SUPPLEMENTAL INFO

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

#4948

FOR OGCC USE ONLY

RECEIVED 1/8/2014

OGCC Employee:

☐ Spill ☐ Complaint ☐ Inspection ☐ NOAV

Tracking No:

## SITE INVESTIGATION AND REMEDIATION WORKPLAN

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

## CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

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

OGCC Operator Number: 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 41-35-597 Pit #1
Facility Number: 422273
Well Name: N/A
Well Number: N/A
Location: (QtrQtr, Sec, Twp, Rng, Meridian): NENE, Sec 35, T5S, R97W, 6th PM
Latitude: 39.574473 Longitude: -108.240640

## 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 rangeland, non-irrigated

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

Potential receptors (water wells within 1/4 mi, surface waters, etc.): There are no permitted water wells within 1/4 mile; Crystal Creek, a tributary of Clear Creek, lies approximately 2060 to the northwest.

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

| Impacted Media (check): | Extent of Impact: | How Determined: |
|---|---|---|
| ☑ Soils | Please see the attached Notice of Completion Report for Remediation #4948. | Visual observations, field screening, and analytical analysis |
| ☐ Vegetation | | |
| ☐ Groundwater | | |
| ☐ Surface Water | | |

## REMEDIATION WORKPLAN

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

See attached Notice of Completion Report for Remediation #4948.

**Describe how source is to be removed:**

See attached Notice of Completion Report for Remediation #4948.

**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 #4948.

**Submit Page 2 with Page 1**

FORM
**27**
**Rev 6/99**

Page 2

**State of Colorado**
**Oil and Gas Conservation Commission**
1120 Lincoln Street, Suite 801, Denver, Colorado 80203
(303)894-2100 Fax:(303)894-2109

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

## REMEDIATION WORKPLAN (Cont.)

OGCC Employee:

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

See attached Notice of Completion Report for remediation #4948

**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 #4948

**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 #4948

**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 #4948

## IMPLEMENTATION SCHEDULE

| | | |
|---|---|---|
| Date Site Investigation Began: 6/20/2013 | Date Site Investigation Completed: 9/17/2013 | Date Remediation Plan Submitted: 9/8/2009 |
| Remediation Start Date: 6/20/2013 | Anticipated Completion Date: Spring 2014 | Actual Completion Date: 9/17/2013 |

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: 1/8/2014

OGCC Approved: Stanley C. Spencer Title: EPS Northwest Date: 4/16/14

# *WPX ENERGY ROCKY MOUNTAIN LLC*

# *TRAIL RIDGE FIELD*

# *NOTICE OF COMPLETION REPORT FOR*

# *TR 41-35-597 PRODUCTION PIT*
# *REMEDIATION # 4948*

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 41-35-597 Production Pit (COGCC Facility ID number 422273; hereinafter referred to as TR 41-35-597) – is to provide detailed information and result analysis for the previously submitted and approved remediation number 4948, 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 8, 2009. Preliminary approval to proceed with closure of the subject pit was issued by the COGCC and obtained by WPX Energy Rocky Mountain, LLC (WPX) on March 13, 2010; at which time the aforementioned remediation number was issued. Closure activities began on June 20, 2013 and were concluded on September 17, 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. The liner investigation conducted on June 20, 2013 indicated that holes and tears were evident on the pit liner. One quarter inch hole was observed on the northwest corner of the liner, near the ground surface. Larger three to four inch holes/tears were observed on the northwest corner of the pit approximately three feet above the pit bottom. The suspected holes and tears in the liner and low point of the pit were documented and mapped accordingly in order to assess soil impacts upon liner removal. The conclusion of the initial pit liner investigation was that the integrity of the liner had been compromised and soil impacts were evident.

## 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**

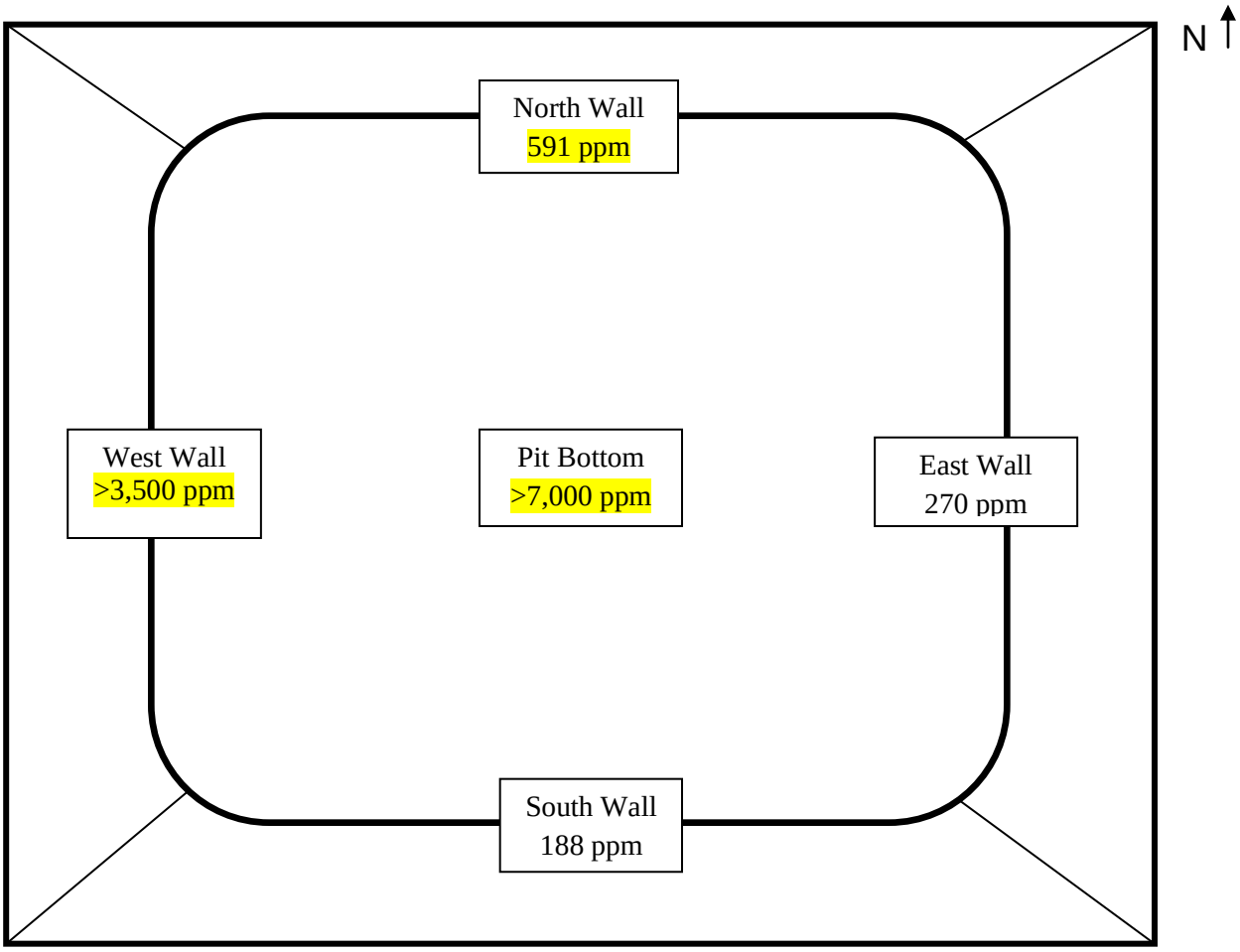

**TABLE 1: PETROFLAG© FIELD SCREENING RESULTS**

| Sample ID | Result (0-6'') |
|---|---|
| North Wall | 591 |
| South Wall | 188 |
| East Wall | 270 |
| West Wall | Greater than 3,500 |
| Pit Bottom | Greater than 7,000 |

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 north and west side walls contained hydrocarbon concentrations which exceeded standards set forth in COGCC Table 910-1; remediation activities were necessary.

## REMEDIATION ACTIVITIES

Pit excavation activities began July 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.

Initially the track hoe excavated the pit bottom in two specific locations in order to delineate the vertical extent of the impacted soil. The surface soil of the pit bottom was sandy silt. This was the prevailing soil type down to a depth of two feet below the original pit bottom surface, at which point an olive colored, moist fractured sandstone/shale bed rock was uncovered. Field screen readings from the two excavated areas within the pit bottom indicated that the soils exceeded the COGCC Table 910-1 standards and that further excavation was required.

The two adjacent impacted walls; north wall and west wall, were also excavated down to a depth of four feet. At which depth, the same fractured sandstone/ shale bedrock was

encountered. Field screen results indicated that the soil from the west wall exceeded the COGCC Table 910-1 standards, while the results of the soil from the north wall at the same depth were below Table 910-1 standards.

The track hoe continued to excavate and stockpile impacted material from the bottom of the pit and west wall. The pit bottom was excavated down approximately four additional feet. Below said depth, the fractured bedrock was dry, light brown with no visual indication of hydrocarbon impacts. Field screen readings were collected from the pit bottom at this depth which was eight 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 west wall was excavated down approximately eight feet from the original pit wall dimensions. At said depth, the fractured bedrock 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.

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 eight vertical feet of impacted soil was removed from the pit bottom, four lateral feet from the north wall, eight lateral feet from the west wall and less than one foot from the remaining east and south 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.

**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 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 northeast of the pit near the entrance of the 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.

## EXCEPTIONS TO COGCC TABLE 910-1

All samples tested below COGCC Table 910-1 and footnote 1 with the exception of inorganics which will be covered with three (3) feet of clean backfill material and reclaimed to the original contour of the location.

## STOCKPILED SOILS MANAGEMENT

Impacted soils removed from the pit bottom and side walls were amended on-site with native soils from the area surrounding the pad. Analytical data presented in Table 4 indicated that soils are below hydrocarbon standards outlined in COGCC Table 910-1 and amending was stopped. These soils will be used as additional backfill material once approval from the COGCC has been obtained.

## ANALYTICAL DATA MANAGEMENT

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

## BACKGROUND SAMPLING

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

# FIGURES

## FIGURE 2: GIS MAP OF THE SAMPLE LOCATIONS

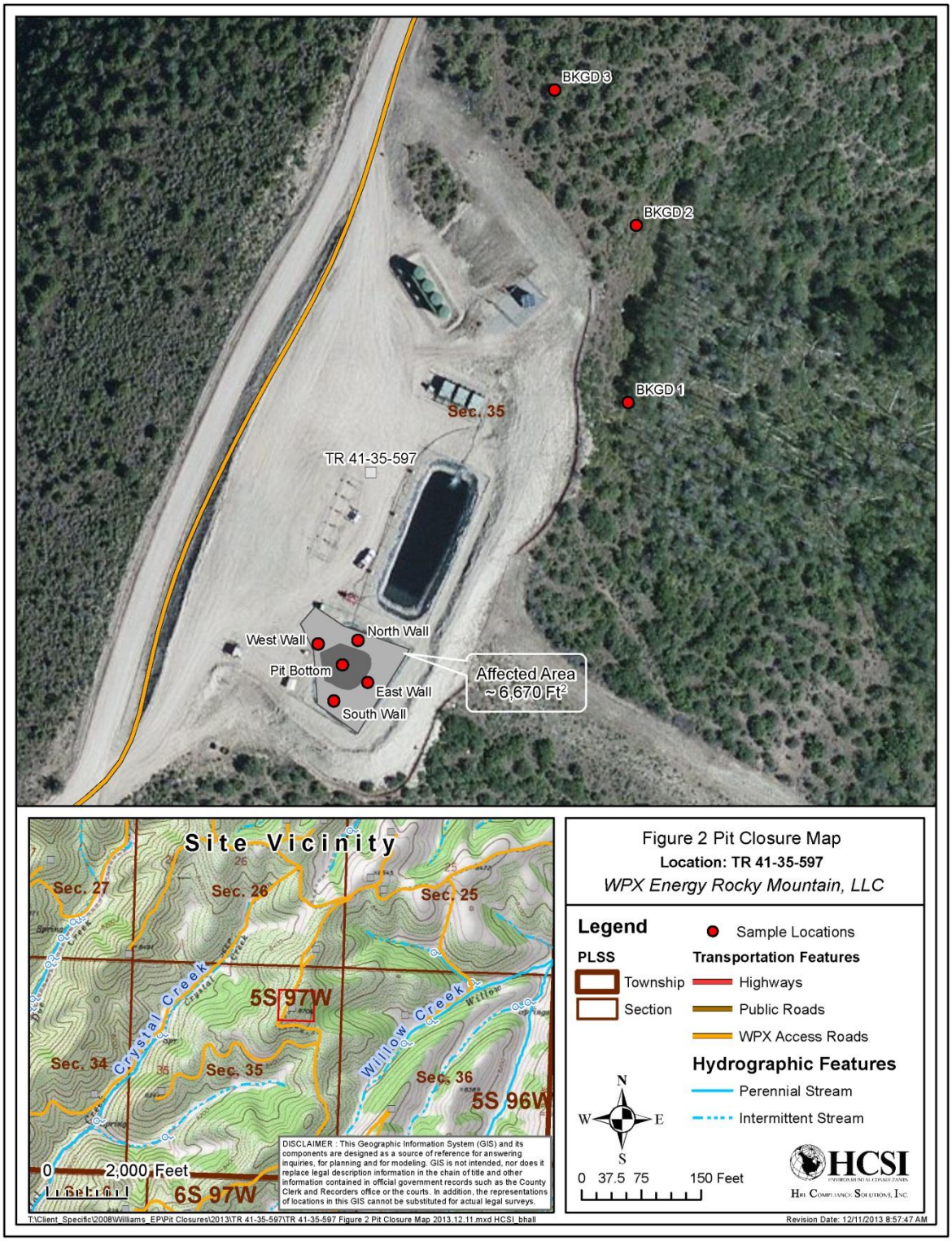

**FIGURE 3:**


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: POST EXCAVATION PIT BOTTOM AND WALLS ANALYTICAL RESULTS

| COGCC TABLE 910-1 | SAMPLE LOCATIONS | | | | |
|---|---|---|---|---|---|
| | NORTH WALL (4 FT DEPTH) | SOUTH WALL (SURFACE) | EAST WALL (SURFACE) | WEST WALL (8 FT DEPTH) | PIT BOTTOM (8 FT DEPTH) |
| **TEPH (DRO)** | 27 | 26 | 28 | 30 | 35 |
| **TVPH (GRO)** | ND | ND | ND | ND | ND |
| | | | | | |
| **BENZENE** | ND | ND | ND | ND | ND |
| **TOLUENE** | ND | ND | ND | ND | ND |
| **ETHYLBENZENE** | ND | ND | ND | ND | ND |
| **XYLENE TOTAL** | ND | ND | ND | ND | ND |
| | | | | | |
| **ACENAPHTHENE** | ND | ND | ND | ND | ND |
| **ACENAPHTHYLENE** | ND | ND | ND | ND | ND |
| **ANTHRACENE** | ND | ND | ND | ND | ND |
| **BENZO(A)ANTRHACENE** | ND | ND | ND | ND | ND |
| **BENZO(A)PYRENE** | ND | ND | ND | ND | ND |
| **BENZO(B)FLUORANTHENE** | ND | ND | ND | ND | ND |
| **BENZO(G,H,I)PERYLEN** | ND | ND | ND | ND | ND |
| **BENZO(K)FLUORANTHENE** | ND | ND | ND | ND | ND |
| **CHRYSENE (mg/kg)** | ND | ND | ND | ND | ND |
| **DIBENZO(A,H)ANTHRANCENE** | ND | ND | ND | ND | ND |
| **FLUORANTHENE** | ND | ND | ND | ND | ND |
| **FLUORENE** | ND | ND | ND | ND | ND |
| **INDENO(1,2,3-CD)PYRENE** | ND | ND | ND | ND | ND |
| **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** | ND | ND | ND | ND | ND |
| | | | | | |
| **ARSENIC** | NS | NS | NS | NS | 2.4 |
| **BARIUM** | NS | NS | NS | NS | 570 |
| **CADMIUM** | NS | NS | NS | NS | ND |
| **CHROMIUM** | NS | NS | NS | NS | 37 |
| **CHROMIUM (III)** | NS | NS | NS | NS | 37 |
| **CHROMIUM (IV)** | NS | NS | NS | NS | ND |
| **COPPER** | NS | NS | NS | NS | 23 |
| **LEAD** | NS | NS | NS | NS | 19 |
| **MERCURY** | NS | NS | NS | NS | 0.018 |
| **NICKEL** | NS | NS | NS | NS | 20 |
| **SELENIUM** | NS | NS | NS | NS | ND |
| **SILVER** | NS | NS | NS | NS | ND |
| **ZINC** | NS | NS | NS | NS | 54 |
| | | | | | |
| **EC (mmho/cm)** | NS | NS | NS | NS | NS |
| **pH** | NS | NS | NS | NS | 8.3 |
| **SAR (unitless)** | NS | NS | NS | NS | NS |

All results in mg/kg unless noted
Readings above state limits are highlighted in yellow
ND = Non Detect
NS = Not Sampled

## TABLE 3: BACKGROUND ANALYTICAL RESULTS

| ANALYTE | SAMPLE LOCATION | | |
|---|---|---|---|
| | BKGD 1 | BKGD 2 | BKGD 3 |
| **ARSENIC (mg/kg)** | 4.7 | 3.7 | 11 |
| **SAR (unitless)** | | | 0.062 |
| **EC (mmho/cm)** | | | 0.91 |
| **pH** | | | 6.6 |

Results above state limits are highlighted in yellow.

## TABLE 4: LANDFARM ANALYTICAL RESULTS: 7/30/13

| COGCC TABLE 910-1 | SAMPLE LOCATION | | | | | |
|---|---|---|---|---|---|---|
| | TREATMENT CELL 12/12 | TREATMENT CELL 10/12 | TREATMENT CELL 3/12 | TREATMENT CELL 1/12 | TREATMENT CELL 2/4 | TREATMENT CELL 3/4 |
| **TEPH (DRO)** | 230 | 250 | 55 | 270 | 230 | 120 |
| **TVPH (GRO)** | ND | ND | ND | ND | ND | ND |
| | | | | | | |
| **BENZENE** | ND | ND | ND | ND | ND | ND |
| **TOLUENE** | ND | ND | ND | ND | ND | ND |
| **ETHYLBENZENE** | ND | ND | ND | ND | ND | ND |
| **XYLENE TOTAL** | ND | ND | ND | ND | ND | ND |
| | | | | | | |
| **ACENAPHTHENE** | ND | ND | ND | 0.028 | 0.032 | 0.02 |
| **ACENAPHTHYLENE** | ND | ND | ND | ND | ND | ND |
| **ANTHRACENE** | 0.022 | 0.021 | ND | 0.056 | 0.042 | 0.032 |
| **BENZO(A)ANTRHACENE** | 0.045 | 0.056 | ND | 0.077 | 0.045 | 0.034 |
| **BENZO(A)PYRENE** | 0.041 | 0.049 | ND | 0.062 | 0.036 | 0.06 |
| **BENZO(B)FLUORANTHENE** | 0.03 | 0.049 | ND | 0.056 | 0.028 | 0.054 |
| **BENZO(G,H,I)PERYLEN** | ND | ND | ND | 0.032 | ND | ND |
| **BENZO(K)FLUORANTHENE** | ND | 0.021 | ND | 0.024 | ND | 0.023 |
| **CHRYSENE (mg/kg)** | 0.025 | 0.039 | ND | 0.054 | 0.027 | 0.04 |
| **DIBENZO(A,H)ANTHRANCENE** | ND | ND | ND | ND | ND | ND |
| **FLUORANTHENE** | 0.047 | 0.057 | ND | 0.12 | 0.05 | 0.072 |
| **FLUORENE** | ND | 0.02 | ND | 0.062 | 0.039 | 0.023 |
| **INDENO(1,2,3-CD)PYRENE** | 0.027 | 0.04 | ND | 0.044 | 0.028 | 0.043 |
| **1-METHYLNAPHTHALENE** | NS | NS | NS | NS | NS | NS |
| **2-METHYLNAPHTHALENE** | NS | NS | NS | NS | NS | NS |
| **NAPHTHALENE** | ND | 0.046 | ND | ND | 0.02 | ND |
| **PHENANTHRENE** | NS | NS | NS | NS | NS | NS |
| **PYRENE** | 0.05 | 0.79 | ND | 0.12 | 0.059 | 0.081 |
| | | | | | | |
| **ARSENIC** | 3.8 | 5.6 | 5.8 | 5.5 | 4.8 | 5.9 |
| **BARIUM** | 520 | 500 | 500 | 560 | 510 | 470 |
| **CADMIUM** | ND | ND | ND | ND | ND | ND |
| **CHROMIUM** | 58 | 57 | 71 | 65 | 62 | 64 |
| **CHROMIUM (III)** | 58 | 57 | 71 | 65 | 62 | 64 |
| **CHROMIUM (IV)** | ND | ND | ND | ND | ND | ND |
| **COPPER** | 18 | 20 | 16 | 20 | 18 | 21 |
| **LEAD** | 14 | 18 | 15 | 21 | 16 | 19 |
| **MERCURY** | 0.11 | 0.024 | 0.03 | 0.033 | 0.026 | 0.022 |
| **NICKEL** | 33 | 33 | 36 | 35 | 31 | 35 |
| **SELENIUM** | ND | ND | ND | ND | 2.2 | ND |
| **SILVER** | ND | ND | ND | ND | ND | ND |
| **ZINC** | 52 | 64 | 53 | 56 | 54 | 66 |
| | | | | | | |
| **SAR (unitless)** | 5.4 | 6.8 | 12 | 11 | 7.6 | 6.1 |
| **EC (mmhos/cm)** | 2.3 | 4.8 | 7.0 | 5.3 | 3.9 | 2.6 |
| **pH (unitless)** | 8.6 | 8.2 | 8.5 | 8.5 | 8.3 | 8.4 |

All results in mg/kg unless noted
Readings above state limits are highlighted in yellow
ND = Non Detect
NS = Not Sampled

## LANDFARM ANALYTICAL RESULTS: 9/17/13

| ANALYTE | SAMPLE LOCATION | | | |
|---|---|---|---|---|
| | TREATMENT CELL 3/12 | TREATMENT CELL 6/12 | TREATMENT CELL 10/12 | TREATMENT CELL 12/12 |
| **ANTHRACENE** | ND | ND | ND | 0.012 |
| **BENZON(A)PYRENE** | 0.012 | ND | 0.011 | 0.0088 |

All results in mg/kg unless noted
Readings above state limits are highlighted in yellow
ND = Non Detect

# APPENDICES

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

18-Jul-2013

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

Re: **WPX TR 41-35-597 Pit Closure 7/8/13** Work Order: **1307303**

Dear Kris,

ALS Environmental received 8 samples on 10-Jul-2013 10:00 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 34.

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

Sincerely,

Ann Preston

Electronically approved by: Ann Preston

Ann Preston
Project Manager

Certificate No: MN 532786



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

# ALS Group USA, Corp

Date: 18-Jul-13

**Client:** HRL Compliance Solutions
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13
**Work Order:** **1307303**

## Work Order Sample Summary

| Lab Samp ID | Client Sample ID | Matrix | Tag Number | Collection Date | Date Received | Hold |
|---|---|---|---|---|---|---|
| 1307303-01 | North Wall (4 ft depth) | Soil | | 7/8/2013 15:00 | 7/10/2013 10:00 | ☐ |
| 1307303-02 | East Wall (surface) | Soil | | 7/8/2013 15:15 | 7/10/2013 10:00 | ☐ |
| 1307303-03 | West Wall (8 ft depth) | Soil | | 7/8/2013 15:30 | 7/10/2013 10:00 | ☐ |
| 1307303-04 | Pit Bottom (8 ft depth) | Soil | | 7/8/2013 15:50 | 7/10/2013 10:00 | ☐ |
| 1307303-05 | South Wall (surface) | Soil | | 7/8/2013 16:05 | 7/10/2013 10:00 | ☐ |
| 1307303-06 | BKGD 1 | Soil | | 7/8/2013 16:15 | 7/10/2013 10:00 | ☐ |
| 1307303-07 | BKGD 2 | Soil | | 7/8/2013 16:35 | 7/10/2013 10:00 | ☐ |
| 1307303-08 | BKGD 3 | Soil | | 7/8/2013 16:55 | 7/10/2013 10:00 | ☐ |

## ALS Group USA, Corp

*Date: 18-Jul-13*

**Client:** HRL Compliance Solutions
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13
**Work Order:** 1307303

# Case Narrative

Sample 1307303-04 is rocks. No SAR can be run on this sample.

Batch 49642 MS/MSD data for Metals is not related to this project's samples. No data requires qualification.

Batch 49683 MS/MSD data for Hexavalent Chromium is not related to this project's samples. No data requires qualification.

Batch R123435 Duplicate data for pH is not related to this project's samples. No data requires qualification.

| | |
|---|---|
| **Client:** | HRL Compliance Solutions |
| **Project:** | WPX TR 41-35-597 Pit Closure 7/8/13 |
| **WorkOrder:** | **1307303** |

# QUALIFIERS, ACRONYMS, UNITS

| Qualifier | Description |
|---|---|
| * | 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 |

| Acronym | Description |
|---|---|
| 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 |

| Units Reported | Description |
|---|---|
| % 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 |
| ımhos/cm @25° | Millimhos-Centimeter at 25 Degrees Celcius |
| none | |
| s.u. | Standard Units |

# ALS Group USA, Corp

**Date:** *18-Jul-13*

**Client:** HRL Compliance Solutions
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13
**Work Order:** 1307303
**Sample ID:** North Wall (4 ft depth)
**Lab ID:** 1307303-01
**Collection Date:** 7/8/2013 03:00 PM
**Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **DIESEL RANGE ORGANICS BY GC-FID** | | | **SW8015M** | | Prep Date: **7/11/2013** | Analyst: **CW** |
| **DRO (C10-C28)** | **27** | | **5.1** | **mg/Kg-dry** | 1 | 7/12/2013 12:05 PM |
| *Surr: 4-Terphenyl-d14* | *40.3* | | *39-115* | *%REC* | 1 | 7/12/2013 12:05 PM |
| **GASOLINE RANGE ORGANICS BY GC-FID** | | | **SW8015** | | | Analyst: **RD** |
| GRO (C6-C10) | ND | | 3.1 | mg/Kg-dry | 50 | 7/11/2013 03:42 AM |
| *Surr: Toluene-d8* | *100* | | *50-150* | *%REC* | 50 | 7/11/2013 03:42 AM |
| **SEMI-VOLATILE ORGANIC COMPOUNDS** | | | **SW8270** | | Prep Date: **7/11/2013** | Analyst: **RM** |
| Acenaphthene | ND | | 18 | µg/Kg-dry | 1 | 7/12/2013 04:17 AM |
| Acenaphthylene | ND | | 36 | µg/Kg-dry | 1 | 7/12/2013 04:17 AM |
| Anthracene | ND | | 18 | µg/Kg-dry | 1 | 7/12/2013 04:17 AM |
| Benzo(a)anthracene | ND | | 21 | µg/Kg-dry | 1 | 7/12/2013 04:17 AM |
| Benzo(a)pyrene | ND | | 21 | µg/Kg-dry | 1 | 7/12/2013 04:17 AM |
| Benzo(b)fluoranthene | ND | | 22 | µg/Kg-dry | 1 | 7/12/2013 04:17 AM |
| Benzo(g,h,i)perylene | ND | | 34 | µg/Kg-dry | 1 | 7/12/2013 04:17 AM |
| Benzo(k)fluoranthene | ND | | 22 | µg/Kg-dry | 1 | 7/12/2013 04:17 AM |
| Chrysene | ND | | 18 | µg/Kg-dry | 1 | 7/12/2013 04:17 AM |
| Dibenzo(a,h)anthracene | ND | | 22 | µg/Kg-dry | 1 | 7/12/2013 04:17 AM |
| Fluoranthene | ND | | 18 | µg/Kg-dry | 1 | 7/12/2013 04:17 AM |
| Fluorene | ND | | 18 | µg/Kg-dry | 1 | 7/12/2013 04:17 AM |
| Indeno(1,2,3-cd)pyrene | ND | | 24 | µg/Kg-dry | 1 | 7/12/2013 04:17 AM |
| Naphthalene | ND | | 18 | µg/Kg-dry | 1 | 7/12/2013 04:17 AM |
| Pyrene | ND | | 18 | µg/Kg-dry | 1 | 7/12/2013 04:17 AM |
| *Surr: 2-Fluorobiphenyl* | *59.5* | | *12-100* | *%REC* | 1 | 7/12/2013 04:17 AM |
| *Surr: 4-Terphenyl-d14* | *78.2* | | *25-137* | *%REC* | 1 | 7/12/2013 04:17 AM |
| *Surr: Nitrobenzene-d5* | *61.9* | | *37-107* | *%REC* | 1 | 7/12/2013 04:17 AM |
| **VOLATILE ORGANIC COMPOUNDS** | | | **SW8260B** | | Prep Date: **7/10/2013** | Analyst: **RS** |
| Benzene | ND | | 37 | µg/Kg-dry | 1 | 7/11/2013 12:12 PM |
| Ethylbenzene | ND | | 37 | µg/Kg-dry | 1 | 7/11/2013 12:12 PM |
| m,p-Xylene | ND | | 73 | µg/Kg-dry | 1 | 7/11/2013 12:12 PM |
| o-Xylene | ND | | 37 | µg/Kg-dry | 1 | 7/11/2013 12:12 PM |
| Toluene | ND | | 37 | µg/Kg-dry | 1 | 7/11/2013 12:12 PM |
| Xylenes, Total | ND | | 110 | µg/Kg-dry | 1 | 7/11/2013 12:12 PM |
| *Surr: 1,2-Dichloroethane-d4* | *97.8* | | *70-130* | *%REC* | 1 | 7/11/2013 12:12 PM |
| *Surr: 4-Bromofluorobenzene* | *90.2* | | *70-130* | *%REC* | 1 | 7/11/2013 12:12 PM |
| *Surr: Dibromofluoromethane* | *90.8* | | *70-130* | *%REC* | 1 | 7/11/2013 12:12 PM |
| *Surr: Toluene-d8* | *95.9* | | *70-130* | *%REC* | 1 | 7/11/2013 12:12 PM |
| **MOISTURE** | | | **A2540 G** | | | Analyst: **BD** |
| **Moisture** | **18** | | **0.050** | **% of sample** | 1 | 7/10/2013 11:15 AM |

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

# ALS Group USA, Corp

**Date:** *18-Jul-13*

**Client:** HRL Compliance Solutions
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13 **Work Order:** 1307303
**Sample ID:** East Wall (surface) **Lab ID:** 1307303-02
**Collection Date:** 7/8/2013 03:15 PM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **DIESEL RANGE ORGANICS BY GC-FID** | | | **SW8015M** | | Prep Date: **7/11/2013** | Analyst: **CW** |
| **DRO (C10-C28)** | **28** | | **4.9** | **mg/Kg-dry** | 1 | 7/12/2013 12:35 PM |
| *Surr: 4-Terphenyl-d14* | *40.4* | | *39-115* | *%REC* | 1 | 7/12/2013 12:35 PM |
| **GASOLINE RANGE ORGANICS BY GC-FID** | | | **SW8015** | | | Analyst: **RD** |
| GRO (C6-C10) | ND | | 3.0 | mg/Kg-dry | 50 | 7/11/2013 04:06 AM |
| *Surr: Toluene-d8* | *102* | | *50-150* | *%REC* | 50 | 7/11/2013 04:06 AM |
| **SEMI-VOLATILE ORGANIC COMPOUNDS** | | | **SW8270** | | Prep Date: **7/11/2013** | Analyst: **RM** |
| Acenaphthene | ND | | 18 | µg/Kg-dry | 1 | 7/12/2013 04:36 AM |
| Acenaphthylene | ND | | 36 | µg/Kg-dry | 1 | 7/12/2013 04:36 AM |
| Anthracene | ND | | 18 | µg/Kg-dry | 1 | 7/12/2013 04:36 AM |
| Benzo(a)anthracene | ND | | 20 | µg/Kg-dry | 1 | 7/12/2013 04:36 AM |
| Benzo(a)pyrene | ND | | 20 | µg/Kg-dry | 1 | 7/12/2013 04:36 AM |
| Benzo(b)fluoranthene | ND | | 21 | µg/Kg-dry | 1 | 7/12/2013 04:36 AM |
| Benzo(g,h,i)perylene | ND | | 33 | µg/Kg-dry | 1 | 7/12/2013 04:36 AM |
| Benzo(k)fluoranthene | ND | | 21 | µg/Kg-dry | 1 | 7/12/2013 04:36 AM |
| Chrysene | ND | | 18 | µg/Kg-dry | 1 | 7/12/2013 04:36 AM |
| Dibenzo(a,h)anthracene | ND | | 21 | µg/Kg-dry | 1 | 7/12/2013 04:36 AM |
| Fluoranthene | ND | | 18 | µg/Kg-dry | 1 | 7/12/2013 04:36 AM |
| Fluorene | ND | | 18 | µg/Kg-dry | 1 | 7/12/2013 04:36 AM |
| Indeno(1,2,3-cd)pyrene | ND | | 24 | µg/Kg-dry | 1 | 7/12/2013 04:36 AM |
| Naphthalene | ND | | 18 | µg/Kg-dry | 1 | 7/12/2013 04:36 AM |
| Pyrene | ND | | 18 | µg/Kg-dry | 1 | 7/12/2013 04:36 AM |
| *Surr: 2-Fluorobiphenyl* | *60.4* | | *12-100* | *%REC* | 1 | 7/12/2013 04:36 AM |
| *Surr: 4-Terphenyl-d14* | *76.6* | | *25-137* | *%REC* | 1 | 7/12/2013 04:36 AM |
| *Surr: Nitrobenzene-d5* | *62.1* | | *37-107* | *%REC* | 1 | 7/12/2013 04:36 AM |
| **VOLATILE ORGANIC COMPOUNDS** | | | **SW8260B** | | Prep Date: **7/10/2013** | Analyst: **RS** |
| Benzene | ND | | 36 | µg/Kg-dry | 1 | 7/11/2013 12:35 PM |
| Ethylbenzene | ND | | 36 | µg/Kg-dry | 1 | 7/11/2013 12:35 PM |
| m,p-Xylene | ND | | 72 | µg/Kg-dry | 1 | 7/11/2013 12:35 PM |
| o-Xylene | ND | | 36 | µg/Kg-dry | 1 | 7/11/2013 12:35 PM |
| Toluene | ND | | 36 | µg/Kg-dry | 1 | 7/11/2013 12:35 PM |
| Xylenes, Total | ND | | 110 | µg/Kg-dry | 1 | 7/11/2013 12:35 PM |
| *Surr: 1,2-Dichloroethane-d4* | *98.8* | | *70-130* | *%REC* | 1 | 7/11/2013 12:35 PM |
| *Surr: 4-Bromofluorobenzene* | *90.3* | | *70-130* | *%REC* | 1 | 7/11/2013 12:35 PM |
| *Surr: Dibromofluoromethane* | *90.8* | | *70-130* | *%REC* | 1 | 7/11/2013 12:35 PM |
| *Surr: Toluene-d8* | *96.8* | | *70-130* | *%REC* | 1 | 7/11/2013 12:35 PM |
| **MOISTURE** | | | **A2540 G** | | | Analyst: **BD** |
| **Moisture** | **17** | | **0.050** | **% of sample** | 1 | 7/10/2013 11:15 AM |

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

# ALS Group USA, Corp

**Date:** *18-Jul-13*

**Client:** HRL Compliance Solutions
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13 **Work Order:** 1307303
**Sample ID:** West Wall (8 ft depth) **Lab ID:** 1307303-03
**Collection Date:** 7/8/2013 03:30 PM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **DIESEL RANGE ORGANICS BY GC-FID** | | | **SW8015M** | | Prep Date: **7/11/2013** | Analyst: **CW** |
| **DRO (C10-C28)** | **30** | | **4.9** | **mg/Kg-dry** | 1 | 7/12/2013 01:05 AM |
| *Surr: 4-Terphenyl-d14* | *42.5* | | *39-115* | *%REC* | 1 | 7/12/2013 01:05 AM |
| **GASOLINE RANGE ORGANICS BY GC-FID** | | | **SW8015** | | | Analyst: **RD** |
| GRO (C6-C10) | ND | | 3.0 | mg/Kg-dry | 50 | 7/11/2013 04:31 AM |
| *Surr: Toluene-d8* | *103* | | *50-150* | *%REC* | 50 | 7/11/2013 04:31 AM |
| **SEMI-VOLATILE ORGANIC COMPOUNDS** | | | **SW8270** | | Prep Date: **7/11/2013** | Analyst: **RM** |
| Acenaphthene | ND | | 18 | µg/Kg-dry | 1 | 7/12/2013 04:55 AM |
| Acenaphthylene | ND | | 35 | µg/Kg-dry | 1 | 7/12/2013 04:55 AM |
| Anthracene | ND | | 18 | µg/Kg-dry | 1 | 7/12/2013 04:55 AM |
| Benzo(a)anthracene | ND | | 20 | µg/Kg-dry | 1 | 7/12/2013 04:55 AM |
| Benzo(a)pyrene | ND | | 20 | µg/Kg-dry | 1 | 7/12/2013 04:55 AM |
| Benzo(b)fluoranthene | ND | | 21 | µg/Kg-dry | 1 | 7/12/2013 04:55 AM |
| Benzo(g,h,i)perylene | ND | | 33 | µg/Kg-dry | 1 | 7/12/2013 04:55 AM |
| Benzo(k)fluoranthene | ND | | 21 | µg/Kg-dry | 1 | 7/12/2013 04:55 AM |
| Chrysene | ND | | 18 | µg/Kg-dry | 1 | 7/12/2013 04:55 AM |
| Dibenzo(a,h)anthracene | ND | | 21 | µg/Kg-dry | 1 | 7/12/2013 04:55 AM |
| Fluoranthene | ND | | 18 | µg/Kg-dry | 1 | 7/12/2013 04:55 AM |
| Fluorene | ND | | 18 | µg/Kg-dry | 1 | 7/12/2013 04:55 AM |
| Indeno(1,2,3-cd)pyrene | ND | | 23 | µg/Kg-dry | 1 | 7/12/2013 04:55 AM |
| Naphthalene | ND | | 18 | µg/Kg-dry | 1 | 7/12/2013 04:55 AM |
| Pyrene | ND | | 18 | µg/Kg-dry | 1 | 7/12/2013 04:55 AM |
| *Surr: 2-Fluorobiphenyl* | *63.2* | | *12-100* | *%REC* | 1 | 7/12/2013 04:55 AM |
| *Surr: 4-Terphenyl-d14* | *73.3* | | *25-137* | *%REC* | 1 | 7/12/2013 04:55 AM |
| *Surr: Nitrobenzene-d5* | *66.8* | | *37-107* | *%REC* | 1 | 7/12/2013 04:55 AM |
| **VOLATILE ORGANIC COMPOUNDS** | | | **SW8260B** | | Prep Date: **7/10/2013** | Analyst: **BG** |
| Benzene | ND | | 35 | µg/Kg-dry | 1 | 7/11/2013 12:33 PM |
| Ethylbenzene | ND | | 35 | µg/Kg-dry | 1 | 7/11/2013 12:33 PM |
| m,p-Xylene | ND | | 71 | µg/Kg-dry | 1 | 7/11/2013 12:33 PM |
| o-Xylene | ND | | 35 | µg/Kg-dry | 1 | 7/11/2013 12:33 PM |
| Toluene | ND | | 35 | µg/Kg-dry | 1 | 7/11/2013 12:33 PM |
| Xylenes, Total | ND | | 110 | µg/Kg-dry | 1 | 7/11/2013 12:33 PM |
| *Surr: 1,2-Dichloroethane-d4* | *99.2* | | *70-130* | *%REC* | 1 | 7/11/2013 12:33 PM |
| *Surr: 4-Bromofluorobenzene* | *98.0* | | *70-130* | *%REC* | 1 | 7/11/2013 12:33 PM |
| *Surr: Dibromofluoromethane* | *97.2* | | *70-130* | *%REC* | 1 | 7/11/2013 12:33 PM |
| *Surr: Toluene-d8* | *102* | | *70-130* | *%REC* | 1 | 7/11/2013 12:33 PM |
| **MOISTURE** | | | **A2540 G** | | | Analyst: **BD** |
| **Moisture** | **15** | | **0.050** | **% of sample** | 1 | 7/10/2013 11:15 AM |

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

# ALS Group USA, Corp

**Date:** *18-Jul-13*

**Client:** HRL Compliance Solutions
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13 **Work Order:** 1307303
**Sample ID:** Pit Bottom (8 ft depth) **Lab ID:** 1307303-04
**Collection Date:** 7/8/2013 03:50 PM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **DIESEL RANGE ORGANICS BY GC-FID** | | | **SW8015M** | | Prep Date: **7/11/2013** | Analyst: **CW** |
| **DRO (C10-C28)** | **35** | | **5.2** | **mg/Kg-dry** | 1 | 7/12/2013 02:05 AM |
| *Surr: 4-Terphenyl-d14* | *50.1* | | *39-115* | *%REC* | 1 | 7/12/2013 02:05 AM |
| **GASOLINE RANGE ORGANICS BY GC-FID** | | | **SW8015** | | | Analyst: **RD** |
| GRO (C6-C10) | ND | | 3.2 | mg/Kg-dry | 50 | 7/11/2013 04:55 AM |
| *Surr: Toluene-d8* | *104* | | *50-150* | *%REC* | 50 | 7/11/2013 04:55 AM |
| **MERCURY BY CVAA** | | | **SW7471** | | Prep Date: **7/10/2013** | Analyst: **LR** |
| **Mercury** | **0.018** | | **0.015** | **mg/Kg-dry** | 1 | 7/11/2013 04:04 PM |
| **METALS BY ICP-MS** | | | **SW6020A** | | Prep Date: **7/11/2013** | Analyst: **RH** |
| **Arsenic** | **2.4** | | **1.9** | **mg/Kg-dry** | 5 | 7/12/2013 07:42 AM |
| **Barium** | **570** | | **1.9** | **mg/Kg-dry** | 5 | 7/12/2013 07:42 AM |
| Cadmium | ND | | 0.77 | mg/Kg-dry | 5 | 7/12/2013 07:42 AM |
| **Chromium** | **37** | | **1.9** | **mg/Kg-dry** | 5 | 7/12/2013 07:42 AM |
| **Copper** | **23** | | **1.9** | **mg/Kg-dry** | 5 | 7/12/2013 07:42 AM |
| **Lead** | **19** | | **1.9** | **mg/Kg-dry** | 5 | 7/12/2013 07:42 AM |
| **Nickel** | **20** | | **1.9** | **mg/Kg-dry** | 5 | 7/12/2013 07:42 AM |
| Selenium | ND | | 1.9 | mg/Kg-dry | 5 | 7/12/2013 07:42 AM |
| Silver | ND | | 1.9 | mg/Kg-dry | 5 | 7/12/2013 07:42 AM |
| **Zinc** | **54** | | **3.9** | **mg/Kg-dry** | 5 | 7/12/2013 07:42 AM |
| **SEMI-VOLATILE ORGANIC COMPOUNDS** | | | **SW8270** | | Prep Date: **7/11/2013** | Analyst: **RM** |
| Acenaphthene | ND | | 19 | µg/Kg-dry | 1 | 7/12/2013 05:15 AM |
| Acenaphthylene | ND | | 37 | µg/Kg-dry | 1 | 7/12/2013 05:15 AM |
| Anthracene | ND | | 19 | µg/Kg-dry | 1 | 7/12/2013 05:15 AM |
| Benzo(a)anthracene | ND | | 21 | µg/Kg-dry | 1 | 7/12/2013 05:15 AM |
| Benzo(a)pyrene | ND | | 21 | µg/Kg-dry | 1 | 7/12/2013 05:15 AM |
| Benzo(b)fluoranthene | ND | | 22 | µg/Kg-dry | 1 | 7/12/2013 05:15 AM |
| Benzo(g,h,i)perylene | ND | | 35 | µg/Kg-dry | 1 | 7/12/2013 05:15 AM |
| Benzo(k)fluoranthene | ND | | 22 | µg/Kg-dry | 1 | 7/12/2013 05:15 AM |
| Chrysene | ND | | 19 | µg/Kg-dry | 1 | 7/12/2013 05:15 AM |
| Dibenzo(a,h)anthracene | ND | | 22 | µg/Kg-dry | 1 | 7/12/2013 05:15 AM |
| Fluoranthene | ND | | 19 | µg/Kg-dry | 1 | 7/12/2013 05:15 AM |
| Fluorene | ND | | 19 | µg/Kg-dry | 1 | 7/12/2013 05:15 AM |
| Indeno(1,2,3-cd)pyrene | ND | | 25 | µg/Kg-dry | 1 | 7/12/2013 05:15 AM |
| Naphthalene | ND | | 19 | µg/Kg-dry | 1 | 7/12/2013 05:15 AM |
| Pyrene | ND | | 19 | µg/Kg-dry | 1 | 7/12/2013 05:15 AM |
| *Surr: 2-Fluorobiphenyl* | *67.3* | | *12-100* | *%REC* | 1 | 7/12/2013 05:15 AM |
| *Surr: 4-Terphenyl-d14* | *82.2* | | *25-137* | *%REC* | 1 | 7/12/2013 05:15 AM |
| *Surr: Nitrobenzene-d5* | *70.8* | | *37-107* | *%REC* | 1 | 7/12/2013 05:15 AM |

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

# ALS Group USA, Corp

**Date:** *18-Jul-13*

**Client:** HRL Compliance Solutions
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13 **Work Order:** 1307303
**Sample ID:** Pit Bottom (8 ft depth) **Lab ID:** 1307303-04
**Collection Date:** 7/8/2013 03:50 PM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **VOLATILE ORGANIC COMPOUNDS** | | | **SW8260B** | | Prep Date: **7/10/2013** | Analyst: **RS** |
| Benzene | ND | | 38 | µg/Kg-dry | 1 | 7/11/2013 12:57 PM |
| Ethylbenzene | ND | | 38 | µg/Kg-dry | 1 | 7/11/2013 12:57 PM |
| m,p-Xylene | ND | | 77 | µg/Kg-dry | 1 | 7/11/2013 12:57 PM |
| o-Xylene | ND | | 38 | µg/Kg-dry | 1 | 7/11/2013 12:57 PM |
| Toluene | ND | | 38 | µg/Kg-dry | 1 | 7/11/2013 12:57 PM |
| Xylenes, Total | ND | | 120 | µg/Kg-dry | 1 | 7/11/2013 12:57 PM |
| *Surr: 1,2-Dichloroethane-d4* | *97.7* | | *70-130* | *%REC* | 1 | 7/11/2013 12:57 PM |
| *Surr: 4-Bromofluorobenzene* | *92.0* | | *70-130* | *%REC* | 1 | 7/11/2013 12:57 PM |
| *Surr: Dibromofluoromethane* | *91.0* | | *70-130* | *%REC* | 1 | 7/11/2013 12:57 PM |
| *Surr: Toluene-d8* | *95.7* | | *70-130* | *%REC* | 1 | 7/11/2013 12:57 PM |
| **CHROMIUM, TRIVALENT** | | | **CALCULATION** | | | Analyst: **MB** |
| **Chromium, Trivalent** | **37** | | **0.64** | **mg/Kg-dry** | 1 | 7/17/2013 09:50 AM |
| **CHROMIUM, HEXAVALENT** | | | **SW7196A** | | Prep Date: **7/12/2013** | Analyst: **MB** |
| Chromium, Hexavalent | ND | | 0.63 | mg/Kg-dry | 1 | 7/16/2013 11:30 AM |
| **MOISTURE** | | | **A2540 G** | | | Analyst: **BD** |
| **Moisture** | **22** | | **0.050** | **% of sample** | 1 | 7/10/2013 11:15 AM |
| **PH** | | | **SW9045D** | | | Analyst: **JB** |
| **pH** | **8.3** | | | **s.u.** | 1 | 7/10/2013 12:50 PM |

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

# ALS Group USA, Corp

**Date:** *18-Jul-13*

**Client:** HRL Compliance Solutions
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13 **Work Order:** 1307303
**Sample ID:** South Wall (surface) **Lab ID:** 1307303-05
**Collection Date:** 7/8/2013 04:05 PM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **DIESEL RANGE ORGANICS BY GC-FID** | | | **SW8015M** | | Prep Date: **7/11/2013** | Analyst: **CW** |
| **DRO (C10-C28)** | **26** | | **5.2** | **mg/Kg-dry** | 1 | 7/12/2013 02:35 AM |
| *Surr: 4-Terphenyl-d14* | *41.3* | | *39-115* | *%REC* | 1 | 7/12/2013 02:35 AM |
| **GASOLINE RANGE ORGANICS BY GC-FID** | | | **SW8015** | | | Analyst: **RD** |
| GRO (C6-C10) | ND | | 3.2 | mg/Kg-dry | 50 | 7/11/2013 05:20 AM |
| *Surr: Toluene-d8* | *101* | | *50-150* | *%REC* | 50 | 7/11/2013 05:20 AM |
| **SEMI-VOLATILE ORGANIC COMPOUNDS** | | | **SW8270** | | Prep Date: **7/11/2013** | Analyst: **RM** |
| Acenaphthene | ND | | 19 | µg/Kg-dry | 1 | 7/12/2013 05:34 AM |
| Acenaphthylene | ND | | 38 | µg/Kg-dry | 1 | 7/12/2013 05:34 AM |
| Anthracene | ND | | 19 | µg/Kg-dry | 1 | 7/12/2013 05:34 AM |
| Benzo(a)anthracene | ND | | 21 | µg/Kg-dry | 1 | 7/12/2013 05:34 AM |
| Benzo(a)pyrene | ND | | 21 | µg/Kg-dry | 1 | 7/12/2013 05:34 AM |
| Benzo(b)fluoranthene | ND | | 23 | µg/Kg-dry | 1 | 7/12/2013 05:34 AM |
| Benzo(g,h,i)perylene | ND | | 35 | µg/Kg-dry | 1 | 7/12/2013 05:34 AM |
| Benzo(k)fluoranthene | ND | | 23 | µg/Kg-dry | 1 | 7/12/2013 05:34 AM |
| Chrysene | ND | | 19 | µg/Kg-dry | 1 | 7/12/2013 05:34 AM |
| Dibenzo(a,h)anthracene | ND | | 23 | µg/Kg-dry | 1 | 7/12/2013 05:34 AM |
| Fluoranthene | ND | | 19 | µg/Kg-dry | 1 | 7/12/2013 05:34 AM |
| Fluorene | ND | | 19 | µg/Kg-dry | 1 | 7/12/2013 05:34 AM |
| Indeno(1,2,3-cd)pyrene | ND | | 25 | µg/Kg-dry | 1 | 7/12/2013 05:34 AM |
| Naphthalene | ND | | 19 | µg/Kg-dry | 1 | 7/12/2013 05:34 AM |
| Pyrene | ND | | 19 | µg/Kg-dry | 1 | 7/12/2013 05:34 AM |
| *Surr: 2-Fluorobiphenyl* | *56.7* | | *12-100* | *%REC* | 1 | 7/12/2013 05:34 AM |
| *Surr: 4-Terphenyl-d14* | *72.7* | | *25-137* | *%REC* | 1 | 7/12/2013 05:34 AM |
| *Surr: Nitrobenzene-d5* | *59.8* | | *37-107* | *%REC* | 1 | 7/12/2013 05:34 AM |
| **VOLATILE ORGANIC COMPOUNDS** | | | **SW8260B** | | Prep Date: **7/10/2013** | Analyst: **RS** |
| Benzene | ND | | 39 | µg/Kg-dry | 1 | 7/11/2013 01:20 PM |
| Ethylbenzene | ND | | 39 | µg/Kg-dry | 1 | 7/11/2013 01:20 PM |
| m,p-Xylene | ND | | 77 | µg/Kg-dry | 1 | 7/11/2013 01:20 PM |
| o-Xylene | ND | | 39 | µg/Kg-dry | 1 | 7/11/2013 01:20 PM |
| Toluene | ND | | 39 | µg/Kg-dry | 1 | 7/11/2013 01:20 PM |
| Xylenes, Total | ND | | 120 | µg/Kg-dry | 1 | 7/11/2013 01:20 PM |
| *Surr: 1,2-Dichloroethane-d4* | *96.7* | | *70-130* | *%REC* | 1 | 7/11/2013 01:20 PM |
| *Surr: 4-Bromofluorobenzene* | *90.8* | | *70-130* | *%REC* | 1 | 7/11/2013 01:20 PM |
| *Surr: Dibromofluoromethane* | *89.8* | | *70-130* | *%REC* | 1 | 7/11/2013 01:20 PM |
| *Surr: Toluene-d8* | *96.8* | | *70-130* | *%REC* | 1 | 7/11/2013 01:20 PM |
| **MOISTURE** | | | **A2540 G** | | | Analyst: **BD** |
| **Moisture** | **22** | | **0.050** | **% of sample** | 1 | 7/10/2013 11:15 AM |

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

# ALS Group USA, Corp

**Date:** *18-Jul-13*

**Client:** HRL Compliance Solutions
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13 **Work Order:** 1307303
**Sample ID:** BKGD 1 **Lab ID:** 1307303-06
**Collection Date:** 7/8/2013 04:15 PM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **METALS BY ICP-MS** | | | **SW6020A** | | Prep Date: **7/11/2013** | Analyst: **RH** |
| **Arsenic** | **4.7** | | **2.2** | **mg/Kg-dry** | 5 | 7/12/2013 07:48 AM |
| **MOISTURE** | | | **A2540 G** | | | Analyst: **BD** |
| **Moisture** | **19** | | **0.050** | **% of sample** | 1 | 7/10/2013 11:15 AM |

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

# ALS Group USA, Corp

**Date:** *18-Jul-13*

**Client:** HRL Compliance Solutions
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13 **Work Order:** 1307303
**Sample ID:** BKGD 2 **Lab ID:** 1307303-07
**Collection Date:** 7/8/2013 04:35 PM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **METALS BY ICP-MS** | | | **SW6020A** | | Prep Date: **7/11/2013** | Analyst: **RH** |
| **Arsenic** | **3.7** | | **2.1** | **mg/Kg-dry** | 5 | 7/12/2013 07:54 AM |
| **MOISTURE** | | | **A2540 G** | | | Analyst: **BD** |
| **Moisture** | **13** | | **0.050** | **% of sample** | 1 | 7/10/2013 11:15 AM |

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

# ALS Group USA, Corp

**Date:** *18-Jul-13*

**Client:** HRL Compliance Solutions
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13 **Work Order:** 1307303
**Sample ID:** BKGD 3 **Lab ID:** 1307303-08
**Collection Date:** 7/8/2013 04:55 PM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **METALS BY ICP-MS** | | | **SW6020A** | | Prep Date: **7/11/2013** | Analyst: **RH** |
| **Arsenic** | **11** | | **2.3** | **mg/Kg-dry** | 5 | 7/12/2013 08:00 AM |
| **SOLUBLE CATIONS FOR SAR** | | | **SW6020A** | | Prep Date: **7/12/2013** | Analyst: **RH** |
| **Calcium** | **130** | | **10** | **mg/L** | 20 | 7/15/2013 04:47 PM |
| **Magnesium** | **28** | | **4.0** | **mg/L** | 20 | 7/15/2013 04:47 PM |
| Sodium | ND | | 4.0 | mg/L | 20 | 7/15/2013 04:47 PM |
| **SODIUM ADSORPTION RATIO** | | | **USDA H60 METHO** | | Prep Date: **7/12/2013** | Analyst: **RH** |
| **Sodium Adsorption Ratio** | **0.062** | | **0.010** | **none** | 1 | 7/15/2013 |
| **ELECTRICAL CONDUCTIVITY (SAR)** | | | **USDA H60 METHO** | | Prep Date: **7/12/2013** | Analyst: **JB** |
| **Electrical Conductivity @ Saturation** | **0.91** | | **0.025** | **mmhos/cm @25** | 5 | 7/16/2013 03:00 PM |
| **MOISTURE** | | | **A2540 G** | | | Analyst: **BD** |
| **Moisture** | **21** | | **0.050** | **% of sample** | 1 | 7/10/2013 11:15 AM |
| **PH** | | | **SW9045D** | | | Analyst: **JB** |
| **pH** | **6.6** | | | **s.u.** | 1 | 7/10/2013 12:50 PM |

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

ALS Group USA, Corp

Date: 18-Jul-13

**Client:** HRL Compliance Solutions

# QC BATCH REPORT

**Work Order:** 1307303

**Project:** WPX TR 41-35-597 Pit Closure 7/8/13

Batch ID: **49629** Instrument ID **GC8** Method: **SW8015M**

**MBLK** Sample ID: **DBLKS1-49629-49629** Units: **mg/Kg** Analysis Date: **7/11/2013 03:03 PM**

Client ID: Run ID: **GC8_130711B** SeqNo: **2377067** Prep Date: **7/11/2013** DF: **1**

| 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* | *0.9393* | 0 | *1.667* | 0 | *56.4* | *39-115* | 0 | | | |

**LCS** Sample ID: **DLCSS1-49629-49629** Units: **mg/Kg** Analysis Date: **7/11/2013 03:33 PM**

Client ID: Run ID: **GC8_130711B** SeqNo: **2377068** Prep Date: **7/11/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| DRO (C10-C28) | 124.6 | 4.2 | 166.7 | 0 | 74.8 | 49-124 | 0 | | | |
| *Surr: 4-Terphenyl-d14* | *0.74* | 0 | *1.667* | 0 | *44.4* | *39-115* | 0 | | | |

**MS** Sample ID: **1307315-01B MS** Units: **mg/Kg** Analysis Date: **7/11/2013 04:03 PM**

Client ID: Run ID: **GC8_130711B** SeqNo: **2377069** Prep Date: **7/11/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| DRO (C10-C28) | 385.5 | 12 | 497.2 | 0 | 77.5 | 49-130 | 0 | | | |
| *Surr: 4-Terphenyl-d14* | *2.349* | 0 | *4.972* | 0 | *47.2* | *39-115* | 0 | | | |

**MSD** Sample ID: **1307315-01B MSD** Units: **mg/Kg** Analysis Date: **7/11/2013 04:33 PM**

Client ID: Run ID: **GC8_130711B** SeqNo: **2377070** Prep Date: **7/11/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| DRO (C10-C28) | 366.6 | 11 | 458.5 | 0 | 80 | 49-130 | 385.5 | 5.03 | 30 | |
| *Surr: 4-Terphenyl-d14* | *2.204* | 0 | *4.585* | 0 | *48.1* | *39-115* | 2.349 | *6.37* | *30* | |

**The following samples were analyzed in this batch:** 1307303-01B, 1307303-02B, 1307303-03B, 1307303-04B, 1307303-05B

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

**Client:** HRL Compliance Solutions
**Work Order:** 1307303
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13

# QC BATCH REPORT

Batch ID: **R123450** Instrument ID **GC10** Method: **SW8015**

**MBLK** Sample ID: **GBLK2-130710-R123450** Units: **µg/L** Analysis Date: **7/10/2013 11:14 PM**
Client ID: Run ID: **GC10_130710B** SeqNo: **2375481** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| GRO (C6-C10) | ND | 200 | | | | | | | | |
| *Surr: Toluene-d8* | *108.1* | 0 | *100* | 0 | *108* | *70-130* | 0 | | | |

**LCS** Sample ID: **GLCS2-130710-R123450** Units: **µg/L** Analysis Date: **7/10/2013 10:50 PM**
Client ID: Run ID: **GC10_130710B** SeqNo: **2375480** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| GRO (C6-C10) | 12940 | 200 | 10000 | 0 | 129 | 70-130 | 0 | | | |
| *Surr: Toluene-d8* | *97.42* | 0 | *100* | 0 | *97.4* | *70-130* | 0 | | | |

**MS** Sample ID: **1307294-04A MS** Units: **µg/L** Analysis Date: **7/11/2013 06:09 AM**
Client ID: Run ID: **GC10_130710B** SeqNo: **2375489** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| GRO (C6-C10) | 7718 | 200 | 10000 | 0 | 77.2 | 70-130 | 0 | | | |
| *Surr: Toluene-d8* | *107.9* | 0 | *100* | 0 | *108* | *70-130* | 0 | | | |

**MSD** Sample ID: **1307294-04A MSD** Units: **µg/L** Analysis Date: **7/11/2013 06:33 AM**
Client ID: Run ID: **GC10_130710B** SeqNo: **2375491** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| GRO (C6-C10) | 7563 | 200 | 10000 | 0 | 75.6 | 70-130 | 7718 | 2.02 | 30 | |
| *Surr: Toluene-d8* | *107.7* | 0 | *100* | 0 | *108* | *70-130* | 107.9 | *0.167* | *30* | |

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

| | | |
|---|---|---|
| 1307303-01A | 1307303-02A | 1307303-03A |
| 1307303-04A | 1307303-05A | |

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

**Client:** HRL Compliance Solutions
**Work Order:** 1307303
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13

# QC BATCH REPORT

Batch ID: **49609** Instrument ID **HG1** Method: **SW7471**

**MBLK** Sample ID: **MBLK-49609-49609** Units: **mg/Kg** Analysis Date: **7/10/2013 03:29 PM**
Client ID: Run ID: **HG1_130710A** SeqNo: **2374921** Prep Date: **7/10/2013** 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-49609-49609** Units: **mg/Kg** Analysis Date: **7/10/2013 03:31 PM**
Client ID: Run ID: **HG1_130710A** SeqNo: **2374922** Prep Date: **7/10/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.1644 | 0.020 | 0.1665 | 0 | 98.7 | 80-120 | 0 | | | |

**MS** Sample ID: **1307069-20BMS** Units: **mg/Kg** Analysis Date: **7/10/2013 03:37 PM**
Client ID: Run ID: **HG1_130710A** SeqNo: **2374925** Prep Date: **7/10/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.1354 | 0.015 | 0.1246 | 0.009812 | 101 | 75-125 | 0 | | | |

**MSD** Sample ID: **1307069-20BMSD** Units: **mg/Kg** Analysis Date: **7/10/2013 03:39 PM**
Client ID: Run ID: **HG1_130710A** SeqNo: **2374926** Prep Date: **7/10/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.1323 | 0.015 | 0.1214 | 0.009812 | 101 | 75-125 | 0.1354 | 2.31 | 35 | |

**The following samples were analyzed in this batch:** 1307303-04B

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

**Client:** HRL Compliance Solutions
**Work Order:** 1307303
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13

# QC BATCH REPORT

Batch ID: **49618** Instrument ID **SAR** Method: **USDA H60 Method**

**DUP** Sample ID: **1307301-03BDUP** Units: **none** Analysis Date: **7/15/2013**
Client ID: Run ID: **SAR_130715A** SeqNo: **2379677** Prep Date: **7/12/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Sodium Adsorption Ratio | 10.35 | 0.010 | 0 | 0 | 0 | | 0 | | | |

**The following samples were analyzed in this batch:** 1307303-08B

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

**Client:** HRL Compliance Solutions
**Work Order:** 1307303
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13

# QC BATCH REPORT

Batch ID: **49642** Instrument ID **ICPMS1** Method: **SW6020A**

**MBLK** Sample ID: **MBLK-49642-49642** Units: **mg/Kg** Analysis Date: **7/12/2013 02:01 AM**
Client ID: Run ID: **ICPMS1_130711A** SeqNo: **2376843** Prep Date: **7/11/2013** 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 | 0.00767 | 0.25 | | | | | | | | J |
| Cadmium | ND | 0.10 | | | | | | | | |
| Copper | ND | 0.25 | | | | | | | | |
| Lead | ND | 0.25 | | | | | | | | |
| Nickel | ND | 0.25 | | | | | | | | |
| Selenium | ND | 0.25 | | | | | | | | |
| Silver | ND | 0.25 | | | | | | | | |
| Zinc | 0.05935 | 0.50 | | | | | | | | J |

**MBLK** Sample ID: **MBLK-49642-49642** Units: **mg/Kg** Analysis Date: **7/12/2013 08:33 AM**
Client ID: Run ID: **ICPMS1_130711A** SeqNo: **2376899** Prep Date: **7/11/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chromium | ND | 0.25 | | | | | | | | |

**LCS** Sample ID: **LCS-49642-49642** Units: **mg/Kg** Analysis Date: **7/12/2013 02:07 AM**
Client ID: Run ID: **ICPMS1_130711A** SeqNo: **2376844** Prep Date: **7/11/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 4.594 | 0.25 | 5 | 0 | 91.9 | 80-120 | 0 | | | |
| Barium | 4.839 | 0.25 | 5 | 0 | 96.8 | 80-120 | 0 | | | |
| Cadmium | 4.74 | 0.10 | 5 | 0 | 94.8 | 80-120 | 0 | | | |
| Copper | 4.864 | 0.25 | 5 | 0 | 97.3 | 80-120 | 0 | | | |
| Lead | 5.12 | 0.25 | 5 | 0 | 102 | 80-120 | 0 | | | |
| Nickel | 4.87 | 0.25 | 5 | 0 | 97.4 | 80-120 | 0 | | | |
| Selenium | 4.186 | 0.25 | 5 | 0 | 83.7 | 80-120 | 0 | | | |
| Silver | 4.89 | 0.25 | 5 | 0 | 97.8 | 80-120 | 0 | | | |
| Zinc | 4.542 | 0.50 | 5 | 0 | 90.8 | 80-120 | 0 | | | |

**LCS** Sample ID: **LCS-49642-49642** Units: **mg/Kg** Analysis Date: **7/12/2013 08:40 AM**
Client ID: Run ID: **ICPMS1_130711A** SeqNo: **2376900** Prep Date: **7/11/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chromium | 4.99 | 0.25 | 5 | 0 | 99.8 | 80-120 | 0 | | | |

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

**Client:** HRL Compliance Solutions
**Work Order:** 1307303
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13

# QC BATCH REPORT

Batch ID: **49642** Instrument ID **ICPMS1** Method: **SW6020A**

**MS** Sample ID: **1307301-03AMS** Units: **mg/Kg** Analysis Date: **7/12/2013 05:39 AM**
Client ID: Run ID: **ICPMS1_130711A** SeqNo: **2376877** Prep Date: **7/11/2013** DF: **5**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 7.968 | 1.9 | 7.669 | 0.1772 | 102 | 75-125 | 0 | | | |
| Chromium | 9.429 | 1.9 | 7.669 | 2.303 | 92.9 | 75-125 | 0 | | | |
| Copper | 29.74 | 1.9 | 7.669 | 20.33 | 123 | 75-125 | 0 | | | |
| Lead | 15.17 | 1.9 | 7.669 | 6.423 | 114 | 75-125 | 0 | | | |
| Nickel | 9.494 | 1.9 | 7.669 | 2.358 | 93.1 | 75-125 | 0 | | | |
| Selenium | 7.389 | 1.9 | 7.669 | 0.9162 | 84.4 | 75-125 | 0 | | | |
| Silver | 7.281 | 1.9 | 7.669 | 0.04901 | 94.3 | 75-125 | 0 | | | |
| Zinc | 54.98 | 3.8 | 7.669 | 49.77 | 68 | 75-125 | 0 | | | SO |

**MS** Sample ID: **1307301-03AMS** Units: **mg/Kg** Analysis Date: **7/12/2013 08:52 AM**
Client ID: Run ID: **ICPMS1_130711A** SeqNo: **2376902** Prep Date: **7/11/2013** DF: **5**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Barium | 84.24 | 1.9 | 7.669 | 81.45 | 36.4 | 75-125 | 0 | | | SO |
| Cadmium | 8.113 | 0.77 | 7.669 | 0.3531 | 101 | 75-125 | 0 | | | |

**MSD** Sample ID: **1307301-03AMSD** Units: **mg/Kg** Analysis Date: **7/12/2013 05:45 AM**
Client ID: Run ID: **ICPMS1_130711A** SeqNo: **2376878** Prep Date: **7/11/2013** DF: **5**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 7.208 | 1.9 | 7.496 | 0.1772 | 93.8 | 75-125 | 8.041 | 10.9 | 25 | |
| Chromium | 9.404 | 1.9 | 7.496 | 2.303 | 94.7 | 75-125 | 9.893 | 5.06 | 25 | |
| Copper | 27.31 | 1.9 | 7.496 | 20.33 | 93 | 75-125 | 30.77 | 11.9 | 25 | |
| Lead | 14.58 | 1.9 | 7.496 | 6.423 | 109 | 75-125 | 14.9 | 2.2 | 25 | |
| Nickel | 9.648 | 1.9 | 7.496 | 2.358 | 97.2 | 75-125 | 9.95 | 3.09 | 25 | |
| Selenium | 7.5 | 1.9 | 7.496 | 0.9162 | 87.8 | 75-125 | 7.926 | 5.52 | 25 | |
| Silver | 7.234 | 1.9 | 7.496 | 0.04901 | 95.8 | 75-125 | 7.427 | 2.64 | 25 | |
| Zinc | 56.45 | 3.7 | 7.496 | 49.77 | 89 | 75-125 | 56.79 | 0.601 | 25 | O |

**MSD** Sample ID: **1307301-03AMSD** Units: **mg/Kg** Analysis Date: **7/12/2013 08:58 AM**
Client ID: Run ID: **ICPMS1_130711A** SeqNo: **2376903** Prep Date: **7/11/2013** DF: **5**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Barium | 81.15 | 1.9 | 7.496 | 81.45 | -4.03 | 75-125 | 84.24 | 3.74 | 25 | SO |
| Cadmium | 7.931 | 0.75 | 7.496 | 0.3531 | 101 | 75-125 | 8.113 | 2.27 | 25 | |

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

1307303-04B 1307303-06A 1307303-07A
1307303-08A

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

**Client:** HRL Compliance Solutions
**Work Order:** 1307303
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13

# QC BATCH REPORT

Batch ID: **49628** Instrument ID **SVMS6** Method: **SW8270**

**MBLK** Sample ID: **SBLKS1-49628-49628** Units: **µg/Kg** Analysis Date: **7/11/2013 08:11 PM**
Client ID: Run ID: **SVMS6_130711A** SeqNo: **2376964** Prep Date: **7/11/2013** DF: **1**

| 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* | *1121* | 0 | *1667* | 0 | *67.2* | *12-100* | 0 | | | |
| *Surr: 4-Terphenyl-d14* | *1601* | 0 | *1667* | 0 | *96.1* | *25-137* | 0 | | | |
| *Surr: Nitrobenzene-d5* | *1121* | 0 | *1667* | 0 | *67.2* | *37-107* | 0 | | | |

**MBLK** Sample ID: **SBLKS1-49628-49628** Units: **µg/Kg** Analysis Date: **7/15/2013 07:58 PM**
Client ID: Run ID: **SVMS4_130715A** SeqNo: **2379883** Prep Date: **7/11/2013** DF: **1**

| 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* | *1171* | 0 | *1667* | 0 | *70.3* | *12-100* | 0 | | | |
| *Surr: 4-Terphenyl-d14* | *1627* | 0 | *1667* | 0 | *97.6* | *25-137* | 0 | | | |
| *Surr: Nitrobenzene-d5* | *1187* | 0 | *1667* | 0 | *71.2* | *37-107* | 0 | | | |

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

# QC BATCH REPORT

Batch ID: **49628** Instrument ID **SVMS6** Method: **SW8270**

**LCS** Sample ID: **SLCSS1-49628-49628** Units: **µg/Kg** Analysis Date: **7/11/2013 08:31 PM**
Client ID: Run ID: **SVMS6_130711A** SeqNo: **2376965** Prep Date: **7/11/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 486.3 | 30 | 666.7 | 0 | 72.9 | 45-110 | 0 | | | |
| Acenaphthylene | 489.7 | 30 | 666.7 | 0 | 73.4 | 45-105 | 0 | | | |
| Anthracene | 532.7 | 30 | 666.7 | 0 | 79.9 | 55-105 | 0 | | | |
| Benzo(a)anthracene | 546.7 | 30 | 666.7 | 0 | 82 | 50-110 | 0 | | | |
| Benzo(a)pyrene | 545.3 | 30 | 666.7 | 0 | 81.8 | 50-110 | 0 | | | |
| Benzo(b)fluoranthene | 549 | 30 | 666.7 | 0 | 82.3 | 45-115 | 0 | | | |
| Benzo(g,h,i)perylene | 510.3 | 30 | 666.7 | 0 | 76.5 | 40-125 | 0 | | | |
| Benzo(k)fluoranthene | 553.7 | 30 | 666.7 | 0 | 83 | 45-115 | 0 | | | |
| Chrysene | 535.7 | 30 | 666.7 | 0 | 80.3 | 55-110 | 0 | | | |
| Dibenzo(a,h)anthracene | 516.7 | 30 | 666.7 | 0 | 77.5 | 40-125 | 0 | | | |
| Fluoranthene | 616 | 30 | 666.7 | 0 | 92.4 | 55-115 | 0 | | | |
| Fluorene | 528.3 | 30 | 666.7 | 0 | 79.2 | 50-110 | 0 | | | |
| Indeno(1,2,3-cd)pyrene | 517.3 | 30 | 666.7 | 0 | 77.6 | 40-120 | 0 | | | |
| Naphthalene | 474.7 | 30 | 666.7 | 0 | 71.2 | 40-105 | 0 | | | |
| Pyrene | 623 | 30 | 666.7 | 0 | 93.4 | 45-125 | 0 | | | |
| *Surr: 2-Fluorobiphenyl* | *1184* | 0 | *1667* | 0 | *71* | *12-100* | 0 | | | |
| *Surr: 4-Terphenyl-d14* | *1580* | 0 | *1667* | 0 | *94.8* | *25-137* | 0 | | | |
| *Surr: Nitrobenzene-d5* | *1244* | 0 | *1667* | 0 | *74.7* | *37-107* | 0 | | | |

**LCS** Sample ID: **SLCSS1-49628-49628** Units: **µg/Kg** Analysis Date: **7/15/2013 06:23 PM**
Client ID: Run ID: **SVMS4_130715A** SeqNo: **2379877** Prep Date: **7/11/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 544.7 | 30 | 666.7 | 0 | 81.7 | 45-110 | 0 | | | |
| Acenaphthylene | 530 | 30 | 666.7 | 0 | 79.5 | 45-105 | 0 | | | |
| Anthracene | 568 | 30 | 666.7 | 0 | 85.2 | 55-105 | 0 | | | |
| Benzo(a)anthracene | 506 | 30 | 666.7 | 0 | 75.9 | 50-110 | 0 | | | |
| Benzo(a)pyrene | 592.3 | 30 | 666.7 | 0 | 88.8 | 50-110 | 0 | | | |
| Benzo(b)fluoranthene | 561 | 30 | 666.7 | 0 | 84.1 | 45-115 | 0 | | | |
| Benzo(g,h,i)perylene | 651 | 30 | 666.7 | 0 | 97.6 | 40-125 | 0 | | | |
| Benzo(k)fluoranthene | 665 | 30 | 666.7 | 0 | 99.7 | 45-115 | 0 | | | |
| Chrysene | 595.3 | 30 | 666.7 | 0 | 89.3 | 55-110 | 0 | | | |
| Dibenzo(a,h)anthracene | 552.3 | 30 | 666.7 | 0 | 82.8 | 40-125 | 0 | | | |
| Fluoranthene | 591.3 | 30 | 666.7 | 0 | 88.7 | 55-115 | 0 | | | |
| Fluorene | 519.7 | 30 | 666.7 | 0 | 77.9 | 50-110 | 0 | | | |
| Indeno(1,2,3-cd)pyrene | 570 | 30 | 666.7 | 0 | 85.5 | 40-120 | 0 | | | |
| Naphthalene | 501.7 | 30 | 666.7 | 0 | 75.2 | 40-105 | 0 | | | |
| Pyrene | 616 | 30 | 666.7 | 0 | 92.4 | 45-125 | 0 | | | |
| *Surr: 2-Fluorobiphenyl* | *1226* | 0 | *1667* | 0 | *73.6* | *12-100* | 0 | | | |
| *Surr: 4-Terphenyl-d14* | *1657* | 0 | *1667* | 0 | *99.4* | *25-137* | 0 | | | |
| *Surr: Nitrobenzene-d5* | *1252* | 0 | *1667* | 0 | *75.1* | *37-107* | 0 | | | |

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

**Client:** HRL Compliance Solutions
**Work Order:** 1307303
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13

# QC BATCH REPORT

Batch ID: **49628** Instrument ID **SVMS6** Method: **SW8270**

**MS** Sample ID: **1307315-01B MS** Units: **µg/Kg** Analysis Date: **7/11/2013 09:56 PM**
Client ID: Run ID: **SVMS6_130711A** SeqNo: **2376968** Prep Date: **7/11/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 1373 | 86 | 1903 | 0 | 72.1 | 45-110 | 0 | | | |
| Acenaphthylene | 1413 | 86 | 1903 | 0 | 74.3 | 45-105 | 0 | | | |
| Anthracene | 1512 | 86 | 1903 | 0 | 79.5 | 55-105 | 0 | | | |
| Benzo(a)anthracene | 1566 | 86 | 1903 | 0 | 82.3 | 50-110 | 0 | | | |
| Benzo(a)pyrene | 1543 | 86 | 1903 | 0 | 81.1 | 50-110 | 0 | | | |
| Benzo(b)fluoranthene | 1560 | 86 | 1903 | 0 | 82 | 45-115 | 0 | | | |
| Benzo(g,h,i)perylene | 1562 | 86 | 1903 | 0 | 82.1 | 40-125 | 0 | | | |
| Benzo(k)fluoranthene | 1517 | 86 | 1903 | 0 | 79.7 | 45-115 | 0 | | | |
| Chrysene | 1530 | 86 | 1903 | 0 | 80.4 | 55-110 | 0 | | | |
| Dibenzo(a,h)anthracene | 1562 | 86 | 1903 | 0 | 82.1 | 40-125 | 0 | | | |
| Fluoranthene | 1835 | 86 | 1903 | 0 | 96.4 | 55-115 | 0 | | | |
| Fluorene | 1548 | 86 | 1903 | 0 | 81.3 | 50-110 | 0 | | | |
| Indeno(1,2,3-cd)pyrene | 1589 | 86 | 1903 | 0 | 83.5 | 40-120 | 0 | | | |
| Naphthalene | 1394 | 86 | 1903 | 0 | 73.3 | 40-105 | 0 | | | |
| Pyrene | 1689 | 86 | 1903 | 0 | 88.8 | 45-125 | 0 | | | |
| *Surr: 2-Fluorobiphenyl* | *3338* | 0 | *4756* | 0 | *70.2* | *12-100* | 0 | | | |
| *Surr: 4-Terphenyl-d14* | *4235* | 0 | *4756* | 0 | *89* | *25-137* | 0 | | | |
| *Surr: Nitrobenzene-d5* | *3555* | 0 | *4756* | 0 | *74.7* | *37-107* | 0 | | | |

**MS** Sample ID: **1307315-01B MS** Units: **µg/Kg** Analysis Date: **7/15/2013 06:54 PM**
Client ID: Run ID: **SVMS4_130715A** SeqNo: **2379879** Prep Date: **7/11/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 1528 | 86 | 1903 | 0 | 80.3 | 45-110 | 0 | | | |
| Acenaphthylene | 1550 | 86 | 1903 | 0 | 81.4 | 45-105 | 0 | | | |
| Anthracene | 1627 | 86 | 1903 | 0 | 85.5 | 55-105 | 0 | | | |
| Benzo(a)anthracene | 1562 | 86 | 1903 | 0 | 82.1 | 50-110 | 0 | | | |
| Benzo(a)pyrene | 1675 | 86 | 1903 | 0 | 88 | 50-110 | 0 | | | |
| Benzo(b)fluoranthene | 1607 | 86 | 1903 | 0 | 84.4 | 45-115 | 0 | | | |
| Benzo(g,h,i)perylene | 1903 | 86 | 1903 | 0 | 100 | 40-125 | 0 | | | |
| Benzo(k)fluoranthene | 1836 | 86 | 1903 | 0 | 96.5 | 45-115 | 0 | | | |
| Chrysene | 1663 | 86 | 1903 | 0 | 87.4 | 55-110 | 0 | | | |
| Dibenzo(a,h)anthracene | 1582 | 86 | 1903 | 0 | 83.1 | 40-125 | 0 | | | |
| Fluoranthene | 1667 | 86 | 1903 | 0 | 87.6 | 55-115 | 0 | | | |
| Fluorene | 1529 | 86 | 1903 | 0 | 80.3 | 50-110 | 0 | | | |
| Indeno(1,2,3-cd)pyrene | 1642 | 86 | 1903 | 0 | 86.3 | 40-120 | 0 | | | |
| Naphthalene | 1478 | 86 | 1903 | 0 | 77.7 | 40-105 | 0 | | | |
| Pyrene | 1712 | 86 | 1903 | 0 | 90 | 45-125 | 0 | | | |
| *Surr: 2-Fluorobiphenyl* | *3516* | 0 | *4756* | 0 | *73.9* | *12-100* | 0 | | | |
| *Surr: 4-Terphenyl-d14* | *4541* | 0 | *4756* | 0 | *95.5* | *25-137* | 0 | | | |
| *Surr: Nitrobenzene-d5* | *3620* | 0 | *4756* | 0 | *76.1* | *37-107* | 0 | | | |

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

**Client:** HRL Compliance Solutions
**Work Order:** 1307303
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13

# QC BATCH REPORT

Batch ID: **49628** Instrument ID **SVMS6** Method: **SW8270**

**MSD** Sample ID: **1307315-01B MSD** Units: **µg/Kg** Analysis Date: **7/11/2013 10:15 PM**
Client ID: Run ID: **SVMS6_130711A** SeqNo: **2376969** Prep Date: **7/11/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 1282 | 82 | 1827 | 0 | 70.2 | 45-110 | 1373 | 6.79 | 30 | |
| Acenaphthylene | 1324 | 82 | 1827 | 0 | 72.5 | 45-105 | 1413 | 6.5 | 30 | |
| Anthracene | 1416 | 82 | 1827 | 0 | 77.5 | 55-105 | 1512 | 6.6 | 30 | |
| Benzo(a)anthracene | 1481 | 82 | 1827 | 0 | 81 | 50-110 | 1566 | 5.58 | 30 | |
| Benzo(a)pyrene | 1475 | 82 | 1827 | 0 | 80.7 | 50-110 | 1543 | 4.49 | 30 | |
| Benzo(b)fluoranthene | 1457 | 82 | 1827 | 0 | 79.7 | 45-115 | 1560 | 6.83 | 30 | |
| Benzo(g,h,i)perylene | 1435 | 82 | 1827 | 0 | 78.5 | 40-125 | 1562 | 8.47 | 30 | |
| Benzo(k)fluoranthene | 1464 | 82 | 1827 | 0 | 80.1 | 45-115 | 1517 | 3.55 | 30 | |
| Chrysene | 1422 | 82 | 1827 | 0 | 77.8 | 55-110 | 1530 | 7.27 | 30 | |
| Dibenzo(a,h)anthracene | 1452 | 82 | 1827 | 0 | 79.5 | 40-125 | 1562 | 7.27 | 30 | |
| Fluoranthene | 1687 | 82 | 1827 | 0 | 92.3 | 55-115 | 1835 | 8.39 | 30 | |
| Fluorene | 1449 | 82 | 1827 | 0 | 79.3 | 50-110 | 1548 | 6.6 | 30 | |
| Indeno(1,2,3-cd)pyrene | 1472 | 82 | 1827 | 0 | 80.5 | 40-120 | 1589 | 7.71 | 30 | |
| Naphthalene | 1290 | 82 | 1827 | 0 | 70.6 | 40-105 | 1394 | 7.8 | 30 | |
| Pyrene | 1612 | 82 | 1827 | 0 | 88.2 | 45-125 | 1689 | 4.67 | 30 | |
| *Surr: 2-Fluorobiphenyl* | *3149* | 0 | *4567* | 0 | *68.9* | *12-100* | 3338 | *5.84* | *40* | |
| *Surr: 4-Terphenyl-d14* | *4040* | 0 | *4567* | 0 | *88.5* | *25-137* | 4235 | *4.71* | *40* | |
| *Surr: Nitrobenzene-d5* | *3327* | 0 | *4567* | 0 | *72.8* | *37-107* | 3555 | *6.63* | *40* | |

**MSD** Sample ID: **1307315-01B MSD** Units: **µg/Kg** Analysis Date: **7/15/2013 07:26 PM**
Client ID: Run ID: **SVMS4_130715A** SeqNo: **2379881** Prep Date: **7/11/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 1408 | 82 | 1827 | 0 | 77 | 45-110 | 1528 | 8.18 | 30 | |
| Acenaphthylene | 1424 | 82 | 1827 | 0 | 77.9 | 45-105 | 1550 | 8.44 | 30 | |
| Anthracene | 1495 | 82 | 1827 | 0 | 81.8 | 55-105 | 1627 | 8.41 | 30 | |
| Benzo(a)anthracene | 1514 | 82 | 1827 | 0 | 82.9 | 50-110 | 1562 | 3.08 | 30 | |
| Benzo(a)pyrene | 1563 | 82 | 1827 | 0 | 85.5 | 50-110 | 1675 | 6.93 | 30 | |
| Benzo(b)fluoranthene | 1506 | 82 | 1827 | 0 | 82.4 | 45-115 | 1607 | 6.45 | 30 | |
| Benzo(g,h,i)perylene | 1758 | 82 | 1827 | 0 | 96.2 | 40-125 | 1903 | 7.92 | 30 | |
| Benzo(k)fluoranthene | 1696 | 82 | 1827 | 0 | 92.8 | 45-115 | 1836 | 7.91 | 30 | |
| Chrysene | 1551 | 82 | 1827 | 0 | 84.9 | 55-110 | 1663 | 6.95 | 30 | |
| Dibenzo(a,h)anthracene | 1493 | 82 | 1827 | 0 | 81.7 | 40-125 | 1582 | 5.81 | 30 | |
| Fluoranthene | 1550 | 82 | 1827 | 0 | 84.8 | 55-115 | 1667 | 7.3 | 30 | |
| Fluorene | 1407 | 82 | 1827 | 0 | 77 | 50-110 | 1529 | 8.31 | 30 | |
| Indeno(1,2,3-cd)pyrene | 1545 | 82 | 1827 | 0 | 84.5 | 40-120 | 1642 | 6.1 | 30 | |
| Naphthalene | 1342 | 82 | 1827 | 0 | 73.4 | 40-105 | 1478 | 9.67 | 30 | |
| Pyrene | 1582 | 82 | 1827 | 0 | 86.6 | 45-125 | 1712 | 7.9 | 30 | |
| *Surr: 2-Fluorobiphenyl* | *3306* | 0 | *4567* | 0 | *72.4* | *12-100* | 3516 | *6.16* | *40* | |
| *Surr: 4-Terphenyl-d14* | *4248* | 0 | *4567* | 0 | *93* | *25-137* | 4541 | *6.66* | *40* | |
| *Surr: Nitrobenzene-d5* | *3332* | 0 | *4567* | 0 | *73* | *37-107* | 3620 | *8.29* | *40* | |

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

**Client:** HRL Compliance Solutions
**Work Order:** 1307303
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13

# QC BATCH REPORT

Batch ID: **49628** Instrument ID **SVMS6** Method: **SW8270**

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

| | | |
|---|---|---|
| 1307303-01B | 1307303-02B | 1307303-03B |
| 1307303-04B | 1307303-05B | |

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

**Client:** HRL Compliance Solutions
**Work Order:** 1307303
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13

# QC BATCH REPORT

Batch ID: **49617** Instrument ID **VMS9** Method: **SW8260B**

**MBLK** Sample ID: **MBLK-49617-49617** Units: **µg/Kg** Analysis Date: **7/10/2013 07:29 PM**
Client ID: Run ID: **VMS9_130710A** SeqNo: **2375435** Prep Date: **7/10/2013** 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* | *1018* | 0 | *1000* | 0 | *102* | *70-130* | 0 | | | |
| *Surr: 4-Bromofluorobenzene* | *927.5* | 0 | *1000* | 0 | *92.8* | *70-130* | 0 | | | |
| *Surr: Dibromofluoromethane* | *975.5* | 0 | *1000* | 0 | *97.6* | *70-130* | 0 | | | |
| *Surr: Toluene-d8* | *963* | 0 | *1000* | 0 | *96.3* | *70-130* | 0 | | | |

**LCS** Sample ID: **LCS-49617-49617** Units: **µg/Kg** Analysis Date: **7/10/2013 06:21 PM**
Client ID: Run ID: **VMS9_130710A** SeqNo: **2375395** Prep Date: **7/10/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 909.5 | 30 | 1000 | 0 | 91 | 75-125 | 0 | | | |
| Ethylbenzene | 918 | 30 | 1000 | 0 | 91.8 | 75-125 | 0 | | | |
| m,p-Xylene | 1789 | 60 | 2000 | 0 | 89.4 | 80-125 | 0 | | | |
| o-Xylene | 909.5 | 30 | 1000 | 0 | 91 | 75-125 | 0 | | | |
| Toluene | 898.5 | 30 | 1000 | 0 | 89.8 | 70-125 | 0 | | | |
| Xylenes, Total | 2698 | 90 | 3000 | 0 | 90 | 75-125 | 0 | | | |
| *Surr: 1,2-Dichloroethane-d4* | *1066* | 0 | *1000* | 0 | *107* | *70-130* | 0 | | | |
| *Surr: 4-Bromofluorobenzene* | *962* | 0 | *1000* | 0 | *96.2* | *70-130* | 0 | | | |
| *Surr: Dibromofluoromethane* | *999* | 0 | *1000* | 0 | *99.9* | *70-130* | 0 | | | |
| *Surr: Toluene-d8* | *985* | 0 | *1000* | 0 | *98.5* | *70-130* | 0 | | | |

**MS** Sample ID: **1307303-03A MS** Units: **µg/Kg** Analysis Date: **7/11/2013 04:26 AM**
Client ID: **West Wall (8 ft depth)** Run ID: **VMS5_130710A** SeqNo: **2375888** Prep Date: **7/10/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 888.5 | 30 | 1000 | 0 | 88.8 | 75-125 | 0 | | | |
| Ethylbenzene | 913.5 | 30 | 1000 | 0 | 91.4 | 75-125 | 0 | | | |
| m,p-Xylene | 1859 | 60 | 2000 | 0 | 93 | 80-125 | 0 | | | |
| o-Xylene | 928.5 | 30 | 1000 | 0 | 92.8 | 75-125 | 0 | | | |
| Toluene | 897 | 30 | 1000 | 0 | 89.7 | 70-125 | 0 | | | |
| Xylenes, Total | 2788 | 90 | 3000 | 0 | 92.9 | 75-125 | 0 | | | |
| *Surr: 1,2-Dichloroethane-d4* | *1036* | 0 | *1000* | 0 | *104* | *70-130* | 0 | | | |
| *Surr: 4-Bromofluorobenzene* | *1018* | 0 | *1000* | 0 | *102* | *70-130* | 0 | | | |
| *Surr: Dibromofluoromethane* | *991.5* | 0 | *1000* | 0 | *99.2* | *70-130* | 0 | | | |
| *Surr: Toluene-d8* | *1034* | 0 | *1000* | 0 | *103* | *70-130* | 0 | | | |

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

**Client:** HRL Compliance Solutions
**Work Order:** 1307303
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13

# QC BATCH REPORT

Batch ID: **49617** Instrument ID **VMS9** Method: **SW8260B**

**MSD** Sample ID: **1307303-03A MSD** Units: **µg/Kg** Analysis Date: **7/11/2013 04:49 AM**
Client ID: **West Wall (8 ft depth)** Run ID: **VMS5_130710A** SeqNo: **2375890** Prep Date: **7/10/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 874.5 | 30 | 1000 | 0 | 87.4 | 75-125 | 888.5 | 1.59 | 30 | |
| Ethylbenzene | 900.5 | 30 | 1000 | 0 | 90 | 75-125 | 913.5 | 1.43 | 30 | |
| m,p-Xylene | 1844 | 60 | 2000 | 0 | 92.2 | 80-125 | 1859 | 0.837 | 30 | |
| o-Xylene | 911.5 | 30 | 1000 | 0 | 91.2 | 75-125 | 928.5 | 1.85 | 30 | |
| Toluene | 885.5 | 30 | 1000 | 0 | 88.6 | 70-125 | 897 | 1.29 | 30 | |
| Xylenes, Total | 2755 | 90 | 3000 | 0 | 91.8 | 75-125 | 2788 | 1.17 | 30 | |
| *Surr: 1,2-Dichloroethane-d4* | *1020* | 0 | *1000* | 0 | *102* | *70-130* | 1036 | *1.46* | *30* | |
| *Surr: 4-Bromofluorobenzene* | *1026* | 0 | *1000* | 0 | *103* | *70-130* | 1018 | *0.782* | *30* | |
| *Surr: Dibromofluoromethane* | *985* | 0 | *1000* | 0 | *98.5* | *70-130* | 991.5 | *0.658* | *30* | |
| *Surr: Toluene-d8* | *1030* | 0 | *1000* | 0 | *103* | *70-130* | 1034 | *0.291* | *30* | |

**The following samples were analyzed in this batch:** 1307303-01A 1307303-02A 1307303-03A 1307303-04A 1307303-05A

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

**Client:** HRL Compliance Solutions
**Work Order:** 1307303
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13

# QC BATCH REPORT

Batch ID: **49618** Instrument ID **WETCHEM** Method: **USDA H60 Method**

**DUP** Sample ID: **1307301-03B DUP** Units: **mmhos/cm @25°C** Analysis Date: **7/16/2013 03:00 PM**
Client ID: Run ID: **WETCHEM_130716P** SeqNo: **2380453** Prep Date: **7/12/2013** DF: **5**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Electrical Conductivity @ Saturation | 0.5515 | 0.025 | 0 | 0 | 0 | | 0.581 | 5.21 | 50 | |

**The following samples were analyzed in this batch:** 1307303-08B

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

**Client:** HRL Compliance Solutions
**Work Order:** 1307303
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13

# QC BATCH REPORT

Batch ID: **49683** Instrument ID **WETCHEM** Method: **SW7196A**

**MBLK** Sample ID: **MBLK-49683-49683** Units: **mg/Kg** Analysis Date: **7/16/2013 11:30 AM**
Client ID: Run ID: **WETCHEM_130716G** SeqNo: **2379735** Prep Date: **7/12/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chromium, Hexavalent | ND | 0.49 | | | | | | | | |

**LCS** Sample ID: **LCS-49683-49683** Units: **mg/Kg** Analysis Date: **7/16/2013 11:30 AM**
Client ID: Run ID: **WETCHEM_130716G** SeqNo: **2379734** Prep Date: **7/12/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chromium, Hexavalent | 1.751 | 0.49 | 1.976 | 0 | 88.6 | 75-110 | 0 | | | |

**MS** Sample ID: **1307263-01A MS** Units: **mg/Kg** Analysis Date: **7/16/2013 11:30 AM**
Client ID: Run ID: **WETCHEM_130716G** SeqNo: **2379725** Prep Date: **7/12/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chromium, Hexavalent | ND | 0.50 | 1.992 | 0 | 0 | 60-130 | 0 | | | S |

**MSD** Sample ID: **1307263-01A MSD** Units: **mg/Kg** Analysis Date: **7/16/2013 11:30 AM**
Client ID: Run ID: **WETCHEM_130716G** SeqNo: **2379726** Prep Date: **7/12/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chromium, Hexavalent | ND | 0.50 | 2.008 | 0 | 0 | 60-130 | 0 | 0 | 30 | S |

**The following samples were analyzed in this batch:** 1307303-04B

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

**Client:** HRL Compliance Solutions
**Work Order:** 1307303
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13

# QC BATCH REPORT

Batch ID: **R123435** Instrument ID **WETCHEM** Method: **SW9045D**

**LCS** Sample ID: **WLCSS1-130710-R123435** Units: **s.u.** Analysis Date: **7/10/2013 12:50 PM**
Client ID: Run ID: **WETCHEM_130710K** SeqNo: **2375133** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| pH | 4.51 | 0 | 4.4 | 0 | 102 | 90-110 | 0 | | | |

**DUP** Sample ID: **1307295-20A DUP** Units: **s.u.** Analysis Date: **7/10/2013 12:50 PM**
Client ID: Run ID: **WETCHEM_130710K** SeqNo: **2375135** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| pH | 8.37 | 0 | 0 | 0 | 0 | 0-0 | 8.37 | 0 | 20 | H |

**The following samples were analyzed in this batch:** 1307303-04B 1307303-08A

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

**Client:** HRL Compliance Solutions
**Work Order:** 1307303
**Project:** WPX TR 41-35-597 Pit Closure 7/8/13

# QC BATCH REPORT

Batch ID: **R123468** Instrument ID **MOIST** Method: **A2540 G**

**MBLK** Sample ID: **WBLKS-R123468** Units: **% of sample** Analysis Date: **7/10/2013 11:15 AM**
Client ID: Run ID: **MOIST_130710A** SeqNo: **2375871** 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-R123468** Units: **% of sample** Analysis Date: **7/10/2013 11:15 AM**
Client ID: Run ID: **MOIST_130710A** SeqNo: **2375869** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Moisture | 99.99 | 0.050 | 100 | 0 | 100 | 99.5-100.5 | 0 | | | |

**DUP** Sample ID: **1307270-01B DUP** Units: **% of sample** Analysis Date: **7/10/2013 11:15 AM**
Client ID: Run ID: **MOIST_130710A** SeqNo: **2375847** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Moisture | 10.63 | 0.050 | 0 | 0 | 0 | 0-0 | 10.33 | 2.86 | 20 | |

**DUP** Sample ID: **1307303-04B DUP** Units: **% of sample** Analysis Date: **7/10/2013 11:15 AM**
Client ID: **Pit Bottom (8 ft depth)** Run ID: **MOIST_130710A** SeqNo: **2375860** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Moisture | 22.48 | 0.050 | 0 | 0 | 0 | 0-0 | 21.76 | 3.25 | 20 | |

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

| | | |
|---|---|---|
| 1307303-01B | 1307303-02B | 1307303-03B |
| 1307303-04B | 1307303-05B | 1307303-06A |
| 1307303-07A | 1307303-08A | |

**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 # 1307303

PAGE 1 of 1

DISPOSAL By Lab or Return to Client

| | | | |
|---|---|---|---|
| PROJECT NAME | WPX TR 41-35-597 Pit Closure | SAMPLER | Dan Pinegar |
| PROJECT No. | | SITE ID | TR 41-35-597 Well Pad |
| | | EDD FORMAT | |
| | | PURCHASE ORDER | |
| COMPANY NAME | HRL Compliance Solutions, Inc. | BILL TO COMPANY | WPX |
| SEND REPORT TO | Kris Rowe | INVOICE ATTN TO | Karolina Blaney |
| ADDRESS | 2385 F 1/2 Rd. | ADDRESS | 1058 County Rd. 215 |
| CITY / STATE / ZIP | Grand Junction, CO. 81505 | CITY / STATE / ZIP | Parachute CO, 81635 |
| PHONE | 970-243-3271 | PHONE | 970-285-9377 |
| FAX | 970-243-3280 | FAX | |
| E-MAIL | Krowe@hrlcomp.com | E-MAIL | Karolina.blaney@wpx.com |

DATE 7/9/2013

TURNAROUND Std. 5 days

| Lab ID | Field ID | Matrix | Sample Date | Sample Time | # Bottles | Pres. | QC | BTEX | GRO | DRO | PAH (Table 910.1) | Metals (Table 910.1) | SAR, EC, PH | Arsenic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | North Wall (4 ft depth) | SOIL | 7/8/2013 | 3:00 PM | 3 | 8 | | X | X | X | X | | | |
| 2 | East Wall (surface) | SOIL | 7/8/2013 | 3:15 PM | 3 | 8 | | X | X | X | X | | | |
| 3 | West Wall (8 ft depth) | SOIL | 7/8/2013 | 3:30 PM | 3 | 8 | | X | X | X | X | | | |
| 4 | Pit Bottom (8 ft depth) | SOIL | 7/8/2013 | 3:50 PM | 3 | 8 | | X | X | X | X | X | X | |
| 5 | South Wall (surface) | SOIL | 7/8/2013 | 4:05 PM | 3 | 8 | | X | X | X | X | | | |
| 6 | BKGD 1 | SOIL | 7/8/2013 | 4:15 PM | 1 | 8 | | | | | | | | X |
| 7 | BKGD 2 | SOIL | 7/8/2013 | 4:35 PM | 1 | 8 | | | | | | | | X |
| 8 | BKGD 3 | SOIL | 7/8/2013 | 4:55 PM | 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:** 5.0'

| 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 | | Dan Pinegar | 7/9/2013 | 5:00 PM |
| RECEIVED BY | | Diane F Sha | 7/10/13 | 1000 |
| RELINQUISHED BY | | | | |
| RECEIVED BY | | | | |
| RELINQUISHED BY | | | | |
| RECEIVED BY | | | | |

ALS Group USA, Corp

## Sample Receipt Checklist

Client Name: **HRL** Date/Time Received: **10-Jul-13 10:00**

Work Order: **1307303** Received by: **DS**

Checklist completed by Diane Shaw (eSignature) 10-Jul-13 (Date) Reviewed by: Ann Preston (eSignature) 10-Jul-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 ☐ | |
| Temperature(s)/Thermometer(s): | 5.0 c | | |
| Cooler(s)/Kit(s): | | | |
| Date/Time sample(s) sent to storage: | 7/10/2013 1:54:37 PM | | |
| 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:

FedEx Express **NEW Package US Airbill**

FedEx Tracking Number 8758 3471 2702

0200 Form ID No.

**FedEx Retrieval Copy**

**1 From**

Date 7-9-13

Sender's FedEx Account Number

Sender's Name DAN PINEGAR Phone 9704331984

Company HCSI

Address [redacted] 2385 F 1/2 Rd

Dept./Floor/Suite/Room

City GRAND JUNCTION State CO ZIP 81505

**2 Your Internal Billing Reference**

**3 To**

Recipient's Name RECEIVING Phone 616 399-6079

Company ALSGROUP

Address 3352 128TH AVE

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Dept./Floor/Suite/Room

01 ☐ HOLD Weekday FedEx location address REQUIRED. NOT available for FedEx First Overnight.

31 ☐ HOLD Saturday FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City HOLLAND State MI ZIP 49424

8758 3471 2702

**4 Express Package Service** * To most locations.

NOTE: Service order has changed: Please select carefully.

*Packages up to 150 lbs.*
*For packages over 150 lbs., use the new FedEx Express Freight US Airbill.*

**Next Business Day**

06 ☐ FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

01 ☒ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

05 ☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

**2 or 3 Business Days**

49 ☐ **NEW** FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.

03 ☐ FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

20 ☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

**5 Packaging** * Declared value limit $500.

06 ☐ FedEx Envelope* 02 ☐ FedEx Pak* 03 ☐ FedEx Box 04 ☐ FedEx Tube 01 ☒ Other

**6 Special Handling and Delivery Signature Options**

03 ☐ **SATURDAY DELIVERY**

☐ No Signature Required — Package may be left without obtaining a signature for delivery.

10 ☐ Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*

34 ☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

**Does this shipment contain dangerous goods?**

One box must be checked.

☒ No 04 ☐ Yes — As per attached Shipper's Declaration. ☐ Yes — Shipper's Declaration not required. 06 ☐ Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

☐ Cargo Aircraft Only

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

**7 Payment** *Bill to:*

Enter FedEx Acct. No. or Credit Card No. below. Obtain recip. Acct. No. ☐

1 ☐ Sender Acct. No. in Section 1 will be billed. 2 ☒ Recipient 3 ☐ Third Party 4 ☐ Credit Card 5 ☐ Cash/Check

[redacted]

Total Packages ____ Total Weight ____ lbs. Credit Card Auth. ____

†Our liability is limited to $100 unless you declare a higher value. See the current FedEx Service Guide for details.

612

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# APPENDIX 2: LANDFARM RAW ANALYTICAL RESULTS

07-Aug-2013

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

Re: **WPX 41-35-597 Treatment Cell 7/30/13** Work Order: **13071152**

Dear Kris,

ALS Environmental received 6 samples on 31-Jul-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 34.

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

Sincerely,

Ann Preston

Electronically approved by: Ann Preston

Ann Preston
Project Manager

Certificate No: MN 532786



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

# ALS Group USA, Corp

Date: 07-Aug-13

**Client:** HRL Compliance Solutions
**Project:** WPX 41-35-597 Treatment Cell 7/30/13
**Work Order:** **13071152**

## Work Order Sample Summary

| Lab Samp ID | Client Sample ID | Matrix | Tag Number | Collection Date | Date Received | Hold |
|---|---|---|---|---|---|---|
| 13071152-01 | Treatment Cell 12/12 | Soil | | 7/30/2013 09:15 | 7/31/2013 09:30 | ☐ |
| 13071152-02 | Treatment Cell 10/12 | Soil | | 7/30/2013 09:25 | 7/31/2013 09:30 | ☐ |
| 13071152-03 | Treatment Cell 3/12 | Soil | | 7/30/2013 09:35 | 7/31/2013 09:30 | ☐ |
| 13071152-04 | Treatment Cell 1/12 | Soil | | 7/30/2013 09:45 | 7/31/2013 09:30 | ☐ |
| 13071152-05 | Treatment Cell 2/4 | Soil | | 7/30/2013 10:10 | 7/31/2013 09:30 | ☐ |
| 13071152-06 | Treatment Cell 3/4 | Soil | | 7/30/2013 10:20 | 7/31/2013 09:30 | ☐ |

## ALS Group USA, Corp

*Date: 07-Aug-13*

**Client:** HRL Compliance Solutions
**Project:** WPX 41-35-597 Treatment Cell 7/30/13
**Work Order:** 13071152

# Case Narrative

Batch 50178 samples 13071152-04 and 13071152-05 DRO surrogate recoveries were high due to matrix interference. DRO results may be biased high.

Batch 50206 MS/MSD data for Hexavalent Chromium is not related to this project's samples. No data requires qualification.

Batch 50243 MS/MSD data for Metals is not related to this project's samples. No data requires qualification.

Batch 50252 MS/MSD data for Mercury is not related to this project's samples. No data requires qualification.

Batch 50284 MS/MSD data for Metals is not related to this project's samples. No data requires qualification.

# ALS Group USA, Corp

Date: 07-Aug-13

**Client:** HRL Compliance Solutions
**Project:** WPX 41-35-597 Treatment Cell 7/30/13
**WorkOrder:** **13071152**

## QUALIFIERS, ACRONYMS, UNITS

| Qualifier | Description |
|---|---|
| * | 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 |

| Acronym | Description |
|---|---|
| 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 |

| Units Reported | Description |
|---|---|
| % 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:** *07-Aug-13*

**Client:** HRL Compliance Solutions
**Project:** WPX 41-35-597 Treatment Cell 7/30/13 **Work Order:** 13071152
**Sample ID:** Treatment Cell 12/12 **Lab ID:** 13071152-01
**Collection Date:** 7/30/2013 09:15 AM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **DIESEL RANGE ORGANICS BY GC-FID** | | | **SW8015M** | | Prep Date: **8/1/2013** | Analyst: **CW** |
| **DRO (C10-C28)** | **220** | | **5.0** | **mg/Kg-dry** | 1 | 8/3/2013 02:33 AM |
| *Surr: 4-Terphenyl-d14* | *113* | | *39-115* | *%REC* | 1 | 8/3/2013 02:33 AM |
| **GASOLINE RANGE ORGANICS BY GC-FID** | | | **SW8015** | | Prep Date: **7/31/2013** | Analyst: **RD** |
| GRO (C6-C10) | ND | | 3.1 | mg/Kg-dry | 1 | 7/31/2013 06:21 PM |
| *Surr: Toluene-d8* | *111* | | *50-150* | *%REC* | 1 | 7/31/2013 06:21 PM |
| **MERCURY BY CVAA** | | | **SW7471** | | Prep Date: **8/2/2013** | Analyst: **LR** |
| **Mercury** | **0.11** | | **0.020** | **mg/Kg-dry** | 1 | 8/2/2013 05:28 PM |
| **METALS BY ICP-MS** | | | **SW6020A** | | Prep Date: **8/2/2013** | Analyst: **ML** |
| **Arsenic** | **3.8** | | **1.9** | **mg/Kg-dry** | 5 | 8/2/2013 05:47 PM |
| **Barium** | **520** | | **1.9** | **mg/Kg-dry** | 5 | 8/2/2013 05:47 PM |
| Cadmium | ND | | 0.77 | mg/Kg-dry | 5 | 8/2/2013 05:47 PM |
| **Chromium** | **58** | | **1.9** | **mg/Kg-dry** | 5 | 8/2/2013 05:47 PM |
| **Copper** | **18** | | **1.9** | **mg/Kg-dry** | 5 | 8/2/2013 05:47 PM |
| **Lead** | **14** | | **1.9** | **mg/Kg-dry** | 5 | 8/2/2013 05:47 PM |
| **Nickel** | **33** | | **1.9** | **mg/Kg-dry** | 5 | 8/2/2013 05:47 PM |
| Selenium | ND | | 1.9 | mg/Kg-dry | 5 | 8/2/2013 05:47 PM |
| Silver | ND | | 1.9 | mg/Kg-dry | 5 | 8/2/2013 05:47 PM |
| **Zinc** | **52** | | **3.9** | **mg/Kg-dry** | 5 | 8/2/2013 05:47 PM |
| **SOLUBLE CATIONS FOR SAR** | | | **SW6020A** | | Prep Date: **8/2/2013** | Analyst: **ML** |
| **Calcium** | **94** | | **10** | **mg/L** | 20 | 8/2/2013 03:08 PM |
| **Magnesium** | **16** | | **4.0** | **mg/L** | 20 | 8/2/2013 03:08 PM |
| **Sodium** | **210** | | **4.0** | **mg/L** | 20 | 8/2/2013 03:08 PM |
| **SODIUM ADSORPTION RATIO** | | | **USDA H60 METHO** | | Prep Date: **8/2/2013** | Analyst: **ML** |
| **Sodium Adsorption Ratio** | **5.4** | | **0.010** | **none** | 1 | 8/2/2013 |
| **SEMI-VOLATILE ORGANIC COMPOUNDS** | | | **SW8270** | | Prep Date: **8/1/2013** | Analyst: **RM** |
| Acenaphthene | ND | | 18 | µg/Kg-dry | 1 | 8/2/2013 01:58 PM |
| Acenaphthylene | ND | | 36 | µg/Kg-dry | 1 | 8/2/2013 01:58 PM |
| **Anthracene** | **22** | | **18** | **µg/Kg-dry** | 1 | 8/2/2013 01:58 PM |
| **Benzo(a)anthracene** | **45** | | **20** | **µg/Kg-dry** | 1 | 8/2/2013 01:58 PM |
| **Benzo(a)pyrene** | **41** | | **20** | **µg/Kg-dry** | 1 | 8/2/2013 01:58 PM |
| **Benzo(b)fluoranthene** | **30** | | **22** | **µg/Kg-dry** | 1 | 8/2/2013 01:58 PM |
| Benzo(g,h,i)perylene | ND | | 33 | µg/Kg-dry | 1 | 8/2/2013 01:58 PM |
| Benzo(k)fluoranthene | ND | | 22 | µg/Kg-dry | 1 | 8/2/2013 01:58 PM |
| **Chrysene** | **25** | | **18** | **µg/Kg-dry** | 1 | 8/2/2013 01:58 PM |
| Dibenzo(a,h)anthracene | ND | | 22 | µg/Kg-dry | 1 | 8/2/2013 01:58 PM |
| **Fluoranthene** | **47** | | **18** | **µg/Kg-dry** | 1 | 8/2/2013 01:58 PM |

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

# ALS Group USA, Corp

**Date:** *07-Aug-13*

**Client:** HRL Compliance Solutions
**Project:** WPX 41-35-597 Treatment Cell 7/30/13 **Work Order:** 13071152
**Sample ID:** Treatment Cell 12/12 **Lab ID:** 13071152-01
**Collection Date:** 7/30/2013 09:15 AM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| Fluorene | ND | | 18 | µg/Kg-dry | 1 | 8/2/2013 01:58 PM |
| **Indeno(1,2,3-cd)pyrene** | **27** | | **24** | **µg/Kg-dry** | 1 | 8/2/2013 01:58 PM |
| Naphthalene | ND | | 18 | µg/Kg-dry | 1 | 8/2/2013 01:58 PM |
| **Pyrene** | **50** | | **18** | **µg/Kg-dry** | 1 | 8/2/2013 01:58 PM |
| *Surr: 2-Fluorobiphenyl* | *83.9* | | *12-100* | *%REC* | 1 | 8/2/2013 01:58 PM |
| *Surr: 4-Terphenyl-d14* | *120* | | *25-137* | *%REC* | 1 | 8/2/2013 01:58 PM |
| *Surr: Nitrobenzene-d5* | *72.4* | | *37-107* | *%REC* | 1 | 8/2/2013 01:58 PM |
| **VOLATILE ORGANIC COMPOUNDS** | | | **SW8260B** | | Prep Date: **7/31/2013** | Analyst: **AK** |
| Benzene | ND | | 37 | µg/Kg-dry | 1 | 8/3/2013 10:17 AM |
| Ethylbenzene | ND | | 37 | µg/Kg-dry | 1 | 8/3/2013 10:17 AM |
| m,p-Xylene | ND | | 73 | µg/Kg-dry | 1 | 8/3/2013 10:17 AM |
| o-Xylene | ND | | 37 | µg/Kg-dry | 1 | 8/3/2013 10:17 AM |
| Toluene | ND | | 37 | µg/Kg-dry | 1 | 8/3/2013 10:17 AM |
| Xylenes, Total | ND | | 110 | µg/Kg-dry | 1 | 8/3/2013 10:17 AM |
| *Surr: 1,2-Dichloroethane-d4* | *98.1* | | *70-130* | *%REC* | 1 | 8/3/2013 10:17 AM |
| *Surr: 4-Bromofluorobenzene* | *95.2* | | *70-130* | *%REC* | 1 | 8/3/2013 10:17 AM |
| *Surr: Dibromofluoromethane* | *96.6* | | *70-130* | *%REC* | 1 | 8/3/2013 10:17 AM |
| *Surr: Toluene-d8* | *98.9* | | *70-130* | *%REC* | 1 | 8/3/2013 10:17 AM |
| **ELECTRICAL CONDUCTIVITY (SAR)** | | | **USDA H60 METHO** | | Prep Date: **8/2/2013** | Analyst: **JB** |
| **Electrical Conductivity @ Saturation** | **2.3** | | **0.050** | **mmhos/cm @25** | 10 | 8/2/2013 10:15 AM |
| **CHROMIUM, TRIVALENT** | | | **CALCULATION** | | | Analyst: **MB** |
| **Chromium, Trivalent** | **58** | | **0.61** | **mg/Kg-dry** | 1 | 8/5/2013 03:00 PM |
| **CHROMIUM, HEXAVALENT** | | | **SW7196A** | | Prep Date: **7/31/2013** | Analyst: **MB** |
| Chromium, Hexavalent | ND | | 0.60 | mg/Kg-dry | 1 | 8/1/2013 12:00 PM |
| **MOISTURE** | | | **A2540 G** | | | Analyst: **BD** |
| **Moisture** | **18** | | **0.050** | **% of sample** | 1 | 7/31/2013 04:00 PM |
| **PH** | | | **SW9045D** | | Prep Date: **7/31/2013** | Analyst: **EE** |
| **pH** | **8.6** | | | **s.u.** | 1 | 7/31/2013 10:25 AM |

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

# ALS Group USA, Corp

**Date:** *07-Aug-13*

**Client:** HRL Compliance Solutions
**Project:** WPX 41-35-597 Treatment Cell 7/30/13 **Work Order:** 13071152
**Sample ID:** Treatment Cell 10/12 **Lab ID:** 13071152-02
**Collection Date:** 7/30/2013 09:25 AM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **DIESEL RANGE ORGANICS BY GC-FID** | | | **SW8015M** | | Prep Date: **8/1/2013** | Analyst: **CW** |
| **DRO (C10-C28)** | **250** | | **4.7** | **mg/Kg-dry** | 1 | 8/3/2013 03:03 AM |
| *Surr: 4-Terphenyl-d14* | *105* | | *39-115* | *%REC* | 1 | 8/3/2013 03:03 AM |
| **GASOLINE RANGE ORGANICS BY GC-FID** | | | **SW8015** | | Prep Date: **7/31/2013** | Analyst: **RD** |
| GRO (C6-C10) | ND | | 2.9 | mg/Kg-dry | 1 | 7/31/2013 06:46 PM |
| *Surr: Toluene-d8* | *108* | | *50-150* | *%REC* | 1 | 7/31/2013 06:46 PM |
| **MERCURY BY CVAA** | | | **SW7471** | | Prep Date: **8/2/2013** | Analyst: **LR** |
| **Mercury** | **0.024** | | **0.017** | **mg/Kg-dry** | 1 | 8/2/2013 05:30 PM |
| **METALS BY ICP-MS** | | | **SW6020A** | | Prep Date: **8/5/2013** | Analyst: **ML** |
| **Arsenic** | **5.6** | | **2.2** | **mg/Kg-dry** | 5 | 8/5/2013 07:51 PM |
| **Barium** | **500** | | **2.2** | **mg/Kg-dry** | 5 | 8/5/2013 07:51 PM |
| Cadmium | ND | | 0.88 | mg/Kg-dry | 5 | 8/5/2013 07:51 PM |
| **Chromium** | **57** | | **2.2** | **mg/Kg-dry** | 5 | 8/5/2013 07:51 PM |
| **Copper** | **20** | | **2.2** | **mg/Kg-dry** | 5 | 8/5/2013 07:51 PM |
| **Lead** | **18** | | **2.2** | **mg/Kg-dry** | 5 | 8/5/2013 07:51 PM |
| **Nickel** | **33** | | **2.2** | **mg/Kg-dry** | 5 | 8/5/2013 07:51 PM |
| Selenium | ND | | 2.2 | mg/Kg-dry | 5 | 8/5/2013 07:51 PM |
| Silver | ND | | 2.2 | mg/Kg-dry | 5 | 8/5/2013 07:51 PM |
| **Zinc** | **64** | | **4.4** | **mg/Kg-dry** | 5 | 8/5/2013 07:51 PM |
| **SOLUBLE CATIONS FOR SAR** | | | **SW6020A** | | Prep Date: **8/2/2013** | Analyst: **ML** |
| **Calcium** | **230** | | **10** | **mg/L** | 20 | 8/2/2013 03:13 PM |
| **Magnesium** | **35** | | **4.0** | **mg/L** | 20 | 8/2/2013 03:13 PM |
| **Sodium** | **420** | | **4.0** | **mg/L** | 20 | 8/2/2013 03:13 PM |
| **SODIUM ADSORPTION RATIO** | | | **USDA H60 METHO** | | Prep Date: **8/2/2013** | Analyst: **ML** |
| **Sodium Adsorption Ratio** | **6.8** | | **0.010** | **none** | 1 | 8/2/2013 |
| **SEMI-VOLATILE ORGANIC COMPOUNDS** | | | **SW8270** | | Prep Date: **8/1/2013** | Analyst: **RM** |
| Acenaphthene | ND | | 17 | µg/Kg-dry | 1 | 8/2/2013 02:17 PM |
| Acenaphthylene | ND | | 34 | µg/Kg-dry | 1 | 8/2/2013 02:17 PM |
| **Anthracene** | **21** | | **17** | **µg/Kg-dry** | 1 | 8/2/2013 02:17 PM |
| **Benzo(a)anthracene** | **56** | | **19** | **µg/Kg-dry** | 1 | 8/2/2013 02:17 PM |
| **Benzo(a)pyrene** | **49** | | **19** | **µg/Kg-dry** | 1 | 8/2/2013 02:17 PM |
| **Benzo(b)fluoranthene** | **49** | | **20** | **µg/Kg-dry** | 1 | 8/2/2013 02:17 PM |
| Benzo(g,h,i)perylene | ND | | 32 | µg/Kg-dry | 1 | 8/2/2013 02:17 PM |
| **Benzo(k)fluoranthene** | **21** | | **20** | **µg/Kg-dry** | 1 | 8/2/2013 02:17 PM |
| **Chrysene** | **39** | | **17** | **µg/Kg-dry** | 1 | 8/2/2013 02:17 PM |
| Dibenzo(a,h)anthracene | ND | | 20 | µg/Kg-dry | 1 | 8/2/2013 02:17 PM |
| **Fluoranthene** | **57** | | **17** | **µg/Kg-dry** | 1 | 8/2/2013 02:17 PM |

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

**Client:** HRL Compliance Solutions
**Project:** WPX 41-35-597 Treatment Cell 7/30/13 **Work Order:** 13071152
**Sample ID:** Treatment Cell 10/12 **Lab ID:** 13071152-02
**Collection Date:** 7/30/2013 09:25 AM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **Fluorene** | **20** | | **17** | **µg/Kg-dry** | 1 | 8/2/2013 02:17 PM |
| **Indeno(1,2,3-cd)pyrene** | **40** | | **23** | **µg/Kg-dry** | 1 | 8/2/2013 02:17 PM |
| **Naphthalene** | **46** | | **17** | **µg/Kg-dry** | 1 | 8/2/2013 02:17 PM |
| **Pyrene** | **79** | | **17** | **µg/Kg-dry** | 1 | 8/2/2013 02:17 PM |
| *Surr: 2-Fluorobiphenyl* | *79.7* | | *12-100* | *%REC* | 1 | 8/2/2013 02:17 PM |
| *Surr: 4-Terphenyl-d14* | *112* | | *25-137* | *%REC* | 1 | 8/2/2013 02:17 PM |
| *Surr: Nitrobenzene-d5* | *64.8* | | *37-107* | *%REC* | 1 | 8/2/2013 02:17 PM |
| **VOLATILE ORGANIC COMPOUNDS** | | | **SW8260B** | | Prep Date: **7/31/2013** | Analyst: **AK** |
| Benzene | ND | | 34 | µg/Kg-dry | 1 | 8/3/2013 10:41 AM |
| Ethylbenzene | ND | | 34 | µg/Kg-dry | 1 | 8/3/2013 10:41 AM |
| m,p-Xylene | ND | | 68 | µg/Kg-dry | 1 | 8/3/2013 10:41 AM |
| o-Xylene | ND | | 34 | µg/Kg-dry | 1 | 8/3/2013 10:41 AM |
| Toluene | ND | | 34 | µg/Kg-dry | 1 | 8/3/2013 10:41 AM |
| Xylenes, Total | ND | | 100 | µg/Kg-dry | 1 | 8/3/2013 10:41 AM |
| *Surr: 1,2-Dichloroethane-d4* | *102* | | *70-130* | *%REC* | 1 | 8/3/2013 10:41 AM |
| *Surr: 4-Bromofluorobenzene* | *94.6* | | *70-130* | *%REC* | 1 | 8/3/2013 10:41 AM |
| *Surr: Dibromofluoromethane* | *96.8* | | *70-130* | *%REC* | 1 | 8/3/2013 10:41 AM |
| *Surr: Toluene-d8* | *98.6* | | *70-130* | *%REC* | 1 | 8/3/2013 10:41 AM |
| **ELECTRICAL CONDUCTIVITY (SAR)** | | | **USDA H60 METHO** | | Prep Date: **8/2/2013** | Analyst: **JB** |
| **Electrical Conductivity @ Saturation** | **4.8** | | **0.050** | **mmhos/cm @25** | 10 | 8/2/2013 10:15 AM |
| **CHROMIUM, TRIVALENT** | | | **CALCULATION** | | | Analyst: **MB** |
| **Chromium, Trivalent** | **57** | | **0.57** | **mg/Kg-dry** | 1 | 8/6/2013 03:00 PM |
| **CHROMIUM, HEXAVALENT** | | | **SW7196A** | | Prep Date: **7/31/2013** | Analyst: **MB** |
| Chromium, Hexavalent | ND | | 0.57 | mg/Kg-dry | 1 | 8/1/2013 12:00 PM |
| **MOISTURE** | | | **A2540 G** | | | Analyst: **BD** |
| **Moisture** | **12** | | **0.050** | **% of sample** | 1 | 7/31/2013 04:00 PM |
| **PH** | | | **SW9045D** | | Prep Date: **7/31/2013** | Analyst: **EE** |
| **pH** | **8.2** | | | **s.u.** | 1 | 7/31/2013 10:25 AM |

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

# ALS Group USA, Corp

**Date:** *07-Aug-13*

**Client:** HRL Compliance Solutions
**Project:** WPX 41-35-597 Treatment Cell 7/30/13 **Work Order:** 13071152
**Sample ID:** Treatment Cell 3/12 **Lab ID:** 13071152-03
**Collection Date:** 7/30/2013 09:35 AM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **DIESEL RANGE ORGANICS BY GC-FID** | | | **SW8015M** | | Prep Date: **8/1/2013** | Analyst: **CW** |
| **DRO (C10-C28)** | **55** | | **4.9** | **mg/Kg-dry** | 1 | 8/3/2013 03:33 AM |
| *Surr: 4-Terphenyl-d14* | *60.9* | | *39-115* | *%REC* | 1 | 8/3/2013 03:33 AM |
| **GASOLINE RANGE ORGANICS BY GC-FID** | | | **SW8015** | | Prep Date: **7/31/2013** | Analyst: **RD** |
| GRO (C6-C10) | ND | | 3.0 | mg/Kg-dry | 1 | 7/31/2013 09:15 PM |
| *Surr: Toluene-d8* | *113* | | *50-150* | *%REC* | 1 | 7/31/2013 09:15 PM |
| **MERCURY BY CVAA** | | | **SW7471** | | Prep Date: **8/2/2013** | Analyst: **LR** |
| **Mercury** | **0.030** | | **0.018** | **mg/Kg-dry** | 1 | 8/2/2013 05:32 PM |
| **METALS BY ICP-MS** | | | **SW6020A** | | Prep Date: **8/5/2013** | Analyst: **ML** |
| **Arsenic** | **5.8** | | **2.4** | **mg/Kg-dry** | 5 | 8/5/2013 07:56 PM |
| **Barium** | **500** | | **2.4** | **mg/Kg-dry** | 5 | 8/5/2013 07:56 PM |
| Cadmium | ND | | 0.94 | mg/Kg-dry | 5 | 8/5/2013 07:56 PM |
| **Chromium** | **71** | | **2.4** | **mg/Kg-dry** | 5 | 8/5/2013 07:56 PM |
| **Copper** | **16** | | **2.4** | **mg/Kg-dry** | 5 | 8/5/2013 07:56 PM |
| **Lead** | **15** | | **2.4** | **mg/Kg-dry** | 5 | 8/5/2013 07:56 PM |
| **Nickel** | **36** | | **2.4** | **mg/Kg-dry** | 5 | 8/5/2013 07:56 PM |
| Selenium | ND | | 2.4 | mg/Kg-dry | 5 | 8/5/2013 07:56 PM |
| Silver | ND | | 2.4 | mg/Kg-dry | 5 | 8/5/2013 07:56 PM |
| **Zinc** | **53** | | **4.7** | **mg/Kg-dry** | 5 | 8/5/2013 07:56 PM |
| **SOLUBLE CATIONS FOR SAR** | | | **SW6020A** | | Prep Date: **8/2/2013** | Analyst: **ML** |
| **Calcium** | **190** | | **10** | **mg/L** | 20 | 8/2/2013 03:18 PM |
| **Magnesium** | **34** | | **4.0** | **mg/L** | 20 | 8/2/2013 03:18 PM |
| **Sodium** | **690** | | **4.0** | **mg/L** | 20 | 8/2/2013 03:18 PM |
| **SODIUM ADSORPTION RATIO** | | | **USDA H60 METHO** | | Prep Date: **8/2/2013** | Analyst: **ML** |
| **Sodium Adsorption Ratio** | **12** | | **0.010** | **none** | 1 | 8/2/2013 |
| **SEMI-VOLATILE ORGANIC COMPOUNDS** | | | **SW8270** | | Prep Date: **8/1/2013** | Analyst: **RM** |
| Acenaphthene | ND | | 18 | µg/Kg-dry | 1 | 8/2/2013 02:37 PM |
| Acenaphthylene | ND | | 35 | µg/Kg-dry | 1 | 8/2/2013 02:37 PM |
| Anthracene | ND | | 18 | µg/Kg-dry | 1 | 8/2/2013 02:37 PM |
| Benzo(a)anthracene | ND | | 20 | µg/Kg-dry | 1 | 8/2/2013 02:37 PM |
| Benzo(a)pyrene | ND | | 20 | µg/Kg-dry | 1 | 8/2/2013 02:37 PM |
| Benzo(b)fluoranthene | ND | | 21 | µg/Kg-dry | 1 | 8/2/2013 02:37 PM |
| Benzo(g,h,i)perylene | ND | | 33 | µg/Kg-dry | 1 | 8/2/2013 02:37 PM |
| Benzo(k)fluoranthene | ND | | 21 | µg/Kg-dry | 1 | 8/2/2013 02:37 PM |
| Chrysene | ND | | 18 | µg/Kg-dry | 1 | 8/2/2013 02:37 PM |
| Dibenzo(a,h)anthracene | ND | | 21 | µg/Kg-dry | 1 | 8/2/2013 02:37 PM |
| Fluoranthene | ND | | 18 | µg/Kg-dry | 1 | 8/2/2013 02:37 PM |

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

# ALS Group USA, Corp

**Date:** *07-Aug-13*

**Client:** HRL Compliance Solutions
**Project:** WPX 41-35-597 Treatment Cell 7/30/13 **Work Order:** 13071152
**Sample ID:** Treatment Cell 3/12 **Lab ID:** 13071152-03
**Collection Date:** 7/30/2013 09:35 AM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| Fluorene | ND | | 18 | µg/Kg-dry | 1 | 8/2/2013 02:37 PM |
| Indeno(1,2,3-cd)pyrene | ND | | 24 | µg/Kg-dry | 1 | 8/2/2013 02:37 PM |
| Naphthalene | ND | | 18 | µg/Kg-dry | 1 | 8/2/2013 02:37 PM |
| Pyrene | ND | | 18 | µg/Kg-dry | 1 | 8/2/2013 02:37 PM |
| *Surr: 2-Fluorobiphenyl* | *80.0* | | *12-100* | *%REC* | 1 | 8/2/2013 02:37 PM |
| *Surr: 4-Terphenyl-d14* | *123* | | *25-137* | *%REC* | 1 | 8/2/2013 02:37 PM |
| *Surr: Nitrobenzene-d5* | *71.8* | | *37-107* | *%REC* | 1 | 8/2/2013 02:37 PM |
| **VOLATILE ORGANIC COMPOUNDS** | | | **SW8260B** | | Prep Date: **7/31/2013** | Analyst: **AK** |
| Benzene | ND | | 36 | µg/Kg-dry | 1 | 8/3/2013 11:06 AM |
| Ethylbenzene | ND | | 36 | µg/Kg-dry | 1 | 8/3/2013 11:06 AM |
| m,p-Xylene | ND | | 71 | µg/Kg-dry | 1 | 8/3/2013 11:06 AM |
| o-Xylene | ND | | 36 | µg/Kg-dry | 1 | 8/3/2013 11:06 AM |
| Toluene | ND | | 36 | µg/Kg-dry | 1 | 8/3/2013 11:06 AM |
| Xylenes, Total | ND | | 110 | µg/Kg-dry | 1 | 8/3/2013 11:06 AM |
| *Surr: 1,2-Dichloroethane-d4* | *98.0* | | *70-130* | *%REC* | 1 | 8/3/2013 11:06 AM |
| *Surr: 4-Bromofluorobenzene* | *98.0* | | *70-130* | *%REC* | 1 | 8/3/2013 11:06 AM |
| *Surr: Dibromofluoromethane* | *95.8* | | *70-130* | *%REC* | 1 | 8/3/2013 11:06 AM |
| *Surr: Toluene-d8* | *97.8* | | *70-130* | *%REC* | 1 | 8/3/2013 11:06 AM |
| **ELECTRICAL CONDUCTIVITY (SAR)** | | | **USDA H60 METHO** | | Prep Date: **8/2/2013** | Analyst: **JB** |
| **Electrical Conductivity @ Saturation** | **7.0** | | **0.050** | **mmhos/cm @25** | 10 | 8/2/2013 10:15 AM |
| **CHROMIUM, TRIVALENT** | | | **CALCULATION** | | | Analyst: **MB** |
| **Chromium, Trivalent** | **71** | | **0.59** | **mg/Kg-dry** | 1 | 8/6/2013 03:00 PM |
| **CHROMIUM, HEXAVALENT** | | | **SW7196A** | | Prep Date: **7/31/2013** | Analyst: **MB** |
| Chromium, Hexavalent | ND | | 0.58 | mg/Kg-dry | 1 | 8/1/2013 12:00 PM |
| **MOISTURE** | | | **A2540 G** | | | Analyst: **BD** |
| **Moisture** | **16** | | **0.050** | **% of sample** | 1 | 7/31/2013 04:00 PM |
| **PH** | | | **SW9045D** | | Prep Date: **7/31/2013** | Analyst: **EE** |
| **pH** | **8.5** | | | **s.u.** | 1 | 7/31/2013 10:25 AM |

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

# ALS Group USA, Corp

**Date:** *07-Aug-13*

**Client:** HRL Compliance Solutions
**Project:** WPX 41-35-597 Treatment Cell 7/30/13
**Work Order:** 13071152
**Sample ID:** Treatment Cell 1/12
**Lab ID:** 13071152-04
**Collection Date:** 7/30/2013 09:45 AM
**Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **DIESEL RANGE ORGANICS BY GC-FID** | | | **SW8015M** | | Prep Date: **8/1/2013** | Analyst: **CW** |
| **DRO (C10-C28)** | **270** | | **4.8** | **mg/Kg-dry** | 1 | 8/3/2013 04:03 AM |
| *Surr: 4-Terphenyl-d14* | *135* | S | *39-115* | *%REC* | 1 | 8/3/2013 04:03 AM |
| **GASOLINE RANGE ORGANICS BY GC-FID** | | | **SW8015** | | Prep Date: **7/31/2013** | Analyst: **RD** |
| GRO (C6-C10) | ND | | 2.9 | mg/Kg-dry | 1 | 7/31/2013 09:40 PM |
| *Surr: Toluene-d8* | *112* | | *50-150* | *%REC* | 1 | 7/31/2013 09:40 PM |
| **MERCURY BY CVAA** | | | **SW7471** | | Prep Date: **8/2/2013** | Analyst: **LR** |
| **Mercury** | **0.033** | | **0.017** | **mg/Kg-dry** | 1 | 8/2/2013 05:35 PM |
| **METALS BY ICP-MS** | | | **SW6020A** | | Prep Date: **8/5/2013** | Analyst: **ML** |
| **Arsenic** | **5.5** | | **2.3** | **mg/Kg-dry** | 5 | 8/5/2013 08:02 PM |
| **Barium** | **560** | | **2.3** | **mg/Kg-dry** | 5 | 8/5/2013 08:02 PM |
| Cadmium | ND | | 0.91 | mg/Kg-dry | 5 | 8/5/2013 08:02 PM |
| **Chromium** | **65** | | **2.3** | **mg/Kg-dry** | 5 | 8/5/2013 08:02 PM |
| **Copper** | **20** | | **2.3** | **mg/Kg-dry** | 5 | 8/5/2013 08:02 PM |
| **Lead** | **21** | | **2.3** | **mg/Kg-dry** | 5 | 8/5/2013 08:02 PM |
| **Nickel** | **35** | | **2.3** | **mg/Kg-dry** | 5 | 8/5/2013 08:02 PM |
| Selenium | ND | | 2.3 | mg/Kg-dry | 5 | 8/5/2013 08:02 PM |
| Silver | ND | | 2.3 | mg/Kg-dry | 5 | 8/5/2013 08:02 PM |
| **Zinc** | **56** | | **4.5** | **mg/Kg-dry** | 5 | 8/5/2013 08:02 PM |
| **SOLUBLE CATIONS FOR SAR** | | | **SW6020A** | | Prep Date: **8/2/2013** | Analyst: **ML** |
| **Calcium** | **170** | | **10** | **mg/L** | 20 | 8/2/2013 03:24 PM |
| **Magnesium** | **27** | | **4.0** | **mg/L** | 20 | 8/2/2013 03:24 PM |
| **Sodium** | **590** | | **4.0** | **mg/L** | 20 | 8/2/2013 03:24 PM |
| **SODIUM ADSORPTION RATIO** | | | **USDA H60 METHO** | | Prep Date: **8/2/2013** | Analyst: **ML** |
| **Sodium Adsorption Ratio** | **11** | | **0.010** | **none** | 1 | 8/2/2013 |
| **SEMI-VOLATILE ORGANIC COMPOUNDS** | | | **SW8270** | | Prep Date: **8/1/2013** | Analyst: **RM** |
| **Acenaphthene** | **28** | | **17** | **µg/Kg-dry** | 1 | 8/2/2013 02:56 PM |
| Acenaphthylene | ND | | 34 | µg/Kg-dry | 1 | 8/2/2013 02:56 PM |
| **Anthracene** | **56** | | **17** | **µg/Kg-dry** | 1 | 8/2/2013 02:56 PM |
| **Benzo(a)anthracene** | **77** | | **19** | **µg/Kg-dry** | 1 | 8/2/2013 02:56 PM |
| **Benzo(a)pyrene** | **62** | | **19** | **µg/Kg-dry** | 1 | 8/2/2013 02:56 PM |
| **Benzo(b)fluoranthene** | **56** | | **21** | **µg/Kg-dry** | 1 | 8/2/2013 02:56 PM |
| **Benzo(g,h,i)perylene** | **32** | J | **32** | **µg/Kg-dry** | 1 | 8/2/2013 02:56 PM |
| **Benzo(k)fluoranthene** | **24** | | **21** | **µg/Kg-dry** | 1 | 8/2/2013 02:56 PM |
| **Chrysene** | **54** | | **17** | **µg/Kg-dry** | 1 | 8/2/2013 02:56 PM |
| Dibenzo(a,h)anthracene | ND | | 21 | µg/Kg-dry | 1 | 8/2/2013 02:56 PM |
| **Fluoranthene** | **120** | | **17** | **µg/Kg-dry** | 1 | 8/2/2013 02:56 PM |

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

# ALS Group USA, Corp

**Date:** *07-Aug-13*

**Client:** HRL Compliance Solutions
**Project:** WPX 41-35-597 Treatment Cell 7/30/13 **Work Order:** 13071152
**Sample ID:** Treatment Cell 1/12 **Lab ID:** 13071152-04
**Collection Date:** 7/30/2013 09:45 AM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **Fluorene** | **62** | | **17** | **µg/Kg-dry** | 1 | 8/2/2013 02:56 PM |
| **Indeno(1,2,3-cd)pyrene** | **44** | | **23** | **µg/Kg-dry** | 1 | 8/2/2013 02:56 PM |
| Naphthalene | ND | | 17 | µg/Kg-dry | 1 | 8/2/2013 02:56 PM |
| **Pyrene** | **120** | | **17** | **µg/Kg-dry** | 1 | 8/2/2013 02:56 PM |
| *Surr: 2-Fluorobiphenyl* | *88.3* | | *12-100* | *%REC* | 1 | 8/2/2013 02:56 PM |
| *Surr: 4-Terphenyl-d14* | *123* | | *25-137* | *%REC* | 1 | 8/2/2013 02:56 PM |
| *Surr: Nitrobenzene-d5* | *77.9* | | *37-107* | *%REC* | 1 | 8/2/2013 02:56 PM |
| **VOLATILE ORGANIC COMPOUNDS** | | | **SW8260B** | | Prep Date: **7/31/2013** | Analyst: **AK** |
| Benzene | ND | | 35 | µg/Kg-dry | 1 | 8/3/2013 11:30 AM |
| Ethylbenzene | ND | | 35 | µg/Kg-dry | 1 | 8/3/2013 11:30 AM |
| m,p-Xylene | ND | | 69 | µg/Kg-dry | 1 | 8/3/2013 11:30 AM |
| o-Xylene | ND | | 35 | µg/Kg-dry | 1 | 8/3/2013 11:30 AM |
| Toluene | ND | | 35 | µg/Kg-dry | 1 | 8/3/2013 11:30 AM |
| Xylenes, Total | ND | | 100 | µg/Kg-dry | 1 | 8/3/2013 11:30 AM |
| *Surr: 1,2-Dichloroethane-d4* | *98.4* | | *70-130* | *%REC* | 1 | 8/3/2013 11:30 AM |
| *Surr: 4-Bromofluorobenzene* | *96.7* | | *70-130* | *%REC* | 1 | 8/3/2013 11:30 AM |
| *Surr: Dibromofluoromethane* | *95.1* | | *70-130* | *%REC* | 1 | 8/3/2013 11:30 AM |
| *Surr: Toluene-d8* | *98.1* | | *70-130* | *%REC* | 1 | 8/3/2013 11:30 AM |
| **ELECTRICAL CONDUCTIVITY (SAR)** | | | **USDA H60 METHO** | | Prep Date: **8/2/2013** | Analyst: **JB** |
| **Electrical Conductivity @ Saturation** | **5.3** | | **0.050** | **mmhos/cm @25** | 10 | 8/2/2013 10:15 AM |
| **CHROMIUM, TRIVALENT** | | | **CALCULATION** | | | Analyst: **MB** |
| **Chromium, Trivalent** | **65** | | **0.58** | **mg/Kg-dry** | 1 | 8/6/2013 03:00 PM |
| **CHROMIUM, HEXAVALENT** | | | **SW7196A** | | Prep Date: **7/31/2013** | Analyst: **MB** |
| Chromium, Hexavalent | ND | | 0.57 | mg/Kg-dry | 1 | 8/1/2013 12:00 PM |
| **MOISTURE** | | | **A2540 G** | | | Analyst: **BD** |
| **Moisture** | **13** | | **0.050** | **% of sample** | 1 | 7/31/2013 04:00 PM |
| **PH** | | | **SW9045D** | | Prep Date: **7/31/2013** | Analyst: **EE** |
| **pH** | **8.5** | | | **s.u.** | 1 | 7/31/2013 10:25 AM |

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

# ALS Group USA, Corp

**Date:** *07-Aug-13*

**Client:** HRL Compliance Solutions
**Project:** WPX 41-35-597 Treatment Cell 7/30/13
**Work Order:** 13071152
**Sample ID:** Treatment Cell 2/4
**Lab ID:** 13071152-05
**Collection Date:** 7/30/2013 10:10 AM
**Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **DIESEL RANGE ORGANICS BY GC-FID** | | | **SW8015M** | | Prep Date: **8/1/2013** | Analyst: **CW** |
| **DRO (C10-C28)** | **230** | | **4.7** | **mg/Kg-dry** | 1 | 8/3/2013 04:33 AM |
| *Surr: 4-Terphenyl-d14* | *119* | S | *39-115* | *%REC* | 1 | 8/3/2013 04:33 AM |
| **GASOLINE RANGE ORGANICS BY GC-FID** | | | **SW8015** | | Prep Date: **7/31/2013** | Analyst: **RD** |
| GRO (C6-C10) | ND | | 2.8 | mg/Kg-dry | 1 | 7/31/2013 10:06 PM |
| *Surr: Toluene-d8* | *110* | | *50-150* | *%REC* | 1 | 7/31/2013 10:06 PM |
| **MERCURY BY CVAA** | | | **SW7471** | | Prep Date: **8/2/2013** | Analyst: **LR** |
| **Mercury** | **0.026** | | **0.016** | **mg/Kg-dry** | 1 | 8/5/2013 04:50 PM |
| **METALS BY ICP-MS** | | | **SW6020A** | | Prep Date: **8/5/2013** | Analyst: **ML** |
| **Arsenic** | **4.8** | | **2.1** | **mg/Kg-dry** | 5 | 8/5/2013 08:08 PM |
| **Barium** | **510** | | **2.1** | **mg/Kg-dry** | 5 | 8/5/2013 08:08 PM |
| Cadmium | ND | | 0.84 | mg/Kg-dry | 5 | 8/5/2013 08:08 PM |
| **Chromium** | **62** | | **2.1** | **mg/Kg-dry** | 5 | 8/5/2013 08:08 PM |
| **Copper** | **18** | | **2.1** | **mg/Kg-dry** | 5 | 8/5/2013 08:08 PM |
| **Lead** | **16** | | **2.1** | **mg/Kg-dry** | 5 | 8/5/2013 08:08 PM |
| **Nickel** | **31** | | **2.1** | **mg/Kg-dry** | 5 | 8/5/2013 08:08 PM |
| **Selenium** | **2.2** | | **2.1** | **mg/Kg-dry** | 5 | 8/5/2013 08:08 PM |
| Silver | ND | | 2.1 | mg/Kg-dry | 5 | 8/5/2013 08:08 PM |
| **Zinc** | **54** | | **4.2** | **mg/Kg-dry** | 5 | 8/5/2013 08:08 PM |
| **SOLUBLE CATIONS FOR SAR** | | | **SW6020A** | | Prep Date: **8/2/2013** | Analyst: **ML** |
| **Calcium** | **110** | | **10** | **mg/L** | 20 | 8/2/2013 03:29 PM |
| **Magnesium** | **17** | | **4.0** | **mg/L** | 20 | 8/2/2013 03:29 PM |
| **Sodium** | **330** | | **4.0** | **mg/L** | 20 | 8/2/2013 03:29 PM |
| **SODIUM ADSORPTION RATIO** | | | **USDA H60 METHO** | | Prep Date: **8/2/2013** | Analyst: **ML** |
| **Sodium Adsorption Ratio** | **7.6** | | **0.010** | **none** | 1 | 8/2/2013 |
| **SEMI-VOLATILE ORGANIC COMPOUNDS** | | | **SW8270** | | Prep Date: **8/1/2013** | Analyst: **RM** |
| **Acenaphthene** | **32** | | **17** | **µg/Kg-dry** | 1 | 8/2/2013 03:16 PM |
| Acenaphthylene | ND | | 34 | µg/Kg-dry | 1 | 8/2/2013 03:16 PM |
| **Anthracene** | **42** | | **17** | **µg/Kg-dry** | 1 | 8/2/2013 03:16 PM |
| **Benzo(a)anthracene** | **45** | | **19** | **µg/Kg-dry** | 1 | 8/2/2013 03:16 PM |
| **Benzo(a)pyrene** | **36** | | **19** | **µg/Kg-dry** | 1 | 8/2/2013 03:16 PM |
| **Benzo(b)fluoranthene** | **28** | | **20** | **µg/Kg-dry** | 1 | 8/2/2013 03:16 PM |
| Benzo(g,h,i)perylene | ND | | 31 | µg/Kg-dry | 1 | 8/2/2013 03:16 PM |
| Benzo(k)fluoranthene | ND | | 20 | µg/Kg-dry | 1 | 8/2/2013 03:16 PM |
| **Chrysene** | **27** | | **17** | **µg/Kg-dry** | 1 | 8/2/2013 03:16 PM |
| Dibenzo(a,h)anthracene | ND | | 20 | µg/Kg-dry | 1 | 8/2/2013 03:16 PM |
| **Fluoranthene** | **50** | | **17** | **µg/Kg-dry** | 1 | 8/2/2013 03:16 PM |

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

# ALS Group USA, Corp

**Date:** *07-Aug-13*

**Client:** HRL Compliance Solutions
**Project:** WPX 41-35-597 Treatment Cell 7/30/13 **Work Order:** 13071152
**Sample ID:** Treatment Cell 2/4 **Lab ID:** 13071152-05
**Collection Date:** 7/30/2013 10:10 AM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **Fluorene** | **39** | | **17** | **µg/Kg-dry** | 1 | 8/2/2013 03:16 PM |
| **Indeno(1,2,3-cd)pyrene** | **28** | | **22** | **µg/Kg-dry** | 1 | 8/2/2013 03:16 PM |
| **Naphthalene** | **20** | | **17** | **µg/Kg-dry** | 1 | 8/2/2013 03:16 PM |
| **Pyrene** | **59** | | **17** | **µg/Kg-dry** | 1 | 8/2/2013 03:16 PM |
| *Surr: 2-Fluorobiphenyl* | *84.1* | | *12-100* | *%REC* | 1 | 8/2/2013 03:16 PM |
| *Surr: 4-Terphenyl-d14* | *118* | | *25-137* | *%REC* | 1 | 8/2/2013 03:16 PM |
| *Surr: Nitrobenzene-d5* | *73.3* | | *37-107* | *%REC* | 1 | 8/2/2013 03:16 PM |
| **VOLATILE ORGANIC COMPOUNDS** | | | **SW8260B** | | Prep Date: **7/31/2013** | Analyst: **AK** |
| Benzene | ND | | 34 | µg/Kg-dry | 1 | 8/3/2013 11:55 AM |
| Ethylbenzene | ND | | 34 | µg/Kg-dry | 1 | 8/3/2013 11:55 AM |
| m,p-Xylene | ND | | 68 | µg/Kg-dry | 1 | 8/3/2013 11:55 AM |
| o-Xylene | ND | | 34 | µg/Kg-dry | 1 | 8/3/2013 11:55 AM |
| Toluene | ND | | 34 | µg/Kg-dry | 1 | 8/3/2013 11:55 AM |
| Xylenes, Total | ND | | 100 | µg/Kg-dry | 1 | 8/3/2013 11:55 AM |
| *Surr: 1,2-Dichloroethane-d4* | *99.0* | | *70-130* | *%REC* | 1 | 8/3/2013 11:55 AM |
| *Surr: 4-Bromofluorobenzene* | *97.6* | | *70-130* | *%REC* | 1 | 8/3/2013 11:55 AM |
| *Surr: Dibromofluoromethane* | *97.0* | | *70-130* | *%REC* | 1 | 8/3/2013 11:55 AM |
| *Surr: Toluene-d8* | *98.1* | | *70-130* | *%REC* | 1 | 8/3/2013 11:55 AM |
| **ELECTRICAL CONDUCTIVITY (SAR)** | | | **USDA H60 METHO** | | Prep Date: **8/2/2013** | Analyst: **JB** |
| **Electrical Conductivity @ Saturation** | **3.9** | | **0.050** | **mmhos/cm @25** | 10 | 8/2/2013 10:15 AM |
| **CHROMIUM, TRIVALENT** | | | **CALCULATION** | | | Analyst: **MB** |
| **Chromium, Trivalent** | **62** | | **0.57** | **mg/Kg-dry** | 1 | 8/6/2013 03:00 PM |
| **CHROMIUM, HEXAVALENT** | | | **SW7196A** | | Prep Date: **7/31/2013** | Analyst: **MB** |
| Chromium, Hexavalent | ND | | 0.56 | mg/Kg-dry | 1 | 8/1/2013 12:00 PM |
| **MOISTURE** | | | **A2540 G** | | | Analyst: **BD** |
| **Moisture** | **12** | | **0.050** | **% of sample** | 1 | 7/31/2013 04:00 PM |
| **PH** | | | **SW9045D** | | Prep Date: **7/31/2013** | Analyst: **EE** |
| **pH** | **8.3** | | | **s.u.** | 1 | 7/31/2013 10:25 AM |

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

# ALS Group USA, Corp

**Date:** *07-Aug-13*

**Client:** HRL Compliance Solutions
**Project:** WPX 41-35-597 Treatment Cell 7/30/13 **Work Order:** 13071152
**Sample ID:** Treatment Cell 3/4 **Lab ID:** 13071152-06
**Collection Date:** 7/30/2013 10:20 AM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **DIESEL RANGE ORGANICS BY GC-FID** | | | **SW8015M** | | Prep Date: **8/1/2013** | Analyst: **CW** |
| **DRO (C10-C28)** | **120** | | **4.9** | **mg/Kg-dry** | 1 | 8/3/2013 01:33 AM |
| *Surr: 4-Terphenyl-d14* | *79.5* | | *39-115* | *%REC* | 1 | 8/3/2013 01:33 AM |
| **GASOLINE RANGE ORGANICS BY GC-FID** | | | **SW8015** | | Prep Date: **7/31/2013** | Analyst: **RD** |
| GRO (C6-C10) | ND | | 2.9 | mg/Kg-dry | 1 | 7/31/2013 10:31 PM |
| *Surr: Toluene-d8* | *109* | | *50-150* | *%REC* | 1 | 7/31/2013 10:31 PM |
| **MERCURY BY CVAA** | | | **SW7471** | | Prep Date: **8/2/2013** | Analyst: **LR** |
| **Mercury** | **0.022** | | **0.019** | **mg/Kg-dry** | 1 | 8/5/2013 04:52 PM |
| **METALS BY ICP-MS** | | | **SW6020A** | | Prep Date: **8/5/2013** | Analyst: **ML** |
| **Arsenic** | **5.9** | | **2.4** | **mg/Kg-dry** | 5 | 8/5/2013 08:32 PM |
| **Barium** | **470** | | **2.4** | **mg/Kg-dry** | 5 | 8/5/2013 08:32 PM |
| Cadmium | ND | | 0.94 | mg/Kg-dry | 5 | 8/5/2013 08:32 PM |
| **Chromium** | **64** | | **2.4** | **mg/Kg-dry** | 5 | 8/5/2013 08:32 PM |
| **Copper** | **21** | | **2.4** | **mg/Kg-dry** | 5 | 8/5/2013 08:32 PM |
| **Lead** | **19** | | **2.4** | **mg/Kg-dry** | 5 | 8/6/2013 03:22 PM |
| **Nickel** | **35** | | **2.4** | **mg/Kg-dry** | 5 | 8/5/2013 08:32 PM |
| Selenium | ND | | 2.4 | mg/Kg-dry | 5 | 8/5/2013 08:32 PM |
| Silver | ND | | 2.4 | mg/Kg-dry | 5 | 8/5/2013 08:32 PM |
| **Zinc** | **66** | | **4.7** | **mg/Kg-dry** | 5 | 8/5/2013 08:32 PM |
| **SOLUBLE CATIONS FOR SAR** | | | **SW6020A** | | Prep Date: **8/2/2013** | Analyst: **ML** |
| **Calcium** | **120** | | **10** | **mg/L** | 20 | 8/2/2013 03:35 PM |
| **Magnesium** | **17** | | **4.0** | **mg/L** | 20 | 8/2/2013 03:35 PM |
| **Sodium** | **270** | | **4.0** | **mg/L** | 20 | 8/2/2013 03:35 PM |
| **SODIUM ADSORPTION RATIO** | | | **USDA H60 METHO** | | Prep Date: **8/2/2013** | Analyst: **ML** |
| **Sodium Adsorption Ratio** | **6.1** | | **0.010** | **none** | 1 | 8/2/2013 |
| **SEMI-VOLATILE ORGANIC COMPOUNDS** | | | **SW8270** | | Prep Date: **8/1/2013** | Analyst: **RM** |
| **Acenaphthene** | **20** | | **18** | **µg/Kg-dry** | 1 | 8/2/2013 12:20 PM |
| Acenaphthylene | ND | | 35 | µg/Kg-dry | 1 | 8/2/2013 12:20 PM |
| **Anthracene** | **32** | | **18** | **µg/Kg-dry** | 1 | 8/2/2013 12:20 PM |
| **Benzo(a)anthracene** | **64** | | **20** | **µg/Kg-dry** | 1 | 8/2/2013 12:20 PM |
| **Benzo(a)pyrene** | **60** | | **20** | **µg/Kg-dry** | 1 | 8/2/2013 12:20 PM |
| **Benzo(b)fluoranthene** | **54** | | **21** | **µg/Kg-dry** | 1 | 8/2/2013 12:20 PM |
| Benzo(g,h,i)perylene | ND | | 33 | µg/Kg-dry | 1 | 8/2/2013 12:20 PM |
| **Benzo(k)fluoranthene** | **23** | | **21** | **µg/Kg-dry** | 1 | 8/2/2013 12:20 PM |
| **Chrysene** | **40** | | **18** | **µg/Kg-dry** | 1 | 8/2/2013 12:20 PM |
| Dibenzo(a,h)anthracene | ND | | 21 | µg/Kg-dry | 1 | 8/2/2013 12:20 PM |
| **Fluoranthene** | **72** | | **18** | **µg/Kg-dry** | 1 | 8/2/2013 12:20 PM |

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

# ALS Group USA, Corp

**Date:** *07-Aug-13*

**Client:** HRL Compliance Solutions
**Project:** WPX 41-35-597 Treatment Cell 7/30/13 **Work Order:** 13071152
**Sample ID:** Treatment Cell 3/4 **Lab ID:** 13071152-06
**Collection Date:** 7/30/2013 10:20 AM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **Fluorene** | **23** | | **18** | **µg/Kg-dry** | 1 | 8/2/2013 12:20 PM |
| **Indeno(1,2,3-cd)pyrene** | **43** | | **23** | **µg/Kg-dry** | 1 | 8/2/2013 12:20 PM |
| Naphthalene | ND | | 18 | µg/Kg-dry | 1 | 8/2/2013 12:20 PM |
| **Pyrene** | **81** | | **18** | **µg/Kg-dry** | 1 | 8/2/2013 12:20 PM |
| *Surr: 2-Fluorobiphenyl* | *83.9* | | *12-100* | *%REC* | 1 | 8/2/2013 12:20 PM |
| *Surr: 4-Terphenyl-d14* | *118* | | *25-137* | *%REC* | 1 | 8/2/2013 12:20 PM |
| *Surr: Nitrobenzene-d5* | *72.2* | | *37-107* | *%REC* | 1 | 8/2/2013 12:20 PM |
| **VOLATILE ORGANIC COMPOUNDS** | | | **SW8260B** | | Prep Date: **7/31/2013** | Analyst: **AK** |
| Benzene | ND | | 35 | µg/Kg-dry | 1 | 8/3/2013 12:19 PM |
| Ethylbenzene | ND | | 35 | µg/Kg-dry | 1 | 8/3/2013 12:19 PM |
| m,p-Xylene | ND | | 71 | µg/Kg-dry | 1 | 8/3/2013 12:19 PM |
| o-Xylene | ND | | 35 | µg/Kg-dry | 1 | 8/3/2013 12:19 PM |
| Toluene | ND | | 35 | µg/Kg-dry | 1 | 8/3/2013 12:19 PM |
| Xylenes, Total | ND | | 110 | µg/Kg-dry | 1 | 8/3/2013 12:19 PM |
| *Surr: 1,2-Dichloroethane-d4* | *102* | | *70-130* | *%REC* | 1 | 8/3/2013 12:19 PM |
| *Surr: 4-Bromofluorobenzene* | *101* | | *70-130* | *%REC* | 1 | 8/3/2013 12:19 PM |
| *Surr: Dibromofluoromethane* | *96.1* | | *70-130* | *%REC* | 1 | 8/3/2013 12:19 PM |
| *Surr: Toluene-d8* | *100* | | *70-130* | *%REC* | 1 | 8/3/2013 12:19 PM |
| **ELECTRICAL CONDUCTIVITY (SAR)** | | | **USDA H60 METHO** | | Prep Date: **8/2/2013** | Analyst: **JB** |
| **Electrical Conductivity @ Saturation** | **2.6** | | **0.050** | **mmhos/cm @25** | 10 | 8/2/2013 10:15 AM |
| **CHROMIUM, TRIVALENT** | | | **CALCULATION** | | | Analyst: **MB** |
| **Chromium, Trivalent** | **64** | | **0.59** | **mg/Kg-dry** | 1 | 8/6/2013 03:00 PM |
| **CHROMIUM, HEXAVALENT** | | | **SW7196A** | | Prep Date: **7/31/2013** | Analyst: **MB** |
| Chromium, Hexavalent | ND | | 0.59 | mg/Kg-dry | 1 | 8/1/2013 12:00 PM |
| **MOISTURE** | | | **A2540 G** | | | Analyst: **BD** |
| **Moisture** | **15** | | **0.050** | **% of sample** | 1 | 7/31/2013 04:00 PM |
| **PH** | | | **SW9045D** | | Prep Date: **7/31/2013** | Analyst: **EE** |
| **pH** | **8.4** | | | **s.u.** | 1 | 7/31/2013 10:25 AM |

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

ALS Group USA, Corp

Date: 07-Aug-13

**Client:** HRL Compliance Solutions

# QC BATCH REPORT

**Work Order:** 13071152

**Project:** WPX 41-35-597 Treatment Cell 7/30/13

Batch ID: **50178** Instrument ID **GC8** Method: **SW8015M**

**MBLK** Sample ID: **DBLKS1-50178-50178** Units: **mg/Kg** Analysis Date: **8/1/2013 03:15 PM**

Client ID: Run ID: **GC8_130801A** SeqNo: **2401052** Prep Date: **8/1/2013** DF: **1**

| 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* | *1.459* | 0 | *1.667* | 0 | *87.5* | *39-115* | 0 | | | |

**LCS** Sample ID: **DLCSS1-50178-50178** Units: **mg/Kg** Analysis Date: **8/1/2013 03:45 PM**

Client ID: Run ID: **GC8_130801A** SeqNo: **2401054** Prep Date: **8/1/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| DRO (C10-C28) | 143.9 | 4.2 | 166.7 | 0 | 86.4 | 49-124 | 0 | | | |
| *Surr: 4-Terphenyl-d14* | *0.8673* | 0 | *1.667* | 0 | *52* | *39-115* | 0 | | | |

**MS** Sample ID: **13071152-06B MS** Units: **mg/Kg** Analysis Date: **8/3/2013 12:33 PM**

Client ID: **Treatment Cell 3/4** Run ID: **GC8_130802A** SeqNo: **2401405** Prep Date: **8/1/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| DRO (C10-C28) | 351.7 | 8.2 | 327.5 | 103.5 | 75.8 | 49-130 | 0 | | | |
| *Surr: 4-Terphenyl-d14* | *2.568* | 0 | *3.275* | 0 | *78.4* | *39-115* | 0 | | | |

**MSD** Sample ID: **13071152-06B MSD** Units: **mg/Kg** Analysis Date: **8/3/2013 01:03 AM**

Client ID: **Treatment Cell 3/4** Run ID: **GC8_130802A** SeqNo: **2401397** Prep Date: **8/1/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| DRO (C10-C28) | 333.5 | 8.0 | 320.8 | 103.5 | 71.7 | 49-130 | 351.7 | 5.31 | 30 | |
| *Surr: 4-Terphenyl-d14* | *2.289* | 0 | *3.208* | 0 | *71.3* | *39-115* | 2.568 | *11.5* | *30* | |

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

| | | |
|---|---|---|
| 13071152-01B | 13071152-02B | 13071152-03B |
| 13071152-04B | 13071152-05B | 13071152-06B |

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

**Client:** HRL Compliance Solutions
**Work Order:** 13071152
**Project:** WPX 41-35-597 Treatment Cell 7/30/13

# QC BATCH REPORT

Batch ID: **50205** Instrument ID **HG1** Method: **SW7471**

**MBLK** Sample ID: **MBLK-50205-50205** Units: **mg/Kg** Analysis Date: **8/2/2013 04:43 PM**
Client ID: Run ID: **HG1_130802A** SeqNo: **2401326** Prep Date: **8/2/2013** 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-50205-50205** Units: **mg/Kg** Analysis Date: **8/2/2013 04:45 PM**
Client ID: Run ID: **HG1_130802A** SeqNo: **2401327** Prep Date: **8/2/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.1746 | 0.020 | 0.1665 | 0 | 105 | 80-120 | 0 | | | |

**MS** Sample ID: **13071152-04BMS** Units: **mg/Kg** Analysis Date: **8/2/2013 05:38 PM**
Client ID: **Treatment Cell 1/12** Run ID: **HG1_130802A** SeqNo: **2401352** Prep Date: **8/2/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.143 | 0.015 | 0.1217 | 0.02828 | 94.3 | 75-125 | 0 | | | |

**MSD** Sample ID: **13071152-04BMSD** Units: **mg/Kg** Analysis Date: **8/2/2013 05:40 PM**
Client ID: **Treatment Cell 1/12** Run ID: **HG1_130802A** SeqNo: **2401353** Prep Date: **8/2/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.1448 | 0.015 | 0.1246 | 0.02828 | 93.5 | 75-125 | 0.143 | 1.23 | 35 | |

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

| | | |
|---|---|---|
| 13071152-01B | 13071152-02B | 13071152-03B |
| 13071152-04B | | |

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

**Client:** HRL Compliance Solutions
**Work Order:** 13071152
**Project:** WPX 41-35-597 Treatment Cell 7/30/13

# QC BATCH REPORT

Batch ID: **50252** Instrument ID **HG1** Method: **SW7471**

**MBLK** Sample ID: **MBLK-50252-50252** Units: **mg/Kg** Analysis Date: **8/5/2013 04:29 PM**
Client ID: Run ID: **HG1_130805A** SeqNo: **2403341** Prep Date: **8/2/2013** 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-50252-50252** Units: **mg/Kg** Analysis Date: **8/5/2013 04:31 PM**
Client ID: Run ID: **HG1_130805A** SeqNo: **2403342** Prep Date: **8/2/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.1761 | 0.020 | 0.1665 | 0 | 106 | 80-120 | 0 | | | |

**MS** Sample ID: **13071155-01BMS** Units: **mg/Kg** Analysis Date: **8/5/2013 04:46 PM**
Client ID: Run ID: **HG1_130805A** SeqNo: **2403346** Prep Date: **8/2/2013** DF: **10**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 1.187 | 0.16 | 0.1304 | 1.239 | -40.4 | 75-125 | 0 | | | SO |

**MSD** Sample ID: **13071155-01BMSD** Units: **mg/Kg** Analysis Date: **8/5/2013 04:48 PM**
Client ID: Run ID: **HG1_130805A** SeqNo: **2403347** Prep Date: **8/2/2013** DF: **10**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 1.139 | 0.15 | 0.1269 | 1.239 | -79.4 | 75-125 | 1.187 | 4.14 | 35 | SO |

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

| | |
|---|---|
| 13071152-05B | 13071152-06B |

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

**Client:** HRL Compliance Solutions
**Work Order:** 13071152
**Project:** WPX 41-35-597 Treatment Cell 7/30/13

# QC BATCH REPORT

Batch ID: **50243** Instrument ID **ICPMS2** Method: **SW6020A**

**MBLK** Sample ID: **MBLK-50243-50243** Units: **mg/Kg** Analysis Date: **8/2/2013 01:49 PM**
Client ID: Run ID: **ICPMS2_130802A** SeqNo: **2400881** Prep Date: **8/2/2013** 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 | ND | 0.25 | | | | | | | | |
| Cadmium | 0.00797 | 0.10 | | | | | | | | J |
| Chromium | ND | 0.25 | | | | | | | | |
| Copper | ND | 0.25 | | | | | | | | |
| Lead | 0.001335 | 0.25 | | | | | | | | J |
| Nickel | ND | 0.25 | | | | | | | | |
| Selenium | ND | 0.25 | | | | | | | | |
| Silver | ND | 0.25 | | | | | | | | |
| Zinc | 0.214 | 0.50 | | | | | | | | J |

**LCS** Sample ID: **LCS-50243-50243** Units: **mg/Kg** Analysis Date: **8/2/2013 01:54 PM**
Client ID: Run ID: **ICPMS2_130802A** SeqNo: **2400882** Prep Date: **8/2/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 4.674 | 0.25 | 5 | 0 | 93.5 | 80-120 | 0 | | | |
| Barium | 4.738 | 0.25 | 5 | 0 | 94.8 | 80-120 | 0 | | | |
| Cadmium | 4.734 | 0.10 | 5 | 0 | 94.7 | 80-120 | 0 | | | |
| Chromium | 4.587 | 0.25 | 5 | 0 | 91.7 | 80-120 | 0 | | | |
| Copper | 4.746 | 0.25 | 5 | 0 | 94.9 | 80-120 | 0 | | | |
| Lead | 4.73 | 0.25 | 5 | 0 | 94.6 | 80-120 | 0 | | | |
| Nickel | 4.726 | 0.25 | 5 | 0 | 94.5 | 80-120 | 0 | | | |
| Selenium | 4.666 | 0.25 | 5 | 0 | 93.3 | 80-120 | 0 | | | |
| Silver | 4.832 | 0.25 | 5 | 0 | 96.6 | 80-120 | 0 | | | |
| Zinc | 4.693 | 0.50 | 5 | 0 | 93.9 | 80-120 | 0 | | | |

**MS** Sample ID: **13071078-01BMS** Units: **mg/Kg** Analysis Date: **8/2/2013 02:10 PM**
Client ID: Run ID: **ICPMS2_130802A** SeqNo: **2400886** Prep Date: **8/2/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 7.858 | 0.33 | 6.51 | 2.998 | 74.6 | 75-125 | 0 | | | S |
| Barium | 39.64 | 0.33 | 6.51 | 29.57 | 155 | 75-125 | 0 | | | SO |
| Cadmium | 6.177 | 0.13 | 6.51 | 0.08982 | 93.5 | 75-125 | 0 | | | |
| Chromium | 15.22 | 0.33 | 6.51 | 8.729 | 99.7 | 75-125 | 0 | | | |
| Copper | 14.41 | 0.33 | 6.51 | 8.969 | 83.6 | 75-125 | 0 | | | |
| Lead | 10.51 | 0.33 | 6.51 | 4.925 | 85.9 | 75-125 | 0 | | | |
| Nickel | 16.25 | 0.33 | 6.51 | 10.4 | 89.8 | 75-125 | 0 | | | |
| Selenium | 5.503 | 0.33 | 6.51 | 0.1187 | 82.7 | 75-125 | 0 | | | |
| Silver | 5.283 | 0.33 | 6.51 | 0.01355 | 80.9 | 75-125 | 0 | | | |
| Zinc | 19.33 | 0.65 | 6.51 | 13.74 | 85.8 | 75-125 | 0 | | | |

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

**Client:** HRL Compliance Solutions
**Work Order:** 13071152
**Project:** WPX 41-35-597 Treatment Cell 7/30/13

# QC BATCH REPORT

Batch ID: **50243** Instrument ID **ICPMS2** Method: **SW6020A**

**MSD** Sample ID: **13071078-01BMSD** Units: **mg/Kg** Analysis Date: **8/2/2013 02:15 PM**
Client ID: Run ID: **ICPMS2_130802A** SeqNo: **2400887** Prep Date: **8/2/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 7.439 | 0.32 | 6.435 | 2.998 | 69 | 75-125 | 7.858 | 5.48 | 25 | S |
| Barium | 38.03 | 0.32 | 6.435 | 29.57 | 131 | 75-125 | 39.64 | 4.13 | 25 | SO |
| Cadmium | 6.15 | 0.13 | 6.435 | 0.08982 | 94.2 | 75-125 | 6.177 | 0.44 | 25 | |
| Chromium | 14.72 | 0.32 | 6.435 | 8.729 | 93.2 | 75-125 | 15.22 | 3.33 | 25 | |
| Copper | 13.14 | 0.32 | 6.435 | 8.969 | 64.8 | 75-125 | 14.41 | 9.25 | 25 | S |
| Lead | 10.03 | 0.32 | 6.435 | 4.925 | 79.3 | 75-125 | 10.51 | 4.76 | 25 | |
| Nickel | 15.3 | 0.32 | 6.435 | 10.4 | 76.2 | 75-125 | 16.25 | 6.01 | 25 | |
| Selenium | 5.375 | 0.32 | 6.435 | 0.1187 | 81.7 | 75-125 | 5.503 | 2.37 | 25 | |
| Silver | 5.237 | 0.32 | 6.435 | 0.01355 | 81.2 | 75-125 | 5.283 | 0.882 | 25 | |
| Zinc | 18.39 | 0.64 | 6.435 | 13.74 | 72.3 | 75-125 | 19.33 | 4.97 | 25 | S |

**The following samples were analyzed in this batch:** 13071152-01B

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

**Client:** HRL Compliance Solutions
**Work Order:** 13071152
**Project:** WPX 41-35-597 Treatment Cell 7/30/13

# QC BATCH REPORT

Batch ID: **50284** Instrument ID **ICPMS1** Method: **SW6020A**

**MBLK** Sample ID: **MBLK-50284-50284** Units: **mg/Kg** Analysis Date: **8/5/2013 07:39 PM**
Client ID: Run ID: **ICPMS1_130805A** SeqNo: **2403678** Prep Date: **8/5/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.06065 | 0.25 | | | | | | | | J |
| Barium | ND | 0.25 | | | | | | | | |
| Cadmium | ND | 0.10 | | | | | | | | |
| Chromium | ND | 0.25 | | | | | | | | |
| Copper | ND | 0.25 | | | | | | | | |
| Lead | 0.00859 | 0.25 | | | | | | | | J |
| Nickel | ND | 0.25 | | | | | | | | |
| Selenium | 0.0663 | 0.25 | | | | | | | | J |
| Silver | ND | 0.25 | | | | | | | | |
| Zinc | 0.02868 | 0.50 | | | | | | | | J |

**LCS** Sample ID: **LCS-50284-50284** Units: **mg/Kg** Analysis Date: **8/5/2013 07:45 PM**
Client ID: Run ID: **ICPMS1_130805A** SeqNo: **2403679** Prep Date: **8/5/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 4.57 | 0.25 | 5 | 0 | 91.4 | 80-120 | 0 | | | |
| Barium | 4.927 | 0.25 | 5 | 0 | 98.5 | 80-120 | 0 | | | |
| Cadmium | 4.794 | 0.10 | 5 | 0 | 95.9 | 80-120 | 0 | | | |
| Chromium | 4.66 | 0.25 | 5 | 0 | 93.2 | 80-120 | 0 | | | |
| Copper | 4.65 | 0.25 | 5 | 0 | 93 | 80-120 | 0 | | | |
| Lead | 5.105 | 0.25 | 5 | 0 | 102 | 80-120 | 0 | | | |
| Nickel | 4.652 | 0.25 | 5 | 0 | 93 | 80-120 | 0 | | | |
| Selenium | 4.544 | 0.25 | 5 | 0 | 90.9 | 80-120 | 0 | | | |
| Silver | 4.856 | 0.25 | 5 | 0 | 97.1 | 80-120 | 0 | | | |
| Zinc | 4.352 | 0.50 | 5 | 0 | 87 | 80-120 | 0 | | | |

**MS** Sample ID: **1308045-42AMS** Units: **mg/Kg** Analysis Date: **8/5/2013 11:58 PM**
Client ID: Run ID: **ICPMS1_130805A** SeqNo: **2403726** Prep Date: **8/5/2013** DF: **5**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 31.24 | 1.9 | 7.541 | 21.3 | 132 | 75-125 | 0 | | | S |
| Barium | 31.86 | 1.9 | 7.541 | 21.24 | 141 | 75-125 | 0 | | | S |
| Cadmium | 7.741 | 0.75 | 7.541 | 0.05833 | 102 | 75-125 | 0 | | | |
| Chromium | 14.18 | 1.9 | 7.541 | 5.852 | 110 | 75-125 | 0 | | | |
| Copper | 11.36 | 1.9 | 7.541 | 3.767 | 101 | 75-125 | 0 | | | |
| Lead | 28.25 | 1.9 | 7.541 | 15.64 | 167 | 75-125 | 0 | | | S |
| Nickel | 13.36 | 1.9 | 7.541 | 5.516 | 104 | 75-125 | 0 | | | |
| Selenium | 7.402 | 1.9 | 7.541 | 0.1169 | 96.6 | 75-125 | 0 | | | |
| Silver | 7.673 | 1.9 | 7.541 | 0.004675 | 102 | 75-125 | 0 | | | |
| Zinc | 25.89 | 3.8 | 7.541 | 16.12 | 129 | 75-125 | 0 | | | S |

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

**Client:** HRL Compliance Solutions
**Work Order:** 13071152
**Project:** WPX 41-35-597 Treatment Cell 7/30/13

# QC BATCH REPORT

Batch ID: **50284** Instrument ID **ICPMS1** Method: **SW6020A**

**MSD** Sample ID: **1308045-42AMSD** Units: **mg/Kg** Analysis Date: **8/6/2013 12:04 AM**
Client ID: Run ID: **ICPMS1_130805A** SeqNo: **2403728** Prep Date: **8/5/2013** DF: **5**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 32.16 | 1.9 | 7.452 | 21.3 | 146 | 75-125 | 31.24 | 2.91 | 25 | S |
| Barium | 30.65 | 1.9 | 7.452 | 21.24 | 126 | 75-125 | 31.86 | 3.89 | 25 | S |
| Cadmium | 7.593 | 0.75 | 7.452 | 0.05833 | 101 | 75-125 | 7.741 | 1.93 | 25 | |
| Chromium | 14.18 | 1.9 | 7.452 | 5.852 | 112 | 75-125 | 14.18 | 0.0363 | 25 | |
| Copper | 11.32 | 1.9 | 7.452 | 3.767 | 101 | 75-125 | 11.36 | 0.406 | 25 | |
| Lead | 24.42 | 1.9 | 7.452 | 15.64 | 118 | 75-125 | 28.25 | 14.5 | 25 | |
| Nickel | 13.27 | 1.9 | 7.452 | 5.516 | 104 | 75-125 | 13.36 | 0.637 | 25 | |
| Selenium | 7.053 | 1.9 | 7.452 | 0.1169 | 93.1 | 75-125 | 7.402 | 4.83 | 25 | |
| Silver | 7.623 | 1.9 | 7.452 | 0.004675 | 102 | 75-125 | 7.673 | 0.66 | 25 | |
| Zinc | 25.27 | 3.7 | 7.452 | 16.12 | 123 | 75-125 | 25.89 | 2.4 | 25 | |

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

| | | |
|---|---|---|
| 13071152-02B | 13071152-03B | 13071152-04B |
| 13071152-05B | 13071152-06B | |

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

**Client:** HRL Compliance Solutions
**Work Order:** 13071152
**Project:** WPX 41-35-597 Treatment Cell 7/30/13

# QC BATCH REPORT

Batch ID: **50177** Instrument ID **SVMS6** Method: **SW8270**

**MBLK** Sample ID: **SBLKS1-50177-50177** Units: **µg/Kg** Analysis Date: **8/2/2013 11:02 AM**
Client ID: Run ID: **SVMS6_130802A** SeqNo: **2400729** Prep Date: **8/1/2013** DF: **1**

| 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* | *1298* | 0 | *1667* | 0 | *77.9* | *12-100* | 0 | | | |
| *Surr: 4-Terphenyl-d14* | *1802* | 0 | *1667* | 0 | *108* | *25-137* | 0 | | | |
| *Surr: Nitrobenzene-d5* | *1151* | 0 | *1667* | 0 | *69* | *37-107* | 0 | | | |

**LCS** Sample ID: **SLCSS1-50177-50177** Units: **µg/Kg** Analysis Date: **8/2/2013 11:21 AM**
Client ID: Run ID: **SVMS6_130802A** SeqNo: **2400732** Prep Date: **8/1/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 544.3 | 30 | 666.7 | 0 | 81.6 | 45-110 | 0 | | | |
| Acenaphthylene | 564 | 30 | 666.7 | 0 | 84.6 | 45-105 | 0 | | | |
| Anthracene | 596 | 30 | 666.7 | 0 | 89.4 | 55-105 | 0 | | | |
| Benzo(a)anthracene | 584.7 | 30 | 666.7 | 0 | 87.7 | 50-110 | 0 | | | |
| Benzo(a)pyrene | 614 | 30 | 666.7 | 0 | 92.1 | 50-110 | 0 | | | |
| Benzo(b)fluoranthene | 679.3 | 30 | 666.7 | 0 | 102 | 45-115 | 0 | | | |
| Benzo(g,h,i)perylene | 639.3 | 30 | 666.7 | 0 | 95.9 | 40-125 | 0 | | | |
| Benzo(k)fluoranthene | 700 | 30 | 666.7 | 0 | 105 | 45-115 | 0 | | | |
| Chrysene | 649.7 | 30 | 666.7 | 0 | 97.4 | 55-110 | 0 | | | |
| Dibenzo(a,h)anthracene | 685 | 30 | 666.7 | 0 | 103 | 40-125 | 0 | | | |
| Fluoranthene | 638 | 30 | 666.7 | 0 | 95.7 | 55-115 | 0 | | | |
| Fluorene | 564 | 30 | 666.7 | 0 | 84.6 | 50-110 | 0 | | | |
| Indeno(1,2,3-cd)pyrene | 616.3 | 30 | 666.7 | 0 | 92.4 | 40-120 | 0 | | | |
| Naphthalene | 519.3 | 30 | 666.7 | 0 | 77.9 | 40-105 | 0 | | | |
| Pyrene | 659.7 | 30 | 666.7 | 0 | 98.9 | 45-125 | 0 | | | |
| *Surr: 2-Fluorobiphenyl* | *1316* | 0 | *1667* | 0 | *78.9* | *12-100* | 0 | | | |
| *Surr: 4-Terphenyl-d14* | *1680* | 0 | *1667* | 0 | *101* | *25-137* | 0 | | | |
| *Surr: Nitrobenzene-d5* | *1213* | 0 | *1667* | 0 | *72.8* | *37-107* | 0 | | | |

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

**Client:** HRL Compliance Solutions
**Work Order:** 13071152
**Project:** WPX 41-35-597 Treatment Cell 7/30/13

# QC BATCH REPORT

Batch ID: **50177** Instrument ID **SVMS6** Method: **SW8270**

**MS** Sample ID: **13071152-06B MS** Units: **µg/Kg** Analysis Date: **8/2/2013 11:41 AM**
Client ID: **Treatment Cell 3/4** Run ID: **SVMS6_130802A** SeqNo: **2400734** Prep Date: **8/1/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 1086 | 57 | 1272 | 16.86 | 84 | 45-110 | 0 | | | |
| Acenaphthylene | 1121 | 57 | 1272 | 0 | 88.1 | 45-105 | 0 | | | |
| Anthracene | 1232 | 57 | 1272 | 27.45 | 94.7 | 55-105 | 0 | | | |
| Benzo(a)anthracene | 1237 | 57 | 1272 | 54.56 | 93 | 50-110 | 0 | | | |
| Benzo(a)pyrene | 1319 | 57 | 1272 | 50.59 | 99.7 | 50-110 | 0 | | | |
| Benzo(b)fluoranthene | 1439 | 57 | 1272 | 45.63 | 110 | 45-115 | 0 | | | |
| Benzo(g,h,i)perylene | 1300 | 57 | 1272 | 25.13 | 100 | 40-125 | 0 | | | |
| Benzo(k)fluoranthene | 1428 | 57 | 1272 | 19.51 | 111 | 45-115 | 0 | | | |
| Chrysene | 1291 | 57 | 1272 | 34.39 | 98.8 | 55-110 | 0 | | | |
| Dibenzo(a,h)anthracene | 1358 | 57 | 1272 | 0 | 107 | 40-125 | 0 | | | |
| Fluoranthene | 1232 | 57 | 1272 | 61.51 | 92 | 55-115 | 0 | | | |
| Fluorene | 1120 | 57 | 1272 | 19.18 | 86.5 | 50-110 | 0 | | | |
| Indeno(1,2,3-cd)pyrene | 1300 | 57 | 1272 | 36.37 | 99.3 | 40-120 | 0 | | | |
| Naphthalene | 982.3 | 57 | 1272 | 0 | 77.2 | 40-105 | 0 | | | |
| Pyrene | 1476 | 57 | 1272 | 69.11 | 111 | 45-125 | 0 | | | |
| *Surr: 2-Fluorobiphenyl* | *2655* | 0 | *3181* | 0 | *83.5* | *12-100* | 0 | | | |
| *Surr: 4-Terphenyl-d14* | *3697* | 0 | *3181* | 0 | *116* | *25-137* | 0 | | | |
| *Surr: Nitrobenzene-d5* | *2334* | 0 | *3181* | 0 | *73.4* | *37-107* | 0 | | | |

**MSD** Sample ID: **13071152-06B MSD** Units: **µg/Kg** Analysis Date: **8/2/2013 12:00 PM**
Client ID: **Treatment Cell 3/4** Run ID: **SVMS6_130802A** SeqNo: **2400736** Prep Date: **8/1/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene | 1110 | 58 | 1287 | 16.86 | 84.9 | 45-110 | 1086 | 2.17 | 30 | |
| Acenaphthylene | 1143 | 58 | 1287 | 0 | 88.8 | 45-105 | 1121 | 1.91 | 30 | |
| Anthracene | 1226 | 58 | 1287 | 27.45 | 93.2 | 55-105 | 1232 | 0.494 | 30 | |
| Benzo(a)anthracene | 1244 | 58 | 1287 | 54.56 | 92.4 | 50-110 | 1237 | 0.501 | 30 | |
| Benzo(a)pyrene | 1300 | 58 | 1287 | 50.59 | 97.1 | 50-110 | 1319 | 1.42 | 30 | |
| Benzo(b)fluoranthene | 1414 | 58 | 1287 | 45.63 | 106 | 45-115 | 1439 | 1.75 | 30 | |
| Benzo(g,h,i)perylene | 1323 | 58 | 1287 | 25.13 | 101 | 40-125 | 1300 | 1.7 | 30 | |
| Benzo(k)fluoranthene | 1399 | 58 | 1287 | 19.51 | 107 | 45-115 | 1428 | 2.05 | 30 | |
| Chrysene | 1282 | 58 | 1287 | 34.39 | 96.9 | 55-110 | 1291 | 0.77 | 30 | |
| Dibenzo(a,h)anthracene | 1365 | 58 | 1287 | 0 | 106 | 40-125 | 1358 | 0.462 | 30 | |
| Fluoranthene | 1221 | 58 | 1287 | 61.51 | 90.1 | 55-115 | 1232 | 0.863 | 30 | |
| Fluorene | 1140 | 58 | 1287 | 19.18 | 87.1 | 50-110 | 1120 | 1.74 | 30 | |
| Indeno(1,2,3-cd)pyrene | 1301 | 58 | 1287 | 36.37 | 98.3 | 40-120 | 1300 | 0.136 | 30 | |
| Naphthalene | 1038 | 58 | 1287 | 0 | 80.7 | 40-105 | 982.3 | 5.55 | 30 | |
| Pyrene | 1489 | 58 | 1287 | 69.11 | 110 | 45-125 | 1476 | 0.861 | 30 | |
| *Surr: 2-Fluorobiphenyl* | *2725* | 0 | *3217* | 0 | *84.7* | *12-100* | 2655 | *2.62* | *40* | |
| *Surr: 4-Terphenyl-d14* | *3790* | 0 | *3217* | 0 | *118* | *25-137* | 3697 | *2.49* | *40* | |
| *Surr: Nitrobenzene-d5* | *2421* | 0 | *3217* | 0 | *75.3* | *37-107* | 2334 | *3.65* | *40* | |

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

**Client:** HRL Compliance Solutions
**Work Order:** 13071152
**Project:** WPX 41-35-597 Treatment Cell 7/30/13

# QC BATCH REPORT

Batch ID: **50177** Instrument ID **SVMS6** Method: **SW8270**

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

| | | |
|---|---|---|
| 13071152-01B | 13071152-02B | 13071152-03B |
| 13071152-04B | 13071152-05B | 13071152-06B |

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

**Client:** HRL Compliance Solutions
**Work Order:** 13071152
**Project:** WPX 41-35-597 Treatment Cell 7/30/13

# QC BATCH REPORT

Batch ID: **50158** Instrument ID **VMS8** Method: **SW8260B**

**MBLK** Sample ID: **MBLK-50158-50158** Units: **µg/Kg** Analysis Date: **7/31/2013 03:59 PM**
Client ID: Run ID: **VMS8_130731A** SeqNo: **2398624** Prep Date: **7/31/2013** 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 | | | | | | | | |
| 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* | *930* | 0 | *1000* | 0 | *93* | *70-130* | 0 | | | |
| *Surr: 4-Bromofluorobenzene* | *1014* | 0 | *1000* | 0 | *101* | *70-130* | 0 | | | |
| *Surr: Dibromofluoromethane* | *947.5* | 0 | *1000* | 0 | *94.8* | *70-130* | 0 | | | |
| *Surr: Toluene-d8* | *978.5* | 0 | *1000* | 0 | *97.8* | *70-130* | 0 | | | |

**LCS** Sample ID: **LCS-50158-50158** Units: **µg/Kg** Analysis Date: **7/31/2013 02:20 PM**
Client ID: Run ID: **VMS8_130731A** SeqNo: **2398621** Prep Date: **7/31/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 962.5 | 30 | 1000 | 0 | 96.2 | 75-125 | 0 | | | |
| Ethylbenzene | 977.5 | 30 | 1000 | 0 | 97.8 | 75-125 | 0 | | | |
| m,p-Xylene | 1936 | 60 | 2000 | 0 | 96.8 | 80-125 | 0 | | | |
| o-Xylene | 981.5 | 30 | 1000 | 0 | 98.2 | 75-125 | 0 | | | |
| Toluene | 938 | 30 | 1000 | 0 | 93.8 | 70-125 | 0 | | | |
| Xylenes, Total | 2918 | 90 | 3000 | 0 | 97.3 | 75-125 | 0 | | | |
| *Surr: 1,2-Dichloroethane-d4* | *1000* | 0 | *1000* | 0 | *100* | *70-130* | 0 | | | |
| *Surr: 4-Bromofluorobenzene* | *999.5* | 0 | *1000* | 0 | *100* | *70-130* | 0 | | | |
| *Surr: Dibromofluoromethane* | *1000* | 0 | *1000* | 0 | *100* | *70-130* | 0 | | | |
| *Surr: Toluene-d8* | *971.5* | 0 | *1000* | 0 | *97.2* | *70-130* | 0 | | | |

**MS** Sample ID: **13071155-01A MS** Units: **µg/Kg** Analysis Date: **8/3/2013 05:25 AM**
Client ID: Run ID: **VMS5_130802B** SeqNo: **2402248** Prep Date: **7/31/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 1017 | 33 | 1094 | 0 | 93 | 75-125 | 0 | | | |
| Ethylbenzene | 1020 | 33 | 1094 | 0 | 93.2 | 75-125 | 0 | | | |
| m,p-Xylene | 2084 | 66 | 2188 | 0 | 95.2 | 80-125 | 0 | | | |
| o-Xylene | 1024 | 33 | 1094 | 0 | 93.6 | 75-125 | 0 | | | |
| Toluene | 1022 | 33 | 1094 | 0 | 93.4 | 70-125 | 0 | | | |
| Xylenes, Total | 3107 | 98 | 3282 | 0 | 94.7 | 75-125 | 0 | | | |
| *Surr: 1,2-Dichloroethane-d4* | *1095* | 0 | *1094* | 0 | *100* | *70-130* | 0 | | | |
| *Surr: 4-Bromofluorobenzene* | *1108* | 0 | *1094* | 0 | *101* | *70-130* | 0 | | | |
| *Surr: Dibromofluoromethane* | *1071* | 0 | *1094* | 0 | *97.8* | *70-130* | 0 | | | |
| *Surr: Toluene-d8* | *1072* | 0 | *1094* | 0 | *98* | *70-130* | 0 | | | |

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

**Client:** HRL Compliance Solutions
**Work Order:** 13071152
**Project:** WPX 41-35-597 Treatment Cell 7/30/13

# QC BATCH REPORT

Batch ID: **50158** Instrument ID **VMS8** Method: **SW8260B**

**MSD** Sample ID: **13071155-01A MSD** Units: **µg/Kg** Analysis Date: **8/3/2013 05:48 AM**

Client ID: Run ID: **VMS5_130802B** SeqNo: **2402249** Prep Date: **7/31/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 1001 | 33 | 1094 | 0 | 91.4 | 75-125 | 1017 | 1.63 | 30 | |
| Ethylbenzene | 995.1 | 33 | 1094 | 0 | 91 | 75-125 | 1020 | 2.5 | 30 | |
| m,p-Xylene | 1986 | 66 | 2188 | 0 | 90.8 | 80-125 | 2084 | 4.78 | 30 | |
| o-Xylene | 988 | 33 | 1094 | 0 | 90.3 | 75-125 | 1024 | 3.54 | 30 | |
| Toluene | 961.2 | 33 | 1094 | 0 | 87.8 | 70-125 | 1022 | 6.18 | 30 | |
| Xylenes, Total | 2974 | 98 | 3282 | 0 | 90.6 | 75-125 | 3107 | 4.37 | 30 | |
| *Surr: 1,2-Dichloroethane-d4* | *1084* | 0 | *1094* | 0 | *99* | *70-130* | 1095 | *1* | *30* | |
| *Surr: 4-Bromofluorobenzene* | *1083* | 0 | *1094* | 0 | *99* | *70-130* | 1108 | *2.25* | *30* | |
| *Surr: Dibromofluoromethane* | *1082* | 0 | *1094* | 0 | *98.8* | *70-130* | 1071 | *1.02* | *30* | |
| *Surr: Toluene-d8* | *1072* | 0 | *1094* | 0 | *98* | *70-130* | 1072 | *0* | *30* | |

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

| | | |
|---|---|---|
| 13071152-01A | 13071152-02A | 13071152-03A |
| 13071152-04A | 13071152-05A | 13071152-06A |

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

**Client:** HRL Compliance Solutions
**Work Order:** 13071152
**Project:** WPX 41-35-597 Treatment Cell 7/30/13

# QC BATCH REPORT

Batch ID: **50165** Instrument ID **WETCHEM** Method: **SW9045D**

**LCS** Sample ID: **LCS-50165-50165** Units: **s.u.** Analysis Date: **7/31/2013 10:25 AM**
Client ID: Run ID: **WETCHEM_130731K** SeqNo: **2397919** Prep Date: **7/31/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| pH | 4.52 | 0 | 4.4 | 0 | 103 | 90-110 | 0 | | | |

**DUP** Sample ID: **13071144-01A DUP** Units: **s.u.** Analysis Date: **7/31/2013 10:25 AM**
Client ID: Run ID: **WETCHEM_130731K** SeqNo: **2397924** Prep Date: **7/31/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| pH | 8.53 | 0 | 0 | 0 | 0 | 0-0 | 8.57 | 0.468 | 20 | |

**DUP** Sample ID: **13071152-06B DUP** Units: **s.u.** Analysis Date: **7/31/2013 10:25 AM**
Client ID: **Treatment Cell 3/4** Run ID: **WETCHEM_130731K** SeqNo: **2397933** Prep Date: **7/31/2013** 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 | 8.39 | 0.119 | 20 | |

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

| | | |
|---|---|---|
| 13071152-01B | 13071152-02B | 13071152-03B |
| 13071152-04B | 13071152-05B | 13071152-06B |

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

**Client:** HRL Compliance Solutions
**Work Order:** 13071152
**Project:** WPX 41-35-597 Treatment Cell 7/30/13

# QC BATCH REPORT

Batch ID: **50206** Instrument ID **WETCHEM** Method: **SW7196A**

**MBLK** Sample ID: **MBLK-50206-50206** Units: **mg/Kg** Analysis Date: **8/1/2013 12:00 PM**
Client ID: Run ID: **WETCHEM_130801D** SeqNo: **2399273** Prep Date: **7/31/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chromium, Hexavalent | ND | 0.50 | | | | | | | | |

**LCS** Sample ID: **LCS-50206-50206** Units: **mg/Kg** Analysis Date: **8/1/2013 12:00 PM**
Client ID: Run ID: **WETCHEM_130801D** SeqNo: **2399272** Prep Date: **7/31/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chromium, Hexavalent | 1.772 | 0.50 | 2 | 0 | 88.6 | 80-120 | 0 | | | |

**MS** Sample ID: **13071082-01B MS** Units: **mg/Kg** Analysis Date: **8/1/2013 12:00 PM**
Client ID: Run ID: **WETCHEM_130801D** SeqNo: **2399262** Prep Date: **7/31/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chromium, Hexavalent | 1.198 | 0.49 | 1.976 | 0.09127 | 56 | 75-125 | 0 | | | S |

**MSD** Sample ID: **13071082-01B MSD** Units: **mg/Kg** Analysis Date: **8/1/2013 12:00 PM**
Client ID: Run ID: **WETCHEM_130801D** SeqNo: **2399263** Prep Date: **7/31/2013** DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chromium, Hexavalent | 1.198 | 0.49 | 1.976 | 0.09127 | 56 | 75-125 | 1.198 | 0 | 20 | S |

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

| | | |
|---|---|---|
| 13071152-01B | 13071152-02B | 13071152-03B |
| 13071152-04B | 13071152-05B | 13071152-06B |

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

**Client:** HRL Compliance Solutions
**Work Order:** 13071152
**Project:** WPX 41-35-597 Treatment Cell 7/30/13

# QC BATCH REPORT

Batch ID: **R124478** Instrument ID **MOIST** Method: **A2540 G**

**MBLK** Sample ID: **WBLKS-R124478** Units: **% of sample** Analysis Date: **7/31/2013 04:00 PM**
Client ID: Run ID: **MOIST_130731D** SeqNo: **2398964** 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-R124478** Units: **% of sample** Analysis Date: **7/31/2013 04:00 PM**
Client ID: Run ID: **MOIST_130731D** SeqNo: **2398963** 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: **13071078-0B DUP** Units: **% of sample** Analysis Date: **7/31/2013 04:00 PM**
Client ID: Run ID: **MOIST_130731D** SeqNo: **2398945** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Moisture | 5.11 | 0.050 | 0 | 0 | 0 | 0-0 | 0 | | | |

**DUP** Sample ID: **13071082-01B DUP** Units: **% of sample** Analysis Date: **7/31/2013 04:00 PM**
Client ID: Run ID: **MOIST_130731D** SeqNo: **2398947** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Moisture | 7.23 | 0.050 | 0 | 0 | 0 | 0-0 | 6.56 | 9.72 | 20 | |

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

| | | |
|---|---|---|
| 13071152-01B | 13071152-02B | 13071152-03B |
| 13071152-04B | 13071152-05B | 13071152-06B |

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

ALS Environmental

Cincinnati, OH +1 513 733 5336 | Fort Collins, CO +1 970 490 1511 | Houston, TX +1 281 530 5656 | Spring City, PA +1 610 948 4903 | South Charleston, WV +1 304 356 3168
Everett, WA +1 425 356 2600 | Holland, MI +1 616 399 6070 | Middletown, PA +1 717 944 5541 | Salt Lake City, UT +1 801 266 7700 | York, PA +1 717 505 5280

# Chain of Custody Form

Page 1 of 1

COC ID: 12986

ALS Project Manager: | ALS Work Order #: 1307152

| Customer Information | | Project Information | | Parameter/Method Request for Analysis | |
|---|---|---|---|---|---|
| Purchase Order | | Project Name | WPX 41-35-597 Treatment Cell | A | BTEX / GRO |
| Work Order | | Project Number | | B | DRO |
| Company Name | HCSI | Bill To Company | WPX Energy Rocky Mtn. LLC | C | PAH (Table 910-1) |
| Send Report To | KRIS ROWE | Invoice Attn | Karolina Blaney | D | SAR \ EC \ PH |
| Address | 2385 F½ Rd. | Address | 1058 County Rd. 215 | E | METALS, TABLE 910-1 |
| | | | | F | |
| City/State/Zip | GRAND JUNCTION 81505 | City/State/Zip | Parachute CO, 81635 | G | |
| Phone | 970-243-3271 | Phone | 970-589-0743 | H | |
| Fax | | Fax | | I | |
| e-Mail Address | Krowe@hcsi.com | e-Mail Address | Karolina.Blaney@WPX.com | J | |

| No. | Sample Description | Date | Time | Matrix | Pres. | # Bottles | A | B | C | D | E | F | G | H | I | J | Hold |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Treatment Cell 12/12 | 7-30-13 | 9:15 | Soil | 4°C | 3 | X | X | X | X | X | | | | | | |
| 2 | Treatment Cell 10/12 | | 9:25 | | | | X | X | X | X | X | | | | | | |
| 3 | Treatment Cell 3/12 | | 9:35 | | | | X | X | X | X | X | | | | | | |
| 4 | Treatment Cell 1/12 | | 9:45 | | | | X | X | X | X | X | | | | | | |
| 5 | Treatment Cell 2/4 | | 10:10 | | | | X | X | X | X | X | | | | | | |
| 6 | Treatment Cell 3/4 | | 10:20 | | | | X | X | X | X | X | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |

Sampler(s) Please Print & Sign: DAN PINEGAR

Shipment Method:

Required Turnaround Time: (Check Box) ☒ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other

Results Due Date: 8-10-13

| | | | | |
|---|---|---|---|---|
| Relinquished by: DAN PINEGAR | Date: 7-30-13 | Time: 12:45 | Received by: | |
| Relinquished by: | Date: 7-30-13 | Time: 1300 | Received by (Laboratory): | 7/31/13 0930 |
| Logged by (Laboratory): DES | Date: 7/31/13 | Time: 1040 | Checked by (Laboratory): | |

Notes:

| Cooler ID | Cooler Temp |
|---|---|
| | 2.8c |
| | |
| | |

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Date ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other

Preservative Key: 1-HCl 2-$HNO_3$ 3-$H_2SO_4$ 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

ALS Group USA, Corp

## Sample Receipt Checklist

Client Name: **HRL** Date/Time Received: **31-Jul-13 09:30**

Work Order: **13071152** Received by: **DS**

Checklist completed by Diane Shaw (eSignature) 31-Jul-13 (Date) Reviewed by: Ann Preston (eSignature) 01-Aug-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 ☐ | |
| Temperature(s)/Thermometer(s): | 2.8 c | | |
| Cooler(s)/Kit(s): | | | |
| Date/Time sample(s) sent to storage: | 7/31/2013 10:42:45 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

127 E First Street

PARACHUTE, CO 81635

Origin ID: RILA

FedEx Express

J13111302120326

Ship Date: 30JUL13
ActWgt: 88.0 LB
CAD: 103923490/INET3370

Dims: 25 X 14 X 15 IN

Delivery Address Bar Code

Ref # 1001-073013-2
Invoice #
PO #
Dept #

SHIP TO: (616) 399-6070 BILL RECIPIENT

**Sample recieving**
**ALS Holland**
**3352 128TH AVE**

**HOLLAND, MI 49424**

WED - 31 JUL 3:00P
STANDARD OVERNIGHT

TRK# 0201 7963 5110 0604

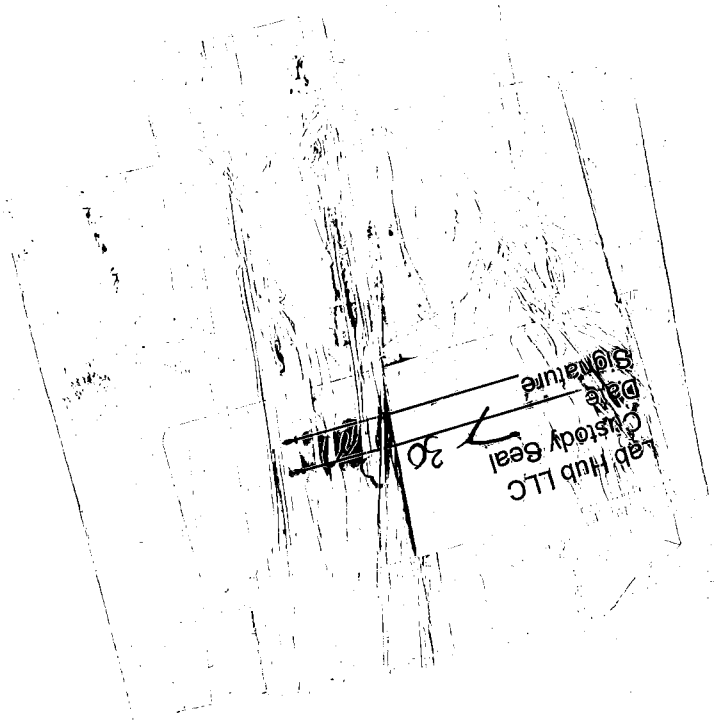
**XX GRRA**

49424
MI-US
GRR

518G1/AA04/33AB

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

**Warning:** Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. 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 41-35-597 Pit Closure 9/17/13** Work Order: **1309678**

Dear Mark,

ALS Environmental received 8 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 21.

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

Sincerely,

Ann Preston

Electronically approved by: Ann Preston

Ann Preston
Project Manager

Certificate No: MN 532786

**Report of Laboratory Analysis**

# ALS Group USA, Corp

Date: 25-Sep-13

**Client:** HRL Compliance Solutions
**Project:** WPX TR 41-35-597 Pit Closure 9/17/13
**Work Order:** **1309678**

## Work Order Sample Summary

| Lab Samp ID | Client Sample ID | Matrix | Tag Number | Collection Date | Date Received | Hold |
|---|---|---|---|---|---|---|
| 1309678-01 | North Wall | Soil | | 9/17/2013 11:00 | 9/18/2013 10:30 | ☐ |
| 1309678-02 | East Wall | Soil | | 9/17/2013 10:50 | 9/18/2013 10:30 | ☐ |
| 1309678-03 | West Wall | Soil | | 9/17/2013 10:30 | 9/18/2013 10:30 | ☐ |
| 1309678-04 | South Wall | Soil | | 9/17/2013 10:40 | 9/18/2013 10:30 | ☐ |
| 1309678-05 | Treatment cell 3/12 | Soil | | 9/17/2013 11:10 | 9/18/2013 10:30 | ☐ |
| 1309678-06 | Treatment cell 6/12 | Soil | | 9/17/2013 11:05 | 9/18/2013 10:30 | ☐ |
| 1309678-07 | Treatment cell 10/12 | Soil | | 9/17/2013 11:20 | 9/18/2013 10:30 | ☐ |
| 1309678-08 | Treatment cell 12/12 | Soil | | 9/17/2013 11:15 | 9/18/2013 10:30 | ☐ |

# ALS Group USA, Corp

Date: 25-Sep-13

**Client:** HRL Compliance Solutions
**Project:** WPX TR 41-35-597 Pit Closure 9/17/13
**WorkOrder:** **1309678**

## QUALIFIERS, ACRONYMS, UNITS

| Qualifier | Description |
|---|---|
| * | 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 |

| Acronym | Description |
|---|---|
| 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 |

| Units Reported | Description |
|---|---|
| % of sample | Percent of Sample |
| µg/Kg-dry | Micrograms per Kilogram Dry Weight |
| mg/Kg-dry | Milligrams per Kilogram Dry Weight |

# ALS Group USA, Corp

**Date:** *25-Sep-13*

**Client:** HRL Compliance Solutions
**Project:** WPX TR 41-35-597 Pit Closure 9/17/13 **Work Order:** 1309678
**Sample ID:** North Wall **Lab ID:** 1309678-01
**Collection Date:** 9/17/2013 11:00 AM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **DIESEL RANGE ORGANICS BY GC-FID** | | | **SW8015M** | | Prep Date: **9/19/2013** | Analyst: **CW** |
| **DRO (C10-C28)** | **74** | | **5.3** | **mg/Kg-dry** | 1 | 9/20/2013 01:36 AM |
| *Surr: 4-Terphenyl-d14* | *40.7* | | *39-115* | *%REC* | 1 | 9/20/2013 01:36 AM |
| **GASOLINE RANGE ORGANICS BY GC-FID** | | | **SW8015** | | Prep Date: **9/18/2013** | Analyst: **CW** |
| GRO (C6-C10) | ND | | 3.2 | mg/Kg-dry | 1 | 9/19/2013 12:44 PM |
| *Surr: Toluene-d8* | *100* | | *50-150* | *%REC* | 1 | 9/19/2013 12:44 PM |
| **VOLATILE ORGANIC COMPOUNDS** | | | **SW8260B** | | Prep Date: **9/18/2013** | Analyst: **AK** |
| Benzene | ND | | 38 | µg/Kg-dry | 1 | 9/21/2013 01:19 AM |
| Ethylbenzene | ND | | 38 | µg/Kg-dry | 1 | 9/21/2013 01:19 AM |
| m,p-Xylene | ND | | 77 | µg/Kg-dry | 1 | 9/21/2013 01:19 AM |
| o-Xylene | ND | | 38 | µg/Kg-dry | 1 | 9/21/2013 01:19 AM |
| Toluene | ND | | 38 | µg/Kg-dry | 1 | 9/21/2013 01:19 AM |
| Xylenes, Total | ND | | 120 | µg/Kg-dry | 1 | 9/21/2013 01:19 AM |
| *Surr: 1,2-Dichloroethane-d4* | *95.8* | | *70-130* | *%REC* | 1 | 9/21/2013 01:19 AM |
| *Surr: 4-Bromofluorobenzene* | *99.6* | | *70-130* | *%REC* | 1 | 9/21/2013 01:19 AM |
| *Surr: Dibromofluoromethane* | *98.0* | | *70-130* | *%REC* | 1 | 9/21/2013 01:19 AM |
| *Surr: Toluene-d8* | *95.6* | | *70-130* | *%REC* | 1 | 9/21/2013 01:19 AM |
| **MOISTURE** | | | **A2540 G** | | | Analyst: **MEB** |
| **Moisture** | **22** | | **0.050** | **% of sample** | 1 | 9/19/2013 04:30 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 41-35-597 Pit Closure 9/17/13
**Work Order:** 1309678
**Sample ID:** East Wall
**Lab ID:** 1309678-02
**Collection Date:** 9/17/2013 10:50 AM
**Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **DIESEL RANGE ORGANICS BY GC-FID** | | | **SW8015M** | | Prep Date: **9/19/2013** | Analyst: **CW** |
| **DRO (C10-C28)** | **53** | | **5.2** | **mg/Kg-dry** | 1 | 9/20/2013 02:06 AM |
| *Surr: 4-Terphenyl-d14* | *52.5* | | *39-115* | *%REC* | 1 | 9/20/2013 02:06 AM |
| **GASOLINE RANGE ORGANICS BY GC-FID** | | | **SW8015** | | Prep Date: **9/18/2013** | Analyst: **CW** |
| GRO (C6-C10) | ND | | 3.1 | mg/Kg-dry | 1 | 9/19/2013 01:07 PM |
| *Surr: Toluene-d8* | *102* | | *50-150* | *%REC* | 1 | 9/19/2013 01:07 PM |
| **VOLATILE ORGANIC COMPOUNDS** | | | **SW8260B** | | Prep Date: **9/18/2013** | Analyst: **AK** |
| Benzene | ND | | 38 | µg/Kg-dry | 1 | 9/21/2013 01:44 AM |
| Ethylbenzene | ND | | 38 | µg/Kg-dry | 1 | 9/21/2013 01:44 AM |
| m,p-Xylene | ND | | 75 | µg/Kg-dry | 1 | 9/21/2013 01:44 AM |
| o-Xylene | ND | | 38 | µg/Kg-dry | 1 | 9/21/2013 01:44 AM |
| Toluene | ND | | 38 | µg/Kg-dry | 1 | 9/21/2013 01:44 AM |
| Xylenes, Total | ND | | 110 | µg/Kg-dry | 1 | 9/21/2013 01:44 AM |
| *Surr: 1,2-Dichloroethane-d4* | *97.8* | | *70-130* | *%REC* | 1 | 9/21/2013 01:44 AM |
| *Surr: 4-Bromofluorobenzene* | *100* | | *70-130* | *%REC* | 1 | 9/21/2013 01:44 AM |
| *Surr: Dibromofluoromethane* | *98.6* | | *70-130* | *%REC* | 1 | 9/21/2013 01:44 AM |
| *Surr: Toluene-d8* | *96.4* | | *70-130* | *%REC* | 1 | 9/21/2013 01:44 AM |
| **MOISTURE** | | | **A2540 G** | | | Analyst: **MEB** |
| **Moisture** | **21** | | **0.050** | **% of sample** | 1 | 9/19/2013 04:30 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 41-35-597 Pit Closure 9/17/13 **Work Order:** 1309678
**Sample ID:** West Wall **Lab ID:** 1309678-03
**Collection Date:** 9/17/2013 10:30 AM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **DIESEL RANGE ORGANICS BY GC-FID** | | | **SW8015M** | | Prep Date: **9/19/2013** | Analyst: **CW** |
| **DRO (C10-C28)** | **11** | | **5.1** | **mg/Kg-dry** | 1 | 9/20/2013 03:07 AM |
| *Surr: 4-Terphenyl-d14* | *53.3* | | *39-115* | *%REC* | 1 | 9/20/2013 03:07 AM |
| **GASOLINE RANGE ORGANICS BY GC-FID** | | | **SW8015** | | Prep Date: **9/18/2013** | Analyst: **CW** |
| GRO (C6-C10) | ND | | 3.1 | mg/Kg-dry | 1 | 9/19/2013 01:31 PM |
| *Surr: Toluene-d8* | *102* | | *50-150* | *%REC* | 1 | 9/19/2013 01:31 PM |
| **VOLATILE ORGANIC COMPOUNDS** | | | **SW8260B** | | Prep Date: **9/18/2013** | Analyst: **AK** |
| Benzene | ND | | 37 | µg/Kg-dry | 1 | 9/21/2013 02:09 AM |
| Ethylbenzene | ND | | 37 | µg/Kg-dry | 1 | 9/21/2013 02:09 AM |
| m,p-Xylene | ND | | 74 | µg/Kg-dry | 1 | 9/21/2013 02:09 AM |
| o-Xylene | ND | | 37 | µg/Kg-dry | 1 | 9/21/2013 02:09 AM |
| Toluene | ND | | 37 | µg/Kg-dry | 1 | 9/21/2013 02:09 AM |
| Xylenes, Total | ND | | 110 | µg/Kg-dry | 1 | 9/21/2013 02:09 AM |
| *Surr: 1,2-Dichloroethane-d4* | *95.0* | | *70-130* | *%REC* | 1 | 9/21/2013 02:09 AM |
| *Surr: 4-Bromofluorobenzene* | *95.8* | | *70-130* | *%REC* | 1 | 9/21/2013 02:09 AM |
| *Surr: Dibromofluoromethane* | *94.3* | | *70-130* | *%REC* | 1 | 9/21/2013 02:09 AM |
| *Surr: Toluene-d8* | *97.4* | | *70-130* | *%REC* | 1 | 9/21/2013 02:09 AM |
| **MOISTURE** | | | **A2540 G** | | | Analyst: **MEB** |
| **Moisture** | **19** | | **0.050** | **% of sample** | 1 | 9/19/2013 04:30 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 41-35-597 Pit Closure 9/17/13 **Work Order:** 1309678
**Sample ID:** South Wall **Lab ID:** 1309678-04
**Collection Date:** 9/17/2013 10:40 AM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **DIESEL RANGE ORGANICS BY GC-FID** | | | **SW8015M** | | Prep Date: **9/19/2013** | Analyst: **CW** |
| **DRO (C10-C28)** | **31** | | **5.1** | **mg/Kg-dry** | 1 | 9/20/2013 03:37 AM |
| *Surr: 4-Terphenyl-d14* | *49.3* | | *39-115* | *%REC* | 1 | 9/20/2013 03:37 AM |
| **GASOLINE RANGE ORGANICS BY GC-FID** | | | **SW8015** | | Prep Date: **9/18/2013** | Analyst: **CW** |
| GRO (C6-C10) | ND | | 3.0 | mg/Kg-dry | 1 | 9/19/2013 01:54 PM |
| *Surr: Toluene-d8* | *103* | | *50-150* | *%REC* | 1 | 9/19/2013 01:54 PM |
| **VOLATILE ORGANIC COMPOUNDS** | | | **SW8260B** | | Prep Date: **9/18/2013** | Analyst: **AK** |
| Benzene | ND | | 36 | µg/Kg-dry | 1 | 9/21/2013 02:33 AM |
| Ethylbenzene | ND | | 36 | µg/Kg-dry | 1 | 9/21/2013 02:33 AM |
| m,p-Xylene | ND | | 73 | µg/Kg-dry | 1 | 9/21/2013 02:33 AM |
| o-Xylene | ND | | 36 | µg/Kg-dry | 1 | 9/21/2013 02:33 AM |
| Toluene | ND | | 36 | µg/Kg-dry | 1 | 9/21/2013 02:33 AM |
| Xylenes, Total | ND | | 110 | µg/Kg-dry | 1 | 9/21/2013 02:33 AM |
| *Surr: 1,2-Dichloroethane-d4* | *97.8* | | *70-130* | *%REC* | 1 | 9/21/2013 02:33 AM |
| *Surr: 4-Bromofluorobenzene* | *101* | | *70-130* | *%REC* | 1 | 9/21/2013 02:33 AM |
| *Surr: Dibromofluoromethane* | *103* | | *70-130* | *%REC* | 1 | 9/21/2013 02:33 AM |
| *Surr: Toluene-d8* | *99.1* | | *70-130* | *%REC* | 1 | 9/21/2013 02:33 AM |
| **MOISTURE** | | | **A2540 G** | | | Analyst: **MEB** |
| **Moisture** | **18** | | **0.050** | **% of sample** | 1 | 9/19/2013 04:30 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 41-35-597 Pit Closure 9/17/13 **Work Order:** 1309678
**Sample ID:** Treatment cell 3/12 **Lab ID:** 1309678-05
**Collection Date:** 9/17/2013 11:10 AM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **SEMI-VOLATILE ORGANIC COMPOUNDS** | | | **SW8270** | | Prep Date: **9/19/2013** | Analyst: **HL** |
| Anthracene | ND | | 7.8 | µg/Kg-dry | 1 | 9/20/2013 07:56 PM |
| **Benzo(a)pyrene** | **12** | | **7.8** | **µg/Kg-dry** | 1 | 9/20/2013 07:56 PM |
| *Surr: 2-Fluorobiphenyl* | *73.4* | | *12-100* | *%REC* | 1 | 9/20/2013 07:56 PM |
| *Surr: 4-Terphenyl-d14* | *105* | | *25-137* | *%REC* | 1 | 9/20/2013 07:56 PM |
| *Surr: Nitrobenzene-d5* | *70.6* | | *37-107* | *%REC* | 1 | 9/20/2013 07:56 PM |
| **MOISTURE** | | | **A2540 G** | | | Analyst: **MEB** |
| **Moisture** | **17** | | **0.050** | **% of sample** | 1 | 9/19/2013 04:30 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 41-35-597 Pit Closure 9/17/13 **Work Order:** 1309678
**Sample ID:** Treatment cell 6/12 **Lab ID:** 1309678-06
**Collection Date:** 9/17/2013 11:05 AM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **SEMI-VOLATILE ORGANIC COMPOUNDS** | | | **SW8270** | | Prep Date: **9/19/2013** | Analyst: **HL** |
| Anthracene | ND | | 8.0 | µg/Kg-dry | 1 | 9/20/2013 07:34 PM |
| Benzo(a)pyrene | ND | | 8.0 | µg/Kg-dry | 1 | 9/20/2013 07:34 PM |
| *Surr: 2-Fluorobiphenyl* | *65.5* | | *12-100* | *%REC* | 1 | 9/20/2013 07:34 PM |
| *Surr: 4-Terphenyl-d14* | *98.9* | | *25-137* | *%REC* | 1 | 9/20/2013 07:34 PM |
| *Surr: Nitrobenzene-d5* | *62.3* | | *37-107* | *%REC* | 1 | 9/20/2013 07:34 PM |
| **MOISTURE** | | | **A2540 G** | | | Analyst: **MEB** |
| **Moisture** | **17** | | **0.050** | **% of sample** | 1 | 9/19/2013 04:30 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 41-35-597 Pit Closure 9/17/13 **Work Order:** 1309678
**Sample ID:** Treatment cell 10/12 **Lab ID:** 1309678-07
**Collection Date:** 9/17/2013 11:20 AM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **SEMI-VOLATILE ORGANIC COMPOUNDS** | | | **SW8270** | | Prep Date: **9/19/2013** | Analyst: **HL** |
| Anthracene | ND | | 8.0 | µg/Kg-dry | 1 | 9/20/2013 07:12 PM |
| **Benzo(a)pyrene** | **11** | | **8.0** | **µg/Kg-dry** | 1 | 9/20/2013 07:12 PM |
| *Surr: 2-Fluorobiphenyl* | *68.1* | | *12-100* | *%REC* | 1 | 9/20/2013 07:12 PM |
| *Surr: 4-Terphenyl-d14* | *102* | | *25-137* | *%REC* | 1 | 9/20/2013 07:12 PM |
| *Surr: Nitrobenzene-d5* | *63.7* | | *37-107* | *%REC* | 1 | 9/20/2013 07:12 PM |
| **MOISTURE** | | | **A2540 G** | | | Analyst: **MEB** |
| **Moisture** | **17** | | **0.050** | **% of sample** | 1 | 9/19/2013 04:30 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 41-35-597 Pit Closure 9/17/13 **Work Order:** 1309678
**Sample ID:** Treatment cell 12/12 **Lab ID:** 1309678-08
**Collection Date:** 9/17/2013 11:15 AM **Matrix:** SOIL

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|---|---|---|---|---|---|---|
| **SEMI-VOLATILE ORGANIC COMPOUNDS** | | | **SW8270** | | Prep Date: **9/19/2013** | Analyst: **HL** |
| **Anthracene** | **12** | | **7.7** | **µg/Kg-dry** | 1 | 9/20/2013 05:22 PM |
| **Benzo(a)pyrene** | **8.8** | | **7.7** | **µg/Kg-dry** | 1 | 9/20/2013 05:22 PM |
| *Surr: 2-Fluorobiphenyl* | *75.3* | | *12-100* | *%REC* | 1 | 9/20/2013 05:22 PM |
| *Surr: 4-Terphenyl-d14* | *99.7* | | *25-137* | *%REC* | 1 | 9/20/2013 05:22 PM |
| *Surr: Nitrobenzene-d5* | *72.7* | | *37-107* | *%REC* | 1 | 9/20/2013 05:22 PM |
| **MOISTURE** | | | **A2540 G** | | | Analyst: **MEB** |
| **Moisture** | **14** | | **0.050** | **% of sample** | 1 | 9/19/2013 04:30 PM |

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

**Client:** HRL Compliance Solutions

# QC BATCH REPORT

**Work Order:** 1309678

**Project:** WPX TR 41-35-597 Pit Closure 9/17/13

Batch ID: **51483** Instrument ID **GC8** Method: **SW8015M**

**MBLK** Sample ID: **DBLKS1-51483-51483** Units: **mg/Kg** Analysis Date: **9/19/2013 08:05 PM**

Client ID: Run ID: **GC8_130919B** SeqNo: **2456452** 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| DRO (C10-C28) | ND | 4.2 | | | | | | | | |
| *Surr: 4-Terphenyl-d14* | *1.136* | 0 | *1.667* | 0 | *68.2* | *39-115* | 0 | | | |

**LCS** Sample ID: **DLCSS1-51483-51483** Units: **mg/Kg** Analysis Date: **9/19/2013 08:35 PM**

Client ID: Run ID: **GC8_130919B** SeqNo: **2456455** 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| DRO (C10-C28) | 136.4 | 4.2 | 166.7 | 0 | 81.8 | 49-124 | 0 | | | |
| *Surr: 4-Terphenyl-d14* | *0.9537* | 0 | *1.667* | 0 | *57.2* | *39-115* | 0 | | | |

**MS** Sample ID: **1309613-02A MS** Units: **mg/Kg** Analysis Date: **9/19/2013 09:35 PM**

Client ID: Run ID: **GC8_130919B** SeqNo: **2456457** 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| DRO (C10-C28) | 272.4 | 8.1 | 323.9 | 0 | 84.1 | 49-130 | 0 | | | |
| *Surr: 4-Terphenyl-d14* | *2.01* | 0 | *3.239* | 0 | *62.1* | *39-115* | 0 | | | |

**MSD** Sample ID: **1309613-02A MSD** Units: **mg/Kg** Analysis Date: **9/19/2013 10:05 PM**

Client ID: Run ID: **GC8_130919B** SeqNo: **2456461** 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| DRO (C10-C28) | 301.5 | 8.2 | 326.6 | 0 | 92.3 | 49-130 | 272.4 | 10.1 | 30 | |
| *Surr: 4-Terphenyl-d14* | *1.925* | 0 | *3.266* | 0 | *59* | *39-115* | 2.01 | *4.32* | *30* | |

**The following samples were analyzed in this batch:** 1309678-01A 1309678-02A 1309678-03A 1309678-04A

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

**Client:** HRL Compliance Solutions
**Work Order:** 1309678
**Project:** WPX TR 41-35-597 Pit Closure 9/17/13

# QC BATCH REPORT

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

**MBLK** Sample ID: **MBLK-51448-51448** Units: **µg/Kg** Analysis Date: **9/18/2013 03:30 PM**
Client ID: Run ID: **GC10_130918A** SeqNo: **2453760** 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| GRO (C6-C10) | ND | 2,500 | | | | | | | | |
| *Surr: Toluene-d8* | *5156* | 0 | *5000* | 0 | *103* | *50-150* | 0 | | | |

**LCS** Sample ID: **LCS-51448-51448** Units: **µg/Kg** Analysis Date: **9/18/2013 03:06 PM**
Client ID: Run ID: **GC10_130918A** SeqNo: **2453759** 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| GRO (C6-C10) | 414100 | 2,500 | 500000 | 0 | 82.8 | 70-130 | 0 | | | |
| *Surr: Toluene-d8* | *5221* | 0 | *5000* | 0 | *104* | *50-150* | 0 | | | |

**MS** Sample ID: **1309675-01A MS** Units: **µg/Kg** Analysis Date: **9/18/2013 09:52 PM**
Client ID: Run ID: **GC10_130918A** SeqNo: **2453779** 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| GRO (C6-C10) | 420100 | 2,500 | 500000 | 0 | 84 | 70-130 | 0 | | | |
| *Surr: Toluene-d8* | *5198* | 0 | *5000* | 0 | *104* | *50-150* | 0 | | | |

**MSD** Sample ID: **1309675-01A MSD** Units: **µg/Kg** Analysis Date: **9/18/2013 10:15 PM**
Client ID: Run ID: **GC10_130918A** SeqNo: **2453780** 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| GRO (C6-C10) | 409100 | 2,500 | 500000 | 0 | 81.8 | 70-130 | 420100 | 2.65 | 30 | |
| *Surr: Toluene-d8* | *5264* | 0 | *5000* | 0 | *105* | *50-150* | 5198 | *1.24* | *30* | |

**The following samples were analyzed in this batch:** 1309678-01A 1309678-02A 1309678-03A 1309678-04A

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

**Client:** HRL Compliance Solutions
**Work Order:** 1309678
**Project:** WPX TR 41-35-597 Pit Closure 9/17/13

# QC BATCH REPORT

Batch ID: **51482** Instrument ID **SVMS7** Method: **SW8270**

**MBLK** Sample ID: **SBLKS1-51482-51482** Units: **µg/Kg** Analysis Date: **9/20/2013 03:10 PM**
Client ID: Run ID: **SVMS7_130920A** SeqNo: **2459538** 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| Anthracene | ND | 6.7 | | | | | | | | |
| Benzo(a)pyrene | ND | 6.7 | | | | | | | | |
| *Surr: 2-Fluorobiphenyl* | *1318* | 0 | *1667* | 0 | *79.1* | *12-100* | 0 | | | |
| *Surr: 4-Terphenyl-d14* | *1758* | 0 | *1667* | 0 | *105* | *25-137* | 0 | | | |
| *Surr: Nitrobenzene-d5* | *1259* | 0 | *1667* | 0 | *75.6* | *37-107* | 0 | | | |

**MBLK** Sample ID: **SBLKS1-51482-51482** Units: **µg/Kg** Analysis Date: **9/23/2013 12:36 PM**
Client ID: Run ID: **SVMS7_130923A** SeqNo: **2460813** 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| Anthracene | ND | 6.7 | | | | | | | | |
| Benzo(a)pyrene | ND | 6.7 | | | | | | | | |
| *Surr: 2-Fluorobiphenyl* | *1287* | 0 | *1667* | 0 | *77.2* | *12-100* | 0 | | | |
| *Surr: 4-Terphenyl-d14* | *1675* | 0 | *1667* | 0 | *100* | *25-137* | 0 | | | |
| *Surr: Nitrobenzene-d5* | *1247* | 0 | *1667* | 0 | *74.8* | *37-107* | 0 | | | |

**LCS** Sample ID: **SLCSS1-51482-51482** Units: **µg/Kg** Analysis Date: **9/20/2013 10:22 AM**
Client ID: Run ID: **SVMS7_130920A** SeqNo: **2459535** 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| Anthracene | 572.3 | 6.7 | 666.7 | 0 | 85.8 | 55-105 | 0 | | | |
| Benzo(a)pyrene | 652.7 | 6.7 | 666.7 | 0 | 97.9 | 50-110 | 0 | | | |
| *Surr: 2-Fluorobiphenyl* | *1315* | 0 | *1667* | 0 | *78.9* | *12-100* | 0 | | | |
| *Surr: 4-Terphenyl-d14* | *1708* | 0 | *1667* | 0 | *102* | *25-137* | 0 | | | |
| *Surr: Nitrobenzene-d5* | *1294* | 0 | *1667* | 0 | *77.7* | *37-107* | 0 | | | |

**LCS** Sample ID: **SLCSS1-51482-51482** Units: **µg/Kg** Analysis Date: **9/23/2013 12:14 PM**
Client ID: Run ID: **SVMS7_130923A** SeqNo: **2460812** 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| Anthracene | 579.7 | 6.7 | 666.7 | 0 | 86.9 | 55-105 | 0 | | | |
| Benzo(a)pyrene | 649.7 | 6.7 | 666.7 | 0 | 97.4 | 50-110 | 0 | | | |
| *Surr: 2-Fluorobiphenyl* | *1251* | 0 | *1667* | 0 | *75* | *12-100* | 0 | | | |
| *Surr: 4-Terphenyl-d14* | *1584* | 0 | *1667* | 0 | *95* | *25-137* | 0 | | | |
| *Surr: Nitrobenzene-d5* | *1343* | 0 | *1667* | 0 | *80.6* | *37-107* | 0 | | | |

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

**Client:** HRL Compliance Solutions
**Work Order:** 1309678
**Project:** WPX TR 41-35-597 Pit Closure 9/17/13

# QC BATCH REPORT

Batch ID: **51482** Instrument ID **SVMS7** Method: **SW8270**

**MS** Sample ID: **1309705-01C MS** Units: **µg/Kg** Analysis Date: **9/23/2013 05:06 PM**
Client ID: Run ID: **SVMS7_130923A** SeqNo: **2460814** 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| Anthracene | 1113 | 13 | 1298 | 27.37 | 83.7 | 55-105 | 0 | | | |
| Benzo(a)pyrene | 1303 | 13 | 1298 | 93.98 | 93.2 | 50-110 | 0 | | | |
| *Surr: 2-Fluorobiphenyl* | *2320* | 0 | *3244* | 0 | *71.5* | *12-100* | 0 | | | |
| *Surr: 4-Terphenyl-d14* | *3452* | 0 | *3244* | 0 | *106* | *25-137* | 0 | | | |
| *Surr: Nitrobenzene-d5* | *1980* | 0 | *3244* | 0 | *61* | *37-107* | 0 | | | |

**MSD** Sample ID: **1309705-01C MSD** Units: **µg/Kg** Analysis Date: **9/23/2013 05:28 PM**
Client ID: Run ID: **SVMS7_130923A** SeqNo: **2460815** 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| Anthracene | 1196 | 13 | 1286 | 27.37 | 90.9 | 55-105 | 1113 | 7.18 | 30 | |
| Benzo(a)pyrene | 1397 | 13 | 1286 | 93.98 | 101 | 50-110 | 1303 | 7.02 | 30 | |
| *Surr: 2-Fluorobiphenyl* | *2251* | 0 | *3215* | 0 | *70* | *12-100* | 2320 | *3.02* | *40* | |
| *Surr: 4-Terphenyl-d14* | *3052* | 0 | *3215* | 0 | *94.9* | *25-137* | 3452 | *12.3* | *40* | |
| *Surr: Nitrobenzene-d5* | *2233* | 0 | *3215* | 0 | *69.4* | *37-107* | 1980 | *12* | *40* | |

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

| | | |
|---|---|---|
| 1309678-05A | 1309678-06A | 1309678-07A |
| 1309678-08A | | |

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

**Client:** HRL Compliance Solutions
**Work Order:** 1309678
**Project:** WPX TR 41-35-597 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:** 1309678
**Project:** WPX TR 41-35-597 Pit Closure 9/17/13

# QC BATCH REPORT

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

**MSD** Sample ID: **1309631-02A MSD** Units: **µg/Kg** Analysis Date: **9/21/2013 12:42 PM**
Client ID: Run ID: **VMS5_130920C** SeqNo: **2459216** 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 | 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:** 1309678-01A 1309678-02A 1309678-03A 1309678-04A

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

**Client:** HRL Compliance Solutions
**Work Order:** 1309678
**Project:** WPX TR 41-35-597 Pit Closure 9/17/13

# QC BATCH REPORT

Batch ID: **R127021** Instrument ID **MOIST** Method: **A2540 G**

**MBLK** Sample ID: **WBLKS-R127021** Units: **% of sample** Analysis Date: **9/19/2013 04:30 PM**
Client ID: Run ID: **MOIST_130919D** SeqNo: **2456647** 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-R127021** Units: **% of sample** Analysis Date: **9/19/2013 04:30 PM**
Client ID: Run ID: **MOIST_130919D** SeqNo: **2456643** 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: **1309642-04A DUP** Units: **% of sample** Analysis Date: **9/19/2013 04:30 PM**
Client ID: Run ID: **MOIST_130919D** SeqNo: **2456625** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Moisture | 15.29 | 0.050 | 0 | 0 | 0 | 0-0 | 14.99 | 1.98 | 20 | |

**DUP** Sample ID: **1309646-01A DUP** Units: **% of sample** Analysis Date: **9/19/2013 04:30 PM**
Client ID: Run ID: **MOIST_130919D** SeqNo: **2456627** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Moisture | 3.65 | 0.050 | 0 | 0 | 0 | 0-0 | 4.26 | 15.4 | 20 | |

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

| | | |
|---|---|---|
| 1309678-01A | 1309678-02A | 1309678-03A |
| 1309678-04A | 1309678-05A | 1309678-06A |
| 1309678-07A | 1309678-08A | |

**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 # 1309678

PAGE 1 of 1

DISPOSAL: By Lab or Return to Client

| | | | |
|---|---|---|---|
| SAMPLER | Reed Wold | DATE | 9/17/13 |
| PROJECT NAME | WPX | SITE ID | TR 41-35-597 |
| PROJECT No. | TR 41-35-597 P+A closure | EDD FORMAT | |
| | | PURCHASE ORDER | |
| COMPANY NAME | HRL Compliance | BILL TO COMPANY | WPX |
| SEND REPORT TO | Mark Mumby | INVOICE ATTN TO | Karolina Blaney |
| ADDRESS | 2385 F 1/2 Rd | ADDRESS | 1058 Co Rd 215 |
| CITY / STATE / ZIP | Grand Junction, CO 81506 | CITY / STATE / ZIP | Parachure CO 81635 |
| PHONE | 970-243-3271 | PHONE | 970-683-2295 |
| FAX | 970-243-3280 | FAX | |
| E-MAIL | mmumby@hrlcomp.com rwold@hrlcomp.com | E-MAIL | Karolina.blaney@wpxenergy.com |

TURNAROUND: 5 Day

| Lab ID | Field ID | Matrix | Sample Date | Sample Time | # Bottles | Pres. | QC | DRO/GRO/BTEX | Benzo(a)pyrene |
|---|---|---|---|---|---|---|---|---|---|
| 1 | North Wall | SO | 9/17/13 | 11:00 | 1 | 8 | | X | |
| 2 | East Wall | ↓ | ↓ | 10:50 | ↓ | ↓ | | X | |
| 3 | West Wall | | | 10:30 | | | | X | |
| 4 | South Wall | | | 10:40 | | | | X | |
| 5 | Treatment cell 3/12 | | | 11:10 | | | | | X |
| 6 | Treatment cell 6/12 | | | 11:05 | | | | | X |
| 7 | Treatment cell 10/12 | | | 11:20 | | | | | X |
| 8 | Treatment cell 12/12 | ↓ | ↓ | 11:15 | ↓ | ↓ | | | 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 | | | 9-17 | 4:30 |
| RELINQUISHED BY | | | 9-17 | 4:30 |
| RECEIVED BY | | Ashley Bea | 9/18/13 | 1030 |
| RELINQUISHED BY | | | | |
| RECEIVED BY | | | | |

ALS Group USA, Corp

## Sample Receipt Checklist

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

Work Order: **1309678** Received by: **AB**

Checklist completed by Ashley Beard (eSignature) 18-Sep-13 (Date) Reviewed by: Ann Preston (eSignature) 19-Sep-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): | 3.6 | | |
| Cooler(s)/Kit(s): | | | |
| Date/Time sample(s) sent to storage: | 9/18/2013 12:04:00 PM | | |
| 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
127 E First Street
PARACHUTE, CO 81635

Origin ID: RILA

FedEx Express

J13201306280326

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

Dims: 25 X 14 X 15 IN

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# 0201 7967 0999 5750

**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.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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

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

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