March 9, 2015

Stan Spencer
NW Environmental Protection Specialist
Colorado Oil and Gas Conservation Commission
796 Megan Ave, Suite 201,
Rifle, CO 81650

Re: RWF 11-4 Produced Water Spill Closure Request

Dear Mr. Spencer,

Attached are the laboratory reports and the sample location map for soil samples collected from the excavated area, landfarmed material, and nearby non-impacted native soil in order to close the produced water spill that occurred at the RWF 11-4 well pad and was discovered on July 15, 2014.

Soil impacted by the produced water spill was excavated and a total of five grab confirmation samples were collected from the bottom and four walls of the excavation. Due to the pad size constraints, the soil was landfarmed on location in five separate batches. One composite sample was collected from each landfarm batch. All samples were analyzed for the constituents listed in the COGCC Table 910-1. Three grab samples were collected from nearby non-impacted, native soil to establish the background concentrations for arsenic. In accordance with the COGCC Rule 910.b.(3)E. one grab sample was analyzed for inorganics to establish background soil conditions.
Grab sample collected from the north wall of the excavation exceeded COGCC cleanup standards for benzo(a)pyrene. When additional excavation was completed, the wall was resampled on 7/24/14 and tested clean.

As the attached laboratory reports indicate, all constituents of concern listed in the COGCC Table 910-1 tested below the cleanup requirements or below the background concentrations with the exception of the inorganics. Therefore, in accordance with COGCC guideline Q32 regarding inorganics, the impacted area was covered with 3' of clean soil during the backfilling activities. Based on these results, WPX respectfully requests closure of this incident.

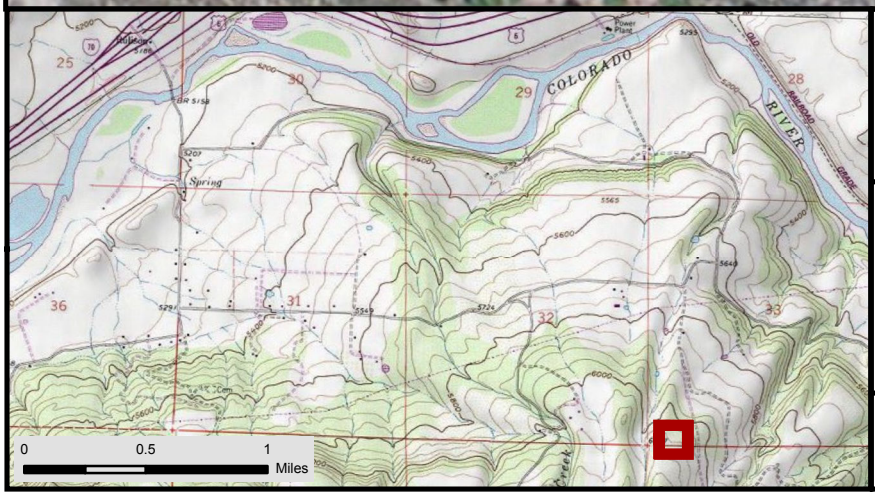
Please do not hesitate to contact me at (970) 683-2295 should you have any questions or concerns regarding this information.

Sincerely,

Karolina Blaney

Karolina Blaney
Environmental Specialist

Attachments (2)
- Sampling Location Map
- Laboratory Reports



WPXENERGY Sample Location Map: RWF 11-4

39.474594 -107.899434
Section 33, Township 6 South, Range 94 West

Sample Location
Excavated Area

PLSS
Township
Section

Transportation
CO Highways
County Roads
Local Streets
WPX Access

Hydrography
Ditch
Intermittent Stream
Perennial Stream
Waterbody
Watershed

HRL Compliance Solutions, Inc.
Environmental Consultants

N

Author: B. Hall
Revision: 0
Date: 3/11/2015

T:\CLIENTS\WPX\RWF 11-4\SPILLS\RWF 11-4 Sample Location Map 3-11-15.mxd

RWF 11-4 Analytical Data Summary

Contaminant of Concern ↓	COGCC standards	Location →	Bottom 18'	South Wall	West Wall	East Wall	North Wall	North Wall	RWF 11-4-B-1	RWF 11-4-B-2	RWF 11-4-B-3	Landfarm Batch 1	Landfarm Batch 2	Landfarm Batch 3	Landfarm Batch 4	Landfarm Batch 5
		Date Sampled →	7/17/2014	7/18/2014	7/18/2014	7/18/2014	7/18/2014	7/23/2014	7/18/2014	7/18/2014	7/18/2014	8/27/2014	9/19/2014	10/28/2014	12/4/2014	2/4/2015
Organic Compounds in Soil																
TPH (DRO+GRO)	500	mg/kg	20	18	20	17	ND					78	140	97	21	21
DRO		mg/kg	20	18	20	17	ND					45	140	97	21	21
GRO		mg/kg	ND	ND	ND	ND	ND					33	ND	ND	ND	ND
Benzene	0.17	mg/kg	ND	ND	ND	ND	ND					ND	ND	ND	ND	ND
Toluene	85	mg/kg	ND	ND	ND	ND	ND					ND	ND	ND	ND	ND
Ethylbenzene	100	mg/kg	ND	ND	ND	ND	ND					ND	ND	ND	ND	ND
Xylenes (Total)	175	mg/kg	0.13	ND	ND	ND	ND					ND	ND	ND	ND	ND
Acenaphthene	1,000	mg/kg	ND	ND	ND	ND	ND					ND	ND	ND	0.012	ND
Anthracene	1,000	mg/kg	ND	ND	ND	ND	0.013					ND	ND	ND	ND	ND
Benzo(A)anthracene	0.22	mg/kg	ND	ND	ND	0.012	0.021					ND	ND	0.014	ND	ND
Benzo(B)fluoranthene	0.22	mg/kg	ND	ND	ND	ND	0.025					ND	ND	ND	ND	ND
Benzo(K)fluoranthene	2.2	mg/kg	ND	ND	ND	ND	0.029					ND	ND	ND	ND	ND
Benzo(A)pyrene	0.022	mg/kg	ND	ND	ND	ND	0.038	ND				ND	ND	ND	ND	ND
Chrysene	22	mg/kg	ND	ND	ND	ND	ND					ND	ND	0.020	ND	ND
Dibenzo(A,H)anthracene	0.022	mg/kg	ND	ND	ND	ND	ND					ND	ND	ND	ND	ND
Fluoranthene	1,000	mg/kg	ND	ND	ND	ND	0.021					ND	ND	ND	ND	ND
Fluorene	1,000	mg/kg	ND	ND	ND	ND	ND					ND	ND	0.017	ND	ND
Indeno(1,2,3-cd)pyrene	0.22	mg/kg	ND	ND	ND	ND	0.035					ND	ND	ND	ND	ND
Naphthalene	23	mg/kg	ND	ND	ND	ND	ND					ND	ND	ND	ND	ND
Pyrene	1,000	mg/kg	ND	ND	ND	ND	ND					ND	ND	0.022	ND	ND
Inorganics in Soil																
EC	<4 or 2 x background	mmhos/cm	1.9	2	1.5	3.8	2.9				0.49	7.8	3.8	4.5	3	0.54
SAR	<12		23	7.1	1.7	23	4.8				0.053	25	9.5	11	9.7	3.4
pH	6-9		9.4	8.5	8.1	9.2	8.3				7.5	8.4	8.2	8.7	8.5	9.3
Metals in Soil																
Arsenic	0.39	mg/kg	3.9	3.4	5.1	3.7	3.7		5	5.1	4.6	6.1	4.5	4.8	5.3	5.2
Barium total	15,000	mg/kg	200	94	280	120	160					250	260	240	270	140
Cadmium	70	mg/kg	ND	ND	ND	ND	ND					ND	ND	ND	ND	ND
Chromium (III)	120,000	mg/kg	20	20	19	20	20					18	18	17	16	ND
Chromium (VI)	23	mg/kg	ND	ND	ND	ND	ND					ND	ND	ND	ND	ND
Copper	3,100	mg/kg	19	19	11	20	17					12	16	17	17	12
Lead	400	mg/kg	9.2	9.1	8.7	8.5	8.6					12	9.5	17	10	7
Mercury	23	mg/kg	0.017	0.034	0.027	0.019	0.019					0.02	0.025	0.031	0.019	ND
Nickel	1,600	mg/kg	35	36	23	38	37					20	31	30	25	18
Selenium	390	mg/kg	ND	ND	ND	ND	ND					ND	3	ND	ND	ND
Silver	390	mg/kg	ND	ND	ND	ND	ND					ND	ND	ND	ND	ND
Zinc	23,000	mg/kg	43	43	36	47	41					45	40	63	43	23

24-Jul-2014

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

Re: **WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14** Work Order: **14071010**

Dear Mark,

ALS Environmental received 5 samples on 19-Jul-2014 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 32.

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

Sincerely,

Ann Preston

Electronically approved by: Ann Preston

Ann Preston
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

ALS Group USA, Corp

Date: 24-Jul-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14
Work Order: **14071010**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
14071010-01	Bottom 18ft	Soil		7/17/2014 14:45	7/19/2014 10:00	☐
14071010-02	South Wall	Soil		7/18/2014 07:30	7/19/2014 10:00	☐
14071010-03	West Wall	Soil		7/18/2014 07:40	7/19/2014 10:00	☐
14071010-04	East Wall	Soil		7/18/2014 07:50	7/19/2014 10:00	☐
14071010-05	North Wall	Soil		7/18/2014 11:40	7/19/2014 10:00	☐

ALS Group USA, Corp

Date: 24-Jul-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14
Work Order: 14071010

Case Narrative

Batch 60760 sample Bottom 18ft MS/MSD recoveries for Hexavalent Chromium were below control limits due to sample matrix interference. The corresponding result in the parent sample may be biased low for Hexavalent Chromium.

Batch 60789 MS/MSD data for Zinc is not related to this project's samples. No data requires qualification.

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
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: *24-Jul-14*

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14 **Work Order:** 14071010
Sample ID: Bottom 18ft **Lab ID:** 14071010-01
Collection Date: 7/17/2014 02:45 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep: SW3541 / 7/21/14	Analyst: **IT**
DRO (C10-C28)	**20**		**4.8**	**mg/Kg-dry**	1	7/22/2014 06:22 AM
Surr: 4-Terphenyl-d14	*59.9*		*39-133*	*%REC*	1	7/22/2014 06:22 AM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015**		Prep: SW5035 / 7/21/14	Analyst: **IT**
GRO (C6-C10)	ND		3.0	mg/Kg-dry	1	7/22/2014 12:47 PM
Surr: Toluene-d8	*109*		*50-150*	*%REC*	1	7/22/2014 12:47 PM
MERCURY BY CVAA			**SW7471**		Prep: SW7471 / 7/21/14	Analyst: **LR**
Mercury	**0.017**		**0.015**	**mg/Kg-dry**	1	7/22/2014 11:38 AM
METALS BY ICP-MS			**SW6020A**		Prep: SW3050B / 7/21/14	Analyst: **ML**
Arsenic	**3.9**		**2.2**	**mg/Kg-dry**	5	7/21/2014 07:41 PM
Barium	**200**		**2.2**	**mg/Kg-dry**	5	7/21/2014 07:41 PM
Cadmium	ND		0.86	mg/Kg-dry	5	7/21/2014 07:41 PM
Chromium	**20**		**2.2**	**mg/Kg-dry**	5	7/21/2014 07:41 PM
Copper	**19**		**2.2**	**mg/Kg-dry**	5	7/21/2014 07:41 PM
Lead	**9.2**		**2.2**	**mg/Kg-dry**	5	7/21/2014 07:41 PM
Nickel	**35**		**2.2**	**mg/Kg-dry**	5	7/21/2014 07:41 PM
Selenium	ND		2.2	mg/Kg-dry	5	7/21/2014 07:41 PM
Silver	ND		2.2	mg/Kg-dry	5	7/21/2014 07:41 PM
Zinc	**43**		**4.3**	**mg/Kg-dry**	5	7/21/2014 07:41 PM
SOLUBLE CATIONS FOR SAR			**SW6020A**		Prep: USDA Method 20B / 7/23/14	Analyst: **RH**
Calcium	ND		10	mg/L	20	7/24/2014 01:46 AM
Magnesium	**8.4**		**4.0**	**mg/L**	20	7/24/2014 01:46 AM
Sodium	**380**		**4.0**	**mg/L**	20	7/24/2014 01:46 AM
SODIUM ADSORPTION RATIO			**USDA H60 METHOD**		Prep: USDA Method 20B / 7/23/14	Analyst: **RH**
Sodium Adsorption Ratio	**23**		**0.010**	**none**	1	7/23/2014
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep: SW3541 / 7/21/14	Analyst: **MK**
Acenaphthene	ND		7.8	µg/Kg-dry	1	7/22/2014 11:15 AM
Acenaphthylene	ND		7.8	µg/Kg-dry	1	7/22/2014 11:15 AM
Anthracene	ND		7.8	µg/Kg-dry	1	7/22/2014 11:15 AM
Benzo(a)anthracene	ND		7.8	µg/Kg-dry	1	7/22/2014 11:15 AM
Benzo(a)pyrene	ND		7.8	µg/Kg-dry	1	7/22/2014 11:15 AM
Benzo(b)fluoranthene	ND		7.8	µg/Kg-dry	1	7/22/2014 11:15 AM
Benzo(g,h,i)perylene	ND		7.8	µg/Kg-dry	1	7/22/2014 11:15 AM
Benzo(k)fluoranthene	ND		7.8	µg/Kg-dry	1	7/22/2014 11:15 AM
Chrysene	ND		7.8	µg/Kg-dry	1	7/22/2014 11:15 AM

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

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14 **Work Order:** 14071010
Sample ID: Bottom 18ft **Lab ID:** 14071010-01
Collection Date: 7/17/2014 02:45 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		7.8	µg/Kg-dry	1	7/22/2014 11:15 AM
Fluoranthene	ND		7.8	µg/Kg-dry	1	7/22/2014 11:15 AM
Fluorene	ND		7.8	µg/Kg-dry	1	7/22/2014 11:15 AM
Indeno(1,2,3-cd)pyrene	ND		7.8	µg/Kg-dry	1	7/22/2014 11:15 AM
Naphthalene	ND		7.8	µg/Kg-dry	1	7/22/2014 11:15 AM
Pyrene	ND		7.8	µg/Kg-dry	1	7/22/2014 11:15 AM
Surr: 2-Fluorobiphenyl	*84.5*		*12-100*	*%REC*	1	7/22/2014 11:15 AM
Surr: 4-Terphenyl-d14	*72.2*		*25-137*	*%REC*	1	7/22/2014 11:15 AM
Surr: Nitrobenzene-d5	*75.6*		*37-107*	*%REC*	1	7/22/2014 11:15 AM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep: SW5035 / 7/21/14	Analyst: **RS**
Benzene	ND		36	µg/Kg-dry	1	7/22/2014 02:02 PM
Ethylbenzene	ND		36	µg/Kg-dry	1	7/22/2014 02:02 PM
m,p-Xylene	**130**		**71**	**µg/Kg-dry**	1	7/22/2014 02:02 PM
o-Xylene	ND		36	µg/Kg-dry	1	7/22/2014 02:02 PM
Toluene	ND		36	µg/Kg-dry	1	7/22/2014 02:02 PM
Xylenes, Total	**130**		**110**	**µg/Kg-dry**	1	7/22/2014 02:02 PM
Surr: 1,2-Dichloroethane-d4	*96.5*		*70-130*	*%REC*	1	7/22/2014 02:02 PM
Surr: 4-Bromofluorobenzene	*91.4*		*70-130*	*%REC*	1	7/22/2014 02:02 PM
Surr: Dibromofluoromethane	*93.8*		*70-130*	*%REC*	1	7/22/2014 02:02 PM
Surr: Toluene-d8	*95.8*		*70-130*	*%REC*	1	7/22/2014 02:02 PM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHOD**		Prep: USDA Method 20B / 7/23/14	Analyst: **MELB**
Electrical Conductivity @ Saturation	**1.9**		**0.050**	**mmhos/cm @25**	10	7/23/2014 03:00 PM
CHROMIUM, TRIVALENT			**CALCULATION**			Analyst: **MB**
Chromium, Trivalent	**20**		**0.59**	**mg/Kg-dry**	1	7/22/2014 05:50 PM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep: SW3060A / 7/20/14	Analyst: **JI**
Chromium, Hexavalent	ND		0.59	mg/Kg-dry	1	7/20/2014 06:30 PM
MOISTURE			**A2540 G**			Analyst: **TM**
Moisture	**16**		**0.050**	**% of sample**	1	7/21/2014 01:50 PM
PH			**SW9045D**		Prep: EXTRACT / 7/22/14	Analyst: **TM**
pH	**9.4**			**s.u.**	1	7/22/2014 04:50 PM

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

ALS Group USA, Corp

Date: *24-Jul-14*

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14 **Work Order:** 14071010
Sample ID: South Wall **Lab ID:** 14071010-02
Collection Date: 7/18/2014 07:30 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep: SW3541 / 7/21/14	Analyst: **IT**
DRO (C10-C28)	**18**		**4.7**	**mg/Kg-dry**	1	7/22/2014 06:48 AM
Surr: 4-Terphenyl-d14	*82.4*		*39-133*	*%REC*	1	7/22/2014 06:48 AM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015**		Prep: SW5035 / 7/21/14	Analyst: **IT**
GRO (C6-C10)	ND		2.9	mg/Kg-dry	1	7/21/2014 11:31 PM
Surr: Toluene-d8	*102*		*50-150*	*%REC*	1	7/21/2014 11:31 PM
MERCURY BY CVAA			**SW7471**		Prep: SW7471 / 7/21/14	Analyst: **LR**
Mercury	**0.034**		**0.014**	**mg/Kg-dry**	1	7/22/2014 11:41 AM
METALS BY ICP-MS			**SW6020A**		Prep: SW3050B / 7/21/14	Analyst: **ML**
Arsenic	**3.4**		**2.3**	**mg/Kg-dry**	5	7/21/2014 08:06 PM
Barium	**94**		**2.3**	**mg/Kg-dry**	5	7/21/2014 08:06 PM
Cadmium	ND		0.91	mg/Kg-dry	5	7/21/2014 08:06 PM
Chromium	**20**		**2.3**	**mg/Kg-dry**	5	7/21/2014 08:06 PM
Copper	**19**		**2.3**	**mg/Kg-dry**	5	7/21/2014 08:06 PM
Lead	**9.1**		**2.3**	**mg/Kg-dry**	5	7/21/2014 08:06 PM
Nickel	**36**		**2.3**	**mg/Kg-dry**	5	7/21/2014 08:06 PM
Selenium	ND		2.3	mg/Kg-dry	5	7/21/2014 08:06 PM
Silver	ND		2.3	mg/Kg-dry	5	7/21/2014 08:06 PM
Zinc	**43**		**4.5**	**mg/Kg-dry**	5	7/21/2014 08:06 PM
SOLUBLE CATIONS FOR SAR			**SW6020A**		Prep: USDA Method 20B / 7/23/14	Analyst: **RH**
Calcium	**48**		**10**	**mg/L**	20	7/24/2014 01:53 AM
Magnesium	**36**		**4.0**	**mg/L**	20	7/24/2014 01:53 AM
Sodium	**270**		**4.0**	**mg/L**	20	7/24/2014 01:53 AM
SODIUM ADSORPTION RATIO			**USDA H60 METHOD**		Prep: USDA Method 20B / 7/23/14	Analyst: **RH**
Sodium Adsorption Ratio	**7.1**		**0.010**	**none**	1	7/23/2014
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep: SW3541 / 7/21/14	Analyst: **MK**
Acenaphthene	ND		7.6	µg/Kg-dry	1	7/22/2014 11:35 AM
Acenaphthylene	ND		7.6	µg/Kg-dry	1	7/22/2014 11:35 AM
Anthracene	ND		7.6	µg/Kg-dry	1	7/22/2014 11:35 AM
Benzo(a)anthracene	ND		7.6	µg/Kg-dry	1	7/22/2014 11:35 AM
Benzo(a)pyrene	ND		7.6	µg/Kg-dry	1	7/22/2014 11:35 AM
Benzo(b)fluoranthene	ND		7.6	µg/Kg-dry	1	7/22/2014 11:35 AM
Benzo(g,h,i)perylene	ND		7.6	µg/Kg-dry	1	7/22/2014 11:35 AM
Benzo(k)fluoranthene	ND		7.6	µg/Kg-dry	1	7/22/2014 11:35 AM
Chrysene	ND		7.6	µg/Kg-dry	1	7/22/2014 11:35 AM

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

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14 **Work Order:** 14071010
Sample ID: South Wall **Lab ID:** 14071010-02
Collection Date: 7/18/2014 07:30 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		7.6	µg/Kg-dry	1	7/22/2014 11:35 AM
Fluoranthene	ND		7.6	µg/Kg-dry	1	7/22/2014 11:35 AM
Fluorene	ND		7.6	µg/Kg-dry	1	7/22/2014 11:35 AM
Indeno(1,2,3-cd)pyrene	ND		7.6	µg/Kg-dry	1	7/22/2014 11:35 AM
Naphthalene	ND		7.6	µg/Kg-dry	1	7/22/2014 11:35 AM
Pyrene	ND		7.6	µg/Kg-dry	1	7/22/2014 11:35 AM
Surr: 2-Fluorobiphenyl	*81.3*		*12-100*	*%REC*	1	7/22/2014 11:35 AM
Surr: 4-Terphenyl-d14	*113*		*25-137*	*%REC*	1	7/22/2014 11:35 AM
Surr: Nitrobenzene-d5	*71.7*		*37-107*	*%REC*	1	7/22/2014 11:35 AM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep: SW5035 / 7/21/14	Analyst: **AK**
Benzene	ND		35	µg/Kg-dry	1	7/21/2014 03:39 PM
Ethylbenzene	ND		35	µg/Kg-dry	1	7/21/2014 03:39 PM
m,p-Xylene	ND		70	µg/Kg-dry	1	7/21/2014 03:39 PM
o-Xylene	ND		35	µg/Kg-dry	1	7/21/2014 03:39 PM
Toluene	ND		35	µg/Kg-dry	1	7/21/2014 03:39 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	7/21/2014 03:39 PM
Surr: 1,2-Dichloroethane-d4	*94.0*		*70-130*	*%REC*	1	7/21/2014 03:39 PM
Surr: 4-Bromofluorobenzene	*100*		*70-130*	*%REC*	1	7/21/2014 03:39 PM
Surr: Dibromofluoromethane	*97.6*		*70-130*	*%REC*	1	7/21/2014 03:39 PM
Surr: Toluene-d8	*97.6*		*70-130*	*%REC*	1	7/21/2014 03:39 PM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHOD**		Prep: USDA Method 20B / 7/23/14	Analyst: **MELB**
Electrical Conductivity @ Saturation	**2.0**		**0.050**	**mmhos/cm @25**	10	7/23/2014 03:00 PM
CHROMIUM, TRIVALENT			**CALCULATION**			Analyst: **MB**
Chromium, Trivalent	**20**		**0.59**	**mg/Kg-dry**	1	7/22/2014 05:50 PM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep: SW3060A / 7/20/14	Analyst: **JI**
Chromium, Hexavalent	ND		0.58	mg/Kg-dry	1	7/20/2014 06:30 PM
MOISTURE			**A2540 G**			Analyst: **TM**
Moisture	**15**		**0.050**	**% of sample**	1	7/21/2014 01:50 PM
PH			**SW9045D**		Prep: EXTRACT / 7/22/14	Analyst: **TM**
pH	**8.5**			**s.u.**	1	7/22/2014 04:50 PM

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

ALS Group USA, Corp

Date: *24-Jul-14*

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14 **Work Order:** 14071010
Sample ID: West Wall **Lab ID:** 14071010-03
Collection Date: 7/18/2014 07:40 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep: SW3541 / 7/21/14	Analyst: **IT**
DRO (C10-C28)	**20**		**5.1**	**mg/Kg-dry**	1	7/22/2014 07:13 AM
Surr: 4-Terphenyl-d14	*80.1*		*39-133*	*%REC*	1	7/22/2014 07:13 AM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015**		Prep: SW5035 / 7/21/14	Analyst: **IT**
GRO (C6-C10)	ND		3.1	mg/Kg-dry	1	7/22/2014 01:13 AM
Surr: Toluene-d8	*118*		*50-150*	*%REC*	1	7/22/2014 01:13 AM
MERCURY BY CVAA			**SW7471**		Prep: SW7471 / 7/21/14	Analyst: **LR**
Mercury	**0.027**		**0.017**	**mg/Kg-dry**	1	7/22/2014 11:43 AM
METALS BY ICP-MS			**SW6020A**		Prep: SW3050B / 7/21/14	Analyst: **ML**
Arsenic	**5.1**		**2.5**	**mg/Kg-dry**	5	7/21/2014 08:12 PM
Barium	**280**		**2.5**	**mg/Kg-dry**	5	7/21/2014 08:12 PM
Cadmium	ND		1.0	mg/Kg-dry	5	7/21/2014 08:12 PM
Chromium	**19**		**2.5**	**mg/Kg-dry**	5	7/21/2014 08:12 PM
Copper	**11**		**2.5**	**mg/Kg-dry**	5	7/21/2014 08:12 PM
Lead	**8.7**		**2.5**	**mg/Kg-dry**	5	7/21/2014 08:12 PM
Nickel	**23**		**2.5**	**mg/Kg-dry**	5	7/21/2014 08:12 PM
Selenium	ND		2.5	mg/Kg-dry	5	7/21/2014 08:12 PM
Silver	ND		2.5	mg/Kg-dry	5	7/21/2014 08:12 PM
Zinc	**36**		**5.0**	**mg/Kg-dry**	5	7/21/2014 08:12 PM
SOLUBLE CATIONS FOR SAR			**SW6020A**		Prep: USDA Method 20B / 7/23/14	Analyst: **RH**
Calcium	**72**		**10**	**mg/L**	20	7/24/2014 02:18 AM
Magnesium	**74**		**4.0**	**mg/L**	20	7/24/2014 02:18 AM
Sodium	**86**		**4.0**	**mg/L**	20	7/24/2014 02:18 AM
SODIUM ADSORPTION RATIO			**USDA H60 METHOD**		Prep: USDA Method 20B / 7/23/14	Analyst: **RH**
Sodium Adsorption Ratio	**1.7**		**0.010**	**none**	1	7/23/2014
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep: SW3541 / 7/21/14	Analyst: **MK**
Acenaphthene	ND		8.2	µg/Kg-dry	1	7/22/2014 11:56 AM
Acenaphthylene	ND		8.2	µg/Kg-dry	1	7/22/2014 11:56 AM
Anthracene	ND		8.2	µg/Kg-dry	1	7/22/2014 11:56 AM
Benzo(a)anthracene	ND		8.2	µg/Kg-dry	1	7/22/2014 11:56 AM
Benzo(a)pyrene	ND		8.2	µg/Kg-dry	1	7/22/2014 11:56 AM
Benzo(b)fluoranthene	ND		8.2	µg/Kg-dry	1	7/22/2014 11:56 AM
Benzo(g,h,i)perylene	ND		8.2	µg/Kg-dry	1	7/22/2014 11:56 AM
Benzo(k)fluoranthene	ND		8.2	µg/Kg-dry	1	7/22/2014 11:56 AM
Chrysene	ND		8.2	µg/Kg-dry	1	7/22/2014 11:56 AM

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

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14 **Work Order:** 14071010
Sample ID: West Wall **Lab ID:** 14071010-03
Collection Date: 7/18/2014 07:40 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		8.2	µg/Kg-dry	1	7/22/2014 11:56 AM
Fluoranthene	ND		8.2	µg/Kg-dry	1	7/22/2014 11:56 AM
Fluorene	ND		8.2	µg/Kg-dry	1	7/22/2014 11:56 AM
Indeno(1,2,3-cd)pyrene	ND		8.2	µg/Kg-dry	1	7/22/2014 11:56 AM
Naphthalene	ND		8.2	µg/Kg-dry	1	7/22/2014 11:56 AM
Pyrene	ND		8.2	µg/Kg-dry	1	7/22/2014 11:56 AM
Surr: 2-Fluorobiphenyl	*86.1*		*12-100*	*%REC*	1	7/22/2014 11:56 AM
Surr: 4-Terphenyl-d14	*108*		*25-137*	*%REC*	1	7/22/2014 11:56 AM
Surr: Nitrobenzene-d5	*75.7*		*37-107*	*%REC*	1	7/22/2014 11:56 AM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep: SW5035 / 7/21/14	Analyst: **AK**
Benzene	ND		37	µg/Kg-dry	1	7/21/2014 04:05 PM
Ethylbenzene	ND		37	µg/Kg-dry	1	7/21/2014 04:05 PM
m,p-Xylene	ND		75	µg/Kg-dry	1	7/21/2014 04:05 PM
o-Xylene	ND		37	µg/Kg-dry	1	7/21/2014 04:05 PM
Toluene	ND		37	µg/Kg-dry	1	7/21/2014 04:05 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	7/21/2014 04:05 PM
Surr: 1,2-Dichloroethane-d4	*93.9*		*70-130*	*%REC*	1	7/21/2014 04:05 PM
Surr: 4-Bromofluorobenzene	*99.2*		*70-130*	*%REC*	1	7/21/2014 04:05 PM
Surr: Dibromofluoromethane	*96.8*		*70-130*	*%REC*	1	7/21/2014 04:05 PM
Surr: Toluene-d8	*96.8*		*70-130*	*%REC*	1	7/21/2014 04:05 PM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHOD**		Prep: USDA Method 20B / 7/23/14	Analyst: **MELB**
Electrical Conductivity @ Saturation	**1.5**		**0.050**	**mmhos/cm @25**	10	7/23/2014 03:00 PM
CHROMIUM, TRIVALENT			**CALCULATION**			Analyst: **MB**
Chromium, Trivalent	**19**		**0.62**	**mg/Kg-dry**	1	7/22/2014 05:50 PM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep: SW3060A / 7/20/14	Analyst: **JI**
Chromium, Hexavalent	ND		0.61	mg/Kg-dry	1	7/20/2014 06:30 PM
MOISTURE			**A2540 G**			Analyst: **TM**
Moisture	**20**		**0.050**	**% of sample**	1	7/21/2014 01:50 PM
PH			**SW9045D**		Prep: EXTRACT / 7/22/14	Analyst: **TM**
pH	**8.1**			**s.u.**	1	7/22/2014 04:50 PM

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

ALS Group USA, Corp

Date: *24-Jul-14*

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14 **Work Order:** 14071010
Sample ID: East Wall **Lab ID:** 14071010-04
Collection Date: 7/18/2014 07:50 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep: SW3541 / 7/21/14	Analyst: **IT**
DRO (C10-C28)	**17**		**4.8**	**mg/Kg-dry**	1	7/22/2014 08:05 AM
Surr: 4-Terphenyl-d14	*84.3*		*39-133*	*%REC*	1	7/22/2014 08:05 AM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015**		Prep: SW5035 / 7/21/14	Analyst: **IT**
GRO (C6-C10)	ND		2.9	mg/Kg-dry	1	7/22/2014 01:38 AM
Surr: Toluene-d8	*100*		*50-150*	*%REC*	1	7/22/2014 01:38 AM
MERCURY BY CVAA			**SW7471**		Prep: SW7471 / 7/21/14	Analyst: **LR**
Mercury	**0.019**		**0.018**	**mg/Kg-dry**	1	7/22/2014 11:45 AM
METALS BY ICP-MS			**SW6020A**		Prep: SW3050B / 7/21/14	Analyst: **ML**
Arsenic	**3.7**		**2.3**	**mg/Kg-dry**	5	7/21/2014 08:18 PM
Barium	**120**		**2.3**	**mg/Kg-dry**	5	7/21/2014 08:18 PM
Cadmium	ND		0.91	mg/Kg-dry	5	7/21/2014 08:18 PM
Chromium	**20**		**2.3**	**mg/Kg-dry**	5	7/21/2014 08:18 PM
Copper	**20**		**2.3**	**mg/Kg-dry**	5	7/21/2014 08:18 PM
Lead	**8.5**		**2.3**	**mg/Kg-dry**	5	7/21/2014 08:18 PM
Nickel	**38**		**2.3**	**mg/Kg-dry**	5	7/21/2014 08:18 PM
Selenium	ND		2.3	mg/Kg-dry	5	7/21/2014 08:18 PM
Silver	ND		2.3	mg/Kg-dry	5	7/21/2014 08:18 PM
Zinc	**47**		**4.5**	**mg/Kg-dry**	5	7/21/2014 08:18 PM
SOLUBLE CATIONS FOR SAR			**SW6020A**		Prep: USDA Method 20B / 7/23/14	Analyst: **RH**
Calcium	**18**		**10**	**mg/L**	20	7/24/2014 02:24 AM
Magnesium	**26**		**4.0**	**mg/L**	20	7/24/2014 02:24 AM
Sodium	**640**		**4.0**	**mg/L**	20	7/24/2014 02:24 AM
SODIUM ADSORPTION RATIO			**USDA H60 METHOD**		Prep: USDA Method 20B / 7/23/14	Analyst: **RH**
Sodium Adsorption Ratio	**23**		**0.010**	**none**	1	7/23/2014
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep: SW3541 / 7/21/14	Analyst: **MK**
Acenaphthene	ND		7.7	µg/Kg-dry	1	7/22/2014 12:16 PM
Acenaphthylene	ND		7.7	µg/Kg-dry	1	7/22/2014 12:16 PM
Anthracene	ND		7.7	µg/Kg-dry	1	7/22/2014 12:16 PM
Benzo(a)anthracene	**12**		**7.7**	**µg/Kg-dry**	1	7/22/2014 12:16 PM
Benzo(a)pyrene	ND		7.7	µg/Kg-dry	1	7/22/2014 12:16 PM
Benzo(b)fluoranthene	ND		7.7	µg/Kg-dry	1	7/22/2014 12:16 PM
Benzo(g,h,i)perylene	ND		7.7	µg/Kg-dry	1	7/22/2014 12:16 PM
Benzo(k)fluoranthene	ND		7.7	µg/Kg-dry	1	7/22/2014 12:16 PM
Chrysene	ND		7.7	µg/Kg-dry	1	7/22/2014 12:16 PM

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

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14 **Work Order:** 14071010
Sample ID: East Wall **Lab ID:** 14071010-04
Collection Date: 7/18/2014 07:50 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		7.7	µg/Kg-dry	1	7/22/2014 12:16 PM
Fluoranthene	ND		7.7	µg/Kg-dry	1	7/22/2014 12:16 PM
Fluorene	ND		7.7	µg/Kg-dry	1	7/22/2014 12:16 PM
Indeno(1,2,3-cd)pyrene	ND		7.7	µg/Kg-dry	1	7/22/2014 12:16 PM
Naphthalene	ND		7.7	µg/Kg-dry	1	7/22/2014 12:16 PM
Pyrene	ND		7.7	µg/Kg-dry	1	7/22/2014 12:16 PM
Surr: 2-Fluorobiphenyl	*82.0*		*12-100*	*%REC*	1	7/22/2014 12:16 PM
Surr: 4-Terphenyl-d14	*109*		*25-137*	*%REC*	1	7/22/2014 12:16 PM
Surr: Nitrobenzene-d5	*71.7*		*37-107*	*%REC*	1	7/22/2014 12:16 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep: SW5035 / 7/21/14	Analyst: **AK**
Benzene	ND		35	µg/Kg-dry	1	7/21/2014 04:30 PM
Ethylbenzene	ND		35	µg/Kg-dry	1	7/21/2014 04:30 PM
m,p-Xylene	ND		71	µg/Kg-dry	1	7/21/2014 04:30 PM
o-Xylene	ND		35	µg/Kg-dry	1	7/21/2014 04:30 PM
Toluene	ND		35	µg/Kg-dry	1	7/21/2014 04:30 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	7/21/2014 04:30 PM
Surr: 1,2-Dichloroethane-d4	*95.2*		*70-130*	*%REC*	1	7/21/2014 04:30 PM
Surr: 4-Bromofluorobenzene	*97.8*		*70-130*	*%REC*	1	7/21/2014 04:30 PM
Surr: Dibromofluoromethane	*95.4*		*70-130*	*%REC*	1	7/21/2014 04:30 PM
Surr: Toluene-d8	*98.2*		*70-130*	*%REC*	1	7/21/2014 04:30 PM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHOD**		Prep: USDA Method 20B / 7/23/14	Analyst: **MELB**
Electrical Conductivity @ Saturation	**3.8**		**0.050**	**mmhos/cm @25**	10	7/23/2014 03:00 PM
CHROMIUM, TRIVALENT			**CALCULATION**			Analyst: **MB**
Chromium, Trivalent	**20**		**0.59**	**mg/Kg-dry**	1	7/22/2014 05:50 PM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep: SW3060A / 7/20/14	Analyst: **JI**
Chromium, Hexavalent	ND		0.58	mg/Kg-dry	1	7/20/2014 06:30 PM
MOISTURE			**A2540 G**			Analyst: **TM**
Moisture	**15**		**0.050**	**% of sample**	1	7/21/2014 01:50 PM
PH			**SW9045D**		Prep: EXTRACT / 7/22/14	Analyst: **TM**
pH	**9.2**			**s.u.**	1	7/22/2014 04:50 PM

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

ALS Group USA, Corp

Date: *24-Jul-14*

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14 **Work Order:** 14071010
Sample ID: North Wall **Lab ID:** 14071010-05
Collection Date: 7/18/2014 11:40 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep: SW3541 / 7/21/14	Analyst: **IT**
DRO (C10-C28)	ND		5.0	mg/Kg-dry	1	7/22/2014 05:31 AM
Surr: 4-Terphenyl-d14	*83.0*		*39-133*	*%REC*	1	7/22/2014 05:31 AM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015**		Prep: SW5035 / 7/21/14	Analyst: **IT**
GRO (C6-C10)	ND		3.1	mg/Kg-dry	1	7/22/2014 02:29 AM
Surr: Toluene-d8	*105*		*50-150*	*%REC*	1	7/22/2014 02:29 AM
MERCURY BY CVAA			**SW7471**		Prep: SW7471 / 7/21/14	Analyst: **LR**
Mercury	**0.019**		**0.017**	**mg/Kg-dry**	1	7/22/2014 11:47 AM
METALS BY ICP-MS			**SW6020A**		Prep: SW3050B / 7/21/14	Analyst: **ML**
Arsenic	**3.7**		**2.3**	**mg/Kg-dry**	5	7/21/2014 08:25 PM
Barium	**160**		**2.3**	**mg/Kg-dry**	5	7/21/2014 08:25 PM
Cadmium	ND		0.92	mg/Kg-dry	5	7/21/2014 08:25 PM
Chromium	**20**		**2.3**	**mg/Kg-dry**	5	7/21/2014 08:25 PM
Copper	**17**		**2.3**	**mg/Kg-dry**	5	7/21/2014 08:25 PM
Lead	**8.6**		**2.3**	**mg/Kg-dry**	5	7/21/2014 08:25 PM
Nickel	**37**		**2.3**	**mg/Kg-dry**	5	7/21/2014 08:25 PM
Selenium	ND		2.3	mg/Kg-dry	5	7/21/2014 08:25 PM
Silver	ND		2.3	mg/Kg-dry	5	7/21/2014 08:25 PM
Zinc	**41**		**4.6**	**mg/Kg-dry**	5	7/21/2014 08:25 PM
SOLUBLE CATIONS FOR SAR			**SW6020A**		Prep: USDA Method 20B / 7/23/14	Analyst: **RH**
Calcium	**110**		**10**	**mg/L**	20	7/24/2014 02:37 AM
Magnesium	**99**		**4.0**	**mg/L**	20	7/24/2014 02:37 AM
Sodium	**290**		**4.0**	**mg/L**	20	7/24/2014 02:37 AM
SODIUM ADSORPTION RATIO			**USDA H60 METHOD**		Prep: USDA Method 20B / 7/23/14	Analyst: **RH**
Sodium Adsorption Ratio	**4.8**		**0.010**	**none**	1	7/23/2014
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep: SW3541 / 7/21/14	Analyst: **RM**
Acenaphthene	ND		8.1	µg/Kg-dry	1	7/22/2014 01:41 PM
Acenaphthylene	ND		8.1	µg/Kg-dry	1	7/22/2014 01:41 PM
Anthracene	**13**		**8.1**	**µg/Kg-dry**	1	7/22/2014 01:41 PM
Benzo(a)anthracene	**21**		**8.1**	**µg/Kg-dry**	1	7/22/2014 01:41 PM
Benzo(a)pyrene	**38**		**8.1**	**µg/Kg-dry**	1	7/22/2014 01:41 PM
Benzo(b)fluoranthene	**25**		**8.1**	**µg/Kg-dry**	1	7/22/2014 01:41 PM
Benzo(g,h,i)perylene	**29**		**8.1**	**µg/Kg-dry**	1	7/22/2014 01:41 PM
Benzo(k)fluoranthene	**29**		**8.1**	**µg/Kg-dry**	1	7/22/2014 01:41 PM
Chrysene	ND		8.1	µg/Kg-dry	1	7/22/2014 01:41 PM

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

ALS Group USA, Corp

Date: *24-Jul-14*

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14 **Work Order:** 14071010
Sample ID: North Wall **Lab ID:** 14071010-05
Collection Date: 7/18/2014 11:40 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		8.1	µg/Kg-dry	1	7/22/2014 01:41 PM
Fluoranthene	**21**		**8.1**	**µg/Kg-dry**	1	7/22/2014 01:41 PM
Fluorene	ND		8.1	µg/Kg-dry	1	7/22/2014 01:41 PM
Indeno(1,2,3-cd)pyrene	**35**		**8.1**	**µg/Kg-dry**	1	7/22/2014 01:41 PM
Naphthalene	ND		8.1	µg/Kg-dry	1	7/22/2014 01:41 PM
Pyrene	ND		8.1	µg/Kg-dry	1	7/22/2014 01:41 PM
Surr: 2-Fluorobiphenyl	*69.3*		*12-100*	*%REC*	1	7/22/2014 01:41 PM
Surr: 4-Terphenyl-d14	*93.5*		*25-137*	*%REC*	1	7/22/2014 01:41 PM
Surr: Nitrobenzene-d5	*81.2*		*37-107*	*%REC*	1	7/22/2014 01:41 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep: SW5035 / 7/21/14	Analyst: **AK**
Benzene	ND		37	µg/Kg-dry	1	7/21/2014 04:56 PM
Ethylbenzene	ND		37	µg/Kg-dry	1	7/21/2014 04:56 PM
m,p-Xylene	ND		73	µg/Kg-dry	1	7/21/2014 04:56 PM
o-Xylene	ND		37	µg/Kg-dry	1	7/21/2014 04:56 PM
Toluene	ND		37	µg/Kg-dry	1	7/21/2014 04:56 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	7/21/2014 04:56 PM
Surr: 1,2-Dichloroethane-d4	*96.9*		*70-130*	*%REC*	1	7/21/2014 04:56 PM
Surr: 4-Bromofluorobenzene	*98.9*		*70-130*	*%REC*	1	7/21/2014 04:56 PM
Surr: Dibromofluoromethane	*97.3*		*70-130*	*%REC*	1	7/21/2014 04:56 PM
Surr: Toluene-d8	*97.4*		*70-130*	*%REC*	1	7/21/2014 04:56 PM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHOD**		Prep: USDA Method 20B / 7/23/14	Analyst: **MELB**
Electrical Conductivity @ Saturation	**2.9**		**0.050**	**mmhos/cm @25**	10	7/23/2014 03:00 PM
CHROMIUM, TRIVALENT			**CALCULATION**			Analyst: **MB**
Chromium, Trivalent	**20**		**0.61**	**mg/Kg-dry**	1	7/22/2014 05:50 PM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep: SW3060A / 7/20/14	Analyst: **JI**
Chromium, Hexavalent	ND		0.60	mg/Kg-dry	1	7/20/2014 06:30 PM
MOISTURE			**A2540 G**			Analyst: **TM**
Moisture	**18**		**0.050**	**% of sample**	1	7/21/2014 03:04 PM
PH			**SW9045D**		Prep: EXTRACT / 7/22/14	Analyst: **TM**
pH	**8.3**			**s.u.**	1	7/22/2014 04:50 PM

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

ALS Group USA, Corp

Date: 24-Jul-14

Client: HRL Compliance Solutions, Inc

QC BATCH REPORT

Work Order: 14071010

Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14

Batch ID: **60767** Instrument ID **GC8** Method: **SW8015M**

MBLK Sample ID: **DBLKS1-60767-60767** Units: **mg/Kg** Analysis Date: **7/22/2014 03:48 AM**

Client ID: Run ID: **GC8_140721A** SeqNo: **2857060** Prep Date: **7/21/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	4.2								
Surr: 4-Terphenyl-d14	*1.513*	0	*1.667*	0	*90.8*	*39-133*	0			

LCS Sample ID: **DLCSS1-60767-60767** Units: **mg/Kg** Analysis Date: **7/22/2014 04:14 AM**

Client ID: Run ID: **GC8_140721A** SeqNo: **2857061** Prep Date: **7/21/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	140	4.2	166.7	0	84	61-109	0			
Surr: 4-Terphenyl-d14	*1.401*	0	*1.667*	0	*84*	*39-133*	0			

MS Sample ID: **14071010-05B MS** Units: **mg/Kg** Analysis Date: **7/22/2014 04:40 AM**

Client ID: **North Wall** Run ID: **GC8_140721A** SeqNo: **2857062** Prep Date: **7/21/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	264.7	8.1	324.5	0	81.6	48-110	0			
Surr: 4-Terphenyl-d14	*2.897*	0	*3.245*	0	*89.3*	*39-133*	0			

MSD Sample ID: **14071010-05B MSD** Units: **mg/Kg** Analysis Date: **7/22/2014 05:05 AM**

Client ID: **North Wall** Run ID: **GC8_140721A** SeqNo: **2857063** Prep Date: **7/21/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	260.7	8.0	320.2	0	81.4	48-110	264.7	1.52	30	
Surr: 4-Terphenyl-d14	*2.486*	0	*3.202*	0	*77.6*	*39-133*	2.897	*15.3*	*30*	

The following samples were analyzed in this batch: 14071010-01B, 14071010-02B, 14071010-03B, 14071010-04B, 14071010-05B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14071010
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14

QC BATCH REPORT

Batch ID: **60798** Instrument ID **GC9** Method: **SW8015**

MS Sample ID: **14071010-02A MS** Units: **µg/Kg** Analysis Date: **7/21/2014 11:57 PM**
Client ID: **South Wall** Run ID: **GC9_140721A** SeqNo: **2857032** Prep Date: **7/21/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	571700	2,500	500000	0	114	70-130	0			
Surr: Toluene-d8	*4650*	0	*5000*	0	*93*	*50-150*	0			

MSD Sample ID: **14071010-02A MSD** Units: **µg/Kg** Analysis Date: **7/22/2014 12:22 PM**
Client ID: **South Wall** Run ID: **GC9_140721A** SeqNo: **2857039** Prep Date: **7/21/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	541900	2,500	500000	0	108	70-130	571700	5.34	30	
Surr: Toluene-d8	*4600*	0	*5000*	0	*92*	*50-150*	4650	*1.06*	*30*	

The following samples were analyzed in this batch: 14071010-01A 14071010-02A 14071010-03A 14071010-04A 14071010-05A

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

Client: HRL Compliance Solutions, Inc
Work Order: 14071010
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14

QC BATCH REPORT

Batch ID: **60805** Instrument ID **HG1** Method: **SW7471**

MBLK Sample ID: **MBLK-60805-60805** Units: **mg/Kg** Analysis Date: **7/22/2014 11:34 AM**
Client ID: Run ID: **HG1_140722A** SeqNo: **2858171** Prep Date: **7/21/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.003417	0.020								J

LCS Sample ID: **LCS-60805-60805** Units: **mg/Kg** Analysis Date: **7/22/2014 11:36 AM**
Client ID: Run ID: **HG1_140722A** SeqNo: **2858173** Prep Date: **7/21/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1828	0.020	0.1665	0	110	80-120	0			

MS Sample ID: **14071016-02BMS** Units: **mg/Kg** Analysis Date: **7/22/2014 12:04 PM**
Client ID: Run ID: **HG1_140722A** SeqNo: **2858187** Prep Date: **7/21/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1326	0.013	0.1111	0.005234	115	75-125	0			

MSD Sample ID: **14071016-02BMSD** Units: **mg/Kg** Analysis Date: **7/22/2014 12:06 PM**
Client ID: Run ID: **HG1_140722A** SeqNo: **2858188** Prep Date: **7/21/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1326	0.013	0.112	0.005234	114	75-125	0.1326	0.0185	35	

The following samples were analyzed in this batch:

14071010-01B	14071010-02B	14071010-03B
14071010-04B	14071010-05B	

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

Client: HRL Compliance Solutions, Inc
Work Order: 14071010
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14

QC BATCH REPORT

Batch ID: **60789** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK Sample ID: **MBLK-60789-60789** Units: **mg/Kg** Analysis Date: **7/21/2014 07:28 PM**
Client ID: Run ID: **ICPMS1_140721A** SeqNo: **2856836** Prep Date: **7/21/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	ND	0.10								
Chromium	ND	0.25								
Copper	ND	0.25								
Lead	0.001796	0.25								J
Nickel	ND	0.25								
Selenium	ND	0.25								
Silver	ND	0.25								
Zinc	0.05375	0.50								J

LCS Sample ID: **LCS-60789-60789** Units: **mg/Kg** Analysis Date: **7/21/2014 07:34 PM**
Client ID: Run ID: **ICPMS1_140721A** SeqNo: **2856837** Prep Date: **7/21/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.078	0.25	5	0	81.6	80-120	0			
Barium	4.238	0.25	5	0	84.8	80-120	0			
Cadmium	4.188	0.10	5	0	83.8	80-120	0			
Chromium	4.296	0.25	5	0	85.9	80-120	0			
Copper	4.079	0.25	5	0	81.6	80-120	0			
Lead	4.226	0.25	5	0	84.5	80-120	0			
Nickel	4.18	0.25	5	0	83.6	80-120	0			
Selenium	4.162	0.25	5	0	83.2	80-120	0			
Silver	4.269	0.25	5	0	85.4	80-120	0			
Zinc	4.102	0.50	5	0	82	80-120	0			

MS Sample ID: **14071016-02BMS** Units: **mg/Kg** Analysis Date: **7/21/2014 08:44 PM**
Client ID: Run ID: **ICPMS1_140721A** SeqNo: **2856848** Prep Date: **7/21/2014** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.186	1.8	7.032	1.993	88.1	75-125	0			
Barium	14.08	1.8	7.032	6.831	103	75-125	0			
Cadmium	6.477	0.70	7.032	0.04231	91.5	75-125	0			
Chromium	10.4	1.8	7.032	3.559	97.3	75-125	0			
Copper	9.712	1.8	7.032	4.097	79.8	75-125	0			
Lead	8.579	1.8	7.032	2.228	90.3	75-125	0			
Nickel	9.989	1.8	7.032	3.776	88.4	75-125	0			
Selenium	6.435	1.8	7.032	0.2617	87.8	75-125	0			
Silver	6.03	1.8	7.032	0.007445	85.6	75-125	0			
Zinc	18.31	3.5	7.032	13.71	65.4	75-125	0			S

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

Client: HRL Compliance Solutions, Inc
Work Order: 14071010
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14

QC BATCH REPORT

Batch ID: **60789** Instrument ID **ICPMS1** Method: **SW6020A**

MSD Sample ID: **14071016-02BMSD** Units: **mg/Kg** Analysis Date: **7/21/2014 08:50 PM**
Client ID: Run ID: **ICPMS1_140721A** SeqNo: **2856849** Prep Date: **7/21/2014** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.474	1.8	7.032	1.993	92.2	75-125	8.186	3.46	25	
Barium	14.53	1.8	7.032	6.831	109	75-125	14.08	3.17	25	
Cadmium	6.487	0.70	7.032	0.04231	91.6	75-125	6.477	0.163	25	
Chromium	10.2	1.8	7.032	3.559	94.5	75-125	10.4	1.91	25	
Copper	9.55	1.8	7.032	4.097	77.5	75-125	9.712	1.68	25	
Lead	8.611	1.8	7.032	2.228	90.8	75-125	8.579	0.368	25	
Nickel	9.796	1.8	7.032	3.776	85.6	75-125	9.989	1.95	25	
Selenium	6.695	1.8	7.032	0.2617	91.5	75-125	6.435	3.96	25	
Silver	6.079	1.8	7.032	0.007445	86.3	75-125	6.03	0.813	25	
Zinc	18.13	3.5	7.032	13.71	62.7	75-125	18.31	1.02	25	S

The following samples were analyzed in this batch: 14071010-01B 14071010-02B 14071010-03B 14071010-04B 14071010-05B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14071010
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14

QC BATCH REPORT

Batch ID: **60809** Instrument ID **ICPMS2** Method: **SW6020A**

DUP Sample ID: **14071010-04CDUP** Units: **mg/L** Analysis Date: **7/24/2014 02:30 AM**
Client ID: **East Wall** Run ID: **ICPMS2_140723A** SeqNo: **2860825** Prep Date: **7/23/2014** DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	20.74	10	0	0	0	0-0	17.51	16.9		
Magnesium	34.38	4.0	0	0	0	0-0	25.74	28.7		
Sodium	758.4	4.0	0	0	0	0-0	640.6	16.8		

DUP Sample ID: **14071010-04CDUP** Units: **none** Analysis Date: **7/23/2014**
Client ID: **East Wall** Run ID: **SAR_140723A** SeqNo: **2860944** Prep Date: **7/23/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	23.73	0.010	0	0	0		0			

The following samples were analyzed in this batch:

14071010-01C
14071010-02C
14071010-03C
14071010-04C
14071010-05C

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

Client: HRL Compliance Solutions, Inc
Work Order: 14071010
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14

QC BATCH REPORT

Batch ID: **60766** Instrument ID **SVMS8** Method: **SW8270**

MBLK Sample ID: **SBLKS1-60766-60766** Units: **µg/Kg** Analysis Date: **7/22/2014 11:52 AM**
Client ID: Run ID: **SVMS8_140722A** SeqNo: **2858387** Prep Date: **7/21/2014** 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	*1249*	0	*1667*	0	*74.9*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1863*	0	*1667*	0	*112*	*25-137*	0			
Surr: Nitrobenzene-d5	*1452*	0	*1667*	0	*87.1*	*37-107*	0			

LCS Sample ID: **SLCSS1-60766-60766** Units: **µg/Kg** Analysis Date: **7/22/2014 12:12 PM**
Client ID: Run ID: **SVMS8_140722A** SeqNo: **2858388** Prep Date: **7/21/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	491	6.7	666.7	0	73.6	45-110	0			
Acenaphthylene	548.3	6.7	666.7	0	82.2	45-105	0			
Anthracene	563.3	6.7	666.7	0	84.5	55-105	0			
Benzo(a)anthracene	608	6.7	666.7	0	91.2	50-110	0			
Benzo(a)pyrene	657.3	6.7	666.7	0	98.6	50-110	0			
Benzo(b)fluoranthene	666	6.7	666.7	0	99.9	45-115	0			
Benzo(g,h,i)perylene	537	6.7	666.7	0	80.5	40-125	0			
Benzo(k)fluoranthene	620.3	6.7	666.7	0	93	45-115	0			
Chrysene	592.7	6.7	666.7	0	88.9	55-110	0			
Dibenzo(a,h)anthracene	596.7	6.7	666.7	0	89.5	40-125	0			
Fluoranthene	605.3	6.7	666.7	0	90.8	55-115	0			
Fluorene	522	6.7	666.7	0	78.3	50-110	0			
Indeno(1,2,3-cd)pyrene	645	6.7	666.7	0	96.7	40-120	0			
Naphthalene	477	6.7	666.7	0	71.5	40-105	0			
Pyrene	680.3	6.7	666.7	0	102	45-125	0			
Surr: 2-Fluorobiphenyl	*1226*	0	*1667*	0	*73.6*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1811*	0	*1667*	0	*109*	*25-137*	0			
Surr: Nitrobenzene-d5	*1497*	0	*1667*	0	*89.8*	*37-107*	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 14071010
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14

QC BATCH REPORT

Batch ID: **60766** Instrument ID **SVMS8** Method: **SW8270**

MS Sample ID: **14071010-05B MS** Units: **µg/Kg** Analysis Date: **7/22/2014 01:01 PM**
Client ID: **North Wall** Run ID: **SVMS8_140722A** SeqNo: **2858389** Prep Date: **7/21/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	929.1	13	1279	0	72.6	45-110	0			
Acenaphthylene	1020	13	1279	0	79.7	45-105	0			
Anthracene	1067	13	1279	10.91	82.6	55-105	0			
Benzo(a)anthracene	1149	13	1279	17.19	88.5	50-110	0			
Benzo(a)pyrene	1246	13	1279	31.4	94.9	50-110	0			
Benzo(b)fluoranthene	1270	13	1279	20.49	97.7	45-115	0			
Benzo(g,h,i)perylene	1048	13	1279	23.8	80.1	40-125	0			
Benzo(k)fluoranthene	1173	13	1279	24.13	89.8	45-115	0			
Chrysene	1106	13	1279	0	86.4	55-110	0			
Dibenzo(a,h)anthracene	1214	13	1279	0	94.9	40-125	0			
Fluoranthene	1122	13	1279	17.52	86.3	55-115	0			
Fluorene	1010	13	1279	0	78.9	50-110	0			
Indeno(1,2,3-cd)pyrene	1237	13	1279	28.42	94.5	40-120	0			
Naphthalene	870.9	13	1279	0	68.1	40-105	0			
Pyrene	1264	13	1279	4.627	98.5	45-125	0			
Surr: 2-Fluorobiphenyl	*2254*	0	*3197*	0	*70.5*	*12-100*	0			
Surr: 4-Terphenyl-d14	*3350*	0	*3197*	0	*105*	*25-137*	0			
Surr: Nitrobenzene-d5	*2778*	0	*3197*	0	*86.9*	*37-107*	0			

MSD Sample ID: **14071010-05B MSD** Units: **µg/Kg** Analysis Date: **7/22/2014 01:21 PM**
Client ID: **North Wall** Run ID: **SVMS8_140722A** SeqNo: **2858390** Prep Date: **7/21/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	991.9	13	1314	0	75.5	45-110	929.1	6.54	30	
Acenaphthylene	1102	13	1314	0	83.9	45-105	1020	7.77	30	
Anthracene	1110	13	1314	10.91	83.6	55-105	1067	3.89	30	
Benzo(a)anthracene	1173	13	1314	17.19	87.9	50-110	1149	2.03	30	
Benzo(a)pyrene	1314	13	1314	31.4	97.6	50-110	1246	5.33	30	
Benzo(b)fluoranthene	1319	13	1314	20.49	98.8	45-115	1270	3.8	30	
Benzo(g,h,i)perylene	1071	13	1314	23.8	79.7	40-125	1048	2.21	30	
Benzo(k)fluoranthene	1219	13	1314	24.13	90.9	45-115	1173	3.83	30	
Chrysene	1149	13	1314	0	87.4	55-110	1106	3.85	30	
Dibenzo(a,h)anthracene	1175	13	1314	0	89.4	40-125	1214	3.33	30	
Fluoranthene	1173	13	1314	17.52	87.9	55-115	1122	4.45	30	
Fluorene	1046	13	1314	0	79.6	50-110	1010	3.52	30	
Indeno(1,2,3-cd)pyrene	1277	13	1314	28.42	95	40-120	1237	3.16	30	
Naphthalene	975.5	13	1314	0	74.2	40-105	870.9	11.3	30	
Pyrene	1314	13	1314	4.627	99.7	45-125	1264	3.9	30	
Surr: 2-Fluorobiphenyl	*2534*	0	*3285*	0	*77.1*	*12-100*	2254	*11.7*	*40*	
Surr: 4-Terphenyl-d14	*3564*	0	*3285*	0	*108*	*25-137*	3350	*6.18*	*40*	
Surr: Nitrobenzene-d5	*3124*	0	*3285*	0	*95.1*	*37-107*	2778	*11.7*	*40*	

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

Client: HRL Compliance Solutions, Inc
Work Order: 14071010
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14

QC BATCH REPORT

Batch ID: **60766** Instrument ID **SVMS8** Method: **SW8270**

The following samples were analyzed in this batch:

14071010-01B	14071010-02B	14071010-03B
14071010-04B	14071010-05B	

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

Client: HRL Compliance Solutions, Inc
Work Order: 14071010
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14

QC BATCH REPORT

Batch ID: **60773** Instrument ID **VMS8** Method: **SW8260B**

MBLK Sample ID: **MBLK-60773-60773** Units: **µg/Kg** Analysis Date: **7/21/2014 01:30 PM**
Client ID: Run ID: **VMS8_140721A** SeqNo: **2857096** Prep Date: **7/21/2014** 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	*970.5*	0	*1000*	0	*97*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*978*	0	*1000*	0	*97.8*	*70-130*	0			
Surr: Dibromofluoromethane	*999*	0	*1000*	0	*99.9*	*70-130*	0			
Surr: Toluene-d8	*962.5*	0	*1000*	0	*96.2*	*70-130*	0			

LCS Sample ID: **LCS-60773-60773** Units: **µg/Kg** Analysis Date: **7/21/2014 11:03 AM**
Client ID: Run ID: **VMS8_140721A** SeqNo: **2857095** Prep Date: **7/21/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	980.5	30	1000	0	98	75-125	0			
Ethylbenzene	1026	30	1000	0	103	75-125	0			
m,p-Xylene	2008	60	2000	0	100	80-125	0			
o-Xylene	1007	30	1000	0	101	75-125	0			
Toluene	992.5	30	1000	0	99.2	70-125	0			
Xylenes, Total	3015	90	3000	0	100	75-125	0			
Surr: 1,2-Dichloroethane-d4	*970*	0	*1000*	0	*97*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*990.5*	0	*1000*	0	*99*	*70-130*	0			
Surr: Dibromofluoromethane	*1004*	0	*1000*	0	*100*	*70-130*	0			
Surr: Toluene-d8	*986.5*	0	*1000*	0	*98.6*	*70-130*	0			

MS Sample ID: **14071016-02A MS** Units: **µg/Kg** Analysis Date: **7/21/2014 08:06 PM**
Client ID: Run ID: **VMS8_140721A** SeqNo: **2857101** Prep Date: **7/21/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	976.2	31	1035	0	94.3	75-125	0			
Ethylbenzene	1055	31	1035	0	102	75-125	0			
m,p-Xylene	2039	62	2070	0	98.5	80-125	0			
o-Xylene	1046	31	1035	0	101	75-125	0			
Toluene	1002	31	1035	0	96.8	70-125	0			
Xylenes, Total	3085	93	3106	0	99.4	75-125	0			
Surr: 1,2-Dichloroethane-d4	*1021*	0	*1035*	0	*98.6*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1072*	0	*1035*	0	*104*	*70-130*	0			
Surr: Dibromofluoromethane	*1026*	0	*1035*	0	*99.2*	*70-130*	0			
Surr: Toluene-d8	*1010*	0	*1035*	0	*97.6*	*70-130*	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 14071010
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14

QC BATCH REPORT

Batch ID: **60773** Instrument ID **VMS8** Method: **SW8260B**

MSD Sample ID: **14071016-02A MSD** Units: **µg/Kg** Analysis Date: **7/21/2014 08:30 PM**
Client ID: Run ID: **VMS8_140721A** SeqNo: **2857102** Prep Date: **7/21/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	980.8	31	1035	0	94.8	75-125	976.2	0.476	30	
Ethylbenzene	1011	31	1035	0	97.7	75-125	1055	4.26	30	
m,p-Xylene	1997	62	2070	0	96.5	80-125	2039	2.08	30	
o-Xylene	1012	31	1035	0	97.8	75-125	1046	3.27	30	
Toluene	974.6	31	1035	0	94.2	70-125	1002	2.78	30	
Xylenes, Total	3010	93	3106	0	96.9	75-125	3085	2.48	30	
Surr: 1,2-Dichloroethane-d4	*1016*	0	*1035*	0	*98.2*	*70-130*	1021	*0.457*	*30*	
Surr: 4-Bromofluorobenzene	*1041*	0	*1035*	0	*101*	*70-130*	1072	*2.99*	*30*	
Surr: Dibromofluoromethane	*1058*	0	*1035*	0	*102*	*70-130*	1026	*3.03*	*30*	
Surr: Toluene-d8	*984.5*	0	*1035*	0	*95.1*	*70-130*	1010	*2.54*	*30*	

The following samples were analyzed in this batch: 14071010-01A 14071010-02A 14071010-03A 14071010-04A 14071010-05A

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

Client: HRL Compliance Solutions, Inc
Work Order: 14071010
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14

QC BATCH REPORT

Batch ID: **60760** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK Sample ID: **MBLK-60760-60760** Units: **mg/Kg** Analysis Date: **7/20/2014 06:30 PM**
Client ID: Run ID: **WETCHEM_140720D** SeqNo: **2854353** Prep Date: **7/20/2014** DF: **1**

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

LCS Sample ID: **LCS-60760-60760** Units: **mg/Kg** Analysis Date: **7/20/2014 06:30 PM**
Client ID: Run ID: **WETCHEM_140720D** SeqNo: **2854354** Prep Date: **7/20/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.624	0.50	2	0	81.2	80-120	0			

MS Sample ID: **14071010-01BMS** Units: **mg/Kg** Analysis Date: **7/20/2014 06:30 PM**
Client ID: **Bottom 18ft** Run ID: **WETCHEM_140720D** SeqNo: **2854356** Prep Date: **7/20/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.059	0.49	1.969	0.2817	39.5	75-125	0			S

MS Sample ID: **14071010-01BMSI** Units: **mg/Kg** Analysis Date: **7/20/2014 06:30 PM**
Client ID: **Bottom 18ft** Run ID: **WETCHEM_140720D** SeqNo: **2854358** Prep Date: **7/20/2014** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1276	50	1609	0.2817	79.3	75-125	0			

MSD Sample ID: **14071010-01BMSD** Units: **mg/Kg** Analysis Date: **7/20/2014 06:30 PM**
Client ID: **Bottom 18ft** Run ID: **WETCHEM_140720D** SeqNo: **2854357** Prep Date: **7/20/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.02	0.50	1.984	0.2817	37.2	75-125	1.059	3.77	20	S

The following samples were analyzed in this batch:

14071010-01B	14071010-02B	14071010-03B
14071010-04B	14071010-05B	

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

Client: HRL Compliance Solutions, Inc
Work Order: 14071010
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14

QC BATCH REPORT

Batch ID: **60853** Instrument ID **WETCHEM** Method: **SW9045D**

LCS Sample ID: **LCS-60853-60853** Units: **s.u.** Analysis Date: **7/22/2014 04:50 PM**
Client ID: Run ID: **WETCHEM_140722H** SeqNo: **2858475** Prep Date: **7/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	3.98	0	4	0	99.5	90-110	0			

DUP Sample ID: **1407889-01A DUP** Units: **s.u.** Analysis Date: **7/22/2014 04:50 PM**
Client ID: Run ID: **WETCHEM_140722H** SeqNo: **2858491** Prep Date: **7/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	8.84	0	0	0	0	0-0	8.82	0.227	20	

DUP Sample ID: **1407941-01A DUP** Units: **s.u.** Analysis Date: **7/22/2014 04:50 PM**
Client ID: Run ID: **WETCHEM_140722H** SeqNo: **2858495** Prep Date: **7/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.1	0	0	0	0	0-0	7.02	1.13	20	

The following samples were analyzed in this batch:

14071010-01B	14071010-02B	14071010-03B
14071010-04B	14071010-05B	

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

Client: HRL Compliance Solutions, Inc
Work Order: 14071010
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14

QC BATCH REPORT

Batch ID: **R144862** Instrument ID **MOIST** Method: **A2540 G**

MBLK	Sample ID: **WBLKS-R144862**				Units: **% of sample**		Analysis Date: **7/21/2014 01:50 PM**			
Client ID:	Run ID: **MOIST_140721A**				SeqNo: **2857190**		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-R144862**				Units: **% of sample**		Analysis Date: **7/21/2014 01:50 PM**			
Client ID:	Run ID: **MOIST_140721A**				SeqNo: **2857189**		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: **14071005-01A DUP**				Units: **% of sample**		Analysis Date: **7/21/2014 01:50 PM**			
Client ID:	Run ID: **MOIST_140721A**				SeqNo: **2857167**		Prep Date:		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	11.68	0.050	0	0	0	0-0	11.79	0.937	20	

DUP	Sample ID: **1407987-11B DUP**				Units: **% of sample**		Analysis Date: **7/21/2014 01:50 PM**			
Client ID:	Run ID: **MOIST_140721A**				SeqNo: **2857187**		Prep Date:		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	14.74	0.050	0	0	0	0-0	14.33	2.82	20	

The following samples were analyzed in this batch:

14071010-01B 14071010-02B 14071010-03B
14071010-04B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14071010
Project: WPX RWF 11-4 Prod. Water Spill 7.17-7.18.14

QC BATCH REPORT

Batch ID: **R144863** Instrument ID **MOIST** Method: **A2540 G**

MBLK Sample ID: **WBLKS-R144863** Units: **% of sample** Analysis Date: **7/21/2014 03:04 PM**
Client ID: Run ID: **MOIST_140721B** SeqNo: **2857233** 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-R144863** Units: **% of sample** Analysis Date: **7/21/2014 03:04 PM**
Client ID: Run ID: **MOIST_140721B** SeqNo: **2857231** 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: **14071010-05B DUP** Units: **% of sample** Analysis Date: **7/21/2014 03:04 PM**
Client ID: **North Wall** Run ID: **MOIST_140721B** SeqNo: **2857199** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	19.85	0.050	0	0	0	0-0	18.09	9.28	20	

DUP Sample ID: **14071011-03A DUP** Units: **% of sample** Analysis Date: **7/21/2014 03:04 PM**
Client ID: Run ID: **MOIST_140721B** SeqNo: **2857204** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	2.16	0.050	0	0	0	0-0	2.14	0.93	20	

The following samples were analyzed in this batch: 14071010-05B

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

ALS Laboratory Group

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

Chain-of-Custody

Form 202r8

WORKORDER # 1407101O

PAGE 1 of 1

DISPOSAL (By Lab) or Return to Client

PROJECT NAME	WPX RWF 11-4	SAMPLER	Reed Wold
PROJECT No.	Produced Water spill	SITE ID	RWF 11-4
		EDD FORMAT	
		PURCHASE ORDER	
COMPANY NAME	HRL Compliance	BILL TO COMPANY	WPX
SEND REPORT TO	Mark Mumby	INVOICE ATTN TO	Karolina Blaney
ADDRESS	2385 F 1/2 Rd	ADDRESS	1058 Co Rd 215
CITY / STATE / ZIP	Grand Junction, CO 81506	CITY / STATE / ZIP	Parachure CO 81635
PHONE	970-243-3271	PHONE	970-683-2295
FAX	970-243-3280	FAX	
E-MAIL	mmumby@hrlcomp.com rwold@hrlcomp.com	E-MAIL	Karolina.blaney@wpxenergy.com

DATE 7/18/14

TURNAROUND 24HR

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	BTEX/GRO	Dissolved Metals	SAR/Eclph
1	Bottom 18ft	SO	7/17/14	2:45	3	8		X	X	X
2	South Wall	"	7/18/14	7:30	"	"		X	X	X
3	West Wall	"	"	7:40	"	"		X	X	X
4	East Wall	"	"	7:50	"	"		X	X	X
5	North Wall	"	"	11:90	"	"		X	X	X

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

For metals or anions, please detail analytes below.

Comments: 3.8°C

QC PACKAGE (check below)	
X	LEVEL II (Standard QC)
	LEVEL III (Std QC + forms)
	LEVEL IV (Std QC + forms + raw data)

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY		Reed Wold	7/18/14	3:00
RECEIVED BY			7-18-14	3:00
RELINQUISHED BY		W	7-18-14	3:45
RECEIVED BY		KEITH WERENKA	7/18/14	1000
RELINQUISHED BY				
RECEIVED BY				

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **HRL** Date/Time Received: **19-Jul-14 10:00**

Work Order: **14071010** Received by: **KRW**

Checklist completed by Keith Wierenga eSignature 19-Jul-14 Date Reviewed by: Ann Preston eSignature 22-Jul-14 Date

Matrices: Soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.8 C		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	7/19/2014 10:39:00 AM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

From: (970) 285-5783 Origin ID: RILA
Nick Martinez
ALS Environmental
127 E. 1st Street

PARACHUTE, CO 81635

FedEx Express

Ship Date: 18JUL14
ActWgt: 54.0 LB
CAD: 2284840/INET3550

Dims: 24 X 15 X 15 IN

Delivery Address Bar Code

Ref # 971814-3
Invoice #
PO # Parachute
Dept #

SHIP TO: (616) 399-6070 BILL SENDER

sample receiving
ALS Laboratory Group
3352 128TH AVE

HOLLAND, MI 49424

1 of 2

TRK# 7706 4171 5313

0201

SATURDAY 12:00P
PRIORITY OVERNIGHT

MASTER

X0 GRRA

49424
MI-US
GRR

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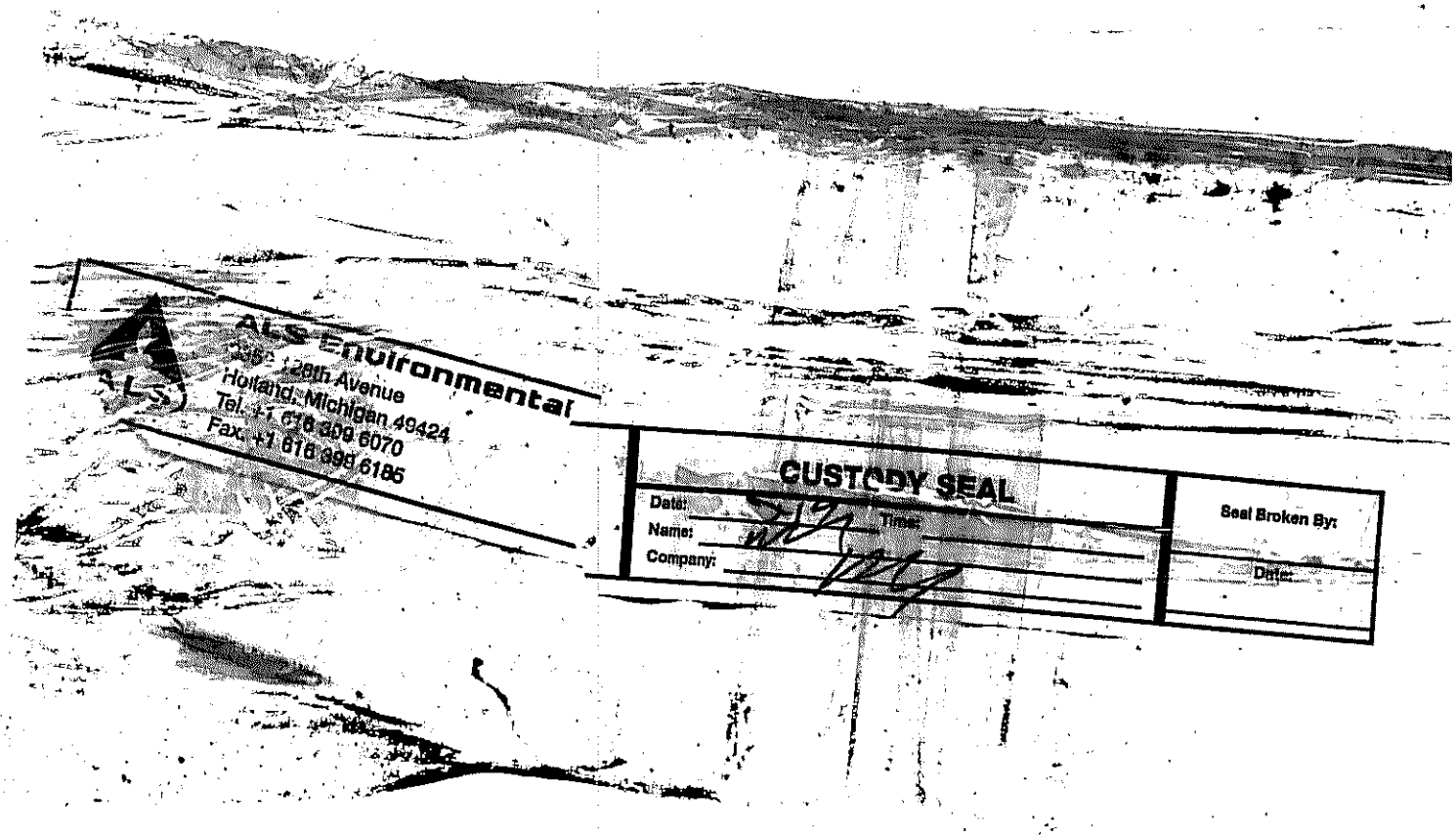

28-Jul-2014

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

Re: **WPX RWF 11-4 Leaking Prod Water Tank 7.23.14** Work Order: **14071202**

Dear Mark,

ALS Environmental received 1 sample on 24-Jul-2014 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 9.

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

Sincerely,

Ann Preston

Electronically approved by: Ann Preston

Ann Preston
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

ALS Group USA, Corp

Date: 28-Jul-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Leaking Prod Water Tank 7.23.14
Work Order: **14071202**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
14071202-01	North Wall	Soil		7/23/2014 15:00	7/24/2014 10:00	☐

ALS Group USA, Corp

Date: 28-Jul-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Leaking Prod Water Tank 7.23.14
WorkOrder: **14071202**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
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

ALS Group USA, Corp

Date: *28-Jul-14*

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Leaking Prod Water Tank 7.23.14 **Work Order:** 14071202
Sample ID: North Wall **Lab ID:** 14071202-01
Collection Date: 7/23/2014 03:00 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW8270**		Prep: SW3541 / 7/24/14	Analyst: **RM**
Benzo(a)pyrene	ND		8.1	µg/Kg-dry	1	7/25/2014 03:12 PM
Surr: 2,4,6-Tribromophenol	*68.3*		*34-140*	*%REC*	1	7/25/2014 03:12 PM
Surr: 2-Fluorobiphenyl	*64.9*		*12-100*	*%REC*	1	7/25/2014 03:12 PM
Surr: 2-Fluorophenol	*70.2*		*33-117*	*%REC*	1	7/25/2014 03:12 PM
Surr: 4-Terphenyl-d14	*73.5*		*25-137*	*%REC*	1	7/25/2014 03:12 PM
Surr: Nitrobenzene-d5	*63.0*		*37-107*	*%REC*	1	7/25/2014 03:12 PM
Surr: Phenol-d6	*66.7*		*40-106*	*%REC*	1	7/25/2014 03:12 PM
MOISTURE			**A2540 G**			Analyst: **LR**
Moisture	**18**		**0.050**	**% of sample**	1	7/28/2014

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

Batch ID: **60932** Instrument ID **SVMS8** Method: **SW8270**

MBLK Sample ID: **SBLKS1-60932-60932** Units: **µg/Kg** Analysis Date: **7/25/2014 10:04 AM**

Client ID: Run ID: **SVMS8_140725A** SeqNo: **2863370** Prep Date: **7/24/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(a)pyrene	ND	6.7								
Surr: 2,4,6-Tribromophenol	*1030*	0	*1667*	0	*61.8*	*34-140*	0			
Surr: 2-Fluorobiphenyl	*906.3*	0	*1667*	0	*54.4*	*12-100*	0			
Surr: 2-Fluorophenol	*1053*	0	*1667*	0	*63.2*	*33-117*	0			
Surr: 4-Terphenyl-d14	*1707*	0	*1667*	0	*102*	*25-137*	0			
Surr: Nitrobenzene-d5	*994.3*	0	*1667*	0	*59.7*	*37-107*	0			
Surr: Phenol-d6	*1045*	0	*1667*	0	*62.7*	*40-106*	0			

LCS Sample ID: **SLCSS1-60932-60932** Units: **µg/Kg** Analysis Date: **7/25/2014 10:24 AM**

Client ID: Run ID: **SVMS8_140725A** SeqNo: **2863371** Prep Date: **7/24/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(a)pyrene	697.7	6.7	666.7	0	105	50-110	0			
Surr: 2,4,6-Tribromophenol	*1437*	0	*1667*	0	*86.2*	*34-140*	0			
Surr: 2-Fluorobiphenyl	*1246*	0	*1667*	0	*74.8*	*12-100*	0			
Surr: 2-Fluorophenol	*1415*	0	*1667*	0	*84.9*	*33-117*	0			
Surr: 4-Terphenyl-d14	*1859*	0	*1667*	0	*112*	*25-137*	0			
Surr: Nitrobenzene-d5	*1395*	0	*1667*	0	*83.7*	*37-107*	0			
Surr: Phenol-d6	*1381*	0	*1667*	0	*82.9*	*40-106*	0			

MS Sample ID: **14071201-01A MS** Units: **µg/Kg** Analysis Date: **7/25/2014 11:12 AM**

Client ID: Run ID: **SVMS8_140725A** SeqNo: **2863372** Prep Date: **7/24/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(a)pyrene	1311	13	1305	293.7	77.9	50-110	0			
Surr: 2,4,6-Tribromophenol	*2279*	0	*3264*	0	*69.8*	*34-140*	0			
Surr: 2-Fluorobiphenyl	*2008*	0	*3264*	0	*61.5*	*12-100*	0			
Surr: 2-Fluorophenol	*2264*	0	*3264*	0	*69.4*	*33-117*	0			
Surr: 4-Terphenyl-d14	*2717*	0	*3264*	0	*83.2*	*25-137*	0			
Surr: Nitrobenzene-d5	*2231*	0	*3264*	0	*68.4*	*37-107*	0			
Surr: Phenol-d6	*2210*	0	*3264*	0	*67.7*	*40-106*	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 14071202
Project: WPX RWF 11-4 Leaking Prod Water Tank 7.23.14

QC BATCH REPORT

Batch ID: **60932** Instrument ID **SVMS8** Method: **SW8270**

MSD Sample ID: **14071201-01A MSD** Units: **µg/Kg** Analysis Date: **7/25/2014 11:32 AM**
Client ID: Run ID: **SVMS8_140725A** SeqNo: **2863373** Prep Date: **7/24/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(a)pyrene	1324	13	1299	293.7	79.3	50-110	1311	1.02	30	
Surr: 2,4,6-Tribromophenol	*2288*	0	*3247*	0	*70.5*	*34-140*	2279	*0.405*	*40*	
Surr: 2-Fluorobiphenyl	*1935*	0	*3247*	0	*59.6*	*12-100*	2008	*3.68*	*40*	
Surr: 2-Fluorophenol	*2091*	0	*3247*	0	*64.4*	*33-117*	2264	*7.92*	*40*	
Surr: 4-Terphenyl-d14	*2703*	0	*3247*	0	*83.2*	*25-137*	2717	*0.508*	*40*	
Surr: Nitrobenzene-d5	*2066*	0	*3247*	0	*63.6*	*37-107*	2231	*7.66*	*40*	
Surr: Phenol-d6	*2050*	0	*3247*	0	*63.1*	*40-106*	2210	*7.51*	*40*	

The following samples were analyzed in this batch: 14071202-01A

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

Client: HRL Compliance Solutions, Inc
Work Order: 14071202
Project: WPX RWF 11-4 Leaking Prod Water Tank 7.23.14

QC BATCH REPORT

Batch ID: **R145268** Instrument ID **MOIST** Method: **A2540 G**

MBLK Sample ID: **WBLKS-R145268** Units: **% of sample** Analysis Date: **7/28/2014**
Client ID: Run ID: **MOIST_140728A** SeqNo: **2866064** 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-R145268** Units: **% of sample** Analysis Date: **7/28/2014**
Client ID: Run ID: **MOIST_140728A** SeqNo: **2866060** 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: **14071382-01A DUP** Units: **% of sample** Analysis Date: **7/28/2014**
Client ID: Run ID: **MOIST_140728A** SeqNo: **2866058** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	15.89	0.050	0	0	0	0-0	16.4	3.16	20	

The following samples were analyzed in this batch: 14071202-01A

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

ALS Laboratory Group

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

Chain-of-Custody

Form 202r8

WORKORDER # 1407202

PAGE 1 of 1

DISPOSAL (by Lab) or Return to Client

PROJECT NAME	WPX RWF 11-4 leaking Replaced Water Tank	SAMPLER	Reed Wold
PROJECT No.		SITE ID	RWF 11-4
		EDD FORMAT	
		PURCHASE ORDER	
COMPANY NAME	HRL Compliance	BILL TO COMPANY	WPX
SEND REPORT TO	Mark Mumby	INVOICE ATTN TO	Karolina Blaney
ADDRESS	2385 F 1/2 Rd	ADDRESS	1058 Co Rd 215
CITY / STATE / ZIP	Grand Junction, CO 81506	CITY / STATE / ZIP	Parachure CO 81635
PHONE	970-243-3271	PHONE	970-683-2295
FAX	970-243-3280	FAX	
E-MAIL	mmumby@hrlcomp.com rwold@hrlcomp.com	E-MAIL	Karolina.blaney@wpxenergy.com

DATE 7/23/14

TURNAROUND 24 HR

Benzo(a)pyrene

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	
1	North Wall	SO	7/23/14	3:00	1	8		K

*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: 4.6°C

QC PACKAGE (check below)	
X	LEVEL II (Standard QC)
	LEVEL III (Std QC + forms)
	LEVEL IV (Std QC + forms + raw data)

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	Reed Wold	Reed Wold	7/23/14	3:00
RECEIVED BY			7-23-14	3:00
RELINQUISHED BY			7-23-14	3:00
RECEIVED BY		PETE WESSON	7/24/14	1000
RELINQUISHED BY				
RECEIVED BY				

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **HRL** Date/Time Received: **24-Jul-14 10:00**

Work Order: **14071202** Received by: **KRW**

Checklist completed by Keith Wierenga (eSignature) 24-Jul-14 (Date) Reviewed by: Ann Preston (eSignature) 25-Jul-14 (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):	4.6 C		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	7/24/2014 11:09:08 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:

28-Jul-2014

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

Re: **WPX RWF 11-4 Backgrounds 7.18.14** Work Order: **14071011**

Dear Mark,

ALS Environmental received 3 samples on 19-Jul-2014 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 13.

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

Sincerely,

Ann Preston

Electronically approved by: Ann Preston

Ann Preston
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

ALS Group USA, Corp

Date: 28-Jul-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Backgrounds 7.18.14
Work Order: **14071011**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
14071011-01	RWF 11-4-B-1	Soil		7/18/2014 08:00	7/19/2014 10:00	☐
14071011-02	RWF 11-4 B-2	Soil		7/18/2014 08:05	7/19/2014 10:00	☐
14071011-03	RWF 11-4 B-3	Soil		7/18/2014 08:10	7/19/2014 10:00	☐

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
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
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: *28-Jul-14*

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Backgrounds 7.18.14 **Work Order:** 14071011
Sample ID: RWF 11-4-B-1 **Lab ID:** 14071011-01
Collection Date: 7/18/2014 08:00 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS			**SW6020A**		Prep: SW3050B / 7/21/14	Analyst: **ML**
Arsenic	**5.0**		**1.9**	**mg/Kg-dry**	5	7/21/2014 10:05 PM
MOISTURE			**A2540 G**			Analyst: **TM**
Moisture	**2.1**		**0.050**	**% of sample**	1	7/21/2014 03:04 PM

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

ALS Group USA, Corp

Date: *28-Jul-14*

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Backgrounds 7.18.14 **Work Order:** 14071011
Sample ID: RWF 11-4 B-2 **Lab ID:** 14071011-02
Collection Date: 7/18/2014 08:05 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS			**SW6020A**		Prep: SW3050B / 7/21/14	Analyst: **ML**
Arsenic	**5.1**		**2.1**	**mg/Kg-dry**	5	7/21/2014 10:12 PM
MOISTURE			**A2540 G**			Analyst: **TM**
Moisture	**2.2**		**0.050**	**% of sample**	1	7/21/2014 03:04 PM

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

ALS Group USA, Corp

Date: *28-Jul-14*

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Backgrounds 7.18.14 **Work Order:** 14071011
Sample ID: RWF 11-4 B-3 **Lab ID:** 14071011-03
Collection Date: 7/18/2014 08:10 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS			**SW6020A**		Prep: SW3050B / 7/21/14	Analyst: **ML**
Arsenic	**4.6**		**1.7**	**mg/Kg-dry**	5	7/21/2014 10:18 PM
SOLUBLE CATIONS FOR SAR			**SW6020A**		Prep: USDA Method 20B / 7/23/14	Analyst: **RH**
Calcium	**76**		**10**	**mg/L**	20	7/24/2014 02:43 AM
Magnesium	**13**		**4.0**	**mg/L**	20	7/24/2014 02:43 AM
Sodium	ND		4.0	mg/L	20	7/24/2014 02:43 AM
SODIUM ADSORPTION RATIO			**USDA H60 METHOD**		Prep: USDA Method 20B / 7/23/14	Analyst: **RH**
Sodium Adsorption Ratio	**0.053**		**0.010**	**none**	1	7/23/2014
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHOD**		Prep: USDA Method 20B / 7/23/14	Analyst: **MELB**
Electrical Conductivity @ Saturation	**0.49**		**0.050**	**mmhos/cm @25**	10	7/23/2014 03:00 PM
MOISTURE			**A2540 G**			Analyst: **TM**
Moisture	**2.1**		**0.050**	**% of sample**	1	7/21/2014 03:04 PM
PH			**SW9045D**		Prep: EXTRACT / 7/22/14	Analyst: **TM**
pH	**7.5**			**s.u.**	1	7/22/2014 04:50 PM

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

ALS Group USA, Corp

Date: 28-Jul-14

Client: HRL Compliance Solutions, Inc

QC BATCH REPORT

Work Order: 14071011

Project: WPX RWF 11-4 Backgrounds 7.18.14

Batch ID: **60796** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK Sample ID: **MBLK-60796-60796** Units: **mg/Kg** Analysis Date: **7/21/2014 09:02 PM**

Client ID: Run ID: **ICPMS1_140721A** SeqNo: **2856851** Prep Date: **7/21/2014** DF: **1**

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

LCS Sample ID: **LCS-60796-60796** Units: **mg/Kg** Analysis Date: **7/21/2014 09:28 PM**

Client ID: Run ID: **ICPMS1_140721A** SeqNo: **2856855** Prep Date: **7/21/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.038	0.25	5	0	80.8	80-120	0			

MS Sample ID: **1407941-01AMS** Units: **mg/Kg** Analysis Date: **7/22/2014 04:22 PM**

Client ID: Run ID: **ICPMS1_140722A** SeqNo: **2858516** Prep Date: **7/21/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	5.792	0.36	7.163	0.1123	79.3	75-125	0			

MSD Sample ID: **1407941-01AMSD** Units: **mg/Kg** Analysis Date: **7/22/2014 04:28 PM**

Client ID: Run ID: **ICPMS1_140722A** SeqNo: **2858527** Prep Date: **7/21/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	5.743	0.35	7.032	0.1123	80.1	75-125	5.792	0.861	25	

The following samples were analyzed in this batch: 14071011-01A 14071011-02A 14071011-03A

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

Client: HRL Compliance Solutions, Inc
Work Order: 14071011
Project: WPX RWF 11-4 Backgrounds 7.18.14

QC BATCH REPORT

Batch ID: **60809** Instrument ID **ICPMS2** Method: **SW6020A**

DUP Sample ID: **14071010-04CDUP** Units: **mg/L** Analysis Date: **7/24/2014 02:30 AM**
Client ID: Run ID: **ICPMS2_140723A** SeqNo: **2860825** Prep Date: **7/23/2014** DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	20.74	10	0	0	0	0-0	17.51	16.9		
Magnesium	34.38	4.0	0	0	0	0-0	25.74	28.7		
Sodium	758.4	4.0	0	0	0	0-0	640.6	16.8		

DUP Sample ID: **14071010-04CDUP** Units: **none** Analysis Date: **7/23/2014**
Client ID: Run ID: **SAR_140723A** SeqNo: **2860944** Prep Date: **7/23/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	23.73	0.010	0	0	0		0			

The following samples were analyzed in this batch: 14071011-03B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14071011
Project: WPX RWF 11-4 Backgrounds 7.18.14

QC BATCH REPORT

Batch ID: **60853** Instrument ID **WETCHEM** Method: **SW9045D**

LCS Sample ID: **LCS-60853-60853** Units: **s.u.** Analysis Date: **7/22/2014 04:50 PM**
Client ID: Run ID: **WETCHEM_140722H** SeqNo: **2858475** Prep Date: **7/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	3.98	0	4	0	99.5	90-110	0			

DUP Sample ID: **1407889-01A DUP** Units: **s.u.** Analysis Date: **7/22/2014 04:50 PM**
Client ID: Run ID: **WETCHEM_140722H** SeqNo: **2858491** Prep Date: **7/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	8.84	0	0	0	0	0-0	8.82	0.227	20	

DUP Sample ID: **1407941-01A DUP** Units: **s.u.** Analysis Date: **7/22/2014 04:50 PM**
Client ID: Run ID: **WETCHEM_140722H** SeqNo: **2858495** Prep Date: **7/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.1	0	0	0	0	0-0	7.02	1.13	20	

The following samples were analyzed in this batch: 14071011-03A

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

Client: HRL Compliance Solutions, Inc
Work Order: 14071011
Project: WPX RWF 11-4 Backgrounds 7.18.14

QC BATCH REPORT

Batch ID: **R144863** Instrument ID **MOIST** Method: **A2540 G**

MBLK Sample ID: **WBLKS-R144863** Units: **% of sample** Analysis Date: **7/21/2014 03:04 PM**
Client ID: Run ID: **MOIST_140721B** SeqNo: **2857233** 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-R144863** Units: **% of sample** Analysis Date: **7/21/2014 03:04 PM**
Client ID: Run ID: **MOIST_140721B** SeqNo: **2857231** 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: **14071010-05B DUP** Units: **% of sample** Analysis Date: **7/21/2014 03:04 PM**
Client ID: Run ID: **MOIST_140721B** SeqNo: **2857199** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	19.85	0.050	0	0	0	0-0	18.09	9.28	20	

DUP Sample ID: **14071011-03A DUP** Units: **% of sample** Analysis Date: **7/21/2014 03:04 PM**
Client ID: **RWF 11-4 B-3** Run ID: **MOIST_140721B** SeqNo: **2857204** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	2.16	0.050	0	0	0	0-0	2.14	0.93	20	

The following samples were analyzed in this batch: 14071011-01A 14071011-02A 14071011-03A

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

ALS Laboratory Group

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

Chain-of-Custody

Form 202r8

WORKORDER # 1407101 1

PAGE 1 of 1

DISPOSAL: By Lab or Return to Client

PROJECT NAME	WPX RWF 11-4	SAMPLER	Reed Wold
PROJECT No.	Baklgrounds	SITE ID	RWF 11-4
		EDD FORMAT	
		PURCHASE ORDER	
COMPANY NAME	HRL Compliance	BILL TO COMPANY	WPX
SEND REPORT TO	Mark Mumby	INVOICE ATTN TO	Karolina Blaney
ADDRESS	2385 F 1/2 Rd	ADDRESS	1058 Co Rd 215
CITY / STATE / ZIP	Grand Junction, CO 81506	CITY / STATE / ZIP	Parachure CO 81635
PHONE	970-243-3271	PHONE	970-683-2295
FAX	970-243-3280	FAX	
E-MAIL	mmumby@hrlcomp.com rwold@hrlcomp.com	E-MAIL	Karolina.blaney@wpxenergy.com

DATE: 7/18/14

TURNAROUND: 5 Day

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	BTEX's SPRIEC14H																							
1	RWF 11-4-B-1	SO	7/18/14	8:00	1	8		X																							
2	RWF 11-4 B-2	"	"	8:05	1	8		X																							
3	RWF 11-4 B-3	"	"	8:10	2	8		X	X																						

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

For metals or anions, please detail analytes below.

Comments: 3.8°C

QC PACKAGE (check below)	
X	LEVEL II (Standard QC)
	LEVEL III (Std QC + forms)
	LEVEL IV (Std QC + forms + raw data)

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY		Reed Wold	7/18/14	3:00
RECEIVED BY			7-18-14	3:00
RELINQUISHED BY			7-18-14	3:45
RECEIVED BY		Kevin Wiegenstein	7/19/14	1000
RELINQUISHED BY				
RECEIVED BY				

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **HRL** Date/Time Received: **19-Jul-14 10:00**

Work Order: **14071011** Received by: **KRW**

Checklist completed by Keith Wierenga eSignature 19-Jul-14 Date Reviewed by: Ann Preston eSignature 22-Jul-14 Date

Matrices: Soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.8 C		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	7/19/2014 10:41:34 AM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

From: (970) 285-5783
Nick Martinez
ALS Environmental
127 E. 1st Street

PARACHUTE, CO 81635

Origin ID: RILA

FedEx Express

Ship Date: 18JUL14
ActWgt: 54.0 LB
CAD: 2264840/NET3550

Dims: 24 X 15 X 15 IN

Delivery Address Bar Code

Ref # 071814-3
Invoice #
PO #
Dept #

Parachute

SHIP TO: (616) 399-6070

BILL SENDER

sample receiving
ALS Laboratory Group
3352 128TH AVE

HOLLAND, MI 49424

1 of 2

SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 7706 4171 5313

0201

MASTER

49424
MI-US

X0 GRRA

GRR

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
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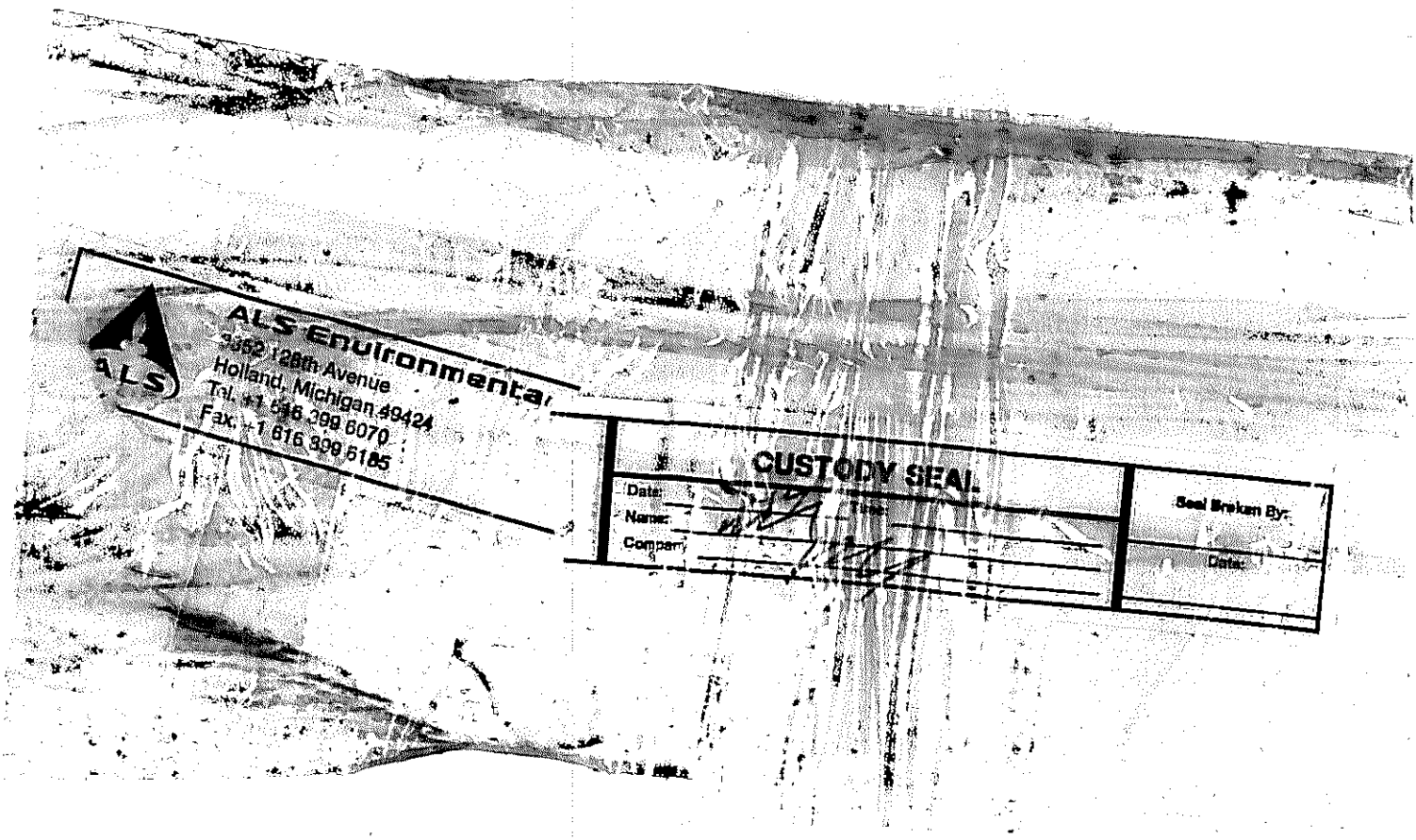

04-Sep-2014

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

Re: **WPX RWF 11-4 Batch 1 8.27.14** Work Order: **14081482**

Dear Mark,

ALS Environmental received 1 sample on 28-Aug-2014 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,

Ann Preston

Electronically approved by: Ann Preston

Ann Preston
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

ALS Group USA, Corp

Date: 04-Sep-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Batch 1 8.27.14
Work Order: **14081482**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
14081482-01	Batch 1	Soil		8/27/2014 10:15	8/28/2014 09:30	☐

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
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: *04-Sep-14*

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Batch 1 8.27.14 **Work Order:** 14081482
Sample ID: Batch 1 **Lab ID:** 14081482-01
Collection Date: 8/27/2014 10:15 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep: SW3541 / 8/29/14	Analyst: **IT**
DRO (C10-C28)	**45**		**4.9**	**mg/Kg-dry**	1	9/2/2014 09:07 PM
Surr: 4-Terphenyl-d14	*56.2*		*39-133*	*%REC*	1	9/2/2014 09:07 PM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015**		Prep: SW5035 / 8/28/14	Analyst: **IT**
GRO (C6-C10)	**33**		**3.0**	**mg/Kg-dry**	1	8/30/2014 04:45 AM
Surr: Toluene-d8	*128*		*50-150*	*%REC*	1	8/30/2014 04:45 AM
MERCURY BY CVAA			**SW7471**		Prep: SW7471 / 9/2/14	Analyst: **LR**
Mercury	**0.020**		**0.018**	**mg/Kg-dry**	1	9/2/2014 04:14 PM
SOLUBLE CATIONS FOR SAR			**SW846 6010C**		Prep: USDA Method 20B / 9/3/14	Analyst: **JEJ**
Calcium	**130**		**5.0**	**mg/L**	10	9/3/2014 12:18 PM
Magnesium	**54**		**2.0**	**mg/L**	10	9/3/2014 12:18 PM
Sodium	**1,300**		**2.0**	**mg/L**	10	9/3/2014 12:18 PM
METALS BY ICP-MS			**SW6020A**		Prep: SW3050B / 8/29/14	Analyst: **ML**
Arsenic	**6.1**		**2.3**	**mg/Kg-dry**	5	8/29/2014 07:12 PM
Barium	**250**		**2.3**	**mg/Kg-dry**	5	8/29/2014 07:12 PM
Cadmium	ND		0.90	mg/Kg-dry	5	8/29/2014 07:12 PM
Chromium	**18**		**2.3**	**mg/Kg-dry**	5	8/29/2014 07:12 PM
Copper	**12**		**2.3**	**mg/Kg-dry**	5	8/29/2014 07:12 PM
Lead	**12**		**2.3**	**mg/Kg-dry**	5	8/29/2014 07:12 PM
Nickel	**20**		**2.3**	**mg/Kg-dry**	5	8/29/2014 07:12 PM
Selenium	ND		2.3	mg/Kg-dry	5	8/29/2014 07:12 PM
Silver	ND		2.3	mg/Kg-dry	5	8/29/2014 07:12 PM
Zinc	**45**		**4.5**	**mg/Kg-dry**	5	8/29/2014 07:12 PM
SODIUM ADSORPTION RATIO			**USDA H60 METHOD**		Prep: USDA Method 20B / 9/3/14	Analyst: **JEJ**
Sodium Adsorption Ratio	**25**		**0.010**	**none**	1	9/3/2014
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3541 / 8/29/14	Analyst: **MK**
Acenaphthene	ND		7.8	µg/Kg-dry	1	9/1/2014 04:03 AM
Acenaphthylene	ND		7.8	µg/Kg-dry	1	9/1/2014 04:03 AM
Anthracene	ND		7.8	µg/Kg-dry	1	9/1/2014 04:03 AM
Benzo(a)anthracene	ND		7.8	µg/Kg-dry	1	9/1/2014 04:03 AM
Benzo(a)pyrene	ND		7.8	µg/Kg-dry	1	9/1/2014 04:03 AM
Benzo(b)fluoranthene	ND		7.8	µg/Kg-dry	1	9/1/2014 04:03 AM
Benzo(g,h,i)perylene	ND		7.8	µg/Kg-dry	1	9/1/2014 04:03 AM
Benzo(k)fluoranthene	ND		7.8	µg/Kg-dry	1	9/1/2014 04:03 AM
Chrysene	ND		7.8	µg/Kg-dry	1	9/1/2014 04:03 AM

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

ALS Group USA, Corp

Date: *04-Sep-14*

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Batch 1 8.27.14 **Work Order:** 14081482
Sample ID: Batch 1 **Lab ID:** 14081482-01
Collection Date: 8/27/2014 10:15 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		7.8	µg/Kg-dry	1	9/1/2014 04:03 AM
Fluoranthene	ND		7.8	µg/Kg-dry	1	9/1/2014 04:03 AM
Fluorene	ND		7.8	µg/Kg-dry	1	9/1/2014 04:03 AM
Indeno(1,2,3-cd)pyrene	ND		7.8	µg/Kg-dry	1	9/1/2014 04:03 AM
Naphthalene	ND		7.8	µg/Kg-dry	1	9/1/2014 04:03 AM
Pyrene	ND		7.8	µg/Kg-dry	1	9/1/2014 04:03 AM
Surr: 2-Fluorobiphenyl	*62.7*		*12-100*	*%REC*	1	9/1/2014 04:03 AM
Surr: 4-Terphenyl-d14	*92.8*		*25-137*	*%REC*	1	9/1/2014 04:03 AM
Surr: Nitrobenzene-d5	*58.7*		*37-107*	*%REC*	1	9/1/2014 04:03 AM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep: SW5035 / 8/28/14	Analyst: **AK**
Benzene	ND		36	µg/Kg-dry	1	8/30/2014 09:35 AM
Ethylbenzene	ND		36	µg/Kg-dry	1	8/30/2014 09:35 AM
m,p-Xylene	**75**		**71**	**µg/Kg-dry**	1	8/30/2014 09:35 AM
o-Xylene	ND		36	µg/Kg-dry	1	8/30/2014 09:35 AM
Toluene	ND		36	µg/Kg-dry	1	8/30/2014 09:35 AM
Xylenes, Total	ND		110	µg/Kg-dry	1	8/30/2014 09:35 AM
Surr: 1,2-Dichloroethane-d4	*100*		*70-130*	*%REC*	1	8/30/2014 09:35 AM
Surr: 4-Bromofluorobenzene	*95.2*		*70-130*	*%REC*	1	8/30/2014 09:35 AM
Surr: Dibromofluoromethane	*99.9*		*70-130*	*%REC*	1	8/30/2014 09:35 AM
Surr: Toluene-d8	*99.3*		*70-130*	*%REC*	1	8/30/2014 09:35 AM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHOD**		Prep: USDA Method 20B / 9/3/14	Analyst: **JB**
Electrical Conductivity @ Saturation	**7.8**		**0.050**	**mmhos/cm @25**	10	9/3/2014 10:50 AM
CHROMIUM, TRIVALENT			**CALCULATION**			Analyst: **MB**
Chromium, Trivalent	**18**		**0.59**	**mg/Kg-dry**	1	9/4/2014 09:50 AM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep: SW3060A / 9/2/14	Analyst: **MB**
Chromium, Hexavalent	ND		0.59	mg/Kg-dry	1	9/3/2014 03:10 PM
MOISTURE			**A2540 G**			Analyst: **JJG**
Moisture	**16**		**0.050**	**% of sample**	1	8/29/2014 02:01 PM
PH			**SW9045D**		Prep: EXTRACT / 9/2/14	Analyst: **JB**
pH	**8.4**			**s.u.**	1	9/2/2014 01:30 PM

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

ALS Group USA, Corp

Date: 04-Sep-14

Client: HRL Compliance Solutions, Inc

QC BATCH REPORT

Work Order: 14081482

Project: WPX RWF 11-4 Batch 1 8.27.14

Batch ID: **62206** Instrument ID **GC8** Method: **SW8015M**

MBLK Sample ID: **DBLKS1-62206-62206** Units: **mg/Kg** Analysis Date: **8/29/2014 06:03 PM**

Client ID: Run ID: **GC8_140829A** SeqNo: **2913138** Prep Date: **8/29/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	4.2								
Surr: 4-Terphenyl-d14	*1.07*	0	*1.667*	0	*64.2*	*39-133*	0			

LCS Sample ID: **DLCSS1-62206-62206** Units: **mg/Kg** Analysis Date: **8/29/2014 06:33 PM**

Client ID: Run ID: **GC8_140829A** SeqNo: **2913139** Prep Date: **8/29/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	134.1	4.2	166.7	0	80.5	61-109	0			
Surr: 4-Terphenyl-d14	*1.156*	0	*1.667*	0	*69.4*	*39-133*	0			

MS Sample ID: **14081488-01B MS** Units: **mg/Kg** Analysis Date: **8/29/2014 07:03 PM**

Client ID: Run ID: **GC8_140829A** SeqNo: **2913140** Prep Date: **8/29/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	276.2	8.2	329.5	34.68	73.3	48-110	0			
Surr: 4-Terphenyl-d14	*2.298*	0	*3.295*	0	*69.7*	*39-133*	0			

MSD Sample ID: **14081488-01B MSD** Units: **mg/Kg** Analysis Date: **8/29/2014 07:33 PM**

Client ID: Run ID: **GC8_140829A** SeqNo: **2913141** Prep Date: **8/29/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	272.9	8.0	320.7	34.68	74.3	48-110	276.2	1.19	30	
Surr: 4-Terphenyl-d14	*2.32*	0	*3.207*	0	*72.3*	*39-133*	2.298	*0.956*	*30*	

The following samples were analyzed in this batch: 14081482-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14081482
Project: WPX RWF 11-4 Batch 1 8.27.14

QC BATCH REPORT

Batch ID: **62161** Instrument ID **GC9** Method: **SW8015**

MBLK Sample ID: **MBLK-62161-62161** Units: **µg/Kg** Analysis Date: **8/28/2014 02:35 PM**
Client ID: Run ID: **GC9_140828A** SeqNo: **2908940** Prep Date: **8/28/2014** 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	*4781*	0	*5000*	0	*95.6*	*50-150*	0			

LCS Sample ID: **LCS-62161-62161** Units: **µg/Kg** Analysis Date: **8/28/2014 02:09 PM**
Client ID: Run ID: **GC9_140828A** SeqNo: **2908939** Prep Date: **8/28/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	536400	2,500	500000	0	107	70-130	0			
Surr: Toluene-d8	*5945*	0	*5000*	0	*119*	*50-150*	0			

MS Sample ID: **14081237-01A MS** Units: **µg/Kg** Analysis Date: **8/29/2014 02:46 AM**
Client ID: Run ID: **GC9_140828A** SeqNo: **2909212** Prep Date: **8/28/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	532200	2,500	500000	0	106	70-130	0			
Surr: Toluene-d8	*6074*	0	*5000*	0	*121*	*50-150*	0			

MSD Sample ID: **14081237-01A MSD** Units: **µg/Kg** Analysis Date: **8/29/2014 03:11 AM**
Client ID: Run ID: **GC9_140828A** SeqNo: **2909214** Prep Date: **8/28/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	487100	2,500	500000	0	97.4	70-130	532200	8.86	30	
Surr: Toluene-d8	*5918*	0	*5000*	0	*118*	*50-150*	6074	*2.6*	*30*	

The following samples were analyzed in this batch: 14081482-01A

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

Client: HRL Compliance Solutions, Inc
Work Order: 14081482
Project: WPX RWF 11-4 Batch 1 8.27.14

QC BATCH REPORT

Batch ID: **62252** Instrument ID **HG1** Method: **SW7471**

MBLK Sample ID: **MBLK-62252-62252** Units: **mg/Kg** Analysis Date: **9/2/2014 04:05 PM**
Client ID: Run ID: **HG1_140902A** SeqNo: **2914185** Prep Date: **9/2/2014** 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-62252-62252** Units: **mg/Kg** Analysis Date: **9/2/2014 04:07 PM**
Client ID: Run ID: **HG1_140902A** SeqNo: **2914186** Prep Date: **9/2/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1605	0.020	0.1665	0	96.4	80-120	0			

MS Sample ID: **14081580-05BMS** Units: **mg/Kg** Analysis Date: **9/2/2014 04:44 PM**
Client ID: Run ID: **HG1_140902A** SeqNo: **2914210** Prep Date: **9/2/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1144	0.013	0.1048	0.006092	103	75-125	0			

MSD Sample ID: **14081580-05BMSD** Units: **mg/Kg** Analysis Date: **9/2/2014 04:47 PM**
Client ID: Run ID: **HG1_140902A** SeqNo: **2914211** Prep Date: **9/2/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1144	0.012	0.1027	0.006092	105	75-125	0.1144	0.0112	35	

The following samples were analyzed in this batch: 14081482-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14081482
Project: WPX RWF 11-4 Batch 1 8.27.14

QC BATCH REPORT

Batch ID: **62189** Instrument ID **SAR** Method: **USDA H60 Method**

DUP	Sample ID: **14081480-01CDUP**				Units: **none**		Analysis Date: **9/3/2014**			
Client ID:		Run ID: **SAR_140903A**			SeqNo: **2915545**		Prep Date: **9/3/2014**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	4.708	0.010	0	0	0		4.64	1.47	50	

The following samples were analyzed in this batch: 14081482-01C

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

Client: HRL Compliance Solutions, Inc
Work Order: 14081482
Project: WPX RWF 11-4 Batch 1 8.27.14

QC BATCH REPORT

Batch ID: **62215** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK Sample ID: **MBLK-62215-62215** Units: **mg/Kg** Analysis Date: **8/29/2014 04:58 PM**
Client ID: Run ID: **ICPMS1_140829A** SeqNo: **2912798** Prep Date: **8/29/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	ND	0.10								
Chromium	ND	0.25								
Copper	ND	0.25								
Lead	ND	0.25								
Nickel	ND	0.25								
Selenium	ND	0.25								
Silver	ND	0.25								
Zinc	0.0755	0.50								J

LCS Sample ID: **LCS-62215-62215** Units: **mg/Kg** Analysis Date: **8/29/2014 05:05 PM**
Client ID: Run ID: **ICPMS1_140829A** SeqNo: **2912799** Prep Date: **8/29/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.47	0.25	5	0	89.4	80-120	0			
Barium	4.514	0.25	5	0	90.3	80-120	0			
Cadmium	4.539	0.10	5	0	90.8	80-120	0			
Chromium	4.674	0.25	5	0	93.5	80-120	0			
Copper	4.541	0.25	5	0	90.8	80-120	0			
Lead	4.416	0.25	5	0	88.3	80-120	0			
Nickel	4.682	0.25	5	0	93.6	80-120	0			
Selenium	4.436	0.25	5	0	88.7	80-120	0			
Silver	4.452	0.25	5	0	89	80-120	0			
Zinc	4.666	0.50	5	0	93.3	80-120	0			

MS Sample ID: **14081493-05BMS** Units: **mg/Kg** Analysis Date: **8/29/2014 07:48 PM**
Client ID: Run ID: **ICPMS1_140829A** SeqNo: **2912847** Prep Date: **8/29/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	7.17	0.37	7.44	0.5493	89	75-125	0			
Barium	15.21	0.37	7.44	6.565	116	75-125	0			
Cadmium	6.769	0.15	7.44	0.02481	90.6	75-125	0			
Chromium	9.42	0.37	7.44	1.978	100	75-125	0			
Copper	7.783	0.37	7.44	0.9567	91.7	75-125	0			
Lead	7.932	0.37	7.44	1.457	87	75-125	0			
Nickel	9.115	0.37	7.44	1.857	97.5	75-125	0			
Selenium	6.579	0.37	7.44	0.2993	84.4	75-125	0			
Silver	6.416	0.37	7.44	0.002176	86.2	75-125	0			
Zinc	17.15	0.74	7.44	8.543	116	75-125	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 14081482
Project: WPX RWF 11-4 Batch 1 8.27.14

QC BATCH REPORT

Batch ID: **62215** Instrument ID **ICPMS1** Method: **SW6020A**

MSD Sample ID: **14081493-05BMSD** Units: **mg/Kg** Analysis Date: **8/29/2014 08:13 PM**
Client ID: Run ID: **ICPMS1_140829A** SeqNo: **2912855** Prep Date: **8/29/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	6.955	0.37	7.375	0.5493	86.9	75-125	7.17	3.05	25	
Barium	14.91	0.37	7.375	6.565	113	75-125	15.21	1.97	25	
Cadmium	6.587	0.15	7.375	0.02481	89	75-125	6.769	2.73	25	
Chromium	9.58	0.37	7.375	1.978	103	75-125	9.42	1.68	25	
Copper	7.574	0.37	7.375	0.9567	89.7	75-125	7.783	2.72	25	
Lead	7.662	0.37	7.375	1.457	84.1	75-125	7.932	3.45	25	
Nickel	8.945	0.37	7.375	1.857	96.1	75-125	9.115	1.87	25	
Selenium	6.508	0.37	7.375	0.2993	84.2	75-125	6.579	1.08	25	
Silver	6.333	0.37	7.375	0.002176	85.8	75-125	6.416	1.31	25	
Zinc	16.18	0.74	7.375	8.543	104	75-125	17.15	5.82	25	

The following samples were analyzed in this batch: 14081482-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14081482
Project: WPX RWF 11-4 Batch 1 8.27.14

QC BATCH REPORT

Batch ID: **62205** Instrument ID **SVMS4** Method: **SW846 8270D**

MBLK Sample ID: **SBLKS1-62205-62205** Units: **µg/Kg** Analysis Date: **8/31/2014 11:21 AM**
Client ID: Run ID: **SVMS4_140831A** SeqNo: **2912500** Prep Date: **8/29/2014** 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	*1269*	0	*1667*	0	*76.1*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1566*	0	*1667*	0	*94*	*25-137*	0			
Surr: Nitrobenzene-d5	*934.3*	0	*1667*	0	*56.1*	*37-107*	0			

LCS Sample ID: **SLCSS1-62205-62205** Units: **µg/Kg** Analysis Date: **8/31/2014 11:45 AM**
Client ID: Run ID: **SVMS4_140831A** SeqNo: **2912501** Prep Date: **8/29/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	494	6.7	666.7	0	74.1	45-110	0			
Acenaphthylene	512.3	6.7	666.7	0	76.8	45-105	0			
Anthracene	553	6.7	666.7	0	82.9	55-105	0			
Benzo(a)anthracene	550.3	6.7	666.7	0	82.5	50-110	0			
Benzo(a)pyrene	576.3	6.7	666.7	0	86.4	50-110	0			
Benzo(b)fluoranthene	599.3	6.7	666.7	0	89.9	45-115	0			
Benzo(g,h,i)perylene	616	6.7	666.7	0	92.4	40-125	0			
Benzo(k)fluoranthene	574.3	6.7	666.7	0	86.1	45-115	0			
Chrysene	562	6.7	666.7	0	84.3	55-110	0			
Dibenzo(a,h)anthracene	643.3	6.7	666.7	0	96.5	40-125	0			
Fluoranthene	518.7	6.7	666.7	0	77.8	55-115	0			
Fluorene	547.7	6.7	666.7	0	82.1	50-110	0			
Indeno(1,2,3-cd)pyrene	720.7	6.7	666.7	0	108	40-120	0			
Naphthalene	521	6.7	666.7	0	78.1	40-105	0			
Pyrene	584.7	6.7	666.7	0	87.7	45-125	0			
Surr: 2-Fluorobiphenyl	*1287*	0	*1667*	0	*77.2*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1508*	0	*1667*	0	*90.5*	*25-137*	0			
Surr: Nitrobenzene-d5	*1019*	0	*1667*	0	*61.1*	*37-107*	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 14081482
Project: WPX RWF 11-4 Batch 1 8.27.14

QC BATCH REPORT

Batch ID: **62205** Instrument ID **SVMS4** Method: **SW846 8270D**

MS Sample ID: **14081335-02A MS** Units: **µg/Kg** Analysis Date: **8/31/2014 01:36 PM**

Client ID: Run ID: **SVMS4_140831A** SeqNo: **2912502** Prep Date: **8/29/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	971.4	13	1301	0	74.6	45-110	0			
Acenaphthylene	972.7	13	1301	0	74.7	45-105	0			
Anthracene	1139	13	1301	0	87.5	55-105	0			
Benzo(a)anthracene	1160	13	1301	91.12	82.1	50-110	0			
Benzo(a)pyrene	1234	13	1301	0	94.8	50-110	0			
Benzo(b)fluoranthene	1282	13	1301	0	98.5	45-115	0			
Benzo(g,h,i)perylene	1371	13	1301	0	105	40-125	0			
Benzo(k)fluoranthene	1176	13	1301	0	90.4	45-115	0			
Chrysene	1180	13	1301	0	90.6	55-110	0			
Dibenzo(a,h)anthracene	1380	13	1301	0	106	40-125	0			
Fluoranthene	1079	13	1301	0	82.9	55-115	0			
Fluorene	1098	13	1301	0	84.3	50-110	0			
Indeno(1,2,3-cd)pyrene	1571	13	1301	117.4	112	40-120	0			
Naphthalene	905.7	13	1301	0	69.6	40-105	0			
Pyrene	1235	13	1301	0	94.9	45-125	0			
Surr: 2-Fluorobiphenyl	*2560*	0	*3253*	0	*78.7*	*12-100*	0			
Surr: 4-Terphenyl-d14	*3229*	0	*3253*	0	*99.3*	*25-137*	0			
Surr: Nitrobenzene-d5	*1986*	0	*3253*	0	*61.1*	*37-107*	0			

MSD Sample ID: **14081335-02A MSD** Units: **µg/Kg** Analysis Date: **8/31/2014 02:00 PM**

Client ID: Run ID: **SVMS4_140831A** SeqNo: **2912503** Prep Date: **8/29/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	944.7	13	1296	0	72.9	45-110	971.4	2.79	30	
Acenaphthylene	934.3	13	1296	0	72.1	45-105	972.7	4.03	30	
Anthracene	1127	13	1296	0	87	55-105	1139	1.05	30	
Benzo(a)anthracene	1122	13	1296	91.12	79.5	50-110	1160	3.38	30	
Benzo(a)pyrene	1201	13	1296	0	92.7	50-110	1234	2.71	30	
Benzo(b)fluoranthene	1223	13	1296	0	94.3	45-115	1282	4.78	30	
Benzo(g,h,i)perylene	1293	13	1296	0	99.7	40-125	1371	5.88	30	
Benzo(k)fluoranthene	1160	13	1296	0	89.5	45-115	1176	1.42	30	
Chrysene	1111	13	1296	0	85.7	55-110	1180	5.98	30	
Dibenzo(a,h)anthracene	1317	13	1296	0	102	40-125	1380	4.66	30	
Fluoranthene	1080	13	1296	0	83.3	55-115	1079	0.119	30	
Fluorene	1092	13	1296	0	84.3	50-110	1098	0.481	30	
Indeno(1,2,3-cd)pyrene	1491	13	1296	117.4	106	40-120	1571	5.21	30	
Naphthalene	929.1	13	1296	0	71.7	40-105	905.7	2.55	30	
Pyrene	1182	13	1296	0	91.2	45-125	1235	4.34	30	
Surr: 2-Fluorobiphenyl	*2438*	0	*3240*	0	*75.3*	*12-100*	2560	*4.89*	*40*	
Surr: 4-Terphenyl-d14	*3104*	0	*3240*	0	*95.8*	*25-137*	3229	*3.97*	*40*	
Surr: Nitrobenzene-d5	*1864*	0	*3240*	0	*57.5*	*37-107*	1986	*6.36*	*40*	

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

Client: HRL Compliance Solutions, Inc
Work Order: 14081482
Project: WPX RWF 11-4 Batch 1 8.27.14

QC BATCH REPORT

Batch ID: **62205** Instrument ID **SVMS4** Method: **SW846 8270D**

The following samples were analyzed in this batch: 14081482-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14081482
Project: WPX RWF 11-4 Batch 1 8.27.14

QC BATCH REPORT

Batch ID: **62190** Instrument ID **VMS8** Method: **SW8260B**

MBLK Sample ID: **MBLK-62190-62190** Units: **µg/Kg** Analysis Date: **8/29/2014 04:47 AM**
Client ID: Run ID: **VMS8_140828A** SeqNo: **2910455** Prep Date: **8/28/2014** 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	*999*	0	*1000*	0	*99.9*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*972*	0	*1000*	0	*97.2*	*70-130*	0			
Surr: Dibromofluoromethane	*972.5*	0	*1000*	0	*97.2*	*70-130*	0			
Surr: Toluene-d8	*984.5*	0	*1000*	0	*98.4*	*70-130*	0			

LCS Sample ID: **LCS-62190-62190** Units: **µg/Kg** Analysis Date: **8/29/2014 02:45 AM**
Client ID: Run ID: **VMS8_140828A** SeqNo: **2910453** Prep Date: **8/28/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1046	30	1000	0	105	75-125	0			
Ethylbenzene	1074	30	1000	0	107	75-125	0			
m,p-Xylene	2144	60	2000	0	107	80-125	0			
o-Xylene	1051	30	1000	0	105	75-125	0			
Toluene	1038	30	1000	0	104	70-125	0			
Xylenes, Total	3195	90	3000	0	106	75-125	0			
Surr: 1,2-Dichloroethane-d4	*993*	0	*1000*	0	*99.3*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1022*	0	*1000*	0	*102*	*70-130*	0			
Surr: Dibromofluoromethane	*1010*	0	*1000*	0	*101*	*70-130*	0			
Surr: Toluene-d8	*1003*	0	*1000*	0	*100*	*70-130*	0			

The following samples were analyzed in this batch: 14081482-01A

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

Client: HRL Compliance Solutions, Inc
Work Order: 14081482
Project: WPX RWF 11-4 Batch 1 8.27.14

QC BATCH REPORT

Batch ID: **62189** Instrument ID **WETCHEM** Method: **USDA H60 Method**

DUP	Sample ID: **14081480-01C DUP**				Units: **mmhos/cm @25°C**		Analysis Date: **9/3/2014 10:50 AM**			
Client ID:		Run ID: **WETCHEM_140903B**			SeqNo: **2915140**		Prep Date: **9/3/2014**		DF: **10**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	4.9	0.050	0	0	0		4.59	6.53	50	

The following samples were analyzed in this batch: 14081482-01C

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

Client: HRL Compliance Solutions, Inc
Work Order: 14081482
Project: WPX RWF 11-4 Batch 1 8.27.14

QC BATCH REPORT

Batch ID: **62294** Instrument ID **WETCHEM** Method: **SW9045D**

LCS Sample ID: **LCS-62294-62294** Units: **s.u.** Analysis Date: **9/2/2014 01:30 PM**

Client ID: Run ID: **WETCHEM_140902D** SeqNo: **2913501** Prep Date: **9/2/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	4	0	4	0	100	90-110	0			

DUP Sample ID: **14081489-01B DUP** Units: **s.u.** Analysis Date: **9/2/2014 01:30 PM**

Client ID: Run ID: **WETCHEM_140902D** SeqNo: **2913507** Prep Date: **9/2/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	9.21	0	0	0	0	0-0	9.19	0.217	20	

The following samples were analyzed in this batch: 14081482-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14081482
Project: WPX RWF 11-4 Batch 1 8.27.14

QC BATCH REPORT

Batch ID: **62296** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK Sample ID: **MBLK-62296-62296** Units: **mg/Kg** Analysis Date: **9/3/2014 03:10 PM**
Client ID: Run ID: **WETCHEM_140903K** SeqNo: **2916006** Prep Date: **9/2/2014** DF: **1**

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

LCS Sample ID: **LCS-62296-62296** Units: **mg/Kg** Analysis Date: **9/3/2014 03:10 PM**
Client ID: Run ID: **WETCHEM_140903K** SeqNo: **2916005** Prep Date: **9/2/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.872	0.50	2	0	93.6	80-120	0			

MS Sample ID: **14081376-65A MS** Units: **mg/Kg** Analysis Date: **9/3/2014 03:10 PM**
Client ID: Run ID: **WETCHEM_140903K** SeqNo: **2915990** Prep Date: **9/2/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	3.912	0.50	1.992	2.405	75.7	75-125	0			

MS Sample ID: **14081376-65A MSI** Units: **mg/Kg** Analysis Date: **9/3/2014 03:10 PM**
Client ID: Run ID: **WETCHEM_140903K** SeqNo: **2915992** Prep Date: **9/2/2014** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	950	49	994.5	2.405	95.3	75-125	0			

MSD Sample ID: **14081376-65A MSD** Units: **mg/Kg** Analysis Date: **9/3/2014 03:10 PM**
Client ID: Run ID: **WETCHEM_140903K** SeqNo: **2915991** Prep Date: **9/2/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	4.765	0.50	1.992	2.405	118	75-125	3.912	19.7	20	

The following samples were analyzed in this batch: 14081482-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14081482
Project: WPX RWF 11-4 Batch 1 8.27.14

QC BATCH REPORT

Batch ID: **R147301** Instrument ID **MOIST** Method: **A2540 G**

MBLK Sample ID: **WBLKS-R147301** Units: **% of sample** Analysis Date: **8/29/2014 02:01 PM**
Client ID: Run ID: **MOIST_140829G** SeqNo: **2911715** 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-R147301** Units: **% of sample** Analysis Date: **8/29/2014 02:01 PM**
Client ID: Run ID: **MOIST_140829G** SeqNo: **2911711** Prep Date: DF: **1**

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

DUP Sample ID: **14081306-17BDUP** Units: **% of sample** Analysis Date: **8/29/2014 02:01 PM**
Client ID: Run ID: **MOIST_140829G** SeqNo: **2911689** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	14.79	0.050	0	0	0	0-0	14.88	0.607	20	

DUP Sample ID: **14081395-01ADUP** Units: **% of sample** Analysis Date: **8/29/2014 02:01 PM**
Client ID: Run ID: **MOIST_140829G** SeqNo: **2911701** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	14.21	0.050	0	0	0	0-0	12.9	9.66	20	

The following samples were analyzed in this batch: 14081482-01B

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

ALS Laboratory Group

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TF: (800) 443-1511 PH: (970) 490-1511 FX: (970) 490-1522

Chain-of-Custody

Form 202r8

WORKORDER #	14081482
SAMPLER	Reed Wold
DATE	8/27/14
PAGE	1 of 1
PROJECT NAME	WPX RWF 11-4 Batch 1
SITE ID	RWF 11-4
TURNAROUND	3 Day
DISPOSAL	(By Lab) or Return to Client
PROJECT No.	
EDD FORMAT	
PURCHASE ORDER	
COMPANY NAME	HRL Compliance
BILL TO COMPANY	WPX
SEND REPORT TO	Mark Mumby
INVOICE ATTN TO	Karolina Blaney
ADDRESS	2385 F 1/2 Rd
ADDRESS (Bill to)	1058 Co Rd 215
CITY / STATE / ZIP	Grand Junction, CO 81506
CITY / STATE / ZIP (Bill to)	Parachure CO 81635
PHONE	970-243-3271
PHONE (Bill to)	970-683-2295
FAX	970-243-3280
FAX (Bill to)	
E-MAIL	mmumby@hrlcomp.com rwold@hrlcomp.com
E-MAIL (Bill to)	Karolina.blaney@wpxenergy.com

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	BTEX/GRO	DRO/PAH/Metals	SAR/Ec/pH
1	Batch 1	SO	8/27/14	10:15	3	8		x	x	x

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

For metals or anions, please detail analytes below.

Comments: 4.2°c

QC PACKAGE (check below)	
X	LEVEL II (Standard QC)
	LEVEL III (Std QC + forms)
	LEVEL IV (Std QC + forms + raw data)

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	Reed Wold	Reed Wold	8/27/14	12:00
RECEIVED BY	N.M	N.M	8-27	1210
RELINQUISHED BY	N.M	N.M	8-27	1300
RECEIVED BY	[signature]	Keith Wierenga	8/28/14	0930
RELINQUISHED BY				
RECEIVED BY				

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **HRL** Date/Time Received: **28-Aug-14 09:30**

Work Order: **14081482** Received by: **KRW**

Checklist completed by Keith Wierenga (eSignature) 28-Aug-14 (Date) Reviewed by: Ann Preston (eSignature) 28-Aug-14 (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):	4.2 C		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	8/28/2014 1:43:21 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

From: (616) 399-8070
Nick Martinez
ALS Environmental
127 E. 1st Street

PARACHUTE, MI 49424

Origin ID: HLMA

FedEx Express

J14201406190Jw

Ship Date: 27AUG14
ActWgt: 64.0 LB
CAD: 2264840/INET3550

Dims: 24 X 15 X 15 IN

Delivery Address Bar Code

Ref # 082714-2
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# 7709 7048 4375
0263

Mstr# 7709 7048 4103 0201

68 HLMA

THU - 28 AUG 10:30A
PRIORITY OVERNIGHT

49424
MI-US
GRR

522G1ECF28AC9

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
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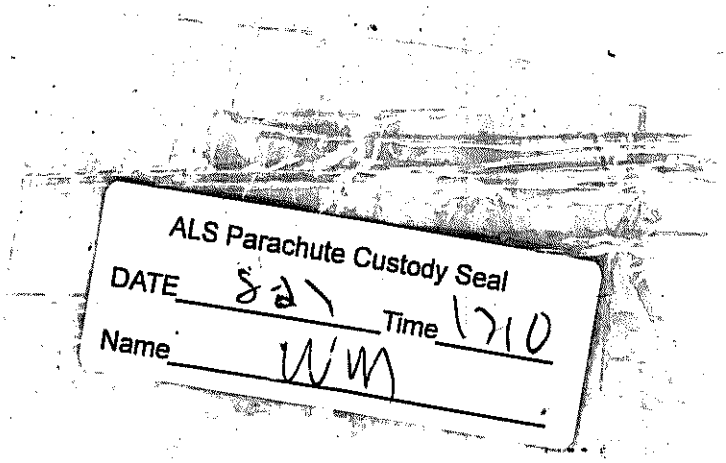

25-Sep-2014

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

Re: **WPX RWF 11-4 Batch 2 9.19.14** Work Order: **14091029**

Dear Mark,

ALS Environmental received 1 sample on 20-Sep-2014 10:30 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 25.

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

Sincerely,

Ann Preston

Electronically approved by: Ann Preston

Ann Preston
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

ALS Group USA, Corp

Date: 25-Sep-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Batch 2 9.19.14
Work Order: **14091029**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
14091029-01	Batch 2	Soil		9/19/2014 11:20	9/20/2014 10:30	☐

ALS Group USA, Corp

Date: 25-Sep-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Batch 2 9.19.14
Work Order: 14091029

Case Narrative

Batch 63010 MS/MSD data for DRO is not related to this project's samples. No data requires qualification.

Batch 63022 MS/MSD data for Metals is not related to this project's samples. No data requires qualification.

Batch 63103 MS/MSD data for Hexavalent Chromium is not related to this project's samples. No data requires qualification.

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
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: *25-Sep-14*

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Batch 2 9.19.14 **Work Order:** 14091029
Sample ID: Batch 2 **Lab ID:** 14091029-01
Collection Date: 9/19/2014 11:20 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep: SW3541 / 9/22/14	Analyst: **IT**
DRO (C10-C28)	**140**		**5.0**	**mg/Kg-dry**	1	9/23/2014 01:10 AM
Surr: 4-Terphenyl-d14	*52.0*		*39-133*	*%REC*	1	9/23/2014 01:10 AM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015**		Prep: SW5035 / 9/22/14	Analyst: **IT**
GRO (C6-C10)	ND		3.0	mg/Kg-dry	1	9/22/2014 03:57 PM
Surr: Toluene-d8	*114*		*50-150*	*%REC*	1	9/22/2014 03:57 PM
MERCURY BY CVAA			**SW7471**		Prep: SW7471 / 9/22/14	Analyst: **LR**
Mercury	**0.025**		**0.018**	**mg/Kg-dry**	1	9/22/2014 10:25 PM
SOLUBLE CATIONS FOR SAR			**SW846 6010C**		Prep: USDA Method 20B / 9/24/14	Analyst: **JEC**
Calcium	**100**		**5.0**	**mg/L**	10	9/24/2014 11:45 AM
Magnesium	**66**		**2.0**	**mg/L**	10	9/24/2014 11:45 AM
Sodium	**500**		**2.0**	**mg/L**	10	9/24/2014 11:45 AM
METALS BY ICP-MS			**SW6020A**		Prep: SW3050B / 9/22/14	Analyst: **ML**
Arsenic	**4.5**		**2.1**	**mg/Kg-dry**	5	9/23/2014 01:07 AM
Barium	**260**		**2.1**	**mg/Kg-dry**	5	9/23/2014 01:07 AM
Cadmium	ND		0.85	mg/Kg-dry	5	9/23/2014 01:07 AM
Chromium	**19**		**2.1**	**mg/Kg-dry**	5	9/23/2014 01:07 AM
Copper	**16**		**2.1**	**mg/Kg-dry**	5	9/23/2014 01:07 AM
Lead	**9.5**		**2.1**	**mg/Kg-dry**	5	9/23/2014 01:07 AM
Nickel	**31**		**2.1**	**mg/Kg-dry**	5	9/23/2014 01:07 AM
Selenium	**3.0**		**2.1**	**mg/Kg-dry**	5	9/23/2014 01:07 AM
Silver	ND		2.1	mg/Kg-dry	5	9/23/2014 01:07 AM
Zinc	**40**		**4.2**	**mg/Kg-dry**	5	9/23/2014 01:07 AM
SODIUM ADSORPTION RATIO			**USDA H60 METHOD**		Prep: USDA Method 20B / 9/24/14	Analyst: **JEC**
Sodium Adsorption Ratio	**9.5**		**0.010**	**none**	1	9/24/2014
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3541 / 9/22/14	Analyst: **JG**
Acenaphthene	**28**		**8.0**	**µg/Kg-dry**	1	9/23/2014 05:06 PM
Acenaphthylene	ND		8.0	µg/Kg-dry	1	9/23/2014 05:06 PM
Anthracene	ND		8.0	µg/Kg-dry	1	9/23/2014 05:06 PM
Benzo(a)anthracene	ND		8.0	µg/Kg-dry	1	9/23/2014 05:06 PM
Benzo(a)pyrene	ND		8.0	µg/Kg-dry	1	9/23/2014 05:06 PM
Benzo(b)fluoranthene	ND		8.0	µg/Kg-dry	1	9/23/2014 05:06 PM
Benzo(g,h,i)perylene	ND		8.0	µg/Kg-dry	1	9/23/2014 05:06 PM
Benzo(k)fluoranthene	ND		8.0	µg/Kg-dry	1	9/23/2014 05:06 PM
Chrysene	ND		8.0	µg/Kg-dry	1	9/23/2014 05:06 PM

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

ALS Group USA, Corp

Date: *25-Sep-14*

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Batch 2 9.19.14 **Work Order:** 14091029
Sample ID: Batch 2 **Lab ID:** 14091029-01
Collection Date: 9/19/2014 11:20 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		8.0	µg/Kg-dry	1	9/23/2014 05:06 PM
Fluoranthene	ND		8.0	µg/Kg-dry	1	9/23/2014 05:06 PM
Fluorene	ND		8.0	µg/Kg-dry	1	9/23/2014 05:06 PM
Indeno(1,2,3-cd)pyrene	ND		8.0	µg/Kg-dry	1	9/23/2014 05:06 PM
Naphthalene	ND		8.0	µg/Kg-dry	1	9/23/2014 05:06 PM
Pyrene	ND		8.0	µg/Kg-dry	1	9/23/2014 05:06 PM
Surr: 2-Fluorobiphenyl	*73.2*		*12-100*	*%REC*	1	9/23/2014 05:06 PM
Surr: 4-Terphenyl-d14	*93.5*		*25-137*	*%REC*	1	9/23/2014 05:06 PM
Surr: Nitrobenzene-d5	*67.4*		*37-107*	*%REC*	1	9/23/2014 05:06 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep: SW5035 / 9/22/14	Analyst: **BG**
Benzene	ND		36	µg/Kg-dry	1	9/22/2014 06:07 PM
Ethylbenzene	ND		36	µg/Kg-dry	1	9/22/2014 06:07 PM
m,p-Xylene	ND		72	µg/Kg-dry	1	9/22/2014 06:07 PM
o-Xylene	ND		36	µg/Kg-dry	1	9/22/2014 06:07 PM
Toluene	ND		36	µg/Kg-dry	1	9/22/2014 06:07 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	9/22/2014 06:07 PM
Surr: 1,2-Dichloroethane-d4	*94.0*		*70-130*	*%REC*	1	9/22/2014 06:07 PM
Surr: 4-Bromofluorobenzene	*112*		*70-130*	*%REC*	1	9/22/2014 06:07 PM
Surr: Dibromofluoromethane	*90.6*		*70-130*	*%REC*	1	9/22/2014 06:07 PM
Surr: Toluene-d8	*98.2*		*70-130*	*%REC*	1	9/22/2014 06:07 PM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHOD**		Prep: USDA Method 20B / 9/24/14	Analyst: **JB**
Electrical Conductivity @ Saturation	**3.8**		**0.050**	**mmhos/cm @25**	10	9/24/2014 03:00 PM
CHROMIUM, TRIVALENT			**CALCULATION**			Analyst: **JJG**
Chromium, Trivalent	**18**		**0.60**	**mg/Kg-dry**	1	9/24/2014 03:56 PM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep: SW3060A / 9/22/14	Analyst: **MB**
Chromium, Hexavalent	ND		0.59	mg/Kg-dry	1	9/24/2014 09:45 AM
MOISTURE			**A2540 G**			Analyst: **RLM**
Moisture	**17**		**0.050**	**% of sample**	1	9/22/2014 10:30 AM
PH			**SW9045D**		Prep: EXTRACT / 9/22/14	Analyst: **JB**
pH	**8.2**			**s.u.**	1	9/23/2014 08:45 AM

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

ALS Group USA, Corp

Date: 25-Sep-14

Client: HRL Compliance Solutions, Inc

QC BATCH REPORT

Work Order: 14091029

Project: WPX RWF 11-4 Batch 2 9.19.14

Batch ID: **63010** Instrument ID **GC8** Method: **SW8015M**

MBLK Sample ID: **DBLKS1-63010-63010** Units: **mg/Kg** Analysis Date: **9/22/2014 05:22 PM**

Client ID: Run ID: **GC8_140922A** SeqNo: **2947982** Prep Date: **9/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	4.2								
Surr: 4-Terphenyl-d14	*1.345*	0	*1.667*	0	*80.7*	*39-133*	0			

LCS Sample ID: **DLCSS1-63010-63010** Units: **mg/Kg** Analysis Date: **9/22/2014 05:49 PM**

Client ID: Run ID: **GC8_140922A** SeqNo: **2947985** Prep Date: **9/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	169.3	4.2	166.7	0	102	61-109	0			
Surr: 4-Terphenyl-d14	*1.305*	0	*1.667*	0	*78.3*	*39-133*	0			

MS Sample ID: **14091000-03B MS** Units: **mg/Kg** Analysis Date: **9/23/2014 10:42 AM**

Client ID: Run ID: **GC8_140923A** SeqNo: **2948157** Prep Date: **9/22/2014** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	8522	80	321.3	5668	888	48-110	0			SO
Surr: 4-Terphenyl-d14	*7.738*	0	*3.213*	0	*241*	*39-133*	0			*S*

MSD Sample ID: **14091000-03B MSD** Units: **mg/Kg** Analysis Date: **9/23/2014 11:10 AM**

Client ID: Run ID: **GC8_140923A** SeqNo: **2948160** Prep Date: **9/22/2014** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	9230	81	324.3	5668	1100	48-110	8522	7.98	30	SO
Surr: 4-Terphenyl-d14	*3.1*	0	*3.243*	0	*95.6*	*39-133*	7.738	*85.6*	*30*	*R*

The following samples were analyzed in this batch: 14091029-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14091029
Project: WPX RWF 11-4 Batch 2 9.19.14

QC BATCH REPORT

Batch ID: **63020** Instrument ID **GC9** Method: **SW8015**

MBLK Sample ID: **MBLK-63020-63020** Units: **µg/Kg** Analysis Date: **9/22/2014 01:24 PM**
Client ID: Run ID: **GC9_140922A** SeqNo: **2946717** Prep Date: **9/22/2014** 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	*4742*	0	*5000*	0	*94.8*	*50-150*	0			

LCS Sample ID: **LCS-63020-63020** Units: **µg/Kg** Analysis Date: **9/22/2014 12:59 PM**
Client ID: Run ID: **GC9_140922A** SeqNo: **2946715** Prep Date: **9/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	534800	2,500	500000	0	107	70-130	0			
Surr: Toluene-d8	*4522*	0	*5000*	0	*90.4*	*50-150*	0			

MS Sample ID: **1409892-01A MS** Units: **µg/Kg** Analysis Date: **9/22/2014 04:23 PM**
Client ID: Run ID: **GC9_140922A** SeqNo: **2947635** Prep Date: **9/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	550800	2,500	500000	0	110	70-130	0			
Surr: Toluene-d8	*4463*	0	*5000*	0	*89.3*	*50-150*	0			

MSD Sample ID: **1409892-01A MSD** Units: **µg/Kg** Analysis Date: **9/22/2014 04:48 PM**
Client ID: Run ID: **GC9_140922A** SeqNo: **2947636** Prep Date: **9/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	525000	2,500	500000	0	105	70-130	550800	4.8	30	
Surr: Toluene-d8	*4456*	0	*5000*	0	*89.1*	*50-150*	4463	*0.168*	*30*	

The following samples were analyzed in this batch: 14091029-01A

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

Client: HRL Compliance Solutions, Inc
Work Order: 14091029
Project: WPX RWF 11-4 Batch 2 9.19.14

QC BATCH REPORT

Batch ID: **63045** Instrument ID **HG1** Method: **SW7471**

MBLK Sample ID: **MBLK-63045-63045** Units: **mg/Kg** Analysis Date: **9/22/2014 10:04 PM**
Client ID: Run ID: **HG1_140922A** SeqNo: **2947250** Prep Date: **9/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.004667	0.020								J

LCS Sample ID: **LCS-63045-63045** Units: **mg/Kg** Analysis Date: **9/22/2014 10:06 PM**
Client ID: Run ID: **HG1_140922A** SeqNo: **2947251** Prep Date: **9/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1818	0.020	0.1665	0	109	80-120	0			

MS Sample ID: **1409900-09BMS** Units: **mg/Kg** Analysis Date: **9/22/2014 10:58 PM**
Client ID: Run ID: **HG1_140922A** SeqNo: **2947273** Prep Date: **9/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1207	0.012	0.1023	0.01173	107	75-125	0			

MSD Sample ID: **1409900-09BMSD** Units: **mg/Kg** Analysis Date: **9/22/2014 11:00 PM**
Client ID: Run ID: **HG1_140922A** SeqNo: **2947274** Prep Date: **9/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1227	0.012	0.1036	0.01173	107	75-125	0.1207	1.64	35	

The following samples were analyzed in this batch: 14091029-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14091029
Project: WPX RWF 11-4 Batch 2 9.19.14

QC BATCH REPORT

Batch ID: **63077** Instrument ID **ICP2** Method: **SW846 6010C**

DUP Sample ID: **14091026-01CDUP** Units: **mg/L** Analysis Date: **9/24/2014 11:30 AM**

Client ID: Run ID: **ICP2_140924A** SeqNo: **2950218** Prep Date: **9/24/2014** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	302.6	5.0	0	0	0	0-0	0			
Magnesium	46.85	2.0	0	0	0	0-0	0			
Sodium	312.5	2.0	0	0	0	0-0	0			

The following samples were analyzed in this batch: 14091029-01C

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

Client: HRL Compliance Solutions, Inc
Work Order: 14091029
Project: WPX RWF 11-4 Batch 2 9.19.14

QC BATCH REPORT

Batch ID: **63022** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK Sample ID: **MBLK-63022-63022** Units: **mg/Kg** Analysis Date: **9/22/2014 12:43 PM**
Client ID: Run ID: **ICPMS1_140922A** SeqNo: **2946618** Prep Date: **9/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.03789	0.25								J
Barium	ND	0.25								
Cadmium	0.002467	0.10								J
Chromium	ND	0.25								
Copper	ND	0.25								
Lead	ND	0.25								
Nickel	ND	0.25								
Selenium	ND	0.25								
Silver	0.002411	0.25								J
Zinc	0.7365	0.50								

MBLK Sample ID: **MBLK-63022-63022** Units: **mg/Kg** Analysis Date: **9/22/2014 04:56 PM**
Client ID: Run ID: **ICPMS1_140922A** SeqNo: **2946890** Prep Date: **9/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Zinc	0.139	0.50								J

LCS Sample ID: **LCS-63022-63022** Units: **mg/Kg** Analysis Date: **9/22/2014 12:49 PM**
Client ID: Run ID: **ICPMS1_140922A** SeqNo: **2946619** Prep Date: **9/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.478	0.25	5	0	89.6	80-120	0			
Barium	4.658	0.25	5	0	93.2	80-120	0			
Cadmium	4.666	0.10	5	0	93.3	80-120	0			
Chromium	4.848	0.25	5	0	97	80-120	0			
Copper	4.852	0.25	5	0	97	80-120	0			
Lead	4.669	0.25	5	0	93.4	80-120	0			
Nickel	4.794	0.25	5	0	95.9	80-120	0			
Selenium	4.376	0.25	5	0	87.5	80-120	0			
Silver	4.719	0.25	5	0	94.4	80-120	0			
Zinc	4.777	0.50	5	0	95.5	80-120	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 14091029
Project: WPX RWF 11-4 Batch 2 9.19.14

QC BATCH REPORT

Batch ID: **63022** Instrument ID **ICPMS1** Method: **SW6020A**

MS Sample ID: **14091025-01BMS** Units: **mg/Kg** Analysis Date: **9/22/2014 01:15 PM**
Client ID: Run ID: **ICPMS1_140922A** SeqNo: **2946622** Prep Date: **9/22/2014** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	12.11	1.9	7.68	4.559	98.3	75-125	0			
Barium	232.7	1.9	7.68	280.3	-619	75-125	0			SO
Cadmium	8.395	0.77	7.68	0.6763	100	75-125	0			
Chromium	19.54	1.9	7.68	10.18	122	75-125	0			
Copper	22.04	1.9	7.68	13.4	113	75-125	0			
Lead	30.38	1.9	7.68	26.5	50.5	75-125	0			S
Nickel	23.96	1.9	7.68	14.43	124	75-125	0			
Selenium	9.363	1.9	7.68	2.707	86.7	75-125	0			
Silver	7.385	1.9	7.68	0.08654	95	75-125	0			
Zinc	67.74	3.8	7.68	55.38	161	75-125	0			SO

MSD Sample ID: **14091025-01BMSD** Units: **mg/Kg** Analysis Date: **9/22/2014 01:21 PM**
Client ID: Run ID: **ICPMS1_140922A** SeqNo: **2946623** Prep Date: **9/22/2014** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.85	1.9	7.764	4.559	81	75-125	12.11	11	25	
Barium	211.2	1.9	7.764	280.3	-889	75-125	232.7	9.69	25	SO
Cadmium	8.113	0.78	7.764	0.6763	95.8	75-125	8.395	3.41	25	
Chromium	17.97	1.9	7.764	10.18	100	75-125	19.54	8.35	25	
Copper	18.98	1.9	7.764	13.4	71.9	75-125	22.04	14.9	25	S
Lead	22.85	1.9	7.764	26.5	-47.1	75-125	30.38	28.3	25	SR
Nickel	21.15	1.9	7.764	14.43	86.4	75-125	23.96	12.5	25	
Selenium	9.049	1.9	7.764	2.707	81.7	75-125	9.363	3.41	25	
Silver	7.069	1.9	7.764	0.08654	89.9	75-125	7.385	4.37	25	
Zinc	59.98	3.9	7.764	55.38	59.2	75-125	67.74	12.2	25	SO

The following samples were analyzed in this batch: 14091029-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14091029
Project: WPX RWF 11-4 Batch 2 9.19.14

QC BATCH REPORT

Batch ID: **63077** Instrument ID **SAR** Method: **USDA H60 Method**

DUP Sample ID: **14091026-01CDUP** Units: **none** Analysis Date: **9/24/2014**
Client ID: Run ID: **SAR_140924A** SeqNo: **2950228** Prep Date: **9/24/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	4.415	0.010	0	0	0		4.213	4.67	50	

The following samples were analyzed in this batch: 14091029-01C

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

Client: HRL Compliance Solutions, Inc
Work Order: 14091029
Project: WPX RWF 11-4 Batch 2 9.19.14

QC BATCH REPORT

Batch ID: **63011** Instrument ID **SVMS5** Method: **SW846 8270D**

MBLK Sample ID: **SBLKS1-63011-63011** Units: **µg/Kg** Analysis Date: **9/22/2014 07:08 PM**
Client ID: Run ID: **SVMS5_140922A** SeqNo: **2950572** Prep Date: **9/22/2014** 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	*1323*	0	*1667*	0	*79.4*	*12-100*	0			
Surr: 4-Terphenyl-d14	*2086*	0	*1667*	0	*125*	*25-137*	0			
Surr: Nitrobenzene-d5	*1280*	0	*1667*	0	*76.8*	*37-107*	0			

LCS Sample ID: **SLCSS1-63011-63011** Units: **µg/Kg** Analysis Date: **9/22/2014 07:30 PM**
Client ID: Run ID: **SVMS5_140922A** SeqNo: **2950573** Prep Date: **9/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	508	6.7	666.7	0	76.2	45-110	0			
Acenaphthylene	540.7	6.7	666.7	0	81.1	45-105	0			
Anthracene	587.3	6.7	666.7	0	88.1	55-105	0			
Benzo(a)anthracene	556.7	6.7	666.7	0	83.5	50-110	0			
Benzo(a)pyrene	529	6.7	666.7	0	79.3	50-110	0			
Benzo(b)fluoranthene	545.7	6.7	666.7	0	81.8	45-115	0			
Benzo(g,h,i)perylene	580	6.7	666.7	0	87	40-125	0			
Benzo(k)fluoranthene	712.3	6.7	666.7	0	107	45-115	0			
Chrysene	678.7	6.7	666.7	0	102	55-110	0			
Dibenzo(a,h)anthracene	441	6.7	666.7	0	66.1	40-125	0			
Fluoranthene	589	6.7	666.7	0	88.3	55-115	0			
Fluorene	561.7	6.7	666.7	0	84.2	50-110	0			
Indeno(1,2,3-cd)pyrene	588	6.7	666.7	0	88.2	40-120	0			
Naphthalene	525.7	6.7	666.7	0	78.8	40-105	0			
Pyrene	726.7	6.7	666.7	0	109	45-125	0			
Surr: 2-Fluorobiphenyl	*1319*	0	*1667*	0	*79.1*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1947*	0	*1667*	0	*117*	*25-137*	0			
Surr: Nitrobenzene-d5	*1352*	0	*1667*	0	*81.1*	*37-107*	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 14091029
Project: WPX RWF 11-4 Batch 2 9.19.14

QC BATCH REPORT

Batch ID: **63011** Instrument ID **SVMS5** Method: **SW846 8270D**

MS Sample ID: **1409903-13B MS** Units: **µg/Kg** Analysis Date: **9/23/2014 09:02 AM**

Client ID: Run ID: **SVMS5_140922A** SeqNo: **2950574** Prep Date: **9/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1013	13	1259	0	80.5	45-110	0			
Acenaphthylene	1087	13	1259	0	86.3	45-105	0			
Anthracene	1124	13	1259	0	89.3	55-105	0			
Benzo(a)anthracene	1102	13	1259	0	87.6	50-110	0			
Benzo(a)pyrene	1019	13	1259	0	81	50-110	0			
Benzo(b)fluoranthene	1094	13	1259	0	86.9	45-115	0			
Benzo(g,h,i)perylene	1132	13	1259	0	89.9	40-125	0			
Benzo(k)fluoranthene	1368	13	1259	0	109	45-115	0			
Chrysene	1299	13	1259	0	103	55-110	0			
Dibenzo(a,h)anthracene	886	13	1259	0	70.4	40-125	0			
Fluoranthene	1136	13	1259	0	90.3	55-115	0			
Fluorene	1081	13	1259	0	85.9	50-110	0			
Indeno(1,2,3-cd)pyrene	1159	13	1259	0	92.1	40-120	0			
Naphthalene	1049	13	1259	0	83.3	40-105	0			
Pyrene	1415	13	1259	0	112	45-125	0			
Surr: 2-Fluorobiphenyl	*2659*	0	*3146*	0	*84.5*	*12-100*	0			
Surr: 4-Terphenyl-d14	*3838*	0	*3146*	0	*122*	*25-137*	0			
Surr: Nitrobenzene-d5	*2701*	0	*3146*	0	*85.9*	*37-107*	0			

MSD Sample ID: **1409903-13B MSD** Units: **µg/Kg** Analysis Date: **9/23/2014 09:24 AM**

Client ID: Run ID: **SVMS5_140922A** SeqNo: **2950575** Prep Date: **9/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1058	13	1313	0	80.5	45-110	1013	4.3	30	
Acenaphthylene	1119	13	1313	0	85.2	45-105	1087	2.96	30	
Anthracene	1184	13	1313	0	90.1	55-105	1124	5.13	30	
Benzo(a)anthracene	1139	13	1313	0	86.7	50-110	1102	3.27	30	
Benzo(a)pyrene	1054	13	1313	0	80.3	50-110	1019	3.37	30	
Benzo(b)fluoranthene	1156	13	1313	0	88	45-115	1094	5.5	30	
Benzo(g,h,i)perylene	1191	13	1313	0	90.7	40-125	1132	5.07	30	
Benzo(k)fluoranthene	1449	13	1313	0	110	45-115	1368	5.75	30	
Chrysene	1391	13	1313	0	106	55-110	1299	6.82	30	
Dibenzo(a,h)anthracene	921.7	13	1313	0	70.2	40-125	886	3.96	30	
Fluoranthene	1187	13	1313	0	90.4	55-115	1136	4.35	30	
Fluorene	1131	13	1313	0	86.1	50-110	1081	4.53	30	
Indeno(1,2,3-cd)pyrene	1215	13	1313	0	92.5	40-120	1159	4.67	30	
Naphthalene	1025	13	1313	0	78	40-105	1049	2.33	30	
Pyrene	1492	13	1313	0	114	45-125	1415	5.3	30	
Surr: 2-Fluorobiphenyl	*2751*	0	*3283*	0	*83.8*	*12-100*	2659	*3.43*	*40*	
Surr: 4-Terphenyl-d14	*4024*	0	*3283*	0	*123*	*25-137*	3838	*4.73*	*40*	
Surr: Nitrobenzene-d5	*2860*	0	*3283*	0	*87.1*	*37-107*	2701	*5.7*	*40*	

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

Client: HRL Compliance Solutions, Inc
Work Order: 14091029
Project: WPX RWF 11-4 Batch 2 9.19.14

QC BATCH REPORT

Batch ID: **63011** Instrument ID **SVMS5** Method: **SW846 8270D**

The following samples were analyzed in this batch: 14091029-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14091029
Project: WPX RWF 11-4 Batch 2 9.19.14

QC BATCH REPORT

Batch ID: **63019** Instrument ID **VMS5** Method: **SW8260B**

MBLK Sample ID: **MBLK-63019-63019** Units: **µg/Kg** Analysis Date: **9/22/2014 02:16 PM**
Client ID: Run ID: **VMS5_140922A** SeqNo: **2947750** Prep Date: **9/22/2014** 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	*981.5*	0	*1000*	0	*98.2*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*971.5*	0	*1000*	0	*97.2*	*70-130*	0			
Surr: Dibromofluoromethane	*1011*	0	*1000*	0	*101*	*70-130*	0			
Surr: Toluene-d8	*981*	0	*1000*	0	*98.1*	*70-130*	0			

LCS Sample ID: **LCS-63019-63019** Units: **µg/Kg** Analysis Date: **9/22/2014 12:59 PM**
Client ID: Run ID: **VMS5_140922A** SeqNo: **2947748** Prep Date: **9/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1110	30	1000	0	111	75-125	0			
Ethylbenzene	1106	30	1000	0	111	75-125	0			
m,p-Xylene	2094	60	2000	0	105	80-125	0			
o-Xylene	1156	30	1000	0	116	75-125	0			
Toluene	1076	30	1000	0	108	70-125	0			
Xylenes, Total	3250	90	3000	0	108	75-125	0			
Surr: 1,2-Dichloroethane-d4	*976.5*	0	*1000*	0	*97.6*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1010*	0	*1000*	0	*101*	*70-130*	0			
Surr: Dibromofluoromethane	*1009*	0	*1000*	0	*101*	*70-130*	0			
Surr: Toluene-d8	*991.5*	0	*1000*	0	*99.2*	*70-130*	0			

MS Sample ID: **1409932-01A MS** Units: **µg/Kg** Analysis Date: **9/22/2014 09:59 PM**
Client ID: Run ID: **VMS5_140922A** SeqNo: **2947785** Prep Date: **9/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1034	30	1000	0	103	75-125	0			
Ethylbenzene	942	30	1000	0	94.2	75-125	0			
m,p-Xylene	1943	60	2000	0	97.2	80-125	0			
o-Xylene	958.5	30	1000	0	95.8	75-125	0			
Toluene	917	30	1000	0	91.7	70-125	0			
Xylenes, Total	2902	90	3000	0	96.7	75-125	0			
Surr: 1,2-Dichloroethane-d4	*996*	0	*1000*	0	*99.6*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*941.5*	0	*1000*	0	*94.2*	*70-130*	0			
Surr: Dibromofluoromethane	*1008*	0	*1000*	0	*101*	*70-130*	0			
Surr: Toluene-d8	*894.5*	0	*1000*	0	*89.4*	*70-130*	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 14091029
Project: WPX RWF 11-4 Batch 2 9.19.14

QC BATCH REPORT

Batch ID: **63019** Instrument ID **VMS5** Method: **SW8260B**

MSD Sample ID: **1409932-01A MSD** Units: **µg/Kg** Analysis Date: **9/22/2014 10:25 PM**
Client ID: Run ID: **VMS5_140922A** SeqNo: **2947787** Prep Date: **9/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	996	30	1000	0	99.6	75-125	1034	3.74	30	
Ethylbenzene	1068	30	1000	0	107	75-125	942	12.5	30	
m,p-Xylene	2142	60	2000	0	107	80-125	1943	9.74	30	
o-Xylene	1062	30	1000	0	106	75-125	958.5	10.2	30	
Toluene	975.5	30	1000	0	97.6	70-125	917	6.18	30	
Xylenes, Total	3204	90	3000	0	107	75-125	2902	9.89	30	
Surr: 1,2-Dichloroethane-d4	*970.5*	0	*1000*	0	*97*	*70-130*	996	*2.59*	*30*	
Surr: 4-Bromofluorobenzene	*1023*	0	*1000*	0	*102*	*70-130*	941.5	*8.3*	*30*	
Surr: Dibromofluoromethane	*972*	0	*1000*	0	*97.2*	*70-130*	1008	*3.69*	*30*	
Surr: Toluene-d8	*950.5*	0	*1000*	0	*95*	*70-130*	894.5	*6.07*	*30*	

The following samples were analyzed in this batch: 14091029-01A

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

Client: HRL Compliance Solutions, Inc
Work Order: 14091029
Project: WPX RWF 11-4 Batch 2 9.19.14

QC BATCH REPORT

Batch ID: **63074** Instrument ID **WETCHEM** Method: **SW9045D**

LCS Sample ID: **LCS-63074-63074** Units: **s.u.** Analysis Date: **9/23/2014 08:45 AM**
Client ID: Run ID: **WETCHEM_140923A** SeqNo: **2947366** Prep Date: **9/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	4.01	0	4	0	100	90-110	0			

DUP Sample ID: **14091025-01B DUP** Units: **s.u.** Analysis Date: **9/23/2014 08:45 AM**
Client ID: Run ID: **WETCHEM_140923A** SeqNo: **2947368** Prep Date: **9/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	9	0	0	0	0	0-0	9.02	0.222	20	

DUP Sample ID: **1409946-01B DUP** Units: **s.u.** Analysis Date: **9/23/2014 08:45 AM**
Client ID: Run ID: **WETCHEM_140923A** SeqNo: **2947378** Prep Date: **9/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	8.23	0	0	0	0	0-0	8.24	0.121	20	

The following samples were analyzed in this batch: 14091029-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14091029
Project: WPX RWF 11-4 Batch 2 9.19.14

QC BATCH REPORT

Batch ID: **63077** Instrument ID **WETCHEM** Method: **USDA H60 Method**

DUP Sample ID: **14091026-01C DUP** Units: **mmhos/cm @25°C** Analysis Date: **9/24/2014 03:00 PM**

Client ID: Run ID: **WETCHEM_140924I** SeqNo: **2950891** Prep Date: **9/24/2014** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	3.78	0.050	0	0	0		3.33	12.7	50	

The following samples were analyzed in this batch: 14091029-01C

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

Client: HRL Compliance Solutions, Inc
Work Order: 14091029
Project: WPX RWF 11-4 Batch 2 9.19.14

QC BATCH REPORT

Batch ID: **63103** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK Sample ID: **MBLK-63103-63103** Units: **mg/Kg** Analysis Date: **9/24/2014 09:45 AM**
Client ID: Run ID: **WETCHEM_140924A** SeqNo: **2949896** Prep Date: **9/22/2014** DF: **1**

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

LCS Sample ID: **LCS-63103-63103** Units: **mg/Kg** Analysis Date: **9/24/2014 09:45 AM**
Client ID: Run ID: **WETCHEM_140924A** SeqNo: **2949895** Prep Date: **9/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.72	0.50	2	0	86	80-120	0			

MS Sample ID: **14091028-01B MS** Units: **mg/Kg** Analysis Date: **9/24/2014 09:45 AM**
Client ID: Run ID: **WETCHEM_140924A** SeqNo: **2949890** Prep Date: **9/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.352	0.49	1.976	0.1151	62.6	75-125	0			S

MS Sample ID: **14091028-01B MSI** Units: **mg/Kg** Analysis Date: **9/24/2014 09:45 AM**
Client ID: Run ID: **WETCHEM_140924A** SeqNo: **2949892** Prep Date: **9/22/2014** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1030	50	997.6	0.1151	103	75-125	0			

MSD Sample ID: **14091028-01B MSD** Units: **mg/Kg** Analysis Date: **9/24/2014 09:45 AM**
Client ID: Run ID: **WETCHEM_140924A** SeqNo: **2949891** Prep Date: **9/22/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.72	0.50	2	0.1151	80.2	75-125	1.352	24	20	R

The following samples were analyzed in this batch: 14091029-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14091029
Project: WPX RWF 11-4 Batch 2 9.19.14

QC BATCH REPORT

Batch ID: **R148707** Instrument ID **MOIST** Method: **A2540 G**

MBLK Sample ID: **WBLKS-R148707** Units: **% of sample** Analysis Date: **9/22/2014 10:30 AM**
Client ID: Run ID: **MOIST_140922A** SeqNo: **2947929** 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-R148707** Units: **% of sample** Analysis Date: **9/22/2014 10:30 AM**
Client ID: Run ID: **MOIST_140922A** SeqNo: **2947928** 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: **14091023-01B DUP** Units: **% of sample** Analysis Date: **9/22/2014 10:30 AM**
Client ID: Run ID: **MOIST_140922A** SeqNo: **2947918** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	18.38	0.050	0	0	0	0-0	17.79	3.26	20	

The following samples were analyzed in this batch: 14091029-01B

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

ALS Laboratory Group

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

Chain-of-Custody

Form 202r8

WORKORDER #	1409029				
PAGE	1 of 1				
DISPOSAL	By Lab or Return to Client				

PROJECT NAME	WPX RWF 11-4	SAMPLER	Reed Wold	DATE	9/19/14
PROJECT No.	Batch 2	SITE ID	RWF 11-4	TURNAROUND	3 Day
		EDD FORMAT			
		PURCHASE ORDER			
COMPANY NAME	HRL Compliance	BILL TO COMPANY	WPX		
SEND REPORT TO	Mark Mumby	INVOICE ATTN TO	Karolina Blaney		
ADDRESS	2385 F 1/2 Rd	ADDRESS	1058 Co Rd 215		
CITY / STATE / ZIP	Grand Junction, CO 81506	CITY / STATE / ZIP	Parachure CO 81635		
PHONE	970-243-3271	PHONE	970-683-2295		
FAX	970-243-3280	FAX			
E-MAIL	mmumby@hrlcomp.com rwold@hrlcomp.com	E-MAIL	Karolina.blaney@wpxenergy.com		

BTEX 16260 / DRO PAH Metals / SAR EC pH

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC *			
-01	Batch 2	SO	9/19/14	11:20	3	8		x	x	x

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

For metals or anions, please detail analytes below.

Comments:	QC PACKAGE (check below)	
3.4c	X	LEVEL II (Standard QC)
		LEVEL III (Std QC + forms)
		LEVEL IV (Std QC + forms + raw data)

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	Reed Wold	Reed Wold	9/19/14	12:20
RECEIVED BY			9-19-14	12:20
RELINQUISHED BY			9-19-14	12:20
RECEIVED BY		J. RIBA	9/20/14	1030
RELINQUISHED BY				
RECEIVED BY				

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **HRL** Date/Time Received: **20-Sep-14 10:30**

Work Order: **14091029** Received by: **JR**

Checklist completed by Joseph Ribar (eSignature) 20-Sep-14 (Date) Reviewed by: Ann Preston (eSignature) 22-Sep-14 (Date)

Matrices: soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.4C		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	9/20/2014 11:33:43 AM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

From: (616) 399-6070
Nick Martinez
ALS Environmental
127 E. 1st Street

PARACHUTE, CO 81635

Origin ID: RILA

J1420140619032E

Ship Date: 19SEP14
ActWgt: 75.0 LB
CAD: 2264840/INET3550

Dims: 24 X 15 X 15 IN

Delivery Address Bar Code

Ref # 091914-1
Invoice #
PO # Parachute
Dept #

SHIP TO: (616) 399-6070 BILL SENDER

sample receiving
ALS Laboratory Group
3352 128TH AVE

HOLLAND, MI 49424

SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 0201 7712 2235 7960

X0 HLMA

49424
MI-US
GRR

522G1/CDB4/8AC8

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

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

04-Nov-2014

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

Re: **WPX RWF 11-4 Batch 3 10.28.14** Work Order: **14101769**

Dear Mark,

ALS Environmental received 1 sample on 30-Oct-2014 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 24.

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

Sincerely,

Ann Preston

Electronically approved by: Ann Preston

Ann Preston
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

ALS Group USA, Corp

Date: 04-Nov-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Batch 3 10.28.14
Work Order: **14101769**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
14101769-01	RWF 11-4 Batch 3	Soil		10/28/2014 11:05	10/30/2014 09:30	☐

ALS Group USA, Corp

Date: 04-Nov-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Batch 3 10.28.14
Work Order: 14101769

Case Narrative

Batch 64547 MS/MSD data for Metals is not related to this project's samples. No data requires qualification.

Batch 64560 MS/MSD data for Hexavalent Chromium is not related to this project's samples. No data requires qualification.

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
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: *04-Nov-14*

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Batch 3 10.28.14 **Work Order:** 14101769
Sample ID: RWF 11-4 Batch 3 **Lab ID:** 14101769-01
Collection Date: 10/28/2014 11:05 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep: SW3541 / 10/31/14	Analyst: **IT**
DRO (C10-C28)	**97**		**4.9**	**mg/Kg-dry**	1	10/31/2014 07:55 PM
Surr: 4-Terphenyl-d14	*60.0*		*39-133*	*%REC*	1	10/31/2014 07:55 PM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015**		Prep: SW5035 / 10/31/14	Analyst: **IT**
GRO (C6-C10)	ND		3.0	mg/Kg-dry	1	11/1/2014 10:17 AM
Surr: Toluene-d8	*104*		*50-150*	*%REC*	1	11/1/2014 10:17 AM
MERCURY BY CVAA			**SW7471**		Prep: SW7471 / 10/31/14	Analyst: **LR**
Mercury	**0.031**		**0.015**	**mg/Kg-dry**	1	10/31/2014 02:16 PM
METALS ANALYSIS BY ICP			**SW846 6010C**		Prep: SW3050B / 10/31/14	Analyst: **JEC**
Arsenic	**4.8**		**0.42**	**mg/Kg-dry**	1	10/31/2014 06:16 PM
Barium	**240**		**0.42**	**mg/Kg-dry**	1	10/31/2014 06:16 PM
Cadmium	ND		0.33	mg/Kg-dry	1	10/31/2014 06:16 PM
Chromium	**17**		**0.42**	**mg/Kg-dry**	1	10/31/2014 06:16 PM
Copper	**17**		**0.42**	**mg/Kg-dry**	1	10/31/2014 06:16 PM
Lead	**17**		**0.42**	**mg/Kg-dry**	1	10/31/2014 06:16 PM
Nickel	**30**		**0.42**	**mg/Kg-dry**	1	10/31/2014 06:16 PM
Selenium	ND		0.42	mg/Kg-dry	1	10/31/2014 06:16 PM
Silver	ND		0.42	mg/Kg-dry	1	10/31/2014 06:16 PM
Zinc	**63**		**0.83**	**mg/Kg-dry**	1	10/31/2014 06:16 PM
SOLUBLE CATIONS FOR SAR			**SW846 6010C**		Prep: USDA Method 20B / 11/1/14	Analyst: **JEC**
Calcium	**110**		**5.0**	**mg/L**	10	11/3/2014 03:14 PM
Magnesium	**94**		**2.0**	**mg/L**	10	11/3/2014 03:14 PM
Sodium	**640**		**2.0**	**mg/L**	10	11/3/2014 03:14 PM
SODIUM ADSORPTION RATIO			**USDA H60 METHOD**		Prep: USDA Method 20B / 11/1/14	Analyst: **JEC**
Sodium Adsorption Ratio	**11**		**0.010**	**none**	1	11/3/2014
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3541 / 10/31/14	Analyst: **RM**
Acenaphthene	ND		7.9	µg/Kg-dry	1	11/3/2014 01:05 PM
Acenaphthylene	ND		7.9	µg/Kg-dry	1	11/3/2014 01:05 PM
Anthracene	ND		7.9	µg/Kg-dry	1	11/3/2014 01:05 PM
Benzo(a)anthracene	**14**		**7.9**	**µg/Kg-dry**	1	11/3/2014 01:05 PM
Benzo(a)pyrene	ND		7.9	µg/Kg-dry	1	11/3/2014 01:05 PM
Benzo(b)fluoranthene	ND		7.9	µg/Kg-dry	1	11/3/2014 01:05 PM
Benzo(g,h,i)perylene	ND		7.9	µg/Kg-dry	1	11/3/2014 01:05 PM
Benzo(k)fluoranthene	ND		7.9	µg/Kg-dry	1	11/3/2014 01:05 PM
Chrysene	**20**		**7.9**	**µg/Kg-dry**	1	11/3/2014 01:05 PM

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

ALS Group USA, Corp

Date: *04-Nov-14*

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Batch 3 10.28.14 **Work Order:** 14101769
Sample ID: RWF 11-4 Batch 3 **Lab ID:** 14101769-01
Collection Date: 10/28/2014 11:05 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		7.9	µg/Kg-dry	1	11/3/2014 01:05 PM
Fluoranthene	**17**		**7.9**	**µg/Kg-dry**	1	11/3/2014 01:05 PM
Fluorene	ND		7.9	µg/Kg-dry	1	11/3/2014 01:05 PM
Indeno(1,2,3-cd)pyrene	ND		7.9	µg/Kg-dry	1	11/3/2014 01:05 PM
Naphthalene	ND		7.9	µg/Kg-dry	1	11/3/2014 01:05 PM
Pyrene	**22**		**7.9**	**µg/Kg-dry**	1	11/3/2014 01:05 PM
Surr: 2-Fluorobiphenyl	*65.2*		*12-100*	*%REC*	1	11/3/2014 01:05 PM
Surr: 4-Terphenyl-d14	*83.0*		*25-137*	*%REC*	1	11/3/2014 01:05 PM
Surr: Nitrobenzene-d5	*56.0*		*37-107*	*%REC*	1	11/3/2014 01:05 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep: SW5035 / 10/31/14	Analyst: **RS**
Benzene	ND		36	µg/Kg-dry	1	11/1/2014 02:47 AM
Ethylbenzene	ND		36	µg/Kg-dry	1	11/1/2014 02:47 AM
m,p-Xylene	ND		71	µg/Kg-dry	1	11/1/2014 02:47 AM
o-Xylene	ND		36	µg/Kg-dry	1	11/1/2014 02:47 AM
Toluene	ND		36	µg/Kg-dry	1	11/1/2014 02:47 AM
Xylenes, Total	ND		110	µg/Kg-dry	1	11/1/2014 02:47 AM
Surr: 1,2-Dichloroethane-d4	*102*		*70-130*	*%REC*	1	11/1/2014 02:47 AM
Surr: 4-Bromofluorobenzene	*102*		*70-130*	*%REC*	1	11/1/2014 02:47 AM
Surr: Dibromofluoromethane	*93.7*		*70-130*	*%REC*	1	11/1/2014 02:47 AM
Surr: Toluene-d8	*102*		*70-130*	*%REC*	1	11/1/2014 02:47 AM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHOD**		Prep: USDA Method 20B / 11/1/14	Analyst: **JB**
Electrical Conductivity @ Saturation	**4.5**		**0.050**	**mmhos/cm @25**	10	11/3/2014 02:00 PM
CHROMIUM, TRIVALENT			**CALCULATION**			Analyst: **MB**
Chromium, Trivalent	**17**		**0.59**	**mg/Kg-dry**	1	11/3/2014 05:30 PM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep: SW3060A / 10/30/14	Analyst: **MB**
Chromium, Hexavalent	ND		0.59	mg/Kg-dry	1	10/31/2014 04:00 PM
MOISTURE			**A2540 G**			Analyst: **EVB**
Moisture	**16**		**0.050**	**% of sample**	1	10/30/2014 09:00 PM
PH			**SW9045D**		Prep: EXTRACT / 10/31/14	Analyst: **JB**
pH	**8.7**			**s.u.**	1	10/31/2014 02:30 PM

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

ALS Group USA, Corp

Date: 04-Nov-14

Client: HRL Compliance Solutions, Inc

QC BATCH REPORT

Work Order: 14101769

Project: WPX RWF 11-4 Batch 3 10.28.14

Batch ID: **64524** Instrument ID **GC8** Method: **SW8015M**

MBLK Sample ID: **DBLKS1-64524-64524** Units: **mg/Kg** Analysis Date: **10/31/2014 05:10 PM**

Client ID: Run ID: **GC8_141031A** SeqNo: **3013968** Prep Date: **10/31/2014** 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	*1.106*	0	*2*	0	*55.3*	*39-133*	0			

LCS Sample ID: **DLCSS1-64524-64524** Units: **mg/Kg** Analysis Date: **10/31/2014 05:37 PM**

Client ID: Run ID: **GC8_141031A** SeqNo: **3013969** Prep Date: **10/31/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	157.4	5.0	200	0	78.7	61-109	0			
Surr: 4-Terphenyl-d14	*0.7984*	0	*2*	0	*39.9*	*39-133*	0			

MS Sample ID: **14101675-01A MS** Units: **mg/Kg** Analysis Date: **10/31/2014 06:05 PM**

Client ID: Run ID: **GC8_141031A** SeqNo: **3013970** Prep Date: **10/31/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	332	7.9	315.7	32.31	94.9	48-110	0			
Surr: 4-Terphenyl-d14	*1.621*	0	*3.157*	0	*51.3*	*39-133*	0			

MSD Sample ID: **14101675-01A MSD** Units: **mg/Kg** Analysis Date: **10/31/2014 06:32 PM**

Client ID: Run ID: **GC8_141031A** SeqNo: **3013971** Prep Date: **10/31/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	296.1	7.9	316.6	32.31	83.3	48-110	332	11.4	30	
Surr: 4-Terphenyl-d14	*1.796*	0	*3.166*	0	*56.7*	*39-133*	1.621	*10.2*	*30*	

The following samples were analyzed in this batch: 14101769-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101769
Project: WPX RWF 11-4 Batch 3 10.28.14

QC BATCH REPORT

Batch ID: **64541** Instrument ID **GC9** Method: **SW8015**

MBLK Sample ID: **MBLK-64541-64541** Units: **µg/Kg** Analysis Date: **11/1/2014 03:36 AM**
Client ID: Run ID: **GC9_141031A** SeqNo: **3013773** Prep Date: **10/31/2014** 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	*4925*	0	*5000*	0	*98.5*	*50-150*	0			

LCS Sample ID: **LCS-64541-64541** Units: **µg/Kg** Analysis Date: **11/1/2014 03:11 AM**
Client ID: Run ID: **GC9_141031A** SeqNo: **3013772** Prep Date: **10/31/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	563600	2,500	500000	0	113	70-130	0			
Surr: Toluene-d8	*4400*	0	*5000*	0	*88*	*50-150*	0			

MS Sample ID: **14101776-01B MS** Units: **µg/Kg** Analysis Date: **11/1/2014 04:26 AM**
Client ID: Run ID: **GC9_141031A** SeqNo: **3013775** Prep Date: **10/31/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	584900	2,500	500000	0	117	70-130	0			
Surr: Toluene-d8	*4868*	0	*5000*	0	*97.4*	*50-150*	0			

MSD Sample ID: **14101776-01B MSD** Units: **µg/Kg** Analysis Date: **11/1/2014 04:52 AM**
Client ID: Run ID: **GC9_141031A** SeqNo: **3013776** Prep Date: **10/31/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	571300	2,500	500000	0	114	70-130	584900	2.36	30	
Surr: Toluene-d8	*4797*	0	*5000*	0	*95.9*	*50-150*	4868	*1.46*	*30*	

The following samples were analyzed in this batch: 14101769-01A

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101769
Project: WPX RWF 11-4 Batch 3 10.28.14

QC BATCH REPORT

Batch ID: **64488** Instrument ID **HG1** Method: **SW7471**

MBLK Sample ID: **MBLK-64488-64488** Units: **mg/Kg** Analysis Date: **10/31/2014 01:31 PM**
Client ID: Run ID: **HG1_141031A** SeqNo: **3011644** Prep Date: **10/31/2014** 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-64488-64488** Units: **mg/Kg** Analysis Date: **10/31/2014 01:34 PM**
Client ID: Run ID: **HG1_141031A** SeqNo: **3011645** Prep Date: **10/31/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1772	0.020	0.1665	0	106	80-120	0			

MS Sample ID: **14101776-02AMS** Units: **mg/Kg** Analysis Date: **10/31/2014 01:38 PM**
Client ID: Run ID: **HG1_141031A** SeqNo: **3011647** Prep Date: **10/31/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1177	0.011	0.09259	0.003715	123	75-125	0			

MSD Sample ID: **14101776-02AMSD** Units: **mg/Kg** Analysis Date: **10/31/2014 01:42 PM**
Client ID: Run ID: **HG1_141031A** SeqNo: **3011648** Prep Date: **10/31/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1153	0.011	0.09302	0.003715	120	75-125	0.1177	2.05	35	

The following samples were analyzed in this batch: 14101769-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101769
Project: WPX RWF 11-4 Batch 3 10.28.14

QC BATCH REPORT

Batch ID: **64512** Instrument ID **ICP2** Method: **SW846 6010C**

DUP	Sample ID: **14101732-01C DUP**				Units: **mg/L**		Analysis Date: **11/3/2014 03:08 PM**			
Client ID:		Run ID: **ICP2_141103A**			SeqNo: **3014890**		Prep Date: **11/1/2014**		DF: **10**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	311.1	5.0	0	0	0	0-0	317	1.88		
Magnesium	54.58	2.0	0	0	0	0-0	56.04	2.64		
Sodium	495.1	2.0	0	0	0	0-0	502.5	1.49		

DUP	Sample ID: **14101732-01C DUP**				Units: **none**		Analysis Date: **11/3/2014**			
Client ID:		Run ID: **SAR_141103A**			SeqNo: **3014935**		Prep Date: **11/1/2014**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	6.807	0.010	0	0	0		6.839	0.468	50	

The following samples were analyzed in this batch: 14101769-01C

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101769
Project: WPX RWF 11-4 Batch 3 10.28.14

QC BATCH REPORT

Batch ID: **64547** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK Sample ID: **MBLK-64547-64547** Units: **mg/Kg** Analysis Date: **10/31/2014 05:59 PM**
Client ID: Run ID: **ICP2_141031B** SeqNo: **3013182** Prep Date: **10/31/2014** 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	ND	0.25								
Selenium	ND	0.50								
Silver	ND	0.25								
Zinc	0.1616	0.50								J

LCS Sample ID: **LCS-64547-64547** Units: **mg/Kg** Analysis Date: **10/31/2014 06:04 PM**
Client ID: Run ID: **ICP2_141031B** SeqNo: **3013183** Prep Date: **10/31/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.698	0.25	5	0	94	80-120	0			
Barium	4.693	0.25	5	0	93.9	80-120	0			
Cadmium	4.521	0.50	5	0	90.4	80-120	0			
Chromium	4.838	0.25	5	0	96.8	80-120	0			
Copper	4.869	0.50	5	0	97.4	80-120	0			
Lead	4.768	0.25	5	0	95.4	80-120	0			
Nickel	4.749	0.25	5	0	95	80-120	0			
Selenium	4.747	0.50	5	0	94.9	80-120	0			
Silver	4.927	0.25	5	0	98.5	80-120	0			
Zinc	5.021	0.50	5	0	100	80-120	0			

MS Sample ID: **14101823-03AMS** Units: **mg/Kg** Analysis Date: **10/31/2014 07:24 PM**
Client ID: Run ID: **ICP2_141031B** SeqNo: **3013197** Prep Date: **10/31/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	15.46	0.38	7.508	7.58	105	75-125	0			
Barium	242.1	0.38	7.508	266	-318	75-125	0			SO
Cadmium	7.121	0.75	7.508	0.1906	92.3	75-125	0			
Chromium	18.31	0.38	7.508	10.66	102	75-125	0			
Copper	19.91	0.75	7.508	13.2	89.3	75-125	0			
Lead	26.37	0.38	7.508	19.95	85.5	75-125	0			
Nickel	20.94	0.38	7.508	13.89	93.9	75-125	0			
Selenium	7.369	0.75	7.508	0.3791	93.1	75-125	0			
Silver	8.355	0.38	7.508	-0.03233	112	75-125	0			
Zinc	76.58	0.75	7.508	67.38	123	75-125	0			O

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101769
Project: WPX RWF 11-4 Batch 3 10.28.14

QC BATCH REPORT

Batch ID: **64547** Instrument ID **ICP2** Method: **SW846 6010C**

MSD Sample ID: **14101823-03AMSD** Units: **mg/Kg** Analysis Date: **10/31/2014 07:29 PM**
Client ID: Run ID: **ICP2_141031B** SeqNo: **3013198** Prep Date: **10/31/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	14.57	0.37	7.496	7.58	93.2	75-125	15.46	5.94	20	
Barium	268.5	0.37	7.496	266	33.6	75-125	242.1	10.3	20	SO
Cadmium	7.08	0.75	7.496	0.1906	91.9	75-125	7.121	0.577	20	
Chromium	17.9	0.37	7.496	10.66	96.5	75-125	18.31	2.25	20	
Copper	19.51	0.75	7.496	13.2	84	75-125	19.91	2.04	20	
Lead	25.67	0.37	7.496	19.95	76.3	75-125	26.37	2.7	20	
Nickel	20.24	0.37	7.496	13.89	84.8	75-125	20.94	3.38	20	
Selenium	7.556	0.75	7.496	0.3791	95.7	75-125	7.369	2.5	20	
Silver	8.241	0.37	7.496	-0.03233	110	75-125	8.355	1.38	20	
Zinc	74.71	0.75	7.496	67.38	97.9	75-125	76.58	2.47	20	O

The following samples were analyzed in this batch: 14101769-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101769
Project: WPX RWF 11-4 Batch 3 10.28.14

QC BATCH REPORT

Batch ID: **64523** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK Sample ID: **SBLKS1-64523-64523** Units: **µg/Kg** Analysis Date: **11/3/2014 10:23 AM**
Client ID: Run ID: **SVMS8_141103A** SeqNo: **3014423** Prep Date: **10/31/2014** 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	*1311*	0	*1667*	0	*78.7*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1758*	0	*1667*	0	*105*	*25-137*	0			
Surr: Nitrobenzene-d5	*1172*	0	*1667*	0	*70.3*	*37-107*	0			

LCS Sample ID: **SLCSS1-64523-64523** Units: **µg/Kg** Analysis Date: **11/3/2014 10:43 AM**
Client ID: Run ID: **SVMS8_141103A** SeqNo: **3014431** Prep Date: **10/31/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	536.7	6.7	666.7	0	80.5	45-110	0			
Acenaphthylene	533	6.7	666.7	0	79.9	45-105	0			
Anthracene	625.3	6.7	666.7	0	93.8	55-105	0			
Benzo(a)anthracene	633.3	6.7	666.7	0	95	50-110	0			
Benzo(a)pyrene	713.7	6.7	666.7	0	107	50-110	0			
Benzo(b)fluoranthene	700.7	6.7	666.7	0	105	45-115	0			
Benzo(g,h,i)perylene	641.3	6.7	666.7	0	96.2	40-125	0			
Benzo(k)fluoranthene	688	6.7	666.7	0	103	45-115	0			
Chrysene	664	6.7	666.7	0	99.6	55-110	0			
Dibenzo(a,h)anthracene	691	6.7	666.7	0	104	40-125	0			
Fluoranthene	635	6.7	666.7	0	95.2	55-115	0			
Fluorene	545.3	6.7	666.7	0	81.8	50-110	0			
Indeno(1,2,3-cd)pyrene	699.7	6.7	666.7	0	105	40-120	0			
Naphthalene	523	6.7	666.7	0	78.4	40-105	0			
Pyrene	660	6.7	666.7	0	99	45-125	0			
Surr: 2-Fluorobiphenyl	*1219*	0	*1667*	0	*73.2*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1567*	0	*1667*	0	*94*	*25-137*	0			
Surr: Nitrobenzene-d5	*1147*	0	*1667*	0	*68.8*	*37-107*	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101769
Project: WPX RWF 11-4 Batch 3 10.28.14

QC BATCH REPORT

Batch ID: **64523** Instrument ID **SVMS8** Method: **SW846 8270D**

MS Sample ID: **14101675-01A MS** Units: **µg/Kg** Analysis Date: **11/3/2014 11:03 AM**
Client ID: Run ID: **SVMS8_141103A** SeqNo: **3014432** Prep Date: **10/31/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	987.6	13	1313	0	75.2	45-110	0			
Acenaphthylene	1011	13	1313	0	77	45-105	0			
Anthracene	1150	13	1313	0	87.5	55-105	0			
Benzo(a)anthracene	1134	13	1313	0	86.3	50-110	0			
Benzo(a)pyrene	1309	13	1313	0	99.6	50-110	0			
Benzo(b)fluoranthene	1264	13	1313	0	96.2	45-115	0			
Benzo(g,h,i)perylene	1254	13	1313	0	95.4	40-125	0			
Benzo(k)fluoranthene	1265	13	1313	0	96.3	45-115	0			
Chrysene	1184	13	1313	0	90.1	55-110	0			
Dibenzo(a,h)anthracene	1323	13	1313	0	101	40-125	0			
Fluoranthene	1085	13	1313	0	82.6	55-115	0			
Fluorene	1039	13	1313	0	79.1	50-110	0			
Indeno(1,2,3-cd)pyrene	1329	13	1313	0	101	40-120	0			
Naphthalene	943.6	13	1313	0	71.8	40-105	0			
Pyrene	1284	13	1313	4.249	97.5	45-125	0			
Surr: 2-Fluorobiphenyl	*2242*	0	*3283*	0	*68.3*	*12-100*	0			
Surr: 4-Terphenyl-d14	*2906*	0	*3283*	0	*88.5*	*25-137*	0			
Surr: Nitrobenzene-d5	*1991*	0	*3283*	0	*60.6*	*37-107*	0			

MSD Sample ID: **14101675-01A MSD** Units: **µg/Kg** Analysis Date: **11/3/2014 11:24 AM**
Client ID: Run ID: **SVMS8_141103A** SeqNo: **3014433** Prep Date: **10/31/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	957.2	13	1325	0	72.2	45-110	987.6	3.12	30	
Acenaphthylene	1017	13	1325	0	76.7	45-105	1011	0.552	30	
Anthracene	1096	13	1325	0	82.7	55-105	1150	4.76	30	
Benzo(a)anthracene	1146	13	1325	0	86.5	50-110	1134	1.05	30	
Benzo(a)pyrene	1365	13	1325	0	103	50-110	1309	4.18	30	
Benzo(b)fluoranthene	1235	13	1325	0	93.2	45-115	1264	2.29	30	
Benzo(g,h,i)perylene	1209	13	1325	0	91.2	40-125	1254	3.62	30	
Benzo(k)fluoranthene	1252	13	1325	0	94.5	45-115	1265	1.06	30	
Chrysene	1192	13	1325	0	90	55-110	1184	0.711	30	
Dibenzo(a,h)anthracene	1262	13	1325	0	95.2	40-125	1323	4.74	30	
Fluoranthene	1113	13	1325	0	84	55-115	1085	2.56	30	
Fluorene	960.5	13	1325	0	72.5	50-110	1039	7.89	30	
Indeno(1,2,3-cd)pyrene	1282	13	1325	0	96.7	40-120	1329	3.62	30	
Naphthalene	1017	13	1325	0	76.7	40-105	943.6	7.47	30	
Pyrene	1166	13	1325	4.249	87.7	45-125	1284	9.67	30	
Surr: 2-Fluorobiphenyl	*2199*	0	*3312*	0	*66.4*	*12-100*	2242	*1.91*	*40*	
Surr: 4-Terphenyl-d14	*2663*	0	*3312*	0	*80.4*	*25-137*	2906	*8.72*	*40*	
Surr: Nitrobenzene-d5	*2050*	0	*3312*	0	*61.9*	*37-107*	1991	*2.93*	*40*	

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101769
Project: WPX RWF 11-4 Batch 3 10.28.14

QC BATCH REPORT

Batch ID: **64523** Instrument ID **SVMS8** Method: **SW846 8270D**

The following samples were analyzed in this batch: 14101769-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101769
Project: WPX RWF 11-4 Batch 3 10.28.14

QC BATCH REPORT

Batch ID: **64543** Instrument ID **VMS9** Method: **SW8260B**

MBLK Sample ID: **MBLK-64543-64543** Units: **µg/Kg** Analysis Date: **10/31/2014 04:10 PM**
Client ID: Run ID: **VMS9_141031A** SeqNo: **3012585** Prep Date: **10/31/2014** 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	*984*	0	*1000*	0	*98.4*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*948*	0	*1000*	0	*94.8*	*70-130*	0			
Surr: Dibromofluoromethane	*948.5*	0	*1000*	0	*94.8*	*70-130*	0			
Surr: Toluene-d8	*987*	0	*1000*	0	*98.7*	*70-130*	0			

LCS Sample ID: **LCS-64543-64543** Units: **µg/Kg** Analysis Date: **10/31/2014 01:22 PM**
Client ID: Run ID: **VMS9_141031A** SeqNo: **3012584** Prep Date: **10/31/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1072	30	1000	0	107	75-125	0			
Ethylbenzene	1046	30	1000	0	105	75-125	0			
m,p-Xylene	2064	60	2000	0	103	80-125	0			
o-Xylene	1021	30	1000	0	102	75-125	0			
Toluene	1030	30	1000	0	103	70-125	0			
Xylenes, Total	3086	90	3000	0	103	75-125	0			
Surr: 1,2-Dichloroethane-d4	*989.5*	0	*1000*	0	*99*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1029*	0	*1000*	0	*103*	*70-130*	0			
Surr: Dibromofluoromethane	*971.5*	0	*1000*	0	*97.2*	*70-130*	0			
Surr: Toluene-d8	*999.5*	0	*1000*	0	*100*	*70-130*	0			

MS Sample ID: **14101776-03B MS** Units: **µg/Kg** Analysis Date: **11/1/2014 01:19 PM**
Client ID: Run ID: **VMS7_141031C** SeqNo: **3012881** Prep Date: **10/31/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1097	30	1000	0	110	75-125	0			
Ethylbenzene	1062	30	1000	0	106	75-125	0			
m,p-Xylene	2094	60	2000	0	105	80-125	0			
o-Xylene	1032	30	1000	0	103	75-125	0			
Toluene	1040	30	1000	0	104	70-125	0			
Xylenes, Total	3126	90	3000	0	104	75-125	0			
Surr: 1,2-Dichloroethane-d4	*935.5*	0	*1000*	0	*93.6*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1034*	0	*1000*	0	*103*	*70-130*	0			
Surr: Dibromofluoromethane	*967.5*	0	*1000*	0	*96.8*	*70-130*	0			
Surr: Toluene-d8	*961*	0	*1000*	0	*96.1*	*70-130*	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101769
Project: WPX RWF 11-4 Batch 3 10.28.14

QC BATCH REPORT

Batch ID: **64543** Instrument ID **VMS9** Method: **SW8260B**

MSD Sample ID: **14101776-03B MSD** Units: **µg/Kg** Analysis Date: **11/1/2014 01:44 PM**
Client ID: Run ID: **VMS7_141031C** SeqNo: **3012882** Prep Date: **10/31/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1137	30	1000	0	114	75-125	1097	3.58	30	
Ethylbenzene	1092	30	1000	0	109	75-125	1062	2.79	30	
m,p-Xylene	2187	60	2000	0	109	80-125	2094	4.32	30	
o-Xylene	1080	30	1000	0	108	75-125	1032	4.59	30	
Toluene	1090	30	1000	0	109	70-125	1040	4.69	30	
Xylenes, Total	3268	90	3000	0	109	75-125	3126	4.41	30	
Surr: 1,2-Dichloroethane-d4	*925.5*	0	*1000*	0	*92.6*	*70-130*	935.5	*1.07*	*30*	
Surr: 4-Bromofluorobenzene	*1028*	0	*1000*	0	*103*	*70-130*	1034	*0.631*	*30*	
Surr: Dibromofluoromethane	*976.5*	0	*1000*	0	*97.6*	*70-130*	967.5	*0.926*	*30*	
Surr: Toluene-d8	*962*	0	*1000*	0	*96.2*	*70-130*	961	*0.104*	*30*	

The following samples were analyzed in this batch: 14101769-01A

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101769
Project: WPX RWF 11-4 Batch 3 10.28.14

QC BATCH REPORT

Batch ID: **64512** Instrument ID **WETCHEM** Method: **USDA H60 Method**

DUP Sample ID: **14101732-01C DUP** Units: **mmhos/cm @25°C** Analysis Date: **11/3/2014 02:00 PM**

Client ID: Run ID: **WETCHEM_141103C** SeqNo: **3014032** Prep Date: **11/1/2014** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	4.38	0.050	0	0	0		4.52	3.15	50	

The following samples were analyzed in this batch: 14101769-01C

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101769
Project: WPX RWF 11-4 Batch 3 10.28.14

QC BATCH REPORT

Batch ID: **64548** Instrument ID **WETCHEM** Method: **SW9045D**

LCS Sample ID: **LCS-64548-64548** Units: **s.u.** Analysis Date: **10/31/2014 02:30 PM**
Client ID: Run ID: **WETCHEM_141031I** SeqNo: **3011817** Prep Date: **10/31/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	3.95	0	4	0	98.8	90-110	0			

DUP Sample ID: **14101769-01B DUP** Units: **s.u.** Analysis Date: **10/31/2014 02:30 PM**
Client ID: **RWF 11-4 Batch 3** Run ID: **WETCHEM_141031I** SeqNo: **3011820** Prep Date: **10/31/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	8.54	0	0	0	0	0-0	8.67	1.51	20	

The following samples were analyzed in this batch: 14101769-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101769
Project: WPX RWF 11-4 Batch 3 10.28.14

QC BATCH REPORT

Batch ID: **64560** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK Sample ID: **MBLK-64560-64560** Units: **mg/Kg** Analysis Date: **10/31/2014 04:00 PM**
Client ID: Run ID: **WETCHEM_141031K** SeqNo: **3011912** Prep Date: **10/30/2014** DF: **1**

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

LCS Sample ID: **LCS-64560-64560** Units: **mg/Kg** Analysis Date: **10/31/2014 04:00 PM**
Client ID: Run ID: **WETCHEM_141031K** SeqNo: **3011911** Prep Date: **10/30/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.82	0.50	2	0	91	80-120	0			

MS Sample ID: **14101675-01A MS** Units: **mg/Kg** Analysis Date: **10/31/2014 04:00 PM**
Client ID: Run ID: **WETCHEM_141031K** SeqNo: **3011897** Prep Date: **10/30/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	ND	0.50	1.992	0	0	75-125	0			S

MS Sample ID: **14101675-01A MSI** Units: **mg/Kg** Analysis Date: **10/31/2014 04:00 PM**
Client ID: Run ID: **WETCHEM_141031K** SeqNo: **3011899** Prep Date: **10/30/2014** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	502.4	49	699.6	0	71.8	75-125	0			S

MSD Sample ID: **14101675-01A MSD** Units: **mg/Kg** Analysis Date: **10/31/2014 04:00 PM**
Client ID: Run ID: **WETCHEM_141031K** SeqNo: **3011898** Prep Date: **10/30/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	ND	0.50	1.992	0	0	75-125	0	0	20	S

The following samples were analyzed in this batch: 14101769-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101769
Project: WPX RWF 11-4 Batch 3 10.28.14

QC BATCH REPORT

Batch ID: **R151570** Instrument ID **MOIST** Method: **A2540 G**

MBLK Sample ID: **WBLKS-R151570** Units: **% of sample** Analysis Date: **10/30/2014 09:00 PM**
Client ID: Run ID: **MOIST_141030C** SeqNo: **3011991** 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-R151570** Units: **% of sample** Analysis Date: **10/30/2014 09:00 PM**
Client ID: Run ID: **MOIST_141030C** SeqNo: **3011990** 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: **14101731-01ADUP** Units: **% of sample** Analysis Date: **10/30/2014 09:00 PM**
Client ID: Run ID: **MOIST_141030C** SeqNo: **3011969** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	12.25	0.050	0	0	0	0-0	14.05	13.7	20	

DUP Sample ID: **14101763-01ADUP** Units: **% of sample** Analysis Date: **10/30/2014 09:00 PM**
Client ID: Run ID: **MOIST_141030C** SeqNo: **3011977** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	18.52	0.050	0	0	0	0-0	20.92	12.2	20	

The following samples were analyzed in this batch: 14101769-01B

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

ALS Environmental

3352 128th Avenue Holland, MI 49424
PH: (616) 399-6070

Chain-of-Custody

Form 202r4

WORKORDER #	14101769
PAGE	1of1
DISPOSAL	(By Lab) or Return to Client

PROJECT NAME	RWF 11-4 Batch 3	SAMPLER	Mike Lobato	DATE	10/28/14
PROJECT No.		SITE ID	RWF 11-4	TURNAROUND	3 Day
		EDD FORMAT			
		PURCHASE ORDER			
COMPANY NAME	HRL Compliance Solutions, Inc.	BILL TO COMPANY	WPX Energy		
SEND REPORT TO	Mark Mumby	INVOICE ATTN TO	Karolina Blaney		
ADDRESS	2385 F ½ Road	ADDRESS	1058 Co. Rd. 215		
CITY / STATE / ZIP	Grand Junction, CO 81505	CITY / STATE / ZIP	Parachute, CO 81635		
PHONE	970-243-3271	PHONE	970-683-2295		
FAX	970-243-3280	FAX			
E-MAIL	mmumby@hrlcomp.com; mlobato@hrlcomp.com	E-MAIL	Karolina.blaney@wpxenergy.com		

COGCC Table 910-1

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	
1	RWF 11-4 Batch 3	Soil	10/28/14	1105	3	8		X

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

For metals or anions, please detail analytes below.

Comments: Complete COGCC Table 910-1

4120

QC PACKAGE (check below)	
X	LEVEL II (Standard QC)
	LEVEL III (Std QC + forms)
	LEVEL IV (Std QC + forms + raw data)

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY		Mike Lobato	10/28/14	1604
RECEIVED BY			10/28	1609
RELINQUISHED BY			10/28	1654
RECEIVED BY		Diane F Shea	10/30/14	0930
RELINQUISHED BY				
RECEIVED BY				

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **HRL** Date/Time Received: **30-Oct-14 09:30**

Work Order: **14101769** Received by: **DS**

Checklist completed by Diane Shaw eSignature 30-Oct-14 Date Reviewed by: Ann Preston eSignature 30-Oct-14 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):	4.2 c		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	10/30/2014 3:17:14 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

From: (818) 399-6070
Nick Martinez
ALS Environmental
127 E. 1st Street

Parabeula, CO 81635

Origin ID: RILA

FedEx Express

Ship Date: 28OCT14
ActWgt: 58.0 LB
CAD: 2254840/INET3550

Dims: 14 X 28 X 15 IN

Delivery Address Bar Code

Ref # 102814-2
Invoice #
PO # Parachute
Dept #

SHIP TO: (616) 399-6070 BILL SENDER
sample receiving
ALS Laboratory Group
3352 128TH AVE

HOLLAND, MI 49424

4 of 4

MPS# 7716 6054 8864

Mstr# 7716 6054 8550

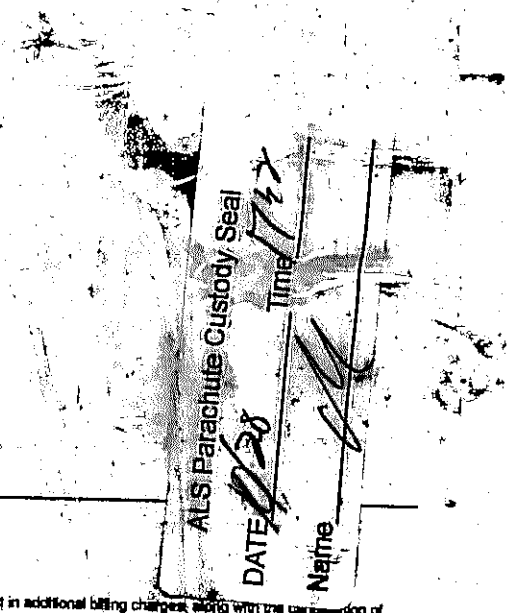
WED - 29 OCT 10:30A
PRIORITY OVERNIGHT

49424
MI-US

XX HLMA

GRR

9220 1/DPHL/ASCI



After printing this label:
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10-Dec-2014

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

Re: **WPX RWF 11-4 Batch 4 12.4.14** Work Order: **1412255**

Dear Mark,

ALS Environmental received 1 sample on 05-Dec-2014 09:00 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 24.

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

Sincerely,

Ann Preston

Electronically approved by: Ann Preston

Ann Preston
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

ALS Group USA, Corp

Date: 10-Dec-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Batch 4 12.4.14
Work Order: **1412255**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1412255-01	RWF 11-4 Batch 4	Soil		12/4/2014 11:25	12/5/2014 09:00	☐

ALS Group USA, Corp

Date: 10-Dec-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Batch 4 12.4.14
Work Order: 1412255

Case Narrative

Batch 65664 MS/MSD data for PAHs is not related to this project's samples. No data requires qualification.

Batch 65701 MS/MSD data for Metals is not related to this project's samples. No data requires qualification.

Batch 65748 sample 1412255-01 MS/MSD recoveries for Hexavalent Chromium were below the lower control limit. The corresponding result in the parent sample may be biased low for Hexavalent Chromium.

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
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: *10-Dec-14*

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Batch 4 12.4.14
Work Order: 1412255
Sample ID: RWF 11-4 Batch 4
Lab ID: 1412255-01
Collection Date: 12/4/2014 11:25 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			**SW8015M**		Prep: SW3541 / 12/5/14	Analyst: **IT**
DRO (C10-C28)	**21**		**5.0**	**mg/Kg-dry**	1	12/6/2014 01:04 AM
Surr: 4-Terphenyl-d14	*67.4*		*39-133*	*%REC*	1	12/6/2014 01:04 AM
GASOLINE RANGE ORGANICS BY GC-FID			**SW8015**		Prep: SW5035 / 12/5/14	Analyst: **IT**
GRO (C6-C10)	ND		3.0	mg/Kg-dry	1	12/6/2014 01:46 AM
Surr: Toluene-d8	*105*		*50-150*	*%REC*	1	12/6/2014 01:46 AM
MERCURY BY CVAA			**SW7471**		Prep: SW7471 / 12/5/14	Analyst: **LR**
Mercury	**0.019**		**0.018**	**mg/Kg-dry**	1	12/5/2014 04:08 PM
METALS ANALYSIS BY ICP			**SW846 6010C**		Prep: SW3050B / 12/6/14	Analyst: **JEC**
Arsenic	**5.3**		**0.49**	**mg/Kg-dry**	1	12/8/2014 06:41 PM
Barium	**270**		**0.49**	**mg/Kg-dry**	1	12/8/2014 06:41 PM
Cadmium	ND		0.39	mg/Kg-dry	1	12/8/2014 06:41 PM
Chromium	**16**		**0.49**	**mg/Kg-dry**	1	12/8/2014 06:41 PM
Copper	**17**		**0.49**	**mg/Kg-dry**	1	12/8/2014 06:41 PM
Lead	**10**		**0.49**	**mg/Kg-dry**	1	12/8/2014 06:41 PM
Nickel	**25**		**0.49**	**mg/Kg-dry**	1	12/8/2014 06:41 PM
Selenium	ND		0.49	mg/Kg-dry	1	12/8/2014 06:41 PM
Silver	ND		0.49	mg/Kg-dry	1	12/9/2014 01:09 PM
Zinc	**43**		**0.97**	**mg/Kg-dry**	1	12/8/2014 06:41 PM
SOLUBLE CATIONS FOR SAR			**SW846 6010C**		Prep: USDA Method 20B / 12/10/14	Analyst: **JEC**
Calcium	**59**		**5.0**	**mg/L**	10	12/10/2014 04:26 PM
Magnesium	**45**		**2.0**	**mg/L**	10	12/10/2014 04:26 PM
Sodium	**410**		**2.0**	**mg/L**	10	12/10/2014 04:26 PM
SODIUM ADSORPTION RATIO			**USDA H60 METHOD**		Prep: USDA Method 20B / 12/10/14	Analyst: **JEC**
Sodium Adsorption Ratio	**9.7**		**0.010**	**none**	1	12/10/2014
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3541 / 12/5/14	Analyst: **RM**
Acenaphthene	ND		8.0	µg/Kg-dry	1	12/8/2014 05:37 PM
Acenaphthylene	**12**		**8.0**	**µg/Kg-dry**	1	12/8/2014 05:37 PM
Anthracene	ND		8.0	µg/Kg-dry	1	12/8/2014 05:37 PM
Benzo(a)anthracene	ND		8.0	µg/Kg-dry	1	12/8/2014 05:37 PM
Benzo(a)pyrene	ND		8.0	µg/Kg-dry	1	12/8/2014 05:37 PM
Benzo(b)fluoranthene	ND		8.0	µg/Kg-dry	1	12/8/2014 05:37 PM
Benzo(g,h,i)perylene	ND		8.0	µg/Kg-dry	1	12/8/2014 05:37 PM
Benzo(k)fluoranthene	ND		8.0	µg/Kg-dry	1	12/8/2014 05:37 PM
Chrysene	ND		8.0	µg/Kg-dry	1	12/8/2014 05:37 PM

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

ALS Group USA, Corp

Date: *10-Dec-14*

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 11-4 Batch 4 12.4.14 **Work Order:** 1412255
Sample ID: RWF 11-4 Batch 4 **Lab ID:** 1412255-01
Collection Date: 12/4/2014 11:25 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		8.0	µg/Kg-dry	1	12/8/2014 05:37 PM
Fluoranthene	ND		8.0	µg/Kg-dry	1	12/8/2014 05:37 PM
Fluorene	ND		8.0	µg/Kg-dry	1	12/8/2014 05:37 PM
Indeno(1,2,3-cd)pyrene	ND		8.0	µg/Kg-dry	1	12/8/2014 05:37 PM
Naphthalene	ND		8.0	µg/Kg-dry	1	12/8/2014 05:37 PM
Pyrene	ND		8.0	µg/Kg-dry	1	12/8/2014 05:37 PM
Surr: 2-Fluorobiphenyl	*70.9*		*12-100*	*%REC*	1	12/8/2014 05:37 PM
Surr: 4-Terphenyl-d14	*73.5*		*25-137*	*%REC*	1	12/8/2014 05:37 PM
Surr: Nitrobenzene-d5	*75.1*		*37-107*	*%REC*	1	12/8/2014 05:37 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**		Prep: SW5035 / 12/5/14	Analyst: **AK**
Benzene	ND		36	µg/Kg-dry	1	12/8/2014 02:19 AM
Ethylbenzene	ND		36	µg/Kg-dry	1	12/8/2014 02:19 AM
m,p-Xylene	ND		73	µg/Kg-dry	1	12/8/2014 02:19 AM
o-Xylene	ND		36	µg/Kg-dry	1	12/8/2014 02:19 AM
Toluene	ND		36	µg/Kg-dry	1	12/8/2014 02:19 AM
Xylenes, Total	ND		110	µg/Kg-dry	1	12/8/2014 02:19 AM
Surr: 1,2-Dichloroethane-d4	*101*		*70-130*	*%REC*	1	12/8/2014 02:19 AM
Surr: 4-Bromofluorobenzene	*101*		*70-130*	*%REC*	1	12/8/2014 02:19 AM
Surr: Dibromofluoromethane	*93.0*		*70-130*	*%REC*	1	12/8/2014 02:19 AM
Surr: Toluene-d8	*96.6*		*70-130*	*%REC*	1	12/8/2014 02:19 AM
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 METHOD**		Prep: USDA Method 20B / 12/10/14	Analyst: **JB**
Electrical Conductivity @ Saturation	**3.0**		**0.050**	**mmhos/cm @25**	10	12/10/2014 04:15 PM
CHROMIUM, TRIVALENT			**CALCULATION**			Analyst: **MB**
Chromium, Trivalent	**16**		**0.61**	**mg/Kg-dry**	1	12/9/2014 04:30 PM
CHROMIUM, HEXAVALENT			**SW7196A**		Prep: SW3060A / 12/8/14	Analyst: **DAH**
Chromium, Hexavalent	ND		0.61	mg/Kg-dry	1	12/9/2014 02:30 PM
MOISTURE			**A2540 G**			Analyst: **EVB**
Moisture	**17**		**0.050**	**% of sample**	1	12/5/2014 04:00 PM
PH			**SW9045D**		Prep: EXTRACT / 12/8/14	Analyst: **AXL**
pH	**8.5**			**s.u.**	1	12/8/2014 05:00 PM

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

ALS Group USA, Corp

Date: 10-Dec-14

Client: HRL Compliance Solutions, Inc

Work Order: 1412255

Project: WPX RWF 11-4 Batch 4 12.4.14

QC BATCH REPORT

Batch ID: **65665** Instrument ID **GC8** Method: **SW8015M**

MBLK Sample ID: **DBLKS1-65665-65665** Units: **mg/Kg** Analysis Date: **12/5/2014 08:23 PM**

Client ID: Run ID: **GC8_141205A** SeqNo: **3064025** Prep Date: **12/5/2014** 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	*1.832*	0	*2*	0	*91.6*	*39-133*	0			

LCS Sample ID: **DLCSS1-65665-65665** Units: **mg/Kg** Analysis Date: **12/5/2014 08:48 PM**

Client ID: Run ID: **GC8_141205A** SeqNo: **3064026** Prep Date: **12/5/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	165.8	5.0	200	0	82.9	61-109	0			
Surr: 4-Terphenyl-d14	*1.49*	0	*2*	0	*74.5*	*39-133*	0			

MS Sample ID: **1412197-01A MS** Units: **mg/Kg** Analysis Date: **12/5/2014 09:14 PM**

Client ID: Run ID: **GC8_141205A** SeqNo: **3064027** Prep Date: **12/5/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	368	8.2	327.5	95.64	83.2	48-110	0			
Surr: 4-Terphenyl-d14	*2.419*	0	*3.275*	0	*73.9*	*39-133*	0			

MSD Sample ID: **1412197-01A MSD** Units: **mg/Kg** Analysis Date: **12/5/2014 09:39 PM**

Client ID: Run ID: **GC8_141205A** SeqNo: **3064028** Prep Date: **12/5/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	351.8	8.1	322.2	95.64	79.5	48-110	368	4.52	30	
Surr: 4-Terphenyl-d14	*2.496*	0	*3.222*	0	*77.5*	*39-133*	2.419	*3.14*	*30*	

The following samples were analyzed in this batch: 1412255-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412255
Project: WPX RWF 11-4 Batch 4 12.4.14

QC BATCH REPORT

Batch ID: **65691** Instrument ID **GC10** Method: **SW8015**

MBLK Sample ID: **MBLK-65691-65691** Units: **µg/Kg** Analysis Date: **12/6/2014 12:58 PM**
Client ID: Run ID: **GC10_141205A** SeqNo: **3064022** Prep Date: **12/5/2014** 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	*5406*	0	*5000*	0	*108*	*50-150*	0			

LCS Sample ID: **LCS-65691-65691** Units: **µg/Kg** Analysis Date: **12/6/2014 12:34 PM**
Client ID: Run ID: **GC10_141205A** SeqNo: **3064021** Prep Date: **12/5/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	566800	2,500	500000	0	113	70-130	0			
Surr: Toluene-d8	*5359*	0	*5000*	0	*107*	*50-150*	0			

MS Sample ID: **1412255-01A MS** Units: **µg/Kg** Analysis Date: **12/6/2014 05:00 AM**
Client ID: **RWF 11-4 Batch 4** Run ID: **GC10_141205A** SeqNo: **3064019** Prep Date: **12/5/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	560400	2,500	500000	0	112	70-130	0			
Surr: Toluene-d8	*5296*	0	*5000*	0	*106*	*50-150*	0			

MSD Sample ID: **1412255-01A MSD** Units: **µg/Kg** Analysis Date: **12/6/2014 05:25 AM**
Client ID: **RWF 11-4 Batch 4** Run ID: **GC10_141205A** SeqNo: **3064020** Prep Date: **12/5/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	543400	2,500	500000	0	109	70-130	560400	3.08	30	
Surr: Toluene-d8	*5240*	0	*5000*	0	*105*	*50-150*	5296	*1.05*	*30*	

The following samples were analyzed in this batch: 1412255-01A

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412255
Project: WPX RWF 11-4 Batch 4 12.4.14

QC BATCH REPORT

Batch ID: **65642** Instrument ID **HG1** Method: **SW7471**

MBLK Sample ID: **MBLK-65642-65642** Units: **mg/Kg** Analysis Date: **12/5/2014 02:59 PM**
Client ID: Run ID: **HG1_141205A** SeqNo: **3063762** Prep Date: **12/5/2014** 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-65642-65642** Units: **mg/Kg** Analysis Date: **12/5/2014 03:02 PM**
Client ID: Run ID: **HG1_141205A** SeqNo: **3063763** Prep Date: **12/5/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1728	0.020	0.1665	0	104	80-120	0			

MS Sample ID: **1412257-02BMS** Units: **mg/Kg** Analysis Date: **12/5/2014 03:15 PM**
Client ID: Run ID: **HG1_141205A** SeqNo: **3063769** Prep Date: **12/5/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1431	0.013	0.1043	0.02382	114	75-125	0			

MSD Sample ID: **1412257-02BMSD** Units: **mg/Kg** Analysis Date: **12/5/2014 03:18 PM**
Client ID: Run ID: **HG1_141205A** SeqNo: **3063770** Prep Date: **12/5/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1473	0.012	0.103	0.02382	120	75-125	0.1431	2.9	35	

The following samples were analyzed in this batch: 1412255-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412255
Project: WPX RWF 11-4 Batch 4 12.4.14

QC BATCH REPORT

Batch ID: **65701** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK Sample ID: **MBLK-65701-65701** Units: **mg/L** Analysis Date: **12/8/2014 05:10 PM**
Client ID: Run ID: **ICP2_141208A** SeqNo: **3065721** Prep Date: **12/6/2014** 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	ND	0.25								
Selenium	ND	0.50								
Silver	ND	0.25								
Zinc	0.1439	0.50								J

MBLK Sample ID: **MBLK-65701-65701** Units: **mg/Kg** Analysis Date: **12/9/2014 11:43 AM**
Client ID: Run ID: **ICP2_141209A** SeqNo: **3067281** Prep Date: **12/6/2014** DF: **1**

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

LCS Sample ID: **LCS-65701-65701** Units: **mg/Kg** Analysis Date: **12/8/2014 05:18 PM**
Client ID: Run ID: **ICP2_141208A** SeqNo: **3066193** Prep Date: **12/6/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.696	0.25	5	0	93.9	80-120	0			
Barium	4.847	0.25	5	0	96.9	80-120	0			
Cadmium	4.64	0.50	5	0	92.8	80-120	0			
Chromium	5.081	0.25	5	0	102	80-120	0			
Copper	5.006	0.50	5	0	100	80-120	0			
Lead	5.09	0.25	5	0	102	80-120	0			
Nickel	4.903	0.25	5	0	98.1	80-120	0			
Selenium	4.74	0.50	5	0	94.8	80-120	0			
Silver	4.378	0.25	5	0	87.6	80-120	0			
Zinc	4.936	0.50	5	0	98.7	80-120	0			

LCS Sample ID: **LCS-65701-65701** Units: **mg/Kg** Analysis Date: **12/9/2014 11:49 AM**
Client ID: Run ID: **ICP2_141209A** SeqNo: **3067282** Prep Date: **12/6/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Silver	4.522	0.25	5	0	90.4	80-120	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412255
Project: WPX RWF 11-4 Batch 4 12.4.14

QC BATCH REPORT

Batch ID: **65701** Instrument ID **ICP2** Method: **SW846 6010C**

MS Sample ID: **1412277-03AMS** Units: **mg/Kg** Analysis Date: **12/8/2014 05:51 PM**
Client ID: Run ID: **ICP2_141208A** SeqNo: **3066199** Prep Date: **12/6/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	15.23	0.34	6.859	7.716	110	75-125	0			
Barium	129.3	0.34	6.859	115.9	195	75-125	0			SO
Cadmium	6.249	0.69	6.859	-0.04429	91.7	75-125	0			
Chromium	20.48	0.34	6.859	9.629	158	75-125	0			S
Copper	20.33	0.69	6.859	13.41	101	75-125	0			
Lead	22.56	0.34	6.859	15.18	108	75-125	0			
Nickel	22.89	0.34	6.859	15.69	105	75-125	0			
Selenium	8.366	0.69	6.859	1.348	102	75-125	0			
Zinc	92.75	0.69	6.859	81.28	167	75-125	0			SO

MS Sample ID: **1412277-03AMS** Units: **mg/Kg** Analysis Date: **12/9/2014 12:22 PM**
Client ID: Run ID: **ICP2_141209A** SeqNo: **3067288** Prep Date: **12/6/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Silver	6.838	0.34	6.859	-0.0769	101	75-125	0			

MSD Sample ID: **1412277-03AMSD** Units: **mg/Kg** Analysis Date: **12/8/2014 05:57 PM**
Client ID: Run ID: **ICP2_141208A** SeqNo: **3066200** Prep Date: **12/6/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	15.01	0.35	6.935	7.716	105	75-125	15.23	1.43	20	
Barium	117.4	0.35	6.935	115.9	21.5	75-125	129.3	9.62	20	SO
Cadmium	6.444	0.69	6.935	-0.04429	93.6	75-125	6.249	3.07	20	
Chromium	21.03	0.35	6.935	9.629	164	75-125	20.48	2.65	20	S
Copper	20.93	0.69	6.935	13.41	109	75-125	20.33	2.94	20	
Lead	22.62	0.35	6.935	15.18	107	75-125	22.56	0.265	20	
Nickel	23.88	0.35	6.935	15.69	118	75-125	22.89	4.25	20	
Selenium	8.269	0.69	6.935	1.348	99.8	75-125	8.366	1.16	20	
Zinc	95.06	0.69	6.935	81.28	199	75-125	92.75	2.45	20	SO

MSD Sample ID: **1412277-03AMSD** Units: **mg/Kg** Analysis Date: **12/9/2014 12:27 PM**
Client ID: Run ID: **ICP2_141209A** SeqNo: **3067289** Prep Date: **12/6/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Silver	6.985	0.35	6.935	-0.0769	102	75-125	6.838	2.12	20	

The following samples were analyzed in this batch: 1412255-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412255
Project: WPX RWF 11-4 Batch 4 12.4.14

QC BATCH REPORT

Batch ID: **65781** Instrument ID **ICP2** Method: **SW846 6010C**

DUP Sample ID: **1412255-01CDUP** Units: **mg/L** Analysis Date: **12/10/2014 05:17 PM**
Client ID: **RWF 11-4 Batch 4** Run ID: **ICP2_141210A** SeqNo: **3070221** Prep Date: **12/10/2014** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	55.64	5.0	0	0	0	0-0	59.15	6.11		
Magnesium	41.13	2.0	0	0	0	0-0	44.65	8.21		
Sodium	384	2.0	0	0	0	0-0	406.3	5.62		

DUP Sample ID: **1412255-01CDUP** Units: **none** Analysis Date: **12/10/2014**
Client ID: **RWF 11-4 Batch 4** Run ID: **SAR_141210A** SeqNo: **3070226** Prep Date: **12/10/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	9.518	0.010	0	0	0		9.709	1.99	50	

The following samples were analyzed in this batch: 1412255-01C

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412255
Project: WPX RWF 11-4 Batch 4 12.4.14

QC BATCH REPORT

Batch ID: **65664** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK Sample ID: **SBLKS1-65664-65664** Units: **µg/Kg** Analysis Date: **12/8/2014 01:32 PM**
Client ID: Run ID: **SVMS8_141208A** SeqNo: **3067936** Prep Date: **12/5/2014** 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	*1301*	0	*1667*	0	*78.1*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1806*	0	*1667*	0	*108*	*25-137*	0			
Surr: Nitrobenzene-d5	*1496*	0	*1667*	0	*89.7*	*37-107*	0			

LCS Sample ID: **SLCSS1-65664-65664** Units: **µg/Kg** Analysis Date: **12/8/2014 01:52 PM**
Client ID: Run ID: **SVMS8_141208A** SeqNo: **3067937** Prep Date: **12/5/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	638.7	6.7	666.7	0	95.8	45-110	0			
Acenaphthylene	636.7	6.7	666.7	0	95.5	45-105	0			
Anthracene	689	6.7	666.7	0	103	55-105	0			
Benzo(a)anthracene	708.3	6.7	666.7	0	106	50-110	0			
Benzo(a)pyrene	719.3	6.7	666.7	0	108	50-110	0			
Benzo(b)fluoranthene	726	6.7	666.7	0	109	45-115	0			
Benzo(g,h,i)perylene	778.7	6.7	666.7	0	117	40-125	0			
Benzo(k)fluoranthene	719	6.7	666.7	0	108	45-115	0			
Chrysene	679.3	6.7	666.7	0	102	55-110	0			
Dibenzo(a,h)anthracene	778	6.7	666.7	0	117	40-125	0			
Fluoranthene	695	6.7	666.7	0	104	55-115	0			
Fluorene	605.7	6.7	666.7	0	90.8	50-110	0			
Indeno(1,2,3-cd)pyrene	784.3	6.7	666.7	0	118	40-120	0			
Naphthalene	603	6.7	666.7	0	90.4	40-105	0			
Pyrene	779.7	6.7	666.7	0	117	45-125	0			
Surr: 2-Fluorobiphenyl	*1406*	0	*1667*	0	*84.4*	*12-100*	0			
Surr: 4-Terphenyl-d14	*1789*	0	*1667*	0	*107*	*25-137*	0			
Surr: Nitrobenzene-d5	*1622*	0	*1667*	0	*97.3*	*37-107*	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412255
Project: WPX RWF 11-4 Batch 4 12.4.14

QC BATCH REPORT

Batch ID: **65664** Instrument ID **SVMS8** Method: **SW846 8270D**

MS Sample ID: **1412195-04B MS** Units: **µg/Kg** Analysis Date: **12/8/2014 02:33 PM**

Client ID: Run ID: **SVMS8_141208A** SeqNo: **3067938** Prep Date: **12/5/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1178	13	1300	0	90.6	45-110	0			
Acenaphthylene	1211	13	1300	0	93.1	45-105	0			
Anthracene	1340	13	1300	0	103	55-105	0			
Benzo(a)anthracene	1375	13	1300	0	106	50-110	0			
Benzo(a)pyrene	1459	13	1300	0	112	50-110	0			S
Benzo(b)fluoranthene	1485	13	1300	0	114	45-115	0			
Benzo(g,h,i)perylene	1555	13	1300	0	120	40-125	0			
Benzo(k)fluoranthene	1480	13	1300	0	114	45-115	0			
Chrysene	1329	13	1300	0	102	55-110	0			
Dibenzo(a,h)anthracene	1490	13	1300	0	115	40-125	0			
Fluoranthene	1354	13	1300	0	104	55-115	0			
Fluorene	1198	13	1300	0	92.1	50-110	0			
Indeno(1,2,3-cd)pyrene	1493	13	1300	0	115	40-120	0			
Naphthalene	1148	13	1300	0	88.3	40-105	0			
Pyrene	1567	13	1300	0	120	45-125	0			
Surr: 2-Fluorobiphenyl	*2607*	0	*3251*	0	*80.2*	*12-100*	0			
Surr: 4-Terphenyl-d14	*3601*	0	*3251*	0	*111*	*25-137*	0			
Surr: Nitrobenzene-d5	*3263*	0	*3251*	0	*100*	*37-107*	0			

MSD Sample ID: **1412195-04B MSD** Units: **µg/Kg** Analysis Date: **12/8/2014 02:53 PM**

Client ID: Run ID: **SVMS8_141208A** SeqNo: **3067940** Prep Date: **12/5/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1124	13	1266	0	88.7	45-110	1178	4.73	30	
Acenaphthylene	1172	13	1266	0	92.6	45-105	1211	3.21	30	
Anthracene	1262	13	1266	0	99.6	55-105	1340	6.02	30	
Benzo(a)anthracene	1299	13	1266	0	103	50-110	1375	5.69	30	
Benzo(a)pyrene	1383	13	1266	0	109	50-110	1459	5.33	30	
Benzo(b)fluoranthene	1415	13	1266	0	112	45-115	1485	4.84	30	
Benzo(g,h,i)perylene	1425	13	1266	0	113	40-125	1555	8.74	30	
Benzo(k)fluoranthene	1372	13	1266	0	108	45-115	1480	7.62	30	
Chrysene	1244	13	1266	0	98.2	55-110	1329	6.61	30	
Dibenzo(a,h)anthracene	1359	13	1266	0	107	40-125	1490	9.15	30	
Fluoranthene	1255	13	1266	0	99.1	55-115	1354	7.59	30	
Fluorene	1093	13	1266	0	86.3	50-110	1198	9.11	30	
Indeno(1,2,3-cd)pyrene	1421	13	1266	0	112	40-120	1493	4.96	30	
Naphthalene	1109	13	1266	0	87.6	40-105	1148	3.46	30	
Pyrene	1504	13	1266	0	119	45-125	1567	4.13	30	
Surr: 2-Fluorobiphenyl	*2580*	0	*3165*	0	*81.5*	*12-100*	2607	*1.04*	*40*	
Surr: 4-Terphenyl-d14	*3297*	0	*3165*	0	*104*	*25-137*	3601	*8.81*	*40*	
Surr: Nitrobenzene-d5	*3115*	0	*3165*	0	*98.4*	*37-107*	3263	*4.64*	*40*	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412255
Project: WPX RWF 11-4 Batch 4 12.4.14

QC BATCH REPORT

Batch ID: **65664** Instrument ID **SVMS8** Method: **SW846 8270D**

The following samples were analyzed in this batch:	1412255-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412255
Project: WPX RWF 11-4 Batch 4 12.4.14

QC BATCH REPORT

Batch ID: **65687** Instrument ID **VMS5** Method: **SW8260B**

MBLK Sample ID: **MBLK-65687-65687** Units: **µg/Kg** Analysis Date: **12/6/2014 01:34 AM**
Client ID: Run ID: **VMS5_141205B** SeqNo: **3064142** Prep Date: **12/5/2014** 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	*969*	0	*1000*	0	*96.9*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*981*	0	*1000*	0	*98.1*	*70-130*	0			
Surr: Dibromofluoromethane	*995.5*	0	*1000*	0	*99.6*	*70-130*	0			
Surr: Toluene-d8	*992*	0	*1000*	0	*99.2*	*70-130*	0			

LCS Sample ID: **LCS-65687-65687** Units: **µg/Kg** Analysis Date: **12/6/2014 12:17 PM**
Client ID: Run ID: **VMS5_141205B** SeqNo: **3064143** Prep Date: **12/5/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1058	30	1000	0	106	75-125	0			
Ethylbenzene	1112	30	1000	0	111	75-125	0			
m,p-Xylene	2255	60	2000	0	113	80-125	0			
o-Xylene	1122	30	1000	0	112	75-125	0			
Toluene	1066	30	1000	0	107	70-125	0			
Xylenes, Total	3376	90	3000	0	113	75-125	0			
Surr: 1,2-Dichloroethane-d4	*954.5*	0	*1000*	0	*95.4*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1034*	0	*1000*	0	*103*	*70-130*	0			
Surr: Dibromofluoromethane	*998.5*	0	*1000*	0	*99.8*	*70-130*	0			
Surr: Toluene-d8	*988*	0	*1000*	0	*98.8*	*70-130*	0			

MS Sample ID: **1412257-01A MS** Units: **µg/Kg** Analysis Date: **12/8/2014 04:35 AM**
Client ID: Run ID: **VMS6_141207A** SeqNo: **3064765** Prep Date: **12/5/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1005	30	1000	0	100	75-125	0			
Ethylbenzene	1047	30	1000	0	105	75-125	0			
m,p-Xylene	2102	60	2000	24	104	80-125	0			
o-Xylene	1086	30	1000	14	107	75-125	0			
Toluene	976	30	1000	0	97.6	70-125	0			
Xylenes, Total	3187	90	3000	38	105	75-125	0			
Surr: 1,2-Dichloroethane-d4	*999*	0	*1000*	0	*99.9*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*993.5*	0	*1000*	0	*99.4*	*70-130*	0			
Surr: Dibromofluoromethane	*979.5*	0	*1000*	0	*98*	*70-130*	0			
Surr: Toluene-d8	*986.5*	0	*1000*	0	*98.6*	*70-130*	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412255
Project: WPX RWF 11-4 Batch 4 12.4.14

QC BATCH REPORT

Batch ID: **65687** Instrument ID **VMS5** Method: **SW8260B**

MSD Sample ID: **1412257-01A MSD** Units: **µg/Kg** Analysis Date: **12/8/2014 05:01 AM**
Client ID: Run ID: **VMS6_141207A** SeqNo: **3064766** Prep Date: **12/5/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	908.5	30	1000	0	90.8	75-125	1005	10.1	30	
Ethylbenzene	1022	30	1000	0	102	75-125	1047	2.42	30	
m,p-Xylene	2038	60	2000	24	101	80-125	2102	3.09	30	
o-Xylene	1051	30	1000	14	104	75-125	1086	3.23	30	
Toluene	976	30	1000	0	97.6	70-125	976	0	30	
Xylenes, Total	3088	90	3000	38	102	75-125	3187	3.14	30	
Surr: 1,2-Dichloroethane-d4	*895.5*	0	*1000*	0	*89.6*	*70-130*	999	*10.9*	*30*	
Surr: 4-Bromofluorobenzene	*1017*	0	*1000*	0	*102*	*70-130*	993.5	*2.34*	*30*	
Surr: Dibromofluoromethane	*934*	0	*1000*	0	*93.4*	*70-130*	979.5	*4.76*	*30*	
Surr: Toluene-d8	*1049*	0	*1000*	0	*105*	*70-130*	986.5	*6.14*	*30*	

The following samples were analyzed in this batch: 1412255-01A

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412255
Project: WPX RWF 11-4 Batch 4 12.4.14

QC BATCH REPORT

Batch ID: **65748** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK Sample ID: **MBLK-65748-65748** Units: **mg/Kg** Analysis Date: **12/9/2014 02:30 PM**
Client ID: Run ID: **WETCHEM_141209L** SeqNo: **3067968** Prep Date: **12/8/2014** DF: **1**

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

LCS Sample ID: **LCS-65748-65748** Units: **mg/Kg** Analysis Date: **12/9/2014 02:30 PM**
Client ID: Run ID: **WETCHEM_141209L** SeqNo: **3067969** Prep Date: **12/8/2014** DF: **1**

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

MS Sample ID: **1412255-01B MS** Units: **mg/Kg** Analysis Date: **12/9/2014 02:30 PM**
Client ID: **RWF 11-4 Batch 4** Run ID: **WETCHEM_141209L** SeqNo: **3067971** Prep Date: **12/8/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.508	0.50	1.984	0.368	57.5	75-125	0			S

MS Sample ID: **1412255-01B MSI** Units: **mg/Kg** Analysis Date: **12/9/2014 02:30 PM**
Client ID: **RWF 11-4 Batch 4** Run ID: **WETCHEM_141209L** SeqNo: **3067973** Prep Date: **12/8/2014** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	656.2	50	692.3	0.368	94.7	75-125	0			

MSD Sample ID: **1412255-01B MSD** Units: **mg/Kg** Analysis Date: **12/9/2014 02:30 PM**
Client ID: **RWF 11-4 Batch 4** Run ID: **WETCHEM_141209L** SeqNo: **3067972** Prep Date: **12/8/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.62	0.50	2	0.368	62.6	75-125	1.508	7.17	20	S

The following samples were analyzed in this batch: 1412255-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412255
Project: WPX RWF 11-4 Batch 4 12.4.14

QC BATCH REPORT

Batch ID: **65749** Instrument ID **WETCHEM** Method: **SW9045D**

LCS Sample ID: **LCS-65749-65749** Units: **s.u.** Analysis Date: **12/8/2014 05:00 PM**

Client ID: Run ID: **WETCHEM_141208G** SeqNo: **3065632** Prep Date: **12/8/2014** 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: **1412273-01A dup** Units: **s.u.** Analysis Date: **12/8/2014 05:00 PM**

Client ID: Run ID: **WETCHEM_141208G** SeqNo: **3065637** Prep Date: **12/8/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.73	0	0	0	0	0-0	7.69	0.519	20	

The following samples were analyzed in this batch: 1412255-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412255
Project: WPX RWF 11-4 Batch 4 12.4.14

QC BATCH REPORT

Batch ID: **65781** Instrument ID **WETCHEM** Method: **USDA H60 Method**

DUP Sample ID: **1412255-01C DUP** Units: **mmhos/cm @25°C** Analysis Date: **12/10/2014 04:15 PM**

Client ID: **RWF 11-4 Batch 4** Run ID: **WETCHEM_141210Q** SeqNo: **3070020** Prep Date: **12/10/2014** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	2.79	0.050	0	0	0		2.96	5.91	50	

The following samples were analyzed in this batch: 1412255-01C

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412255
Project: WPX RWF 11-4 Batch 4 12.4.14

QC BATCH REPORT

Batch ID: **R153789** Instrument ID **MOIST** Method: **A2540 G**

MBLK Sample ID: **WBLKS-R153789** Units: **% of sample** Analysis Date: **12/5/2014 04:00 PM**
Client ID: Run ID: **MOIST_141205C** SeqNo: **3065063** 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-R153789** Units: **% of sample** Analysis Date: **12/5/2014 04:00 PM**
Client ID: Run ID: **MOIST_141205C** SeqNo: **3065061** 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: **1412194-01A DUP** Units: **% of sample** Analysis Date: **12/5/2014 04:00 PM**
Client ID: Run ID: **MOIST_141205C** SeqNo: **3065009** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	8.39	0.050	0	0	0	0-0	8.69	3.51	20	

DUP Sample ID: **1412253-01A DUP** Units: **% of sample** Analysis Date: **12/5/2014 04:00 PM**
Client ID: Run ID: **MOIST_141205C** SeqNo: **3065041** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	10.11	0.050	0	0	0	0-0	10.03	0.794	20	

The following samples were analyzed in this batch: 1412255-01B

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

ALS Environmental

3352 128th Avenue Holland, MI 49424
PH: (616) 399-6070

Chain-of-Custody

Form 202r6

WORKORDER # 1412255

PROJECT NAME	RWF 11-4 Batch 4	SAMPLER	Matt Fought	DATE	12/4/14
PROJECT No.		SITE ID	RWF 11-4	TURNAROUND	3 DAY TAT
		EDD FORMAT			
		PURCHASE ORDER			
COMPANY NAME	HRL Compliance Solutions, Inc.	BILL TO COMPANY	WPX Energy		
SEND REPORT TO	Mark Mumby	INVOICE ATTN TO	Karolina Blaney		
ADDRESS	2385 F ½ Road	ADDRESS	1058 Co. Rd. 215		
CITY / STATE / ZIP	Grand Junction, CO 81505	CITY / STATE / ZIP	Parachute, CO 81635		
PHONE	970-243-3271	PHONE	970-683-2295		
FAX	970-243-3280	FAX			
E-MAIL	mmumby@hrlcomp.com; mfought@hrlcomp.com	E-MAIL	Karolina.blaney@wpxenergy.com		

PAGE 1 of1

DISPOSAL By Lab or Return to Client

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	COGCC 910.1 Table
1	RWF 11-4 Batch 4	S	12/4/14	11:25	3	8		X

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

For metals or anions, please detail analytes below.

Comments: Complete organics & Inorganics for COGCC Table 910.1

4.8c

QC PACKAGE (check below)	
X	LEVEL II (Standard QC)
	LEVEL III (Std QC + forms)
	LEVEL IV (Std QC + forms + raw data)

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	Matthew Fought	Matt Fought	12/4/14	1:00
RECEIVED BY			12-4-14	1:00
RELINQUISHED BY			12-4-14	1:00
RECEIVED BY		Diane F. Shea	12/5/14	0900
RELINQUISHED BY				
RECEIVED BY				

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **HRL** Date/Time Received: **05-Dec-14 09:00**

Work Order: **1412255** Received by: **DS**

Checklist completed by Diane Shaw (eSignature) 05-Dec-14 (Date) Reviewed by: Ann Preston (eSignature) 05-Dec-14 (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		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	12/5/2014 11:02:23 AM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

From: (616) 399-6070
Nick Martinez
ALS Environmental
127 E. 1st Street

PARACHUTE, MI 49424

Origin ID: HLMA

FedEx Express

J14221402303uv

Ship Date: 04DEC14
ActWgt: 50.0 LB
CAD: 2264840/NET3550

Dims: 11 X 20 X 14 IN

Delivery Address Bar Code

Ref # 120414-1
Invoice #
PO #
Dept #

SHIP TO: (616) 399-6070
BILL SENDER

sample receiving
ALS Laboratory Group
3352 128TH AVE

HOLLAND, MI 49424

1 of 5

FRI - 05 DEC 10:30A
PRIORITY OVERNIGHT

TRK# 7721 0182 7326
0201

MASTER

68 HLMA

49424
MI-US
GRR

522G2DC758AC9

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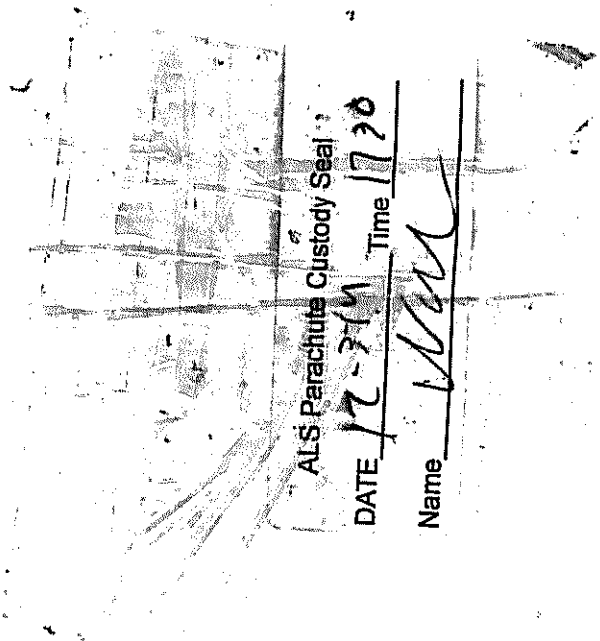

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Tax I.D. 62-0814289

Est. 1970

Ms.Karolina Blaney
WPX Energy
1058 County Road 215
Parachute, CO 81635

Report Summary

Wednesday February 11, 2015

Report Number: L747148
Samples Received: 02/05/15
Client Project: RWF 11-4

Description: RWF 11-4

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: T. Alan Harvill , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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Est. 1970

REPORT OF ANALYSIS

Ms.Karolina Blaney
WPX Energy
1058 County Road 215
Parachute, CO 81635

February 11, 2015

ESC Sample # : L747148-01

Site ID : RWF 11-4 BATCH 5

Project # : RWF 11-4

Date Received : February 05, 2015
Description : RWF 11-4

Sample ID : RWF 11-4 BATCH 5

Collected By :
Collection Date : 02/04/15 14:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021	02/07/15	5
Toluene	BDL	0.025	mg/kg	8021	02/07/15	5
Ethylbenzene	BDL	0.0025	mg/kg	8021	02/07/15	5
Total Xylene	BDL	0.0075	mg/kg	8021	02/07/15	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015	02/07/15	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	95.0		% Rec.	8015	02/07/15	1
a,a,a-Trifluorotoluene(PID)	95.5		% Rec.	8021	02/07/15	1
TPH (GC/FID) High Fraction	21.	4.0	mg/kg	3546/DRO	02/06/15	1
Surrogate recovery(%)						
o-Terphenyl	81.2		% Rec.	3546/DRO	02/06/15	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	02/06/15	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	02/06/15	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	02/06/15	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	02/06/15	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	02/06/15	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	02/06/15	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	02/06/15	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	02/06/15	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	02/06/15	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	02/06/15	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	02/06/15	1
Naphthalene	BDL	0.020	mg/kg	8270C-SIM	02/06/15	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	02/06/15	1
Surrogate Recovery						
Nitrobenzene-d5	112.		% Rec.	8270C-SIM	02/06/15	1
2-Fluorobiphenyl	91.6		% Rec.	8270C-SIM	02/06/15	1
p-Terphenyl-d14	88.6		% Rec.	8270C-SIM	02/06/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 02/11/15 09:25 Printed: 02/11/15 09:25

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REPORT OF ANALYSIS

Ms.Karolina Blaney
WPX Energy
1058 County Road 215
Parachute, CO 81635

February 11, 2015

ESC Sample # : L747148-02

Site ID : RWF 11-4 BATCH 5

Project # : RWF 11-4

Date Received : February 05, 2015
Description : RWF 11-4

Sample ID : RWF 11-4 BATCH 5

Collected By :
Collection Date : 02/04/15 14:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium,Hexavalent	BDL	2.0	mg/kg	3060A/7196A	02/10/15	1
Chromium,Trivalent	BDL	0.50	mg/kg	Calc.	02/06/15	1
ORP	110		mV	2580 B-2011	02/07/15	1
pH	9.3	0.10	su	9045D	02/06/15	1
Sodium Adsorption Ratio	3.4			Calc.	02/08/15	1
Specific Conductance	540		umhos/cm	9050AMod	02/07/15	1
Mercury	BDL	0.020	mg/kg	7471A	02/06/15	1
Arsenic	5.2	2.0	mg/kg	6010B	02/06/15	1
Barium	140	0.50	mg/kg	6010B	02/06/15	1
Cadmium	BDL	0.50	mg/kg	6010B	02/06/15	1
Chromium	9.1	1.0	mg/kg	6010B	02/06/15	1
Copper	12.	2.0	mg/kg	6010B	02/06/15	1
Lead	7.0	0.50	mg/kg	6010B	02/06/15	1
Nickel	18.	2.0	mg/kg	6010B	02/06/15	1
Selenium	BDL	2.0	mg/kg	6010B	02/06/15	1
Silver	BDL	1.0	mg/kg	6010B	02/06/15	1
Zinc	23.	5.0	mg/kg	6010B	02/06/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 02/11/15 09:25 Printed: 02/11/15 09:25
L747148-02 (PH) - 9.3@21.8c

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Est. 1970

WPX Energy
Ms.Karolina Blaney
1058 County Road 215

Parachute, CO 81635

Quality Assurance Report
Level II

L747148

February 11, 2015

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Arsenic	< 2	mg/kg			WG768677	02/05/15 22:54
Barium	< .5	mg/kg			WG768677	02/05/15 22:54
Cadmium	< .5	mg/kg			WG768677	02/05/15 22:54
Chromium	< 1	mg/kg			WG768677	02/05/15 22:54
Copper	< 2	mg/kg			WG768677	02/05/15 22:54
Lead	< .5	mg/kg			WG768677	02/05/15 22:54
Nickel	< 2	mg/kg			WG768677	02/05/15 22:54
Selenium	< 2	mg/kg			WG768677	02/05/15 22:54
Silver	< 1	mg/kg			WG768677	02/05/15 22:54
Zinc	< 5	mg/kg			WG768677	02/05/15 22:54
Acenaphthene	< .006	mg/kg			WG768741	02/06/15 05:48
Anthracene	< .006	mg/kg			WG768741	02/06/15 05:48
Benzo(a)anthracene	< .006	mg/kg			WG768741	02/06/15 05:48
Benzo(a)pyrene	< .006	mg/kg			WG768741	02/06/15 05:48
Benzo(b)fluoranthene	< .006	mg/kg			WG768741	02/06/15 05:48
Benzo(k)fluoranthene	< .006	mg/kg			WG768741	02/06/15 05:48
Chrysene	< .006	mg/kg			WG768741	02/06/15 05:48
Dibenz(a,h)anthracene	< .006	mg/kg			WG768741	02/06/15 05:48
Fluoranthene	< .006	mg/kg			WG768741	02/06/15 05:48
Fluorene	< .006	mg/kg			WG768741	02/06/15 05:48
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG768741	02/06/15 05:48
Naphthalene	< .02	mg/kg			WG768741	02/06/15 05:48
Pyrene	< .006	mg/kg			WG768741	02/06/15 05:48
2-Fluorobiphenyl		% Rec.	91.30	38.2-135	WG768741	02/06/15 05:48
Nitrobenzene-d5		% Rec.	101.0	28.4-151	WG768741	02/06/15 05:48
p-Terphenyl-d14		% Rec.	92.60	34.2-141	WG768741	02/06/15 05:48
Mercury	< .02	mg/kg			WG768720	02/06/15 07:50
Benzene	< .0005	mg/kg			WG768838	02/06/15 13:47
Ethylbenzene	< .0005	mg/kg			WG768838	02/06/15 13:47
Toluene	< .005	mg/kg			WG768838	02/06/15 13:47
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG768838	02/06/15 13:47
Total Xylene	< .0015	mg/kg			WG768838	02/06/15 13:47
a,a,a-Trifluorotoluene(FID)		% Rec.	95.00	59-128	WG768838	02/06/15 13:47
a,a,a-Trifluorotoluene(PID)		% Rec.	95.90	54-144	WG768838	02/06/15 13:47
TPH (GC/FID) High Fraction	< 4	mg/kg			WG768746	02/06/15 12:39
o-Terphenyl		% Rec.	83.30	50-150	WG768746	02/06/15 12:39
Specific Conductance	0.760	umhos/cm			WG768942	02/07/15 12:30
Chromium,Hexavalent	< 2	mg/kg			WG769306	02/10/15 08:29

Duplicate

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
pH	su	6.60	6.60	0.456	1	L747030-01	WG768775
pH	su	8.20	8.20	0.367	1	L747285-03	WG768775
ORP	mV	100.	100.	1.98	20	L747104-02	WG768938

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Quality Assurance Report
Level II

L747148

February 11, 2015

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
			Duplicate				
ORP	mV	99.0	100.	1.01	20	L747285-05	WG768938
Specific Conductance	umhos/cm	1200	1200	0.0	20	L746967-02	WG768942
Specific Conductance	umhos/cm	3200	3500	7.41	20	L747206-09	WG768942
Chromium,Hexavalent	mg/kg	0.0	0.0	0.0	20	L747155-02	WG769306
Chromium,Hexavalent	mg/kg	1.30	1.40	5.88	20	L746878-01	WG769306

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
			Laboratory Control Sample			
Arsenic	mg/kg	100	92.9	93.0	80-120	WG768677
Barium	mg/kg	100	93.9	94.0	80-120	WG768677
Cadmium	mg/kg	100	89.7	90.0	80-120	WG768677
Chromium	mg/kg	100	92.7	93.0	80-120	WG768677
Copper	mg/kg	100	87.3	87.0	80-120	WG768677
Lead	mg/kg	100	93.4	93.0	80-120	WG768677
Nickel	mg/kg	100	86.3	86.0	80-120	WG768677
Selenium	mg/kg	100	91.8	92.0	80-120	WG768677
Silver	mg/kg	100	90.2	90.0	80-120	WG768677
Zinc	mg/kg	100	87.9	88.0	80-120	WG768677
Acenaphthene	mg/kg	.08	0.0725	90.6	48.7-127	WG768741
Anthracene	mg/kg	.08	0.0730	91.3	51.3-136	WG768741
Benzo(a)anthracene	mg/kg	.08	0.0695	86.9	55-126	WG768741
Benzo(a)pyrene	mg/kg	.08	0.0634	79.3	51.9-127	WG768741
Benzo(b)fluoranthene	mg/kg	.08	0.0735	91.9	54-125	WG768741
Benzo(k)fluoranthene	mg/kg	.08	0.0720	90.0	53.9-132	WG768741
Chrysene	mg/kg	.08	0.0743	92.9	55.7-133	WG768741
Dibenz(a,h)anthracene	mg/kg	.08	0.0766	95.8	52.6-137	WG768741
Fluoranthene	mg/kg	.08	0.0774	96.8	54-132	WG768741
Fluorene	mg/kg	.08	0.0729	91.2	48.7-127	WG768741
Indeno(1,2,3-cd)pyrene	mg/kg	.08	0.0779	97.4	53.8-138	WG768741
Naphthalene	mg/kg	.08	0.0635	79.3	42-127	WG768741
Pyrene	mg/kg	.08	0.0771	96.3	54-129	WG768741
2-Fluorobiphenyl				96.20	38.2-135	WG768741
Nitrobenzene-d5				106.0	28.4-151	WG768741
p-Terphenyl-d14				94.80	34.2-141	WG768741
Mercury	mg/kg	.458	0.458	100.	80-120	WG768720
pH	su	5.9	5.87	99.5	98.3-101.7	WG768775
Benzene	mg/kg	.05	0.0518	104.	70-130	WG768838
Ethylbenzene	mg/kg	.05	0.0525	105.	70-130	WG768838
Toluene	mg/kg	.05	0.0513	103.	70-130	WG768838
Total Xylene	mg/kg	.15	0.144	95.9	70-130	WG768838
a,a,a-Trifluorotoluene(PID)				104.0	54-144	WG768838
TPH (GC/FID) Low Fraction	mg/kg	5.5	5.13	93.3	63.5-137	WG768838
a,a,a-Trifluorotoluene(FID)				96.80	59-128	WG768838
TPH (GC/FID) High Fraction	mg/kg	60	55.2	92.1	50-150	WG768746

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Quality Assurance Report
Level II

L747148

February 11, 2015

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
o-Terphenyl				83.30	50-150	
ORP	mV	100	109.	109.	90-110	WG768938
Specific Conductance	umhos/cm	759	801.	106.	85-115	WG768942
Chromium,Hexavalent	mg/kg	187	184.	98.4	80-120	WG769306

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
Arsenic	mg/kg	92.0	92.9	92.0	80-120	1.00	20	WG768677
Barium	mg/kg	94.4	93.9	94.0	80-120	1.00	20	WG768677
Cadmium	mg/kg	90.7	89.7	91.0	80-120	1.00	20	WG768677
Chromium	mg/kg	93.3	92.7	93.0	80-120	1.00	20	WG768677
Copper	mg/kg	87.5	87.3	88.0	80-120	0.0	20	WG768677
Lead	mg/kg	92.9	93.4	93.0	80-120	0.0	20	WG768677
Nickel	mg/kg	85.8	86.3	86.0	80-120	1.00	20	WG768677
Selenium	mg/kg	92.1	91.8	92.0	80-120	0.0	20	WG768677
Silver	mg/kg	90.7	90.2	91.0	80-120	1.00	20	WG768677
Zinc	mg/kg	88.5	87.9	88.0	80-120	1.00	20	WG768677
Acenaphthene	mg/kg	0.0718	0.0725	90.0	48.7-127	0.920	20	WG768741
Anthracene	mg/kg	0.0722	0.0730	90.0	51.3-136	1.16	20	WG768741
Benzo(a)anthracene	mg/kg	0.0701	0.0695	88.0	55-126	0.890	20	WG768741
Benzo(a)pyrene	mg/kg	0.0607	0.0634	76.0	51.9-127	4.38	20	WG768741
Benzo(b)fluoranthene	mg/kg	0.0703	0.0735	88.0	54-125	4.51	20	WG768741
Benzo(k)fluoranthene	mg/kg	0.0745	0.0720	93.0	53.9-132	3.33	20	WG768741
Chrysene	mg/kg	0.0735	0.0743	92.0	55.7-133	1.14	20	WG768741
Dibenz(a,h)anthracene	mg/kg	0.0753	0.0766	94.0	52.6-137	1.78	20	WG768741
Fluoranthene	mg/kg	0.0767	0.0774	96.0	54-132	0.980	20	WG768741
Fluorene	mg/kg	0.0718	0.0729	90.0	48.7-127	1.61	20	WG768741
Indeno(1,2,3-cd)pyrene	mg/kg	0.0767	0.0779	96.0	53.8-138	1.61	20	WG768741
Naphthalene	mg/kg	0.0642	0.0635	80.0	42-127	1.12	20	WG768741
Pyrene	mg/kg	0.0761	0.0771	95.0	54-129	1.31	20	WG768741
2-Fluorobiphenyl				92.00	38.2-135			WG768741
Nitrobenzene-d5				101.0	28.4-151			WG768741
p-Terphenyl-d14				90.30	34.2-141			WG768741
Mercury	mg/kg	0.460	0.458	100.	80-120	0.0	20	WG768720
pH	su	5.88	5.87	100.	98.3-101.7	0.170	20	WG768775
Benzene	mg/kg	0.0521	0.0518	104.	70-130	0.600	20	WG768838
Ethylbenzene	mg/kg	0.0529	0.0525	106.	70-130	0.730	20	WG768838
Toluene	mg/kg	0.0515	0.0513	103.	70-130	0.330	20	WG768838
Total Xylene	mg/kg	0.145	0.144	96.0	70-130	0.460	20	WG768838
a,a,a-Trifluorotoluene(PID)				104.0	54-144			WG768838
TPH (GC/FID) Low Fraction	mg/kg	5.29	5.13	96.0	63.5-137	2.90	20	WG768838
a,a,a-Trifluorotoluene(FID)				97.40	59-128			WG768838
TPH (GC/FID) High Fraction	mg/kg	53.1	55.2	88.0	50-150	4.04	20	WG768746
o-Terphenyl				75.40	50-150			WG768746

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Quality Assurance Report
Level II

L747148

February 11, 2015

Laboratory Control Sample Duplicate

Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
ORP	mV	109.	109.	109.	90-110	0.0	20	WG768938
Specific Conductance	umhos/	796.	801.	105.	85-115	0.626	20	WG768942
Chromium,Hexavalent	mg/kg	184.	184.	98.0	80-120	0.0	20	WG769306

Matrix Spike

Analyte	Units	MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Cadmium	mg/kg	91.0	0.341	100	91.0	75-125	L747123-03	WG768677
Chromium	mg/kg	110.	15.6	100	94.0	75-125	L747123-03	WG768677
Lead	mg/kg	103.	14.2	100	89.0	75-125	L747123-03	WG768677
Mercury	mg/kg	0.533	0.0133	.458	110.	75-125	L747179-01	WG768720
Acenaphthene	mg/kg	0.0616	0.00149	.08	75.0	39.4-132	L747142-01	WG768741
Anthracene	mg/kg	0.0563	0.00173	.08	68.0	36.7-144	L747142-01	WG768741
Benzo(a)anthracene	mg/kg	0.0518	0.0	.08	65.0	28-144	L747142-01	WG768741
Benzo(a)pyrene	mg/kg	0.0501	0.0	.08	63.0	23.8-147	L747142-01	WG768741
Benzo(b)fluoranthene	mg/kg	0.0449	0.0	.08	56.0	18.2-147	L747142-01	WG768741
Benzo(k)fluoranthene	mg/kg	0.0529	0.0	.08	66.0	26.5-143	L747142-01	WG768741
Chrysene	mg/kg	0.0539	0.000674	.08	67.0	27.4-150	L747142-01	WG768741
Dibenz(a,h)anthracene	mg/kg	0.0551	0.0	.08	69.0	13.8-150	L747142-01	WG768741
Fluoranthene	mg/kg	0.0575	0.00209	.08	69.0	23.2-158	L747142-01	WG768741
Fluorene	mg/kg	0.0662	0.00587	.08	75.0	30.8-139	L747142-01	WG768741
Indeno(1,2,3-cd)pyrene	mg/kg	0.0507	0.0	.08	63.0	10.7-155	L747142-01	WG768741
Naphthalene	mg/kg	0.0676	0.00484	.08	78.0	34.9-133	L747142-01	WG768741
Pyrene	mg/kg	0.0553	0.00149	.08	67.0	22.6-151	L747142-01	WG768741
2-Fluorobiphenyl					86.80	38.2-135		WG768741
Nitrobenzene-d5					159.0*	28.4-151		WG768741
p-Terphenyl-d14					79.80	34.2-141		WG768741
Benzene	mg/kg	0.206	0.0107	.05	78.0	49.7-127	L747104-01	WG768838
Ethylbenzene	mg/kg	0.193	0.00176	.05	76.0	40.8-141	L747104-01	WG768838
Toluene	mg/kg	0.199	0.0110	.05	75.0	49.8-132	L747104-01	WG768838
Total Xylene	mg/kg	0.561	0.00526	.15	74.0	41.2-140	L747104-01	WG768838
a,a,a-Trifluorotoluene(PID)					97.30	54-144		WG768838
TPH (GC/FID) Low Fraction	mg/kg	18.4	0.0	5.5	67.0	28.5-138	L747104-01	WG768838
a,a,a-Trifluorotoluene(FID)					93.90	59-128		WG768838
Chromium,Hexavalent	mg/kg	20.2	1.40	20	94.0	75-125	L746878-01	WG769306

Matrix Spike Duplicate

Analyte	Units	MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
Cadmium	mg/kg	92.5	91.0	92.1	75-125	2.00	20	L747123-03	WG768677
Chromium	mg/kg	111.	110.	95.7	75-125	1.00	20	L747123-03	WG768677
Lead	mg/kg	107.	103.	92.9	75-125	3.00	20	L747123-03	WG768677
Mercury	mg/kg	0.492	0.533	104.	75-125	8.00	20	L747179-01	WG768720

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Quality Assurance Report
Level II

L747148

February 11, 2015

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
Acenaphthene	mg/kg	0.0630	0.0616	76.9	39.4-132	2.37	20	L747142-01	WG768741
Anthracene	mg/kg	0.0588	0.0563	71.3	36.7-144	4.36	20.7	L747142-01	WG768741
Benzo(a)anthracene	mg/kg	0.0528	0.0518	66.0	28-144	1.89	24.7	L747142-01	WG768741
Benzo(a)pyrene	mg/kg	0.0507	0.0501	63.4	23.8-147	1.10	25.3	L747142-01	WG768741
Benzo(b)fluoranthene	mg/kg	0.0443	0.0449	55.4	18.2-147	1.25	29.5	L747142-01	WG768741
Benzo(k)fluoranthene	mg/kg	0.0537	0.0529	67.1	26.5-143	1.59	26.1	L747142-01	WG768741
Chrysene	mg/kg	0.0555	0.0539	68.5	27.4-150	2.79	25.7	L747142-01	WG768741
Dibenz(a,h)anthracene	mg/kg	0.0562	0.0551	70.3	13.8-150	2.06	25.8	L747142-01	WG768741
Fluoranthene	mg/kg	0.0594	0.0575	71.7	23.2-158	3.23	26	L747142-01	WG768741
Fluorene	mg/kg	0.0658	0.0662	75.0	30.8-139	0.520	20	L747142-01	WG768741
Indeno(1,2,3-cd)pyrene	mg/kg	0.0509	0.0507	63.6	10.7-155	0.310	26.9	L747142-01	WG768741
Naphthalene	mg/kg	0.0665	0.0676	77.0	34.9-133	1.65	20.4	L747142-01	WG768741
Pyrene	mg/kg	0.0568	0.0553	69.1	22.6-151	2.71	25.1	L747142-01	WG768741
2-Fluorobiphenyl				85.00	38.2-135				WG768741
Nitrobenzene-d5				114.0	28.4-151				WG768741
p-Terphenyl-d14				79.60	34.2-141				WG768741
Benzene	mg/kg	0.183	0.206	69.1	49.7-127	11.5	23.5	L747104-01	WG768838
Ethylbenzene	mg/kg	0.162	0.193	64.0	40.8-141	17.3	23.8	L747104-01	WG768838
Toluene	mg/kg	0.176	0.199	66.0	49.8-132	12.4	23.5	L747104-01	WG768838
Total Xylene	mg/kg	0.471	0.561	62.1	41.2-140	17.4	23.7	L747104-01	WG768838
a,a,a-Trifluorotoluene(PID)				99.40	54-144				WG768838
TPH (GC/FID) Low Fraction	mg/kg	16.9	18.4	61.4	28.5-138	8.81	23.6	L747104-01	WG768838
a,a,a-Trifluorotoluene(FID)				93.70	59-128				WG768838
Chromium,Hexavalent	mg/kg	20.2	20.2	94.0	75-125	0.0	20	L746878-01	WG769306

Post Spike

Serial Dilution

Batch number /Run number / Sample number cross reference

WG768677: R3018463: L747148-02
WG768741: R3018472 R3018861: L747148-01
WG768720: R3018514: L747148-02
WG768775: R3018589: L747148-02
WG768838: R3018616: L747148-01
WG768746: R3018659: L747148-01
WG768850: R3018773: L747148-02
WG768938: R3018804: L747148-02
WG768942: R3018805: L747148-02
WG769306: R3019002: L747148-02

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Quality Assurance Report
Level II

L747148

February 11, 2015

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.