1	8/10/2013 02:09 AM
Benzo(a)pyrene	ND		19	µg/Kg-dry	1	8/10/2013 02:09 AM
Benzo(b)fluoranthene	ND		20	µg/Kg-dry	1	8/10/2013 02:09 AM
Benzo(g,h,i)perylene	ND		32	µg/Kg-dry	1	8/10/2013 02:09 AM
Benzo(k)fluoranthene	ND		20	µg/Kg-dry	1	8/10/2013 02:09 AM
Chrysene	ND		17	µg/Kg-dry	1	8/10/2013 02:09 AM
Dibenzo(a,h)anthracene	ND		20	µg/Kg-dry	1	8/10/2013 02:09 AM
<b>Fluoranthene</b>	<b>42</b>		<b>17</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 02:09 AM
Fluorene	ND		17	µg/Kg-dry	1	8/10/2013 02:09 AM
Indeno(1,2,3-cd)pyrene	ND		23	µg/Kg-dry	1	8/10/2013 02:09 AM
Naphthalene	ND		17	µg/Kg-dry	1	8/10/2013 02:09 AM
<b>Pyrene</b>	<b>27</b>		<b>17</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 02:09 AM
Surr: 2-Fluorobiphenyl	80.4		12-100	%REC	1	8/10/2013 02:09 AM
Surr: 4-Terphenyl-d14	104		25-137	%REC	1	8/10/2013 02:09 AM
Surr: Nitrobenzene-d5	65.2		37-107	%REC	1	8/10/2013 02:09 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8260B</b>		Prep Date: <b>8/7/2013</b>	Analyst: <b>AK</b>
Benzene	ND		34	µg/Kg-dry	1	8/8/2013 04:18 AM
Ethylbenzene	ND		34	µg/Kg-dry	1	8/8/2013 04:18 AM
m,p-Xylene	ND		68	µg/Kg-dry	1	8/8/2013 04:18 AM
o-Xylene	ND		34	µg/Kg-dry	1	8/8/2013 04:18 AM
Toluene	ND		34	µg/Kg-dry	1	8/8/2013 04:18 AM
Xylenes, Total	ND		100	µg/Kg-dry	1	8/8/2013 04:18 AM
Surr: 1,2-Dichloroethane-d4	97.4		70-130	%REC	1	8/8/2013 04:18 AM
Surr: 4-Bromofluorobenzene	98.2		70-130	%REC	1	8/8/2013 04:18 AM
Surr: Dibromofluoromethane	94.8		70-130	%REC	1	8/8/2013 04:18 AM
Surr: Toluene-d8	97.4		70-130	%REC	1	8/8/2013 04:18 AM
<b>MOISTURE</b>						
			<b>A2540 G</b>			Analyst: <b>BD</b>
<b>Moisture</b>	<b>12</b>		<b>0.050</b>	<b>% of sample</b>	<b>1</b>	8/7/2013 03:45 PM

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



# ALS Group USA, Corp

Date: 14-Aug-13

Client: HRL Compliance Solutions

Project: WPX TR 44-35-597 Pit Closure 8/6/13

Sample ID: Southeast Wall

Collection Date: 8/6/2013 11:10 AM

Work Order: 1308257

Lab ID: 1308257-04

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>1,900</b>		<b>SW8015M</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RD</b>
			<b>4.9</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/13/2013 05:52 AM
Surr: 4-Terphenyl-d14	176	S	39-115	%REC	1	8/13/2013 05:52 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>260</b>		<b>SW8015</b>		Prep Date: <b>8/7/2013</b>	Analyst: <b>RD</b>
			<b>3.0</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/7/2013 07:57 PM
Surr: Toluene-d8	119		50-150	%REC	1	8/7/2013 07:57 PM
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8270</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RM</b>
Acenaphthene	ND		18	µg/Kg-dry	1	8/10/2013 02:31 AM
Acenaphthylene	ND		35	µg/Kg-dry	1	8/10/2013 02:31 AM
<b>Anthracene</b>	<b>75</b>		<b>18</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 02:31 AM
Benzo(a)anthracene	ND		20	µg/Kg-dry	1	8/10/2013 02:31 AM
Benzo(a)pyrene	ND		20	µg/Kg-dry	1	8/10/2013 02:31 AM
Benzo(b)fluoranthene	ND		21	µg/Kg-dry	1	8/10/2013 02:31 AM
Benzo(g,h,i)perylene	ND		33	µg/Kg-dry	1	8/10/2013 02:31 AM
Benzo(k)fluoranthene	ND		21	µg/Kg-dry	1	8/10/2013 02:31 AM
Chrysene	ND		18	µg/Kg-dry	1	8/10/2013 02:31 AM
Dibenzo(a,h)anthracene	ND		21	µg/Kg-dry	1	8/10/2013 02:31 AM
<b>Fluoranthene</b>	<b>44</b>		<b>18</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 02:31 AM
<b>Fluorene</b>	<b>300</b>		<b>18</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 02:31 AM
Indeno(1,2,3-cd)pyrene	ND		23	µg/Kg-dry	1	8/10/2013 02:31 AM
Naphthalene	ND		18	µg/Kg-dry	1	8/10/2013 02:31 AM
<b>Pyrene</b>	<b>30</b>		<b>18</b>	<b>µg/Kg-dry</b>	<b>1</b>	8/10/2013 02:31 AM
Surr: 2-Fluorobiphenyl	77.4		12-100	%REC	1	8/10/2013 02:31 AM
Surr: 4-Terphenyl-d14	95.1		25-137	%REC	1	8/10/2013 02:31 AM
Surr: Nitrobenzene-d5	60.4		37-107	%REC	1	8/10/2013 02:31 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8260B</b>		Prep Date: <b>8/7/2013</b>	Analyst: <b>AK</b>
Benzene	ND		35	µg/Kg-dry	1	8/8/2013 06:58 AM
Ethylbenzene	ND		35	µg/Kg-dry	1	8/8/2013 06:58 AM
m,p-Xylene	ND		71	µg/Kg-dry	1	8/8/2013 06:58 AM
o-Xylene	ND		35	µg/Kg-dry	1	8/8/2013 06:58 AM
Toluene	ND		35	µg/Kg-dry	1	8/8/2013 06:58 AM
Xylenes, Total	ND		110	µg/Kg-dry	1	8/8/2013 06:58 AM
Surr: 1,2-Dichloroethane-d4	100		70-130	%REC	1	8/8/2013 06:58 AM
Surr: 4-Bromofluorobenzene	104		70-130	%REC	1	8/8/2013 06:58 AM
Surr: Dibromofluoromethane	95.4		70-130	%REC	1	8/8/2013 06:58 AM
Surr: Toluene-d8	93.4		70-130	%REC	1	8/8/2013 06:58 AM
<b>MOISTURE</b>						
			<b>A2540 G</b>			Analyst: <b>BD</b>
<b>Moisture</b>	<b>15</b>		<b>0.050</b>	<b>% of sample</b>	<b>1</b>	8/7/2013 03:45 PM

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



# ALS Group USA, Corp

Date: 14-Aug-13

Client: HRL Compliance Solutions

Project: WPX TR 44-35-597 Pit Closure 8/6/13

Work Order: 1308257

Sample ID: Southwest Wall

Lab ID: 1308257-05

Collection Date: 8/6/2013 11:20 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
<b>DRO (C10-C28)</b>	<b>21</b>		<b>SW8015M</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RD</b>
			<b>4.8</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/13/2013 06:23 AM
Surr: 4-Terphenyl-d14	62.7		39-115	%REC	1	8/13/2013 06:23 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>SW8015</b>		Prep Date: <b>8/7/2013</b>	Analyst: <b>RD</b>
			<b>2.9</b>	<b>mg/Kg-dry</b>	<b>1</b>	8/7/2013 05:28 PM
Surr: Toluene-d8	117		50-150	%REC	1	8/7/2013 05:28 PM
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8270</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RM</b>
Acenaphthene	ND		17	µg/Kg-dry	1	8/10/2013 02:53 AM
Acenaphthylene	ND		34	µg/Kg-dry	1	8/10/2013 02:53 AM
Anthracene	ND		17	µg/Kg-dry	1	8/10/2013 02:53 AM
Benzo(a)anthracene	44		20	µg/Kg-dry	1	8/10/2013 02:53 AM
Benzo(a)pyrene	78		20	µg/Kg-dry	1	8/10/2013 02:53 AM
Benzo(b)fluoranthene	72		21	µg/Kg-dry	1	8/10/2013 02:53 AM
Benzo(g,h,i)perylene	38		32	µg/Kg-dry	1	8/10/2013 02:53 AM
Benzo(k)fluoranthene	42		21	µg/Kg-dry	1	8/10/2013 02:53 AM
Chrysene	20		17	µg/Kg-dry	1	8/10/2013 02:53 AM
Dibenzo(a,h)anthracene	25		21	µg/Kg-dry	1	8/10/2013 02:53 AM
Fluoranthene	72		17	µg/Kg-dry	1	8/10/2013 02:53 AM
Fluorene	ND		17	µg/Kg-dry	1	8/10/2013 02:53 AM
Indeno(1,2,3-cd)pyrene	49		23	µg/Kg-dry	1	8/10/2013 02:53 AM
Naphthalene	ND		17	µg/Kg-dry	1	8/10/2013 02:53 AM
Pyrene	54		17	µg/Kg-dry	1	8/10/2013 02:53 AM
Surr: 2-Fluorobiphenyl	70.6		12-100	%REC	1	8/10/2013 02:53 AM
Surr: 4-Terphenyl-d14	93.3		25-137	%REC	1	8/10/2013 02:53 AM
Surr: Nitrobenzene-d5	56.4		37-107	%REC	1	8/10/2013 02:53 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8260B</b>		Prep Date: <b>8/7/2013</b>	Analyst: <b>AK</b>
Benzene	ND		35	µg/Kg-dry	1	8/8/2013 07:22 AM
Ethylbenzene	ND		35	µg/Kg-dry	1	8/8/2013 07:22 AM
m,p-Xylene	ND		70	µg/Kg-dry	1	8/8/2013 07:22 AM
o-Xylene	ND		35	µg/Kg-dry	1	8/8/2013 07:22 AM
Toluene	ND		35	µg/Kg-dry	1	8/8/2013 07:22 AM
Xylenes, Total	ND		110	µg/Kg-dry	1	8/8/2013 07:22 AM
Surr: 1,2-Dichloroethane-d4	97.4		70-130	%REC	1	8/8/2013 07:22 AM
Surr: 4-Bromofluorobenzene	108		70-130	%REC	1	8/8/2013 07:22 AM
Surr: Dibromofluoromethane	95.0		70-130	%REC	1	8/8/2013 07:22 AM
Surr: Toluene-d8	94.4		70-130	%REC	1	8/8/2013 07:22 AM
<b>MOISTURE</b>						
			<b>A2540 G</b>			Analyst: <b>BD</b>
Moisture	14		0.050	% of sample	1	8/7/2013 03:45 PM

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



## ALS Group USA, Corp

Date: 14-Aug-13

**Client:** HRL Compliance Solutions

**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

**Sample ID:** TR 44-35-597-B-1

**Collection Date:** 8/6/2013 12:00 PM

**Work Order:** 1308257

**Lab ID:** 1308257-06

**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>		Prep Date: <b>8/8/2013</b>	Analyst: <b>ML</b>
Arsenic	4.6		1.8	mg/Kg-dry	5	8/9/2013 03:03 AM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>BD</b>
Moisture	2.0		0.050	% of sample	1	8/7/2013 03:45 PM

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



## ALS Group USA, Corp

Date: 14-Aug-13

**Client:** HRL Compliance Solutions

**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

**Sample ID:** TR 44-35-597-B-2

**Collection Date:** 8/6/2013 12:10 PM

**Work Order:** 1308257

**Lab ID:** 1308257-07

**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>		Prep Date: <b>8/8/2013</b>	Analyst: <b>ML</b>
Arsenic	5.0		1.7	mg/Kg-dry	5	8/9/2013 03:09 AM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>BD</b>
Moisture	2.3		0.050	% of sample	1	8/7/2013 03:45 PM

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



**ALS Group USA, Corp**

Date: 14-Aug-13

**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13  
**Sample ID:** TR 44-35-597-B-3  
**Collection Date:** 8/6/2013 12:15 PM

**Work Order:** 1308257  
**Lab ID:** 1308257-08  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>		Prep Date: <b>8/8/2013</b>	Analyst: <b>ML</b>
Arsenic	5.9		1.9	mg/Kg-dry	5	8/9/2013 03:15 AM
<b>SOLUBLE CATIONS FOR SAR</b>			<b>SW6020A</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RH</b>
Calcium	94		10	mg/L	20	8/9/2013 04:03 PM
Magnesium	16		4.0	mg/L	20	8/9/2013 04:03 PM
Sodium	4.8		4.0	mg/L	20	8/9/2013 04:03 PM
<b>SODIUM ADSORPTION RATIO</b>			<b>USDA H60 METHO</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>RH</b>
Sodium Adsorption Ratio	0.12		0.010	none	1	8/9/2013
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>		Prep Date: <b>8/9/2013</b>	Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	0.64		0.025	mmhos/cm @25	5	8/9/2013 03:15 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>BD</b>
Moisture	2.6		0.050	% of sample	1	8/7/2013 03:45 PM
<b>PH</b>			<b>SW9045D</b>		Prep Date: <b>8/7/2013</b>	Analyst: <b>CH</b>
pH	6.4			s.u.	1	8/7/2013 03:30 PM

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



Client: HRL Compliance Solutions

Work Order: 1308257

Project: WPX TR 44-35-597 Pit Closure 8/6/13

# QC BATCH REPORT

Batch ID: 50419

Instrument ID GC8

Method: SW8015M

<b>MBLK</b>		Sample ID: <b>DBLKS1-50419-50419</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/12/2013 12:18 PM</b>		
Client ID:		Run ID: <b>GC8_130812B</b>				SeqNo: <b>2412196</b>		Prep Date: <b>8/9/2013</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	4.2								
Surr: 4-Terphenyl-d14	1.1	0	1.667	0	66	39-115	0			

<b>LCS</b>		Sample ID: <b>DLCSS1-50419-50419</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/12/2013 12:48 PM</b>		
Client ID:		Run ID: <b>GC8_130812B</b>				SeqNo: <b>2412197</b>		Prep Date: <b>8/9/2013</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)	148.5	4.2	166.7	0	89.1	49-124	0			
Surr: 4-Terphenyl-d14	1.162	0	1.667	0	69.7	39-115	0			

<b>MS</b>		Sample ID: <b>1308284-14A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/12/2013 01:18 PM</b>		
Client ID:		Run ID: <b>GC8_130812B</b>				SeqNo: <b>2412198</b>		Prep Date: <b>8/9/2013</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)	576.6	12	472.9	0	122	49-130	0			
Surr: 4-Terphenyl-d14	3.28	0	4.729	0	69.4	39-115	0			

<b>MSD</b>		Sample ID: <b>1308284-14A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/12/2013 01:48 PM</b>		
Client ID:		Run ID: <b>GC8_130812B</b>				SeqNo: <b>2412199</b>		Prep Date: <b>8/9/2013</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)	524.7	12	470.8	0	111	49-130	576.6	9.42	30	
Surr: 4-Terphenyl-d14	3.332	0	4.708	0	70.8	39-115	3.28	1.58	30	

The following samples were analyzed in this batch:

1308257-01B	1308257-02B	1308257-03B
1308257-04B	1308257-05B	



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **50358**      Instrument ID **GC9**      Method: **SW8015**

<b>MBLK</b>		Sample ID: <b>MBLK-50358</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>8/7/2013 01:42 PM</b>		
Client ID:		Run ID: <b>GC9_130807A</b>				SeqNo: <b>2407895</b>		Prep Date: <b>8/7/2013</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>	<i>5700</i>	<i>0</i>	<i>5000</i>	<i>0</i>	<i>114</i>	<i>50-150</i>	<i>0</i>			

<b>LCS</b>		Sample ID: <b>LCS-50358</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>8/7/2013 01:18 PM</b>		
Client ID:		Run ID: <b>GC9_130807A</b>				SeqNo: <b>2407909</b>		Prep Date: <b>8/7/2013</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)	434400	2,500	500000	0	86.9	70-130	0			
<i>Surr: Toluene-d8</i>	<i>6128</i>	<i>0</i>	<i>5000</i>	<i>0</i>	<i>123</i>	<i>50-150</i>	<i>0</i>			

<b>MS</b>		Sample ID: <b>1308206-19A MS</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>8/7/2013 10:35 PM</b>		
Client ID:		Run ID: <b>GC9_130807A</b>				SeqNo: <b>2408150</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
GRO (C6-C10)	482700	2,500	500000	0	96.5	70-130	0			
<i>Surr: Toluene-d8</i>	<i>6028</i>	<i>0</i>	<i>5000</i>	<i>0</i>	<i>121</i>	<i>50-150</i>	<i>0</i>			

<b>MSD</b>		Sample ID: <b>1308206-19A MSD</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>8/7/2013 11:00 PM</b>		
Client ID:		Run ID: <b>GC9_130807A</b>				SeqNo: <b>2408151</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
GRO (C6-C10)	462900	2,500	500000	0	92.6	70-130	0			
<i>Surr: Toluene-d8</i>	<i>4986</i>	<i>0</i>	<i>5000</i>	<i>0</i>	<i>99.7</i>	<i>50-150</i>	<i>0</i>			

The following samples were analyzed in this batch:

1308257-01A	1308257-02A	1308257-03A
1308257-04A	1308257-05A	

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **50489**      Instrument ID **HG1**      Method: **SW7471**

<b>MBLK</b>	Sample ID: <b>MBLK-50489-50489</b>					Units: <b>mg/Kg</b>		Analysis Date: <b>8/13/2013 03:20 PM</b>		
Client ID:	Run ID: <b>HG1_130813A</b>				SeqNo: <b>2412539</b>		Prep Date: <b>8/13/2013</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-50489-50489</b>					Units: <b>mg/Kg</b>		Analysis Date: <b>8/13/2013 03:22 PM</b>		
Client ID:	Run ID: <b>HG1_130813A</b>				SeqNo: <b>2412544</b>		Prep Date: <b>8/13/2013</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury      0.1859      0.020      0.1665      0      112      80-120      0

<b>MS</b>	Sample ID: <b>1308045-27AMS</b>					Units: <b>mg/Kg</b>		Analysis Date: <b>8/13/2013 03:36 PM</b>		
Client ID:	Run ID: <b>HG1_130813A</b>				SeqNo: <b>2412551</b>		Prep Date: <b>8/13/2013</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury      0.1723      0.016      0.1365      0.0269      107      75-125      0

<b>MSD</b>	Sample ID: <b>1308045-27AMSD</b>					Units: <b>mg/Kg</b>		Analysis Date: <b>8/13/2013 03:38 PM</b>		
Client ID:	Run ID: <b>HG1_130813A</b>				SeqNo: <b>2412555</b>		Prep Date: <b>8/13/2013</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury      0.1652      0.016      0.1361      0.0269      102      75-125      0.1723      4.19      35

The following samples were analyzed in this batch:

1308257-01B

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **50372** Instrument ID **ICPMS2** Method: **SW6020A** **(Dissolve)**

<b>DUP</b>		Sample ID: <b>1308253-01BDUP</b>				Units: <b>mg/L</b>		Analysis Date: <b>8/9/2013 03:34 PM</b>		
Client ID:		Run ID: <b>ICPMS2_130809A</b>				SeqNo: <b>2409927</b>		Prep Date: <b>8/9/2013</b>		DF: <b>20</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	67.1	10	0	0	0	0-0	62.96	6.37		
Magnesium	18.17	4.0	0	0	0	0-0	17.54	3.54		
Sodium	5.038	4.0	0	0	0	0-0	4.89	2.98		

The following samples were analyzed in this batch:

1308257-01C 1308257-08A

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **50391**      Instrument ID **ICPMS1**      Method: **SW6020A**

<b>MBLK</b>		Sample ID: <b>MBLK-50391-50391</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/9/2013 01:48 AM</b>		
Client ID:		Run ID: <b>ICPMS1_130808A</b>				SeqNo: <b>2408789</b>		Prep Date: <b>8/8/2013</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	0.10								
Chromium	ND	0.25								
Copper	ND	0.25								
Lead	0.00741	0.25								J
Nickel	ND	0.25								
Selenium	ND	0.25								
Silver	ND	0.25								
Zinc	0.02912	0.50								J

<b>LCS</b>		Sample ID: <b>LCS-50391-50391</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/9/2013 01:54 AM</b>		
Client ID:		Run ID: <b>ICPMS1_130808A</b>				SeqNo: <b>2408791</b>		Prep Date: <b>8/8/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.463	0.25	5	0	89.3	80-120	0			
Barium	5.015	0.25	5	0	100	80-120	0			
Cadmium	4.832	0.10	5	0	96.6	80-120	0			
Chromium	4.85	0.25	5	0	97	80-120	0			
Copper	4.846	0.25	5	0	96.9	80-120	0			
Lead	4.924	0.25	5	0	98.5	80-120	0			
Nickel	4.848	0.25	5	0	97	80-120	0			
Selenium	4.416	0.25	5	0	88.3	80-120	0			
Silver	4.955	0.25	5	0	99.1	80-120	0			
Zinc	4.38	0.50	5	0	87.6	80-120	0			

<b>MS</b>		Sample ID: <b>1308278-07AMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/9/2013 05:02 AM</b>		
Client ID:		Run ID: <b>ICPMS1_130808A</b>				SeqNo: <b>2408836</b>		Prep Date: <b>8/8/2013</b>		DF: <b>4</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.149	1.4	7.163	2.526	92.5	75-125	0			
Barium	50.09	1.4	7.163	44.92	72.1	75-125	0			SO
Cadmium	7.269	0.57	7.163	0.143	99.5	75-125	0			
Chromium	11.93	1.4	7.163	4.611	102	75-125	0			
Copper	11.24	1.4	7.163	3.98	101	75-125	0			
Lead	18.01	1.4	7.163	11.86	85.8	75-125	0			
Nickel	11.31	1.4	7.163	4.032	102	75-125	0			
Selenium	7.458	1.4	7.163	0.3679	99	75-125	0			
Silver	6.991	1.4	7.163	-0.001092	97.6	75-125	0			
Zinc	33.27	2.9	7.163	23.92	130	75-125	0			S

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **50391**      Instrument ID **ICPMS1**      Method: **SW6020A**

MSD		Sample ID: <b>1308278-07AMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/9/2013 05:08 AM</b>		
Client ID:		Run ID: <b>ICPMS1_130808A</b>				SeqNo: <b>2408837</b>		Prep Date: <b>8/8/2013</b>		DF: <b>4</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.799	1.5	7.386	2.526	98.5	75-125	9.149	6.86	25	
Barium	52.76	1.5	7.386	44.92	106	75-125	50.09	5.2	25	O
Cadmium	7.734	0.59	7.386	0.143	103	75-125	7.269	6.2	25	
Chromium	12.85	1.5	7.386	4.611	112	75-125	11.93	7.4	25	
Copper	11.73	1.5	7.386	3.98	105	75-125	11.24	4.3	25	
Lead	19.44	1.5	7.386	11.86	103	75-125	18.01	7.65	25	
Nickel	12.36	1.5	7.386	4.032	113	75-125	11.31	8.88	25	
Selenium	7.976	1.5	7.386	0.3679	103	75-125	7.458	6.71	25	
Silver	7.326	1.5	7.386	-0.001092	99.2	75-125	6.991	4.68	25	
Zinc	34.48	3.0	7.386	23.92	143	75-125	33.27	3.57	25	S

The following samples were analyzed in this batch:

1308257-01B	1308257-06A	1308257-07A
1308257-08A		

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **50418**      Instrument ID **SVMS5**      Method: **SW8270**

MBLK Sample ID: <b>SBLKS1-50418-50418</b>				Units: <b>µg/Kg</b>			Analysis Date: <b>8/9/2013 04:42 PM</b>			
Client ID:		Run ID: <b>SVMS5_130809A</b>		SeqNo: <b>2412302</b>		Prep Date: <b>8/9/2013</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	30								
Acenaphthylene	ND	30								
Anthracene	ND	30								
Benzo(a)anthracene	ND	30								
Benzo(a)pyrene	ND	30								
Benzo(b)fluoranthene	ND	30								
Benzo(g,h,i)perylene	ND	30								
Benzo(k)fluoranthene	ND	30								
Chrysene	ND	30								
Dibenzo(a,h)anthracene	ND	30								
Fluoranthene	ND	30								
Fluorene	ND	30								
Indeno(1,2,3-cd)pyrene	ND	30								
Naphthalene	ND	30								
Pyrene	ND	30								
<i>Surr: 2-Fluorobiphenyl</i>	1351	0	1667	0	81	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1930	0	1667	0	116	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1121	0	1667	0	67.3	37-107	0			

LCS Sample ID: <b>SLCSS1-50418-50418</b>				Units: <b>µg/Kg</b>			Analysis Date: <b>8/9/2013 05:04 PM</b>			
Client ID:		Run ID: <b>SVMS5_130809A</b>		SeqNo: <b>2412303</b>		Prep Date: <b>8/9/2013</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	633	30	666.7	0	94.9	45-110	0			
Acenaphthylene	582.3	30	666.7	0	87.3	45-105	0			
Anthracene	646	30	666.7	0	96.9	55-105	0			
Benzo(a)anthracene	627.3	30	666.7	0	94.1	50-110	0			
Benzo(a)pyrene	642.3	30	666.7	0	96.3	50-110	0			
Benzo(b)fluoranthene	659	30	666.7	0	98.8	45-115	0			
Benzo(g,h,i)perylene	688.7	30	666.7	0	103	40-125	0			
Benzo(k)fluoranthene	668.7	30	666.7	0	100	45-115	0			
Chrysene	707	30	666.7	0	106	55-110	0			
Dibenzo(a,h)anthracene	705	30	666.7	0	106	40-125	0			
Fluoranthene	637.3	30	666.7	0	95.6	55-115	0			
Fluorene	638.7	30	666.7	0	95.8	50-110	0			
Indeno(1,2,3-cd)pyrene	720.7	30	666.7	0	108	40-120	0			
Naphthalene	573.3	30	666.7	0	86	40-105	0			
Pyrene	684.7	30	666.7	0	103	45-125	0			
<i>Surr: 2-Fluorobiphenyl</i>	1414	0	1667	0	84.8	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1830	0	1667	0	110	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1243	0	1667	0	74.6	37-107	0			

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



Client: HRL Compliance Solutions  
 Work Order: 1308257  
 Project: WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **50418** Instrument ID **SVMS5** Method: **SW8270**

MS Sample ID: <b>1308284-14A MS</b>				Units: <b>µg/Kg</b>			Analysis Date: <b>8/9/2013 05:27 PM</b>			
Client ID:		Run ID: <b>SVMS5_130809A</b>		SeqNo: <b>2412304</b>		Prep Date: <b>8/9/2013</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1785	90	1999	0	89.3	45-110	0			
Acenaphthylene	1682	90	1999	114.1	78.4	45-105	0			
Anthracene	1994	90	1999	117.8	93.9	55-105	0			
Benzo(a)anthracene	1981	90	1999	372.7	80.5	50-110	0			
Benzo(a)pyrene	2022	90	1999	469.3	77.7	50-110	0			
Benzo(b)fluoranthene	1935	90	1999	455.5	74	45-115	0			
Benzo(g,h,i)perylene	2169	90	1999	277	94.6	40-125	0			
Benzo(k)fluoranthene	1853	90	1999	225.5	81.4	45-115	0			
Chrysene	2107	90	1999	330.4	88.9	55-110	0			
Dibenzo(a,h)anthracene	2168	90	1999	130.7	102	40-125	0			
Fluoranthene	1970	90	1999	438	76.6	55-115	0			
Fluorene	1910	90	1999	0	95.5	50-110	0			
Indeno(1,2,3-cd)pyrene	2358	90	1999	332.2	101	40-120	0			
Naphthalene	1572	90	1999	0	78.6	40-105	0			
Pyrene	2167	90	1999	523.6	82.2	45-125	0			
Surr: 2-Fluorobiphenyl	3895	0	4998	0	77.9	12-100	0			
Surr: 4-Terphenyl-d14	5110	0	4998	0	102	25-137	0			
Surr: Nitrobenzene-d5	3661	0	4998	0	73.3	37-107	0			

MSD Sample ID: <b>1308284-14A MSD</b>				Units: <b>µg/Kg</b>			Analysis Date: <b>8/9/2013 05:49 PM</b>			
Client ID:		Run ID: <b>SVMS5_130809A</b>		SeqNo: <b>2412305</b>		Prep Date: <b>8/9/2013</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1921	90	1994	0	96.3	45-110	1785	7.35	30	
Acenaphthylene	1769	90	1994	114.1	83	45-105	1682	5.02	30	
Anthracene	2140	90	1994	117.8	101	55-105	1994	7.04	30	
Benzo(a)anthracene	2163	90	1994	372.7	89.8	50-110	1981	8.76	30	
Benzo(a)pyrene	2167	90	1994	469.3	85.1	50-110	2022	6.9	30	
Benzo(b)fluoranthene	1879	90	1994	455.5	71.4	45-115	1935	2.92	30	
Benzo(g,h,i)perylene	2291	90	1994	277	101	40-125	2169	5.48	30	
Benzo(k)fluoranthene	2013	90	1994	225.5	89.6	45-115	1853	8.27	30	
Chrysene	2280	90	1994	330.4	97.8	55-110	2107	7.9	30	
Dibenzo(a,h)anthracene	2159	90	1994	130.7	102	40-125	2168	0.434	30	
Fluoranthene	2089	90	1994	438	82.8	55-115	1970	5.85	30	
Fluorene	2011	90	1994	0	101	50-110	1910	5.15	30	
Indeno(1,2,3-cd)pyrene	2536	90	1994	332.2	111	40-120	2358	7.3	30	
Naphthalene	1675	90	1994	0	84	40-105	1572	6.33	30	
Pyrene	2316	90	1994	523.6	89.9	45-125	2167	6.65	30	
Surr: 2-Fluorobiphenyl	4179	0	4985	0	83.8	12-100	3895	7.04	40	
Surr: 4-Terphenyl-d14	5467	0	4985	0	110	25-137	5110	6.73	40	
Surr: Nitrobenzene-d5	3714	0	4985	0	74.5	37-107	3661	1.43	40	

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

**QC BATCH REPORT**

Batch ID: **50418**      Instrument ID **SVMS5**      Method: **SW8270**

The following samples were analyzed in this batch:

1308257-01B	1308257-02B	1308257-03B
1308257-04B	1308257-05B	

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **50358**      Instrument ID **VMS9**      Method: **SW8260B**

<b>MBLK</b>		Sample ID: <b>MBLK-50358-50358</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>8/7/2013 04:18 PM</b>		
Client ID:		Run ID: <b>VMS9_130807A</b>				SeqNo: <b>2406884</b>		Prep Date: <b>8/7/2013</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								
GRO (C6-C10)	ND	2,500								
m,p-Xylene	ND	60								
o-Xylene	ND	30								
Toluene	ND	30								
Xylenes, Total	ND	90								
Surr: 1,2-Dichloroethane-d4	993	0	1000	0	99.3	70-130	0			
Surr: 4-Bromofluorobenzene	924.5	0	1000	0	92.4	70-130	0			
Surr: Dibromofluoromethane	945	0	1000	0	94.5	70-130	0			
Surr: Toluene-d8	993.5	0	1000	0	99.4	70-130	0			

<b>LCS</b>		Sample ID: <b>LCS-50358-50358</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>8/7/2013 02:39 PM</b>		
Client ID:		Run ID: <b>VMS9_130807A</b>				SeqNo: <b>2406883</b>		Prep Date: <b>8/7/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	943	30	1000	0	94.3	75-125	0			
Ethylbenzene	942	30	1000	0	94.2	75-125	0			
m,p-Xylene	1890	60	2000	0	94.5	80-125	0			
o-Xylene	957.5	30	1000	0	95.8	75-125	0			
Toluene	929	30	1000	0	92.9	70-125	0			
Xylenes, Total	2848	90	3000	0	94.9	75-125	0			
Surr: 1,2-Dichloroethane-d4	995.5	0	1000	0	99.6	70-130	0			
Surr: 4-Bromofluorobenzene	966	0	1000	0	96.6	70-130	0			
Surr: Dibromofluoromethane	1030	0	1000	0	103	70-130	0			
Surr: Toluene-d8	980	0	1000	0	98	70-130	0			

<b>MS</b>		Sample ID: <b>1308257-03A MS</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>8/8/2013 07:12 PM</b>		
Client ID: <b>Northwest Wall</b>		Run ID: <b>VMS8_130808A</b>				SeqNo: <b>2408698</b>		Prep Date: <b>8/7/2013</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	974.5	30	1000	0	97.4	75-125	0			
m,p-Xylene	1938	60	2000	0	96.9	80-125	0			
o-Xylene	984	30	1000	0	98.4	75-125	0			
Toluene	930.5	30	1000	0	93	70-125	0			
Xylenes, Total	2922	90	3000	0	97.4	75-125	0			
Surr: 1,2-Dichloroethane-d4	1002	0	1000	0	100	70-130	0			
Surr: 4-Bromofluorobenzene	1011	0	1000	0	101	70-130	0			
Surr: Dibromofluoromethane	993	0	1000	0	99.3	70-130	0			
Surr: Toluene-d8	954.5	0	1000	0	95.4	70-130	0			

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **50358**      Instrument ID **VMS9**      Method: **SW8260B**

MSD				Sample ID: 1308257-03A MSD				Units: µg/Kg		Analysis Date: 8/8/2013 07:36 PM	
Client ID: Northwest Wall			Run ID: VMS8_130808A		SeqNo: 2408701		Prep Date: 8/7/2013		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	970.5	30	1000	0	97	75-125	980.5	1.03	30		
Ethylbenzene	959.5	30	1000	0	96	75-125	974.5	1.55	30		
m,p-Xylene	1898	60	2000	0	94.9	80-125	1938	2.08	30		
o-Xylene	964	30	1000	0	96.4	75-125	984	2.05	30		
Toluene	920	30	1000	0	92	70-125	930.5	1.13	30		
Xylenes, Total	2862	90	3000	0	95.4	75-125	2922	2.07	30		
Surr: 1,2-Dichloroethane-d4	1032	0	1000	0	103	70-130	1002	2.95	30		
Surr: 4-Bromofluorobenzene	1016	0	1000	0	102	70-130	1011	0.444	30		
Surr: Dibromofluoromethane	1010	0	1000	0	101	70-130	993	1.7	30		
Surr: Toluene-d8	974.5	0	1000	0	97.4	70-130	954.5	2.07	30		

The following samples were analyzed in this batch:

1308257-01A	1308257-02A	1308257-03A
1308257-04A	1308257-05A	

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **50357**      Instrument ID **WETCHEM**      Method: **SW9045D**

LCS				Sample ID: LCS-50357-50357				Units: s.u.				Analysis Date: 8/7/2013 03:30 PM											
Client ID:				Run ID: WETCHEM_130807J				SeqNo: 2406192				Prep Date: 8/7/2013				DF: 1							
Analyte				Result		PQL		SPK Val		SPK Ref Value		%REC		Control Limit		RPD Ref Value		%RPD		RPD Limit		Qual	
pH				4.34		0		4.4		0		98.6		90-110		0							

DUP				Sample ID: 1308246-05B DUP				Units: s.u.			Analysis Date: 8/7/2013 03:30 PM		
Client ID:				Run ID: WETCHEM_130807J				SeqNo: 2406197		Prep Date: 8/7/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
pH	8.52	0	0	0	0	0-0	8.48	0.471	20				

The following samples were analyzed in this batch:

1308257-01B	1308257-08A
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **50372** Instrument ID **WETCHEM** Method: **USDA H60 Method**

<b>DUP</b>		Sample ID: <b>1308253-01B DUP</b>				Units: <b>mmhos/cm @25°C</b>		Analysis Date: <b>8/9/2013 03:15 PM</b>		
Client ID:		Run ID: <b>WETCHEM_130809J</b>				SeqNo: <b>2409688</b>		Prep Date: <b>8/9/2013</b>		DF: <b>5</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	0.5615	0.025	0	0	0		0.5285	6.06	50	

The following samples were analyzed in this batch:

1308257-01C	1308257-08A
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **50428**      Instrument ID **WETCHEM**      Method: **SW7196A**

<b>MBLK</b>		Sample ID: <b>MBLK-50428-50428</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/9/2013 11:15 AM</b>		
Client ID:		Run ID: <b>WETCHEM_130809F</b>				SeqNo: <b>2409443</b>		Prep Date: <b>8/8/2013</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      0.50

<b>LCS</b>		Sample ID: <b>LCS-50428-50428</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/9/2013 11:15 AM</b>		
Client ID:		Run ID: <b>WETCHEM_130809F</b>				SeqNo: <b>2409442</b>		Prep Date: <b>8/8/2013</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      1.872      0.50      2      0      93.6      80-120      0

<b>MS</b>		Sample ID: <b>1308257-01B MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/9/2013 11:15 AM</b>		
Client ID: <b>Pit Bottom</b>		Run ID: <b>WETCHEM_130809F</b>				SeqNo: <b>2409440</b>		Prep Date: <b>8/8/2013</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      1.887      0.50      2.016      0.09055      89.1      75-125      0

<b>MSD</b>		Sample ID: <b>1308257-01B MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/9/2013 11:15 AM</b>		
Client ID: <b>Pit Bottom</b>		Run ID: <b>WETCHEM_130809F</b>				SeqNo: <b>2409441</b>		Prep Date: <b>8/8/2013</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      1.872      0.50      2      0.09055      89.1      75-125      1.887      0.803      20

The following samples were analyzed in this batch:

1308257-01B

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1308257  
**Project:** WPX TR 44-35-597 Pit Closure 8/6/13

## QC BATCH REPORT

Batch ID: **R124832**      Instrument ID **MOIST**      Method: **A2540 G**

<b>MBLK</b>		Sample ID: <b>WBLKS-R124832</b>				Units: % of sample			Analysis Date: <b>8/7/2013 03:45 PM</b>		
Client ID:		Run ID: <b>MOIST_130807D</b>				SeqNo: <b>2407377</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-R124832</b>				Units: % of sample			Analysis Date: <b>8/7/2013 03:45 PM</b>		
Client ID:		Run ID: <b>MOIST_130807D</b>				SeqNo: <b>2407376</b>			Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture      100      0.050      100      0      100      99.5-100.5      0

<b>DUP</b>		Sample ID: <b>1308256-02B DUP</b>				Units: % of sample			Analysis Date: <b>8/7/2013 03:45 PM</b>		
Client ID:		Run ID: <b>MOIST_130807D</b>				SeqNo: <b>2407366</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      48.32      0.050      0      0      0      0-0      48.61      0.598      20

<b>DUP</b>		Sample ID: <b>1308257-03B DUP</b>				Units: % of sample			Analysis Date: <b>8/7/2013 03:45 PM</b>		
Client ID: <b>Northwest Wall</b>		Run ID: <b>MOIST_130807D</b>				SeqNo: <b>2407370</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      12      0.050      0      0      0      0-0      12.17      1.41      20

The following samples were analyzed in this batch:

1308257-01B	1308257-02B	1308257-03B
1308257-04B	1308257-05B	1308257-06A
1308257-07A	1308257-08A	

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





# ALS Laboratory Group

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

## Chain-of-Custody

Form 202r8

WORKORDER #

1308257

PROJECT NAME		WPX TR 44-35-597 Pit Closure		SAMPLER		Reed Wold		DATE		8/6/2013		PAGE		1 of 1	
PROJECT No.				SITE ID		TR 44-35-597		TURNAROUND		5 day		DISPOSAL		By Lab or Return to Client	
COMPANY NAME		HRL Compliance		EDD FORMAT											
SEND REPORT TO		Mark Mumby		PURCHASE ORDER											
ADDRESS		2385 F 1/2 Rd		BILL TO COMPANY		WPX									
CITY / STATE / ZIP		Grand Junction, CO 81506		INVOICE ATTN TO		Karolina Blaney									
PHONE		970-243-3271		ADDRESS		1058 Co Rd 215									
FAX		970-243-3280		CITY / STATE / ZIP		Parachure CO 81635									
E-MAIL		krowe@hrlcomp.com rwold@hrlcomp.com		PHONE		970-683-2295									
				FAX											
				E-MAIL		Karolina.blaney@wpxenergy.com									
Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	BTEX/ GRO	DRO	PAH	Metals	SAR/ EC/ PH	Arsenic		
1	Pit Bottom	SO	8/6/2013	11:45	3	8		X	X	X	X	X			
2	Northeast Wall	SO	8/6/2013	11:00	2	8		X	X	X					
3	Northwest Wall	SO	8/6/2013	11:30	2	8		X	X	X					
4	Southeast Wall	SO	8/6/2013	11:10	2	8		X	X	X					
5	Southwest Wall	SO	8/6/2013	11:20	2	8		X	X	X					
6	TR 44-35-597-B-1	SO	8/6/2013	12:00	1	8						X			
7	TR 44-35-597-B-2	SO	8/6/2013	12:10	1	8						X			
8	TR 44-35-597-B-3	SO	8/6/2013	12:15	2	8					X	X			

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

For metals or anions, please detail analytes below.

Comments:	QC PACKAGE (check below)
	<input checked="" type="checkbox"/> LEVEL II (Standard QC)
	<input type="checkbox"/> LEVEL III (Std QC + forms)
	<input type="checkbox"/> LEVEL IV (Std QC + forms + raw data)
	<input type="checkbox"/>

2.8%

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	Reed Wold	8/6/13	2:10
RECEIVED BY	M.M.	8-6-13	2:10
RELINQUISHED BY	M.M.	8-6-13	2:15
RECEIVED BY	Diane F Sha	8/7/13	0930
RELINQUISHED BY			
RECEIVED BY			



Sample Receipt Checklist

Client Name: HRL

Date/Time Received: 07-Aug-13 09:30

Work Order: 1308257

Received by: DS

Checklist completed by Diane Shaw 07-Aug-13  
eSignature Date

Reviewed by: Ann Preston 08-Aug-13  
eSignature Date

Matrices: Soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.8 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>8/7/2013 12:52:33 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:			
Login Notes:			

-----

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



From: (970) 424-4749  
Lab Hub, LLC

Origin ID: RILA



127 E First Street  
PARACHUTE, CO 81635

Ship Date: 06AUG13  
ActWgt: 75.0 LB  
CAD: 103923490/NET3430

Dims: 25 X 14 X 15 IN

Delivery Address Bar Code



SHIP TO: (616) 399-6070  
Sample receiving  
ALS Holland  
3352 128TH AVE

BILL RECIPIENT

Ref # 1001-080613-1  
Invoice #  
PO #  
Dept #

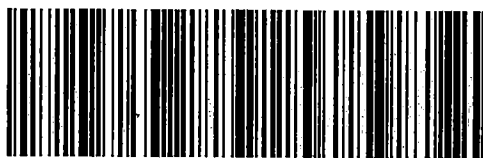
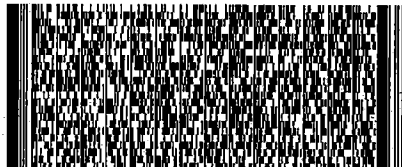
HOLLAND, MI 49424

WED - 07 AUG 3:00P  
STANDARD OVERNIGHT

TRK# 7964 0660 0674  
0201

**XX GRRRA**

49424  
MI-US  
GRR



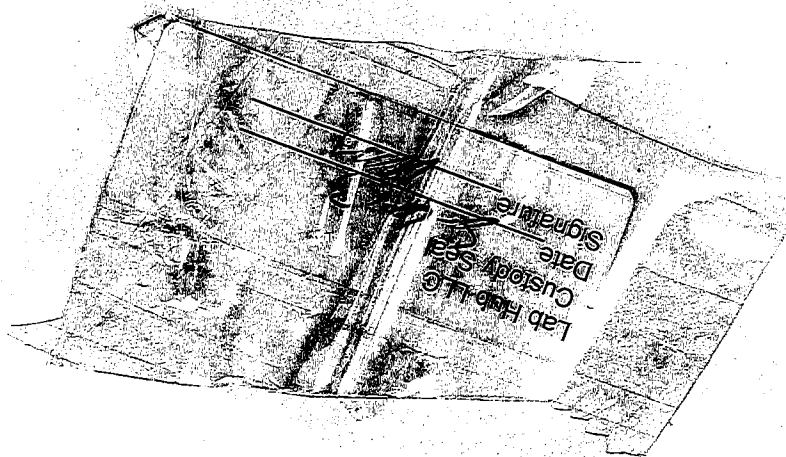
51AG10989/1AGE

**After printing this label:**

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

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### **APPENDIX 3: LANDFARM RAW ANALYTICAL RESULTS**





25-Sep-2013

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

Re: **WPX TR 44-35-597 Pit Closure 9/17/13**

Work Order: **1309675**

Dear Mark,

ALS Environmental received 7 samples on 18-Sep-2013 10:30 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 36.

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

Sincerely,

A handwritten signature in cursive script that reads "Ann Preston".

Electronically approved by: Ann Preston

Ann Preston  
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  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13  
**Work Order:** 1309675

---

**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>
1309675-01	South East Corner Wall 8'	Soil		9/17/2013 09:45	9/18/2013 10:30	<input type="checkbox"/>
1309675-02	South East Corner Bottom 9'	Soil		9/17/2013 10:00	9/18/2013 10:30	<input type="checkbox"/>
1309675-03	Treatment Cell 1/4	Soil		9/17/2013 14:00	9/18/2013 10:30	<input type="checkbox"/>
1309675-04	Treatment Cell 3/4	Soil		9/17/2013 14:10	9/18/2013 10:30	<input type="checkbox"/>
1309675-05	Treatment Cell 2/6	Soil		9/17/2013 14:40	9/18/2013 10:30	<input type="checkbox"/>
1309675-06	Treatment Cell 3/6	Soil		9/17/2013 14:50	9/18/2013 10:30	<input type="checkbox"/>
1309675-07	Treatment Cell 5/6	Soil		9/17/2013 15:00	9/18/2013 10:30	<input type="checkbox"/>

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**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13  
**Work Order:** 1309675

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**Case Narrative**

Batch 51450 MS/MSD data for Metals is not related to this project's samples. No data requires qualification.

Batch 51500 sample Treatment Cell 3/6 MS/MSD recoveries for Hexavalent Chromium were Outside control limits. The corresponding reporting limit in the parent sample may be biased low.



**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13  
**WorkOrder:** 1309675

## **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

<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
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

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



# ALS Group USA, Corp

Date: 25-Sep-13

**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13  
**Sample ID:** South East Corner Wall 8'  
**Collection Date:** 9/17/2013 09:45 AM

**Work Order:** 1309675  
**Lab ID:** 1309675-01  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>CW</b>
<b>DRO (C10-C28)</b>	<b>39</b>		<b>5.0</b>	<b>mg/Kg-dry</b>	<b>1</b>	9/19/2013 02:31 AM
Surr: 4-Terphenyl-d14	45.7		39-115	%REC	1	9/19/2013 02:31 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>CW</b>
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>3.1</b>	<b>mg/Kg-dry</b>	<b>1</b>	9/18/2013 03:53 PM
Surr: Toluene-d8	103		50-150	%REC	1	9/18/2013 03:53 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8260B</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>RS</b>
Benzene	ND		37	µg/Kg-dry	1	9/19/2013 12:22 PM
Ethylbenzene	ND		37	µg/Kg-dry	1	9/19/2013 12:22 PM
m,p-Xylene	ND		73	µg/Kg-dry	1	9/19/2013 12:22 PM
o-Xylene	ND		37	µg/Kg-dry	1	9/19/2013 12:22 PM
Toluene	ND		37	µg/Kg-dry	1	9/19/2013 12:22 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	9/19/2013 12:22 PM
Surr: 1,2-Dichloroethane-d4	101		70-130	%REC	1	9/19/2013 12:22 PM
Surr: 4-Bromofluorobenzene	94.5		70-130	%REC	1	9/19/2013 12:22 PM
Surr: Dibromofluoromethane	96.8		70-130	%REC	1	9/19/2013 12:22 PM
Surr: Toluene-d8	93.7		70-130	%REC	1	9/19/2013 12:22 PM
<b>MOISTURE</b>						
			<b>A2540 G</b>			Analyst: <b>MEB</b>
<b>Moisture</b>	<b>18</b>		<b>0.050</b>	<b>% of sample</b>	<b>1</b>	9/18/2013 03:15 PM

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



# ALS Group USA, Corp

Date: 25-Sep-13

**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13  
**Sample ID:** South East Corner Bottom 9'  
**Collection Date:** 9/17/2013 10:00 AM

**Work Order:** 1309675  
**Lab ID:** 1309675-02  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>CW</b>
<b>DRO (C10-C28)</b>	<b>530</b>		<b>5.3</b>	<b>mg/Kg-dry</b>	<b>1</b>	9/19/2013 03:01 AM
Surr: 4-Terphenyl-d14	69.9		39-115	%REC	1	9/19/2013 03:01 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>CW</b>
<b>GRO (C6-C10)</b>	<b>64</b>		<b>3.2</b>	<b>mg/Kg-dry</b>	<b>1</b>	9/18/2013 05:51 PM
Surr: Toluene-d8	99.5		50-150	%REC	1	9/18/2013 05:51 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8260B</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>RS</b>
Benzene	ND		38	µg/Kg-dry	1	9/19/2013 12:47 PM
Ethylbenzene	ND		38	µg/Kg-dry	1	9/19/2013 12:47 PM
m,p-Xylene	ND		76	µg/Kg-dry	1	9/19/2013 12:47 PM
o-Xylene	ND		38	µg/Kg-dry	1	9/19/2013 12:47 PM
Toluene	ND		38	µg/Kg-dry	1	9/19/2013 12:47 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	9/19/2013 12:47 PM
Surr: 1,2-Dichloroethane-d4	102		70-130	%REC	1	9/19/2013 12:47 PM
Surr: 4-Bromofluorobenzene	98.6		70-130	%REC	1	9/19/2013 12:47 PM
Surr: Dibromofluoromethane	97.0		70-130	%REC	1	9/19/2013 12:47 PM
Surr: Toluene-d8	93.8		70-130	%REC	1	9/19/2013 12:47 PM
<b>MOISTURE</b>						
			<b>A2540 G</b>			Analyst: <b>MEB</b>
<b>Moisture</b>	<b>21</b>		<b>0.050</b>	<b>% of sample</b>	<b>1</b>	9/18/2013 03:15 PM

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



# ALS Group USA, Corp

Date: 25-Sep-13

**Client:** HRL Compliance Solutions

**Project:** WPX TR 44-35-597 Pit Closure 9/17/13

**Sample ID:** Treatment Cell 1/4

**Collection Date:** 9/17/2013 02:00 PM

**Work Order:** 1309675

**Lab ID:** 1309675-03

**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>200</b>		<b>SW8015M</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>CW</b>
			<b>5.2</b>	<b>mg/Kg-dry</b>	<b>1</b>	9/19/2013 03:31 AM
Surr: 4-Terphenyl-d14	56.7		39-115	%REC	1	9/19/2013 03:31 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>27</b>		<b>SW8015</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>CW</b>
			<b>3.2</b>	<b>mg/Kg-dry</b>	<b>1</b>	9/18/2013 06:15 PM
Surr: Toluene-d8	98.9		50-150	%REC	1	9/18/2013 06:15 PM
<b>MERCURY BY CVAA</b>						
<b>Mercury</b>	<b>0.018</b>		<b>SW7471</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>LR</b>
			<b>0.017</b>	<b>mg/Kg-dry</b>	<b>1</b>	9/19/2013 03:46 PM
<b>METALS BY ICP-MS</b>						
<b>Arsenic</b>	<b>6.1</b>		<b>SW6020A</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>ML</b>
			<b>2.2</b>	<b>mg/Kg-dry</b>	<b>5</b>	9/19/2013 09:00 AM
<b>Barium</b>	<b>490</b>		<b>2.2</b>	<b>mg/Kg-dry</b>	<b>5</b>	9/19/2013 09:00 AM
Cadmium	ND		0.89	mg/Kg-dry	5	9/19/2013 09:00 AM
<b>Chromium</b>	<b>69</b>		<b>2.2</b>	<b>mg/Kg-dry</b>	<b>5</b>	9/19/2013 09:00 AM
<b>Copper</b>	<b>12</b>		<b>2.2</b>	<b>mg/Kg-dry</b>	<b>5</b>	9/19/2013 09:00 AM
<b>Lead</b>	<b>13</b>		<b>2.2</b>	<b>mg/Kg-dry</b>	<b>5</b>	9/19/2013 09:00 AM
<b>Nickel</b>	<b>30</b>		<b>2.2</b>	<b>mg/Kg-dry</b>	<b>5</b>	9/19/2013 09:00 AM
Selenium	ND		2.2	mg/Kg-dry	5	9/19/2013 09:00 AM
Silver	ND		2.2	mg/Kg-dry	5	9/19/2013 09:00 AM
<b>Zinc</b>	<b>48</b>		<b>4.5</b>	<b>mg/Kg-dry</b>	<b>5</b>	9/19/2013 09:00 AM
<b>SOLUBLE CATIONS FOR SAR</b>						
<b>Calcium</b>	<b>52</b>		<b>SW6020A</b>		Prep Date: <b>9/23/2013</b>	Analyst: <b>ML</b>
			<b>10</b>	<b>mg/L</b>	<b>20</b>	9/25/2013 08:40 AM
<b>Magnesium</b>	<b>6.0</b>		<b>4.0</b>	<b>mg/L</b>	<b>20</b>	9/25/2013 08:40 AM
<b>Sodium</b>	<b>460</b>		<b>4.0</b>	<b>mg/L</b>	<b>20</b>	9/25/2013 08:40 AM
<b>SODIUM ADSORPTION RATIO</b>						
<b>Sodium Adsorption Ratio</b>	<b>16</b>		<b>USDA H60 METHO</b>		Prep Date: <b>9/23/2013</b>	Analyst: <b>ML</b>
			<b>0.010</b>	<b>none</b>	<b>1</b>	9/25/2013
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
<b>Acenaphthene</b>	<b>ND</b>		<b>SW8270</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>HL</b>
			<b>8.4</b>	<b>µg/Kg-dry</b>	<b>1</b>	9/19/2013 12:27 PM
<b>Acenaphthylene</b>	<b>ND</b>		<b>8.4</b>	<b>µg/Kg-dry</b>	<b>1</b>	9/19/2013 12:27 PM
<b>Anthracene</b>	<b>38</b>		<b>8.4</b>	<b>µg/Kg-dry</b>	<b>1</b>	9/19/2013 12:27 PM
<b>Benzo(a)anthracene</b>	<b>36</b>		<b>8.4</b>	<b>µg/Kg-dry</b>	<b>1</b>	9/19/2013 12:27 PM
<b>Benzo(a)pyrene</b>	<b>ND</b>		<b>8.4</b>	<b>µg/Kg-dry</b>	<b>1</b>	9/19/2013 12:27 PM
<b>Benzo(b)fluoranthene</b>	<b>ND</b>		<b>8.4</b>	<b>µg/Kg-dry</b>	<b>1</b>	9/19/2013 12:27 PM
<b>Benzo(g,h,i)perylene</b>	<b>ND</b>		<b>8.4</b>	<b>µg/Kg-dry</b>	<b>1</b>	9/19/2013 12:27 PM
<b>Benzo(k)fluoranthene</b>	<b>ND</b>		<b>8.4</b>	<b>µg/Kg-dry</b>	<b>1</b>	9/19/2013 12:27 PM
<b>Chrysene</b>	<b>ND</b>		<b>8.4</b>	<b>µg/Kg-dry</b>	<b>1</b>	9/19/2013 12:27 PM
<b>Dibenzo(a,h)anthracene</b>	<b>ND</b>		<b>8.4</b>	<b>µg/Kg-dry</b>	<b>1</b>	9/19/2013 12:27 PM
<b>Fluoranthene</b>	<b>ND</b>		<b>8.4</b>	<b>µg/Kg-dry</b>	<b>1</b>	9/19/2013 12:27 PM

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



# ALS Group USA, Corp

Date: 25-Sep-13

**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13  
**Sample ID:** Treatment Cell 1/4  
**Collection Date:** 9/17/2013 02:00 PM

**Work Order:** 1309675  
**Lab ID:** 1309675-03  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		8.4	µg/Kg-dry	1	9/19/2013 12:27 PM
Indeno(1,2,3-cd)pyrene	ND		8.4	µg/Kg-dry	1	9/19/2013 12:27 PM
Naphthalene	ND		8.4	µg/Kg-dry	1	9/19/2013 12:27 PM
<b>Pyrene</b>	<b>36</b>		<b>8.4</b>	<b>µg/Kg-dry</b>	<b>1</b>	9/19/2013 12:27 PM
Surr: 2-Fluorobiphenyl	87.4		12-100	%REC	1	9/19/2013 12:27 PM
Surr: 4-Terphenyl-d14	96.8		25-137	%REC	1	9/19/2013 12:27 PM
Surr: Nitrobenzene-d5	79.6		37-107	%REC	1	9/19/2013 12:27 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>RS</b>
Benzene	ND		38	µg/Kg-dry	1	9/19/2013 01:11 PM
Ethylbenzene	ND		38	µg/Kg-dry	1	9/19/2013 01:11 PM
m,p-Xylene	ND		77	µg/Kg-dry	1	9/19/2013 01:11 PM
o-Xylene	ND		38	µg/Kg-dry	1	9/19/2013 01:11 PM
Toluene	ND		38	µg/Kg-dry	1	9/19/2013 01:11 PM
Xylenes, Total	ND		120	µg/Kg-dry	1	9/19/2013 01:11 PM
Surr: 1,2-Dichloroethane-d4	101		70-130	%REC	1	9/19/2013 01:11 PM
Surr: 4-Bromofluorobenzene	104		70-130	%REC	1	9/19/2013 01:11 PM
Surr: Dibromofluoromethane	93.6		70-130	%REC	1	9/19/2013 01:11 PM
Surr: Toluene-d8	97.5		70-130	%REC	1	9/19/2013 01:11 PM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>		Prep Date: <b>9/23/2013</b>	Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	2.6		0.025	mmhos/cm @25	5	9/24/2013 12:30 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: <b>JJG</b>
Chromium, Trivalent	69		0.64	mg/Kg-dry	1	9/22/2013 03:29 PM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>		Prep Date: <b>9/19/2013</b>	Analyst: <b>MB</b>
Chromium, Hexavalent	ND		0.63	mg/Kg-dry	1	9/20/2013 02:40 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>MEB</b>
Moisture	22		0.050	% of sample	1	9/18/2013 03:15 PM
<b>PH</b>			<b>SW9045D</b>		Prep Date: <b>9/19/2013</b>	Analyst: <b>KF</b>
pH	8.4			s.u.	1	9/19/2013 10:15 AM

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



# ALS Group USA, Corp

Date: 25-Sep-13

**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13  
**Sample ID:** Treatment Cell 3/4  
**Collection Date:** 9/17/2013 02:10 PM

**Work Order:** 1309675  
**Lab ID:** 1309675-04  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>CW</b>
<b>DRO (C10-C28)</b>	<b>250</b>		<b>5.1</b>	<b>mg/Kg-dry</b>	1	9/19/2013 04:02 AM
Surr: 4-Terphenyl-d14	66.2		39-115	%REC	1	9/19/2013 04:02 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>CW</b>
<b>GRO (C6-C10)</b>	<b>14</b>		<b>3.1</b>	<b>mg/Kg-dry</b>	1	9/18/2013 04:17 PM
Surr: Toluene-d8	101		50-150	%REC	1	9/18/2013 04:17 PM
<b>MERCURY BY CVAA</b>						
			<b>SW7471</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>LR</b>
<b>Mercury</b>	<b>0.017</b>		<b>0.015</b>	<b>mg/Kg-dry</b>	1	9/19/2013 03:48 PM
<b>METALS BY ICP-MS</b>						
			<b>SW6020A</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>ML</b>
<b>Arsenic</b>	<b>6.4</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	5	9/19/2013 09:07 AM
<b>Barium</b>	<b>540</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	5	9/19/2013 09:07 AM
Cadmium	ND		0.91	mg/Kg-dry	5	9/19/2013 09:07 AM
<b>Chromium</b>	<b>73</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	5	9/19/2013 09:07 AM
<b>Copper</b>	<b>13</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	5	9/19/2013 09:07 AM
<b>Lead</b>	<b>13</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	5	9/19/2013 09:07 AM
<b>Nickel</b>	<b>31</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	5	9/19/2013 09:07 AM
Selenium	ND		2.3	mg/Kg-dry	5	9/19/2013 09:07 AM
Silver	ND		2.3	mg/Kg-dry	5	9/19/2013 09:07 AM
<b>Zinc</b>	<b>49</b>		<b>4.5</b>	<b>mg/Kg-dry</b>	5	9/19/2013 09:07 AM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW6020A</b>		Prep Date: <b>9/23/2013</b>	Analyst: <b>ML</b>
<b>Calcium</b>	<b>60</b>		<b>10</b>	<b>mg/L</b>	20	9/25/2013 08:46 AM
<b>Magnesium</b>	<b>7.1</b>		<b>4.0</b>	<b>mg/L</b>	20	9/25/2013 08:46 AM
<b>Sodium</b>	<b>380</b>		<b>4.0</b>	<b>mg/L</b>	20	9/25/2013 08:46 AM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep Date: <b>9/23/2013</b>	Analyst: <b>ML</b>
<b>Sodium Adsorption Ratio</b>	<b>12</b>		<b>0.010</b>	<b>none</b>	1	9/25/2013
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8270</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>HL</b>
Acenaphthene	ND		8.2	µg/Kg-dry	1	9/19/2013 10:57 AM
Acenaphthylene	ND		8.2	µg/Kg-dry	1	9/19/2013 10:57 AM
<b>Anthracene</b>	<b>41</b>		<b>8.2</b>	<b>µg/Kg-dry</b>	1	9/19/2013 10:57 AM
<b>Benzo(a)anthracene</b>	<b>36</b>		<b>8.2</b>	<b>µg/Kg-dry</b>	1	9/19/2013 10:57 AM
Benzo(a)pyrene	ND		8.2	µg/Kg-dry	1	9/19/2013 10:57 AM
Benzo(b)fluoranthene	ND		8.2	µg/Kg-dry	1	9/19/2013 10:57 AM
Benzo(g,h,i)perylene	ND		8.2	µg/Kg-dry	1	9/19/2013 10:57 AM
Benzo(k)fluoranthene	ND		8.2	µg/Kg-dry	1	9/19/2013 10:57 AM
Chrysene	ND		8.2	µg/Kg-dry	1	9/19/2013 10:57 AM
Dibenzo(a,h)anthracene	ND		8.2	µg/Kg-dry	1	9/19/2013 10:57 AM
<b>Fluoranthene</b>	<b>39</b>		<b>8.2</b>	<b>µg/Kg-dry</b>	1	9/19/2013 10:57 AM

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



# ALS Group USA, Corp

Date: 25-Sep-13

**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13  
**Sample ID:** Treatment Cell 3/4  
**Collection Date:** 9/17/2013 02:10 PM

**Work Order:** 1309675  
**Lab ID:** 1309675-04  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		8.2	µg/Kg-dry	1	9/19/2013 10:57 AM
Indeno(1,2,3-cd)pyrene	ND		8.2	µg/Kg-dry	1	9/19/2013 10:57 AM
Naphthalene	ND		8.2	µg/Kg-dry	1	9/19/2013 10:57 AM
<b>Pyrene</b>	<b>35</b>		<b>8.2</b>	<b>µg/Kg-dry</b>	<b>1</b>	9/19/2013 10:57 AM
Surr: 2-Fluorobiphenyl	82.4		12-100	%REC	1	9/19/2013 10:57 AM
Surr: 4-Terphenyl-d14	106		25-137	%REC	1	9/19/2013 10:57 AM
Surr: Nitrobenzene-d5	72.0		37-107	%REC	1	9/19/2013 10:57 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>RS</b>
Benzene	ND		37	µg/Kg-dry	1	9/19/2013 01:35 PM
Ethylbenzene	ND		37	µg/Kg-dry	1	9/19/2013 01:35 PM
m,p-Xylene	ND		75	µg/Kg-dry	1	9/19/2013 01:35 PM
o-Xylene	ND		37	µg/Kg-dry	1	9/19/2013 01:35 PM
Toluene	ND		37	µg/Kg-dry	1	9/19/2013 01:35 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	9/19/2013 01:35 PM
Surr: 1,2-Dichloroethane-d4	101		70-130	%REC	1	9/19/2013 01:35 PM
Surr: 4-Bromofluorobenzene	99.2		70-130	%REC	1	9/19/2013 01:35 PM
Surr: Dibromofluoromethane	92.8		70-130	%REC	1	9/19/2013 01:35 PM
Surr: Toluene-d8	98.1		70-130	%REC	1	9/19/2013 01:35 PM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>		Prep Date: <b>9/23/2013</b>	Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	<b>2.2</b>		<b>0.025</b>	mmhos/cm @25	5	9/24/2013 12:30 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: <b>JJG</b>
Chromium, Trivalent	<b>73</b>		<b>0.62</b>	mg/Kg-dry	1	9/22/2013 03:29 PM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>		Prep Date: <b>9/19/2013</b>	Analyst: <b>MB</b>
Chromium, Hexavalent	ND		0.61	mg/Kg-dry	1	9/20/2013 02:40 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>MEB</b>
Moisture	<b>20</b>		<b>0.050</b>	% of sample	1	9/18/2013 03:15 PM
<b>PH</b>			<b>SW9045D</b>		Prep Date: <b>9/19/2013</b>	Analyst: <b>KF</b>
pH	<b>8.4</b>			s.u.	1	9/19/2013 10:15 AM

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



# ALS Group USA, Corp

Date: 25-Sep-13

**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13  
**Sample ID:** Treatment Cell 2/6  
**Collection Date:** 9/17/2013 02:40 PM

**Work Order:** 1309675  
**Lab ID:** 1309675-05  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>CW</b>
<b>DRO (C10-C28)</b>	<b>93</b>		<b>5.2</b>	<b>mg/Kg-dry</b>	1	9/19/2013 04:32 AM
Surr: 4-Terphenyl-d14	52.7		39-115	%REC	1	9/19/2013 04:32 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>CW</b>
<b>GRO (C6-C10)</b>	<b>36</b>		<b>3.1</b>	<b>mg/Kg-dry</b>	1	9/18/2013 04:40 PM
Surr: Toluene-d8	103		50-150	%REC	1	9/18/2013 04:40 PM
<b>MERCURY BY CVAA</b>						
			<b>SW7471</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>LR</b>
<b>Mercury</b>	<b>0.021</b>		<b>0.017</b>	<b>mg/Kg-dry</b>	1	9/19/2013 03:50 PM
<b>METALS BY ICP-MS</b>						
			<b>SW6020A</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>ML</b>
<b>Arsenic</b>	<b>6.1</b>		<b>2.2</b>	<b>mg/Kg-dry</b>	5	9/19/2013 09:13 AM
<b>Barium</b>	<b>490</b>		<b>2.2</b>	<b>mg/Kg-dry</b>	5	9/19/2013 09:13 AM
Cadmium	ND		0.88	mg/Kg-dry	5	9/19/2013 09:13 AM
<b>Chromium</b>	<b>72</b>		<b>2.2</b>	<b>mg/Kg-dry</b>	5	9/19/2013 09:13 AM
<b>Copper</b>	<b>12</b>		<b>2.2</b>	<b>mg/Kg-dry</b>	5	9/19/2013 09:13 AM
<b>Lead</b>	<b>13</b>		<b>2.2</b>	<b>mg/Kg-dry</b>	5	9/19/2013 09:13 AM
<b>Nickel</b>	<b>29</b>		<b>2.2</b>	<b>mg/Kg-dry</b>	5	9/19/2013 09:13 AM
Selenium	ND		2.2	mg/Kg-dry	5	9/19/2013 09:13 AM
Silver	ND		2.2	mg/Kg-dry	5	9/19/2013 09:13 AM
<b>Zinc</b>	<b>48</b>		<b>4.4</b>	<b>mg/Kg-dry</b>	5	9/19/2013 09:13 AM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW6020A</b>		Prep Date: <b>9/23/2013</b>	Analyst: <b>ML</b>
<b>Calcium</b>	<b>85</b>		<b>10</b>	<b>mg/L</b>	20	9/25/2013 08:54 AM
<b>Magnesium</b>	<b>15</b>		<b>4.0</b>	<b>mg/L</b>	20	9/25/2013 08:54 AM
<b>Sodium</b>	<b>680</b>		<b>4.0</b>	<b>mg/L</b>	20	9/25/2013 08:54 AM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep Date: <b>9/23/2013</b>	Analyst: <b>ML</b>
<b>Sodium Adsorption Ratio</b>	<b>18</b>		<b>0.010</b>	<b>none</b>	1	9/25/2013
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8270</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>HL</b>
Acenaphthene	ND		8.3	µg/Kg-dry	1	9/19/2013 11:19 AM
Acenaphthylene	ND		8.3	µg/Kg-dry	1	9/19/2013 11:19 AM
Anthracene	ND		8.3	µg/Kg-dry	1	9/19/2013 11:19 AM
<b>Benzo(a)anthracene</b>	<b>40</b>		<b>8.3</b>	<b>µg/Kg-dry</b>	1	9/19/2013 11:19 AM
Benzo(a)pyrene	ND		8.3	µg/Kg-dry	1	9/19/2013 11:19 AM
<b>Benzo(b)fluoranthene</b>	<b>50</b>		<b>8.3</b>	<b>µg/Kg-dry</b>	1	9/19/2013 11:19 AM
Benzo(g,h,i)perylene	ND		8.3	µg/Kg-dry	1	9/19/2013 11:19 AM
<b>Benzo(k)fluoranthene</b>	<b>36</b>		<b>8.3</b>	<b>µg/Kg-dry</b>	1	9/19/2013 11:19 AM
Chrysene	ND		8.3	µg/Kg-dry	1	9/19/2013 11:19 AM
Dibenzo(a,h)anthracene	ND		8.3	µg/Kg-dry	1	9/19/2013 11:19 AM
<b>Fluoranthene</b>	<b>47</b>		<b>8.3</b>	<b>µg/Kg-dry</b>	1	9/19/2013 11:19 AM

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



# ALS Group USA, Corp

Date: 25-Sep-13

**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13  
**Sample ID:** Treatment Cell 2/6  
**Collection Date:** 9/17/2013 02:40 PM

**Work Order:** 1309675  
**Lab ID:** 1309675-05  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		8.3	µg/Kg-dry	1	9/19/2013 11:19 AM
Indeno(1,2,3-cd)pyrene	ND		8.3	µg/Kg-dry	1	9/19/2013 11:19 AM
Naphthalene	ND		8.3	µg/Kg-dry	1	9/19/2013 11:19 AM
<b>Pyrene</b>	<b>42</b>		<b>8.3</b>	<b>µg/Kg-dry</b>	1	9/19/2013 11:19 AM
Surr: 2-Fluorobiphenyl	79.2		12-100	%REC	1	9/19/2013 11:19 AM
Surr: 4-Terphenyl-d14	101		25-137	%REC	1	9/19/2013 11:19 AM
Surr: Nitrobenzene-d5	72.8		37-107	%REC	1	9/19/2013 11:19 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>RS</b>
Benzene	ND		38	µg/Kg-dry	1	9/19/2013 01:59 PM
Ethylbenzene	ND		38	µg/Kg-dry	1	9/19/2013 01:59 PM
m,p-Xylene	ND		75	µg/Kg-dry	1	9/19/2013 01:59 PM
o-Xylene	ND		38	µg/Kg-dry	1	9/19/2013 01:59 PM
Toluene	ND		38	µg/Kg-dry	1	9/19/2013 01:59 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	9/19/2013 01:59 PM
Surr: 1,2-Dichloroethane-d4	98.8		70-130	%REC	1	9/19/2013 01:59 PM
Surr: 4-Bromofluorobenzene	101		70-130	%REC	1	9/19/2013 01:59 PM
Surr: Dibromofluoromethane	92.2		70-130	%REC	1	9/19/2013 01:59 PM
Surr: Toluene-d8	97.4		70-130	%REC	1	9/19/2013 01:59 PM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>		Prep Date: <b>9/23/2013</b>	Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	4.4		0.025	mmhos/cm @25	5	9/24/2013 12:30 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: <b>JJG</b>
Chromium, Trivalent	72		0.63	mg/Kg-dry	1	9/22/2013 03:29 PM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>		Prep Date: <b>9/19/2013</b>	Analyst: <b>MB</b>
Chromium, Hexavalent	ND		0.62	mg/Kg-dry	1	9/20/2013 02:40 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>MEB</b>
Moisture	20		0.050	% of sample	1	9/18/2013 03:15 PM
<b>PH</b>			<b>SW9045D</b>		Prep Date: <b>9/19/2013</b>	Analyst: <b>KF</b>
pH	8.3			s.u.	1	9/19/2013 10:15 AM

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



# ALS Group USA, Corp

Date: 25-Sep-13

Client: HRL Compliance Solutions

Project: WPX TR 44-35-597 Pit Closure 9/17/13

Sample ID: Treatment Cell 3/6

Collection Date: 9/17/2013 02:50 PM

Work Order: 1309675

Lab ID: 1309675-06

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>200</b>		<b>SW8015M</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>CW</b>
			<b>5.1</b>	<b>mg/Kg-dry</b>	<b>1</b>	9/19/2013 05:02 AM
Surr: 4-Terphenyl-d14	70.6		39-115	%REC	1	9/19/2013 05:02 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>SW8015</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>CW</b>
			<b>3.1</b>	<b>mg/Kg-dry</b>	<b>1</b>	9/18/2013 05:28 PM
Surr: Toluene-d8	108		50-150	%REC	1	9/18/2013 05:28 PM
<b>MERCURY BY CVAA</b>						
<b>Mercury</b>	<b>0.024</b>		<b>SW7471</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>LR</b>
			<b>0.018</b>	<b>mg/Kg-dry</b>	<b>1</b>	9/19/2013 03:52 PM
<b>METALS BY ICP-MS</b>						
<b>Arsenic</b>	<b>5.9</b>		<b>SW6020A</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>ML</b>
			<b>2.1</b>	<b>mg/Kg-dry</b>	<b>5</b>	9/19/2013 09:38 AM
<b>Barium</b>	<b>510</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	<b>5</b>	9/19/2013 09:38 AM
Cadmium	ND		0.84	mg/Kg-dry	5	9/19/2013 09:38 AM
<b>Chromium</b>	<b>74</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	<b>5</b>	9/19/2013 09:38 AM
<b>Copper</b>	<b>13</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	<b>5</b>	9/19/2013 09:38 AM
<b>Lead</b>	<b>14</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	<b>5</b>	9/19/2013 09:38 AM
<b>Nickel</b>	<b>31</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	<b>5</b>	9/19/2013 09:38 AM
Selenium	ND		2.1	mg/Kg-dry	5	9/19/2013 09:38 AM
Silver	ND		2.1	mg/Kg-dry	5	9/19/2013 09:38 AM
<b>Zinc</b>	<b>51</b>		<b>4.2</b>	<b>mg/Kg-dry</b>	<b>5</b>	9/19/2013 09:38 AM
<b>SOLUBLE CATIONS FOR SAR</b>						
<b>Calcium</b>	<b>49</b>		<b>SW6020A</b>		Prep Date: <b>9/23/2013</b>	Analyst: <b>ML</b>
			<b>10</b>	<b>mg/L</b>	<b>20</b>	9/25/2013 09:06 AM
<b>Magnesium</b>	<b>5.9</b>		<b>4.0</b>	<b>mg/L</b>	<b>20</b>	9/25/2013 09:06 AM
<b>Sodium</b>	<b>780</b>		<b>4.0</b>	<b>mg/L</b>	<b>20</b>	9/25/2013 09:06 AM
<b>SODIUM ADSORPTION RATIO</b>						
<b>Sodium Adsorption Ratio</b>	<b>28</b>		<b>USDA H60 METHO</b>		Prep Date: <b>9/23/2013</b>	Analyst: <b>ML</b>
			<b>0.010</b>	<b>none</b>	<b>1</b>	9/25/2013
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
<b>Acenaphthene</b>	<b>ND</b>		<b>SW8270</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>HL</b>
			<b>8.2</b>	<b>µg/Kg-dry</b>	<b>1</b>	9/19/2013 11:42 AM
<b>Acenaphthylene</b>	<b>ND</b>		<b>8.2</b>	<b>µg/Kg-dry</b>	<b>1</b>	9/19/2013 11:42 AM
<b>Anthracene</b>	<b>39</b>		<b>8.2</b>	<b>µg/Kg-dry</b>	<b>1</b>	9/19/2013 11:42 AM
<b>Benzo(a)anthracene</b>	<b>37</b>		<b>8.2</b>	<b>µg/Kg-dry</b>	<b>1</b>	9/19/2013 11:42 AM
<b>Benzo(a)pyrene</b>	<b>ND</b>		<b>8.2</b>	<b>µg/Kg-dry</b>	<b>1</b>	9/19/2013 11:42 AM
<b>Benzo(b)fluoranthene</b>	<b>48</b>		<b>8.2</b>	<b>µg/Kg-dry</b>	<b>1</b>	9/19/2013 11:42 AM
<b>Benzo(g,h,i)perylene</b>	<b>ND</b>		<b>8.2</b>	<b>µg/Kg-dry</b>	<b>1</b>	9/19/2013 11:42 AM
<b>Benzo(k)fluoranthene</b>	<b>34</b>		<b>8.2</b>	<b>µg/Kg-dry</b>	<b>1</b>	9/19/2013 11:42 AM
<b>Chrysene</b>	<b>ND</b>		<b>8.2</b>	<b>µg/Kg-dry</b>	<b>1</b>	9/19/2013 11:42 AM
<b>Dibenzo(a,h)anthracene</b>	<b>ND</b>		<b>8.2</b>	<b>µg/Kg-dry</b>	<b>1</b>	9/19/2013 11:42 AM
<b>Fluoranthene</b>	<b>43</b>		<b>8.2</b>	<b>µg/Kg-dry</b>	<b>1</b>	9/19/2013 11:42 AM

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



# ALS Group USA, Corp

Date: 25-Sep-13

**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13  
**Sample ID:** Treatment Cell 3/6  
**Collection Date:** 9/17/2013 02:50 PM

**Work Order:** 1309675  
**Lab ID:** 1309675-06  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		8.2	µg/Kg-dry	1	9/19/2013 11:42 AM
Indeno(1,2,3-cd)pyrene	ND		8.2	µg/Kg-dry	1	9/19/2013 11:42 AM
Naphthalene	ND		8.2	µg/Kg-dry	1	9/19/2013 11:42 AM
<b>Pyrene</b>	<b>41</b>		<b>8.2</b>	<b>µg/Kg-dry</b>	1	9/19/2013 11:42 AM
Surr: 2-Fluorobiphenyl	86.3		12-100	%REC	1	9/19/2013 11:42 AM
Surr: 4-Terphenyl-d14	103		25-137	%REC	1	9/19/2013 11:42 AM
Surr: Nitrobenzene-d5	79.4		37-107	%REC	1	9/19/2013 11:42 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>RS</b>
Benzene	ND		37	µg/Kg-dry	1	9/19/2013 02:24 PM
Ethylbenzene	ND		37	µg/Kg-dry	1	9/19/2013 02:24 PM
m,p-Xylene	ND		74	µg/Kg-dry	1	9/19/2013 02:24 PM
o-Xylene	ND		37	µg/Kg-dry	1	9/19/2013 02:24 PM
Toluene	ND		37	µg/Kg-dry	1	9/19/2013 02:24 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	9/19/2013 02:24 PM
Surr: 1,2-Dichloroethane-d4	99.8		70-130	%REC	1	9/19/2013 02:24 PM
Surr: 4-Bromofluorobenzene	101		70-130	%REC	1	9/19/2013 02:24 PM
Surr: Dibromofluoromethane	92.0		70-130	%REC	1	9/19/2013 02:24 PM
Surr: Toluene-d8	97.4		70-130	%REC	1	9/19/2013 02:24 PM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>		Prep Date: <b>9/23/2013</b>	Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	4.2		0.025	mmhos/cm @25	5	9/24/2013 12:30 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: <b>JJG</b>
Chromium, Trivalent	74		0.62	mg/Kg-dry	1	9/22/2013 03:29 PM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>		Prep Date: <b>9/19/2013</b>	Analyst: <b>MB</b>
Chromium, Hexavalent	ND		0.61	mg/Kg-dry	1	9/20/2013 02:40 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>MEB</b>
Moisture	19		0.050	% of sample	1	9/18/2013 03:15 PM
<b>PH</b>			<b>SW9045D</b>		Prep Date: <b>9/19/2013</b>	Analyst: <b>KF</b>
pH	8.2			s.u.	1	9/19/2013 10:15 AM

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



# ALS Group USA, Corp

Date: 25-Sep-13

**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13  
**Sample ID:** Treatment Cell 5/6  
**Collection Date:** 9/17/2013 03:00 PM

**Work Order:** 1309675  
**Lab ID:** 1309675-07  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>CW</b>
<b>DRO (C10-C28)</b>	<b>180</b>		<b>5.2</b>	<b>mg/Kg-dry</b>	1	9/19/2013 02:01 AM
Surr: 4-Terphenyl-d14	57.9		39-115	%REC	1	9/19/2013 02:01 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>CW</b>
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>3.2</b>	<b>mg/Kg-dry</b>	1	9/18/2013 05:04 PM
Surr: Toluene-d8	101		50-150	%REC	1	9/18/2013 05:04 PM
<b>MERCURY BY CVAA</b>						
			<b>SW7471</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>LR</b>
<b>Mercury</b>	<b>0.020</b>		<b>0.017</b>	<b>mg/Kg-dry</b>	1	9/19/2013 03:54 PM
<b>METALS BY ICP-MS</b>						
			<b>SW6020A</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>ML</b>
<b>Arsenic</b>	<b>6.8</b>		<b>2.0</b>	<b>mg/Kg-dry</b>	5	9/19/2013 09:45 AM
<b>Barium</b>	<b>490</b>		<b>2.0</b>	<b>mg/Kg-dry</b>	5	9/19/2013 09:45 AM
Cadmium	ND		0.81	mg/Kg-dry	5	9/19/2013 09:45 AM
<b>Chromium</b>	<b>75</b>		<b>2.0</b>	<b>mg/Kg-dry</b>	5	9/19/2013 09:45 AM
<b>Copper</b>	<b>12</b>		<b>2.0</b>	<b>mg/Kg-dry</b>	5	9/19/2013 09:45 AM
<b>Lead</b>	<b>13</b>		<b>2.0</b>	<b>mg/Kg-dry</b>	5	9/19/2013 09:45 AM
<b>Nickel</b>	<b>32</b>		<b>2.0</b>	<b>mg/Kg-dry</b>	5	9/19/2013 09:45 AM
Selenium	ND		2.0	mg/Kg-dry	5	9/19/2013 09:45 AM
Silver	ND		2.0	mg/Kg-dry	5	9/19/2013 09:45 AM
<b>Zinc</b>	<b>47</b>		<b>4.1</b>	<b>mg/Kg-dry</b>	5	9/19/2013 09:45 AM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW6020A</b>		Prep Date: <b>9/23/2013</b>	Analyst: <b>ML</b>
<b>Calcium</b>	<b>94</b>		<b>10</b>	<b>mg/L</b>	20	9/25/2013 09:11 AM
<b>Magnesium</b>	<b>16</b>		<b>4.0</b>	<b>mg/L</b>	20	9/25/2013 09:11 AM
<b>Sodium</b>	<b>1,000</b>		<b>4.0</b>	<b>mg/L</b>	20	9/25/2013 09:11 AM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep Date: <b>9/23/2013</b>	Analyst: <b>ML</b>
<b>Sodium Adsorption Ratio</b>	<b>26</b>		<b>0.010</b>	<b>none</b>	1	9/25/2013
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8270</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>HL</b>
Acenaphthene	ND		8.3	µg/Kg-dry	1	9/19/2013 12:04 PM
Acenaphthylene	ND		8.3	µg/Kg-dry	1	9/19/2013 12:04 PM
<b>Anthracene</b>	<b>54</b>		<b>8.3</b>	<b>µg/Kg-dry</b>	1	9/19/2013 12:04 PM
<b>Benzo(a)anthracene</b>	<b>52</b>		<b>8.3</b>	<b>µg/Kg-dry</b>	1	9/19/2013 12:04 PM
<b>Benzo(a)pyrene</b>	<b>78</b>		<b>8.3</b>	<b>µg/Kg-dry</b>	1	9/19/2013 12:04 PM
<b>Benzo(b)fluoranthene</b>	<b>58</b>		<b>8.3</b>	<b>µg/Kg-dry</b>	1	9/19/2013 12:04 PM
<b>Benzo(g,h,i)perylene</b>	<b>52</b>		<b>8.3</b>	<b>µg/Kg-dry</b>	1	9/19/2013 12:04 PM
<b>Benzo(k)fluoranthene</b>	<b>39</b>		<b>8.3</b>	<b>µg/Kg-dry</b>	1	9/19/2013 12:04 PM
<b>Chrysene</b>	<b>22</b>		<b>8.3</b>	<b>µg/Kg-dry</b>	1	9/19/2013 12:04 PM
Dibenzo(a,h)anthracene	ND		8.3	µg/Kg-dry	1	9/19/2013 12:04 PM
<b>Fluoranthene</b>	<b>74</b>		<b>8.3</b>	<b>µg/Kg-dry</b>	1	9/19/2013 12:04 PM

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



# ALS Group USA, Corp

Date: 25-Sep-13

**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13  
**Sample ID:** Treatment Cell 5/6  
**Collection Date:** 9/17/2013 03:00 PM

**Work Order:** 1309675  
**Lab ID:** 1309675-07  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		8.3	µg/Kg-dry	1	9/19/2013 12:04 PM
<b>Indeno(1,2,3-cd)pyrene</b>	<b>45</b>		<b>8.3</b>	<b>µg/Kg-dry</b>	1	9/19/2013 12:04 PM
Naphthalene	ND		8.3	µg/Kg-dry	1	9/19/2013 12:04 PM
<b>Pyrene</b>	<b>85</b>		<b>8.3</b>	<b>µg/Kg-dry</b>	1	9/19/2013 12:04 PM
Surr: 2-Fluorobiphenyl	82.9		12-100	%REC	1	9/19/2013 12:04 PM
Surr: 4-Terphenyl-d14	104		25-137	%REC	1	9/19/2013 12:04 PM
Surr: Nitrobenzene-d5	76.3		37-107	%REC	1	9/19/2013 12:04 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>		Prep Date: <b>9/18/2013</b>	Analyst: <b>RS</b>
Benzene	ND		38	µg/Kg-dry	1	9/19/2013 02:48 PM
Ethylbenzene	ND		38	µg/Kg-dry	1	9/19/2013 02:48 PM
m,p-Xylene	ND		76	µg/Kg-dry	1	9/19/2013 02:48 PM
o-Xylene	ND		38	µg/Kg-dry	1	9/19/2013 02:48 PM
Toluene	ND		38	µg/Kg-dry	1	9/19/2013 02:48 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	9/19/2013 02:48 PM
Surr: 1,2-Dichloroethane-d4	99.0		70-130	%REC	1	9/19/2013 02:48 PM
Surr: 4-Bromofluorobenzene	98.8		70-130	%REC	1	9/19/2013 02:48 PM
Surr: Dibromofluoromethane	91.4		70-130	%REC	1	9/19/2013 02:48 PM
Surr: Toluene-d8	96.7		70-130	%REC	1	9/19/2013 02:48 PM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>		Prep Date: <b>9/23/2013</b>	Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	<b>6.0</b>		<b>0.025</b>	mmhos/cm @25	5	9/24/2013 12:30 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: <b>JJG</b>
Chromium, Trivalent	<b>75</b>		<b>0.63</b>	mg/Kg-dry	1	9/22/2013 03:29 PM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>		Prep Date: <b>9/19/2013</b>	Analyst: <b>MB</b>
Chromium, Hexavalent	ND		0.63	mg/Kg-dry	1	9/20/2013 02:40 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>MEB</b>
Moisture	<b>21</b>		<b>0.050</b>	% of sample	1	9/18/2013 03:15 PM
<b>PH</b>			<b>SW9045D</b>		Prep Date: <b>9/19/2013</b>	Analyst: <b>KF</b>
pH	<b>8.5</b>			s.u.	1	9/19/2013 10:15 AM

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



Client: HRL Compliance Solutions

# QC BATCH REPORT

Work Order: 1309675

Project: WPX TR 44-35-597 Pit Closure 9/17/13

Batch ID: 51429

Instrument ID GC8

Method: SW8015M

<b>MBLK</b>		Sample ID: <b>DBLKS1-51429-51429</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>9/18/2013 10:56 PM</b>		
Client ID:		Run ID: <b>GC8_130918C</b>				SeqNo: <b>2454233</b>		Prep Date: <b>9/18/2013</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	4.2								
Surr: 4-Terphenyl-d14	1.016	0	1.667	0	61	39-115	0			

<b>LCS</b>		Sample ID: <b>DLCSS1-51429-51429</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>9/18/2013 11:26 PM</b>		
Client ID:		Run ID: <b>GC8_130918C</b>				SeqNo: <b>2454234</b>		Prep Date: <b>9/18/2013</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)	149.7	4.2	166.7	0	89.8	49-124	0			
Surr: 4-Terphenyl-d14	0.8187	0	1.667	0	49.1	39-115	0			

<b>MS</b>		Sample ID: <b>1309675-07B MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>9/19/2013 01:01 AM</b>		
Client ID: <b>Treatment Cell 5/6</b>		Run ID: <b>GC8_130918C</b>				SeqNo: <b>2454235</b>		Prep Date: <b>9/18/2013</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)	478.3	8.2	329.8	142.9	102	49-130	0			
Surr: 4-Terphenyl-d14	2.348	0	3.298	0	71.2	39-115	0			

<b>MSD</b>		Sample ID: <b>1309675-07B MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>9/19/2013 01:31 AM</b>		
Client ID: <b>Treatment Cell 5/6</b>		Run ID: <b>GC8_130918C</b>				SeqNo: <b>2454236</b>		Prep Date: <b>9/18/2013</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)	473.1	8.3	330.8	142.9	99.8	49-130	478.3	1.11	30	
Surr: 4-Terphenyl-d14	2.262	0	3.308	0	68.4	39-115	2.348	3.7	30	

The following samples were analyzed in this batch:

1309675-01A	1309675-02A	1309675-03B
1309675-04B	1309675-05B	1309675-06B
1309675-07B		



**Client:** HRL Compliance Solutions  
**Work Order:** 1309675  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13

## QC BATCH REPORT

Batch ID: **51448**      Instrument ID **GC10**      Method: **SW8015**

<b>MBLK</b>		Sample ID: <b>MBLK-51448-51448</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>9/18/2013 03:30 PM</b>		
Client ID:		Run ID: <b>GC10_130918A</b>				SeqNo: <b>2453760</b>		Prep Date: <b>9/18/2013</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>	5156	0	5000	0	103	50-150	0			

<b>LCS</b>		Sample ID: <b>LCS-51448-51448</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>9/18/2013 03:06 PM</b>		
Client ID:		Run ID: <b>GC10_130918A</b>				SeqNo: <b>2453759</b>		Prep Date: <b>9/18/2013</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)	414100	2,500	500000	0	82.8	70-130	0			
<i>Surr: Toluene-d8</i>	5221	0	5000	0	104	50-150	0			

<b>MS</b>		Sample ID: <b>1309675-01A MS</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>9/18/2013 09:52 PM</b>		
Client ID: <b>South East Corner Wall 8'</b>		Run ID: <b>GC10_130918A</b>				SeqNo: <b>2453779</b>		Prep Date: <b>9/18/2013</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)	420100	2,500	500000	0	84	70-130	0			
<i>Surr: Toluene-d8</i>	5198	0	5000	0	104	50-150	0			

<b>MSD</b>		Sample ID: <b>1309675-01A MSD</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>9/18/2013 10:15 PM</b>		
Client ID: <b>South East Corner Wall 8'</b>		Run ID: <b>GC10_130918A</b>				SeqNo: <b>2453780</b>		Prep Date: <b>9/18/2013</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)	409100	2,500	500000	0	81.8	70-130	420100	2.65	30	
<i>Surr: Toluene-d8</i>	5264	0	5000	0	105	50-150	5198	1.24	30	

The following samples were analyzed in this batch:

1309675-01A	1309675-02A	1309675-03A
1309675-04A	1309675-05A	1309675-06A
1309675-07A		

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1309675  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13

## QC BATCH REPORT

Batch ID: **51455**      Instrument ID **HG1**      Method: **SW7471**

<b>MBLK</b>		Sample ID: <b>MBLK-51455-51455</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>9/18/2013 04:36 PM</b>		
Client ID:		Run ID: <b>HG1_130918A</b>				SeqNo: <b>2452997</b>		Prep Date: <b>9/18/2013</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-51455-51455</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>9/18/2013 04:39 PM</b>		
Client ID:		Run ID: <b>HG1_130918A</b>				SeqNo: <b>2452998</b>		Prep Date: <b>9/18/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury      0.1838      0.020      0.1665      0      110      80-120      0

<b>MS</b>		Sample ID: <b>1309544-01BMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>9/18/2013 04:43 PM</b>		
Client ID:		Run ID: <b>HG1_130918A</b>				SeqNo: <b>2453006</b>		Prep Date: <b>9/18/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury      0.1889      0.014      0.1188      0.07618      94.9      75-125      0

<b>MSD</b>		Sample ID: <b>1309544-01BMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>9/18/2013 04:45 PM</b>		
Client ID:		Run ID: <b>HG1_130918A</b>				SeqNo: <b>2453007</b>		Prep Date: <b>9/18/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury      0.1954      0.014      0.1207      0.07618      98.8      75-125      0.1889      3.4      35

The following samples were analyzed in this batch:

1309675-03B	1309675-04B	1309675-05B
1309675-06B	1309675-07B	

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1309675  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13

## QC BATCH REPORT

Batch ID: **51450**      Instrument ID **ICPMS1**      Method: **SW6020A**

Sample ID: MBLK-51450-51450				Units: mg/Kg			Analysis Date: 9/19/2013 08:29 AM			
Client ID:		Run ID: ICPMS1_130918A			SeqNo: 2453999		Prep Date: 9/18/2013		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	0.0493	0.25								J
Cadmium	0.002226	0.10								J
Chromium	ND	0.25								
Copper	ND	0.25								
Lead	0.01382	0.25								J
Nickel	ND	0.25								
Selenium	ND	0.25								
Silver	0.002056	0.25								J
Zinc	0.0848	0.50								J

LCS				Sample ID: LCS-51450-51450				Units: mg/Kg			Analysis Date: 9/19/2013 08:35 AM		
Client ID:			Run ID: ICPMS1_130918A				SeqNo: 2454000			Prep Date: 9/18/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Arsenic	4.529	0.25	5	0	90.6	80-120	0						
Barium	5.045	0.25	5	0	101	80-120	0						
Cadmium	4.908	0.10	5	0	98.2	80-120	0						
Chromium	4.548	0.25	5	0	91	80-120	0						
Copper	4.646	0.25	5	0	92.9	80-120	0						
Lead	4.98	0.25	5	0	99.6	80-120	0						
Nickel	4.619	0.25	5	0	92.4	80-120	0						
Selenium	4.376	0.25	5	0	87.5	80-120	0						
Silver	5.02	0.25	5	0	100	80-120	0						
Zinc	4.438	0.50	5	0	88.8	80-120	0						

MS				Sample ID: 1309559-08AMS			Units: mg/Kg		Analysis Date: 9/19/2013 11:00 AM		
Client ID:			Run ID: ICPMS1_130918A			SeqNo: 2454023		Prep Date: 9/18/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	8.056	0.34	6.821	1.82	91.4	75-125	0				
Barium	24.4	0.34	6.821	15.58	129	75-125	0			S	
Cadmium	6.791	0.14	6.821	0.0601	98.7	75-125	0				
Chromium	10.98	0.34	6.821	3.391	111	75-125	0				
Copper	8.513	0.34	6.821	2.52	87.9	75-125	0				
Lead	11.94	0.34	6.821	3.562	123	75-125	0				
Nickel	9.645	0.34	6.821	3.014	97.2	75-125	0				
Selenium	5.885	0.34	6.821	0.1924	83.4	75-125	0				
Silver	6.151	0.34	6.821	-0.00361	90.2	75-125	0				
Zinc	18.39	0.68	6.821	11.01	108	75-125	0				

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1309675  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13

## QC BATCH REPORT

Batch ID: **51450**      Instrument ID **ICPMS1**      Method: **SW6020A**

MSD		Sample ID: <b>1309559-08AMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>9/19/2013 11:06 AM</b>		
Client ID:		Run ID: <b>ICPMS1_130918A</b>				SeqNo: <b>2454024</b>		Prep Date: <b>9/18/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	7.598	0.34	6.766	1.82	85.4	75-125	8.056	5.85	25	
Barium	22.38	0.34	6.766	15.58	100	75-125	24.4	8.63	25	
Cadmium	6.654	0.14	6.766	0.0601	97.5	75-125	6.791	2.04	25	
Chromium	10.11	0.34	6.766	3.391	99.3	75-125	10.98	8.29	25	
Copper	8.045	0.34	6.766	2.52	81.7	75-125	8.513	5.66	25	
Lead	11.12	0.34	6.766	3.562	112	75-125	11.94	7.18	25	
Nickel	9.066	0.34	6.766	3.014	89.5	75-125	9.645	6.19	25	
Selenium	5.836	0.34	6.766	0.1924	83.4	75-125	5.885	0.827	25	
Silver	6.078	0.34	6.766	-0.00361	89.9	75-125	6.151	1.2	25	
Zinc	17.11	0.68	6.766	11.01	90.2	75-125	18.39	7.21	25	

The following samples were analyzed in this batch:

1309675-03B	1309675-04B	1309675-05B
1309675-06B	1309675-07B	

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1309675  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13

## QC BATCH REPORT

Batch ID: **51505**      Instrument ID **ICPMS2**      Method: **SW6020A**      **(Dissolve)**

<b>DUP</b>		Sample ID: <b>1309756-01BDUP</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/25/2013 09:22 AM</b>		
Client ID:		Run ID: <b>ICPMS2_130924A</b>				SeqNo: <b>2461926</b>		Prep Date: <b>9/23/2013</b>		DF: <b>20</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	80.8	10	0	0	0	0-0	55.3	37.5		
Magnesium	9.912	4.0	0	0	0	0-0	6.874	36.2		
Sodium	44.62	4.0	0	0	0	0-0	43.22	3.19		

<b>DUP</b>		Sample ID: <b>1309756-01BDUP</b>				Units: <b>none</b>		Analysis Date: <b>9/25/2013</b>		
Client ID:		Run ID: <b>SAR_130925A</b>				SeqNo: <b>2462614</b>		Prep Date: <b>9/23/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	1.247	0.010	0	0	0		1.458	15.6	50	

The following samples were analyzed in this batch:

1309675-03C	1309675-04C	1309675-05C
1309675-06C	1309675-07C	

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1309675  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13

## QC BATCH REPORT

Batch ID: **51428**      Instrument ID **SVMS7**      Method: **SW8270**

MBLK		Sample ID: <b>SBLKS1-51428-51428</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>9/19/2013 09:51 AM</b>		
Client ID:		Run ID: <b>SVMS7_130919A</b>				SeqNo: <b>2454280</b>		Prep Date: <b>9/18/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	6.7								
Acenaphthylene	ND	6.7								
Anthracene	ND	6.7								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(g,h,i)perylene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Chrysene	ND	6.7								
Dibenzo(a,h)anthracene	ND	6.7								
Fluoranthene	ND	6.7								
Fluorene	ND	6.7								
Indeno(1,2,3-cd)pyrene	ND	6.7								
Naphthalene	ND	6.7								
Pyrene	ND	6.7								
<i>Surr: 2-Fluorobiphenyl</i>	1269	0	1667	0	76.2	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1755	0	1667	0	105	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1201	0	1667	0	72.1	37-107	0			

MBLK		Sample ID: <b>SBLKS1-51428-51428</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>9/19/2013 09:51 AM</b>		
Client ID:		Run ID: <b>SVMS7_130919A</b>				SeqNo: <b>2456314</b>		Prep Date: <b>9/18/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	6.7								
Acenaphthylene	ND	6.7								
Anthracene	ND	6.7								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(g,h,i)perylene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Chrysene	ND	6.7								
Dibenzo(a,h)anthracene	ND	6.7								
Fluoranthene	ND	6.7								
Fluorene	ND	6.7								
Indeno(1,2,3-cd)pyrene	ND	6.7								
Pyrene	ND	6.7								
<i>Surr: 2-Fluorobiphenyl</i>	1269	0	1667	0	76.2	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1755	0	1667	0	105	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1201	0	1667	0	72.1	37-107	0			

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1309675  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13

## QC BATCH REPORT

Batch ID: **51428**      Instrument ID **SVMS7**      Method: **SW8270**

LCS		Sample ID: <b>SLCSS1-51428-51428</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>9/19/2013 09:07 AM</b>		
Client ID:		Run ID: <b>SVMS7_130919A</b>				SeqNo: <b>2454279</b>		Prep Date: <b>9/18/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	525.3	6.7	666.7	0	78.8	45-110	0			
Acenaphthylene	561.3	6.7	666.7	0	84.2	45-105	0			
Anthracene	601.7	6.7	666.7	0	90.2	55-105	0			
Benzo(a)anthracene	595.7	6.7	666.7	0	89.3	50-110	0			
Benzo(a)pyrene	667	6.7	666.7	0	100	50-110	0			
Benzo(b)fluoranthene	692	6.7	666.7	0	104	45-115	0			
Benzo(g,h,i)perylene	561.3	6.7	666.7	0	84.2	40-125	0			
Benzo(k)fluoranthene	672.3	6.7	666.7	0	101	45-115	0			
Chrysene	659.7	6.7	666.7	0	98.9	55-110	0			
Dibenzo(a,h)anthracene	560.3	6.7	666.7	0	84	40-125	0			
Fluoranthene	614.3	6.7	666.7	0	92.1	55-115	0			
Fluorene	552.3	6.7	666.7	0	82.8	50-110	0			
Indeno(1,2,3-cd)pyrene	615.3	6.7	666.7	0	92.3	40-120	0			
Naphthalene	514.3	6.7	666.7	0	77.1	40-105	0			
Pyrene	693.7	6.7	666.7	0	104	45-125	0			
Surr: 2-Fluorobiphenyl	1307	0	1667	0	78.4	12-100	0			
Surr: 4-Terphenyl-d14	1745	0	1667	0	105	25-137	0			
Surr: Nitrobenzene-d5	1290	0	1667	0	77.4	37-107	0			

LCS		Sample ID: <b>SLCSS1-51428-51428</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>9/19/2013 09:07 AM</b>		
Client ID:		Run ID: <b>SVMS7_130919A</b>				SeqNo: <b>2456313</b>		Prep Date: <b>9/18/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	525.3	6.7	666.7	0	78.8	45-110	0			
Acenaphthylene	561.3	6.7	666.7	0	84.2	45-105	0			
Anthracene	601.7	6.7	666.7	0	90.2	55-105	0			
Benzo(a)anthracene	595.7	6.7	666.7	0	89.3	50-110	0			
Benzo(a)pyrene	667	6.7	666.7	0	100	50-110	0			
Benzo(b)fluoranthene	692	6.7	666.7	0	104	45-115	0			
Benzo(g,h,i)perylene	561.3	6.7	666.7	0	84.2	40-125	0			
Benzo(k)fluoranthene	672.3	6.7	666.7	0	101	45-115	0			
Chrysene	659.7	6.7	666.7	0	98.9	55-110	0			
Dibenzo(a,h)anthracene	560.3	6.7	666.7	0	84	40-125	0			
Fluoranthene	614.3	6.7	666.7	0	92.1	55-115	0			
Fluorene	552.3	6.7	666.7	0	82.8	50-110	0			
Indeno(1,2,3-cd)pyrene	615.3	6.7	666.7	0	92.3	40-120	0			
Pyrene	693.7	6.7	666.7	0	104	45-125	0			
Surr: 2-Fluorobiphenyl	1307	0	1667	0	78.4	12-100	0			
Surr: 4-Terphenyl-d14	1745	0	1667	0	105	25-137	0			
Surr: Nitrobenzene-d5	1290	0	1667	0	77.4	37-107	0			

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1309675  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13

## QC BATCH REPORT

Batch ID: **51428**      Instrument ID **SVMS7**      Method: **SW8270**

MS				Sample ID: <b>1309544-01B MS</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>9/19/2013 12:10 PM</b>	
Client ID:		Run ID: <b>SVMS7_130919A</b>			SeqNo: <b>2454281</b>		Prep Date: <b>9/18/2013</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	941.1	13	1316	0	71.5	45-110	0			
Acenaphthylene	1017	13	1316	0	77.2	45-105	0			
Anthracene	1156	13	1316	25.47	85.9	55-105	0			
Benzo(a)anthracene	1218	13	1316	117.5	83.6	50-110	0			
Benzo(a)pyrene	1364	13	1316	150.2	92.2	50-110	0			
Benzo(b)fluoranthene	1481	13	1316	221.7	95.7	45-115	0			
Benzo(g,h,i)perylene	1094	13	1316	142.4	72.3	40-125	0			
Benzo(k)fluoranthene	1291	13	1316	85.22	91.6	45-115	0			
Chrysene	1308	13	1316	119.8	90.3	55-110	0			
Dibenzo(a,h)anthracene	1014	13	1316	64.97	72.1	40-125	0			
Fluoranthene	1379	13	1316	169.8	91.9	55-115	0			
Fluorene	1041	13	1316	0	79.1	50-110	0			
Indeno(1,2,3-cd)pyrene	1232	13	1316	152.8	82	40-120	0			
Naphthalene	813.4	13	1316	0	61.8	40-105	0			
Pyrene	1647	13	1316	188.1	111	45-125	0			
Surr: 2-Fluorobiphenyl	2159	0	3291	0	65.6	12-100	0			
Surr: 4-Terphenyl-d14	3285	0	3291	0	99.8	25-137	0			
Surr: Nitrobenzene-d5	2008	0	3291	0	61	37-107	0			

MS				Sample ID: <b>1309544-01B MS</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>9/19/2013 12:10 PM</b>	
Client ID:		Run ID: <b>SVMS7_130919A</b>			SeqNo: <b>2456315</b>		Prep Date: <b>9/18/2013</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	941.1	13	1316	0	71.5	45-110	0			
Acenaphthylene	1017	13	1316	0	77.2	45-105	0			
Anthracene	1156	13	1316	25.47	85.9	55-105	0			
Benzo(a)anthracene	1218	13	1316	117.5	83.6	50-110	0			
Benzo(a)pyrene	1364	13	1316	150.2	92.2	50-110	0			
Benzo(b)fluoranthene	1481	13	1316	221.7	95.7	45-115	0			
Benzo(g,h,i)perylene	1094	13	1316	142.4	72.3	40-125	0			
Benzo(k)fluoranthene	1291	13	1316	85.22	91.6	45-115	0			
Chrysene	1308	13	1316	119.8	90.3	55-110	0			
Dibenzo(a,h)anthracene	1014	13	1316	64.97	72.1	40-125	0			
Fluoranthene	1379	13	1316	169.8	91.9	55-115	0			
Fluorene	1041	13	1316	0	79.1	50-110	0			
Indeno(1,2,3-cd)pyrene	1232	13	1316	152.8	82	40-120	0			
Pyrene	1647	13	1316	188.1	111	45-125	0			
Surr: 2-Fluorobiphenyl	2159	0	3291	0	65.6	12-100	0			
Surr: 4-Terphenyl-d14	3285	0	3291	0	99.8	25-137	0			
Surr: Nitrobenzene-d5	2008	0	3291	0	61	37-107	0			

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1309675  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13

## QC BATCH REPORT

Batch ID: **51428**      Instrument ID **SVMS7**      Method: **SW8270**

MSD				Sample ID: 1309544-01B MSD				Units: µg/Kg		Analysis Date: 9/19/2013 12:32 PM	
Client ID:			Run ID: SVMS7_130919A			SeqNo: 2454282		Prep Date: 9/18/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	879.2	13	1327	0	66.2	45-110	941.1	6.8	30		
Acenaphthylene	942.9	13	1327	0	71	45-105	1017	7.54	30		
Anthracene	1108	13	1327	25.47	81.6	55-105	1156	4.2	30		
Benzo(a)anthracene	1161	13	1327	117.5	78.6	50-110	1218	4.74	30		
Benzo(a)pyrene	1310	13	1327	150.2	87.4	50-110	1364	3.97	30		
Benzo(b)fluoranthene	1384	13	1327	221.7	87.6	45-115	1481	6.79	30		
Benzo(g,h,i)perylene	1043	13	1327	142.4	67.9	40-125	1094	4.75	30		
Benzo(k)fluoranthene	1303	13	1327	85.22	91.8	45-115	1291	0.972	30		
Chrysene	1240	13	1327	119.8	84.4	55-110	1308	5.35	30		
Dibenzo(a,h)anthracene	1003	13	1327	64.97	70.7	40-125	1014	1.15	30		
Fluoranthene	1196	13	1327	169.8	77.4	55-115	1379	14.2	30		
Fluorene	968.1	13	1327	0	72.9	50-110	1041	7.27	30		
Indeno(1,2,3-cd)pyrene	1174	13	1327	152.8	77	40-120	1232	4.78	30		
Naphthalene	783.6	13	1327	0	59	40-105	813.4	3.73	30		
Pyrene	1479	13	1327	188.1	97.3	45-125	1647	10.7	30		
Surr: 2-Fluorobiphenyl	2045	0	3318	0	61.6	12-100	2159	5.41	40		
Surr: 4-Terphenyl-d14	3328	0	3318	0	100	25-137	3285	1.3	40		
Surr: Nitrobenzene-d5	1957	0	3318	0	59	37-107	2008	2.58	40		

MSD				Sample ID: 1309544-01B MSD				Units: µg/Kg		Analysis Date: 9/19/2013 12:32 PM	
Client ID:			Run ID: SVMS7_130919A			SeqNo: 2456316		Prep Date: 9/18/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	879.2	13	1327	0	66.2	45-110	941.1	6.8	30		
Acenaphthylene	942.9	13	1327	0	71	45-105	1017	7.54	30		
Anthracene	1108	13	1327	25.47	81.6	55-105	1156	4.2	30		
Benzo(a)anthracene	1161	13	1327	117.5	78.6	50-110	1218	4.74	30		
Benzo(a)pyrene	1310	13	1327	150.2	87.4	50-110	1364	3.97	30		
Benzo(b)fluoranthene	1384	13	1327	221.7	87.6	45-115	1481	6.79	30		
Benzo(g,h,i)perylene	1043	13	1327	142.4	67.9	40-125	1094	4.75	30		
Benzo(k)fluoranthene	1303	13	1327	85.22	91.8	45-115	1291	0.972	30		
Chrysene	1240	13	1327	119.8	84.4	55-110	1308	5.35	30		
Dibenzo(a,h)anthracene	1003	13	1327	64.97	70.7	40-125	1014	1.15	30		
Fluoranthene	1196	13	1327	169.8	77.4	55-115	1379	14.2	30		
Fluorene	968.1	13	1327	0	72.9	50-110	1041	7.27	30		
Indeno(1,2,3-cd)pyrene	1174	13	1327	152.8	77	40-120	1232	4.78	30		
Pyrene	1479	13	1327	188.1	97.3	45-125	1647	10.7	30		
Surr: 2-Fluorobiphenyl	2045	0	3318	0	61.6	12-100	2159	5.41	40		
Surr: 4-Terphenyl-d14	3328	0	3318	0	100	25-137	3285	1.3	40		
Surr: Nitrobenzene-d5	1957	0	3318	0	59	37-107	2008	2.58	40		

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1309675  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13

## QC BATCH REPORT

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Batch ID: **51428**      Instrument ID **SVMS7**      Method: **SW8270**

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**The following samples were analyzed in this batch:**

1309675-03B	1309675-04B	1309675-05B
1309675-06B	1309675-07B	

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1309675  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13

## QC BATCH REPORT

Batch ID: **51447**      Instrument ID **VMS5**      Method: **SW8260B**

MBLK				Sample ID: MBLK-51447-51447				Units: µg/Kg			Analysis Date: 9/18/2013 03:40 PM		
Client ID:			Run ID: VMS5_130918A				SeqNo: 2453845			Prep Date: 9/18/2013		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	1016	0	1000	0	102	70-130		0					
Surr: 4-Bromofluorobenzene	949.5	0	1000	0	95	70-130		0					
Surr: Dibromofluoromethane	954.5	0	1000	0	95.4	70-130		0					
Surr: Toluene-d8	982.5	0	1000	0	98.2	70-130		0					

LCS				Sample ID: LCS-51447-51447			Units: µg/Kg		Analysis Date: 9/18/2013 02:30 PM		
Client ID:		Run ID: VMS5_130918A			SeqNo: 2453844		Prep Date: 9/18/2013		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	911.5	30	1000	0	91.2	75-125	0				
Ethylbenzene	892.5	30	1000	0	89.2	75-125	0				
m,p-Xylene	1790	60	2000	0	89.5	80-125	0				
o-Xylene	919	30	1000	0	91.9	75-125	0				
Toluene	902	30	1000	0	90.2	70-125	0				
Xylenes, Total	2710	90	3000	0	90.3	75-125	0				
Surr: 1,2-Dichloroethane-d4	1014	0	1000	0	101	70-130	0				
Surr: 4-Bromofluorobenzene	966	0	1000	0	96.6	70-130	0				
Surr: Dibromofluoromethane	1011	0	1000	0	101	70-130	0				
Surr: Toluene-d8	983.5	0	1000	0	98.4	70-130	0				

MS					Sample ID: 1309631-02A MS			Units: µg/Kg		Analysis Date: 9/21/2013 12:19 PM	
Client ID:			Run ID: VMS5_130920C			SeqNo: 2459215		Prep Date: 9/18/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	954	30	1000	0	95.4	75-125	0				
Ethylbenzene	993	30	1000	0	99.3	75-125	0				
m,p-Xylene	1989	60	2000	0	99.4	80-125	0				
o-Xylene	995	30	1000	0	99.5	75-125	0				
Toluene	944.5	30	1000	0	94.4	70-125	0				
Xylenes, Total	2984	90	3000	0	99.5	75-125	0				
Surr: 1,2-Dichloroethane-d4	1019	0	1000	0	102	70-130	0				
Surr: 4-Bromofluorobenzene	983	0	1000	0	98.3	70-130	0				
Surr: Dibromofluoromethane	969.5	0	1000	0	97	70-130	0				
Surr: Toluene-d8	974	0	1000	0	97.4	70-130	0				

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1309675  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13

## QC BATCH REPORT

Batch ID: **51447**      Instrument ID **VMS5**      Method: **SW8260B**

MSD				Sample ID: <b>1309631-02A MSD</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>9/21/2013 12:42 PM</b>	
Client ID:				Run ID: <b>VMS5_130920C</b>			SeqNo: <b>2459216</b>		Prep Date: <b>9/18/2013</b>	
									DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	905.5	30	1000	0	90.6	75-125	954	5.22	30	
Ethylbenzene	967	30	1000	0	96.7	75-125	993	2.65	30	
m,p-Xylene	1938	60	2000	0	96.9	80-125	1989	2.62	30	
o-Xylene	964.5	30	1000	0	96.4	75-125	995	3.11	30	
Toluene	905	30	1000	0	90.5	70-125	944.5	4.27	30	
Xylenes, Total	2902	90	3000	0	96.7	75-125	2984	2.79	30	
Surr: 1,2-Dichloroethane-d4	995	0	1000	0	99.5	70-130	1019	2.38	30	
Surr: 4-Bromofluorobenzene	989.5	0	1000	0	99	70-130	983	0.659	30	
Surr: Dibromofluoromethane	970	0	1000	0	97	70-130	969.5	0.0516	30	
Surr: Toluene-d8	975.5	0	1000	0	97.6	70-130	974	0.154	30	

The following samples were analyzed in this batch:

1309675-01A	1309675-02A	1309675-03A
1309675-04A	1309675-05A	1309675-06A
1309675-07A		

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1309675  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13

## QC BATCH REPORT

Batch ID: **51498**      Instrument ID **WETCHEM**      Method: **SW9045D**

LCS		Sample ID: LCS-51498-51498					Units: s.u.		Analysis Date: 9/19/2013 10:15 AM		
Client ID:			Run ID: WETCHEM_130919D			SeqNo: 2454218		Prep Date: 9/19/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH      3.94      0      4      0      98.5      90-110      0

LCS		Sample ID: LCS-51498-51498					Units: s.u.		Analysis Date: 9/19/2013 10:05 AM		
Client ID:			Run ID: WETCHEM_130919E			SeqNo: 2454223		Prep Date: 9/19/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH      3.91      0      4      0      97.8      90-110      0

DUP				Sample ID: 1309675-03B DUP				Units: s.u.			Analysis Date: 9/19/2013 10:15 AM			
Client ID: Treatment Cell 1/4				Run ID: WETCHEM_130919D				SeqNo: 2454209			Prep Date: 9/19/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

pH      8.4      0      0      0      0      0-0      8.4      0      20

DUP				Sample ID: 1309639-01A DUP				Units: s.u.			Analysis Date: 9/19/2013 10:05 AM			
Client ID:				Run ID: WETCHEM_130919E				SeqNo: 2454225			Prep Date: 9/19/2013		DF: 1	
Analyte				Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

pH      7.73      0      0      0      0      0-0      7.76      0.387      20

The following samples were analyzed in this batch:

1309675-03B	1309675-04B	1309675-05B
1309675-06B	1309675-07B	

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1309675  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13

## QC BATCH REPORT

Batch ID: **51500**      Instrument ID **WETCHEM**      Method: **SW7196A**

<b>MBLK</b>		Sample ID: <b>MBLK-51500-51500</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>9/20/2013 02:40 PM</b>		
Client ID:		Run ID: <b>WETCHEM_130920I</b>				SeqNo: <b>2456891</b>		Prep Date: <b>9/19/2013</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      0.50

<b>LCS</b>		Sample ID: <b>LCS-51500-51500</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>9/20/2013 02:40 PM</b>		
Client ID:		Run ID: <b>WETCHEM_130920I</b>				SeqNo: <b>2456890</b>		Prep Date: <b>9/19/2013</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      1.82      0.50      2      0      91      80-120      0

<b>MS</b>		Sample ID: <b>1309675-06B MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>9/20/2013 02:40 PM</b>		
Client ID: <b>Treatment Cell 3/6</b>		Run ID: <b>WETCHEM_130920I</b>				SeqNo: <b>2456881</b>		Prep Date: <b>9/19/2013</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      0.6494      0.50      1.992      0      32.6      75-125      0      S

<b>MS</b>		Sample ID: <b>1309675-06B MSI</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>9/20/2013 02:40 PM</b>		
Client ID: <b>Treatment Cell 3/6</b>		Run ID: <b>WETCHEM_130920I</b>				SeqNo: <b>2456897</b>		Prep Date: <b>9/19/2013</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      16.01      0.50      2      0      800      75-125      0      S

<b>MSD</b>		Sample ID: <b>1309675-06B MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>9/20/2013 02:40 PM</b>		
Client ID: <b>Treatment Cell 3/6</b>		Run ID: <b>WETCHEM_130920I</b>				SeqNo: <b>2456882</b>		Prep Date: <b>9/19/2013</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      0.5929      0.49      1.976      0      30      75-125      0.6494      9.1      20      S

The following samples were analyzed in this batch:

1309675-03B	1309675-04B	1309675-05B
1309675-06B	1309675-07B	

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1309675  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13

## QC BATCH REPORT

Batch ID: **51505** Instrument ID **WETCHEM** Method: **USDA H60 Method**

<b>DUP</b>		Sample ID: <b>1309756-01B DUP</b>				Units: <b>mmhos/cm @25°C</b>		Analysis Date: <b>9/24/2013 12:30 PM</b>		
Client ID:		Run ID: <b>WETCHEM_130924E</b>				SeqNo: <b>2460865</b>		Prep Date: <b>9/23/2013</b>		DF: <b>5</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	0.667	0.025	0	0	0		0.6365	4.68	50	

The following samples were analyzed in this batch:

1309675-03C	1309675-04C	1309675-05C
1309675-06C	1309675-07C	

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1309675  
**Project:** WPX TR 44-35-597 Pit Closure 9/17/13

## QC BATCH REPORT

Batch ID: **R126932**      Instrument ID **MOIST**      Method: **A2540 G**

<b>MBLK</b>		Sample ID: <b>WBLKS-R126932</b>				Units: % of sample		Analysis Date: <b>9/18/2013 03:15 PM</b>		
Client ID:		Run ID: <b>MOIST_130918C</b>				SeqNo: <b>2454112</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-R126932</b>				Units: % of sample		Analysis Date: <b>9/18/2013 03:15 PM</b>		
Client ID:		Run ID: <b>MOIST_130918C</b>				SeqNo: <b>2454108</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture      100      0.050      100      0      100      99.5-100.5      0

<b>DUP</b>		Sample ID: <b>1309615-04A DUP</b>				Units: % of sample		Analysis Date: <b>9/18/2013 03:15 PM</b>		
Client ID:		Run ID: <b>MOIST_130918C</b>				SeqNo: <b>2454097</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      2.69      0.050      0      0      0      0-0      2.92      8.2      20

<b>DUP</b>		Sample ID: <b>1309675-01A DUP</b>				Units: % of sample		Analysis Date: <b>9/18/2013 03:15 PM</b>		
Client ID: <b>South East Corner Wall 8'</b>		Run ID: <b>MOIST_130918C</b>				SeqNo: <b>2454100</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      18.38      0.050      0      0      0      0-0      18.21      0.929      20

The following samples were analyzed in this batch:

1309675-01A	1309675-02A	1309675-03B
1309675-04B	1309675-05B	1309675-06B
1309675-07B		

**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 202r8

WORKORDER  
#

1309675

PROJECT NAME		WPX TR 44-35597 pit		SAMPLER		Reed Wold		DATE		9/16/13		PAGE		1 of 1	
PROJECT No.		closure		SITE ID		TR 44-35-597		TURNAROUND		24HR		DISPOSAL		By Lab or Return to Client	
COMPANY NAME		HRL Compliance		EDD FORMAT											
SEND REPORT TO		Mark Mumby		PURCHASE ORDER											
ADDRESS		2385 F 1/2 Rd		BILL TO COMPANY		WPX									
CITY / STATE / ZIP		Grand Junction, CO 81506		INVOICE ATTN TO		Karolina Blaney									
PHONE		970-243-3271		ADDRESS		1058 Co Rd 215									
FAX		970-243-3280		CITY / STATE / ZIP		Parachure CO 81635									
E-MAIL		mmumby@hrlcomp.com rwold@hrlcomp.com		PHONE		970-683-2295									
				E-MAIL		Karolina.blaney@wpenergy.com									
Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC								
1	South East corner Well 8'	SO	9/17/13	9:45	1	8	X								
2	South East corner Bottom 9'	SO	9/17/13	10:00	1	8	X								
3	Treatment cell 1/4		9/17/13	2:00	3			X	X	X					
4	Treatment cell 3/4			2:10	3			X	X	X					
5	Treatment cell 2/6			2:40	3			X	X	X					
6	Treatment cell 3/6			2:50	3			X	X	X					
7	Treatment cell 5/6			3:00	3			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:	3.6°C	QC PACKAGE (check below)
		X LEVEL II (Standard QC)
		LEVEL III (Std QC + forms)
		LEVEL IV (Std QC + forms + raw data)
Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035		

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	Reed Wold	Reed Wold	9/17/13	4:30
RECEIVED BY	MM	MM	9-17-13	4:35
RELINQUISHED BY	D-7	Diane F Sha	9-17-13	4:45
RECEIVED BY			9/18/13	1030
RELINQUISHED BY				
RECEIVED BY				



Sample Receipt Checklist

Client Name: **HRL**

Date/Time Received: **18-Sep-13 10:30**

Work Order: **1309675**

Received by: **DS**

Checklist completed by Diane Shaw 18-Sep-13  
eSignature Date

Reviewed by: Ann Preston 19-Sep-13  
eSignature Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.6 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>9/18/2013 11:34:51 AM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:			

Login Notes:

-----

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



From: (970) 424-4749  
Lab Hub, LLC

Origin ID: RILA



Ship Date: 17SEP13  
ActWgt: 80.0 LB  
CAD: 103923490/INET3430

Dims: 25 X 14 X 15 IN

127 E First Street

PARACHUTE, CO 81635



J13201306280326

Delivery Address Bar Code



Ref # 1001-091713-9  
Invoice #  
PO #  
Dept #

SHIP TO: (616) 399-6070

BILL RECIPIENT

Sample recieving  
ALS Holland  
3352 128TH AVE

HOLLAND, MI 49424

WED - 18 SEP 10:30A  
PRIORITY OVERNIGHT

TRK# 7967 0999 5750

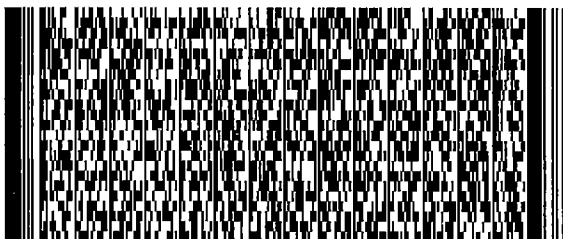
0201

**XX GRRA**

49424

MI-US

GRR



51AG1/9256/1A9E

**After printing this label:**

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
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07-Nov-2013

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

Re: **WPX TR 44-35-597 Pit Closure 11.4.13**

Work Order: **1311188**

Dear Mark,

ALS Environmental received 4 samples on 05-Nov-2013 09:30 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 12.

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

Sincerely,

A handwritten signature in cursive script that reads "Ann Preston".

Electronically approved by: Ann Preston

Ann Preston  
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 

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RIGHT SOLUTIONS RIGHT PARTNER



---

**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 11.4.13  
**Work Order:** 1311188

---

**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>
1311188-01	SouthEast Pit Bottom	Soil		11/4/2013 11:00	11/5/2013 09:30	<input type="checkbox"/>
1311188-02	LandFarm 1/6	Soil		11/4/2013 11:15	11/5/2013 09:30	<input type="checkbox"/>
1311188-03	LandFarm 3/6	Soil		11/4/2013 11:20	11/5/2013 09:30	<input type="checkbox"/>
1311188-04	LandFarm 5/6	Soil		11/4/2013 11:25	11/5/2013 09:30	<input type="checkbox"/>

---



**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 Pit Closure 11.4.13  
**WorkOrder:** 1311188

## **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

<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
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

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



**ALS Group USA, Corp**

Date: 07-Nov-13

**Client:** HRL Compliance Solutions**Project:** WPX TR 44-35-597 Pit Closure 11.4.13**Work Order:** 1311188**Sample ID:** SouthEast Pit Bottom**Lab ID:** 1311188-01**Collection Date:** 11/4/2013 11:00 AM**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>		Prep Date: <b>11/6/2013</b>	Analyst: <b>RM</b>
Benzo(a)pyrene	ND		8.7	µg/Kg-dry	1	11/6/2013 08:00 PM
Surr: 2-Fluorobiphenyl	81.0		12-100	%REC	1	11/6/2013 08:00 PM
Surr: 4-Terphenyl-d14	101		25-137	%REC	1	11/6/2013 08:00 PM
Surr: Nitrobenzene-d5	73.7		37-107	%REC	1	11/6/2013 08:00 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>MEB</b>
Moisture	23		0.050	% of sample	1	11/5/2013 04:40 PM

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



**ALS Group USA, Corp**

Date: 07-Nov-13

Client: HRL Compliance Solutions

Project: WPX TR 44-35-597 Pit Closure 11.4.13

Sample ID: LandFarm 1/6

Collection Date: 11/4/2013 11:15 AM

Work Order: 1311188

Lab ID: 1311188-02

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>		Prep Date: <b>11/6/2013</b>	Analyst: <b>RM</b>
<b>Benzo(a)pyrene</b>	<b>47</b>		<b>8.5</b>	<b>µg/Kg-dry</b>	<b>1</b>	11/6/2013 08:20 PM
Surr: 2-Fluorobiphenyl	79.4		12-100	%REC	1	11/6/2013 08:20 PM
Surr: 4-Terphenyl-d14	104		25-137	%REC	1	11/6/2013 08:20 PM
Surr: Nitrobenzene-d5	79.0		37-107	%REC	1	11/6/2013 08:20 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>MEB</b>
<b>Moisture</b>	<b>22</b>		<b>0.050</b>	<b>% of sample</b>	<b>1</b>	11/5/2013 04:40 PM

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



**ALS Group USA, Corp**

Date: 07-Nov-13

**Client:** HRL Compliance Solutions**Project:** WPX TR 44-35-597 Pit Closure 11.4.13**Work Order:** 1311188**Sample ID:** LandFarm 3/6**Lab ID:** 1311188-03**Collection Date:** 11/4/2013 11:20 AM**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>		Prep Date: <b>11/6/2013</b>	Analyst: <b>RM</b>
Benzo(a)pyrene	ND		8.1	µg/Kg-dry	1	11/6/2013 08:40 PM
Surr: 2-Fluorobiphenyl	76.5		12-100	%REC	1	11/6/2013 08:40 PM
Surr: 4-Terphenyl-d14	94.6		25-137	%REC	1	11/6/2013 08:40 PM
Surr: Nitrobenzene-d5	79.3		37-107	%REC	1	11/6/2013 08:40 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>MEB</b>
Moisture	18		0.050	% of sample	1	11/5/2013 04:40 PM

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



**ALS Group USA, Corp**

Date: 07-Nov-13

**Client:** HRL Compliance Solutions**Project:** WPX TR 44-35-597 Pit Closure 11.4.13**Work Order:** 1311188**Sample ID:** LandFarm 5/6**Lab ID:** 1311188-04**Collection Date:** 11/4/2013 11:25 AM**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>		Prep Date: <b>11/6/2013</b>	Analyst: <b>RM</b>
Benzo(a)pyrene	ND		8.3	µg/Kg-dry	1	11/6/2013 09:00 PM
Surr: 2-Fluorobiphenyl	81.7		12-100	%REC	1	11/6/2013 09:00 PM
Surr: 4-Terphenyl-d14	104		25-137	%REC	1	11/6/2013 09:00 PM
Surr: Nitrobenzene-d5	84.5		37-107	%REC	1	11/6/2013 09:00 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>MEB</b>
Moisture	21		0.050	% of sample	1	11/5/2013 04:40 PM

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



Client: HRL Compliance Solutions

Work Order: 1311188

Project: WPX TR 44-35-597 Pit Closure 11.4.13

## QC BATCH REPORT

Batch ID: 53029

Instrument ID SVMS6

Method: SW8270

MBLK	Sample ID: SBLKS1-53029-53029					Units: µg/Kg		Analysis Date: 11/6/2013 04:41 PM		
Client ID:	Run ID: SVMS6_131106A				SeqNo: 2527089		Prep Date: 11/6/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(a)pyrene	ND	6.7								
Surr: 2-Fluorobiphenyl	1291	0	1667	0	77.5	12-100	0			
Surr: 4-Terphenyl-d14	1802	0	1667	0	108	25-137	0			
Surr: Nitrobenzene-d5	1271	0	1667	0	76.2	37-107	0			

The following samples were analyzed in this batch:

1311188-01A	1311188-02A	1311188-03A
1311188-04A		



**Client:** HRL Compliance Solutions  
**Work Order:** 1311188  
**Project:** WPX TR 44-35-597 Pit Closure 11.4.13

## QC BATCH REPORT

Batch ID: **R130009**      Instrument ID **MOIST**      Method: **A2540 G**

<b>MBLK</b>		Sample ID: <b>WBLKS-R130009</b>				Units: % of sample		Analysis Date: <b>11/5/2013 04:40 PM</b>		
Client ID:		Run ID: <b>MOIST_131105C</b>				SeqNo: <b>2525556</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-R130009</b>				Units: % of sample		Analysis Date: <b>11/5/2013 04:40 PM</b>		
Client ID:		Run ID: <b>MOIST_131105C</b>				SeqNo: <b>2525552</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture      100      0.050      100      0      100      99.5-100.5      0

<b>DUP</b>		Sample ID: <b>1311198-02B DUP</b>				Units: % of sample		Analysis Date: <b>11/5/2013 04:40 PM</b>		
Client ID:		Run ID: <b>MOIST_131105C</b>				SeqNo: <b>2525522</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      13.92      0.050      0      0      0      0-0      13.92      0      20

<b>DUP</b>		Sample ID: <b>1311221-01A DUP</b>				Units: % of sample		Analysis Date: <b>11/5/2013 04:40 PM</b>		
Client ID:		Run ID: <b>MOIST_131105C</b>				SeqNo: <b>2525531</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

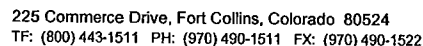
Moisture      12.41      0.050      0      0      0      0-0      11.54      7.27      20

The following samples were analyzed in this batch:

1311188-01A	1311188-02A	1311188-03A
1311188-04A		

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





## 1311/88

Form 202r8

\*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.**

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	<i>[Signature]</i>	<i>[Signature]</i>	11/4/13	2:30
RECEIVED BY	<i>[Signature]</i>	<i>[Signature]</i>	11-4-13	2:30
RELINQUISHED BY	<i>[Signature]</i>	<i>[Signature]</i>	11-4	2:46
RECEIVED BY	<i>[Signature]</i>	Ashley Bean	11/5/13	09:30
RELINQUISHED BY				
RECEIVED BY				



Sample Receipt Checklist

Client Name: **HRL**

Date/Time Received: **05-Nov-13 09:30**

Work Order: **1311188**

Received by: **AB**

Checklist completed by *Ashley Beard*  
eSignature

05-Nov-13  
Date

Reviewed by: *Ann Preston*  
eSignature

06-Nov-13  
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>4.0</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>11/5/2013 10:53:31 AM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:			

Login Notes:

-----

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



From: (970) 424-4749  
Lab Hub, LLC

Origin ID: RILA



Ship Date: 04NOV13  
ActWgt: 60.0 LB  
CAD: 103923490/NET3430

Dims: 25 X 14 X 15 IN

127 E First Street

PARACHUTE, CO 81635



JH3201306280326

SHIP TO: (616) 399-6870  
Sample recieving  
ALS Holland  
3352 128TH AVE

BILL RECIPIENT

HOLLAND, MI 49424

Delivery Address Bar Code



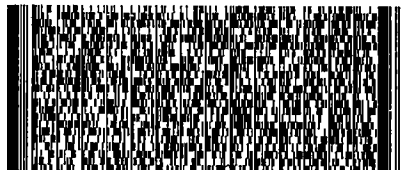
Ref # 1001-110413-4  
Invoice #  
PO #  
Dept #

TUE - 05 NOV AA  
STANDARD OVERNIGHT

TRK# 7970 7709 6720  
0201

**XX GRRRA**

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



51AG1C05661A6E

**After printing this label:**

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

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





27-Nov-2013

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

Re: **WPX TR 44-35-597 11.18.13**

Work Order: **13111015**

Dear Mark,

ALS Environmental received 6 samples on 19-Nov-2013 09:30 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 20.

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

Sincerely,

A handwritten signature in cursive script that reads "Ann Preston".

Electronically approved by: Ann Preston

Ann Preston  
Project Manager



Certificate No: MN 532786

### Report of Laboratory Analysis

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

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

Environmental 

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

RIGHT SOLUTIONS RIGHT PARTNER



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**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 11.18.13  
**Work Order:** 13111015

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**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>
13111015-01	TR44-35-597 Batch 3 Treatment cell 3/6	Soil		11/18/2013 12:00	11/19/2013 09:30	<input type="checkbox"/>
13111015-02	TR44-35-597 Batch 3 Treatment cell 1/6	Soil		11/18/2013 11:50	11/19/2013 09:30	<input type="checkbox"/>
13111015-03	TR44-35-597 Batch 3 Treatment cell 6/6	Soil		11/18/2013 12:10	11/19/2013 09:30	<input type="checkbox"/>
13111015-04	Batch 2 Treatment cell 2/6	Soil		11/18/2013 11:10	11/19/2013 09:30	<input type="checkbox"/>
13111015-05	Batch 2 Treatment cell 4/6	Soil		11/18/2013 11:05	11/19/2013 09:30	<input type="checkbox"/>
13111015-06	Batch 2 Treatment cell 5/6	Soil		11/18/2013 11:00	11/19/2013 09:30	<input type="checkbox"/>

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**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 11.18.13  
**WorkOrder:** 13111015

## **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

<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
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

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



# ALS Group USA, Corp

Date: 27-Nov-13

Client: HRL Compliance Solutions

Project: WPX TR 44-35-597 11.18.13

Sample ID: TR44-35-597 Batch 3 Treatment cell 3/6

Collection Date: 11/18/2013 12:00 PM

Work Order: 13111015

Lab ID: 13111015-01

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep Date: <b>11/20/2013</b>	Analyst: <b>CW</b>
<b>DRO (C10-C28)</b>	<b>410</b>		<b>6.8</b>	<b>mg/Kg-dry</b>	1	11/20/2013 11:26 PM
Surr: 4-Terphenyl-d14	71.7		39-115	%REC	1	11/20/2013 11:26 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015</b>		Prep Date: <b>11/13/2013</b>	Analyst: <b>CW</b>
<b>GRO (C6-C10)</b>	<b>46</b>		<b>4.1</b>	<b>mg/Kg-dry</b>	1	11/22/2013 07:59 AM
Surr: Toluene-d8	103		50-150	%REC	1	11/22/2013 07:59 AM
<b>MERCURY BY CVAA</b>						
			<b>SW7471</b>		Prep Date: <b>11/22/2013</b>	Analyst: <b>LR</b>
<b>Mercury</b>	<b>0.025</b>		<b>0.023</b>	<b>mg/Kg-dry</b>	1	11/25/2013 07:17 PM
<b>METALS BY ICP-MS</b>						
			<b>SW6020A</b>		Prep Date: <b>11/21/2013</b>	Analyst: <b>ML</b>
<b>Arsenic</b>	<b>7.6</b>		<b>2.9</b>	<b>mg/Kg-dry</b>	5	11/23/2013 02:44 AM
<b>Barium</b>	<b>620</b>		<b>2.9</b>	<b>mg/Kg-dry</b>	5	11/23/2013 02:44 AM
Cadmium	ND		1.1	mg/Kg-dry	5	11/23/2013 02:44 AM
<b>Chromium</b>	<b>100</b>		<b>2.9</b>	<b>mg/Kg-dry</b>	5	11/23/2013 02:44 AM
<b>Copper</b>	<b>17</b>		<b>2.9</b>	<b>mg/Kg-dry</b>	5	11/23/2013 02:44 AM
<b>Lead</b>	<b>17</b>		<b>2.9</b>	<b>mg/Kg-dry</b>	5	11/23/2013 06:23 PM
<b>Nickel</b>	<b>40</b>		<b>2.9</b>	<b>mg/Kg-dry</b>	5	11/23/2013 02:44 AM
Selenium	ND		2.9	mg/Kg-dry	5	11/23/2013 02:44 AM
Silver	ND		2.9	mg/Kg-dry	5	11/23/2013 02:44 AM
<b>Zinc</b>	<b>66</b>		<b>5.7</b>	<b>mg/Kg-dry</b>	5	11/23/2013 02:44 AM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW6020A</b>		Prep Date: <b>11/25/2013</b>	Analyst: <b>ML</b>
<b>Calcium</b>	<b>57</b>		<b>10</b>	<b>mg/L</b>	20	11/26/2013 05:25 PM
<b>Magnesium</b>	<b>7.2</b>		<b>4.0</b>	<b>mg/L</b>	20	11/26/2013 05:25 PM
<b>Sodium</b>	<b>600</b>		<b>4.0</b>	<b>mg/L</b>	20	11/26/2013 05:25 PM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep Date: <b>11/25/2013</b>	Analyst: <b>ML</b>
<b>Sodium Adsorption Ratio</b>	<b>20</b>		<b>0.010</b>	<b>none</b>	1	11/26/2013
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8270</b>		Prep Date: <b>11/20/2013</b>	Analyst: <b>CW</b>
Acenaphthene	ND		11	µg/Kg-dry	1	11/21/2013 10:22 PM
Acenaphthylene	ND		11	µg/Kg-dry	1	11/21/2013 10:22 PM
Anthracene	ND		11	µg/Kg-dry	1	11/21/2013 10:22 PM
Benzo(a)anthracene	ND		11	µg/Kg-dry	1	11/21/2013 10:22 PM
Benzo(a)pyrene	ND		11	µg/Kg-dry	1	11/21/2013 10:22 PM
Benzo(b)fluoranthene	ND		11	µg/Kg-dry	1	11/21/2013 10:22 PM
Benzo(g,h,i)perylene	ND		11	µg/Kg-dry	1	11/21/2013 10:22 PM
Benzo(k)fluoranthene	ND		11	µg/Kg-dry	1	11/21/2013 10:22 PM
Chrysene	ND		11	µg/Kg-dry	1	11/21/2013 10:22 PM
Dibenzo(a,h)anthracene	ND		11	µg/Kg-dry	1	11/21/2013 10:22 PM
Fluoranthene	ND		11	µg/Kg-dry	1	11/21/2013 10:22 PM

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



# ALS Group USA, Corp

Date: 27-Nov-13

Client: HRL Compliance Solutions

Project: WPX TR 44-35-597 11.18.13

Sample ID: TR44-35-597 Batch 3 Treatment cell 3/6

Collection Date: 11/18/2013 12:00 PM

Work Order: 13111015

Lab ID: 13111015-01

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>Fluorene</b>	<b>67</b>		<b>11</b>	<b>µg/Kg-dry</b>	<b>1</b>	11/21/2013 10:22 PM
Indeno(1,2,3-cd)pyrene	ND		11	µg/Kg-dry	1	11/21/2013 10:22 PM
Naphthalene	ND		11	µg/Kg-dry	1	11/21/2013 10:22 PM
Pyrene	ND		11	µg/Kg-dry	1	11/21/2013 10:22 PM
Surr: 2-Fluorobiphenyl	70.8		12-100	%REC	1	11/21/2013 10:22 PM
Surr: 4-Terphenyl-d14	93.3		25-137	%REC	1	11/21/2013 10:22 PM
Surr: Nitrobenzene-d5	60.5		37-107	%REC	1	11/21/2013 10:22 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>		Prep Date: 11/13/2013	Analyst: AK
Benzene	ND		49	µg/Kg-dry	1	11/24/2013 06:29 PM
Ethylbenzene	ND		49	µg/Kg-dry	1	11/24/2013 06:29 PM
m,p-Xylene	ND		97	µg/Kg-dry	1	11/24/2013 06:29 PM
o-Xylene	ND		49	µg/Kg-dry	1	11/24/2013 06:29 PM
Toluene	ND		49	µg/Kg-dry	1	11/24/2013 06:29 PM
Xylenes, Total	ND		150	µg/Kg-dry	1	11/24/2013 06:29 PM
Surr: 1,2-Dichloroethane-d4	89.8		70-130	%REC	1	11/24/2013 06:29 PM
Surr: 4-Bromofluorobenzene	99.0		70-130	%REC	1	11/24/2013 06:29 PM
Surr: Dibromofluoromethane	96.4		70-130	%REC	1	11/24/2013 06:29 PM
Surr: Toluene-d8	95.5		70-130	%REC	1	11/24/2013 06:29 PM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>		Prep Date: 11/25/2013	Analyst: JB
Electrical Conductivity @ Saturation	3.4		0.050	mmhos/cm @2	10	11/25/2013 08:20 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: MB
Chromium, Trivalent	100		0.81	mg/Kg-dry	1	11/25/2013 05:50 PM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>		Prep Date: 11/25/2013	Analyst: MB
Chromium, Hexavalent	ND		0.83	mg/Kg-dry	1	11/25/2013 04:30 PM
<b>PH</b>			<b>SW9045D</b>		Prep Date: 11/25/2013	Analyst: MAM
pH	7.8			s.u.	1	11/25/2013 04:00 PM

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



# ALS Group USA, Corp

Date: 27-Nov-13

Client: HRL Compliance Solutions

Project: WPX TR 44-35-597 11.18.13

Sample ID: TR44-35-597 Batch 3 Treatment cell 1/6

Collection Date: 11/18/2013 11:50 AM

Work Order: 13111015

Lab ID: 13111015-02

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep Date: <b>11/20/2013</b>	Analyst: <b>CW</b>
<b>DRO (C10-C28)</b>	<b>250</b>		<b>4.8</b>	<b>mg/Kg-dry</b>	1	11/20/2013 11:55 PM
<i>Surr: 4-Terphenyl-d14</i>	<i>69.1</i>		<i>39-115</i>	<i>%REC</i>	1	11/20/2013 11:55 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015</b>		Prep Date: <b>11/13/2013</b>	Analyst: <b>CW</b>
<b>GRO (C6-C10)</b>	<b>35</b>		<b>3.0</b>	<b>mg/Kg-dry</b>	1	11/22/2013 07:36 AM
<i>Surr: Toluene-d8</i>	<i>104</i>		<i>50-150</i>	<i>%REC</i>	1	11/22/2013 07:36 AM
<b>MERCURY BY CVAA</b>						
			<b>SW7471</b>		Prep Date: <b>11/22/2013</b>	Analyst: <b>LR</b>
<b>Mercury</b>	<b>0.020</b>		<b>0.018</b>	<b>mg/Kg-dry</b>	1	11/25/2013 07:19 PM
<b>METALS BY ICP-MS</b>						
			<b>SW6020A</b>		Prep Date: <b>11/21/2013</b>	Analyst: <b>ML</b>
<b>Arsenic</b>	<b>6.7</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	5	11/24/2013 08:02 PM
<b>Barium</b>	<b>520</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	5	11/24/2013 08:02 PM
<b>Cadmium</b>	<b>ND</b>		<b>0.92</b>	<b>mg/Kg-dry</b>	5	11/24/2013 08:02 PM
<b>Chromium</b>	<b>80</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	5	11/23/2013 04:49 AM
<b>Copper</b>	<b>14</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	5	11/23/2013 04:49 AM
<b>Lead</b>	<b>13</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	5	11/24/2013 08:02 PM
<b>Nickel</b>	<b>33</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	5	11/23/2013 04:49 AM
<b>Selenium</b>	<b>ND</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	5	11/23/2013 04:49 AM
<b>Silver</b>	<b>ND</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	5	11/23/2013 04:49 AM
<b>Zinc</b>	<b>52</b>		<b>4.6</b>	<b>mg/Kg-dry</b>	5	11/23/2013 04:49 AM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW6020A</b>		Prep Date: <b>11/25/2013</b>	Analyst: <b>ML</b>
<b>Calcium</b>	<b>57</b>		<b>10</b>	<b>mg/L</b>	20	11/26/2013 05:31 PM
<b>Magnesium</b>	<b>7.4</b>		<b>4.0</b>	<b>mg/L</b>	20	11/26/2013 05:31 PM
<b>Sodium</b>	<b>590</b>		<b>4.0</b>	<b>mg/L</b>	20	11/26/2013 05:31 PM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep Date: <b>11/25/2013</b>	Analyst: <b>ML</b>
<b>Sodium Adsorption Ratio</b>	<b>19</b>		<b>0.010</b>	<b>none</b>	1	11/26/2013
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8270</b>		Prep Date: <b>11/20/2013</b>	Analyst: <b>CW</b>
<b>Acenaphthene</b>	<b>ND</b>		<b>7.7</b>	<b>µg/Kg-dry</b>	1	11/21/2013 10:42 PM
<b>Acenaphthylene</b>	<b>ND</b>		<b>7.7</b>	<b>µg/Kg-dry</b>	1	11/21/2013 10:42 PM
<b>Anthracene</b>	<b>ND</b>		<b>7.7</b>	<b>µg/Kg-dry</b>	1	11/21/2013 10:42 PM
<b>Benzo(a)anthracene</b>	<b>ND</b>		<b>7.7</b>	<b>µg/Kg-dry</b>	1	11/21/2013 10:42 PM
<b>Benzo(a)pyrene</b>	<b>ND</b>		<b>7.7</b>	<b>µg/Kg-dry</b>	1	11/21/2013 10:42 PM
<b>Benzo(b)fluoranthene</b>	<b>ND</b>		<b>7.7</b>	<b>µg/Kg-dry</b>	1	11/21/2013 10:42 PM
<b>Benzo(g,h,i)perylene</b>	<b>ND</b>		<b>7.7</b>	<b>µg/Kg-dry</b>	1	11/21/2013 10:42 PM
<b>Benzo(k)fluoranthene</b>	<b>ND</b>		<b>7.7</b>	<b>µg/Kg-dry</b>	1	11/21/2013 10:42 PM
<b>Chrysene</b>	<b>ND</b>		<b>7.7</b>	<b>µg/Kg-dry</b>	1	11/21/2013 10:42 PM
<b>Dibenzo(a,h)anthracene</b>	<b>ND</b>		<b>7.7</b>	<b>µg/Kg-dry</b>	1	11/21/2013 10:42 PM
<b>Fluoranthene</b>	<b>ND</b>		<b>7.7</b>	<b>µg/Kg-dry</b>	1	11/21/2013 10:42 PM

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



# ALS Group USA, Corp

Date: 27-Nov-13

Client: HRL Compliance Solutions

Project: WPX TR 44-35-597 11.18.13

Sample ID: TR44-35-597 Batch 3 Treatment cell 1/6

Collection Date: 11/18/2013 11:50 AM

Work Order: 13111015

Lab ID: 13111015-02

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>Fluorene</b>	<b>23</b>		<b>7.7</b>	<b>µg/Kg-dry</b>	<b>1</b>	11/21/2013 10:42 PM
Indeno(1,2,3-cd)pyrene	ND		7.7	µg/Kg-dry	1	11/21/2013 10:42 PM
Naphthalene	ND		7.7	µg/Kg-dry	1	11/21/2013 10:42 PM
Pyrene	ND		7.7	µg/Kg-dry	1	11/21/2013 10:42 PM
Surr: 2-Fluorobiphenyl	76.1		12-100	%REC	1	11/21/2013 10:42 PM
Surr: 4-Terphenyl-d14	96.8		25-137	%REC	1	11/21/2013 10:42 PM
Surr: Nitrobenzene-d5	63.3		37-107	%REC	1	11/21/2013 10:42 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>		Prep Date: 11/13/2013	Analyst: AK
Benzene	ND		36	µg/Kg-dry	1	11/24/2013 01:24 AM
Ethylbenzene	ND		36	µg/Kg-dry	1	11/24/2013 01:24 AM
m,p-Xylene	ND		71	µg/Kg-dry	1	11/24/2013 01:24 AM
o-Xylene	ND		36	µg/Kg-dry	1	11/24/2013 01:24 AM
Toluene	ND		36	µg/Kg-dry	1	11/24/2013 01:24 AM
Xylenes, Total	ND		110	µg/Kg-dry	1	11/24/2013 01:24 AM
Surr: 1,2-Dichloroethane-d4	146	S	70-130	%REC	1	11/24/2013 01:24 AM
Surr: 4-Bromofluorobenzene	101		70-130	%REC	1	11/24/2013 01:24 AM
Surr: Dibromofluoromethane	134	S	70-130	%REC	1	11/24/2013 01:24 AM
Surr: Toluene-d8	92.6		70-130	%REC	1	11/24/2013 01:24 AM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>		Prep Date: 11/25/2013	Analyst: JB
Electrical Conductivity @ Saturation	3.2		0.050	mmhos/cm @2	10	11/25/2013 08:20 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: MB
Chromium, Trivalent	80		0.59	mg/Kg-dry	1	11/25/2013 05:50 PM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>		Prep Date: 11/25/2013	Analyst: MB
Chromium, Hexavalent	ND		0.60	mg/Kg-dry	1	11/25/2013 04:30 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: MEB
Moisture	16		0.050	% of sample	1	11/21/2013 12:20 PM
<b>PH</b>			<b>SW9045D</b>		Prep Date: 11/25/2013	Analyst: MAM
pH	7.9			s.u.	1	11/25/2013 04:00 PM

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



# ALS Group USA, Corp

Date: 27-Nov-13

Client: HRL Compliance Solutions

Project: WPX TR 44-35-597 11.18.13

Sample ID: TR44-35-597 Batch 3 Treatment cell 6/6

Collection Date: 11/18/2013 12:10 PM

Work Order: 13111015

Lab ID: 13111015-03

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep Date: <b>11/20/2013</b>	Analyst: <b>CW</b>
<b>DRO (C10-C28)</b>	<b>320</b>		<b>5.1</b>	<b>mg/Kg-dry</b>	1	11/21/2013 12:25 PM
Surr: 4-Terphenyl-d14	74.4		39-115	%REC	1	11/21/2013 12:25 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015</b>		Prep Date: <b>11/13/2013</b>	Analyst: <b>CW</b>
<b>GRO (C6-C10)</b>	<b>17</b>		<b>3.1</b>	<b>mg/Kg-dry</b>	1	11/22/2013 07:12 AM
Surr: Toluene-d8	107		50-150	%REC	1	11/22/2013 07:12 AM
<b>MERCURY BY CVAA</b>						
			<b>SW7471</b>		Prep Date: <b>11/22/2013</b>	Analyst: <b>LR</b>
<b>Mercury</b>	<b>0.021</b>		<b>0.016</b>	<b>mg/Kg-dry</b>	1	11/25/2013 07:21 PM
<b>METALS BY ICP-MS</b>						
			<b>SW6020A</b>		Prep Date: <b>11/21/2013</b>	Analyst: <b>ML</b>
<b>Arsenic</b>	<b>7.3</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	5	11/24/2013 08:09 PM
<b>Barium</b>	<b>520</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	5	11/24/2013 08:09 PM
Cadmium	ND		0.85	mg/Kg-dry	5	11/24/2013 08:09 PM
<b>Chromium</b>	<b>82</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	5	11/23/2013 04:55 AM
<b>Copper</b>	<b>14</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	5	11/23/2013 04:55 AM
<b>Lead</b>	<b>14</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	5	11/24/2013 08:09 PM
<b>Nickel</b>	<b>34</b>		<b>2.1</b>	<b>mg/Kg-dry</b>	5	11/23/2013 04:55 AM
Selenium	ND		2.1	mg/Kg-dry	5	11/23/2013 04:55 AM
Silver	ND		2.1	mg/Kg-dry	5	11/23/2013 04:55 AM
<b>Zinc</b>	<b>53</b>		<b>4.2</b>	<b>mg/Kg-dry</b>	5	11/23/2013 04:55 AM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW6020A</b>		Prep Date: <b>11/25/2013</b>	Analyst: <b>ML</b>
<b>Calcium</b>	<b>73</b>		<b>10</b>	<b>mg/L</b>	20	11/26/2013 05:36 PM
<b>Magnesium</b>	<b>8.5</b>		<b>4.0</b>	<b>mg/L</b>	20	11/26/2013 05:36 PM
<b>Sodium</b>	<b>670</b>		<b>4.0</b>	<b>mg/L</b>	20	11/26/2013 05:36 PM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep Date: <b>11/25/2013</b>	Analyst: <b>ML</b>
<b>Sodium Adsorption Ratio</b>	<b>20</b>		<b>0.010</b>	<b>none</b>	1	11/26/2013
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8270</b>		Prep Date: <b>11/20/2013</b>	Analyst: <b>CW</b>
Acenaphthene	ND		8.1	µg/Kg-dry	1	11/21/2013 11:02 PM
Acenaphthylene	ND		8.1	µg/Kg-dry	1	11/21/2013 11:02 PM
Anthracene	ND		8.1	µg/Kg-dry	1	11/21/2013 11:02 PM
Benzo(a)anthracene	ND		8.1	µg/Kg-dry	1	11/21/2013 11:02 PM
Benzo(a)pyrene	ND		8.1	µg/Kg-dry	1	11/21/2013 11:02 PM
Benzo(b)fluoranthene	ND		8.1	µg/Kg-dry	1	11/21/2013 11:02 PM
Benzo(g,h,i)perylene	ND		8.1	µg/Kg-dry	1	11/21/2013 11:02 PM
Benzo(k)fluoranthene	ND		8.1	µg/Kg-dry	1	11/21/2013 11:02 PM
Chrysene	ND		8.1	µg/Kg-dry	1	11/21/2013 11:02 PM
Dibenzo(a,h)anthracene	ND		8.1	µg/Kg-dry	1	11/21/2013 11:02 PM
Fluoranthene	ND		8.1	µg/Kg-dry	1	11/21/2013 11:02 PM

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



# ALS Group USA, Corp

Date: 27-Nov-13

Client: HRL Compliance Solutions

Project: WPX TR 44-35-597 11.18.13

Sample ID: TR44-35-597 Batch 3 Treatment cell 6/6

Collection Date: 11/18/2013 12:10 PM

Work Order: 13111015

Lab ID: 13111015-03

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>Fluorene</b>	<b>40</b>		<b>8.1</b>	<b>µg/Kg-dry</b>	<b>1</b>	11/21/2013 11:02 PM
Indeno(1,2,3-cd)pyrene	ND		8.1	µg/Kg-dry	1	11/21/2013 11:02 PM
Naphthalene	ND		8.1	µg/Kg-dry	1	11/21/2013 11:02 PM
Pyrene	ND		8.1	µg/Kg-dry	1	11/21/2013 11:02 PM
Surr: 2-Fluorobiphenyl	72.7		12-100	%REC	1	11/21/2013 11:02 PM
Surr: 4-Terphenyl-d14	96.2		25-137	%REC	1	11/21/2013 11:02 PM
Surr: Nitrobenzene-d5	62.3		37-107	%REC	1	11/21/2013 11:02 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>		Prep Date: 11/13/2013	Analyst: AK
Benzene	ND		37	µg/Kg-dry	1	11/24/2013 12:36 PM
Ethylbenzene	ND		37	µg/Kg-dry	1	11/24/2013 12:36 PM
m,p-Xylene	ND		74	µg/Kg-dry	1	11/24/2013 12:36 PM
o-Xylene	ND		37	µg/Kg-dry	1	11/24/2013 12:36 PM
Toluene	ND		37	µg/Kg-dry	1	11/24/2013 12:36 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	11/24/2013 12:36 PM
Surr: 1,2-Dichloroethane-d4	114		70-130	%REC	1	11/24/2013 12:36 PM
Surr: 4-Bromofluorobenzene	95.4		70-130	%REC	1	11/24/2013 12:36 PM
Surr: Dibromofluoromethane	107		70-130	%REC	1	11/24/2013 12:36 PM
Surr: Toluene-d8	110		70-130	%REC	1	11/24/2013 12:36 PM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>		Prep Date: 11/25/2013	Analyst: JB
Electrical Conductivity @ Saturation	3.6		0.050	mmhos/cm @2	10	11/25/2013 08:20 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: MB
Chromium, Trivalent	82		0.61	mg/Kg-dry	1	11/25/2013 05:50 PM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>		Prep Date: 11/25/2013	Analyst: MB
Chromium, Hexavalent	ND		0.60	mg/Kg-dry	1	11/25/2013 04:30 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: MEB
Moisture	18		0.050	% of sample	1	11/21/2013 12:20 PM
<b>PH</b>			<b>SW9045D</b>		Prep Date: 11/25/2013	Analyst: MAM
pH	8.0			s.u.	1	11/25/2013 04:00 PM

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



**ALS Group USA, Corp****Date:** 27-Nov-13

**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 11.18.13  
**Sample ID:** Batch 2 Treatment cell 2/6  
**Collection Date:** 11/18/2013 11:10 AM

**Work Order:** 13111015  
**Lab ID:** 13111015-04  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>		Prep Date: <b>11/20/2013</b>	Analyst: <b>CW</b>
Benzo(a)pyrene	ND		7.7	µg/Kg-dry	1	11/21/2013 11:21 PM
Surr: 2-Fluorobiphenyl	78.6		12-100	%REC	1	11/21/2013 11:21 PM
Surr: 4-Terphenyl-d14	98.9		25-137	%REC	1	11/21/2013 11:21 PM
Surr: Nitrobenzene-d5	64.7		37-107	%REC	1	11/21/2013 11:21 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>MEB</b>
Moisture	16		0.050	% of sample	1	11/21/2013 12:20 PM

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



**ALS Group USA, Corp****Date:** 27-Nov-13

**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 11.18.13  
**Sample ID:** Batch 2 Treatment cell 4/6  
**Collection Date:** 11/18/2013 11:05 AM

**Work Order:** 13111015  
**Lab ID:** 13111015-05  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>		Prep Date: 11/20/2013	Analyst: <b>CW</b>
Benzo(a)pyrene	ND		8.3	µg/Kg-dry	1	11/21/2013 11:41 PM
Surr: 2-Fluorobiphenyl	79.4		12-100	%REC	1	11/21/2013 11:41 PM
Surr: 4-Terphenyl-d14	101		25-137	%REC	1	11/21/2013 11:41 PM
Surr: Nitrobenzene-d5	61.2		37-107	%REC	1	11/21/2013 11:41 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>MEB</b>
Moisture	21		0.050	% of sample	1	11/21/2013 12:20 PM

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



**ALS Group USA, Corp****Date:** 27-Nov-13

**Client:** HRL Compliance Solutions  
**Project:** WPX TR 44-35-597 11.18.13  
**Sample ID:** Batch 2 Treatment cell 5/6  
**Collection Date:** 11/18/2013 11:00 AM

**Work Order:** 13111015  
**Lab ID:** 13111015-06  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>		Prep Date: <b>11/20/2013</b>	Analyst: <b>CW</b>
Benzo(a)pyrene	ND		8.3	µg/Kg-dry	1	11/22/2013 12:01 PM
Surr: 2-Fluorobiphenyl	80.3		12-100	%REC	1	11/22/2013 12:01 PM
Surr: 4-Terphenyl-d14	101		25-137	%REC	1	11/22/2013 12:01 PM
Surr: Nitrobenzene-d5	65.2		37-107	%REC	1	11/22/2013 12:01 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>MEB</b>
Moisture	20		0.050	% of sample	1	11/21/2013 12:20 PM

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



# ALS Group USA, Corp

Date: 27-Nov-13

**Client:** HRL Compliance Solutions  
**Work Order:** 13111015  
**Project:** WPX TR 44-35-597 11.18.13

## QC BATCH REPORT

Batch ID: **53482** Instrument ID **GC8** Method: **SW8015M**

<b>MSD</b>		Sample ID: <b>1311938-03C MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/20/2013 07:27 PM</b>		
Client ID:		Run ID: <b>GC8_131120A</b>				SeqNo: <b>2548404</b>		Prep Date: <b>11/20/2013</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)	989	8.3	333	250.2	222	49-130	657.5	40.3	30	SR

The following samples were analyzed in this batch:

13111015-01B	13111015-02B	13111015-03B
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.



**Client:** HRL Compliance Solutions  
**Work Order:** 13111015  
**Project:** WPX TR 44-35-597 11.18.13

## QC BATCH REPORT

Batch ID: **53547**      Instrument ID **ICPMS1**      Method: **SW6020A**

<b>MBLK</b>		Sample ID: <b>MBLK-53547-53547</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/23/2013 01:11 A</b>		
Client ID:		Run ID: <b>ICPMS1_131122A</b>				SeqNo: <b>2551042</b>		Prep Date: <b>11/21/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium	0.0639	0.25								J
Zinc	0.1529	0.50								J

<b>MS</b>		Sample ID: <b>1311968-01BMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/23/2013 07:18 A</b>		
Client ID:		Run ID: <b>ICPMS1_131122A</b>				SeqNo: <b>2551099</b>		Prep Date: <b>11/21/2013</b>		DF: <b>4</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	36.88	1.5	7.364	32.67	57.1	75-125	0			SO
Zinc	18.95	2.9	7.364	15.43	47.9	75-125	0			S

<b>MSD</b>		Sample ID: <b>1311968-01BMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/23/2013 07:24 A</b>		
Client ID:		Run ID: <b>ICPMS1_131122A</b>				SeqNo: <b>2551100</b>		Prep Date: <b>11/21/2013</b>		DF: <b>4</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	44.06	1.5	7.299	32.67	156	75-125	36.88	17.7	25	SO
Zinc	20.52	2.9	7.299	15.43	69.8	75-125	18.95	7.96	25	S

The following samples were analyzed in this batch:

13111015-01B	13111015-02B	13111015-03B
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.



**Client:** HRL Compliance Solutions  
**Work Order:** 13111015  
**Project:** WPX TR 44-35-597 11.18.13

## QC BATCH REPORT

Batch ID: **53654**      Instrument ID **WETCHEM**      Method: **SW7196A**

<b>MS</b>		Sample ID: <b>13111015-01B MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/25/2013 04:30 PM</b>		
Client ID: <b>TR44-35-597 Batch 3 Treatment cell 3/6</b>		Run ID: <b>WETCHEM_131125J</b>		SeqNo: <b>2554524</b>		Prep Date: <b>11/25/2013</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	0.51	2.041	0	0	75-125	0			S

<b>MS</b>		Sample ID: <b>13111015-01B MSI</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/25/2013 04:30 PM</b>		
Client ID: <b>TR44-35-597 Batch 3 Treatment cell 3/6</b>		Run ID: <b>WETCHEM_131125J</b>		SeqNo: <b>2554526</b>		Prep Date: <b>11/25/2013</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	687.1	50	953.7	0	72	75-125	0			S

<b>MSD</b>		Sample ID: <b>13111015-01B MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/25/2013 04:30 PM</b>		
Client ID: <b>TR44-35-597 Batch 3 Treatment cell 3/6</b>		Run ID: <b>WETCHEM_131125J</b>		SeqNo: <b>2554525</b>		Prep Date: <b>11/25/2013</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	0.51	2.024	0	0	75-125	0	0	20	S

The following samples were analyzed in this batch:

13111015-01B	13111015-02B	13111015-03B
--------------	--------------	--------------

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



**Client:** HRL Compliance Solutions  
**Work Order:** 13111015  
**Project:** WPX TR 44-35-597 11.18.13

## QC BATCH REPORT

Batch ID: **R131061** Instrument ID **MOIST** Method: **A2540 G**

<b>MBLK</b>		Sample ID: <b>WBLKS-R131061</b>				Units: % of sample		Analysis Date: <b>11/21/2013 12:20 PM</b>		
Client ID:		Run ID: <b>MOIST_131121B</b>				SeqNo: <b>2550416</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	0.04	0.050								J

The following samples were analyzed in this batch:

13111015-01A	13111015-02A	13111015-03A
13111015-04A	13111015-05A	13111015-06A

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



## Chain-of-Custody

Form 202r8

**WORKORDER**

13111015

**PAGE**

1 of 1

## DISPOSAL

By Lab or Return to Client

PROJECT NAME		WPX	TR 44-35-597	SAMPLER		Reed Wold		DATE		11/18/13		PAGE		1 of 1	
PROJECT No.		Treatment cells		SITE ID		TR 44-35-597		TURNAROUND		5 day		DISPOSAL		By Lab or Return to Client	
COMPANY NAME		HRL Compliance		PURCHASE ORDER				BTEX/L&P							
SEND REPORT TO		Mark Mumby		BILL TO COMPANY		WPX		DROPH/Metals							
ADDRESS		2385 F 1/2 Rd		INVOICE ATTN TO		Karolina Blaney		SAR/Ec/PH							
CITY / STATE / ZIP		Grand Junction, CO 81506		ADDRESS		1058 Co Rd 215		Benz(a)pyrene							
PHONE		970-243-3271		CITY / STATE / ZIP		Parachure CO 81635									
FAX		970-243-3280		PHONE		970-683-2295									
E-MAIL		mmumby@hrlcomp.com rwold@hrlcomp.com		E-MAIL		Karolina.blaney@wpenergy.com									
Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC								
	TR 44-35-597 Batch 3 3/6	SG	11/18/13	12:00	3	8		x	x	x					
	TR 44-35-597 Batch 3 4/6			11:50	3			x	x	y					
	TR 44-35-597 Batch 3 5/6			12:10	3			x	x	y					
	Batch 2 Treatment cell 2/6			11:10	1						x				
	Batch 2 Treatment cell 4/6			11:05	1						x				
	Batch 2 Treatment cell 5/6			11:00	1						x				

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

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

<b>Comments:</b>  <div style="text-align: center; font-size: 2em;">5.6</div> <div style="text-align: right; font-size: 2em;">W</div>	<b>QC PACKAGE (check below)</b>	
	<input checked="" type="checkbox"/> X	LEVEL II (Standard QC)
	<input type="checkbox"/>	LEVEL III (Std QC + forms)
	<input type="checkbox"/>	LEVEL IV (Std QC + forms + raw data)
	<input type="checkbox"/>	
<b>Preservative Key:</b> 1-HCl   2-HNO <sub>3</sub> 3-H <sub>2</sub> SO <sub>4</sub> 4-NaOH   5-NaHSO <sub>4</sub> 7-Other   8-4 degrees C   9-5035		

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	<i>Recd WLD</i>	<i>Recd WLD</i>	<i>11/18/83</i>	<i>4:00</i>
RECEIVED BY	<i>W.M.</i>	<i>W.M.</i>	<i>11-18</i>	<i>4:00</i>
RELINQUISHED BY	<i>[Signature]</i>	<i>W.M.</i>	<i>11-18</i>	<i>4:00</i>
RECEIVED BY	<i>FEOGX</i>			
RELINQUISHED BY	<i>FEOGX</i>	<i>FEOGX</i>	<i>11/19/83</i>	<i>0930</i>
RECEIVED BY				



From: (717) 944-5541  
Steve Smith

Origin ID: MDTA



34 DOGWOOD LANE  
MIDDLETOWN, PA 17057

Ship Date: 18NOV13  
ActWgt: 23.0 LB  
CAD: 7121996/INET3430

Delivery Address Bar Code



SHIP TO: (616) 399-6070

BILL SENDER

Jeff Glaser  
ALS - Holland  
3352 128TH AVE

HOLLAND, MI 49424

Ref # J. Hall  
Invoice #  
PO #  
Dept #

1 of 2

TUE - 19 NOV 10:30A  
PRIORITY OVERNIGHT

TRK# 7971 8704 6156

0201

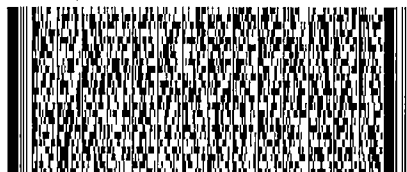
## MASTER ##

**NA GRRA**

49424

MI-US

GRR



51AG1/0565/1A9E

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From: (970) 424-4749  
Lab Hub, LLC

Origin ID: RILA



127 E First Street  
PARACHUTE, CO 81635

Ship Date: 18NOV13  
Act/Vgt: 50.0 LB  
CAD: 103923490/NET3430

Dims: 25 X 14 X 15 IN

SHIP TO: (616) 399-6070  
Sample receiving  
ALS Holland  
3352 128TH AVE

BILL RECIPIENT

HOLLAND, MI 49424

Delivery Address Bar Code



Ref # 1001-111813-3  
Invoice #  
PO #  
Dept #

2 of 3

TUE - 19 NOV AA  
STANDARD OVERNIGHT

MPS# 7971 8845 9212

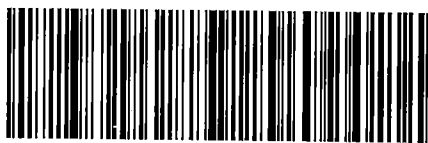
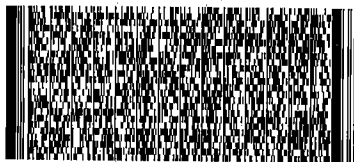
0263

Mstr# 7971 8845 9050

0201

**XX GRRR**

**49424**  
MI-US  
GRR



51AG1C5E91A6E

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ATS

Blue



Sample Receipt Checklist

Client Name: HRL

Date/Time Received: 19-Nov-13 09:30

Work Order: 13111015

Received by: AB

Checklist completed by *Ashley Beard*  
eSignature

19-Nov-13  
Date

Reviewed by: *Lee Arnold*  
eSignature

20-Nov-13  
Date

Matrices: soil

Carrier name: FedEx

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

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

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

Chain of custody present? Yes ☒ No ☐

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

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

Samples in proper container/bottle? Yes ☒ No ☐

Sample containers intact? Yes ☒ No ☐

Sufficient sample volume for indicated test? Yes ☒ No ☐

All samples received within holding time? Yes ☒ No ☐

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

Sample(s) received on ice? Yes ☒ No ☐

Temperature(s)/Thermometer(s): 5.6

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 11/19/2013 11/19/2013

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

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

pH adjusted? Yes ☐ No ☐ N/A ☒

pH adjusted by: -

Login Notes:

-----

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction: