WPX ENERGY ROCKY MOUNTAIN LLC

GRAND VALLEY FIELD

NOTICE OF COMPLETION REPORT FOR

AP 41-11-696 PRODUCTION PIT
REMEDIATION # 8791

Prepared For:

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

Prepared By:

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Introduction

The purpose of this Notice of Completion report – for the closure of the AP 41-11-696 Production Pit (COGCC Facility ID number 279359; hereinafter referred to as AP 41-11-696 – is to provide detailed information and result analysis for the previously submitted and approved remediation number 8791, 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 electronically submitted December 2, 2014. 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 December 3, 2014; at which time the aforementioned remediation number was issued. Closure activities began on May 27, 2015 and were concluded on May 28, 2015. Information included in this report includes but is not limited to; field screening results, laboratory analytical, subliner soil Investigation, soil treatment, and liner recycling.

Evacuation of Pit Contents

Produced water and free liquids were removed from the pit utilizing a vacuum truck. 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 WPX centralized E&P facility in Parachute for subsequent management (COGCC facility #149015).

Background Sampling

Three grab samples were collected from the undisturbed soil surrounding the pad. All three samples were analyzed for arsenic, as well as an additional analysis 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 Removal

Once the pit liner was cleaned of residual pit contents, the entire liner system was removed from the pit. A trackhoe was utilized to pull the liner off the ground surface and out of the pit. The liner material was stockpiled on site where it was compacted, bailed and processed for transport to a landfill.

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 quadrants in order to accurately characterize the pit in its entirety. The five quadrants were named by their geographical directional in relation to the pit bottom as defined in Figure 1.

For each quadrant, 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 visual impacts were observed through a more detailed investigation process utilizing the PetroFlag and the Photoionization Detector (PID) field screening instruments. Figure 1 outlines the initial sub soil evaluation and Petroflag field screening results.

FIGURE 1: INITIAL FIELD SCREENING RESULTS AND PIT SAMPLE IDENTIFICATION

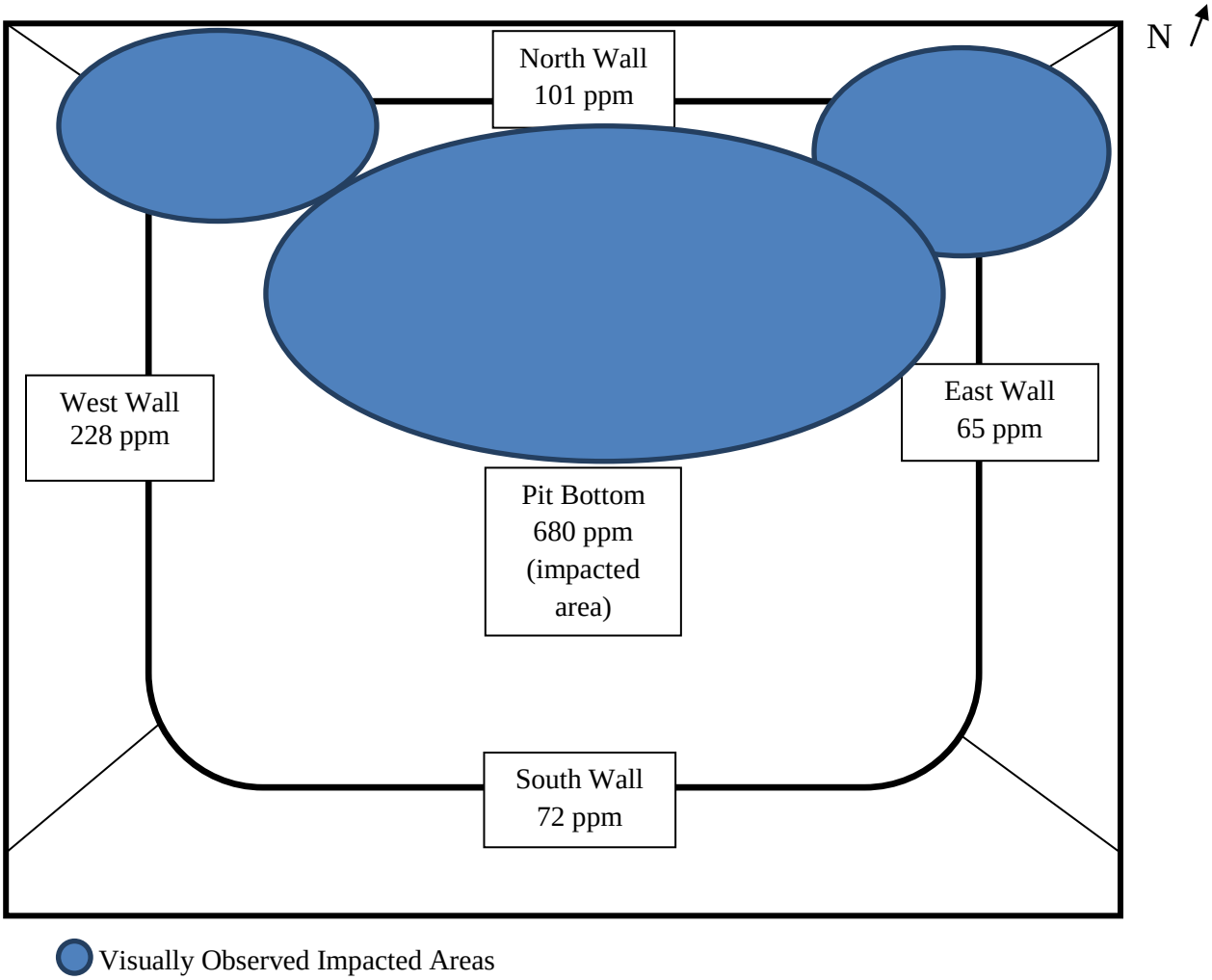


TABLE 1: PETROFLAG© FIELD SCREENING RESULTS

Sample ID	Result (0-6'')
North Wall	101
South Wall	72
East Wall	65
West Wall	228
Pit Bottom	680

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 southwest corner of the pit pit bottom as well as the adjacent northeast side wall contained hydrocarbon concentrations which exceeded standards set forth in COGCC Table 910-1; remediation activities were necessary.

Remediation Activities

Pit excavation activities began May 27, 2015. A track hoe was utilized to excavate the contaminated soil from within the pit. The excavated material was transferred via a loader to an onsite bermed containment cell for treatment.

Excavation at the lowest point in the pit revealed no visual impacts and field screening results were below COGCC Table 910-1 thresholds. Soils in the southwest corner where discoloration was observed consisted of rocky soils with a gray-green color and slight petroleum odor. Discolored soils were removed to a depth of three feet where it was determined by field screening instruments that soils satisfied COGCC Table 910-1 standards and no additional excavation was necessary.

Surface staining along the northwest & east side wall was investigated and found to be superficial and did not extend below six inches. Petroflag® field screen results indicated that the hydrocarbon concentrations were below COGCC Table 910-1 thresholds.

The eastern and southern side walls of the pit had no observable impacts or staining and field screening results indicated that soils met COGCC Table 910-1 standards.

After discolored soils were removed from the pit bottom and side walls, and field screening instruments indicated that all remaining soils within the pit satisfied COGCC Table 910-1 standards, confirmation samples were collected and submitted to ALS Laboratory in Holland, MI.

- 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 and background sample location from the pit walls and pit bottom and surrounding undisturbed area, respectively.
- Visual inspection of the pit bottoms, field screening techniques, and sampling procedures were followed in accordance with WPX Pit Closure Plan (COGCC document #2313311).

Backfill Material

Material utilized to backfill the pit will be the original excavated soil from construction of the pit and pad. The soil is currently stockpiled north of the pit.

- The soil will be placed in five foot lifts and will not be compacted beyond the point of making an impenetrable layer but sufficient to suppose subsequent operations and prevent subsidence.
- The pit will be reclaimed in accordance with the COGCC 1000 Series Rule in addition to all SUA/COA’s per the land owner.

Exceptions to COGCC Table 910-1

The only exceedances with regards to COGCC Table 910-1 were within the inorganic and arsenic samples. WPX is requesting an allowance for the arsenic exceedance as the background samples indicate an arsenic concentration that exceeds COGCC standards, as well as arsenic values within the pit. Inorganic exceedance iswithin the conductivity parameters and will be capped with three (3) feet of native material.

Stockpiled soils management

Impacted soils removed from the pit bottom and side walls were treated on-site via aeration and solarized, as well as amended with native soils from the area surrounding the pad. Analytical presented in Table 4

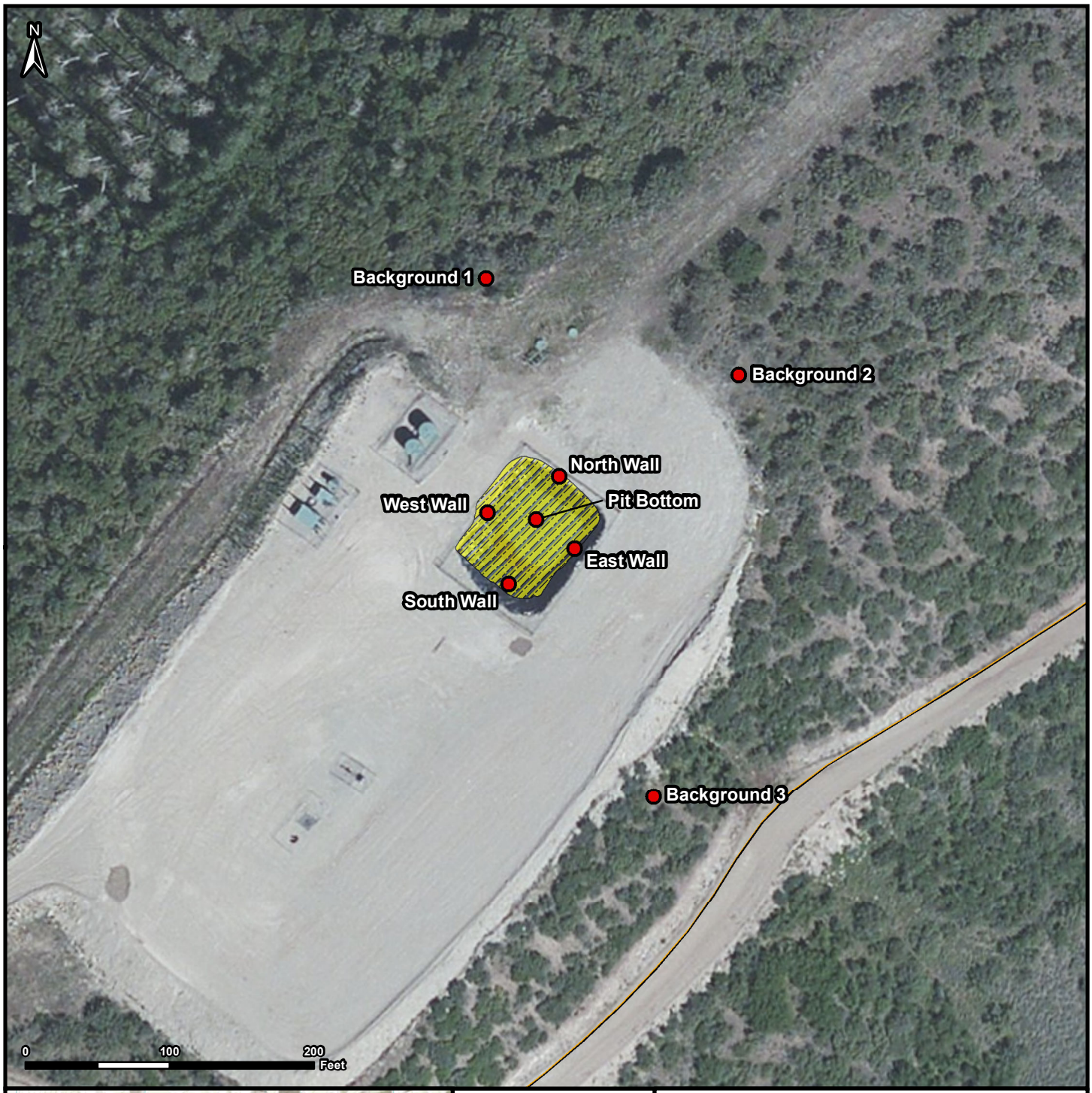
indicated that soils are below hydrocarbon standards outlined in COGCC Table 910-1 and amending was stopped. Soils will be used to backfill the pit once approval from the COGCC has been obtained.

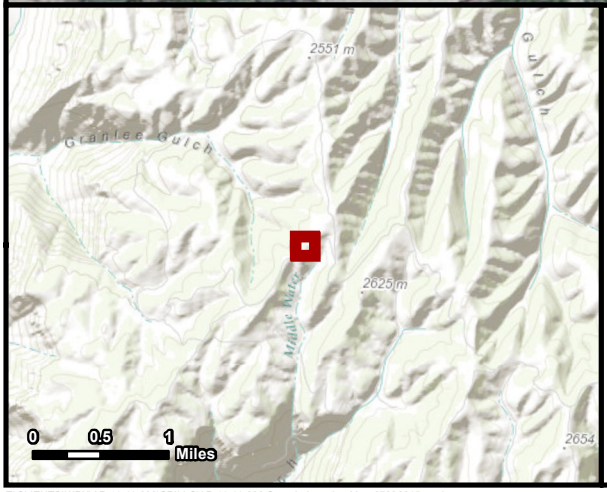
Analytical Data Management

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. Appendix 3 provides confirmation raw analytical data from the landfarmed soils, as well as results presented in Table 4.

FIGURES

FIGURE 2: GIS MAP OF THE SAMPLE LOCATIONS





NOTES / COMMENTS:

DISCLAIMER: This representation and the Geographic Information System (GIS) used to create it are designed as a source of reference and not intended to replace official records and/or legal surveys. HCSI assumes no responsibility for any risks, dangers, or liabilities that may result from its use and makes no guarantees as to the quality or accuracy of the underlying data.

WPXENERGY

Sample Location Map

AP 41-11-696

39.542701 -108.070756
Section 11, Township 6 South, Range 96 West

	Transportation	Hydrography
Sample Location	CO Highways	Ditch
Excavated Area	County Roads	Intermittent Stream
Township	Local Streets	Perennial Stream
Section	WPX Access	Waterbody
		Watershed

HRL Compliance Solutions, Inc.
Environmental Consultants

Author: E. Fought
Revision: 0
Date: 7/20/2015

T:\CLIENTS\WPX\AP 41-11-696\SPILLS\AP 41-11-696 Sample Location Map 07202015.mxd

FIGURE 3: PRE-EXCAVATED PIT

Visual representation of the impacted soils on southwest pit bottom and pit west wall prior to excavation.

FIGURE 4: PRE-EXCAVATION

Visual representation of the impacted soils on the north wall prior to excavation.

FIGURE 5: POST PIT EXCAVATION

Visual representation of the soils in southwest pit bottom and west pit wall post excavation.

FIGURE 6: Post Pit Excavation

Visual representation of the on the north pit wall post excavation.

TABLES

TABLE 2: POST EXCAVATION PIT BOTTOM AND SIDE WALLS ANALYTICAL RESULTS

Pit Bottom and Walls	Sample Locations				
	North Wall (1ft Depth)	South Wall (2ft Depth)	East Wall (1ft Depth)	West Wall (1ft Depth)	Pit Bottom (4ft Depth)
TEPH (DRO)	21	ND	12	18	ND
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	ND	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	-	-	-	-	4.5
BARIUM	-	-	-	-	210
CADMIUM	-	-	-	-	ND
CHROMIUM	-	-	-	-	59
CHROMIUM (III)	-	-	-	-	59
CHROMIUM (IV)	-	-	-	-	ND
COPPER	-	-	-	-	23
LEAD	-	-	-	-	14
MERCURY	-	-	-	-	0.024
NICKEL	-	-	-	-	33
SELENIUM	-	-	-	-	ND
SILVER	-	-	-	-	ND
ZINC	-	-	-	-	64
ELECTRICAL CONDUCTIVITY (EC) (mmho/cm)	2.6	0.85	2.2	1.1	7.4
pH	8.7	8.6	8.1	8.6	7.1
SODIUM ADSORPTION RATIO (SAR)	8.0	2.6	3.3	0.94	2.0

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 Adsorption Ratio
BKGD 1	4.9	0.45	6.5	0.080
BKGD 2	5.0	N/A	N/A	N/A
BKGD 3	9.4	N/A	N/A	N/A

Results above state limits are highlighted in yellow

Table 4: Landfarm Analytical Results

Sample ID	Landfarm
TEPH (DRO)	34
TVPH (GRO)	ND
BENZENE	ND
TOLUENE	ND
ETHYLBENZENE	ND
XYLENE TOTAL	ND
ACENAPHTHENE	ND
ANTHRACENE	ND
BENZO(A)ANTRHACENE	ND
BENZO(A)PYRENE	ND
BENZO(B)FLUORANTHENE	ND
BENZO(G,H,I)PERYLEN	ND
BENZO(K)FLUORANTHENE	ND
CHRYSENE (mg/kg)	ND
DIBENZO(A,H)ANTHRANCENE	ND
FLUORANTHENE	ND
FLUORENE	ND
INDENO(1,2,3-CD)PYRENE	ND
NAPHTHALENE	ND
PYRENE	ND
ARSENIC	5.2
BARIUM	330
CADMIUM	ND
CHROMIUM	42
CHROMIUM (III)	42
CHROMIUM (IV)	ND
COPPER	17
LEAD	2.6
MERCURY	0.032
NICKEL	41
SELENIUM	ND
SILVER	ND
ZINC	21
ELECTRICAL CONDUCTIVITY (EC) (mmho/cm)	5.7
pH	8.8
SODIUM ADSORPTION RATIO (SAR)	21

Note: all results are in, mg/kg = milligram per kilogram, unless noted otherwise
Exceedances are highlighted in yellow

APPENDICES

APPENDIX 1: PIT BOTTOM, PIT SIDE WALLS AND BACKGROUND SAMPLING RAW ANALYTICAL RESULTS

01-Jun-2015

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

Re: **WPX Energy - AP 41-11-696 Pit Closure** Work Order: **15051672**

Dear Kris,

ALS Environmental received 8 samples on 30-May-2015 10:00 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 36.

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

Sincerely,

Electronically approved by: Les Arnold

Les Arnold
Senior 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: 01-Jun-15

Client: HRL Compliance Solutions, Inc
Project: WPX Energy - AP 41-11-696 Pit Closure
Work Order: **15051672**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
15051672-01	Pit Bottom @ 4ft	Soil		5/28/2015 11:00	5/30/2015 10:00	☐
15051672-02	North Wall @ 1ft	Soil		5/28/2015 11:40	5/30/2015 10:00	☐
15051672-03	South Wall @ 2ft	Soil		5/28/2015 11:30	5/30/2015 10:00	☐
15051672-04	East Wall @ 1ft	Soil		5/28/2015 11:20	5/30/2015 10:00	☐
15051672-05	West Wall @ 1ft	Soil		5/28/2015 11:55	5/30/2015 10:00	☐
15051672-06	Background 1	Soil		5/28/2015 13:20	5/30/2015 10:00	☐
15051672-07	Background 2	Soil		5/28/2015 13:35	5/30/2015 10:00	☐
15051672-08	Background 3	Soil		5/28/2015 13:40	5/30/2015 10:00	☐

ALS Group USA, Corp

Date: 01-Jun-15

Client:	HRL Compliance Solutions, Inc
Project:	WPX Energy - AP 41-11-696 Pit Closure
WorkOrder:	**15051672**

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
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

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
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

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

Client: HRL Compliance Solutions, Inc
Project: WPX Energy - AP 41-11-696 Pit Closure
Work Order: 15051672

Case Narrative

Batch 71687, Method ICP_6010_S, Sample 15051672-07A: The MS and MSD recoveries were outside of the control for Barium and Zinc; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required.

Batch 71687, Method ICP_6010_S, Sample 15051672-07AMSD: The MSD recovery was outside of the control limit for Copper and Nickel; however, the MS recovery and the RPD between the MS and MSD was in control. No qualification is required.

Batch 71711, Method CR6_7196_S, Sample 15051672-01B MS: The matrix spike recovery was outside of the control limit. However, the matrix spike duplicate recovery and the RPD between the MS and MSD were in control. No qualification is required.

ALS Group USA, Corp

Date: *01-Jun-15*

Client: HRL Compliance Solutions, Inc
Project: WPX Energy - AP 41-11-696 Pit Closure
Work Order: 15051672
Sample ID: Pit Bottom @ 4ft
Lab ID: 15051672-01
Collection Date: 5/28/2015 11:00 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep Date: **5/31/2015**	Analyst: **IT**
DRO (C10-C28)	ND		5.0	mg/Kg-dry	1	6/1/2015 12:50 PM
Surr: 4-Terphenyl-d14	*68.5*		*39-133*	*%REC*	1	6/1/2015 12:50 PM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015D**		Prep Date: **6/1/2015**	Analyst: **IT**
GRO (C6-C10)	ND		3.0	mg/Kg-dry	1	6/1/2015 11:46 AM
Surr: Toluene-d8	*99.5*		*50-150*	*%REC*	1	6/1/2015 11:46 AM
MERCURY BY CVAA			**SW7471B**		Prep Date: **5/31/2015**	Analyst: **LR**
Mercury	**0.024**		**0.015**	**mg/Kg-dry**	1	6/1/2015 01:07 AM
METALS ANALYSIS BY ICP			**SW846 6010C**		Prep Date: **6/1/2015**	Analyst: **JEC**
Arsenic	**4.5**		**0.44**	**mg/Kg-dry**	1	6/1/2015 11:11 AM
Barium	**210**		**0.44**	**mg/Kg-dry**	1	6/1/2015 11:11 AM
Cadmium	ND		0.35	mg/Kg-dry	1	6/1/2015 11:11 AM
Chromium	**59**		**0.44**	**mg/Kg-dry**	1	6/1/2015 11:11 AM
Copper	**23**		**0.44**	**mg/Kg-dry**	1	6/1/2015 11:11 AM
Lead	**14**		**0.44**	**mg/Kg-dry**	1	6/1/2015 11:11 AM
Nickel	**33**		**0.44**	**mg/Kg-dry**	1	6/1/2015 11:11 AM
Selenium	ND		0.44	mg/Kg-dry	1	6/1/2015 11:11 AM
Silver	ND		0.44	mg/Kg-dry	1	6/1/2015 11:11 AM
Zinc	**64**		**0.88**	**mg/Kg-dry**	1	6/1/2015 11:11 AM
SOLUBLE CATIONS FOR SAR			**SW846 6010C**		Prep Date: **6/1/2015**	Analyst: **JEC**
Calcium	**910**		**5.0**	**mg/L**	10	6/1/2015 12:38 PM
Magnesium	**51**		**2.0**	**mg/L**	10	6/1/2015 12:38 PM
Sodium	**230**		**2.0**	**mg/L**	10	6/1/2015 12:38 PM
SODIUM ADSORPTION RATIO			**USDA H60 METHO**		Prep Date: **6/1/2015**	Analyst: **JEC**
Sodium Adsorption Ratio	**2.0**		**0.010**	**none**	1	6/1/2015
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep Date: **5/31/2015**	Analyst: **RS**
Acenaphthene	ND		8.0	µg/Kg-dry	1	6/1/2015 08:30 AM
Acenaphthylene	ND		8.0	µg/Kg-dry	1	6/1/2015 08:30 AM
Anthracene	ND		8.0	µg/Kg-dry	1	6/1/2015 08:30 AM
Benzo(a)anthracene	ND		8.0	µg/Kg-dry	1	6/1/2015 08:30 AM
Benzo(a)pyrene	ND		8.0	µg/Kg-dry	1	6/1/2015 08:30 AM
Benzo(b)fluoranthene	ND		8.0	µg/Kg-dry	1	6/1/2015 08:30 AM
Benzo(g,h,i)perylene	ND		8.0	µg/Kg-dry	1	6/1/2015 08:30 AM
Benzo(k)fluoranthene	ND		8.0	µg/Kg-dry	1	6/1/2015 08:30 AM
Chrysene	ND		8.0	µg/Kg-dry	1	6/1/2015 08:30 AM
Dibenzo(a,h)anthracene	ND		8.0	µg/Kg-dry	1	6/1/2015 08:30 AM
Fluoranthene	ND		8.0	µg/Kg-dry	1	6/1/2015 08:30 AM

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

ALS Group USA, Corp

Date: *01-Jun-15*

Client: HRL Compliance Solutions, Inc
Project: WPX Energy - AP 41-11-696 Pit Closure
Work Order: 15051672
Sample ID: Pit Bottom @ 4ft
Lab ID: 15051672-01
Collection Date: 5/28/2015 11:00 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		8.0	µg/Kg-dry	1	6/1/2015 08:30 AM
Indeno(1,2,3-cd)pyrene	ND		8.0	µg/Kg-dry	1	6/1/2015 08:30 AM
Naphthalene	ND		8.0	µg/Kg-dry	1	6/1/2015 08:30 AM
Pyrene	ND		8.0	µg/Kg-dry	1	6/1/2015 08:30 AM
Surr: 2-Fluorobiphenyl	*77.5*		*12-100*	*%REC*	1	6/1/2015 08:30 AM
Surr: 4-Terphenyl-d14	*82.8*		*25-137*	*%REC*	1	6/1/2015 08:30 AM
Surr: Nitrobenzene-d5	*95.6*		*37-107*	*%REC*	1	6/1/2015 08:30 AM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep Date: **5/30/2015**	Analyst: **BG**
Benzene	ND		36	µg/Kg-dry	1	5/31/2015 12:24 PM
Ethylbenzene	ND		36	µg/Kg-dry	1	5/31/2015 12:24 PM
m,p-Xylene	ND		72	µg/Kg-dry	1	5/31/2015 12:24 PM
o-Xylene	ND		36	µg/Kg-dry	1	5/31/2015 12:24 PM
Toluene	ND		36	µg/Kg-dry	1	5/31/2015 12:24 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	5/31/2015 12:24 PM
Surr: 1,2-Dichloroethane-d4	*105*		*70-130*	*%REC*	1	5/31/2015 12:24 PM
Surr: 4-Bromofluorobenzene	*98.2*		*70-130*	*%REC*	1	5/31/2015 12:24 PM
Surr: Dibromofluoromethane	*102*		*70-130*	*%REC*	1	5/31/2015 12:24 PM
Surr: Toluene-d8	*97.0*		*70-130*	*%REC*	1	5/31/2015 12:24 PM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHO**		Prep Date: **6/1/2015**	Analyst: **JB**
Electrical Conductivity @ Saturation	**7.4**		**0.050**	**mmhos/cm @2**	10	6/1/2015 02:15 PM
CHROMIUM, TRIVALENT			**CALCULATION**			Analyst: **MB**
Chromium, Trivalent	**59**		**0.60**	**mg/Kg-dry**	1	6/1/2015 01:15 PM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep Date: **5/30/2015**	Analyst: **MB**
Chromium, Hexavalent	ND		1.3	mg/Kg-dry	1	6/1/2015 10:00 AM
MOISTURE			**E160.3M**			Analyst: **EVB**
Moisture	**17**		**0.050**	**% of sample**	1	5/30/2015 02:45 PM
PH			**SW9045D**		Prep Date: **6/1/2015**	Analyst: **STP**
pH	**7.1**			**s.u.**	1	6/1/2015 01:45 PM

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

ALS Group USA, Corp

Date: *01-Jun-15*

Client: HRL Compliance Solutions, Inc
Project: WPX Energy - AP 41-11-696 Pit Closure
Work Order: 15051672
Sample ID: North Wall @ 1ft
Lab ID: 15051672-02
Collection Date: 5/28/2015 11:40 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep Date: **5/31/2015**	Analyst: **IT**
DRO (C10-C28)	**21**		**4.4**	**mg/Kg-dry**	1	6/1/2015 12:20 PM
Surr: 4-Terphenyl-d14	*54.3*		*39-133*	*%REC*	1	6/1/2015 12:20 PM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015D**		Prep Date: **6/1/2015**	Analyst: **IT**
GRO (C6-C10)	ND		2.7	mg/Kg-dry	1	6/1/2015 12:10 PM
Surr: Toluene-d8	*88.0*		*50-150*	*%REC*	1	6/1/2015 12:10 PM
SOLUBLE CATIONS FOR SAR			**SW846 6010C**		Prep Date: **6/1/2015**	Analyst: **JEC**
Calcium	**120**		**5.0**	**mg/L**	10	6/1/2015 12:43 PM
Magnesium	**12**		**2.0**	**mg/L**	10	6/1/2015 12:43 PM
Sodium	**340**		**2.0**	**mg/L**	10	6/1/2015 12:43 PM
SODIUM ADSORPTION RATIO			**USDA H60 METHO**		Prep Date: **6/1/2015**	Analyst: **JEC**
Sodium Adsorption Ratio	**8.0**		**0.010**	**none**	1	6/1/2015
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep Date: **5/31/2015**	Analyst: **RS**
Acenaphthene	ND		7.1	µg/Kg-dry	1	6/1/2015 08:52 AM
Acenaphthylene	ND		7.1	µg/Kg-dry	1	6/1/2015 08:52 AM
Anthracene	ND		7.1	µg/Kg-dry	1	6/1/2015 08:52 AM
Benzo(a)anthracene	ND		7.1	µg/Kg-dry	1	6/1/2015 08:52 AM
Benzo(a)pyrene	ND		7.1	µg/Kg-dry	1	6/1/2015 08:52 AM
Benzo(b)fluoranthene	ND		7.1	µg/Kg-dry	1	6/1/2015 08:52 AM
Benzo(g,h,i)perylene	ND		7.1	µg/Kg-dry	1	6/1/2015 08:52 AM
Benzo(k)fluoranthene	ND		7.1	µg/Kg-dry	1	6/1/2015 08:52 AM
Chrysene	ND		7.1	µg/Kg-dry	1	6/1/2015 08:52 AM
Dibenzo(a,h)anthracene	ND		7.1	µg/Kg-dry	1	6/1/2015 08:52 AM
Fluoranthene	ND		7.1	µg/Kg-dry	1	6/1/2015 08:52 AM
Fluorene	ND		7.1	µg/Kg-dry	1	6/1/2015 08:52 AM
Indeno(1,2,3-cd)pyrene	ND		7.1	µg/Kg-dry	1	6/1/2015 08:52 AM
Naphthalene	ND		7.1	µg/Kg-dry	1	6/1/2015 08:52 AM
Pyrene	ND		7.1	µg/Kg-dry	1	6/1/2015 08:52 AM
Surr: 2-Fluorobiphenyl	*67.5*		*12-100*	*%REC*	1	6/1/2015 08:52 AM
Surr: 4-Terphenyl-d14	*80.2*		*25-137*	*%REC*	1	6/1/2015 08:52 AM
Surr: Nitrobenzene-d5	*79.1*		*37-107*	*%REC*	1	6/1/2015 08:52 AM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep Date: **5/30/2015**	Analyst: **BG**
Benzene	ND		32	µg/Kg-dry	1	5/31/2015 12:49 PM
Ethylbenzene	ND		32	µg/Kg-dry	1	5/31/2015 12:49 PM
m,p-Xylene	ND		65	µg/Kg-dry	1	5/31/2015 12:49 PM
o-Xylene	ND		32	µg/Kg-dry	1	5/31/2015 12:49 PM
Toluene	ND		32	µg/Kg-dry	1	5/31/2015 12:49 PM

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

ALS Group USA, Corp

Date: *01-Jun-15*

Client: HRL Compliance Solutions, Inc
Project: WPX Energy - AP 41-11-696 Pit Closure
Work Order: 15051672
Sample ID: North Wall @ 1ft
Lab ID: 15051672-02
Collection Date: 5/28/2015 11:40 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Xylenes, Total	ND		97	µg/Kg-dry	1	5/31/2015 12:49 PM
Surr: 1,2-Dichloroethane-d4	*107*		*70-130*	*%REC*	1	5/31/2015 12:49 PM
Surr: 4-Bromofluorobenzene	*97.2*		*70-130*	*%REC*	1	5/31/2015 12:49 PM
Surr: Dibromofluoromethane	*103*		*70-130*	*%REC*	1	5/31/2015 12:49 PM
Surr: Toluene-d8	*95.4*		*70-130*	*%REC*	1	5/31/2015 12:49 PM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHO**		Prep Date: **6/1/2015**	Analyst: **JB**
Electrical Conductivity @ Saturation	**2.6**		**0.050**	**mmhos/cm @2**	10	6/1/2015 02:15 PM
MOISTURE			**E160.3M**			Analyst: **EVB**
Moisture	**7.6**		**0.050**	**% of sample**	1	5/30/2015 02:45 PM
PH			**SW9045D**		Prep Date: **6/1/2015**	Analyst: **STP**
pH	**8.7**			**s.u.**	1	6/1/2015 01:45 PM

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

ALS Group USA, Corp

Date: *01-Jun-15*

Client: HRL Compliance Solutions, Inc
Project: WPX Energy - AP 41-11-696 Pit Closure
Work Order: 15051672
Sample ID: South Wall @ 2ft
Lab ID: 15051672-03
Collection Date: 5/28/2015 11:30 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep Date: **5/31/2015**	Analyst: **IT**
DRO (C10-C28)	ND		5.0	mg/Kg-dry	1	6/1/2015 01:20 PM
Surr: 4-Terphenyl-d14	*60.0*		*39-133*	*%REC*	1	6/1/2015 01:20 PM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015D**		Prep Date: **6/1/2015**	Analyst: **IT**
GRO (C6-C10)	ND		3.0	mg/Kg-dry	1	6/1/2015 12:35 PM
Surr: Toluene-d8	*116*		*50-150*	*%REC*	1	6/1/2015 12:35 PM
SOLUBLE CATIONS FOR SAR			**SW846 6010C**		Prep Date: **6/1/2015**	Analyst: **JEC**
Calcium	**89**		**5.0**	**mg/L**	10	6/1/2015 12:49 PM
Magnesium	**7.7**		**2.0**	**mg/L**	10	6/1/2015 12:49 PM
Sodium	**95**		**2.0**	**mg/L**	10	6/1/2015 12:49 PM
SODIUM ADSORPTION RATIO			**USDA H60 METHO**		Prep Date: **6/1/2015**	Analyst: **JEC**
Sodium Adsorption Ratio	**2.6**		**0.010**	**none**	1	6/1/2015
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep Date: **5/31/2015**	Analyst: **RS**
Acenaphthene	ND		7.9	µg/Kg-dry	1	6/1/2015 09:14 AM
Acenaphthylene	ND		7.9	µg/Kg-dry	1	6/1/2015 09:14 AM
Anthracene	ND		7.9	µg/Kg-dry	1	6/1/2015 09:14 AM
Benzo(a)anthracene	ND		7.9	µg/Kg-dry	1	6/1/2015 09:14 AM
Benzo(a)pyrene	ND		7.9	µg/Kg-dry	1	6/1/2015 09:14 AM
Benzo(b)fluoranthene	ND		7.9	µg/Kg-dry	1	6/1/2015 09:14 AM
Benzo(g,h,i)perylene	ND		7.9	µg/Kg-dry	1	6/1/2015 09:14 AM
Benzo(k)fluoranthene	ND		7.9	µg/Kg-dry	1	6/1/2015 09:14 AM
Chrysene	ND		7.9	µg/Kg-dry	1	6/1/2015 09:14 AM
Dibenzo(a,h)anthracene	ND		7.9	µg/Kg-dry	1	6/1/2015 09:14 AM
Fluoranthene	ND		7.9	µg/Kg-dry	1	6/1/2015 09:14 AM
Fluorene	ND		7.9	µg/Kg-dry	1	6/1/2015 09:14 AM
Indeno(1,2,3-cd)pyrene	ND		7.9	µg/Kg-dry	1	6/1/2015 09:14 AM
Naphthalene	ND		7.9	µg/Kg-dry	1	6/1/2015 09:14 AM
Pyrene	ND		7.9	µg/Kg-dry	1	6/1/2015 09:14 AM
Surr: 2-Fluorobiphenyl	*64.3*		*12-100*	*%REC*	1	6/1/2015 09:14 AM
Surr: 4-Terphenyl-d14	*75.4*		*25-137*	*%REC*	1	6/1/2015 09:14 AM
Surr: Nitrobenzene-d5	*76.8*		*37-107*	*%REC*	1	6/1/2015 09:14 AM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep Date: **5/30/2015**	Analyst: **BG**
Benzene	ND		36	µg/Kg-dry	1	5/31/2015 01:15 AM
Ethylbenzene	ND		36	µg/Kg-dry	1	5/31/2015 01:15 AM
m,p-Xylene	ND		72	µg/Kg-dry	1	5/31/2015 01:15 AM
o-Xylene	ND		36	µg/Kg-dry	1	5/31/2015 01:15 AM
Toluene	ND		36	µg/Kg-dry	1	5/31/2015 01:15 AM

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

ALS Group USA, Corp

Date: *01-Jun-15*

Client: HRL Compliance Solutions, Inc
Project: WPX Energy - AP 41-11-696 Pit Closure
Work Order: 15051672
Sample ID: South Wall @ 2ft
Lab ID: 15051672-03
Collection Date: 5/28/2015 11:30 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Xylenes, Total	ND		110	µg/Kg-dry	1	5/31/2015 01:15 AM
Surr: 1,2-Dichloroethane-d4	*107*		*70-130*	*%REC*	1	5/31/2015 01:15 AM
Surr: 4-Bromofluorobenzene	*94.8*		*70-130*	*%REC*	1	5/31/2015 01:15 AM
Surr: Dibromofluoromethane	*101*		*70-130*	*%REC*	1	5/31/2015 01:15 AM
Surr: Toluene-d8	*95.0*		*70-130*	*%REC*	1	5/31/2015 01:15 AM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHO**		Prep Date: **6/1/2015**	Analyst: **JB**
Electrical Conductivity @ Saturation	**0.85**		**0.050**	**mmhos/cm @2**	10	6/1/2015 02:15 PM
MOISTURE			**E160.3M**			Analyst: **EVB**
Moisture	**16**		**0.050**	**% of sample**	1	5/30/2015 02:45 PM
PH			**SW9045D**		Prep Date: **6/1/2015**	Analyst: **STP**
pH	**8.6**			**s.u.**	1	6/1/2015 01:45 PM

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

ALS Group USA, Corp

Date: *01-Jun-15*

Client: HRL Compliance Solutions, Inc
Project: WPX Energy - AP 41-11-696 Pit Closure
Work Order: 15051672
Sample ID: East Wall @ 1ft
Lab ID: 15051672-04
Collection Date: 5/28/2015 11:20 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep Date: **5/31/2015**	Analyst: **IT**
DRO (C10-C28)	**12**		**5.1**	**mg/Kg-dry**	1	6/1/2015 01:49 PM
Surr: 4-Terphenyl-d14	*54.1*		*39-133*	*%REC*	1	6/1/2015 01:49 PM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015D**		Prep Date: **6/1/2015**	Analyst: **IT**
GRO (C6-C10)	ND		3.0	mg/Kg-dry	1	6/1/2015 01:00 PM
Surr: Toluene-d8	*114*		*50-150*	*%REC*	1	6/1/2015 01:00 PM
SOLUBLE CATIONS FOR SAR			**SW846 6010C**		Prep Date: **6/1/2015**	Analyst: **JEC**
Calcium	**180**		**5.0**	**mg/L**	10	6/1/2015 12:54 PM
Magnesium	**23**		**2.0**	**mg/L**	10	6/1/2015 12:54 PM
Sodium	**180**		**2.0**	**mg/L**	10	6/1/2015 12:54 PM
SODIUM ADSORPTION RATIO			**USDA H60 METHO**		Prep Date: **6/1/2015**	Analyst: **JEC**
Sodium Adsorption Ratio	**3.3**		**0.010**	**none**	1	6/1/2015
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep Date: **5/31/2015**	Analyst: **RS**
Acenaphthene	ND		8.1	µg/Kg-dry	1	6/1/2015 09:36 AM
Acenaphthylene	ND		8.1	µg/Kg-dry	1	6/1/2015 09:36 AM
Anthracene	ND		8.1	µg/Kg-dry	1	6/1/2015 09:36 AM
Benzo(a)anthracene	ND		8.1	µg/Kg-dry	1	6/1/2015 09:36 AM
Benzo(a)pyrene	ND		8.1	µg/Kg-dry	1	6/1/2015 09:36 AM
Benzo(b)fluoranthene	ND		8.1	µg/Kg-dry	1	6/1/2015 09:36 AM
Benzo(g,h,i)perylene	ND		8.1	µg/Kg-dry	1	6/1/2015 09:36 AM
Benzo(k)fluoranthene	ND		8.1	µg/Kg-dry	1	6/1/2015 09:36 AM
Chrysene	ND		8.1	µg/Kg-dry	1	6/1/2015 09:36 AM
Dibenzo(a,h)anthracene	ND		8.1	µg/Kg-dry	1	6/1/2015 09:36 AM
Fluoranthene	ND		8.1	µg/Kg-dry	1	6/1/2015 09:36 AM
Fluorene	ND		8.1	µg/Kg-dry	1	6/1/2015 09:36 AM
Indeno(1,2,3-cd)pyrene	ND		8.1	µg/Kg-dry	1	6/1/2015 09:36 AM
Naphthalene	ND		8.1	µg/Kg-dry	1	6/1/2015 09:36 AM
Pyrene	ND		8.1	µg/Kg-dry	1	6/1/2015 09:36 AM
Surr: 2-Fluorobiphenyl	*62.0*		*12-100*	*%REC*	1	6/1/2015 09:36 AM
Surr: 4-Terphenyl-d14	*71.6*		*25-137*	*%REC*	1	6/1/2015 09:36 AM
Surr: Nitrobenzene-d5	*77.2*		*37-107*	*%REC*	1	6/1/2015 09:36 AM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep Date: **5/30/2015**	Analyst: **BG**
Benzene	ND		36	µg/Kg-dry	1	5/31/2015 01:40 AM
Ethylbenzene	ND		36	µg/Kg-dry	1	5/31/2015 01:40 AM
m,p-Xylene	ND		73	µg/Kg-dry	1	5/31/2015 01:40 AM
o-Xylene	ND		36	µg/Kg-dry	1	5/31/2015 01:40 AM
Toluene	ND		36	µg/Kg-dry	1	5/31/2015 01:40 AM

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

Client: HRL Compliance Solutions, Inc
Project: WPX Energy - AP 41-11-696 Pit Closure
Work Order: 15051672
Sample ID: East Wall @ 1ft
Lab ID: 15051672-04
Collection Date: 5/28/2015 11:20 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Xylenes, Total	ND		110	µg/Kg-dry	1	5/31/2015 01:40 AM
Surr: 1,2-Dichloroethane-d4	*107*		*70-130*	*%REC*	1	5/31/2015 01:40 AM
Surr: 4-Bromofluorobenzene	*97.6*		*70-130*	*%REC*	1	5/31/2015 01:40 AM
Surr: Dibromofluoromethane	*104*		*70-130*	*%REC*	1	5/31/2015 01:40 AM
Surr: Toluene-d8	*96.8*		*70-130*	*%REC*	1	5/31/2015 01:40 AM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHO**		Prep Date: **6/1/2015**	Analyst: **JB**
Electrical Conductivity @ Saturation	**2.2**		**0.050**	**mmhos/cm @2**	10	6/1/2015 02:15 PM
MOISTURE			**E160.3M**			Analyst: **EVB**
Moisture	**18**		**0.050**	**% of sample**	1	5/30/2015 02:45 PM
PH			**SW9045D**		Prep Date: **6/1/2015**	Analyst: **STP**
pH	**8.1**			**s.u.**	1	6/1/2015 01:45 PM

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

ALS Group USA, Corp

Date: *01-Jun-15*

Client: HRL Compliance Solutions, Inc
Project: WPX Energy - AP 41-11-696 Pit Closure
Work Order: 15051672
Sample ID: West Wall @ 1ft
Lab ID: 15051672-05
Collection Date: 5/28/2015 11:55 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep Date: **5/31/2015**	Analyst: **IT**
DRO (C10-C28)	**18**		**4.5**	**mg/Kg-dry**	1	6/1/2015 02:19 PM
Surr: 4-Terphenyl-d14	*53.0*		*39-133*	*%REC*	1	6/1/2015 02:19 PM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015D**		Prep Date: **6/1/2015**	Analyst: **IT**
GRO (C6-C10)	ND		2.8	mg/Kg-dry	1	6/1/2015 01:24 PM
Surr: Toluene-d8	*104*		*50-150*	*%REC*	1	6/1/2015 01:24 PM
SOLUBLE CATIONS FOR SAR			**SW846 6010C**		Prep Date: **6/1/2015**	Analyst: **JEC**
Calcium	**150**		**5.0**	**mg/L**	10	6/1/2015 01:00 PM
Magnesium	**12**		**2.0**	**mg/L**	10	6/1/2015 01:00 PM
Sodium	**45**		**2.0**	**mg/L**	10	6/1/2015 01:00 PM
SODIUM ADSORPTION RATIO			**USDA H60 METHO**		Prep Date: **6/1/2015**	Analyst: **JEC**
Sodium Adsorption Ratio	**0.94**		**0.010**	**none**	1	6/1/2015
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep Date: **5/31/2015**	Analyst: **RS**
Acenaphthene	ND		7.2	µg/Kg-dry	1	6/1/2015 09:57 AM
Acenaphthylene	ND		7.2	µg/Kg-dry	1	6/1/2015 09:57 AM
Anthracene	ND		7.2	µg/Kg-dry	1	6/1/2015 09:57 AM
Benzo(a)anthracene	ND		7.2	µg/Kg-dry	1	6/1/2015 09:57 AM
Benzo(a)pyrene	ND		7.2	µg/Kg-dry	1	6/1/2015 09:57 AM
Benzo(b)fluoranthene	ND		7.2	µg/Kg-dry	1	6/1/2015 09:57 AM
Benzo(g,h,i)perylene	ND		7.2	µg/Kg-dry	1	6/1/2015 09:57 AM
Benzo(k)fluoranthene	ND		7.2	µg/Kg-dry	1	6/1/2015 09:57 AM
Chrysene	ND		7.2	µg/Kg-dry	1	6/1/2015 09:57 AM
Dibenzo(a,h)anthracene	ND		7.2	µg/Kg-dry	1	6/1/2015 09:57 AM
Fluoranthene	ND		7.2	µg/Kg-dry	1	6/1/2015 09:57 AM
Fluorene	ND		7.2	µg/Kg-dry	1	6/1/2015 09:57 AM
Indeno(1,2,3-cd)pyrene	ND		7.2	µg/Kg-dry	1	6/1/2015 09:57 AM
Naphthalene	ND		7.2	µg/Kg-dry	1	6/1/2015 09:57 AM
Pyrene	ND		7.2	µg/Kg-dry	1	6/1/2015 09:57 AM
Surr: 2-Fluorobiphenyl	*68.6*		*12-100*	*%REC*	1	6/1/2015 09:57 AM
Surr: 4-Terphenyl-d14	*76.0*		*25-137*	*%REC*	1	6/1/2015 09:57 AM
Surr: Nitrobenzene-d5	*84.9*		*37-107*	*%REC*	1	6/1/2015 09:57 AM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep Date: **5/30/2015**	Analyst: **BG**
Benzene	ND		33	µg/Kg-dry	1	5/31/2015 12:48 PM
Ethylbenzene	ND		33	µg/Kg-dry	1	5/31/2015 12:48 PM
m,p-Xylene	ND		66	µg/Kg-dry	1	5/31/2015 12:48 PM
o-Xylene	ND		33	µg/Kg-dry	1	5/31/2015 12:48 PM
Toluene	ND		33	µg/Kg-dry	1	5/31/2015 12:48 PM

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

ALS Group USA, Corp

Date: *01-Jun-15*

Client: HRL Compliance Solutions, Inc
Project: WPX Energy - AP 41-11-696 Pit Closure
Work Order: 15051672
Sample ID: West Wall @ 1ft
Lab ID: 15051672-05
Collection Date: 5/28/2015 11:55 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Xylenes, Total	ND		99	µg/Kg-dry	1	5/31/2015 12:48 PM
Surr: 1,2-Dichloroethane-d4	*101*		*70-130*	*%REC*	1	5/31/2015 12:48 PM
Surr: 4-Bromofluorobenzene	*96.4*		*70-130*	*%REC*	1	5/31/2015 12:48 PM
Surr: Dibromofluoromethane	*102*		*70-130*	*%REC*	1	5/31/2015 12:48 PM
Surr: Toluene-d8	*95.0*		*70-130*	*%REC*	1	5/31/2015 12:48 PM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHO**		Prep Date: **6/1/2015**	Analyst: **JB**
Electrical Conductivity @ Saturation	**1.1**		**0.050**	**mmhos/cm @2**	10	6/1/2015 02:15 PM
MOISTURE			**E160.3M**			Analyst: **EVB**
Moisture	**9.3**		**0.050**	**% of sample**	1	5/30/2015 02:45 PM
PH			**SW9045D**		Prep Date: **6/1/2015**	Analyst: **STP**
pH	**8.6**			**s.u.**	1	6/1/2015 01:45 PM

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

ALS Group USA, Corp

Date: *01-Jun-15*

Client: HRL Compliance Solutions, Inc
Project: WPX Energy - AP 41-11-696 Pit Closure
Work Order: 15051672
Sample ID: Background 1
Lab ID: 15051672-06
Collection Date: 5/28/2015 01:20 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS ANALYSIS BY ICP			**SW846 6010C**		Prep Date: **6/1/2015**	Analyst: **JEC**
Arsenic	**4.9**		**0.47**	**mg/Kg-dry**	1	6/1/2015 11:17 AM
SOLUBLE CATIONS FOR SAR			**SW846 6010C**		Prep Date: **6/1/2015**	Analyst: **JEC**
Calcium	**67**		**5.0**	**mg/L**	10	6/1/2015 01:06 PM
Magnesium	**13**		**2.0**	**mg/L**	10	6/1/2015 01:06 PM
Sodium	**2.7**		**2.0**	**mg/L**	10	6/1/2015 01:06 PM
SODIUM ADSORPTION RATIO			**USDA H60 METHO**		Prep Date: **6/1/2015**	Analyst: **JEC**
Sodium Adsorption Ratio	**0.080**		**0.010**	**none**	1	6/1/2015
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHO**		Prep Date: **6/1/2015**	Analyst: **JB**
Electrical Conductivity @ Saturation	**0.45**		**0.050**	**mmhos/cm @2**	10	6/1/2015 02:15 PM
MOISTURE			**E160.3M**			Analyst: **EVB**
Moisture	**21**		**0.050**	**% of sample**	1	5/30/2015 02:45 PM
PH			**SW9045D**		Prep Date: **6/1/2015**	Analyst: **STP**
pH	**6.5**			**s.u.**	1	6/1/2015 01:45 PM

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

ALS Group USA, Corp

Date: *01-Jun-15*

Client: HRL Compliance Solutions, Inc
Project: WPX Energy - AP 41-11-696 Pit Closure
Work Order: 15051672
Sample ID: Background 2
Lab ID: 15051672-07
Collection Date: 5/28/2015 01:35 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS ANALYSIS BY ICP			**SW846 6010C**		Prep Date: **6/1/2015**	Analyst: **JEC**
Arsenic	**5.0**		**0.54**	**mg/Kg-dry**	1	6/1/2015 11:22 AM
MOISTURE			**E160.3M**			Analyst: **EVB**
Moisture	**28**		**0.050**	**% of sample**	1	5/30/2015 02:45 PM

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

ALS Group USA, Corp

Date: *01-Jun-15*

Client: HRL Compliance Solutions, Inc
Project: WPX Energy - AP 41-11-696 Pit Closure
Work Order: 15051672
Sample ID: Background 3
Lab ID: 15051672-08
Collection Date: 5/28/2015 01:40 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS ANALYSIS BY ICP			**SW846 6010C**		Prep Date: **6/1/2015**	Analyst: **JEC**
Arsenic	**9.4**		**0.54**	**mg/Kg-dry**	1	6/1/2015 11:44 AM
MOISTURE			**E160.3M**			Analyst: **EVB**
Moisture	**29**		**0.050**	**% of sample**	1	5/30/2015 02:45 PM

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

ALS Group USA, Corp

Date: 01-Jun-15

Client: HRL Compliance Solutions, Inc

QC BATCH REPORT

Work Order: 15051672

Project: WPX Energy - AP 41-11-696 Pit Closure

Batch ID: **71681** Instrument ID **GC8** Method: **SW8015M**

MBLK Sample ID: **DBLKS1-71681-71681** Units: **mg/Kg** Analysis Date: **6/1/2015 09:38 AM**

Client ID: Run ID: **GC8_150601A** SeqNo: **3299858** Prep Date: **5/31/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	5.0								
Surr: 4-Terphenyl-d14	*1.435*	0	*2*	0	*71.8*	*39-133*	0			

LCS Sample ID: **DLCSS1-71681-71681** Units: **mg/Kg** Analysis Date: **6/1/2015 10:08 AM**

Client ID: Run ID: **GC8_150601A** SeqNo: **3299859** Prep Date: **5/31/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	153.7	5.0	200	0	76.9	61-109	0			
Surr: 4-Terphenyl-d14	*1.324*	0	*2*	0	*66.2*	*39-133*	0			

MS Sample ID: **15051672-02B MS** Units: **mg/Kg** Analysis Date: **6/1/2015 10:38 AM**

Client ID: **North Wall @ 1ft** Run ID: **GC8_150601A** SeqNo: **3299860** Prep Date: **5/31/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	255.3	8.2	329.4	19.67	71.6	48-110	0			
Surr: 4-Terphenyl-d14	*2.004*	0	*3.294*	0	*60.8*	*39-133*	0			

MSD Sample ID: **15051672-02B MSD** Units: **mg/Kg** Analysis Date: **6/1/2015 11:08 AM**

Client ID: **North Wall @ 1ft** Run ID: **GC8_150601A** SeqNo: **3299861** Prep Date: **5/31/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	222.8	8.0	318.1	19.67	63.8	48-110	255.3	13.6	30	
Surr: 4-Terphenyl-d14	*1.763*	0	*3.181*	0	*55.4*	*39-133*	2.004	*12.8*	*30*	

The following samples were analyzed in this batch:

15051672-01B	15051672-02B	15051672-03B
15051672-04B	15051672-05B	

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

Client: HRL Compliance Solutions, Inc
Work Order: 15051672
Project: WPX Energy - AP 41-11-696 Pit Closure

QC BATCH REPORT

Batch ID: **71702** Instrument ID **GC9** Method: **SW8015D**

MBLK Sample ID: **MBLK-71702-71702** Units: **µg/Kg** Analysis Date: **6/1/2015 11:14 AM**
Client ID: Run ID: **GC9_150601A** SeqNo: **3299868** Prep Date: **6/1/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	2,500								
Surr: Toluene-d8	*5472*	0	*5000*	0	*109*	*50-150*	0			

LCS Sample ID: **LCS-71702-71702** Units: **µg/Kg** Analysis Date: **6/1/2015 10:50 AM**
Client ID: Run ID: **GC9_150601A** SeqNo: **3299867** Prep Date: **6/1/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	507600	2,500	500000	0	102	70-130	0			
Surr: Toluene-d8	*4445*	0	*5000*	0	*88.9*	*50-150*	0			

The following samples were analyzed in this batch:

15051672-01A
15051672-02A
15051672-03A
15051672-04A
15051672-05A

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

Client: HRL Compliance Solutions, Inc
Work Order: 15051672
Project: WPX Energy - AP 41-11-696 Pit Closure

QC BATCH REPORT

Batch ID: **71688** Instrument ID **HG1** Method: **SW7471B**

MBLK Sample ID: **MBLK-71688-71688** Units: **mg/Kg** Analysis Date: **6/1/2015 12:51 AM**
Client ID: Run ID: **HG1_150531A** SeqNo: **3298909** Prep Date: **5/31/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.020								

LCS Sample ID: **LCS-71688-71688** Units: **mg/Kg** Analysis Date: **6/1/2015 12:53 AM**
Client ID: Run ID: **HG1_150531A** SeqNo: **3298911** Prep Date: **5/31/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1808	0.020	0.1665	0	109	80-120	0			

MS Sample ID: **15051675-01AMS** Units: **mg/Kg** Analysis Date: **6/1/2015 01:19 AM**
Client ID: Run ID: **HG1_150531A** SeqNo: **3298946** Prep Date: **5/31/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.09908	0.012	0.1025	0.0007107	96	75-125	0			

MSD Sample ID: **15051675-01AMSD** Units: **mg/Kg** Analysis Date: **6/1/2015 01:21 AM**
Client ID: Run ID: **HG1_150531A** SeqNo: **3298947** Prep Date: **5/31/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1003	0.012	0.1021	0.0007107	97.5	75-125	0.09908	1.18	35	

The following samples were analyzed in this batch: 15051672-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 15051672
Project: WPX Energy - AP 41-11-696 Pit Closure

QC BATCH REPORT

Batch ID: **71578** Instrument ID **ICP2** Method: **SW846 6010C**

DUP Sample ID: **15051538-02BDUP** Units: **mg/L** Analysis Date: **6/1/2015 12:32 PM**
Client ID: Run ID: **ICP2_150601A** SeqNo: **3299712** Prep Date: **6/1/2015** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	65.86	5.0	0	0	0	0-0	65.16	1.07		
Magnesium	15.36	2.0	0	0	0	0-0	15.65	1.83		
Sodium	40.86	2.0	0	0	0	0-0	42.23	3.32		

DUP Sample ID: **15051538-02BDUP** Units: **none** Analysis Date: **6/1/2015**
Client ID: Run ID: **SAR_150601A** SeqNo: **3299800** Prep Date: **6/1/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	1.178	0.010	0	0	0		1.219	3.44	50	

The following samples were analyzed in this batch:

15051672-01C	15051672-02C	15051672-03C
15051672-04C	15051672-05C	15051672-06A

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

Client: HRL Compliance Solutions, Inc
Work Order: 15051672
Project: WPX Energy - AP 41-11-696 Pit Closure

QC BATCH REPORT

Batch ID: **71687** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK Sample ID: **MBLK-71687-71687** Units: **mg/L** Analysis Date: **6/1/2015 11:00 AM**
Client ID: Run ID: **ICP2_150601A** SeqNo: **3299491** Prep Date: **6/1/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	ND	0.50								
Chromium	0.1078	0.25								J
Copper	ND	0.50								
Lead	ND	0.25								
Nickel	ND	0.25								
Selenium	ND	0.50								
Silver	ND	0.25								
Zinc	ND	0.50								

LCS Sample ID: **LCS-71687-71687** Units: **mg/L** Analysis Date: **6/1/2015 11:06 AM**
Client ID: Run ID: **ICP2_150601A** SeqNo: **3299493** Prep Date: **6/1/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	6.877	0.36	7.267	0	94.6	80-120	0			
Barium	7.469	0.36	7.267	0	103	80-120	0			
Cadmium	7.058	0.73	7.267	0	97.1	80-120	0			
Chromium	7.488	0.36	7.267	0	103	80-120	0			
Copper	7.587	0.73	7.267	0	104	80-120	0			
Lead	7.569	0.36	7.267	0	104	80-120	0			
Nickel	7.218	0.36	7.267	0	99.3	80-120	0			
Selenium	7.124	0.73	7.267	0	98	80-120	0			
Silver	7.074	0.36	7.267	0	97.3	80-120	0			
Zinc	7.465	0.73	7.267	0	103	80-120	0			

MS Sample ID: **15051672-07AMS** Units: **mg/Kg** Analysis Date: **6/1/2015 11:28 AM**
Client ID: **Background 2** Run ID: **ICP2_150601A** SeqNo: **3299500** Prep Date: **6/1/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.15	0.40	7.937	3.634	94.6	75-125	0			
Barium	223.8	0.40	7.937	208.2	196	75-125	0			SO
Cadmium	7.894	0.79	7.937	0.01869	99.2	75-125	0			
Chromium	37.8	0.40	7.937	28.96	111	75-125	0			
Copper	27.47	0.79	7.937	17.96	120	75-125	0			
Lead	21.29	0.40	7.937	12.39	112	75-125	0			
Nickel	30.58	0.40	7.937	21.2	118	75-125	0			
Selenium	7.221	0.79	7.937	-0.5742	98.2	75-125	0			
Silver	7.934	0.40	7.937	-0.09984	101	75-125	0			
Zinc	61.77	0.79	7.937	51.7	127	75-125	0			SO

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

Client: HRL Compliance Solutions, Inc
Work Order: 15051672
Project: WPX Energy - AP 41-11-696 Pit Closure

QC BATCH REPORT

Batch ID: **71687** Instrument ID **ICP2** Method: **SW846 6010C**

MSD Sample ID: **15051672-07AMSD** Units: **mg/Kg** Analysis Date: **6/1/2015 11:34 AM**
Client ID: **Background 2** Run ID: **ICP2_150601A** SeqNo: **3299502** Prep Date: **6/1/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.47	0.39	7.886	3.634	99.3	75-125	11.15	2.84	20	
Barium	233.1	0.39	7.886	208.2	315	75-125	223.8	4.05	20	SO
Cadmium	7.955	0.79	7.886	0.01869	101	75-125	7.894	0.765	20	
Chromium	37.46	0.39	7.886	28.96	108	75-125	37.8	0.893	20	
Copper	29	0.79	7.886	17.96	140	75-125	27.47	5.44	20	S
Lead	21.11	0.39	7.886	12.39	111	75-125	21.29	0.84	20	
Nickel	31.29	0.39	7.886	21.2	128	75-125	30.58	2.29	20	S
Selenium	7.05	0.79	7.886	-0.5742	96.7	75-125	7.221	2.4	20	
Silver	7.95	0.39	7.886	-0.09984	102	75-125	7.934	0.19	20	
Zinc	67.4	0.79	7.886	51.7	199	75-125	61.77	8.72	20	SO

The following samples were analyzed in this batch:

15051672-01B	15051672-06A	15051672-07A
15051672-08A		

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

Client: HRL Compliance Solutions, Inc
Work Order: 15051672
Project: WPX Energy - AP 41-11-696 Pit Closure

QC BATCH REPORT

Batch ID: **71667** Instrument ID **SVMS4** Method: **SW846 8270D**

MBLK Sample ID: **SBLKS1-71667-71667** Units: **µg/Kg** Analysis Date: **6/1/2015 09:23 AM**
Client ID: Run ID: **SVMS4_150601A** SeqNo: **3299041** Prep Date: **5/31/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	6.7								
Acenaphthylene	ND	6.7								
Anthracene	ND	6.7								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(g,h,i)perylene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Chrysene	ND	6.7								
Dibenzo(a,h)anthracene	ND	6.7								
Fluoranthene	ND	6.7								
Fluorene	ND	6.7								
Indeno(1,2,3-cd)pyrene	ND	6.7								
Naphthalene	ND	6.7								
Pyrene	ND	6.7								
Surr: 2-Fluorobiphenyl	*1280*	0	*1667*	0	*76.8*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1476*	0	*1667*	0	*88.6*	*25-137*	0			
Surr: Nitrobenzene-d5	*1118*	0	*1667*	0	*67.1*	*37-107*	0			

LCS Sample ID: **SLCSS1-71667-71667** Units: **µg/Kg** Analysis Date: **6/1/2015 09:48 AM**
Client ID: Run ID: **SVMS4_150601A** SeqNo: **3299042** Prep Date: **5/31/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	519.7	6.7	666.7	0	77.9	45-110	0			
Acenaphthylene	567	6.7	666.7	0	85	45-105	0			
Anthracene	631.7	6.7	666.7	0	94.7	55-105	0			
Benzo(a)anthracene	662	6.7	666.7	0	99.3	50-110	0			
Benzo(a)pyrene	667.7	6.7	666.7	0	100	50-110	0			
Benzo(b)fluoranthene	633.3	6.7	666.7	0	95	45-115	0			
Benzo(g,h,i)perylene	692.3	6.7	666.7	0	104	40-125	0			
Benzo(k)fluoranthene	583.3	6.7	666.7	0	87.5	45-115	0			
Chrysene	629.3	6.7	666.7	0	94.4	55-110	0			
Dibenzo(a,h)anthracene	671	6.7	666.7	0	101	40-125	0			
Fluoranthene	599.3	6.7	666.7	0	89.9	55-115	0			
Fluorene	535	6.7	666.7	0	80.2	50-110	0			
Indeno(1,2,3-cd)pyrene	673.7	6.7	666.7	0	101	40-120	0			
Naphthalene	531	6.7	666.7	0	79.6	40-105	0			
Pyrene	664	6.7	666.7	0	99.6	45-125	0			
Surr: 2-Fluorobiphenyl	*1315*	0	*1667*	0	*78.9*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1504*	0	*1667*	0	*90.2*	*25-137*	0			
Surr: Nitrobenzene-d5	*1161*	0	*1667*	0	*69.6*	*37-107*	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 15051672
Project: WPX Energy - AP 41-11-696 Pit Closure

QC BATCH REPORT

Batch ID: **71667** Instrument ID **SVMS4** Method: **SW846 8270D**

MS Sample ID: **15051642-01B MS** Units: **µg/Kg** Analysis Date: **6/1/2015 10:12 AM**
Client ID: Run ID: **SVMS4_150601A** SeqNo: **3299414** Prep Date: **5/31/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	746.9	13	1313	0	56.9	45-110	0			
Acenaphthylene	882.1	13	1313	0	67.2	45-105	0			
Anthracene	970.7	13	1313	50.66	70.1	55-105	0			
Benzo(a)anthracene	1073	13	1313	131.9	71.7	50-110	0			
Benzo(a)pyrene	1103	13	1313	153.3	72.3	50-110	0			
Benzo(b)fluoranthene	1102	13	1313	222.7	67	45-115	0			
Benzo(g,h,i)perylene	1127	13	1313	121	76.6	40-125	0			
Benzo(k)fluoranthene	1011	13	1313	81.91	70.8	45-115	0			
Chrysene	1017	13	1313	142.8	66.6	55-110	0			
Dibenzo(a,h)anthracene	1060	13	1313	0	80.7	40-125	0			
Fluoranthene	1171	13	1313	304.6	66	55-115	0			
Fluorene	852.5	13	1313	21.71	63.3	50-110	0			
Indeno(1,2,3-cd)pyrene	1110	13	1313	141.8	73.7	40-120	0			
Naphthalene	743.6	13	1313	0	56.6	40-105	0			
Pyrene	1161	13	1313	253	69.2	45-125	0			
Surr: 2-Fluorobiphenyl	*2105*	0	*3282*	0	*64.1*	*12-100*	0			
Surr: 4-Terphenyl-d14	*2318*	0	*3282*	0	*70.6*	*25-137*	0			
Surr: Nitrobenzene-d5	*1779*	0	*3282*	0	*54.2*	*37-107*	0			

MSD Sample ID: **15051642-01B MSD** Units: **µg/Kg** Analysis Date: **6/1/2015 10:37 AM**
Client ID: Run ID: **SVMS4_150601A** SeqNo: **3299415** Prep Date: **5/31/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	856.2	13	1279	0	66.9	45-110	746.9	13.6	30	
Acenaphthylene	1005	13	1279	0	78.5	45-105	882.1	13	30	
Anthracene	1131	13	1279	50.66	84.5	55-105	970.7	15.3	30	
Benzo(a)anthracene	1226	13	1279	131.9	85.5	50-110	1073	13.3	30	
Benzo(a)pyrene	1269	13	1279	153.3	87.2	50-110	1103	14	30	
Benzo(b)fluoranthene	1310	13	1279	222.7	85	45-115	1102	17.2	30	
Benzo(g,h,i)perylene	1253	13	1279	121	88.5	40-125	1127	10.6	30	
Benzo(k)fluoranthene	1126	13	1279	81.91	81.6	45-115	1011	10.8	30	
Chrysene	1203	13	1279	142.8	82.9	55-110	1017	16.7	30	
Dibenzo(a,h)anthracene	1084	13	1279	0	84.8	40-125	1060	2.29	30	
Fluoranthene	1431	13	1279	304.6	88.1	55-115	1171	20	30	
Fluorene	963.6	13	1279	21.71	73.6	50-110	852.5	12.2	30	
Indeno(1,2,3-cd)pyrene	1292	13	1279	141.8	90	40-120	1110	15.2	30	
Naphthalene	890.1	13	1279	0	69.6	40-105	743.6	17.9	30	
Pyrene	1356	13	1279	253	86.2	45-125	1161	15.5	30	
Surr: 2-Fluorobiphenyl	*2377*	0	*3197*	0	*74.3*	*12-100*	2105	*12.1*	*40*	
Surr: 4-Terphenyl-d14	*2547*	0	*3197*	0	*79.7*	*25-137*	2318	*9.43*	*40*	
Surr: Nitrobenzene-d5	*2015*	0	*3197*	0	*63*	*37-107*	1779	*12.5*	*40*	

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

Client: HRL Compliance Solutions, Inc
Work Order: 15051672
Project: WPX Energy - AP 41-11-696 Pit Closure

QC BATCH REPORT

Batch ID: **71667** Instrument ID **SVMS4** Method: **SW846 8270D**

The following samples were analyzed in this batch:

15051672-01B	15051672-02B	15051672-03B
15051672-04B	15051672-05B	

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

Client: HRL Compliance Solutions, Inc
Work Order: 15051672
Project: WPX Energy - AP 41-11-696 Pit Closure

QC BATCH REPORT

Batch ID: **71680** Instrument ID **VMS6** Method: **SW8260B**

MBLK Sample ID: **MBLK-71680-71680** Units: **µg/Kg** Analysis Date: **5/30/2015 11:59 PM**
Client ID: Run ID: **VMS6_150530A** SeqNo: **3298463** Prep Date: **5/30/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	30								
Ethylbenzene	ND	30								
m,p-Xylene	ND	60								
o-Xylene	ND	30								
Toluene	ND	30								
Xylenes, Total	ND	90								
Surr: 1,2-Dichloroethane-d4	*1068*	0	*1000*	0	*107*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*967.5*	0	*1000*	0	*96.8*	*70-130*	0			
Surr: Dibromofluoromethane	*1064*	0	*1000*	0	*106*	*70-130*	0			
Surr: Toluene-d8	*946*	0	*1000*	0	*94.6*	*70-130*	0			

LCS Sample ID: **LCS-71680-71680** Units: **µg/Kg** Analysis Date: **5/30/2015 10:43 PM**
Client ID: Run ID: **VMS6_150530A** SeqNo: **3298457** Prep Date: **5/30/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1050	30	1000	0	105	75-125	0			
Ethylbenzene	1067	30	1000	0	107	75-125	0			
m,p-Xylene	2222	60	2000	0	111	80-125	0			
o-Xylene	1083	30	1000	0	108	75-125	0			
Toluene	1047	30	1000	0	105	70-125	0			
Xylenes, Total	3304	90	3000	0	110	75-125	0			
Surr: 1,2-Dichloroethane-d4	*1013*	0	*1000*	0	*101*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1025*	0	*1000*	0	*102*	*70-130*	0			
Surr: Dibromofluoromethane	*1026*	0	*1000*	0	*103*	*70-130*	0			
Surr: Toluene-d8	*986.5*	0	*1000*	0	*98.6*	*70-130*	0			

MS Sample ID: **15051672-01A MS** Units: **µg/Kg** Analysis Date: **5/31/2015 08:21 AM**
Client ID: **Pit Bottom @ 4ft** Run ID: **VMS6_150530A** SeqNo: **3299033** Prep Date: **5/30/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1064	30	1000	0	106	75-125	0			
Ethylbenzene	1094	30	1000	0	109	75-125	0			
m,p-Xylene	2256	60	2000	0	113	80-125	0			
o-Xylene	1094	30	1000	0	109	75-125	0			
Toluene	1065	30	1000	0	106	70-125	0			
Xylenes, Total	3350	90	3000	0	112	75-125	0			
Surr: 1,2-Dichloroethane-d4	*1031*	0	*1000*	0	*103*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1017*	0	*1000*	0	*102*	*70-130*	0			
Surr: Dibromofluoromethane	*995.5*	0	*1000*	0	*99.6*	*70-130*	0			
Surr: Toluene-d8	*957*	0	*1000*	0	*95.7*	*70-130*	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 15051672
Project: WPX Energy - AP 41-11-696 Pit Closure

QC BATCH REPORT

Batch ID: **71680** Instrument ID **VMS6** Method: **SW8260B**

MSD Sample ID: **15051672-01A MSD** Units: **µg/Kg** Analysis Date: **5/31/2015 08:46 AM**
Client ID: **Pit Bottom @ 4ft** Run ID: **VMS6_150530A** SeqNo: **3299034** Prep Date: **5/30/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1081	30	1000	0	108	75-125	1064	1.54	30	
Ethylbenzene	1136	30	1000	0	114	75-125	1094	3.86	30	
m,p-Xylene	2338	60	2000	0	117	80-125	2256	3.57	30	
o-Xylene	1133	30	1000	0	113	75-125	1094	3.5	30	
Toluene	1118	30	1000	0	112	70-125	1065	4.81	30	
Xylenes, Total	3472	90	3000	0	116	75-125	3350	3.55	30	
Surr: 1,2-Dichloroethane-d4	*999.5*	0	*1000*	0	*100*	*70-130*	1031	*3.1*	*30*	
Surr: 4-Bromofluorobenzene	*1022*	0	*1000*	0	*102*	*70-130*	1017	*0.442*	*30*	
Surr: Dibromofluoromethane	*1003*	0	*1000*	0	*100*	*70-130*	995.5	*0.751*	*30*	
Surr: Toluene-d8	*968.5*	0	*1000*	0	*96.8*	*70-130*	957	*1.19*	*30*	

The following samples were analyzed in this batch:

15051672-01A	15051672-02A	15051672-03A
15051672-04A	15051672-05A	

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

Client: HRL Compliance Solutions, Inc
Work Order: 15051672
Project: WPX Energy - AP 41-11-696 Pit Closure

QC BATCH REPORT

Batch ID: **71578** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

DUP Sample ID: **15051538-02B DUP** Units: **mmhos/cm @25°** Analysis Date: **6/1/2015 02:15 PM**

Client ID: Run ID: **WETCHEM_150601M** SeqNo: **3299949** Prep Date: **6/1/2015** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	0.819	0.050	0	0	0		0.738	10.4	50	

The following samples were analyzed in this batch:

15051672-01C	15051672-02C	15051672-03C
15051672-04C	15051672-05C	15051672-06A

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

Client: HRL Compliance Solutions, Inc
Work Order: 15051672
Project: WPX Energy - AP 41-11-696 Pit Closure

QC BATCH REPORT

Batch ID: **71711** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK Sample ID: **MBLK-71711-71711** Units: **mg/Kg** Analysis Date: **6/1/2015 10:00 AM**
Client ID: Run ID: **WETCHEM_150601B** SeqNo: **3299361** Prep Date: **5/30/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	ND	1.0								

LCS Sample ID: **LCS-71711-71711** Units: **mg/Kg** Analysis Date: **6/1/2015 10:00 AM**
Client ID: Run ID: **WETCHEM_150601B** SeqNo: **3299360** Prep Date: **5/30/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	4.13	1.0	5	0	82.6	80-120	0			

MS Sample ID: **15051672-01B MS** Units: **mg/Kg** Analysis Date: **6/1/2015 10:00 AM**
Client ID: **Pit Bottom @ 4ft** Run ID: **WETCHEM_150601B** SeqNo: **3299356** Prep Date: **5/30/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	3.757	0.97	4.854	0.1263	74.8	75-125	0			S

MS Sample ID: **15051672-01B MSI** Units: **mg/Kg** Analysis Date: **6/1/2015 10:00 AM**
Client ID: **Pit Bottom @ 4ft** Run ID: **WETCHEM_150601B** SeqNo: **3299358** Prep Date: **5/30/2015** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	2096	93	2607	0.1263	80.4	75-125	0			

MSD Sample ID: **15051672-01B MSD** Units: **mg/Kg** Analysis Date: **6/1/2015 10:00 AM**
Client ID: **Pit Bottom @ 4ft** Run ID: **WETCHEM_150601B** SeqNo: **3299357** Prep Date: **5/30/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	4	1.0	5	0.1263	77.5	75-125	3.757	6.26	20	

The following samples were analyzed in this batch: 15051672-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 15051672
Project: WPX Energy - AP 41-11-696 Pit Closure

QC BATCH REPORT

Batch ID: **71716** Instrument ID **WETCHEM** Method: **SW9045D**

LCS Sample ID: **LCS-71716-71716** Units: **s.u.** Analysis Date: **6/1/2015 01:45 PM**
Client ID: Run ID: **WETCHEM_150601I** SeqNo: **3299828** Prep Date: **6/1/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	4.03	0	4	0	101	90-110	0			

DUP Sample ID: **15051672-02B DUP** Units: **s.u.** Analysis Date: **6/1/2015 01:45 PM**
Client ID: **North Wall @ 1ft** Run ID: **WETCHEM_150601I** SeqNo: **3299833** Prep Date: **6/1/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	8.72	0	0	0	0	0-0	8.73	0.115	20	

DUP Sample ID: **15051672-05B DUP** Units: **s.u.** Analysis Date: **6/1/2015 01:45 PM**
Client ID: **West Wall @ 1ft** Run ID: **WETCHEM_150601I** SeqNo: **3299837** Prep Date: **6/1/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	8.55	0	0	0	0	0-0	8.63	0.931	20	

The following samples were analyzed in this batch:

15051672-01B	15051672-02B	15051672-03B
15051672-04B	15051672-05B	15051672-06A

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

Client: HRL Compliance Solutions, Inc
Work Order: 15051672
Project: WPX Energy - AP 41-11-696 Pit Closure

QC BATCH REPORT

Batch ID: **R164469** Instrument ID **MOIST** Method: **E160.3M**

MBLK Sample ID: **WBLKS-R164469** Units: **% of sample** Analysis Date: **5/30/2015 02:45 PM**
Client ID: Run ID: **MOIST_150530A** SeqNo: **3298934** 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-R164469** Units: **% of sample** Analysis Date: **5/30/2015 02:45 PM**
Client ID: Run ID: **MOIST_150530A** SeqNo: **3298910** 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: **15051672-02B DUP** Units: **% of sample** Analysis Date: **5/30/2015 02:45 PM**
Client ID: **North Wall @ 1ft** Run ID: **MOIST_150530A** SeqNo: **3298902** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	7.98	0.050	0	0	0		7.59	5.01	20	

The following samples were analyzed in this batch:

15051672-01B	15051672-02B	15051672-03B
15051672-04B	15051672-05B	15051672-06A
15051672-07A	15051672-08A	

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

ALS Laboratory Group

3352 128th Avenue, Holland, MI 49424
TF: (616) 399-6070 FX: (616) 399-6185

Chain-of-Custody

Form 282r8

WORKORDER # 1505167 2

PAGE 1 of 1

DISPOSAL (By Lab) or Return to Client

PROJECT NAME	WPX Energy - AP 41-11-696 Pit Closure	SAMPLER	Jordan Cario
PROJECT No.		SITE ID	AP 41-11-696 Pad
		EDD FORMAT	
		PURCHASE ORDER	
COMPANY NAME	HRL Compliance Solutions, Inc.	BILL TO COMPANY	WPX
SEND REPORT TO	HRL - Kris Rowe, Jordan Cario	INVOICE ATTN TO	Karolina Blaney
ADDRESS	2385 F 1/2 Road	ADDRESS	
CITY / STATE / ZIP	Grand Junction, CO, 81505	CITY / STATE / ZIP	
PHONE	970-243-3271	PHONE	
FAX	970-243-3280	FAX	
E-MAIL	krowe@hrlcomp.com, jcario@hrlcomp.com	E-MAIL	

DATE 5/28/15

TURNAROUND 24 Hour Rush

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	DRO	GRO	BTEX	910-1 Metals	Semi Vols - PAH	SAR / EC / pH	Arsenic
1	Pit Bottom @ 4ft	S	5/28/14	11:00	3	8		X	X	X	X	X	X	
2	North Wall @ 1ft	S		11:40	3			X	X	X		X	X	
3	South Wall @ 2ft	S		11:30	3			X	X	X		X	X	
4	East Wall @ 1ft	S		11:20	3			X	X	X		X	X	
5	West Wall @ 1 ft	S		11:55	3			X	X	X		X	X	
6	Background 1	S		1:20	1								X	X
7	Background 2	S		1:35	1									X
8	Background 3	S		1:40	1									X

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

For metals or anions, please detail analytes below.

Comments: 24hr RUSH!

4.8°C

QC PACKAGE (check below)	
	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		Jordan Cario	5/28/15	15:00
RECEIVED BY			5-28-15	1500
RELINQUISHED BY			5-29-15	1500
RECEIVED BY		Kevin Weekes	5/30/15	1000
RELINQUISHED BY				
RECEIVED BY				

From: (616) 298-1033
Nick Martinez
ALS Environmental
127 E. 1st Street

PARACHUTE, CO 81635

Origin ID: RILA

FedEx Express

J15121502230Guv

Ship Date: 28MAY15
ActWgt: 56.0 LB
CAD: 2264840/INET3610

Dims: 24 X 15 X 15 IN

Delivery Address Bar Code

Ref # 052815-1
Invoice #
PO # Parachute
Dept #

SHIP TO: (616) 399-6070

BILL SENDER

sample receiving
ALS Laboratory Group
3352 128TH AVE

HOLLAND, MI 49424

2 of 3

MPS# 7737 0828 2191
0263

Mstr# 7737 0828 2180 0201

FRI - 29 MAY 10:30A
PRIORITY OVERNIGHT

49424
MI-US
GRR

XX HLMA

537J3/C918/EE4B

After printing this label:
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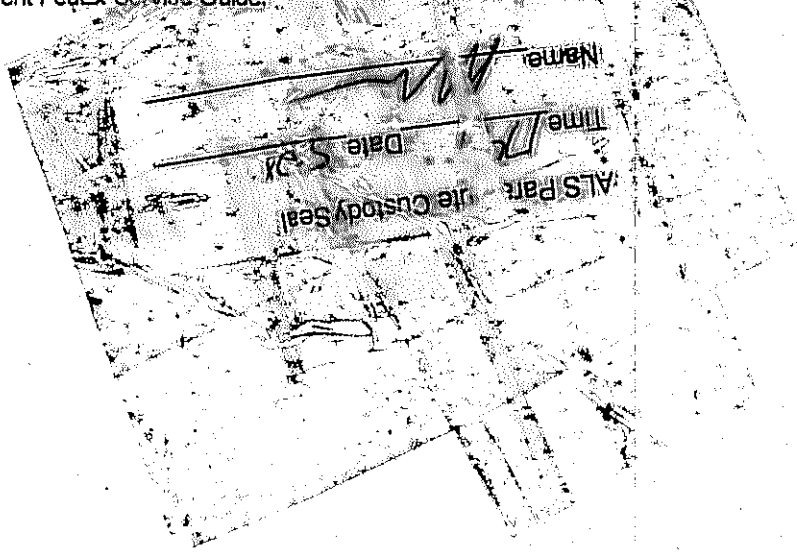

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **HRL** Date/Time Received: **30-May-15 10:00**

Work Order: **15051672** Received by: **KRW**

Checklist completed by Keith Wierenga (eSignature) 30-May-15 (Date) Reviewed by: Lee Arnold (eSignature) 30-May-15 (Date)

Matrices: Soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	4.8 C	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	5/30/2015 11:10:06 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:

APPENDIX 2: LANDFARM RAW ANALYTICAL RESULTS

22-Jun-2015

Karolina Blaney
WPX Energy Rocky Mountain, LLC
1058 Country Rd 215
Parachute, CO 81635

Re: **AP 41-11-696 Landfarm** Work Order: **1506988**

Dear Karolina,

ALS Environmental received 1 sample on 17-Jun-2015 09:30 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 22.

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

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
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: 22-Jun-15

Client: WPX Energy Rocky Mountain, LLC
Project: AP 41-11-696 Landfarm
Work Order: **1506988**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1506988-01	AP 41-11-696 Landfarm	Soil		6/9/2015 14:45	6/17/2015 09:30	☐

ALS Group USA, Corp

Date: 22-Jun-15

Client: WPX Energy Rocky Mountain, LLC
Project: AP 41-11-696 Landfarm
Work Order: 1506988

Case Narrative

Batch 72392, Method ICP_6010_S, Sample 1506988-01A MS/MSD: The MS and MSD recoveries were outside of the control limits for Barium, Chromium and Nickel; however, the results in the parent sample are greater than 4x the spike amount. No qualification is required.

Batch 72392, Method ICP_6010_S, Sample 1506988-01A MSD: The MSD recoveries were outside of the control limits for Arsenic, Copper and Zinc. However, the MS recoveries and the RPDs between the MS and MSD were in control. No qualification is required.

Batch 72402, Method PH_9045_S, Sample 1506988-01A: Sample was analyzed out of hold time due to receipt after expiration date. Results should be considered estimated.

ALS Group USA, Corp

Date: 22-Jun-15

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
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

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
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

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

ALS Group USA, Corp

Date: *22-Jun-15*

Client: WPX Energy Rocky Mountain, LLC
Project: AP 41-11-696 Landfarm
Work Order: 1506988
Sample ID: AP 41-11-696 Landfarm
Lab ID: 1506988-01
Collection Date: 6/9/2015 02:45 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep: SW3550 / 6/17/15	Analyst: **IT**
DRO (C10-C28)	**34**		**4.6**	**mg/Kg-dry**	1	6/17/2015 07:55 PM
Surr: 4-Terphenyl-d14	*60.5*		*39-133*	*%REC*	1	6/17/2015 07:55 PM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015D**		Prep: SW5035 / 6/17/15	Analyst: **IT**
GRO (C6-C10)	ND		2.8	mg/Kg-dry	1	6/17/2015 05:18 PM
Surr: Toluene-d8	*114*		*50-150*	*%REC*	1	6/17/2015 05:18 PM
MERCURY BY CVAA			**SW7471B**		Prep: SW7471 / 6/17/15	Analyst: **LR**
Mercury	**0.032**		**0.014**	**mg/Kg-dry**	1	6/17/2015 03:07 PM
METALS ANALYSIS BY ICP			**SW846 6010C**		Prep: SW3050B / 6/17/15	Analyst: **JEC**
Arsenic	**5.2**		**0.38**	**mg/Kg-dry**	1	6/17/2015 07:19 PM
Barium	**330**		**0.38**	**mg/Kg-dry**	1	6/17/2015 07:19 PM
Cadmium	ND		0.76	mg/Kg-dry	1	6/17/2015 07:19 PM
Chromium	**42**		**0.38**	**mg/Kg-dry**	1	6/17/2015 07:19 PM
Copper	**17**		**0.76**	**mg/Kg-dry**	1	6/17/2015 07:19 PM
Lead	**2.6**		**0.38**	**mg/Kg-dry**	1	6/17/2015 07:19 PM
Nickel	**41**		**0.38**	**mg/Kg-dry**	1	6/17/2015 07:19 PM
Selenium	ND		0.76	mg/Kg-dry	1	6/17/2015 07:19 PM
Silver	ND		0.38	mg/Kg-dry	1	6/17/2015 07:19 PM
Zinc	**21**		**0.76**	**mg/Kg-dry**	1	6/17/2015 07:19 PM
SOLUBLE CATIONS FOR SAR			**SW846 6010C**		Prep: USDA Method 20B / 6/19/15	Analyst: **JEC**
Calcium	**110**		**5.0**	**mg/L**	10	6/19/2015 12:35 PM
Magnesium	**13**		**2.0**	**mg/L**	10	6/19/2015 12:35 PM
Sodium	**880**		**2.0**	**mg/L**	10	6/19/2015 12:35 PM
SODIUM ADSORPTION RATIO			**USDA H60 METHO**		Prep: USDA Method 20B / 6/19/15	Analyst: **JEC**
Sodium Adsorption Ratio	**21**		**0.010**	**none**	1	6/19/2015
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3550 / 6/17/15	Analyst: **RS**
Acenaphthene	ND		7.4	µg/Kg-dry	1	6/17/2015 08:48 PM
Anthracene	ND		7.4	µg/Kg-dry	1	6/17/2015 08:48 PM
Benzo(a)anthracene	ND		7.4	µg/Kg-dry	1	6/17/2015 08:48 PM
Benzo(a)pyrene	ND		7.4	µg/Kg-dry	1	6/17/2015 08:48 PM
Benzo(b)fluoranthene	ND		7.4	µg/Kg-dry	1	6/17/2015 08:48 PM
Benzo(g,h,i)perylene	ND		7.4	µg/Kg-dry	1	6/17/2015 08:48 PM
Benzo(k)fluoranthene	ND		7.4	µg/Kg-dry	1	6/17/2015 08:48 PM
Chrysene	ND		7.4	µg/Kg-dry	1	6/17/2015 08:48 PM
Dibenzo(a,h)anthracene	ND		7.4	µg/Kg-dry	1	6/17/2015 08:48 PM

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

ALS Group USA, Corp

Date: *22-Jun-15*

Client: WPX Energy Rocky Mountain, LLC
Project: AP 41-11-696 Landfarm
Work Order: 1506988
Sample ID: AP 41-11-696 Landfarm
Lab ID: 1506988-01
Collection Date: 6/9/2015 02:45 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	ND		7.4	µg/Kg-dry	1	6/17/2015 08:48 PM
Fluorene	ND		7.4	µg/Kg-dry	1	6/17/2015 08:48 PM
Indeno(1,2,3-cd)pyrene	ND		7.4	µg/Kg-dry	1	6/17/2015 08:48 PM
Naphthalene	ND		7.4	µg/Kg-dry	1	6/17/2015 08:48 PM
Pyrene	ND		7.4	µg/Kg-dry	1	6/17/2015 08:48 PM
Surr: 2-Fluorobiphenyl	*61.9*		*12-100*	*%REC*	1	6/17/2015 08:48 PM
Surr: 4-Terphenyl-d14	*88.7*		*25-137*	*%REC*	1	6/17/2015 08:48 PM
Surr: Nitrobenzene-d5	*55.3*		*37-107*	*%REC*	1	6/17/2015 08:48 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep: SW5035 / 6/17/15	Analyst: **AK**
Benzene	ND		34	µg/Kg-dry	1	6/17/2015 02:35 PM
Ethylbenzene	ND		34	µg/Kg-dry	1	6/17/2015 02:35 PM
m,p-Xylene	ND		67	µg/Kg-dry	1	6/17/2015 02:35 PM
o-Xylene	ND		34	µg/Kg-dry	1	6/17/2015 02:35 PM
Toluene	ND		34	µg/Kg-dry	1	6/17/2015 02:35 PM
Xylenes, Total	ND		100	µg/Kg-dry	1	6/17/2015 02:35 PM
Surr: 1,2-Dichloroethane-d4	*98.9*		*70-130*	*%REC*	1	6/17/2015 02:35 PM
Surr: 4-Bromofluorobenzene	*101*		*70-130*	*%REC*	1	6/17/2015 02:35 PM
Surr: Dibromofluoromethane	*90.6*		*70-130*	*%REC*	1	6/17/2015 02:35 PM
Surr: Toluene-d8	*96.0*		*70-130*	*%REC*	1	6/17/2015 02:35 PM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHO**		Prep: USDA Method 20B / 6/19/15	Analyst: **JB**
Electrical Conductivity @ Saturation	**5.7**		**0.050**	**mmhos/cm @2**	10	6/19/2015 04:45 PM
CHROMIUM, TRIVALENT			**CALCULATION**			Analyst: **JB**
Chromium, Trivalent	**42**		**0.56**	**mg/Kg-dry**	1	6/18/2015 03:00 PM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep: SW3060A / 6/17/15	Analyst: **MB**
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	6/18/2015 12:00 PM
MOISTURE			**E160.3M**			Analyst: **PT**
Moisture	**11**		**0.050**	**% of sample**	1	6/17/2015 12:15 PM
PH			**SW9045D**		Prep: EXTRACT / 6/17/15	Analyst: **STP**
pH	**8.8**	H		**s.u.**	1	6/17/2015 04:00 PM

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

ALS Group USA, Corp

Date: 22-Jun-15

Client: WPX Energy Rocky Mountain, LLC

QC BATCH REPORT

Work Order: 1506988

Project: AP 41-11-696 Landfarm

Batch ID: **72394** Instrument ID **GC8** Method: **SW8015M**

MBLK Sample ID: **DBLKS1-72394-72394** Units: **mg/Kg** Analysis Date: **6/17/2015 04:39 PM**

Client ID: Run ID: **GC8_150617A** SeqNo: **3328615** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	5.0								
Surr: 4-Terphenyl-d14	*1.488*	0	*2*	0	*74.4*	*39-133*	0			

LCS Sample ID: **DLCSS1-72394-72394** Units: **mg/Kg** Analysis Date: **6/17/2015 04:55 PM**

Client ID: Run ID: **GC8_150617A** SeqNo: **3328616** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	161.8	5.0	200	0	80.9	61-109	0			
Surr: 4-Terphenyl-d14	*1.241*	0	*2*	0	*62.1*	*39-133*	0			

MS Sample ID: **1506989-02B MS** Units: **mg/Kg** Analysis Date: **6/17/2015 05:26 PM**

Client ID: Run ID: **GC8_150617A** SeqNo: **3328617** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	257.4	8.3	331.8	0	77.6	48-110	0			
Surr: 4-Terphenyl-d14	*2.131*	0	*3.318*	0	*64.2*	*39-133*	0			

MSD Sample ID: **1506989-02B MSD** Units: **mg/Kg** Analysis Date: **6/17/2015 05:55 PM**

Client ID: Run ID: **GC8_150617A** SeqNo: **3328618** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	219.9	8.1	325.4	0	67.6	48-110	257.4	15.7	30	
Surr: 4-Terphenyl-d14	*1.845*	0	*3.254*	0	*56.7*	*39-133*	2.131	*14.4*	*30*	

The following samples were analyzed in this batch: 1506988-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1506988
Project: AP 41-11-696 Landfarm

QC BATCH REPORT

Batch ID: **72396** Instrument ID **GC9** Method: **SW8015D**

MBLK Sample ID: **MBLK-72396-72396** Units: **µg/Kg** Analysis Date: **6/17/2015 01:59 PM**
Client ID: Run ID: **GC9_150617A** SeqNo: **3327462** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	2,500								
Surr: Toluene-d8	*5400*	0	*5000*	0	*108*	*50-150*	0			

LCS Sample ID: **LCS-72396-72396** Units: **µg/Kg** Analysis Date: **6/17/2015 01:35 PM**
Client ID: Run ID: **GC9_150617A** SeqNo: **3327461** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	495300	2,500	500000	0	99.1	70-130	0			
Surr: Toluene-d8	*5206*	0	*5000*	0	*104*	*50-150*	0			

MS Sample ID: **1506988-01A MS** Units: **µg/Kg** Analysis Date: **6/17/2015 04:03 PM**
Client ID: **AP 41-11-696 Landfarm** Run ID: **GC9_150617A** SeqNo: **3327467** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	557300	2,500	500000	0	111	70-130	0			
Surr: Toluene-d8	*5254*	0	*5000*	0	*105*	*50-150*	0			

MSD Sample ID: **1506988-01A MSD** Units: **µg/Kg** Analysis Date: **6/17/2015 04:28 PM**
Client ID: **AP 41-11-696 Landfarm** Run ID: **GC9_150617A** SeqNo: **3327468** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	544900	2,500	500000	0	109	70-130	557300	2.25	30	
Surr: Toluene-d8	*5454*	0	*5000*	0	*109*	*50-150*	5254	*3.72*	*30*	

The following samples were analyzed in this batch: 1506988-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1506988
Project: AP 41-11-696 Landfarm

QC BATCH REPORT

Batch ID: **72363** Instrument ID **HG1** Method: **SW7471B**

MBLK Sample ID: **MBLK-72363-72363** Units: **mg/Kg** Analysis Date: **6/17/2015 02:34 PM**
Client ID: Run ID: **HG1_150617A** SeqNo: **3327128** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.020								

LCS Sample ID: **LCS-72363-72363** Units: **mg/Kg** Analysis Date: **6/17/2015 02:37 PM**
Client ID: Run ID: **HG1_150617A** SeqNo: **3327129** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1861	0.020	0.1665	0	112	80-120	0			

MS Sample ID: **1506718-01BMS** Units: **mg/Kg** Analysis Date: **6/17/2015 02:51 PM**
Client ID: Run ID: **HG1_150617A** SeqNo: **3327134** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1548	0.014	0.1164	0.03299	105	75-125	0			

MSD Sample ID: **1506718-01BMSD** Units: **mg/Kg** Analysis Date: **6/17/2015 02:53 PM**
Client ID: Run ID: **HG1_150617A** SeqNo: **3327135** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.154	0.014	0.1162	0.03299	104	75-125	0.1548	0.534	35	

The following samples were analyzed in this batch: 1506988-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1506988
Project: AP 41-11-696 Landfarm

QC BATCH REPORT

Batch ID: **72392** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK Sample ID: **MBLK-72392-72392** Units: **mg/L** Analysis Date: **6/17/2015 04:25 PM**
Client ID: Run ID: **ICP2_150617B** SeqNo: **3327678** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	ND	0.50								
Chromium	ND	0.25								
Copper	ND	0.50								
Lead	ND	0.25								
Nickel	0.08183	0.25								J
Selenium	ND	0.50								
Silver	ND	0.25								
Zinc	0.1759	0.50								J

LCS Sample ID: **LCS-72392-72392** Units: **mg/L** Analysis Date: **6/17/2015 04:30 PM**
Client ID: Run ID: **ICP2_150617B** SeqNo: **3327679** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	5.05	0.25	5	0	101	80-120	0			
Barium	4.952	0.25	5	0	99	80-120	0			
Cadmium	4.859	0.50	5	0	97.2	80-120	0			
Chromium	5.322	0.25	5	0	106	80-120	0			
Copper	5.29	0.50	5	0	106	80-120	0			
Lead	5.212	0.25	5	0	104	80-120	0			
Nickel	5.626	0.25	5	0	113	80-120	0			
Selenium	5.245	0.50	5	0	105	80-120	0			
Silver	5.1	0.25	5	0	102	80-120	0			
Zinc	4.554	0.50	5	0	91.1	80-120	0			

MS Sample ID: **1506988-01AMS** Units: **mg/Kg** Analysis Date: **6/17/2015 07:25 PM**
Client ID: **AP 41-11-696 Landfarm** Run ID: **ICP2_150617B** SeqNo: **3327709** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.91	0.34	6.711	4.642	108	75-125	0			
Barium	296.6	0.34	6.711	291.2	81.3	75-125	0			O
Cadmium	6.309	0.67	6.711	0.09715	92.6	75-125	0			
Chromium	42.02	0.34	6.711	37.25	71.1	75-125	0			SO
Copper	21.13	0.67	6.711	14.76	95	75-125	0			
Lead	8.537	0.34	6.711	2.282	93.2	75-125	0			
Nickel	42.12	0.34	6.711	36.55	83	75-125	0			O
Selenium	7.295	0.67	6.711	0.5587	100	75-125	0			
Silver	6.798	0.34	6.711	-0.02182	102	75-125	0			
Zinc	24.31	0.67	6.711	19.02	78.8	75-125	0			

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1506988
Project: AP 41-11-696 Landfarm

QC BATCH REPORT

Batch ID: **72392** Instrument ID **ICP2** Method: **SW846 6010C**

MSD Sample ID: **1506988-01AMSD** Units: **mg/Kg** Analysis Date: **6/17/2015 05:01 PM**
Client ID: **AP 41-11-696 Landfarm** Run ID: **ICP2_150617B** SeqNo: **3327684** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	13.69	0.34	6.748	4.642	134	75-125	11.91	13.9	20	S
Barium	317.7	0.34	6.748	291.2	394	75-125	296.6	6.88	20	SO
Cadmium	6.707	0.67	6.748	0.09715	98	75-125	6.309	6.12	20	
Chromium	46.04	0.34	6.748	37.25	130	75-125	42.02	9.12	20	SO
Copper	24.28	0.67	6.748	14.76	141	75-125	21.13	13.9	20	S
Lead	10.33	0.34	6.748	2.282	119	75-125	8.537	19	20	
Nickel	49.09	0.34	6.748	36.55	186	75-125	42.12	15.3	20	SO
Selenium	8.301	0.67	6.748	0.5587	115	75-125	7.295	12.9	20	
Silver	7.19	0.34	6.748	-0.02182	107	75-125	6.798	5.61	20	
Zinc	29.09	0.67	6.748	19.02	149	75-125	24.31	17.9	20	S

The following samples were analyzed in this batch: 1506988-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1506988
Project: AP 41-11-696 Landfarm

QC BATCH REPORT

Batch ID: **72397** Instrument ID **ICP2** Method: **SW846 6010C**

DUP Sample ID: **1506988-01ADUP** Units: **mg/L** Analysis Date: **6/19/2015 12:41 PM**
Client ID: **AP 41-11-696 Landfarm** Run ID: **ICP2_150619A** SeqNo: **3331681** Prep Date: **6/19/2015** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	89.21	5.0	0	0	0	0-0	108.9	19.9		
Magnesium	10.64	2.0	0	0	0	0-0	12.86	18.9		
Sodium	767.1	2.0	0	0	0	0-0	875.6	13.2		

DUP Sample ID: **1506988-01ADUP** Units: **none** Analysis Date: **6/19/2015**
Client ID: **AP 41-11-696 Landfarm** Run ID: **SAR_150619B** SeqNo: **3331741** Prep Date: **6/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	20.45	0.010	0	0	0		21.14	3.34	50	

The following samples were analyzed in this batch: 1506988-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1506988
Project: AP 41-11-696 Landfarm

QC BATCH REPORT

Batch ID: **72393** Instrument ID **SVMS5** Method: **SW846 8270D**

MBLK Sample ID: **SBLKS1-72393-72393** Units: **µg/Kg** Analysis Date: **6/17/2015 05:39 PM**
Client ID: Run ID: **SVMS5_150617A** SeqNo: **3327780** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	6.7								
Anthracene	ND	6.7								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(g,h,i)perylene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Chrysene	ND	6.7								
Dibenzo(a,h)anthracene	ND	6.7								
Fluoranthene	ND	6.7								
Fluorene	ND	6.7								
Indeno(1,2,3-cd)pyrene	ND	6.7								
Naphthalene	ND	6.7								
Pyrene	ND	6.7								
Surr: 2-Fluorobiphenyl	*1305*	0	*1667*	0	*78.3*	*12-100*	0			
Surr: 4-Terphenyl-d14	*2024*	0	*1667*	0	*121*	*25-137*	0			
Surr: Nitrobenzene-d5	*1330*	0	*1667*	0	*79.8*	*37-107*	0			

LCS Sample ID: **SLCSS1-72393-72393** Units: **µg/Kg** Analysis Date: **6/17/2015 06:01 PM**
Client ID: Run ID: **SVMS5_150617A** SeqNo: **3327781** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	448.7	6.7	666.7	0	67.3	45-110	0			
Anthracene	539	6.7	666.7	0	80.8	55-105	0			
Benzo(a)anthracene	553.7	6.7	666.7	0	83	50-110	0			
Benzo(a)pyrene	539.3	6.7	666.7	0	80.9	50-110	0			
Benzo(b)fluoranthene	558.3	6.7	666.7	0	83.7	45-115	0			
Benzo(g,h,i)perylene	515.7	6.7	666.7	0	77.3	40-125	0			
Benzo(k)fluoranthene	550.7	6.7	666.7	0	82.6	45-115	0			
Chrysene	534.3	6.7	666.7	0	80.1	55-110	0			
Dibenzo(a,h)anthracene	513.3	6.7	666.7	0	77	40-125	0			
Fluoranthene	514.3	6.7	666.7	0	77.1	55-115	0			
Fluorene	481	6.7	666.7	0	72.1	50-110	0			
Indeno(1,2,3-cd)pyrene	518	6.7	666.7	0	77.7	40-120	0			
Naphthalene	423.3	6.7	666.7	0	63.5	40-105	0			
Pyrene	600.3	6.7	666.7	0	90	45-125	0			
Surr: 2-Fluorobiphenyl	*1164*	0	*1667*	0	*69.8*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1760*	0	*1667*	0	*106*	*25-137*	0			
Surr: Nitrobenzene-d5	*1176*	0	*1667*	0	*70.5*	*37-107*	0			

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1506988
Project: AP 41-11-696 Landfarm

QC BATCH REPORT

Batch ID: **72393** Instrument ID **SVMS5** Method: **SW846 8270D**

MS Sample ID: **1506985-01A MS** Units: **µg/Kg** Analysis Date: **6/17/2015 07:18 PM**
Client ID: Run ID: **SVMS5_150617A** SeqNo: **3327782** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1074	13	1327	0	80.9	45-110	0			
Anthracene	1208	13	1327	0	91	55-105	0			
Benzo(a)anthracene	1204	13	1327	0	90.7	50-110	0			
Benzo(a)pyrene	1200	13	1327	0	90.4	50-110	0			
Benzo(b)fluoranthene	1229	13	1327	0	92.6	45-115	0			
Benzo(g,h,i)perylene	1156	13	1327	0	87.1	40-125	0			
Benzo(k)fluoranthene	1164	13	1327	0	87.7	45-115	0			
Chrysene	1152	13	1327	0	86.8	55-110	0			
Dibenzo(a,h)anthracene	1133	13	1327	0	85.3	40-125	0			
Fluoranthene	1178	13	1327	0	88.8	55-115	0			
Fluorene	1122	13	1327	0	84.5	50-110	0			
Indeno(1,2,3-cd)pyrene	1168	13	1327	0	88	40-120	0			
Naphthalene	1001	13	1327	0	75.4	40-105	0			
Pyrene	1322	13	1327	0	99.6	45-125	0			
Surr: 2-Fluorobiphenyl	*2644*	0	*3317*	0	*79.7*	*12-100*	0			
Surr: 4-Terphenyl-d14	*3737*	0	*3317*	0	*113*	*25-137*	0			
Surr: Nitrobenzene-d5	*2575*	0	*3317*	0	*77.6*	*37-107*	0			

MSD Sample ID: **1506985-01A MSD** Units: **µg/Kg** Analysis Date: **6/17/2015 07:41 PM**
Client ID: Run ID: **SVMS5_150617A** SeqNo: **3327783** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1006	13	1271	0	79.1	45-110	1074	6.58	30	
Anthracene	1166	13	1271	0	91.8	55-105	1208	3.46	30	
Benzo(a)anthracene	1160	13	1271	0	91.3	50-110	1204	3.68	30	
Benzo(a)pyrene	1177	13	1271	0	92.6	50-110	1200	1.99	30	
Benzo(b)fluoranthene	1177	13	1271	0	92.6	45-115	1229	4.28	30	
Benzo(g,h,i)perylene	1103	13	1271	0	86.8	40-125	1156	4.74	30	
Benzo(k)fluoranthene	1191	13	1271	0	93.7	45-115	1164	2.33	30	
Chrysene	1106	13	1271	0	87	55-110	1152	4.11	30	
Dibenzo(a,h)anthracene	1093	13	1271	0	86	40-125	1133	3.52	30	
Fluoranthene	1139	13	1271	0	89.6	55-115	1178	3.44	30	
Fluorene	1050	13	1271	0	82.6	50-110	1122	6.61	30	
Indeno(1,2,3-cd)pyrene	1116	13	1271	0	87.8	40-120	1168	4.56	30	
Naphthalene	950.4	13	1271	0	74.8	40-105	1001	5.13	30	
Pyrene	1303	13	1271	0	103	45-125	1322	1.47	30	
Surr: 2-Fluorobiphenyl	*2528*	0	*3177*	0	*79.6*	*12-100*	2644	*4.49*	*40*	
Surr: 4-Terphenyl-d14	*3701*	0	*3177*	0	*116*	*25-137*	3737	*0.967*	*40*	
Surr: Nitrobenzene-d5	*2394*	0	*3177*	0	*75.4*	*37-107*	2575	*7.29*	*40*	

The following samples were analyzed in this batch: 1506988-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1506988
Project: AP 41-11-696 Landfarm

QC BATCH REPORT

Batch ID: **72395** Instrument ID **VMS6** Method: **SW8260B**

MBLK Sample ID: **MBLK-72395-72395** Units: **µg/Kg** Analysis Date: **6/17/2015 03:01 PM**
Client ID: Run ID: **VMS6_150617A** SeqNo: **3327254** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	30								
Ethylbenzene	ND	30								
m,p-Xylene	ND	60								
o-Xylene	ND	30								
Toluene	ND	30								
Xylenes, Total	ND	90								
Surr: 1,2-Dichloroethane-d4	*993*	0	*1000*	0	*99.3*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*948.5*	0	*1000*	0	*94.8*	*70-130*	0			
Surr: Dibromofluoromethane	*959.5*	0	*1000*	0	*96*	*70-130*	0			
Surr: Toluene-d8	*1002*	0	*1000*	0	*100*	*70-130*	0			

LCS Sample ID: **LCS-72395-72395** Units: **µg/Kg** Analysis Date: **6/17/2015 12:57 PM**
Client ID: Run ID: **VMS6_150617A** SeqNo: **3327253** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	966.5	30	1000	0	96.6	75-125	0			
Ethylbenzene	1028	30	1000	0	103	75-125	0			
m,p-Xylene	2068	60	2000	0	103	80-125	0			
o-Xylene	996.5	30	1000	0	99.6	75-125	0			
Toluene	1030	30	1000	0	103	70-125	0			
Xylenes, Total	3065	90	3000	0	102	75-125	0			
Surr: 1,2-Dichloroethane-d4	*995*	0	*1000*	0	*99.5*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*967.5*	0	*1000*	0	*96.8*	*70-130*	0			
Surr: Dibromofluoromethane	*994.5*	0	*1000*	0	*99.4*	*70-130*	0			
Surr: Toluene-d8	*1022*	0	*1000*	0	*102*	*70-130*	0			

The following samples were analyzed in this batch: 1506988-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1506988
Project: AP 41-11-696 Landfarm

QC BATCH REPORT

Batch ID: **72397** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

DUP Sample ID: **1506988-01A DUP** Units: **mmhos/cm @25°** Analysis Date: **6/19/2015 04:45 PM**

Client ID: **AP 41-11-696 Landfarm** Run ID: **WETCHEM_150619H** SeqNo: **3332238** Prep Date: **6/19/2015** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	5.17	0.050	0	0	0		5.71	9.93	50	

The following samples were analyzed in this batch: 1506988-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1506988
Project: AP 41-11-696 Landfarm

QC BATCH REPORT

Batch ID: **72402** Instrument ID **WETCHEM** Method: **SW9045D**

LCS	Sample ID: **LCS-72402-72402**				Units: **s.u.**			Analysis Date: **6/17/2015 04:00 PM**			
Client ID:		Run ID: **WETCHEM_150617H**			SeqNo: **3327198**			Prep Date: **6/17/2015**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
pH	4.09	0	4	0	102	90-110	0				

DUP	Sample ID: **1506982-01A DUP**				Units: **s.u.**			Analysis Date: **6/17/2015 04:00 PM**			
Client ID:		Run ID: **WETCHEM_150617H**			SeqNo: **3327204**			Prep Date: **6/17/2015**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
pH	9.24	0	0	0	0	0-0	8.96	3.08	20		

The following samples were analyzed in this batch: 1506988-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1506988
Project: AP 41-11-696 Landfarm

QC BATCH REPORT

Batch ID: **72462** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK Sample ID: **MBLK-72462-72462** Units: **mg/Kg** Analysis Date: **6/18/2015 12:00 PM**
Client ID: Run ID: **WETCHEM_150618F** SeqNo: **3329158** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	ND	1.0								

LCS Sample ID: **LCS-72462-72462** Units: **mg/Kg** Analysis Date: **6/18/2015 12:00 PM**
Client ID: Run ID: **WETCHEM_150618F** SeqNo: **3329157** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	4.31	1.0	5	0	86.2	80-120	0			

MS Sample ID: **1506792-01A MS** Units: **mg/Kg** Analysis Date: **6/18/2015 12:00 PM**
Client ID: Run ID: **WETCHEM_150618F** SeqNo: **3329148** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	2.9	1.0	5	0.07619	56.5	75-125	0			S

MS Sample ID: **1506792-01A MSI** Units: **mg/Kg** Analysis Date: **6/18/2015 12:00 PM**
Client ID: Run ID: **WETCHEM_150618F** SeqNo: **3329150** Prep Date: **6/17/2015** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	2170	100	2714	0.07619	79.9	75-125	0			

MSD Sample ID: **1506792-01A MSD** Units: **mg/Kg** Analysis Date: **6/18/2015 12:00 PM**
Client ID: Run ID: **WETCHEM_150618F** SeqNo: **3329149** Prep Date: **6/17/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	3.347	1.0	5.102	0.07619	64.1	75-125	2.9	14.3	20	S

The following samples were analyzed in this batch: 1506988-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1506988
Project: AP 41-11-696 Landfarm

QC BATCH REPORT

Batch ID: **R165689** Instrument ID **MOIST** Method: **E160.3M**

MBLK Sample ID: **WBLKS-R165689** Units: **% of sample** Analysis Date: **6/17/2015 12:15 PM**
Client ID: Run ID: **MOIST_150617A** SeqNo: **3327433** 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-R165689** Units: **% of sample** Analysis Date: **6/17/2015 12:15 PM**
Client ID: Run ID: **MOIST_150617A** SeqNo: **3327432** 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: **1506982-01A DUP** Units: **% of sample** Analysis Date: **6/17/2015 12:15 PM**
Client ID: Run ID: **MOIST_150617A** SeqNo: **3327429** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	33.48	0.050	0	0	0		33.19	0.87	20	

The following samples were analyzed in this batch: 1506988-01A

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

ALS Laboratory Group

HOLLAND, Michigan 49424

Chain-of-Custody

Form 202r8

WORKORDER # 1506998

PAGE 1 of 1

PROJECT NAME	AP 41-11-696 landfarm	SAMPLER		DATE	6/15/2015
PROJECT No.		SITE ID	AP 41-11-696 landfarm	TURNAROUND	24 hrs
		EDD FORMAT			
COMPANY NAME	WPX Energy	PURCHASE ORDER		DISPOSAL	By Lab or Return to Client
SEND REPORT TO	Blaney	BILL TO COMPANY	WPX Energy		
ADDRESS		INVOICE ATTN TO	Karolina Blaney; Leo Braun		
CITY / STATE / ZIP		ADDRESS	1058 Co Rd 215		
PHONE		CITY / STATE / ZIP	Parachure CO 81635		
FAX		PHONE	970-683-2295		
E-MAIL	Karolina.blaney@wpxenergy.com;	FAX			
		E-MAIL	Karolina.blaney@wpxenergy.com; leo.braun@wpxenergy.com		

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	910-1
(	AP 41-11-696 landfarm	S	6/9/2015	14:45	1		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)	
4.8°C	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	Karolina Blaney	Karolina Blaney	6/15/2015	16:00:00 PM
RECEIVED BY			6-15	1600
RELINQUISHED BY			6-15	1630
RECEIVED BY			6/15	1730
RELINQUISHED BY		KEITH W. GREEN	6/17/15	0930
RECEIVED BY				

From: (616) 298-1033
Nick Martinez
ALS Environmental
127 E. 1st Street

PARACHUTE, CO 81635

Origin ID: RILA

FedEx Express

J15121502230Suv

Ship Date: 15JUN15
ActWgt: 48.0 LB
CAD: 2264840/INET3610

Dims: 24 X 15 X 15 IN

Delivery Address Bar Code

Ref # 061515-1
Invoice #
PO # Parachute
Dept #

SHIP TO: (616) 399-6070 BILL SENDER

sample receiving
ALS Laboratory Group
3352 128TH AVE

HOLLAND, MI 49424

2 of 2

MPS# 7738 3801 9237
0263

Mstr# 7738 3801 9112 0261

TUE - 16 JUN 10:30A
PRIORITY OVERNIGHT

XX HLMA

49424
MI-US
GRR

537J1/8A0E/EE4B

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ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
Tel. +1 616 399 6070
Fax: +1 616 399 6185

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **WPX** Date/Time Received: **17-Jun-15 09:30**

Work Order: **1506988** Received by: **KRW**

Checklist completed by Keith Wierenga (eSignature) 17-Jun-15 (Date) Reviewed by: Chad Whelton (eSignature) 17-Jun-15 (Date)

Matrices: Soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	4.8 C	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	6/17/2015 11:08:11 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: