FORM
27
Rev 6/99

State of Colorado
Oil and Gas Conservation Commission

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

#5947

FOR OGCC USE ONLY

RECEIVED
7/31/2013

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): Pit Closure

OGCC Operator Number: 96850
Name of Operator: WPX Energy Rocky Mountain LLC
Address: 1058 County Road 215
City: Parachute State: CO Zip: 81635

Contact Name and Telephone:
Karolina Blaney
No: 970-683-2295
Fax: 970-285-9573

API Number: N/A
County: Garfield
Facility Name: Uphoff TR 31-3-597
Facility Number: 284698
Well Name: Uphoff TR 32-3-597
Well Number: TR 32-3-597
Location: (QtrQtr, Sec, Twp, Rng, Meridian): NWNE, Sec 3, T5S, R97W, 6 PM Latitude: 39.646759 Longitude: -108.263087

TECHNICAL CONDITIONS

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

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

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): Rangeland, Non-Crop Land

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Parachute Irigul-Complex, 5-30% Slopes and Silas Loam 1-12%

Potential receptors (water wells within 1/4 mi, surface waters, etc.): West Fork Parachute Creek lies approximately 150 ft to the south.

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

Impacted Media (check):	Extent of Impact:	How Determined:
☑ Soils	Please see attached Notice of Completion Report	Visual observation, Field screening, Laboratory testing
☐ Vegetation	for Remediation # 5947	
☐ Groundwater		
☐ Surface Water		

REMEDIATION WORKPLAN

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

Please see attached Notice of Completion Report for Remediation # 5947

Describe how source is to be removed:

Please see attached Notice of Completion Report for Remediation # 5947

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.:

Please see attached Notice of Completion Report for Remediation # 5947

Submit Page 2 with Page 1

REM # 5947

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: Location # 335698
Well Name & No: Pit # 284698
Facility Name & No: TR 32-3-597

REMEDIATION WORKPLAN (Cont.)

OGCC Employee:

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

Please see attached Notice of Completion Report for Remediation # 5947

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.

Please see attached Notice of Completion Report for Remediation # 5947

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:

Please see attached Notice of Completion Report for Remediation # 5947

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

Please see attached Notice of Completion Report for Remediation # 5947

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: May 24, 2013	Date Site Investigation Completed: May 24, 2013	Date Remediation Plan Submitted: July 12, 2011
Remediation Start Date: June 6, 2013	Anticipated Completion Date: June 7, 2013	Actual Completion Date: June 7, 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: July 30, 2013

OGCC Approved: _____ Title: EPS - NW Region Date: 08/02/2013

For Chris Canfield
EPS NW Region

Sensitive Area Determination Checklist

Williams Production RMT Company			
Person(s) Conducting Field Inspection		Ashlee V. Lane	6/7/11
		Biologist	
Site Information			
Location:	TR 32-3-5897		Time: 1430
Type of Facility:	Existing Well Pad		
Environmental Conditions	Clear; windy; soil conditions are dry.		
Temperature (°F)	62°		

Has the proposed, new or existing location been designated as a sensitive area?
☒ Yes ☐ No

SURFACE WATER

1. Are there any surface water features or SWSAs adjacent to or within ¼ mile of the proposed/new or existing facility?
   ☒ Yes ☐ No

   If yes, list type of surface water feature(s), i.e. rivers, creeks, streams, seeps, springs, wetlands: There is one unnamed USGS identified intermittent drainage, one pond, and the West Fork Parachute Creek, a USGS identified intermittent/perennial stream.

   If yes, describe location relative to facility: The unnamed USGS identified intermittent drainage is located 300 feet to the southwest, the pond is 300 feet to the southwest and the West Fork Parachute Creek is 214 feet south of the center of the facility.

2. Could a potential release from the facility reach surface water features?
   ☒ Yes ☐ No

   If yes, describe the pathway a release from the facility would likely follow to determine if the potential to impact surface water is high or low. Flow off of the well pad would most likely be to the south, southeast towards the West Fork Parachute Creek.

3. Is the potential to impact surface water from a facility release high or low?
   ☒ High If intermittent flows are occurring in West Fork Parachute Creek.
   ☒ Low If there is no surface water is flow.

GROUNDWATER

1. Will the proposed/new or existing facility have any pits which will contain hydrocarbons and chlorides or other E&P wastes?
   ☒ Yes ☐ No
   If yes, List the pit type(s): Drilling pit

2. Is the site of the proposed facility underlain by an unconfined aquifer or recharge zone?
   ☒ Yes ☐ No

3. Is the hydraulic conductivity of the underlying soil or geologic material $\leq 1.0x10^{-7}$ cm/sec?
   ☐ Yes ☒ No

4. Is the proposed facility located within 1/8 mile of a domestic water well or 1/4 mile of a public water supply well which would use the same aquifer?
   ☐ Yes ☒ No

5. Is the proposed facility located within a 100 year floodplain?
   ☐ Yes (*Sensitive Area*) ☒ No (*If no, proceed to question #6.*)

6. Is the depth to groundwater known?
   ☐ Yes (*If yes, follow instructions provided in 6(a) of this section).*
   ☒ No (*If no, follow instructions provided in 6(b) of this section*).

   (a) If yes, could a potential release from the proposed facility reach groundwater?
   ☐ Yes ☐ No
   If yes, explain:

   (b) If no:
   (i) Evaluate surrounding soils, topography, and vegetation which may suggest the presence of shallow groundwater.
   (ii) Gather information from surrounding well data in order to determine a depth to groundwater, i.e. State Engineers Office.

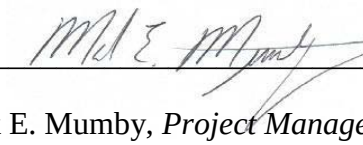
7. Is the potential to impact ground water from the facility in the event of a release high or low?
   ☒ High ☐ Low

Additional Comments:

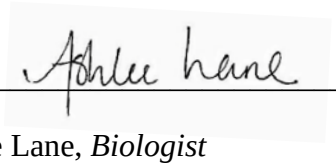
As stated in the surface water section of this sensitive area determination, the West Fork Parachute Creek is located 214 feet south of the facility, and the unnamed USGS identified intermittent drainage and pond are located 300 feet southwest of the location. The facility, as it is currently constructed limits the direction of a potential release to the southern edge of the facility. A potential release, if it were migrate off the facility, would flow directly towards the West Fork of Parachute Creek and potentially the small pond. It is not anticipated that the unnamed intermittent drainage to the southwest of the facility would be impacted by a release due to the fact it flows towards the West Fork of Parachute Creek from the south. The section of West Fork of Parachute Creek in the immediate vicinity of the facility is identified as intermittent. By COGCC decision all of the above named surface water features are within 500 feet of the facility which would classify it as being in a sensitive area. Best Management Practices are currently installed in the form of an earthen perimeter berm and diversion ditch both of which surround the southern perimeter of the well pad.

The State Engineer's office and USGS records were reviewed and no records were revealed that would provide additional information pertaining to the depth to groundwater. The vegetative cover in the immediate vicinity of the facility does not suggest the presence of shallow groundwater. However, during the site investigation, two domestic livestock water drinkers were identified to the south of the facility. They both appear to be supplied by groundwater. Therefore the possibility of shallow groundwater may exist in the fluvial deposits associated with the West fork of Parachute Creek. During the site investigation, two (2) domestic livestock water drinkers were identified which appeared to be supplied by ground water.

Based on the data collected from the site investigation and desk top review, the potential to impact surface water features is high even with the BMP's currently in place. In addition the close proximity of the West Fork of Parachute Creek and the pond could easily be impacted by a release if it were to breech the BMP's. The impacts would be somewhat less if no intermittent flow was occurring but high during periods of intermittent flow. The two livestock drinkers, potentially supplied by groundwater could be impacted by a release off the facility. A large release could potentially infiltrate though the alluvial and fluvial sediments and impact the potential water source for the livestock drinkers. Based on the above conditions present the potential to impact both surface water and potentially groundwater is high. Therefore the facility should be designated as being in a sensitive area.

Inspector Signature(s):  Date: 6/21/2011

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

 Date: 06/08/2011

Ashlee Lane, *Biologist*
HRL Compliance Solutions, Inc.

FORM 27 ATTACHMENT:

Describe initial Action taken:

- At the location(s) of the pit which are the furthest downgradient, lowest in elevation and/or have the potential for pooling of liquid, field-screening will be performed and will utilize appropriate field equipment which may include, but is not limited to the following.
  - a PetroFlag unit,
  - a photoionization gas detector (PID),
  - or similar, for detection of volatile hydrocarbons, in the immediate area of the pit footprint.
- Confirmation sample(s), Rule 905.b.(4), will be collected and submitted for lab analysis and verification to confirm compliance with Rule 910 and Table 910-1 (reference to specific analytes is provided below) relative to the aforementioned field screen activity.
- Other areas of the pit walls and floor will be inspected for evidence of impact via field screening and visual observation. Grab samples will be collected, as appropriate, to demonstrate diligence and thoroughness of investigation activities performed as directed in Rule 905.b.(1). In addition, all field screening activities and results will be documented and complied into a summary report, table and/or map to be provided with the Site Closure Plan.
- Grab sample(s) will be submitted for laboratory analysis to confirm field screening activities. Sub-liner sample analytes will include considerations identified by Rule 910 and all contaminants of concern for soils from Table 910-1 excluding boron (see attached analyte list in Table 1 of Annex A; and Williams Highlands Pit Closure Plan, COGCC document #01175818).
- A visual assessment will be performed throughout the entire investigation process and will be adequately documented (e.g. field notes, observations, photographs, etc.) by qualified personnel.
- For additional information and detail of the proposed initial actions to be taken refer to the Williams Highlands Pit Closure Plan (COGCC document #01175818).

Describe how source is to be removed:

The presence of impact has not been determined at this point. No impacts have been observed to date or any other indication that would suggest there has been an event that would result in impact to the surrounding environment. However, should contamination be encountered the following actions will be taken:

- Any spill or release will be reported via a Form 19 and in accordance with Rule 906 and remediation shall be performed in accordance with requirements specified in Rules 909 and 910.
- Notification and consultation with the affected surface owner(s) shall be made with good faith effort and in accordance with Rule 906.c.
- Should a release be identified and attributed to the contents of the pit, the impacted area will be:

  - excavated in which field screen instruments will guide the excavation and laboratory confirmation samples collected to demonstrate compliance with Table 910-1 of the COGCC 900-series rule; and
  - placed within a lined and bermed containment cell pending remediation and disposal option described below.
- All pit contents will be evacuated and managed in accordance with all applicable local, state [i.e. Rule 905.b.(2)] and federal regulations. If disposal is required, the relevant media will be disposed of at an approved facility.
- The potential source - production pit - will be closed and reclaimed in accordance with the COGCC 900 and 1000 series rules, respectively.
- The synthetic liner will be removed either recycled/reused or disposed of at an approved facility as a solid waste and in accordance with Rule 905.b.(3). Williams personnel have no reason to suspect nor have they been informed of signs or conditions that would indicate past or present failure of the liner/containment system.
- For additional information and detail of how the potential sources is to be removed refer to the Williams Highlands Pit Closure Plan (COGCC document #01175818).

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, in-situ bioremediation, burning of oily vegetation, etc.:

The presence of impact has not been determined at this point. No impacts have been observed to date or any other indication that would suggest there has been an event that would result in impact to the surrounding environment. However, should contamination be encountered the following actions will be taken:

- Any area(s) determined to be impacted/contaminated will be excavated and managed in accordance with all applicable rules and regulations regarding solid waste including applicable portion of COGCC Rule 907.
- Field screen equipment will be used to guide the excavation to ensure compliance with Table 910-1 of the COGCC 900 series rule.
- The excavated material will be placed within a lined and bermed containment cell pending the following options. Remediation and disposal options may include:
  - on-site landfarming/bioremediation,
  - in-situ remediation,
  - and/or disposal at an approved waste, management facility; as consistent with Rule 907.
- Disposal of impacted media will occur at an approved waste facility (i.e. Garfield County Landfill, Wray Gulch Landfill) further defined in the “Final disposition of E&P waste” below.
- Final disposition will be dependent upon identified contaminants, contaminant concentration, land availability, landowner approval and waste volume.
- For additional information and detail regarding the proposed approach to accomplish remediation of any impacts, if identified, refer to the Williams Highlands Pit Closure Plan (COGCC document #01175818).

If groundwater has been impacted, describe proposed monitoring plan:

- The presence of impact has not been determined at this point. No impacts have been observed to date or any other indication that would suggest there has been an event that would result in impact to the surrounding environment. However, should it be observed or determined that groundwater impacts exist an appropriate site specific monitoring and remediation plan will be developed and submitted for approval.
    - The monitoring and remediation plan will be developed to include, but is not limited to,
        - number of sample wells and/or points;
        - proposed location of sample wells and/or points;
        - sampling schedule;
        - analytical methods including analyte list(s);
        - monitoring scheme including end point; and
        - potential mitigation or remediation approaches if necessary [Rule 910 (4) E].

Describe reclamation plan:

- The pit will be reclaimed to the present grade of the location or to the approximate original contour of the landscape and consistent with the 1000-series Rule.
- Seeding of the disturbed area will be performed in accordance with its' intended use. The seed mix will be prescribed by the landowner.
- There are no known noxious weeds in the immediate area of the disturbance. A noxious weed survey is performed annually of the Trail Ridge field which includes this location.
- As a preventative measure, Williams seeds all disturbed areas as soon as practicable with temporary or sterile annual seed mixes to:
    - provide soil stability, and
    - serve as a nurse or cover crop for desired species; derived from the natural seed bank and/or the applied seed mix.
- Bare ground treatment is a common practice by Williams and any identified noxious weed species will be spot treated for immediate eradication and prevention of encroachment and dispersal.
- A plat of the location is attached for topographic and geographic reference.

Attach samples and analytical results taken to verify remediation of impacts. Show location of samples on an onsite schematic or drawing. Is further site investigation required?:

- The presence of impact has not been determined at this point; therefore, the need for further site investigation has not been determined at this time.
- A determination of whether further site investigation is required and is pending field assessments and screening, which are to be confirmed by analytical results from an accredited - NELAP - laboratory (e.g. Evergreen Analytical Laboratory).
- Final documentation of investigation and closure activities shall be submitted to the Division within thirty (30) days after conclusion of any and all remediation and

reclamation activity and in accordance with all applicable sections and subsections of Rule 909.

Final disposition of E&P waste:

- If the stockpiled volume is small enough to manage on-site, there is available area on location, concentrations are within a reasonable range to be remediated in a timely manner and the identified contaminants are conducive to bioremediation, landfarming or in-situ remediation may occur as approved and in accordance with Rule 907.
- Should the aforementioned attributes do not exist or concentrations are not conducive to bioremediation then off-site disposal will be the final disposition of all impacted materials.
- If the latter option is taken, disposal will occur at an approved treatment, storage or disposal facility (TSD) which may include, but is not limited to, the following facilities:
    - the West Garfield County Landfill (045-LFL-005; Parachute, CO);
    - or the Wray Gulch Landfill (103-LFL-020; Meeker, CO).
- Any soils requiring treatment that, once treated, fall below the allowable concentrations and levels provided in Table 910-1 may be recycled and reused at Williams facilities as fill material.

ANNEX A:

Confirmatory Analyte List for Potential Contaminants of Concern in Soil:

Table 1 – Sample collection, handling and analysis summary

Analyte Class	Analysis	Method	COGCC Table 910-1 Standard	Holding Time	Container
Organics	TVPH (GRO)	SW8015 mod	500 mg/kg	14 days	4 oz. wide mouth jar
	TEPH (DRO)				
	Benzene	SW8021	0.17 mg/kg	14 days	4 oz. wide mouth jar
	Toluene		85 mg/kg		
	Ethylbenzene		100 mg/kg		
	Xylenes (total)		175 mg/kg		
	Acenaphthene	SW8270	1,000 mg/kg	14 days	4 oz. wide mouth jar
	Anthracene				
	Benzo (A) anthracene		0.22 mg/kg		
	Benzo (B) flouranthene				
	Benzo (K) fluoranthene				
	Benzo (A) pyrene		0.022 mg/kg		
	Chrysene		22 mg/kg		
	Dibenzo (A,H) anthracene		0.022 mg/kg		
	Fluoranthene		1,000 mg/kg		
	Fluorne				
	Indeno (1,2,3,C,D) pyrene		0.22 mg/kg		
	Naphthalene		23 mg/kg		
	Pyrene		1,000 mg/kg		
Inorganics	Electrical Conductivity	USDA Hdbk	<4 mmhos/cm or 2x background	28 days	4 oz. wide mouth jar
	Sodium Adsorption Rate	USDA Hdbk 60 Method 20B or 3A	<12	180 days	1 gal. ziplock bag
	pH	SW9045	6-9	< 24 hrs.	2 oz. wide mouth jar

Rem # _____
OGCC # _____

Table 1 Cont'd - Sample collection, handling and analysis summary

Analyte Class	Analysis	Method	COGCC Table 910-1 Standard	Holding Time	Container
Total Metals*	Arsenic	SW 6010, 6020, 7470	0.39 mg/kg	28 days for Hg & 180 days for remaining	4 oz. wide mouth jar
	Barium		15,000 mg/kg		
	Cadmium		70 mg/kg		
	Chromium (III)		120,000 mg/kg		
	Chromium (IV)		23 mg/kg		
	Copper		3,100 mg/kg		
	Lead (inorganic)		400 mg/kg		
	Mercury		23 mg/kg		
	Nickel (soluble salts)		1,600 mg/kg		
	Selenium		390 mg/kg		
	Silver		390 mg/kg		
	Chloride		15,000 mg/kg		

General note: Preservation standards for organics and inorganics in soil are < 4°C as per EAL protocol. Of the above sample methods and procedures, none require a preservative to preserve sample integrity.
Note(*****): Boron (hot water soluble) has been excluded from this analyte list as no crops (citrus or nuts) or other vegetation which may be sensitive to boron are known or are expected to be encountered. Should the Director or COGCC EPS decide to, at his discretion, require a Boron analysis the above analyte list will be modified to reflect that change and requirement, at that point in time.

Rem # _____
OGCC # _____

WPX ENERGY ROCKY MOUNTAIN LLC

TRAIL RIDGE FIELD

NOTICE OF COMPLETION REPORT FOR

TR 31-3-597 PRODUCTION PIT
REMEDIATION # 5947

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 Uphoff TR 31-3-597 (Form 27 states TR 32-3-597) Production Pit (COGCC Facility ID number 284698; hereinafter referred to as TR 31-3-597 – is to provide detailed information and result analysis for the previously submitted and approved remediation number 5947, 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 July 12, 2011. Preliminary approval to proceed with closure of the subject pit was issued by the COGCC and obtained by WPX Energy Rocky Mountain, LLC (WPX) on July 26, 2011; at which time the aforementioned remediation number was issued. Closure activities began on June 6, 2013 and were concluded on June 7, 2013. Information included in this report includes but is not limited to; field screening results, laboratory analytical, subliner soil Investigation, soil treatment, and liner recycling.

EVACUATION OF PIT CONTENTS

Produced water and free liquids were removed from the pit utilizing a vacuum truck. Once the liquids were removed from the pit, the residual pit contents remaining on the liner were removed using a pressure washer. The liquid was then suctioned off via vacuum truck. All pit fluids were transported to the TR 41-35-597 #2 multi-well pit (COGCC facility #422272).

BACKGROUND SAMPLING

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

PIT LINER INVESTIGATION AND INTEGRITY ASSESSMENT

The pit liner consisted of a four layer system. These layers included: a 12mm poly synthetic material, a felt fabric, a tarpaulin textile, and a poly synthetic net. The liner system did not identify any visible tears or rips during the liner investigation conducted on May 24, 2013. However, the pit liner was seamed together in four sections running the length of the pit; these seams had approximately two centimeters of overhang which may have led to a failure of the seam. Also, a buried dump line from the pad had been installed through the liner on the east wall roughly two feet from the top of the pit. The liner seam was sealed around the pipe with the same noticeable overhang on the seams. Approximately six inches of liquid was noticeable in the low point of the pit, underneath the liner system. The suspected failed seams 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 seams 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

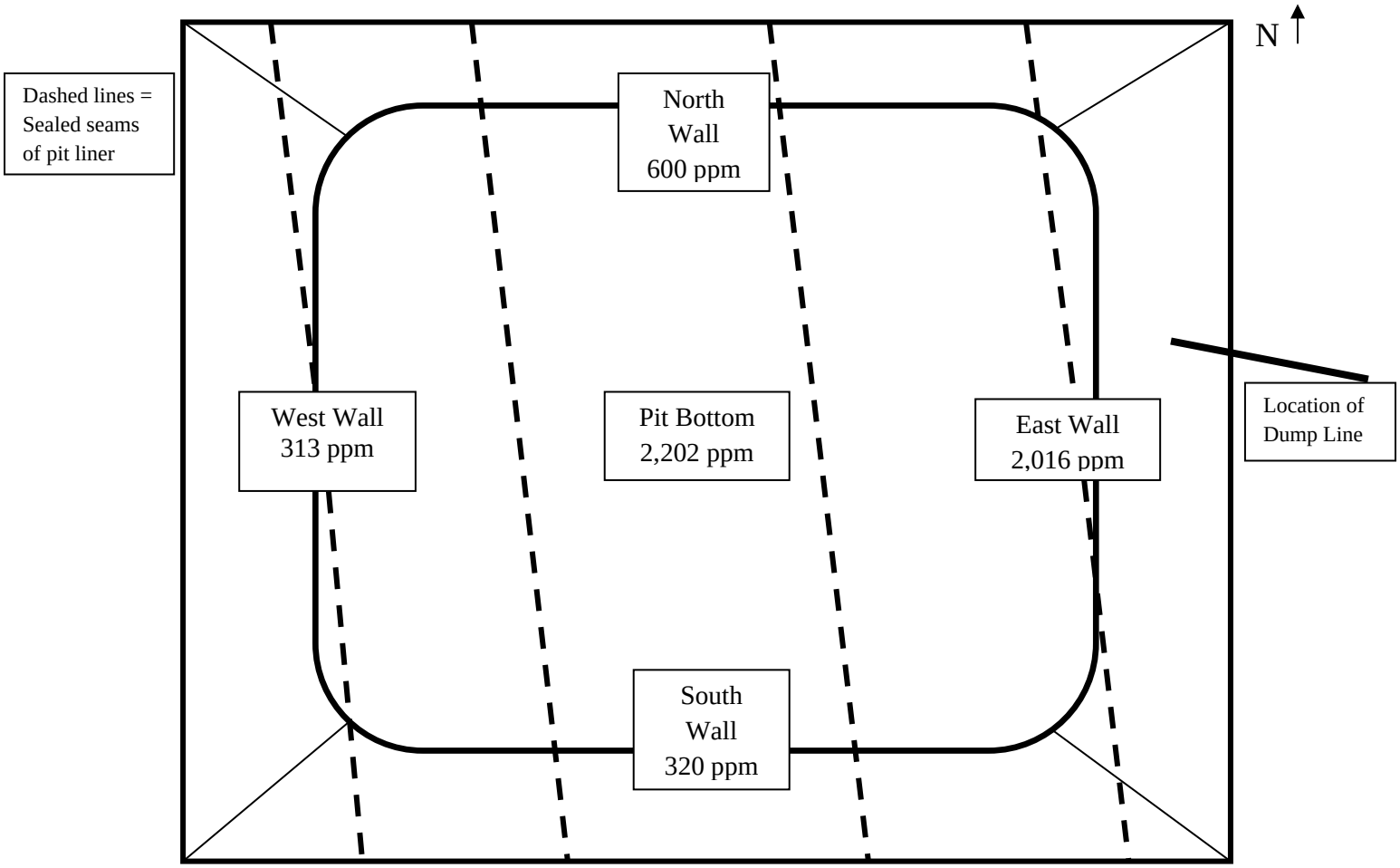


TABLE 1: PETROFLAG© FIELD SCREENING RESULTS

Sample ID	Result (0-6'')
North Wall	600
South Wall	320
East Wall	2016
West Wall	313
Pit Bottom	2202

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 east 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 June 6, 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 from the pit bottom down in order to delineate the vertical extent of the impacts to depth. The surface soil of the pit bottom was a saturated sandy silt. Moist, discolored soil of this description was characterized down to a depth of approximately five feet below the pit bottom surface. Below said depth, the soil was a brown sandy silt with no visual impacts. PetroFlag© field screen results indicated that the hydrocarbon concentrations were below the 500 mg/kg COGCC Table 910-1 threshold for the respective soil horizon. The track hoe excavated and stockpile impacted material from the pit bottom down to the five foot depth throughout the pit bottom.

Impacted soil from the north wall was excavated approximately two feet from the original wall dimensions. At this point, field screen readings indicated concentrations below the COGCC Table 910-1 threshold. The impacted soil was stockpiled within the bermed containment cell. Excavation was halted for the day due to equipment issues on the trackhoe.

Excavation continued to remove impacted soil from the east wall near the dump line June 7, 2013. The eastern wall of the pit was excavated laterally to the east approximately 10 feet before field screen readings indicated the soil was below the threshold criteria outlined by COGCC Table 910-1. The east wall was excavated down vertically to the depth established the day prior. Field screen readings from the pit bottom where vertical excavation ended on the east wall were also below the COGCC Table 910-1 threshold of 500 mg/kg.

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 five vertical feet of impacted soil was removed from the pit bottom, 10 lateral feet from the east wall, two feet from the north wall and less than one foot from the remaining west and south walls. The excavated soils were transferred to a bermed containment for later 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, which included the low point of the base to be analyzed for full COGCC Table 910-1, to demonstrate compliance in accordance with Rule 905.b.(1).
- A Trimble Geo XT 2011 was used to satisfy requirements as outlined in COGCC Rule 215 for collecting GPS locations of each confirmation sample location from the pit walls and pit bottom.
- Visual inspection of the pit bottoms, field screening techniques, and sampling procedures were followed in accordance with WPX Pit Closure Plan (COGCC document #01175818).

SAMPLE ANALYSIS

Sampling was performed in accordance with WPX Pit Closure Plan, Phase IV, Task 2. See attached Table 2 for summary of initial 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 suppose subsequent operations and prevent subsidence.

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

EXCEPTIONS TO COGCC TABLE 910-1

The only exceedances with regards to COGCC Table 910-1 were within the inorganic and arsenic samples. Refer to the Sundry Notice for consideration of background inorganic and arsenic concentrations in the immediate area of the subject facility. Refer to Appendix 3 for submitted Sundry Notice.

STOCKPILED SOILS MANAGEMENT

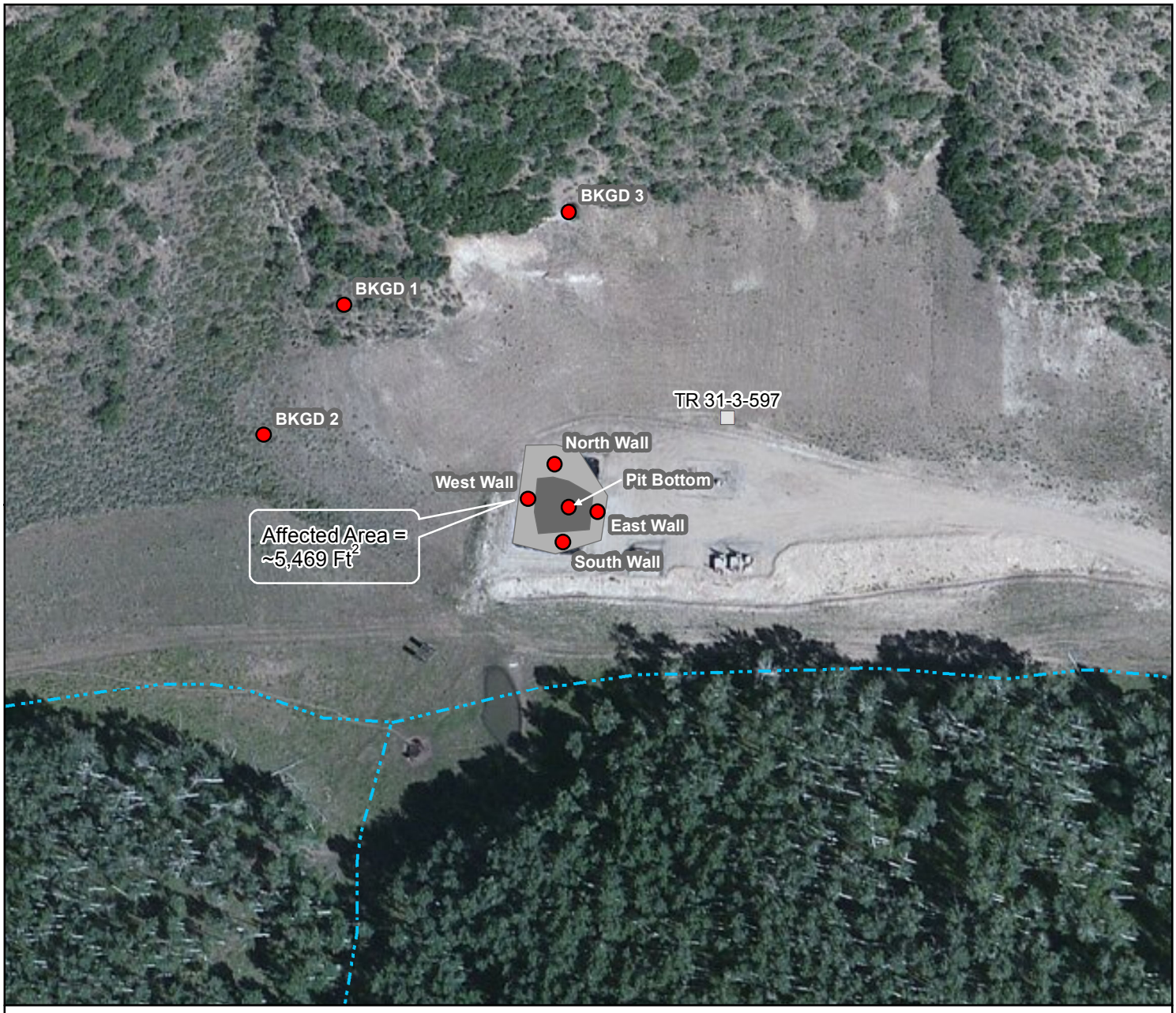
Impacted soils removed from the pit bottom and side walls were amended on-site with native soils from the area surrounding the pad. Analytical presented in Table 4 indicated that soils are below hydrocarbon standards outlined in COGCC Table 910-1 and amending was stopped. Soils will be used to backfill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

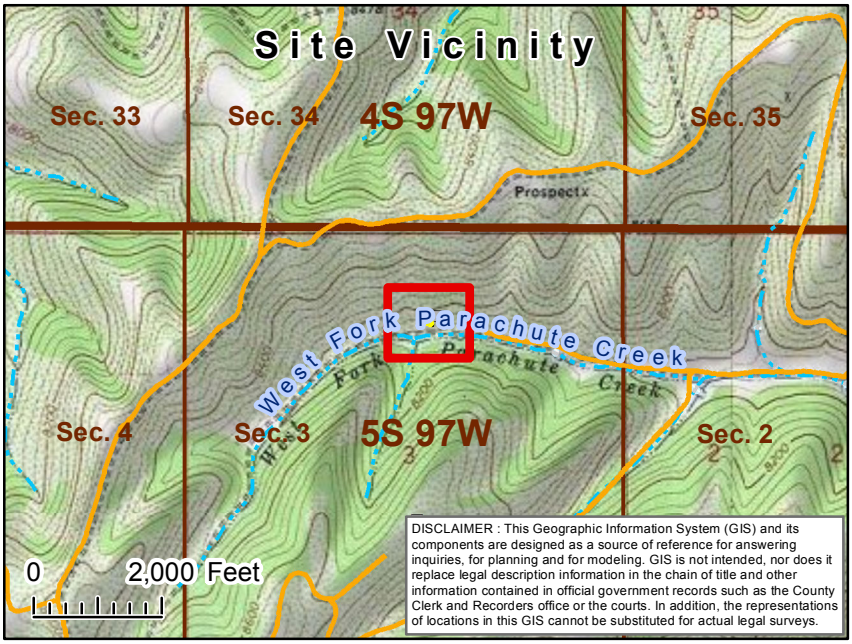
ANALYTICAL DATA MANAGEMENT

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

FIGURES

FIGURE 2: GIS MAP OF THE SAMPLE LOCATIONS





Attachment A--Location Map

Location: TR 31-3-597

WPX Energy Rocky Mountain, LLC

Legend

- Sample Location
- Pit Footprint Post Excavation
- Pit Perimiter Post Excavation

PLSS

- Township
- Section
- WPX Access Roads

Hydrographic Features

- Perennial Stream
- Intermittent Stream

0 25 50 100 Feet

N W E S

HCSI ENVIRONMENTAL CONSULTANTS

T:\Client_Specific\2008\Williams_EP\Pit Closures\2013\TR 31-3-697\TR 31-3-597 2013-07-29.mxd HCSI_mspinelli

Revision Date: 7/29/2013 11:11:25 AM

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

Facility Name: Uphoff TR 31-3-597
(Form 27 states TR 32-3-597) Name of Operator: WPX Energy Rocky Mountain, LLC
Remediation: 5947 Latitude: 39.646759 Longitude -108.263087 COGCC Operator # 96850
Facility ID: 284698 Location (QtrQty, Sec, Twp, Rng, Meridian): NWNE, Sec 3, T5S, R97W County: Rio Blanco

TABLE 2: POST EXCAVATION PIT BOTTOM AND WALLS ANALYTICAL RESULTS

Pit Bottom and Walls	Sample Locations				
	North Wall (2ft Depth)	South Wall (1ft Depth)	East Wall (10ft Depth)	West Wall (1ft Depth)	Pit Bottom (5ft Depth)
TEPH (DRO)	30	35	40	44	26
TVPH (GRO)	ND	ND	ND	ND	ND
BENZENE	ND	ND	ND	ND	ND
TOLUENE	ND	ND	ND	ND	ND
ETHYLBENZENE	ND	ND	ND	ND	ND
XYLENE TOTAL	ND	ND	ND	ND	ND
ACENAPHTHENE	ND	ND	ND	ND	ND
ANTHRACENE	ND	ND	ND	ND	ND
BENZO(A)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	0.023	ND	ND	ND	ND
FLUORENE	ND	ND	ND	ND	ND
INDENO(1,2,3-CD)PYRENE	ND	ND	ND	ND	ND
NAPHTHALENE	ND	ND	ND	ND	ND
PYRENE	ND	ND	ND	ND	ND
ARSENIC	-	-	-	-	2.9
BARIUM	-	-	-	-	250
CADMIUM	-	-	-	-	ND
CHROMIUM	-	-	-	-	22
CHROMIUM (III)	-	-	-	-	22
CHROMIUM (IV)	-	-	-	-	ND
COPPER	-	-	-	-	12
LEAD	-	-	-	-	8
MERCURY	-	-	-	-	ND
NICKEL	-	-	-	-	16
SELENIUM	-	-	-	-	ND
SILVER	-	-	-	-	ND
ZINC	-	-	-	-	51
ELECTRICAL CONDUCTIVITY (EC) (mmho/cm)	-	-	-	-	2.2
pH	-	-	-	-	8.0
SODIUM ADSORPTION RATIO (SAR)	-	-	-	-	17

Readings above state limits are highlighted in yellow
Note: all results are in, mg/kg = milligram per kilogram, unless noted otherwise
ND = Non Detect
- = Not Sampled

TABLE 3: BACKGROUND ANALYTICAL RESULTS

Sample ID	Arsenic (mg/kg)	Conductivity(mmho/cm)	pH (s.u.)	Sodium Adsorbtion Ratio
BKGD 1	5.3	N/A	N/A	N/A
BKGD 2	4.7	0.89	7.4	0.31
BKGD 3	5.0	N/A	N/A	N/A

Results above state limits are highlighted in yellow

Table 4: Landfarm Analytical Results

Sample ID	DRO	GRO
Landfarm	210	ND

APPENDIXES

APPENDIX 1: PIT BOTTOM AND WALL SAMPLING RAW ANALYTICAL RESULTS

18-Jul-2013

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

Re: **WPX TR 32-3-597 Pit Closure 6/7/13** Work Order: **1306318**

Dear Kris,

ALS Environmental received 8 samples on 08-Jun-2013 10:30 AM for the analyses presented in the following report.

This is a REVISED REPORT. The Case Narrative provides information discussing the reason for issuing a revised report. The total number of pages in this revision is 33.

If you have any questions regarding these test results, 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 32-3-597 Pit Closure 6/7/13
Work Order: **1306318**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1306318-01	North Wall (2 ft depth)	Soil		6/7/2013 09:25	6/8/2013 10:30	☐
1306318-02	East Wall (10 ft depth)	Soil		6/7/2013 09:45	6/8/2013 10:30	☐
1306318-03	West Wall (1 ft depth)	Soil		6/7/2013 10:00	6/8/2013 10:30	☐
1306318-04	Pit Bottom (5 ft depth)	Soil		6/7/2013 10:30	6/8/2013 10:30	☐
1306318-05	South Wall (1 ft depth)	Soil		6/7/2013 10:50	6/8/2013 10:30	☐
1306318-06	BKGD 1	Soil		6/7/2013 12:05	6/8/2013 10:30	☐
1306318-07	BKDG 2	Soil		6/7/2013 12:15	6/8/2013 10:30	☐
1306318-08	BKGD 3	Soil		6/7/2013 12:25	6/8/2013 10:30	☐

ALS Group USA, Corp

Date: 18-Jul-13

Client: HRL Compliance Solutions
Project: WPX TR 32-3-597 Pit Closure 6/7/13
Work Order: 1306318

Case Narrative

This revised report only change ws the sample ID for 1306318-02 was changed to East Wall (10 ft depth).

Batch 48950 MS/MSD data for Mercury is not related to this project's samples. No data requires qualification.

Batch 49015 sample Pit Bottom (5 ft depth) MS/MSD recoveries for Hexavalent Chromium were below control limits. The corresponding reporting limit in the parent sample may be biased low.

Batch 49037 MS/MSD data for Metals is not related to this project's samples. No data requires qualification.

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
none	
s.u.	Standard Units

ALS Group USA, Corp

Date: *18-Jul-13*

Client: HRL Compliance Solutions
Project: WPX TR 32-3-597 Pit Closure 6/7/13 **Work Order:** 1306318
Sample ID: North Wall (2 ft depth) **Lab ID:** 1306318-01
Collection Date: 6/7/2013 09:25 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep Date: **6/11/2013**	Analyst: **CW**
DRO (C10-C28)	**30**		**4.9**	**mg/Kg-dry**	1	6/12/2013 02:35 AM
Surr: 4-Terphenyl-d14	*98.1*		*39-115*	*%REC*	1	6/12/2013 02:35 AM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015**			Analyst: **RD**
GRO (C6-C10)	ND		3.0	mg/Kg-dry	50	6/12/2013 12:53 PM
Surr: Toluene-d8	*105*		*50-150*	*%REC*	50	6/12/2013 12:53 PM
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep Date: **6/11/2013**	Analyst: **CW**
Acenaphthene	ND		18	µg/Kg-dry	1	6/12/2013 04:13 PM
Acenaphthylene	ND		35	µg/Kg-dry	1	6/12/2013 04:13 PM
Anthracene	ND		18	µg/Kg-dry	1	6/12/2013 04:13 PM
Benzo(a)anthracene	ND		20	µg/Kg-dry	1	6/12/2013 04:13 PM
Benzo(a)pyrene	ND		20	µg/Kg-dry	1	6/12/2013 04:13 PM
Benzo(b)fluoranthene	ND		21	µg/Kg-dry	1	6/12/2013 04:13 PM
Benzo(g,h,i)perylene	ND		33	µg/Kg-dry	1	6/12/2013 04:13 PM
Benzo(k)fluoranthene	ND		21	µg/Kg-dry	1	6/12/2013 04:13 PM
Chrysene	ND		18	µg/Kg-dry	1	6/12/2013 04:13 PM
Dibenzo(a,h)anthracene	ND		21	µg/Kg-dry	1	6/12/2013 04:13 PM
Fluoranthene	**23**		**18**	**µg/Kg-dry**	1	6/12/2013 04:13 PM
Fluorene	ND		18	µg/Kg-dry	1	6/12/2013 04:13 PM
Indeno(1,2,3-cd)pyrene	ND		23	µg/Kg-dry	1	6/12/2013 04:13 PM
Naphthalene	ND		18	µg/Kg-dry	1	6/12/2013 04:13 PM
Pyrene	ND		18	µg/Kg-dry	1	6/12/2013 04:13 PM
Surr: 2-Fluorobiphenyl	*76.5*		*12-100*	*%REC*	1	6/12/2013 04:13 PM
Surr: 4-Terphenyl-d14	*111*		*25-137*	*%REC*	1	6/12/2013 04:13 PM
Surr: Nitrobenzene-d5	*79.3*		*37-107*	*%REC*	1	6/12/2013 04:13 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep Date: **6/11/2013**	Analyst: **BG**
Benzene	ND		36	µg/Kg-dry	1	6/11/2013 07:27 PM
Ethylbenzene	ND		36	µg/Kg-dry	1	6/11/2013 07:27 PM
m,p-Xylene	ND		71	µg/Kg-dry	1	6/11/2013 07:27 PM
o-Xylene	ND		36	µg/Kg-dry	1	6/11/2013 07:27 PM
Toluene	ND		36	µg/Kg-dry	1	6/11/2013 07:27 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	6/11/2013 07:27 PM
Surr: 1,2-Dichloroethane-d4	*100*		*70-130*	*%REC*	1	6/11/2013 07:27 PM
Surr: 4-Bromofluorobenzene	*102*		*70-130*	*%REC*	1	6/11/2013 07:27 PM
Surr: Dibromofluoromethane	*100*		*70-130*	*%REC*	1	6/11/2013 07:27 PM
Surr: Toluene-d8	*101*		*70-130*	*%REC*	1	6/11/2013 07:27 PM
MOISTURE			**A2540 G**			Analyst: **BD**
Moisture	**16**		**0.050**	**% of sample**	1	6/10/2013 01:30 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 32-3-597 Pit Closure 6/7/13 **Work Order:** 1306318
Sample ID: East Wall (10 ft depth) **Lab ID:** 1306318-02
Collection Date: 6/7/2013 09:45 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep Date: **6/11/2013**	Analyst: **CW**
DRO (C10-C28)	**40**		**5.1**	**mg/Kg-dry**	1	6/12/2013 03:06 AM
Surr: 4-Terphenyl-d14	*87.6*		*39-115*	*%REC*	1	6/12/2013 03:06 AM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015**			Analyst: **RD**
GRO (C6-C10)	ND		3.1	mg/Kg-dry	50	6/12/2013 01:18 AM
Surr: Toluene-d8	*104*		*50-150*	*%REC*	50	6/12/2013 01:18 AM
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep Date: **6/11/2013**	Analyst: **CW**
Acenaphthene	ND		18	µg/Kg-dry	1	6/12/2013 04:33 PM
Acenaphthylene	ND		37	µg/Kg-dry	1	6/12/2013 04:33 PM
Anthracene	ND		18	µg/Kg-dry	1	6/12/2013 04:33 PM
Benzo(a)anthracene	ND		21	µg/Kg-dry	1	6/12/2013 04:33 PM
Benzo(a)pyrene	ND		21	µg/Kg-dry	1	6/12/2013 04:33 PM
Benzo(b)fluoranthene	ND		22	µg/Kg-dry	1	6/12/2013 04:33 PM
Benzo(g,h,i)perylene	ND		34	µg/Kg-dry	1	6/12/2013 04:33 PM
Benzo(k)fluoranthene	ND		22	µg/Kg-dry	1	6/12/2013 04:33 PM
Chrysene	ND		18	µg/Kg-dry	1	6/12/2013 04:33 PM
Dibenzo(a,h)anthracene	ND		22	µg/Kg-dry	1	6/12/2013 04:33 PM
Fluoranthene	ND		18	µg/Kg-dry	1	6/12/2013 04:33 PM
Fluorene	ND		18	µg/Kg-dry	1	6/12/2013 04:33 PM
Indeno(1,2,3-cd)pyrene	ND		24	µg/Kg-dry	1	6/12/2013 04:33 PM
Naphthalene	ND		18	µg/Kg-dry	1	6/12/2013 04:33 PM
Pyrene	ND		18	µg/Kg-dry	1	6/12/2013 04:33 PM
Surr: 2-Fluorobiphenyl	*75.9*		*12-100*	*%REC*	1	6/12/2013 04:33 PM
Surr: 4-Terphenyl-d14	*113*		*25-137*	*%REC*	1	6/12/2013 04:33 PM
Surr: Nitrobenzene-d5	*82.8*		*37-107*	*%REC*	1	6/12/2013 04:33 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep Date: **6/11/2013**	Analyst: **BG**
Benzene	ND		37	µg/Kg-dry	1	6/11/2013 07:51 PM
Ethylbenzene	ND		37	µg/Kg-dry	1	6/11/2013 07:51 PM
m,p-Xylene	ND		74	µg/Kg-dry	1	6/11/2013 07:51 PM
o-Xylene	ND		37	µg/Kg-dry	1	6/11/2013 07:51 PM
Toluene	ND		37	µg/Kg-dry	1	6/11/2013 07:51 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	6/11/2013 07:51 PM
Surr: 1,2-Dichloroethane-d4	*100*		*70-130*	*%REC*	1	6/11/2013 07:51 PM
Surr: 4-Bromofluorobenzene	*97.8*		*70-130*	*%REC*	1	6/11/2013 07:51 PM
Surr: Dibromofluoromethane	*99.8*		*70-130*	*%REC*	1	6/11/2013 07:51 PM
Surr: Toluene-d8	*97.7*		*70-130*	*%REC*	1	6/11/2013 07:51 PM
MOISTURE			**A2540 G**			Analyst: **BD**
Moisture	**19**		**0.050**	**% of sample**	1	6/10/2013 01:30 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 32-3-597 Pit Closure 6/7/13 **Work Order:** 1306318
Sample ID: West Wall (1 ft depth) **Lab ID:** 1306318-03
Collection Date: 6/7/2013 10:00 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep Date: **6/11/2013**	Analyst: **CW**
DRO (C10-C28)	**44**		**4.9**	**mg/Kg-dry**	1	6/12/2013 03:36 AM
Surr: 4-Terphenyl-d14	*94.1*		*39-115*	*%REC*	1	6/12/2013 03:36 AM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015**			Analyst: **RD**
GRO (C6-C10)	ND		3.0	mg/Kg-dry	50	6/12/2013 01:42 AM
Surr: Toluene-d8	*104*		*50-150*	*%REC*	50	6/12/2013 01:42 AM
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep Date: **6/11/2013**	Analyst: **CW**
Acenaphthene	ND		18	µg/Kg-dry	1	6/12/2013 04:53 PM
Acenaphthylene	ND		35	µg/Kg-dry	1	6/12/2013 04:53 PM
Anthracene	ND		18	µg/Kg-dry	1	6/12/2013 04:53 PM
Benzo(a)anthracene	ND		20	µg/Kg-dry	1	6/12/2013 04:53 PM
Benzo(a)pyrene	ND		20	µg/Kg-dry	1	6/12/2013 04:53 PM
Benzo(b)fluoranthene	ND		21	µg/Kg-dry	1	6/12/2013 04:53 PM
Benzo(g,h,i)perylene	ND		33	µg/Kg-dry	1	6/12/2013 04:53 PM
Benzo(k)fluoranthene	ND		21	µg/Kg-dry	1	6/12/2013 04:53 PM
Chrysene	ND		18	µg/Kg-dry	1	6/12/2013 04:53 PM
Dibenzo(a,h)anthracene	ND		21	µg/Kg-dry	1	6/12/2013 04:53 PM
Fluoranthene	ND		18	µg/Kg-dry	1	6/12/2013 04:53 PM
Fluorene	ND		18	µg/Kg-dry	1	6/12/2013 04:53 PM
Indeno(1,2,3-cd)pyrene	ND		24	µg/Kg-dry	1	6/12/2013 04:53 PM
Naphthalene	ND		18	µg/Kg-dry	1	6/12/2013 04:53 PM
Pyrene	ND		18	µg/Kg-dry	1	6/12/2013 04:53 PM
Surr: 2-Fluorobiphenyl	*58.4*		*12-100*	*%REC*	1	6/12/2013 04:53 PM
Surr: 4-Terphenyl-d14	*114*		*25-137*	*%REC*	1	6/12/2013 04:53 PM
Surr: Nitrobenzene-d5	*59.1*		*37-107*	*%REC*	1	6/12/2013 04:53 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep Date: **6/11/2013**	Analyst: **BG**
Benzene	ND		36	µg/Kg-dry	1	6/11/2013 08:15 PM
Ethylbenzene	ND		36	µg/Kg-dry	1	6/11/2013 08:15 PM
m,p-Xylene	ND		73	µg/Kg-dry	1	6/11/2013 08:15 PM
o-Xylene	ND		36	µg/Kg-dry	1	6/11/2013 08:15 PM
Toluene	ND		36	µg/Kg-dry	1	6/11/2013 08:15 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	6/11/2013 08:15 PM
Surr: 1,2-Dichloroethane-d4	*103*		*70-130*	*%REC*	1	6/11/2013 08:15 PM
Surr: 4-Bromofluorobenzene	*98.6*		*70-130*	*%REC*	1	6/11/2013 08:15 PM
Surr: Dibromofluoromethane	*101*		*70-130*	*%REC*	1	6/11/2013 08:15 PM
Surr: Toluene-d8	*98.8*		*70-130*	*%REC*	1	6/11/2013 08:15 PM
MOISTURE			**A2540 G**			Analyst: **BD**
Moisture	**17**		**0.050**	**% of sample**	1	6/10/2013 01:30 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 32-3-597 Pit Closure 6/7/13 **Work Order:** 1306318
Sample ID: Pit Bottom (5 ft depth) **Lab ID:** 1306318-04
Collection Date: 6/7/2013 10:30 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep Date: **6/11/2013**	Analyst: **CW**
DRO (C10-C28)	**26**		**5.0**	**mg/Kg-dry**	1	6/12/2013 04:37 AM
Surr: 4-Terphenyl-d14	*97.7*		*39-115*	*%REC*	1	6/12/2013 04:37 AM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015**			Analyst: **RD**
GRO (C6-C10)	ND		3.0	mg/Kg-dry	50	6/12/2013 02:07 AM
Surr: Toluene-d8	*104*		*50-150*	*%REC*	50	6/12/2013 02:07 AM
MERCURY BY CVAA			**SW7471**		Prep Date: **6/10/2013**	Analyst: **LR**
Mercury	ND		0.018	mg/Kg-dry	1	6/10/2013 06:11 PM
METALS BY ICP-MS			**SW6020A**		Prep Date: **6/13/2013**	Analyst: **RH**
Arsenic	**2.9**		**1.5**	**mg/Kg-dry**	5	6/12/2013 08:19 PM
Barium	**250**		**1.5**	**mg/Kg-dry**	5	6/12/2013 08:19 PM
Cadmium	ND		0.61	mg/Kg-dry	5	6/12/2013 08:19 PM
Chromium	**22**		**1.5**	**mg/Kg-dry**	5	6/12/2013 08:19 PM
Copper	**12**		**2.3**	**mg/Kg-dry**	5	6/14/2013 12:08 PM
Lead	**8.0**		**1.5**	**mg/Kg-dry**	5	6/12/2013 08:19 PM
Nickel	**16**		**2.3**	**mg/Kg-dry**	5	6/14/2013 12:08 PM
Selenium	ND		1.5	mg/Kg-dry	5	6/12/2013 08:19 PM
Silver	ND		1.5	mg/Kg-dry	5	6/12/2013 08:19 PM
Zinc	**51**		**4.6**	**mg/Kg-dry**	5	6/14/2013 12:08 PM
SOLUBLE CATIONS FOR SAR			**SW6020A**		Prep Date: **6/11/2013**	Analyst: **ML**
Calcium	**28**		**10**	**mg/L**	20	6/13/2013 07:27 PM
Magnesium	**5.1**		**4.0**	**mg/L**	20	6/13/2013 07:27 PM
Sodium	**380**		**4.0**	**mg/L**	20	6/14/2013 01:13 PM
SODIUM ADSORPTION RATIO			**USDA H60 METHO**		Prep Date: **6/11/2013**	Analyst: **ML**
Sodium Adsorption Ratio	**17**		**0.010**	**none**	1	6/14/2013
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep Date: **6/11/2013**	Analyst: **CW**
Acenaphthene	ND		18	µg/Kg-dry	1	6/12/2013 05:12 PM
Acenaphthylene	ND		36	µg/Kg-dry	1	6/12/2013 05:12 PM
Anthracene	ND		18	µg/Kg-dry	1	6/12/2013 05:12 PM
Benzo(a)anthracene	ND		20	µg/Kg-dry	1	6/12/2013 05:12 PM
Benzo(a)pyrene	ND		20	µg/Kg-dry	1	6/12/2013 05:12 PM
Benzo(b)fluoranthene	ND		22	µg/Kg-dry	1	6/12/2013 05:12 PM
Benzo(g,h,i)perylene	ND		34	µg/Kg-dry	1	6/12/2013 05:12 PM
Benzo(k)fluoranthene	ND		22	µg/Kg-dry	1	6/12/2013 05:12 PM
Chrysene	ND		18	µg/Kg-dry	1	6/12/2013 05:12 PM
Dibenzo(a,h)anthracene	ND		22	µg/Kg-dry	1	6/12/2013 05:12 PM
Fluoranthene	ND		18	µg/Kg-dry	1	6/12/2013 05:12 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 32-3-597 Pit Closure 6/7/13 **Work Order:** 1306318
Sample ID: Pit Bottom (5 ft depth) **Lab ID:** 1306318-04
Collection Date: 6/7/2013 10:30 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		18	µg/Kg-dry	1	6/12/2013 05:12 PM
Indeno(1,2,3-cd)pyrene	ND		24	µg/Kg-dry	1	6/12/2013 05:12 PM
Naphthalene	ND		18	µg/Kg-dry	1	6/12/2013 05:12 PM
Pyrene	ND		18	µg/Kg-dry	1	6/12/2013 05:12 PM
Surr: 2-Fluorobiphenyl	*69.3*		*12-100*	*%REC*	1	6/12/2013 05:12 PM
Surr: 4-Terphenyl-d14	*115*		*25-137*	*%REC*	1	6/12/2013 05:12 PM
Surr: Nitrobenzene-d5	*74.4*		*37-107*	*%REC*	1	6/12/2013 05:12 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep Date: **6/11/2013**	Analyst: **BG**
Benzene	ND		37	µg/Kg-dry	1	6/11/2013 08:40 PM
Ethylbenzene	ND		37	µg/Kg-dry	1	6/11/2013 08:40 PM
m,p-Xylene	ND		73	µg/Kg-dry	1	6/11/2013 08:40 PM
o-Xylene	ND		37	µg/Kg-dry	1	6/11/2013 08:40 PM
Toluene	ND		37	µg/Kg-dry	1	6/11/2013 08:40 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	6/11/2013 08:40 PM
Surr: 1,2-Dichloroethane-d4	*100*		*70-130*	*%REC*	1	6/11/2013 08:40 PM
Surr: 4-Bromofluorobenzene	*100*		*70-130*	*%REC*	1	6/11/2013 08:40 PM
Surr: Dibromofluoromethane	*101*		*70-130*	*%REC*	1	6/11/2013 08:40 PM
Surr: Toluene-d8	*99.6*		*70-130*	*%REC*	1	6/11/2013 08:40 PM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHO**		Prep Date: **6/11/2013**	Analyst: **JB**
Electrical Conductivity @ Saturation	**2.2**		**0.025**	**mmhos/cm @25**	5	6/14/2013 12:30 PM
CHROMIUM, TRIVALENT			**CALCULATION**			Analyst: **MB**
Chromium, Trivalent	**22**		**0.61**	**mg/Kg-dry**	1	6/14/2013 04:30 PM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep Date: **6/11/2013**	Analyst: **MB**
Chromium, Hexavalent	ND		0.60	mg/Kg-dry	1	6/14/2013 11:00 AM
MOISTURE			**A2540 G**			Analyst: **BD**
Moisture	**18**		**0.050**	**% of sample**	1	6/10/2013 02:50 PM
PH			**SW9045D**			Analyst: **JB**
pH	**8.0**			**s.u.**	1	6/10/2013 12:05 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 32-3-597 Pit Closure 6/7/13 **Work Order:** 1306318
Sample ID: South Wall (1 ft depth) **Lab ID:** 1306318-05
Collection Date: 6/7/2013 10:50 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep Date: **6/11/2013**	Analyst: **CW**
DRO (C10-C28)	**35**		**5.0**	**mg/Kg-dry**	1	6/12/2013 05:07 AM
Surr: 4-Terphenyl-d14	*91.1*		*39-115*	*%REC*	1	6/12/2013 05:07 AM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015**			Analyst: **RD**
GRO (C6-C10)	ND		3.1	mg/Kg-dry	50	6/12/2013 02:31 AM
Surr: Toluene-d8	*106*		*50-150*	*%REC*	50	6/12/2013 02:31 AM
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep Date: **6/11/2013**	Analyst: **CW**
Acenaphthene	ND		18	µg/Kg-dry	1	6/12/2013 05:32 PM
Acenaphthylene	ND		36	µg/Kg-dry	1	6/12/2013 05:32 PM
Anthracene	ND		18	µg/Kg-dry	1	6/12/2013 05:32 PM
Benzo(a)anthracene	ND		20	µg/Kg-dry	1	6/12/2013 05:32 PM
Benzo(a)pyrene	ND		20	µg/Kg-dry	1	6/12/2013 05:32 PM
Benzo(b)fluoranthene	ND		22	µg/Kg-dry	1	6/12/2013 05:32 PM
Benzo(g,h,i)perylene	ND		34	µg/Kg-dry	1	6/12/2013 05:32 PM
Benzo(k)fluoranthene	ND		22	µg/Kg-dry	1	6/12/2013 05:32 PM
Chrysene	ND		18	µg/Kg-dry	1	6/12/2013 05:32 PM
Dibenzo(a,h)anthracene	ND		22	µg/Kg-dry	1	6/12/2013 05:32 PM
Fluoranthene	ND		18	µg/Kg-dry	1	6/12/2013 05:32 PM
Fluorene	ND		18	µg/Kg-dry	1	6/12/2013 05:32 PM
Indeno(1,2,3-cd)pyrene	ND		24	µg/Kg-dry	1	6/12/2013 05:32 PM
Naphthalene	ND		18	µg/Kg-dry	1	6/12/2013 05:32 PM
Pyrene	ND		18	µg/Kg-dry	1	6/12/2013 05:32 PM
Surr: 2-Fluorobiphenyl	*74.8*		*12-100*	*%REC*	1	6/12/2013 05:32 PM
Surr: 4-Terphenyl-d14	*101*		*25-137*	*%REC*	1	6/12/2013 05:32 PM
Surr: Nitrobenzene-d5	*79.9*		*37-107*	*%REC*	1	6/12/2013 05:32 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep Date: **6/11/2013**	Analyst: **BG**
Benzene	ND		37	µg/Kg-dry	1	6/11/2013 09:04 PM
Ethylbenzene	ND		37	µg/Kg-dry	1	6/11/2013 09:04 PM
m,p-Xylene	ND		74	µg/Kg-dry	1	6/11/2013 09:04 PM
o-Xylene	ND		37	µg/Kg-dry	1	6/11/2013 09:04 PM
Toluene	ND		37	µg/Kg-dry	1	6/11/2013 09:04 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	6/11/2013 09:04 PM
Surr: 1,2-Dichloroethane-d4	*101*		*70-130*	*%REC*	1	6/11/2013 09:04 PM
Surr: 4-Bromofluorobenzene	*98.2*		*70-130*	*%REC*	1	6/11/2013 09:04 PM
Surr: Dibromofluoromethane	*103*		*70-130*	*%REC*	1	6/11/2013 09:04 PM
Surr: Toluene-d8	*98.9*		*70-130*	*%REC*	1	6/11/2013 09:04 PM
MOISTURE			**A2540 G**			Analyst: **BD**
Moisture	**18**		**0.050**	**% of sample**	1	6/10/2013 01:30 PM

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

QC BATCH REPORT

Batch ID: **48969** Instrument ID **GC8** Method: **SW8015M**

MBLK Sample ID: **DBLKS1-48969-48969** Units: **mg/Kg** Analysis Date: **6/11/2013 06:02 PM**

Client ID: Run ID: **GC8_130611A** SeqNo: **2347067** Prep Date: **6/11/2013** 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	*1.56*	0	*1.667*	0	*93.6*	*39-115*	0			

LCS Sample ID: **DLCSS1-48969-48969** Units: **mg/Kg** Analysis Date: **6/11/2013 06:32 PM**

Client ID: Run ID: **GC8_130611A** SeqNo: **2347068** Prep Date: **6/11/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	163.2	4.2	166.7	0	97.9	49-124	0			
Surr: 4-Terphenyl-d14	*1.045*	0	*1.667*	0	*62.7*	*39-115*	0			

MS Sample ID: **1306244-02A MS** Units: **mg/Kg** Analysis Date: **6/11/2013 07:03 PM**

Client ID: Run ID: **GC8_130611A** SeqNo: **2347069** Prep Date: **6/11/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	297.7	8.1	325.6	93.12	62.8	49-130	0			
Surr: 4-Terphenyl-d14	*1.5*	0	*3.256*	0	*46.1*	*39-115*	0			

MSD Sample ID: **1306244-02A MSD** Units: **mg/Kg** Analysis Date: **6/11/2013 07:33 PM**

Client ID: Run ID: **GC8_130611A** SeqNo: **2347070** Prep Date: **6/11/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	360.4	8.0	321	93.12	83.3	49-130	297.7	19	30	
Surr: 4-Terphenyl-d14	*1.909*	0	*3.21*	0	*59.5*	*39-115*	1.5	*24*	*30*	

The following samples were analyzed in this batch: 1306318-01B, 1306318-02B, 1306318-03B, 1306318-04B, 1306318-05B

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

Client: HRL Compliance Solutions
Work Order: 1306318
Project: WPX TR 32-3-597 Pit Closure 6/7/13

QC BATCH REPORT

Batch ID: **R122055** Instrument ID **GC10** Method: **SW8015**

MBLK Sample ID: **GBLK2-130611-R122055** Units: **µg/L** Analysis Date: **6/11/2013 09:12 PM**
Client ID: Run ID: **GC10_130611B** SeqNo: **2346664** 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	*110*	0	*100*	0	*110*	*70-130*	0			

LCS Sample ID: **GLCS2-130611-R122055** Units: **µg/L** Analysis Date: **6/11/2013 08:47 PM**
Client ID: Run ID: **GC10_130611B** SeqNo: **2346663** 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)	7715	200	10000	0	77.2	70-130	0			
Surr: Toluene-d8	*113.3*	0	*100*	0	*113*	*70-130*	0			

MS Sample ID: **1306322-01A MS** Units: **µg/L** Analysis Date: **6/12/2013 02:56 AM**
Client ID: Run ID: **GC10_130611B** SeqNo: **2346668** 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)	7850	200	10000	0	78.5	70-130	0			
Surr: Toluene-d8	*110.2*	0	*100*	0	*110*	*70-130*	0			

MSD Sample ID: **1306322-01A MSD** Units: **µg/L** Analysis Date: **6/12/2013 03:20 AM**
Client ID: Run ID: **GC10_130611B** SeqNo: **2346670** 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)	7903	200	10000	0	79	70-130	7850	0.669	30	
Surr: Toluene-d8	*114.1*	0	*100*	0	*114*	*70-130*	110.2	*3.5*	*30*	

The following samples were analyzed in this batch:

1306318-01A	1306318-02A	1306318-03A
1306318-04A	1306318-05A	

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

Client: HRL Compliance Solutions
Work Order: 1306318
Project: WPX TR 32-3-597 Pit Closure 6/7/13

QC BATCH REPORT

Batch ID: **48950** Instrument ID **HG1** Method: **SW7471**

MBLK Sample ID: **MBLK-48950-48950** Units: **mg/Kg** Analysis Date: **6/10/2013 05:16 PM**
Client ID: Run ID: **HG1_130610A** SeqNo: **2345018** Prep Date: **6/10/2013** 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-48950-48950** Units: **mg/Kg** Analysis Date: **6/10/2013 05:18 PM**
Client ID: Run ID: **HG1_130610A** SeqNo: **2345020** Prep Date: **6/10/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1774	0.020	0.1665	0	107	80-120	0			

MS Sample ID: **1306210-01BMS** Units: **mg/Kg** Analysis Date: **6/10/2013 05:32 PM**
Client ID: Run ID: **HG1_130610A** SeqNo: **2345032** Prep Date: **6/10/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1872	0.015	0.1246	0.028	128	75-125	0			S

MSD Sample ID: **1306210-01BMSD** Units: **mg/Kg** Analysis Date: **6/10/2013 05:34 PM**
Client ID: Run ID: **HG1_130610A** SeqNo: **2345034** Prep Date: **6/10/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1539	0.014	0.1167	0.028	108	75-125	0.1872	19.6	35	

The following samples were analyzed in this batch: 1306318-04B

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

Client: HRL Compliance Solutions
Work Order: 1306318
Project: WPX TR 32-3-597 Pit Closure 6/7/13

QC BATCH REPORT

Batch ID: **48996** Instrument ID **ICPMS1** Method: **SW6020A** **(Dissolve)**

DUP Sample ID: **1306318-07BDUP** Units: **mg/L** Analysis Date: **6/13/2013 07:39 PM**
Client ID: **BKDG 2** Run ID: **ICPMS1_130613A** SeqNo: **2349084** Prep Date: **6/11/2013** DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	115.8	10	0	0	0	0-0	124.1	6.9		
Magnesium	20.16	4.0	0	0	0	0-0	21.56	6.71		

DUP Sample ID: **1306318-07BDUP** Units: **mg/L** Analysis Date: **6/14/2013 01:43 PM**
Client ID: **BKDG 2** Run ID: **ICPMS1_130614A** SeqNo: **2349802** Prep Date: **6/11/2013** DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium	8.49	4.0	0	0	0	0-0	14.15	50		

The following samples were analyzed in this batch: 1306318-04C 1306318-07B

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

Client: HRL Compliance Solutions
Work Order: 1306318
Project: WPX TR 32-3-597 Pit Closure 6/7/13

QC BATCH REPORT

Batch ID: **49013** Instrument ID **ICPMS2** Method: **SW6020A**

MBLK Sample ID: **MBLK-49013-49013** Units: **mg/Kg** Analysis Date: **6/12/2013 02:12 PM**
Client ID: Run ID: **ICPMS2_130612A** SeqNo: **2347327** Prep Date: **6/12/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								

LCS Sample ID: **LCS-49013-49013** Units: **mg/Kg** Analysis Date: **6/12/2013 02:18 PM**
Client ID: Run ID: **ICPMS2_130612A** SeqNo: **2347328** Prep Date: **6/12/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.839	0.25	5	0	96.8	80-120	0			

MS Sample ID: **1306200-04AMS** Units: **mg/Kg** Analysis Date: **6/12/2013 02:28 PM**
Client ID: Run ID: **ICPMS2_130612A** SeqNo: **2347330** Prep Date: **6/12/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	6.473	0.32	6.477	0.4821	92.5	75-125	0			

MSD Sample ID: **1306200-04AMSD** Units: **mg/Kg** Analysis Date: **6/12/2013 02:33 PM**
Client ID: Run ID: **ICPMS2_130612A** SeqNo: **2347331** Prep Date: **6/12/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	6.398	0.32	6.353	0.4821	93.1	75-125	6.473	1.17	25	

The following samples were analyzed in this batch: 1306318-06A 1306318-07A 1306318-08A

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

Client: HRL Compliance Solutions
Work Order: 1306318
Project: WPX TR 32-3-597 Pit Closure 6/7/13

QC BATCH REPORT

Batch ID: **49037** Instrument ID **ICPMS2** Method: **SW6020A**

MBLK Sample ID: **MBLK-49037-49037** Units: **mg/Kg** Analysis Date: **6/13/2013 11:11 AM**
Client ID: Run ID: **ICPMS2_130613A** SeqNo: **2348223** Prep Date: **6/13/2013** 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	ND	0.10								
Chromium	ND	0.25								
Copper	ND	0.25								
Lead	ND	0.25								
Nickel	ND	0.25								
Selenium	ND	0.25								
Silver	ND	0.25								
Zinc	0.1791	0.50								J

LCS Sample ID: **LCS-49037-49037** Units: **mg/Kg** Analysis Date: **6/13/2013 11:16 AM**
Client ID: Run ID: **ICPMS2_130613A** SeqNo: **2348224** Prep Date: **6/13/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.975	0.25	5	0	99.5	80-120	0			
Barium	5.16	0.25	5	0	103	80-120	0			
Cadmium	5.12	0.10	5	0	102	80-120	0			
Chromium	5.055	0.25	5	0	101	80-120	0			
Copper	4.952	0.25	5	0	99	80-120	0			
Lead	5.09	0.25	5	0	102	80-120	0			
Nickel	4.968	0.25	5	0	99.4	80-120	0			
Selenium	4.888	0.25	5	0	97.8	80-120	0			
Silver	5.305	0.25	5	0	106	80-120	0			
Zinc	4.954	0.50	5	0	99.1	80-120	0			

MS Sample ID: **1306289-09BMS** Units: **mg/Kg** Analysis Date: **6/13/2013 11:59 AM**
Client ID: Run ID: **ICPMS2_130613A** SeqNo: **2348230** Prep Date: **6/13/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	7.045	0.35	6.954	0.2577	97.6	75-125	0			
Barium	30.21	0.35	6.954	22.59	110	75-125	0			
Cadmium	7.274	0.14	6.954	0.00804	104	75-125	0			
Chromium	14.32	0.35	6.954	5.854	122	75-125	0			
Copper	11	0.35	6.954	4.77	89.6	75-125	0			
Lead	12.19	0.35	6.954	4.339	113	75-125	0			
Nickel	11.36	0.35	6.954	4.408	100	75-125	0			
Selenium	6.697	0.35	6.954	0.09077	95	75-125	0			
Silver	7.017	0.35	6.954	0.01249	101	75-125	0			
Zinc	23.69	0.70	6.954	15.93	112	75-125	0			

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

Client: HRL Compliance Solutions
Work Order: 1306318
Project: WPX TR 32-3-597 Pit Closure 6/7/13

QC BATCH REPORT

Batch ID: **49037** Instrument ID **ICPMS2** Method: **SW6020A**

MSD Sample ID: **1306289-09BMSD** Units: **mg/Kg** Analysis Date: **6/13/2013 12:04 PM**
Client ID: Run ID: **ICPMS2_130613A** SeqNo: **2348231** Prep Date: **6/13/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	7.482	0.36	7.174	0.2577	101	75-125	7.045	6.02	25	
Barium	38.73	0.36	7.174	22.59	225	75-125	30.21	24.7	25	S
Cadmium	7.446	0.14	7.174	0.00804	104	75-125	7.274	2.34	25	
Chromium	16.13	0.36	7.174	5.854	143	75-125	14.32	11.9	25	S
Copper	12.98	0.36	7.174	4.77	114	75-125	11	16.5	25	
Lead	14.59	0.36	7.174	4.339	143	75-125	12.19	17.9	25	S
Nickel	12.63	0.36	7.174	4.408	115	75-125	11.36	10.6	25	
Selenium	6.962	0.36	7.174	0.09077	95.8	75-125	6.697	3.88	25	
Silver	7.141	0.36	7.174	0.01249	99.4	75-125	7.017	1.75	25	
Zinc	28.49	0.72	7.174	15.93	175	75-125	23.69	18.4	25	S

The following samples were analyzed in this batch: 1306318-04B

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

Client: HRL Compliance Solutions
Work Order: 1306318
Project: WPX TR 32-3-597 Pit Closure 6/7/13

QC BATCH REPORT

Batch ID: **48968** Instrument ID **SVMS6** Method: **SW8270**

MBLK Sample ID: **SBLKS1-48968-48968** Units: **µg/Kg** Analysis Date: **6/12/2013 09:40 AM**
Client ID: Run ID: **SVMS6_130612A** SeqNo: **2347244** Prep Date: **6/11/2013** 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	*1296*	0	*1667*	0	*77.7*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1840*	0	*1667*	0	*110*	*25-137*	0			
Surr: Nitrobenzene-d5	*1359*	0	*1667*	0	*81.6*	*37-107*	0			

LCS Sample ID: **SLCSS1-48968-48968** Units: **µg/Kg** Analysis Date: **6/12/2013 10:00 AM**
Client ID: Run ID: **SVMS6_130612A** SeqNo: **2347245** Prep Date: **6/11/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	481.7	30	666.7	0	72.2	45-110	0			
Acenaphthylene	537.3	30	666.7	0	80.6	45-105	0			
Anthracene	562	30	666.7	0	84.3	55-105	0			
Benzo(a)anthracene	550.7	30	666.7	0	82.6	50-110	0			
Benzo(a)pyrene	564	30	666.7	0	84.6	50-110	0			
Benzo(b)fluoranthene	561.3	30	666.7	0	84.2	45-115	0			
Benzo(g,h,i)perylene	606.7	30	666.7	0	91	40-125	0			
Benzo(k)fluoranthene	542.3	30	666.7	0	81.3	45-115	0			
Chrysene	550	30	666.7	0	82.5	55-110	0			
Dibenzo(a,h)anthracene	633	30	666.7	0	94.9	40-125	0			
Fluoranthene	651	30	666.7	0	97.6	55-115	0			
Fluorene	546	30	666.7	0	81.9	50-110	0			
Indeno(1,2,3-cd)pyrene	621	30	666.7	0	93.1	40-120	0			
Naphthalene	511	30	666.7	0	76.6	40-105	0			
Pyrene	552.3	30	666.7	0	82.8	45-125	0			
Surr: 2-Fluorobiphenyl	*1302*	0	*1667*	0	*78.1*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1787*	0	*1667*	0	*107*	*25-137*	0			
Surr: Nitrobenzene-d5	*1382*	0	*1667*	0	*82.9*	*37-107*	0			

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

Client: HRL Compliance Solutions
Work Order: 1306318
Project: WPX TR 32-3-597 Pit Closure 6/7/13

QC BATCH REPORT

Batch ID: **48968** Instrument ID **SVMS6** Method: **SW8270**

MS Sample ID: **1306289-01B MS** Units: **µg/Kg** Analysis Date: **6/12/2013 01:05 PM**
Client ID: Run ID: **SVMS6_130612A** SeqNo: **2347246** Prep Date: **6/11/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	893.6	56	1253	0	71.3	45-110	0			
Acenaphthylene	998.2	56	1253	0	79.6	45-105	0			
Anthracene	1026	56	1253	0	81.9	55-105	0			
Benzo(a)anthracene	1035	56	1253	0	82.5	50-110	0			
Benzo(a)pyrene	1030	56	1253	0	82.1	50-110	0			
Benzo(b)fluoranthene	1018	56	1253	0	81.2	45-115	0			
Benzo(g,h,i)perylene	1129	56	1253	0	90.1	40-125	0			
Benzo(k)fluoranthene	1012	56	1253	0	80.7	45-115	0			
Chrysene	1029	56	1253	0	82.1	55-110	0			
Dibenzo(a,h)anthracene	1152	56	1253	0	91.9	40-125	0			
Fluoranthene	1193	56	1253	0	95.2	55-115	0			
Fluorene	992.6	56	1253	0	79.2	50-110	0			
Indeno(1,2,3-cd)pyrene	1139	56	1253	0	90.9	40-120	0			
Naphthalene	946.2	56	1253	0	75.5	40-105	0			
Pyrene	1023	56	1253	0	81.6	45-125	0			
Surr: 2-Fluorobiphenyl	*2338*	0	*3133*	0	*74.6*	*12-100*	0			
Surr: 4-Terphenyl-d14	*3209*	0	*3133*	0	*102*	*25-137*	0			
Surr: Nitrobenzene-d5	*2513*	0	*3133*	0	*80.2*	*37-107*	0			

MSD Sample ID: **1306289-01B MSD** Units: **µg/Kg** Analysis Date: **6/12/2013 01:25 PM**
Client ID: Run ID: **SVMS6_130612A** SeqNo: **2347247** Prep Date: **6/11/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	969.2	58	1288	0	75.2	45-110	893.6	8.11	30	
Acenaphthylene	1079	58	1288	0	83.7	45-105	998.2	7.74	30	
Anthracene	1102	58	1288	0	85.6	55-105	1026	7.14	30	
Benzo(a)anthracene	1085	58	1288	0	84.2	50-110	1035	4.76	30	
Benzo(a)pyrene	1090	58	1288	0	84.6	50-110	1030	5.66	30	
Benzo(b)fluoranthene	1091	58	1288	0	84.7	45-115	1018	6.88	30	
Benzo(g,h,i)perylene	1188	58	1288	0	92.2	40-125	1129	5.08	30	
Benzo(k)fluoranthene	1069	58	1288	0	83	45-115	1012	5.47	30	
Chrysene	1082	58	1288	0	84	55-110	1029	5.07	30	
Dibenzo(a,h)anthracene	1208	58	1288	0	93.8	40-125	1152	4.77	30	
Fluoranthene	1305	58	1288	0	101	55-115	1193	8.93	30	
Fluorene	1070	58	1288	0	83	50-110	992.6	7.47	30	
Indeno(1,2,3-cd)pyrene	1191	58	1288	0	92.4	40-120	1139	4.42	30	
Naphthalene	1005	58	1288	0	78	40-105	946.2	6.04	30	
Pyrene	1059	58	1288	0	82.2	45-125	1023	3.4	30	
Surr: 2-Fluorobiphenyl	*2531*	0	*3220*	0	*78.6*	*12-100*	2338	*7.94*	*40*	
Surr: 4-Terphenyl-d14	*3354*	0	*3220*	0	*104*	*25-137*	3209	*4.43*	*40*	
Surr: Nitrobenzene-d5	*2693*	0	*3220*	0	*83.6*	*37-107*	2513	*6.92*	*40*	

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

Client: HRL Compliance Solutions
Work Order: 1306318
Project: WPX TR 32-3-597 Pit Closure 6/7/13

QC BATCH REPORT

Batch ID: **48968** Instrument ID **SVMS6** Method: **SW8270**

The following samples were analyzed in this batch:

1306318-01B	1306318-02B	1306318-03B
1306318-04B	1306318-05B	

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

Client: HRL Compliance Solutions
Work Order: 1306318
Project: WPX TR 32-3-597 Pit Closure 6/7/13

QC BATCH REPORT

Batch ID: **48976** Instrument ID **VMS5** Method: **SW8260B**

MBLK Sample ID: **MBLK-48976-48976** Units: **µg/Kg** Analysis Date: **6/11/2013 01:54 PM**
Client ID: Run ID: **VMS5_130611A** SeqNo: **2346754** Prep Date: **6/11/2013** 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	*931.5*	0	*1000*	0	*93.2*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*981*	0	*1000*	0	*98.1*	*70-130*	0			
Surr: Dibromofluoromethane	*961.5*	0	*1000*	0	*96.2*	*70-130*	0			
Surr: Toluene-d8	*930.5*	0	*1000*	0	*93*	*70-130*	0			

LCS Sample ID: **LCS1-48976-48976** Units: **µg/Kg** Analysis Date: **6/11/2013 12:44 PM**
Client ID: Run ID: **VMS5_130611A** SeqNo: **2346753** Prep Date: **6/11/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	933	30	1000	0	93.3	75-125	0			
Ethylbenzene	899.5	30	1000	0	90	75-125	0			
m,p-Xylene	1820	60	2000	0	91	80-125	0			
o-Xylene	907.5	30	1000	0	90.8	75-125	0			
Toluene	878	30	1000	0	87.8	70-125	0			
Xylenes, Total	2727	90	3000	0	90.9	75-125	0			
Surr: 1,2-Dichloroethane-d4	*935*	0	*1000*	0	*93.5*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*994*	0	*1000*	0	*99.4*	*70-130*	0			
Surr: Dibromofluoromethane	*979*	0	*1000*	0	*97.9*	*70-130*	0			
Surr: Toluene-d8	*929*	0	*1000*	0	*92.9*	*70-130*	0			

MS Sample ID: **1306318-03A MS** Units: **µg/Kg** Analysis Date: **6/11/2013 11:30 PM**
Client ID: **West Wall (1 ft depth)** Run ID: **VMS6_130611A** SeqNo: **2346781** Prep Date: **6/11/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	993	30	1000	0	99.3	75-125	0			
Ethylbenzene	939	30	1000	0	93.9	75-125	0			
m,p-Xylene	1864	60	2000	0	93.2	80-125	0			
o-Xylene	955	30	1000	0	95.5	75-125	0			
Toluene	923.5	30	1000	0	92.4	70-125	0			
Xylenes, Total	2820	90	3000	0	94	75-125	0			
Surr: 1,2-Dichloroethane-d4	*992.5*	0	*1000*	0	*99.2*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1010*	0	*1000*	0	*101*	*70-130*	0			
Surr: Dibromofluoromethane	*1000*	0	*1000*	0	*100*	*70-130*	0			
Surr: Toluene-d8	*984.5*	0	*1000*	0	*98.4*	*70-130*	0			

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

Client: HRL Compliance Solutions
Work Order: 1306318
Project: WPX TR 32-3-597 Pit Closure 6/7/13

QC BATCH REPORT

Batch ID: **48976** Instrument ID **VMS5** Method: **SW8260B**

MSD Sample ID: **1306318-03A MSD** Units: **µg/Kg** Analysis Date: **6/11/2013 11:54 PM**
Client ID: **West Wall (1 ft depth)** Run ID: **VMS6_130611A** SeqNo: **2346782** Prep Date: **6/11/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	981.5	30	1000	0	98.2	75-125	993	1.16	30	
Ethylbenzene	913	30	1000	0	91.3	75-125	939	2.81	30	
m,p-Xylene	1809	60	2000	0	90.4	80-125	1864	3.02	30	
o-Xylene	922	30	1000	0	92.2	75-125	955	3.52	30	
Toluene	901.5	30	1000	0	90.2	70-125	923.5	2.41	30	
Xylenes, Total	2731	90	3000	0	91	75-125	2820	3.19	30	
Surr: 1,2-Dichloroethane-d4	*1026*	0	*1000*	0	*103*	*70-130*	992.5	*3.27*	*30*	
Surr: 4-Bromofluorobenzene	*1016*	0	*1000*	0	*102*	*70-130*	1010	*0.691*	*30*	
Surr: Dibromofluoromethane	*1031*	0	*1000*	0	*103*	*70-130*	1000	*3.05*	*30*	
Surr: Toluene-d8	*997.5*	0	*1000*	0	*99.8*	*70-130*	984.5	*1.31*	*30*	

The following samples were analyzed in this batch: 1306318-01A 1306318-02A 1306318-03A 1306318-04A 1306318-05A

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

Client: HRL Compliance Solutions
Work Order: 1306318
Project: WPX TR 32-3-597 Pit Closure 6/7/13

QC BATCH REPORT

Batch ID: **48996** Instrument ID **WETCHEM** Method: **USDA H60 Method**

DUP Sample ID: **1306318-07B DUP** Units: **mmhos/cm @25°F** Analysis Date: **6/14/2013 12:30 PM**
Client ID: **BKDG 2** Run ID: **WETCHEM_130614D** SeqNo: **2349687** Prep Date: **6/11/2013** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	0.8845	0.025	0	0	0		0.892	0.844	50	

The following samples were analyzed in this batch: 1306318-04C 1306318-07B

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

Client: HRL Compliance Solutions
Work Order: 1306318
Project: WPX TR 32-3-597 Pit Closure 6/7/13

QC BATCH REPORT

Batch ID: **49015** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK Sample ID: **MBLK-49015-49015** Units: **mg/Kg** Analysis Date: **6/14/2013 11:00 AM**
Client ID: Run ID: **WETCHEM_130614A** SeqNo: **2349551** Prep Date: **6/11/2013** 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-49015-49015** Units: **mg/Kg** Analysis Date: **6/14/2013 11:00 AM**
Client ID: Run ID: **WETCHEM_130614A** SeqNo: **2349552** Prep Date: **6/11/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.734	0.49	1.953	0	88.8	75-110	0			

MS Sample ID: **1306318-04B MS** Units: **mg/Kg** Analysis Date: **6/14/2013 11:00 AM**
Client ID: **Pit Bottom (5 ft depth)** Run ID: **WETCHEM_130614A** SeqNo: **2349554** Prep Date: **6/11/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.152	0.49	1.953	0	59	60-130	0			S

MSD Sample ID: **1306318-04B MSD** Units: **mg/Kg** Analysis Date: **6/14/2013 11:00 AM**
Client ID: **Pit Bottom (5 ft depth)** Run ID: **WETCHEM_130614A** SeqNo: **2349555** Prep Date: **6/11/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.115	0.49	1.976	0	56.4	60-130	1.152	3.33	30	S

The following samples were analyzed in this batch: 1306318-04B

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

Client: HRL Compliance Solutions
Work Order: 1306318
Project: WPX TR 32-3-597 Pit Closure 6/7/13

QC BATCH REPORT

Batch ID: **R121982** Instrument ID **WETCHEM** Method: **SW9045D**

LCS Sample ID: **WLCSW1-130610-R121982** Units: **s.u.** Analysis Date: **6/10/2013 12:05 PM**
Client ID: Run ID: **WETCHEM_130610M** SeqNo: **2344853** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	4.41	0	4.4	0	100	90-110	0			

DUP Sample ID: **1306261-01A DUP** Units: **s.u.** Analysis Date: **6/10/2013 12:05 PM**
Client ID: Run ID: **WETCHEM_130610M** SeqNo: **2344857** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.69	0	0	0	0	0-0	7.69	0	20	

DUP Sample ID: **1306289-07B DUP** Units: **s.u.** Analysis Date: **6/10/2013 12:05 PM**
Client ID: Run ID: **WETCHEM_130610M** SeqNo: **2344865** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.5	0	0	0	0	0-0	6.5	0	20	

The following samples were analyzed in this batch: 1306318-04B 1306318-07A

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

Client: HRL Compliance Solutions
Work Order: 1306318
Project: WPX TR 32-3-597 Pit Closure 6/7/13

QC BATCH REPORT

Batch ID: **R122010** Instrument ID **MOIST** Method: **A2540 G**

MBLK Sample ID: **WBLKS-R122010** Units: **% of sample** Analysis Date: **6/10/2013 02:50 PM**
Client ID: Run ID: **MOIST_130610D** SeqNo: **2345700** 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-R122010** Units: **% of sample** Analysis Date: **6/10/2013 02:50 PM**
Client ID: Run ID: **MOIST_130610D** SeqNo: **2345699** 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: **1306321-23A DUP** Units: **% of sample** Analysis Date: **6/10/2013 02:50 PM**
Client ID: Run ID: **MOIST_130610D** SeqNo: **2345686** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	16.67	0.050	0	0	0	0-0	16.38	1.75	20	

DUP Sample ID: **1306328-04B DUP** Units: **% of sample** Analysis Date: **6/10/2013 02:50 PM**
Client ID: Run ID: **MOIST_130610D** SeqNo: **2345697** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	5.35	0.050	0	0	0	0-0	5.71	6.51	20	

The following samples were analyzed in this batch: 1306318-04B

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

Client: HRL Compliance Solutions
Work Order: 1306318
Project: WPX TR 32-3-597 Pit Closure 6/7/13

QC BATCH REPORT

Batch ID: **R122012** Instrument ID **MOIST** Method: **A2540 G**

MBLK Sample ID: **WBLKS-R122012** Units: **% of sample** Analysis Date: **6/10/2013 01:30 PM**
Client ID: Run ID: **MOIST_130610E** SeqNo: **2345750** 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-R122012** Units: **% of sample** Analysis Date: **6/10/2013 01:30 PM**
Client ID: Run ID: **MOIST_130610E** SeqNo: **2345749** 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: **1306281-02B DUP** Units: **% of sample** Analysis Date: **6/10/2013 01:30 PM**
Client ID: Run ID: **MOIST_130610E** SeqNo: **2345717** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	12.65	0.050	0	0	0	0-0	13	2.73	20	

DUP Sample ID: **1306318-05B DUP** Units: **% of sample** Analysis Date: **6/10/2013 01:30 PM**
Client ID: **South Wall (1 ft depth)** Run ID: **MOIST_130610E** SeqNo: **2345742** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	18.32	0.050	0	0	0	0-0	18.45	0.707	20	

The following samples were analyzed in this batch:

1306318-01B	1306318-02B	1306318-03B
1306318-05B	1306318-06A	1306318-07A
1306318-08A		

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 # 1306318

PAGE 1 of 1

DISPOSAL: By Lab or Return to Client

PROJECT NAME	WPX TR 32-3-597 Pit Closure	SAMPLER	Dan Pinegar
PROJECT No.		SITE ID	TR 32-3-597 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: 6/7/2013

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 (2 ft depth)	SOIL	6/7/2013	9:25 AM	3	8		X	X	X	X			
2	East Wall (1 ft depth)	SOIL	6/7/2013	9:45 AM	3	8		X	X	X	X			
3	West Wall (1 ft depth)	SOIL	6/7/2013	10:00 AM	3	8		X	X	X	X			
4	Pit Bottom (5 ft depth)	SOIL	6/7/2013	10:30 AM	3	8		X	X	X	X	X	X	
5	South Wall (1 ft depth)	SOIL	6/7/2013	10:50 AM	3	8		X	X	X	X			
6	BKGD 1	SOIL	6/7/2013	12:05 PM	1	8								X
7	BKGD 2	SOIL	6/7/2013	12:15 PM	2	8							X	X
8	BKGD 3	SOIL	6/7/2013	12:25 PM	1	8								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: 3.4°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		Dan Pinegar	6/7/2013	5:00 PM
RECEIVED BY		Diane F. Shaw	6/8/13	1030
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **HRL** Date/Time Received: **08-Jun-13 10:30**

Work Order: **1306318** Received by: **DS**

Checklist completed by Diane Shaw (eSignature) 10-Jun-13 (Date) Reviewed by: Ann Preston (eSignature) 11-Jun-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):	3.4 c		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	6/10/2013 8:47:33 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:

FedEx Express **US Airbill**

8681 5794 6279

0200 Form ID No.

FedEx Retrieval Copy

1 From

Date 6-7-13 Sender's FedEx Account Number

Sender's Name DAN PINEGAR Phone 970 243 3271

Company HCSI

Address 2365 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 [illegible] Phone 616 399 6070

Company [illegible]

Recipient's Address 3352 128th AVE

We cannot deliver to P.O. bo[xes]

Dept/Floor/Suite/Room

Address

To request a package be h[eld]

City [illegible]

Signature: [signature]

Date: 6-7-13

8681 5794 6279

4a Express Package Service *Packages up to 150 lbs.*

1 [X] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

5 [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

6 [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.* Saturday Delivery NOT available.

3 [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

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

FedEx Envelope rate not available. Minimum charge: One-pound rate.

* To most locations.

4b Express Freight Service *Packages over 150 lbs.*

7 [ ] FedEx 1Day Freight* — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

8 [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

83 [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

* Call for Confirmation:

** To most locations.

5 Packaging

6 [ ] FedEx Envelope* 2 [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak. 3 [ ] FedEx Box 4 [ ] FedEx Tube 1 [X] Other

* Declared value limit $500.

6 Special Handling — Include FedEx address in Section 3.

3 [X] SATURDAY Delivery — Not available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.

1 [ ] HOLD Weekday at FedEx Location — Not available for FedEx First Overnight.

31 [ ] HOLD Saturday at FedEx Location — Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? One box must be checked.

[X] No 4 [ ] Yes As per attached Shipper's Declaration. [ ] Yes Shipper's Declaration not required. 6 [ ] Dry Ice Dry Ice, 9, UN 1845 ___ x ___ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging. [ ] Cargo Aircraft Only

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 [X] Recipient 3 [ ] Third Party 4 [ ] Credit Card 5 [ ] Cash/Check

[redacted]

9601 San Leandro St. Oakland, CA 800-233-8425

ENVIRONMENTAL SAMPLING SUPPLY

CUSTODY SEAL

[...S]ervice Guide for details. Credit Card Auth.

[...] require a signature, check Direct or Indirect.

[ ] Package may be left without obtaining a signature for delivery.

[...] t Signature. [...] s available at [...] s address, someone [...] iboring address may [...] delivery. Fee applies.

520

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APPENDIX 2: BACKGROUND RAW ANALYTICAL RESULTS

ALS Group USA, Corp

Date: *18-Jul-13*

Client: HRL Compliance Solutions
Project: WPX TR 32-3-597 Pit Closure 6/7/13 **Work Order:** 1306318
Sample ID: BKGD 1 **Lab ID:** 1306318-06
Collection Date: 6/7/2013 12:05 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS			**SW6020A**		Prep Date: **6/12/2013**	Analyst: **RH**
Arsenic	**5.3**		**2.0**	**mg/Kg-dry**	5	6/12/2013 08:39 PM
MOISTURE			**A2540 G**			Analyst: **BD**
Moisture	**10**		**0.050**	**% of sample**	1	6/10/2013 01:30 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 32-3-597 Pit Closure 6/7/13 **Work Order:** 1306318
Sample ID: BKDG 2 **Lab ID:** 1306318-07
Collection Date: 6/7/2013 12:15 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS			**SW6020A**		Prep Date: **6/12/2013**	Analyst: **RH**
Arsenic	**4.7**		**1.9**	**mg/Kg-dry**	5	6/12/2013 08:44 PM
SOLUBLE CATIONS FOR SAR			**SW6020A**		Prep Date: **6/11/2013**	Analyst: **ML**
Calcium	**120**		**10**	**mg/L**	20	6/13/2013 07:33 PM
Magnesium	**22**		**4.0**	**mg/L**	20	6/13/2013 07:33 PM
Sodium	**14**		**4.0**	**mg/L**	20	6/14/2013 01:20 PM
SODIUM ADSORPTION RATIO			**USDA H60 METHO**		Prep Date: **6/11/2013**	Analyst: **ML**
Sodium Adsorption Ratio	**0.31**		**0.010**	**none**	1	6/14/2013
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHO**		Prep Date: **6/11/2013**	Analyst: **JB**
Electrical Conductivity @ Saturation	**0.89**		**0.025**	**mmhos/cm @25**	5	6/14/2013 12:30 PM
MOISTURE			**A2540 G**			Analyst: **BD**
Moisture	**3.4**		**0.050**	**% of sample**	1	6/10/2013 01:30 PM
PH			**SW9045D**			Analyst: **JB**
pH	**7.4**			**s.u.**	1	6/10/2013 12:05 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 32-3-597 Pit Closure 6/7/13 **Work Order:** 1306318
Sample ID: BKGD 3 **Lab ID:** 1306318-08
Collection Date: 6/7/2013 12:25 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS			**SW6020A**		Prep Date: **6/12/2013**	Analyst: **RH**
Arsenic	**5.0**		**2.1**	**mg/Kg-dry**	5	6/12/2013 08:49 PM
MOISTURE			**A2540 G**			Analyst: **BD**
Moisture	**13**		**0.050**	**% of sample**	1	6/10/2013 01:30 PM

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

APPENDIX 3: LANDFARM RAW ANALYTICAL RESULTS

30-Jun-2013

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

Re: **WPX TR 32-3-597 Landfarm #1 6/20/13** Work Order: **1306857**

Dear Kris,

ALS Environmental received 1 sample on 21-Jun-2013 09:03 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 24.

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 Group An ALS Limited Company

ALS Group USA, Corp

Date: 30-Jun-13

Client: HRL Compliance Solutions
Project: WPX TR 32-3-597 Landfarm #1 6/20/13
Work Order: **1306857**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1306857-01	TR 32-3-597 Landfarm #1	Soil		6/20/2013 11:40	6/21/2013 09:03	☐

Client: HRL Compliance Solutions
Project: WPX TR 32-3-597 Landfarm #1 6/20/13
Work Order: 1306857

Case Narrative

Batch 49317 MS/MSD data for PAHs is not related to this project's samples. No data requires qualification.

Batch 49318 MS/MSD data for DRO is not related to this project's samples. No data requires qualification.

Batch R122729 MS/MSD data for GRO is not related to this project's samples. No data requires qualification.

ALS Group USA, Corp

Date: 30-Jun-13

Client: HRL Compliance Solutions
Project: WPX TR 32-3-597 Landfarm #1 6/20/13
WorkOrder: **1306857**

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
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
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°F	Microhms-Centimeter at 25 Degrees Fahrenheit
none	
s.u.	Standard Units

ALS Group USA, Corp

Date: *30-Jun-13*

Client: HRL Compliance Solutions
Project: WPX TR 32-3-597 Landfarm #1 6/20/13 **Work Order:** 1306857
Sample ID: TR 32-3-597 Landfarm #1 **Lab ID:** 1306857-01
Collection Date: 6/20/2013 11:40 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep Date: **6/26/2013**	Analyst: **RD**
DRO (C10-C28)	**210**		**4.8**	**mg/Kg-dry**	1	6/26/2013 10:43 PM
Surr: 4-Terphenyl-d14	*55.9*		*39-115*	*%REC*	1	6/26/2013 10:43 PM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015**			Analyst: **RD**
GRO (C6-C10)	ND		2.9	mg/Kg-dry	50	6/25/2013 02:00 AM
Surr: Toluene-d8	*102*		*50-150*	*%REC*	50	6/25/2013 02:00 AM
MERCURY BY CVAA			**SW7471**		Prep Date: **6/25/2013**	Analyst: **LR**
Mercury	ND		0.017	mg/Kg-dry	1	6/25/2013 02:20 PM
METALS BY ICP-MS			**SW6020A**		Prep Date: **6/27/2013**	Analyst: **ML**
Arsenic	**5.0**		**1.8**	**mg/Kg-dry**	5	6/28/2013 03:29 AM
Barium	**400**		**1.8**	**mg/Kg-dry**	5	6/28/2013 03:29 AM
Cadmium	ND		0.73	mg/Kg-dry	5	6/28/2013 03:29 AM
Chromium	**31**		**1.8**	**mg/Kg-dry**	5	6/28/2013 03:29 AM
Copper	**15**		**1.8**	**mg/Kg-dry**	5	6/28/2013 03:29 AM
Lead	**14**		**1.8**	**mg/Kg-dry**	5	6/28/2013 03:29 AM
Nickel	**17**		**1.8**	**mg/Kg-dry**	5	6/28/2013 03:29 AM
Selenium	ND		1.8	mg/Kg-dry	5	6/28/2013 03:29 AM
Silver	ND		1.8	mg/Kg-dry	5	6/28/2013 03:29 AM
Zinc	**56**		**3.6**	**mg/Kg-dry**	5	6/28/2013 03:29 AM
SOLUBLE CATIONS FOR SAR			**SW6020A**		Prep Date: **6/25/2013**	Analyst: **RH**
Calcium	**33**		**10**	**mg/L**	20	6/26/2013 04:24 AM
Magnesium	**4.9**		**4.0**	**mg/L**	20	6/26/2013 04:24 AM
Sodium	**620**		**4.0**	**mg/L**	20	6/26/2013 04:24 AM
SODIUM ADSORPTION RATIO			**USDA H60 METHO**		Prep Date: **6/25/2013**	Analyst: **RH**
Sodium Adsorption Ratio	**27**		**0.010**	**none**	1	6/27/2013
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep Date: **6/26/2013**	Analyst: **RM**
Acenaphthene	ND		17	µg/Kg-dry	1	6/27/2013 03:25 PM
Acenaphthylene	ND		35	µg/Kg-dry	1	6/27/2013 03:25 PM
Anthracene	ND		17	µg/Kg-dry	1	6/27/2013 03:25 PM
Benzo(a)anthracene	ND		20	µg/Kg-dry	1	6/27/2013 03:25 PM
Benzo(a)pyrene	ND		20	µg/Kg-dry	1	6/27/2013 03:25 PM
Benzo(b)fluoranthene	ND		21	µg/Kg-dry	1	6/27/2013 03:25 PM
Benzo(g,h,i)perylene	ND		32	µg/Kg-dry	1	6/27/2013 03:25 PM
Benzo(k)fluoranthene	ND		21	µg/Kg-dry	1	6/27/2013 03:25 PM
Chrysene	ND		17	µg/Kg-dry	1	6/27/2013 03:25 PM
Dibenzo(a,h)anthracene	ND		21	µg/Kg-dry	1	6/27/2013 03:25 PM
Fluoranthene	ND		17	µg/Kg-dry	1	6/27/2013 03:25 PM

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

ALS Group USA, Corp

Date: *30-Jun-13*

Client: HRL Compliance Solutions
Project: WPX TR 32-3-597 Landfarm #1 6/20/13 **Work Order:** 1306857
Sample ID: TR 32-3-597 Landfarm #1 **Lab ID:** 1306857-01
Collection Date: 6/20/2013 11:40 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		17	µg/Kg-dry	1	6/27/2013 03:25 PM
Indeno(1,2,3-cd)pyrene	ND		23	µg/Kg-dry	1	6/27/2013 03:25 PM
Naphthalene	ND		17	µg/Kg-dry	1	6/27/2013 03:25 PM
Pyrene	ND		17	µg/Kg-dry	1	6/27/2013 03:25 PM
Surr: 2-Fluorobiphenyl	*70.4*		*12-100*	*%REC*	1	6/27/2013 03:25 PM
Surr: 4-Terphenyl-d14	*113*		*25-137*	*%REC*	1	6/27/2013 03:25 PM
Surr: Nitrobenzene-d5	*66.6*		*37-107*	*%REC*	1	6/27/2013 03:25 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260**		Prep Date: **6/21/2013**	Analyst: **BG**
Benzene	ND		0.035	mg/Kg-dry	1	6/26/2013 06:09 PM
Ethylbenzene	ND		0.035	mg/Kg-dry	1	6/26/2013 06:09 PM
m,p-Xylene	**0.076**		**0.070**	**mg/Kg-dry**	1	6/26/2013 06:09 PM
o-Xylene	ND		0.035	mg/Kg-dry	1	6/26/2013 06:09 PM
Toluene	ND		0.035	mg/Kg-dry	1	6/26/2013 06:09 PM
Xylenes, Total	ND		0.10	mg/Kg-dry	1	6/26/2013 06:09 PM
Surr: 1,2-Dichloroethane-d4	*93.2*		*70-130*	*%REC*	1	6/26/2013 06:09 PM
Surr: 4-Bromofluorobenzene	*106*		*70-130*	*%REC*	1	6/26/2013 06:09 PM
Surr: Dibromofluoromethane	*93.0*		*70-130*	*%REC*	1	6/26/2013 06:09 PM
Surr: Toluene-d8	*102*		*70-130*	*%REC*	1	6/26/2013 06:09 PM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHO**		Prep Date: **6/21/2013**	Analyst: **JB**
Electrical Conductivity @ Saturation	**3.5**		**0.050**	**mmhos/cm @2**	10	6/25/2013 10:30 AM
CHROMIUM, TRIVALENT			**CALCULATION**			Analyst: **JJG**
Chromium, Trivalent	**31**		**0.58**	**mg/Kg-dry**	1	6/28/2013 04:35 PM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep Date: **6/24/2013**	Analyst: **MB**
Chromium, Hexavalent	ND		0.58	mg/Kg-dry	1	6/24/2013 11:00 AM
MOISTURE			**A2540 G**			Analyst: **BD**
Moisture	**14**		**0.050**	**% of sample**	1	6/24/2013 02:00 PM
PH			**SW9045D**			Analyst: **EE**
pH	**9.0**			**s.u.**	1	6/21/2013 10:30 AM

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

QC BATCH REPORT

Batch ID: **49318** Instrument ID **GC8** Method: **SW8015M**

MBLK Sample ID: **DBLKS1-49318-49318** Units: **mg/Kg** Analysis Date: **6/26/2013 07:43 PM**

Client ID: Run ID: **GC8_130626A** SeqNo: **2363269** Prep Date: **6/26/2013** 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	*0.9867*	0	*1.667*	0	*59.2*	*39-115*	0			

LCS Sample ID: **DLCSS1-49318-49318** Units: **mg/Kg** Analysis Date: **6/26/2013 08:43 PM**

Client ID: Run ID: **GC8_130626A** SeqNo: **2363270** Prep Date: **6/26/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	164.6	4.2	166.7	0	98.7	49-124	0			
Surr: 4-Terphenyl-d14	*0.8847*	0	*1.667*	0	*53.1*	*39-115*	0			

MS Sample ID: **1306888-01B MS** Units: **mg/Kg** Analysis Date: **6/26/2013 09:13 PM**

Client ID: Run ID: **GC8_130626A** SeqNo: **2363271** Prep Date: **6/26/2013** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	3021	80	318.2	1706	413	49-130	0			SO
Surr: 4-Terphenyl-d14	*4.066*	0	*3.182*	0	*128*	*39-115*	0			*S*

MSD Sample ID: **1306888-01B MSD** Units: **mg/Kg** Analysis Date: **6/26/2013 09:43 PM**

Client ID: Run ID: **GC8_130626A** SeqNo: **2363272** Prep Date: **6/26/2013** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	2754	81	322.2	1706	325	49-130	3021	9.24	30	SO
Surr: 4-Terphenyl-d14	*3.254*	0	*3.222*	0	*101*	*39-115*	4.066	*22.2*	*30*	

The following samples were analyzed in this batch: 1306857-01B

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

Client: HRL Compliance Solutions
Work Order: 1306857
Project: WPX TR 32-3-597 Landfarm #1 6/20/13

QC BATCH REPORT

Batch ID: **R122729** Instrument ID **GC10** Method: **SW8015**

MBLK Sample ID: **GBLK2-130624-R122729** Units: **µg/L** Analysis Date: **6/24/2013 11:32 PM**
Client ID: Run ID: **GC10_130624B** SeqNo: **2359428** 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	*109.8*	0	*100*	0	*110*	*70-130*	0			

LCS Sample ID: **GLCS2-130624-R122729** Units: **µg/L** Analysis Date: **6/24/2013 11:08 PM**
Client ID: Run ID: **GC10_130624B** SeqNo: **2359427** 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)	7914	200	10000	0	79.1	70-130	0			
Surr: Toluene-d8	*112.6*	0	*100*	0	*113*	*70-130*	0			

MS Sample ID: **1306863-08A MS** Units: **µg/L** Analysis Date: **6/25/2013 08:08 AM**
Client ID: Run ID: **GC10_130624B** SeqNo: **2359430** 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)	7359	200	10000	0	73.6	70-130	0			
Surr: Toluene-d8	*110*	0	*100*	0	*110*	*70-130*	0			

MSD Sample ID: **1306863-08A MSD** Units: **µg/L** Analysis Date: **6/25/2013 08:32 AM**
Client ID: Run ID: **GC10_130624B** SeqNo: **2359431** 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)	6766	200	10000	0	67.7	70-130	7359	8.4	30	S
Surr: Toluene-d8	*107.2*	0	*100*	0	*107*	*70-130*	110	*2.62*	*30*	

The following samples were analyzed in this batch: 1306857-01A

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

Client: HRL Compliance Solutions
Work Order: 1306857
Project: WPX TR 32-3-597 Landfarm #1 6/20/13

QC BATCH REPORT

Batch ID: **49298** Instrument ID **HG1** Method: **SW7471**

MBLK Sample ID: **MBLK-49298-49298** Units: **mg/Kg** Analysis Date: **6/25/2013 02:02 PM**
Client ID: Run ID: **HG1_130625A** SeqNo: **2360223** Prep Date: **6/25/2013** 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-49298-49298** Units: **mg/Kg** Analysis Date: **6/25/2013 02:04 PM**
Client ID: Run ID: **HG1_130625A** SeqNo: **2360225** Prep Date: **6/25/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1778	0.020	0.1665	0	107	80-120	0			

MS Sample ID: **1306940-01BMS** Units: **mg/Kg** Analysis Date: **6/25/2013 02:10 PM**
Client ID: Run ID: **HG1_130625A** SeqNo: **2360230** Prep Date: **6/25/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1278	0.014	0.1207	0.01978	89.6	75-125	0			

MSD Sample ID: **1306940-01BMSD** Units: **mg/Kg** Analysis Date: **6/25/2013 02:12 PM**
Client ID: Run ID: **HG1_130625A** SeqNo: **2360232** Prep Date: **6/25/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1151	0.014	0.1129	0.01978	84.4	75-125	0.1278	10.5	35	

The following samples were analyzed in this batch: 1306857-01B

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

QC BATCH REPORT

Batch ID: **49228** Instrument ID **ICPMS2** Method: **SW6020A** **(Dissolve)**

DUP Sample ID: **1306818-05BDUP** Units: **mg/L** Analysis Date: **6/26/2013 04:19 AM**
Client ID: Run ID: **ICPMS2_130625A** SeqNo: **2361586** Prep Date: **6/25/2013** DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	99.4	10	0	0	0	0-0	-0.09646	200		
Magnesium	10.49	4.0	0	0	0	0-0	0.046	198		
Sodium	16.68	4.0	0	0	0	0-0	-2.32	265		

DUP Sample ID: **1306818-05BDUP** Units: **none** Analysis Date: **6/27/2013**
Client ID: Run ID: **SAR_130627A** SeqNo: **2363754** Prep Date: **6/25/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	0.4253	0.010	0	0	0		0			

The following samples were analyzed in this batch: 1306857-01C

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

Client: HRL Compliance Solutions
Work Order: 1306857
Project: WPX TR 32-3-597 Landfarm #1 6/20/13

QC BATCH REPORT

Batch ID: **49368** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK Sample ID: **MBLK-49368-49368** Units: **mg/Kg** Analysis Date: **6/28/2013 03:17 AM**
Client ID: Run ID: **ICPMS1_130627A** SeqNo: **2364123** Prep Date: **6/27/2013** 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	ND	0.10								
Chromium	ND	0.25								
Copper	0.1062	0.25								J
Lead	0.002686	0.25								J
Nickel	ND	0.25								
Selenium	0.04273	0.25								J
Silver	ND	0.25								
Zinc	ND	0.50								

LCS Sample ID: **LCS-49368-49368** Units: **mg/Kg** Analysis Date: **6/28/2013 03:24 AM**
Client ID: Run ID: **ICPMS1_130627A** SeqNo: **2364124** Prep Date: **6/27/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.435	0.25	5	0	88.7	80-120	0			
Barium	4.737	0.25	5	0	94.7	80-120	0			
Cadmium	4.678	0.10	5	0	93.6	80-120	0			
Chromium	4.684	0.25	5	0	93.7	80-120	0			
Copper	4.734	0.25	5	0	94.7	80-120	0			
Lead	5	0.25	5	0	100	80-120	0			
Nickel	4.72	0.25	5	0	94.4	80-120	0			
Selenium	4.034	0.25	5	0	80.7	80-120	0			
Silver	5.42	0.25	5	0	108	80-120	0			
Zinc	4.375	0.50	5	0	87.5	80-120	0			

MS Sample ID: **1306978-11BMS** Units: **mg/Kg** Analysis Date: **6/28/2013 05:31 AM**
Client ID: Run ID: **ICPMS1_130627A** SeqNo: **2364145** Prep Date: **6/27/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	7.451	0.39	7.837	0.4017	90	75-125	0			
Barium	13.69	0.39	7.837	5.856	100	75-125	0			
Cadmium	7.306	0.16	7.837	0.003874	93.2	75-125	0			
Chromium	8.119	0.39	7.837	0.5737	96.3	75-125	0			
Copper	7.986	0.39	7.837	0.3126	97.9	75-125	0			
Lead	8.307	0.39	7.837	0.436	100	75-125	0			
Nickel	7.643	0.39	7.837	0.2792	94	75-125	0			
Selenium	6.507	0.39	7.837	0.1113	81.6	75-125	0			
Silver	8.378	0.39	7.837	0.006198	107	75-125	0			
Zinc	7.892	0.78	7.837	0.9571	88.5	75-125	0			

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

Client: HRL Compliance Solutions
Work Order: 1306857
Project: WPX TR 32-3-597 Landfarm #1 6/20/13

QC BATCH REPORT

Batch ID: **49368** Instrument ID **ICPMS1** Method: **SW6020A**

MSD Sample ID: **1306978-11BMSD** Units: **mg/Kg** Analysis Date: **6/28/2013 05:36 AM**
Client ID: Run ID: **ICPMS1_130627A** SeqNo: **2364146** Prep Date: **6/27/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	6.987	0.37	7.485	0.4017	88	75-125	7.451	6.43	25	
Barium	13.04	0.37	7.485	5.856	96	75-125	13.69	4.88	25	
Cadmium	7.082	0.15	7.485	0.003874	94.6	75-125	7.306	3.13	25	
Chromium	7.672	0.37	7.485	0.5737	94.8	75-125	8.119	5.66	25	
Copper	7.612	0.37	7.485	0.3126	97.5	75-125	7.986	4.79	25	
Lead	7.964	0.37	7.485	0.436	101	75-125	8.307	4.22	25	
Nickel	7.377	0.37	7.485	0.2792	94.8	75-125	7.643	3.53	25	
Selenium	6.245	0.37	7.485	0.1113	81.9	75-125	6.507	4.11	25	
Silver	8.144	0.37	7.485	0.006198	109	75-125	8.378	2.83	25	
Zinc	7.597	0.75	7.485	0.9571	88.7	75-125	7.892	3.8	25	

The following samples were analyzed in this batch: 1306857-01B

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

Client: HRL Compliance Solutions
Work Order: 1306857
Project: WPX TR 32-3-597 Landfarm #1 6/20/13

QC BATCH REPORT

Batch ID: **49317** Instrument ID **SVMS4** Method: **SW8270**

MBLK Sample ID: **SBLKS1-49317-49317** Units: **µg/Kg** Analysis Date: **6/27/2013 05:23 PM**
Client ID: Run ID: **SVMS4_130627A** SeqNo: **2364670** Prep Date: **6/26/2013** 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	*1377*	0	*1667*	0	*82.6*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1975*	0	*1667*	0	*118*	*25-137*	0			
Surr: Nitrobenzene-d5	*1265*	0	*1667*	0	*75.9*	*37-107*	0			

LCS Sample ID: **SLCSS1-49317-49317** Units: **µg/Kg** Analysis Date: **6/27/2013 12:31 PM**
Client ID: Run ID: **SVMS4_130627A** SeqNo: **2364666** Prep Date: **6/26/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	567.3	30	666.7	0	85.1	45-110	0			
Acenaphthylene	568.3	30	666.7	0	85.2	45-105	0			
Anthracene	590	30	666.7	0	88.5	55-105	0			
Benzo(a)anthracene	624.7	30	666.7	0	93.7	50-110	0			
Benzo(a)pyrene	699.3	30	666.7	0	105	50-110	0			
Benzo(b)fluoranthene	669.3	30	666.7	0	100	45-115	0			
Benzo(g,h,i)perylene	671.7	30	666.7	0	101	40-125	0			
Benzo(k)fluoranthene	728.7	30	666.7	0	109	45-115	0			
Chrysene	692.7	30	666.7	0	104	55-110	0			
Dibenzo(a,h)anthracene	655.3	30	666.7	0	98.3	40-125	0			
Fluoranthene	626.3	30	666.7	0	93.9	55-115	0			
Fluorene	569	30	666.7	0	85.3	50-110	0			
Indeno(1,2,3-cd)pyrene	666	30	666.7	0	99.9	40-120	0			
Naphthalene	527	30	666.7	0	79	40-105	0			
Pyrene	689.3	30	666.7	0	103	45-125	0			
Surr: 2-Fluorobiphenyl	*1222*	0	*1667*	0	*73.3*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1929*	0	*1667*	0	*116*	*25-137*	0			
Surr: Nitrobenzene-d5	*1169*	0	*1667*	0	*70.2*	*37-107*	0			

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

Client: HRL Compliance Solutions
Work Order: 1306857
Project: WPX TR 32-3-597 Landfarm #1 6/20/13

QC BATCH REPORT

Batch ID: **49317** Instrument ID **SVMS4** Method: **SW8270**

MS Sample ID: **1306888-01B MS** Units: **µg/Kg** Analysis Date: **6/27/2013 03:46 PM**
Client ID: Run ID: **SVMS4_130627A** SeqNo: **2364667** Prep Date: **6/26/2013** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	4995	570	1274	1936	240	45-110	0			S
Acenaphthylene	6977	570	1274	2334	364	45-105	0			S
Anthracene	5225	570	1274	1800	269	55-105	0			S
Benzo(a)anthracene	6843	570	1274	2264	359	50-110	0			S
Benzo(a)pyrene	5263	570	1274	1726	278	50-110	0			S
Benzo(b)fluoranthene	6346	570	1274	2165	328	45-115	0			S
Benzo(g,h,i)perylene	2440	570	1274	564.4	147	40-125	0			S
Benzo(k)fluoranthene	2255	570	1274	863.2	109	45-115	0			
Chrysene	11440	570	1274	4622	535	55-110	0			S
Dibenzo(a,h)anthracene	1561	570	1274	295.5	99.3	40-125	0			
Fluoranthene	9997	570	1274	3861	481	55-115	0			S
Fluorene	5327	570	1274	1992	262	50-110	0			S
Indeno(1,2,3-cd)pyrene	1956	570	1274	418.3	121	40-120	0			S
Naphthalene	5250	570	1274	2254	235	40-105	0			S
Pyrene	17670	570	1274	7494	798	45-125	0			SO
Surr: 2-Fluorobiphenyl	*2166*	0	*3186*	0	*68*	*12-100*	0			
Surr: 4-Terphenyl-d14	*2428*	0	*3186*	0	*76.2*	*25-137*	0			
Surr: Nitrobenzene-d5	*1848*	0	*3186*	0	*58*	*37-107*	0			

MSD Sample ID: **1306888-01B MSD** Units: **µg/Kg** Analysis Date: **6/27/2013 04:18 PM**
Client ID: Run ID: **SVMS4_130627A** SeqNo: **2364668** Prep Date: **6/26/2013** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	3532	570	1268	1936	126	45-110	4995	34.3	30	SR
Acenaphthylene	4806	570	1268	2334	195	45-105	6977	36.8	30	SR
Anthracene	3361	570	1268	1800	123	55-105	5225	43.4	30	SR
Benzo(a)anthracene	4052	570	1268	2264	141	50-110	6843	51.2	30	SR
Benzo(a)pyrene	3665	570	1268	1726	153	50-110	5263	35.8	30	SR
Benzo(b)fluoranthene	4185	570	1268	2165	159	45-115	6346	41	30	SR
Benzo(g,h,i)perylene	1756	570	1268	564.4	94	40-125	2440	32.6	30	R
Benzo(k)fluoranthene	2048	570	1268	863.2	93.4	45-115	2255	9.64	30	
Chrysene	6766	570	1268	4622	169	55-110	11440	51.4	30	SR
Dibenzo(a,h)anthracene	1408	570	1268	295.5	87.7	40-125	1561	10.3	30	
Fluoranthene	5206	570	1268	3861	106	55-115	9997	63	30	R
Fluorene	3544	570	1268	1992	122	50-110	5327	40.2	30	SR
Indeno(1,2,3-cd)pyrene	1477	570	1268	418.3	83.5	40-120	1956	27.9	30	
Naphthalene	4064	570	1268	2254	143	40-105	5250	25.5	30	S
Pyrene	9365	570	1268	7494	148	45-125	17670	61.4	30	SRO
Surr: 2-Fluorobiphenyl	*2340*	0	*3170*	0	*73.8*	*12-100*	2166	*7.7*	*40*	
Surr: 4-Terphenyl-d14	*2720*	0	*3170*	0	*85.8*	*25-137*	2428	*11.4*	*40*	
Surr: Nitrobenzene-d5	*1959*	0	*3170*	0	*61.8*	*37-107*	1848	*5.86*	*40*	

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

Client: HRL Compliance Solutions
Work Order: 1306857
Project: WPX TR 32-3-597 Landfarm #1 6/20/13

QC BATCH REPORT

Batch ID: **49317** Instrument ID **SVMS4** Method: **SW8270**

The following samples were analyzed in this batch: 1306857-01B

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

Client: HRL Compliance Solutions
Work Order: 1306857
Project: WPX TR 32-3-597 Landfarm #1 6/20/13

QC BATCH REPORT

Batch ID: **49213** Instrument ID **VMS5** Method: **SW8260**

MBLK Sample ID: **MBLK-49213-49213** Units: **µg/Kg** Analysis Date: **6/21/2013 04:00 PM**
Client ID: Run ID: **VMS5_130621A** SeqNo: **2358201** Prep Date: **6/21/2013** 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	*941*	0	*1000*	0	*94.1*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1026*	0	*1000*	0	*103*	*70-130*	0			
Surr: Dibromofluoromethane	*972.5*	0	*1000*	0	*97.2*	*70-130*	0			
Surr: Toluene-d8	*997*	0	*1000*	0	*99.7*	*70-130*	0			

LCS Sample ID: **LCS1-49213-49213** Units: **µg/Kg** Analysis Date: **6/21/2013 02:50 PM**
Client ID: Run ID: **VMS5_130621A** SeqNo: **2358200** Prep Date: **6/21/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	875	30	1000	0	87.5	75-125	0			
Ethylbenzene	830	30	1000	0	83	75-125	0			
m,p-Xylene	1674	60	2000	0	83.7	80-125	0			
o-Xylene	859.5	30	1000	0	86	75-125	0			
Toluene	869	30	1000	0	86.9	70-125	0			
Xylenes, Total	2533	90	3000	0	84.4	75-125	0			
Surr: 1,2-Dichloroethane-d4	*932.5*	0	*1000*	0	*93.2*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*992*	0	*1000*	0	*99.2*	*70-130*	0			
Surr: Dibromofluoromethane	*981*	0	*1000*	0	*98.1*	*70-130*	0			
Surr: Toluene-d8	*1005*	0	*1000*	0	*100*	*70-130*	0			

MS Sample ID: **1306857-01A MS** Units: **µg/Kg** Analysis Date: **6/26/2013 11:13 PM**
Client ID: **TR 32-3-597 Landfarm #1** Run ID: **VMS5_130626A** SeqNo: **2362754** Prep Date: **6/21/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	990.5	30	1000	0	99	75-125	0			
Ethylbenzene	906.5	30	1000	0	90.6	75-125	0			
m,p-Xylene	1778	60	2000	65.5	85.6	80-125	0			
o-Xylene	903	30	1000	18.5	88.4	75-125	0			
Toluene	919	30	1000	0	91.9	70-125	0			
Xylenes, Total	2681	90	3000	84	86.6	75-125	0			
Surr: 1,2-Dichloroethane-d4	*924.5*	0	*1000*	0	*92.4*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1066*	0	*1000*	0	*107*	*70-130*	0			
Surr: Dibromofluoromethane	*945.5*	0	*1000*	0	*94.6*	*70-130*	0			
Surr: Toluene-d8	*1006*	0	*1000*	0	*101*	*70-130*	0			

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

Client: HRL Compliance Solutions
Work Order: 1306857
Project: WPX TR 32-3-597 Landfarm #1 6/20/13

QC BATCH REPORT

Batch ID: **49213** Instrument ID **VMS5** Method: **SW8260**

MSD Sample ID: **1306857-01A MSD** Units: **µg/Kg** Analysis Date: **6/26/2013 11:36 PM**
Client ID: **TR 32-3-597 Landfarm #1** Run ID: **VMS5_130626A** SeqNo: **2362755** Prep Date: **6/21/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1061	30	1000	0	106	75-125	990.5	6.87	30	
Ethylbenzene	909.5	30	1000	0	91	75-125	906.5	0.33	30	
m,p-Xylene	1816	60	2000	65.5	87.6	80-125	1778	2.14	30	
o-Xylene	914.5	30	1000	18.5	89.6	75-125	903	1.27	30	
Toluene	920	30	1000	0	92	70-125	919	0.109	30	
Xylenes, Total	2731	90	3000	84	88.2	75-125	2681	1.85	30	
Surr: 1,2-Dichloroethane-d4	*1006*	0	*1000*	0	*101*	*70-130*	924.5	*8.44*	*30*	
Surr: 4-Bromofluorobenzene	*1058*	0	*1000*	0	*106*	*70-130*	1066	*0.706*	*30*	
Surr: Dibromofluoromethane	*1034*	0	*1000*	0	*103*	*70-130*	945.5	*8.94*	*30*	
Surr: Toluene-d8	*1007*	0	*1000*	0	*101*	*70-130*	1006	*0.0994*	*30*	

The following samples were analyzed in this batch: 1306857-01A

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

Client: HRL Compliance Solutions
Work Order: 1306857
Project: WPX TR 32-3-597 Landfarm #1 6/20/13

QC BATCH REPORT

Batch ID: **49228** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

DUP Sample ID: **1306818-05B DUP** Units: **mmhos/cm @25°F** Analysis Date: **6/25/2013 10:30 AM**
Client ID: Run ID: **WETCHEM_130625B** SeqNo: **2359468** Prep Date: **6/21/2013** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturatio	0.716	0.050	0	0	0		0.629	12.9	50	

The following samples were analyzed in this batch: 1306857-01C

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

Client: HRL Compliance Solutions
Work Order: 1306857
Project: WPX TR 32-3-597 Landfarm #1 6/20/13

QC BATCH REPORT

Batch ID: **49275** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK Sample ID: **MBLK-49275-49275** Units: **mg/Kg** Analysis Date: **6/24/2013 11:00 AM**
Client ID: Run ID: **WETCHEM_130625K** SeqNo: **2359771** Prep Date: **6/24/2013** 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-49275-49275** Units: **mg/Kg** Analysis Date: **6/24/2013 11:00 AM**
Client ID: Run ID: **WETCHEM_130625K** SeqNo: **2359770** Prep Date: **6/24/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.839	0.49	1.961	0	93.8	75-110	0			

MS Sample ID: **1306766-01B MS** Units: **mg/Kg** Analysis Date: **6/24/2013 11:00 AM**
Client ID: Run ID: **WETCHEM_130625K** SeqNo: **2359764** Prep Date: **6/24/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.36	0.49	1.976	0.1344	62	60-130	0			

MSD Sample ID: **1306766-01B MSD** Units: **mg/Kg** Analysis Date: **6/24/2013 11:00 AM**
Client ID: Run ID: **WETCHEM_130625K** SeqNo: **2359765** Prep Date: **6/24/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.36	0.49	1.976	0.1344	62	60-130	1.36	0	30	

The following samples were analyzed in this batch: 1306857-01B

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

Client: HRL Compliance Solutions
Work Order: 1306857
Project: WPX TR 32-3-597 Landfarm #1 6/20/13

QC BATCH REPORT

Batch ID: **R122653** Instrument ID **WETCHEM** Method: **A4500-H B**

LCS Sample ID: **WLCSW1-062113-R122653** Units: **s.u.** Analysis Date: **6/21/2013 10:30 AM**
Client ID: Run ID: **WETCHEM_130621M** SeqNo: **2357603** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	4.37	0	4.4	0	99.3	90-110	0			

LCS Sample ID: **WLCSS1-062113-R122653** Units: **s.u.** Analysis Date: **6/21/2013 10:30 AM**
Client ID: Run ID: **WETCHEM_130621M** SeqNo: **2357607** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	4.37	0	4.4	0	99.3	90-110	0			

LCS Sample ID: **WLCSW1-062113-R122653** Units: **s.u.** Analysis Date: **6/21/2013 10:30 AM**
Client ID: Run ID: **WETCHEM_130621M** SeqNo: **2357616** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	4.37	0	4.4	0	99.3	90-110	0			

DUP Sample ID: **1306896-02C DUP** Units: **s.u.** Analysis Date: **6/21/2013 10:30 AM**
Client ID: Run ID: **WETCHEM_130621M** SeqNo: **2357606** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.7	0	0	0	0	0-0	7.7	0	20	

DUP Sample ID: **1306857-01B DUP** Units: **s.u.** Analysis Date: **6/21/2013 10:30 AM**
Client ID: **TR 32-3-597 Landfarm #1** Run ID: **WETCHEM_130621M** SeqNo: **2357610** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	8.96	0	0	0	0	0-0	8.96	0	20	

DUP Sample ID: **1306853-01D DUP** Units: **s.u.** Analysis Date: **6/21/2013 10:30 AM**
Client ID: Run ID: **WETCHEM_130621M** SeqNo: **2357618** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.99	0	0	0	0	0-0	7.99	0	20	

The following samples were analyzed in this batch: 1306857-01B

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

Client: HRL Compliance Solutions
Work Order: 1306857
Project: WPX TR 32-3-597 Landfarm #1 6/20/13

QC BATCH REPORT

Batch ID: **R122777** Instrument ID **MOIST** Method: **A2540 G**

MBLK Sample ID: **WBLKS-R122777** Units: **% of sample** Analysis Date: **6/24/2013 02:00 PM**
Client ID: Run ID: **MOIST_130624F** SeqNo: **2360519** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	0.03	0.050								J

LCS Sample ID: **LCS-R122777** Units: **% of sample** Analysis Date: **6/24/2013 02:00 PM**
Client ID: Run ID: **MOIST_130624F** SeqNo: **2360517** 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: **1306943-03B DUP** Units: **% of sample** Analysis Date: **6/24/2013 02:00 PM**
Client ID: Run ID: **MOIST_130624F** SeqNo: **2360496** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	17.72	0.050	0	0	0	0-0	17.17	3.15	20	

DUP Sample ID: **1306943-07B DUP** Units: **% of sample** Analysis Date: **6/24/2013 02:00 PM**
Client ID: Run ID: **MOIST_130624F** SeqNo: **2360504** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	17.74	0.050	0	0	0	0-0	17.15	3.38	20	

The following samples were analyzed in this batch: 1306857-01B

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

Holland.

Chain-of-Custody

Form 202r8

WORKORDER # 1306857

		SAMPLER	Mike Lobato	DATE	6/20/2013	PAGE	1 of 2
PROJECT NAME	WPX Energy - TR 32-3-597 Landfarm #1	SITE ID	WPX TR 32-3 Well Pad	TURNAROUND	STD	DISPOSAL	By Lab or Return to Client
PROJECT No.		EDD FORMAT					
		PURCHASE ORDER					
COMPANY NAME	HRL COMPLIANCE SOLUTIONS Inc.	BILL TO COMPANY	WPX Energy				
SEND REPORT TO	KRIS ROWE	INVOICE ATTN TO	Karolina Blaney				
ADDRESS	2385 F 1/2 RD	ADDRESS	1058 County Road 215				
CITY / STATE / ZIP	GRAND JUNCTION CO 81505	CITY / STATE / ZIP	Parachute, CO 81635				
PHONE	970-243-3271	PHONE	970-683-2295				
FAX	970-243-3280	FAX	970-285-9573				
E-MAIL	KROWE@HRLCOMP.COM	E-MAIL	karolina.blaney@wpxenergy.com				

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	DRO	GRO	BTEX	910-1 Metals	Semi Vols - PAH	SAR / EC / pH
	TR 32-3-597 Landfarm #1	S	6/20/2013	1140	3	8		X	X	X	X	X	X

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

For metals or anions, please detail analytes below.

Comments:	QC PACKAGE (check below)	
	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		Mike Lobato	6/20/2013	17:00
RECEIVED BY		N.chm.	6-20-13	1700
RELINQUISHED BY		N.chm	6-20-13	1710
RECEIVED BY		Ashley Beard	6-21-13	0930
RELINQUISHED BY				
RECEIVED BY				

6.0°C

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **HRL** Date/Time Received: **21-Jun-13 09:03**

Work Order: **1306857** Received by: **AB**

Checklist completed by Ashley Beard (eSignature) 21-Jun-13 (Date) Reviewed by: Ann Preston (eSignature) 23-Jun-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):	6.0c		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	6/21/2013 11:58:33 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

J13113021203 26

Ship Date: 20JUN13
ActWgt: 36.0 LB
CAD: 103923490/INET3370

Dims: 25 X 14 X 15 IN

Delivery Address Bar Code

Ref # 1001-062013-1
Invoice #
PO #
Dept #

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

HOLLAND, MI 49424

FRI - 21 JUN 3:00P
STANDARD OVERNIGHT

TRK# 0201 7960 5926 8157

XX GRRA

49424
MI-US
GRR

518G1/D777/83AB

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