

Spill Closure Map

RWF 531-13

39.532993 -107.829962

Section 12, Township 6 South, Range 94 West

- Sample Location
- Impacted Area
- Road (from Garfield County)
- Existing Road
- Stream
- Existing Pad
- River





Legend

- Sample Location
- Existing Road
- Existing Pad
Limit of Disturbance

RWF 531-13
Arsenic Background Sample Location Map
T6S R94W, Section 13

May 7, 2015



Analytical Results

Contaminant of Concern ↓	COGCC standards	Location →	North Wall	East Wall	South Wall	West Wall	Bottom	RWF 531-13 Batch 1
		Date Sampled	4/7/2014	4/7/2014	4/7/2014	4/7/2014	4/7/2014	4/22/2014
Organic Compounds in Soil								
TPH	500	mg/kg	ND	ND	ND	ND	99	2,400
DRO		mg/kg	78	18	ND	ND	99	1,300
GRO		mg/kg	ND	ND	ND	ND	ND	1100
Benzene	0.17	mg/kg	ND	ND	ND	ND	ND	ND
Toluene	85	mg/kg	ND	ND	ND	ND	ND	1.60
Ethylbenzene	100	mg/kg	ND	ND	ND	ND	0.059	1.40
Xylenes (Total)	175	mg/kg	ND	ND	ND	ND	0.38	26.00
Acenaphthene	1,000	mg/kg	ND	ND	ND	ND	ND	0.35
Anthracene	1,000	mg/kg	ND	ND	ND	ND	ND	ND
Benzo(A)anthracene	0.22	mg/kg	ND	ND	ND	ND	ND	ND
Benzo(B)fluoranthene	0.22	mg/kg	ND	ND	ND	ND	ND	ND
Benzo(K)fluoranthene	2.2	mg/kg	ND	ND	ND	ND	ND	ND
Benzo(A)pyrene	0.022	mg/kg	ND	ND	ND	ND	ND	ND
Chrysene	22	mg/kg	ND	ND	ND	ND	ND	ND
Dibenzo(A,H)anthracene	0.022	mg/kg	ND	ND	ND	ND	ND	ND
Fluoranthene	1,000	mg/kg	ND	ND	ND	ND	ND	ND
Fluorene	1,000	mg/kg	ND	ND	ND	ND	ND	0.42
Indeno(1,2,3-cd)pyrene	0.22	mg/kg	ND	ND	ND	ND	ND	ND
Naphthalene	23	mg/kg	ND	ND	ND	ND	ND	0.32
Pyrene	1,000	mg/kg	ND	ND	ND	ND	ND	ND
Inorganics in Soil								
EC	<4 or 2 x background	mmhos/cm	ND	3	8.1	3.9	3	4.5
SAR	<12		32	35	48	39	39	22
pH	6-9		9.5	9.6	9.2	9.3	9.5	9.1
Metals in Soil								
Arsenic	0.39	mg/kg	4.6	19	3.9	4.4	7.9	4.3
Barium total	15,000	mg/kg	1300	180	150	1800	430	670
Cadmium	70	mg/kg	1.3	2	ND	ND	ND	0.94
Chromium (III)	120,000	mg/kg	11	12	9.1	10	14	10
Chromium (VI)	23	mg/kg	ND	ND	ND	ND	ND	ND
Copper	3,100	mg/kg	17	23	8.4	9.4	19	12
Lead	400	mg/kg	21	39	9.9	12	18	15
Mercury	23	mg/kg	0.062	ND	ND	ND	0.023	0.027
Nickel	1,600	mg/kg	18	55	13	13	20	15
Selenium	390	mg/kg	1.8	2.5	ND	ND	ND	2.3
Silver	390	mg/kg	ND	ND	ND	ND	ND	ND
Zinc	23,000	mg/kg	70	72	52	51	80	55

Analytical Results

Contaminant of Concern ↓	COGCC standards	Location →	RWF 531-13 Batch 1	RWF 531-13 Batch 2	RWF 531-13 Batch 3	RWF 531-13 Batch 3	RWF 531-13 Batch 4
		Date Sampled	7/9/2014	8/13/2014	9/19/2014	2/4/2014	
Organic Compounds in Soil							
TPH	500	mg/kg	194	110	779	196	665
DRO		mg/kg	110	110	750	180	640
GRO		mg/kg	84	ND	29	16	25
Benzene	0.17	mg/kg		ND	ND		ND
Toluene	85	mg/kg		ND	ND		ND
Ethylbenzene	100	mg/kg		ND	ND		ND
Xylenes (Total)	175	mg/kg		ND	0.32		ND
Acenaphthene	1,000	mg/kg		ND	ND		ND
Anthracene	1,000	mg/kg		ND	0.07		0.051
Benzo(A)anthracene	0.22	mg/kg		0.02	0.009		0.043
Benzo(B)fluoranthene	0.22	mg/kg		ND	0.017		0.038
Benzo(K)fluoranthene	2.2	mg/kg		ND	ND		0.012
Benzo(A)pyrene	0.022	mg/kg		ND	ND		0.022
Chrysene	22	mg/kg		ND	0.012		0.033
Dibenzo(A,H)anthracene	0.022	mg/kg		ND	ND		ND
Fluoranthene	1,000	mg/kg		ND	0.0088		0.064
Fluorene	1,000	mg/kg		0.011	0.11		0.046
Indeno(1,2,3-cd)pyrene	0.22	mg/kg		ND	ND		0.024
Naphthalene	23	mg/kg		0.024	0.15		0.041
Pyrene	1,000	mg/kg		ND	0.017		ND
Inorganics in Soil							
EC	<4 or 2 x background	mmhos/cm		5.7	4		3.3
SAR	<12			33	27		21
pH	6-9			8.1	9		9
Metals in Soil							
Arsenic	0.39	mg/kg		6.9	5.1		6.1
Barium total	15,000	mg/kg		5600	310		930
Cadmium	70	mg/kg		ND	ND		ND
Chromium (III)	120,000	mg/kg		14	11		12
Chromium (VI)	23	mg/kg		0.55	ND		ND
Copper	3,100	mg/kg		20	15		17
Lead	400	mg/kg		12	29		16
Mercury	23	mg/kg		0.042	0.035		0.016
Nickel	1,600	mg/kg		15	16		16
Selenium	390	mg/kg		2.3	3		ND
Silver	390	mg/kg		ND	ND		ND
Zinc	23,000	mg/kg		57	62		71

Analytical Results

Contaminant of Concern ↓	COGCC standards	Location →	RWF 531-13 Batch 4	RWF 531-13-B- 1	RWF 531-13-B- 2	RWF 531-13-B- 3
		Date Sampled	4/16/2015	4/9/2015	4/9/2015	4/9/2015
Organic Compounds in Soil						
TPH	500	mg/kg	396			
DRO		mg/kg	350			
GRO		mg/kg	46			
Benzene	0.17	mg/kg				
Toluene	85	mg/kg				
Ethylbenzene	100	mg/kg				
Xylenes (Total)	175	mg/kg				
Acenaphthene	1,000	mg/kg				
Anthracene	1,000	mg/kg				
Benzo(A)anthracene	0.22	mg/kg				
Benzo(B)fluoranthene	0.22	mg/kg				
Benzo(K)fluoranthene	2.2	mg/kg				
Benzo(A)pyrene	0.022	mg/kg				
Chrysene	22	mg/kg				
Dibenzo(A,H)anthracene	0.022	mg/kg				
Fluoranthene	1,000	mg/kg				
Fluorene	1,000	mg/kg				
Indeno(1,2,3-cd)pyrene	0.22	mg/kg				
Naphthalene	23	mg/kg				
Pyrene	1,000	mg/kg				
Inorganics in Soil						
EC	<4 or 2 x background	mmhos/c m				0.49
SAR	<12					8.9
pH	6-9					9.3
Metals in Soil						
Arsenic	0.39	mg/kg		6.4	2.7	7
Barium total	15,000	mg/kg				
Cadmium	70	mg/kg				
Chromium (III)	120,000	mg/kg				
Chromium (VI)	23	mg/kg				
Copper	3,100	mg/kg				
Lead	400	mg/kg				
Mercury	23	mg/kg				
Nickel	1,600	mg/kg				
Selenium	390	mg/kg				
Silver	390	mg/kg				
Zinc	23,000	mg/kg				



11-Apr-2014

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

Re: **WPX RWF 531-13 Produced Water Spill 4.7.14**

Work Order: **1404371**

Dear Mark,

ALS Environmental received 5 samples on 08-Apr-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,

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

Electronically approved by: Ann Preston

Ann Preston
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

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

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Environmental 

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RIGHT SOLUTIONS RIGHT PARTNER

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Produced Water Spill 4.7.14
Work Order: 1404371

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1404371-01	North Wall	Soil		4/7/2014 13:50	4/8/2014 10:00	<input type="checkbox"/>
1404371-02	East Wall	Soil		4/7/2014 14:00	4/8/2014 10:00	<input type="checkbox"/>
1404371-03	South Wall	Soil		4/7/2014 14:10	4/8/2014 10:00	<input type="checkbox"/>
1404371-04	West Wall	Soil		4/7/2014 14:20	4/8/2014 10:00	<input type="checkbox"/>
1404371-05	Bottom	Soil		4/7/2014 14:30	4/8/2014 10:00	<input type="checkbox"/>

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Produced Water Spill 4.7.14
Work Order: 1404371

Case Narrative

Batch 57334 MS/MSD data for DRO is not related to this project's samples. No data requires qualification.

Batch 57360 MS/MSD data for Metals is not related to this project's samples. No data requires qualification.

<u>Qualifier</u>	<u>Description</u>
*	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

<u>Acronym</u>	<u>Description</u>
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

<u>Units Reported</u>	<u>Description</u>
% 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: 11-Apr-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Produced Water Spill 4.7.14
Sample ID: North Wall
Collection Date: 4/7/2014 01:50 PM

Work Order: 1404371
Lab ID: 1404371-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3541 / 4/8/14	Analyst: IT
DRO (C10-C28)	78		4.5	mg/Kg-dry	1	4/9/2014 03:51 AM
Surr: 4-Terphenyl-d14	76.2		39-115	%REC	1	4/9/2014 03:51 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015		Prep: SW5035 / 4/8/14	Analyst: IT
GRO (C6-C10)	ND		2.7	mg/Kg-dry	1	4/8/2014 06:21 PM
Surr: Toluene-d8	118		50-150	%REC	1	4/8/2014 06:21 PM
MERCURY BY CVAA						
			SW7471		Prep: SW7471 / 4/9/14	Analyst: LR
Mercury	0.062		0.017	mg/Kg-dry	1	4/9/2014 03:43 PM
METALS BY ICP-MS						
			SW6020A		Prep: SW3050B / 4/9/14	Analyst: ML
Arsenic	4.6		1.7	mg/Kg-dry	5	4/9/2014 01:37 PM
Barium	1,300		17	mg/Kg-dry	50	4/9/2014 04:15 PM
Cadmium	1.3		0.68	mg/Kg-dry	5	4/9/2014 01:37 PM
Chromium	11		1.7	mg/Kg-dry	5	4/9/2014 01:37 PM
Copper	17		1.7	mg/Kg-dry	5	4/9/2014 01:37 PM
Lead	21		1.7	mg/Kg-dry	5	4/9/2014 01:37 PM
Nickel	18		1.7	mg/Kg-dry	5	4/9/2014 01:37 PM
Selenium	1.8		1.7	mg/Kg-dry	5	4/9/2014 01:37 PM
Silver	ND		1.7	mg/Kg-dry	5	4/9/2014 01:37 PM
Zinc	70		3.4	mg/Kg-dry	5	4/9/2014 01:37 PM
SOLUBLE CATIONS FOR SAR						
			SW6020A		Prep: USDA Method 20B / 4/10/14	Analyst: RH
Calcium	20		10	mg/L	20	4/11/2014 03:17 AM
Magnesium	5.7		4.0	mg/L	20	4/11/2014 03:17 AM
Sodium	630		4.0	mg/L	20	4/11/2014 03:17 AM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 4/10/14	Analyst: RH
Sodium Adsorption Ratio	32		0.010	none	1	4/10/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW8270		Prep: SW3541 / 4/8/14	Analyst: HL
Acenaphthene	ND		7.2	µg/Kg-dry	1	4/9/2014 02:27 PM
Acenaphthylene	ND		7.2	µg/Kg-dry	1	4/9/2014 02:27 PM
Anthracene	ND		7.2	µg/Kg-dry	1	4/9/2014 02:27 PM
Benzo(a)anthracene	ND		7.2	µg/Kg-dry	1	4/9/2014 02:27 PM
Benzo(a)pyrene	ND		7.2	µg/Kg-dry	1	4/9/2014 02:27 PM
Benzo(b)fluoranthene	ND		7.2	µg/Kg-dry	1	4/9/2014 02:27 PM
Benzo(g,h,i)perylene	ND		7.2	µg/Kg-dry	1	4/9/2014 02:27 PM
Benzo(k)fluoranthene	ND		7.2	µg/Kg-dry	1	4/9/2014 02:27 PM
Chrysene	ND		7.2	µg/Kg-dry	1	4/9/2014 02:27 PM

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

ALS Group USA, Corp

Date: 11-Apr-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Produced Water Spill 4.7.14
Sample ID: North Wall
Collection Date: 4/7/2014 01:50 PM

Work Order: 1404371
Lab ID: 1404371-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		7.2	µg/Kg-dry	1	4/9/2014 02:27 PM
Fluoranthene	ND		7.2	µg/Kg-dry	1	4/9/2014 02:27 PM
Fluorene	ND		7.2	µg/Kg-dry	1	4/9/2014 02:27 PM
Indeno(1,2,3-cd)pyrene	ND		7.2	µg/Kg-dry	1	4/9/2014 02:27 PM
Naphthalene	ND		7.2	µg/Kg-dry	1	4/9/2014 02:27 PM
Pyrene	ND		7.2	µg/Kg-dry	1	4/9/2014 02:27 PM
Surr: 2-Fluorobiphenyl	66.3		12-100	%REC	1	4/9/2014 02:27 PM
Surr: 4-Terphenyl-d14	85.5		25-137	%REC	1	4/9/2014 02:27 PM
Surr: Nitrobenzene-d5	82.6		37-107	%REC	1	4/9/2014 02:27 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 4/8/14		Analyst: RS
Benzene	ND		32	µg/Kg-dry	1	4/8/2014 06:56 PM
Ethylbenzene	ND		32	µg/Kg-dry	1	4/8/2014 06:56 PM
m,p-Xylene	130		65	µg/Kg-dry	1	4/8/2014 06:56 PM
o-Xylene	ND		32	µg/Kg-dry	1	4/8/2014 06:56 PM
Toluene	ND		32	µg/Kg-dry	1	4/8/2014 06:56 PM
Xylenes, Total	130		97	µg/Kg-dry	1	4/8/2014 06:56 PM
Surr: 1,2-Dichloroethane-d4	104		70-130	%REC	1	4/8/2014 06:56 PM
Surr: 4-Bromofluorobenzene	95.0		70-130	%REC	1	4/8/2014 06:56 PM
Surr: Dibromofluoromethane	97.5		70-130	%REC	1	4/8/2014 06:56 PM
Surr: Toluene-d8	99.0		70-130	%REC	1	4/8/2014 06:56 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 4/10/14		Analyst: JB
Electrical Conductivity @ Saturation	ND		0.25	mmhos/cm @25	50	4/10/2014 03:00 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JJG
Chromium, Trivalent	11		0.54	mg/Kg-dry	1	4/11/2014 10:22 AM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 4/9/14		Analyst: MB
Chromium, Hexavalent	ND		0.54	mg/Kg-dry	1	4/10/2014 09:00 AM
MOISTURE			A2540 G			Analyst: AT
Moisture	7.4		0.050	% of sample	1	4/8/2014 02:49 PM
PH			SW9045D	Prep: EXTRACT / 4/8/14		Analyst: AT
pH	9.5			s.u.	1	4/8/2014 05:04 PM

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

ALS Group USA, Corp

Date: 11-Apr-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Produced Water Spill 4.7.14
Sample ID: East Wall
Collection Date: 4/7/2014 02:00 PM

Work Order: 1404371
Lab ID: 1404371-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3541 / 4/8/14	Analyst: IT
DRO (C10-C28)	18		5.1	mg/Kg-dry	1	4/9/2014 04:21 AM
Surr: 4-Terphenyl-d14	63.9		39-115	%REC	1	4/9/2014 04:21 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015		Prep: SW5035 / 4/8/14	Analyst: IT
GRO (C6-C10)	ND		3.2	mg/Kg-dry	1	4/8/2014 06:47 PM
Surr: Toluene-d8	93.8		50-150	%REC	1	4/8/2014 06:47 PM
MERCURY BY CVAA						
			SW7471		Prep: SW7471 / 4/9/14	Analyst: LR
Mercury	ND		0.019	mg/Kg-dry	1	4/9/2014 03:45 PM
METALS BY ICP-MS						
			SW6020A		Prep: SW3050B / 4/9/14	Analyst: ML
Arsenic	19		2.4	mg/Kg-dry	5	4/9/2014 04:21 PM
Barium	180		2.4	mg/Kg-dry	5	4/9/2014 04:21 PM
Cadmium	2.0		0.95	mg/Kg-dry	5	4/9/2014 04:21 PM
Chromium	12		2.4	mg/Kg-dry	5	4/9/2014 04:21 PM
Copper	23		2.4	mg/Kg-dry	5	4/9/2014 04:21 PM
Lead	39		2.4	mg/Kg-dry	5	4/9/2014 04:21 PM
Nickel	55		2.4	mg/Kg-dry	5	4/9/2014 04:21 PM
Selenium	2.5		2.4	mg/Kg-dry	5	4/9/2014 04:21 PM
Silver	ND		2.4	mg/Kg-dry	5	4/9/2014 04:21 PM
Zinc	72		4.7	mg/Kg-dry	5	4/9/2014 04:21 PM
SOLUBLE CATIONS FOR SAR						
			SW6020A		Prep: USDA Method 20B / 4/10/14	Analyst: RH
Calcium	12		10	mg/L	20	4/11/2014 03:23 AM
Magnesium	ND		4.0	mg/L	20	4/11/2014 03:23 AM
Sodium	540		4.0	mg/L	20	4/11/2014 03:23 AM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 4/10/14	Analyst: RH
Sodium Adsorption Ratio	35		0.010	none	1	4/10/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW8270		Prep: SW3541 / 4/8/14	Analyst: HL
Acenaphthene	ND		8.2	µg/Kg-dry	1	4/9/2014 03:00 PM
Acenaphthylene	ND		8.2	µg/Kg-dry	1	4/9/2014 03:00 PM
Anthracene	ND		8.2	µg/Kg-dry	1	4/9/2014 03:00 PM
Benzo(a)anthracene	ND		8.2	µg/Kg-dry	1	4/9/2014 03:00 PM
Benzo(a)pyrene	ND		8.2	µg/Kg-dry	1	4/9/2014 03:00 PM
Benzo(b)fluoranthene	ND		8.2	µg/Kg-dry	1	4/9/2014 03:00 PM
Benzo(g,h,i)perylene	ND		8.2	µg/Kg-dry	1	4/9/2014 03:00 PM
Benzo(k)fluoranthene	ND		8.2	µg/Kg-dry	1	4/9/2014 03:00 PM
Chrysene	ND		8.2	µg/Kg-dry	1	4/9/2014 03:00 PM

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

ALS Group USA, Corp

Date: 11-Apr-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Produced Water Spill 4.7.14
Sample ID: East Wall
Collection Date: 4/7/2014 02:00 PM

Work Order: 1404371
Lab ID: 1404371-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		8.2	µg/Kg-dry	1	4/9/2014 03:00 PM
Fluoranthene	ND		8.2	µg/Kg-dry	1	4/9/2014 03:00 PM
Fluorene	ND		8.2	µg/Kg-dry	1	4/9/2014 03:00 PM
Indeno(1,2,3-cd)pyrene	ND		8.2	µg/Kg-dry	1	4/9/2014 03:00 PM
Naphthalene	ND		8.2	µg/Kg-dry	1	4/9/2014 03:00 PM
Pyrene	ND		8.2	µg/Kg-dry	1	4/9/2014 03:00 PM
Surr: 2-Fluorobiphenyl	70.1		12-100	%REC	1	4/9/2014 03:00 PM
Surr: 4-Terphenyl-d14	89.0		25-137	%REC	1	4/9/2014 03:00 PM
Surr: Nitrobenzene-d5	80.5		37-107	%REC	1	4/9/2014 03:00 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 4/8/14		Analyst: RS
Benzene	ND		38	µg/Kg-dry	1	4/8/2014 07:20 PM
Ethylbenzene	ND		38	µg/Kg-dry	1	4/8/2014 07:20 PM
m,p-Xylene	ND		76	µg/Kg-dry	1	4/8/2014 07:20 PM
o-Xylene	ND		38	µg/Kg-dry	1	4/8/2014 07:20 PM
Toluene	ND		38	µg/Kg-dry	1	4/8/2014 07:20 PM
Xylenes, Total	ND		110	µg/Kg-dry	1	4/8/2014 07:20 PM
Surr: 1,2-Dichloroethane-d4	104		70-130	%REC	1	4/8/2014 07:20 PM
Surr: 4-Bromofluorobenzene	92.6		70-130	%REC	1	4/8/2014 07:20 PM
Surr: Dibromofluoromethane	95.0		70-130	%REC	1	4/8/2014 07:20 PM
Surr: Toluene-d8	97.6		70-130	%REC	1	4/8/2014 07:20 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 4/10/14		Analyst: JB
Electrical Conductivity @ Saturation	3.0		0.25	mmhos/cm @25	50	4/10/2014 03:00 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JJG
Chromium, Trivalent	12		0.63	mg/Kg-dry	1	4/11/2014 10:22 AM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 4/9/14		Analyst: MB
Chromium, Hexavalent	ND		0.62	mg/Kg-dry	1	4/10/2014 09:00 AM
MOISTURE			A2540 G			Analyst: AT
Moisture	21		0.050	% of sample	1	4/8/2014 02:49 PM
PH			SW9045D	Prep: EXTRACT / 4/8/14		Analyst: AT
pH	9.6			s.u.	1	4/8/2014 05:04 PM

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

ALS Group USA, Corp

Date: 11-Apr-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Produced Water Spill 4.7.14
Sample ID: South Wall
Collection Date: 4/7/2014 02:10 PM

Work Order: 1404371
Lab ID: 1404371-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3541 / 4/8/14	Analyst: IT
DRO (C10-C28)	ND		4.6	mg/Kg-dry	1	4/9/2014 04:51 AM
Surr: 4-Terphenyl-d14	59.8		39-115	%REC	1	4/9/2014 04:51 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015		Prep: SW5035 / 4/8/14	Analyst: IT
GRO (C6-C10)	ND		2.8	mg/Kg-dry	1	4/8/2014 07:13 PM
Surr: Toluene-d8	116		50-150	%REC	1	4/8/2014 07:13 PM
MERCURY BY CVAA						
			SW7471		Prep: SW7471 / 4/9/14	Analyst: LR
Mercury	ND		0.017	mg/Kg-dry	1	4/9/2014 03:47 PM
METALS BY ICP-MS						
			SW6020A		Prep: SW3050B / 4/9/14	Analyst: ML
Arsenic	3.9		2.2	mg/Kg-dry	5	4/9/2014 04:27 PM
Barium	150		2.2	mg/Kg-dry	5	4/9/2014 04:27 PM
Cadmium	ND		0.87	mg/Kg-dry	5	4/9/2014 04:27 PM
Chromium	9.4		2.2	mg/Kg-dry	5	4/9/2014 04:27 PM
Copper	8.4		2.2	mg/Kg-dry	5	4/9/2014 04:27 PM
Lead	9.9		2.2	mg/Kg-dry	5	4/9/2014 04:27 PM
Nickel	13		2.2	mg/Kg-dry	5	4/9/2014 04:27 PM
Selenium	ND		2.2	mg/Kg-dry	5	4/9/2014 04:27 PM
Silver	ND		2.2	mg/Kg-dry	5	4/9/2014 04:27 PM
Zinc	52		4.3	mg/Kg-dry	5	4/9/2014 04:27 PM
SOLUBLE CATIONS FOR SAR						
			SW6020A		Prep: USDA Method 20B / 4/10/14	Analyst: RH
Calcium	30		10	mg/L	20	4/11/2014 03:29 AM
Magnesium	20		4.0	mg/L	20	4/11/2014 03:29 AM
Sodium	1,400		4.0	mg/L	20	4/11/2014 03:29 AM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 4/10/14	Analyst: RH
Sodium Adsorption Ratio	48		0.010	none	1	4/10/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW8270		Prep: SW3541 / 4/8/14	Analyst: HL
Acenaphthene	ND		7.3	µg/Kg-dry	1	4/9/2014 03:33 PM
Acenaphthylene	ND		7.3	µg/Kg-dry	1	4/9/2014 03:33 PM
Anthracene	ND		7.3	µg/Kg-dry	1	4/9/2014 03:33 PM
Benzo(a)anthracene	ND		7.3	µg/Kg-dry	1	4/9/2014 03:33 PM
Benzo(a)pyrene	ND		7.3	µg/Kg-dry	1	4/9/2014 03:33 PM
Benzo(b)fluoranthene	ND		7.3	µg/Kg-dry	1	4/9/2014 03:33 PM
Benzo(g,h,i)perylene	ND		7.3	µg/Kg-dry	1	4/9/2014 03:33 PM
Benzo(k)fluoranthene	ND		7.3	µg/Kg-dry	1	4/9/2014 03:33 PM
Chrysene	ND		7.3	µg/Kg-dry	1	4/9/2014 03:33 PM

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

ALS Group USA, Corp

Date: 11-Apr-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Produced Water Spill 4.7.14
Sample ID: South Wall
Collection Date: 4/7/2014 02:10 PM

Work Order: 1404371
Lab ID: 1404371-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		7.3	µg/Kg-dry	1	4/9/2014 03:33 PM
Fluoranthene	ND		7.3	µg/Kg-dry	1	4/9/2014 03:33 PM
Fluorene	ND		7.3	µg/Kg-dry	1	4/9/2014 03:33 PM
Indeno(1,2,3-cd)pyrene	ND		7.3	µg/Kg-dry	1	4/9/2014 03:33 PM
Naphthalene	ND		7.3	µg/Kg-dry	1	4/9/2014 03:33 PM
Pyrene	ND		7.3	µg/Kg-dry	1	4/9/2014 03:33 PM
Surr: 2-Fluorobiphenyl	66.2		12-100	%REC	1	4/9/2014 03:33 PM
Surr: 4-Terphenyl-d14	84.2		25-137	%REC	1	4/9/2014 03:33 PM
Surr: Nitrobenzene-d5	78.4		37-107	%REC	1	4/9/2014 03:33 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 4/8/14		Analyst: RS
Benzene	ND		34	µg/Kg-dry	1	4/8/2014 07:45 PM
Ethylbenzene	ND		34	µg/Kg-dry	1	4/8/2014 07:45 PM
m,p-Xylene	ND		67	µg/Kg-dry	1	4/8/2014 07:45 PM
o-Xylene	ND		34	µg/Kg-dry	1	4/8/2014 07:45 PM
Toluene	ND		34	µg/Kg-dry	1	4/8/2014 07:45 PM
Xylenes, Total	ND		100	µg/Kg-dry	1	4/8/2014 07:45 PM
Surr: 1,2-Dichloroethane-d4	101		70-130	%REC	1	4/8/2014 07:45 PM
Surr: 4-Bromofluorobenzene	94.0		70-130	%REC	1	4/8/2014 07:45 PM
Surr: Dibromofluoromethane	93.6		70-130	%REC	1	4/8/2014 07:45 PM
Surr: Toluene-d8	99.8		70-130	%REC	1	4/8/2014 07:45 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 4/10/14		Analyst: JB
Electrical Conductivity @ Saturation	8.1		0.25	mmhos/cm @25	50	4/10/2014 03:00 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JJG
Chromium, Trivalent	9.1		0.56	mg/Kg-dry	1	4/11/2014 10:22 AM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 4/9/14		Analyst: MB
Chromium, Hexavalent	ND		0.56	mg/Kg-dry	1	4/10/2014 09:00 AM
MOISTURE			A2540 G			Analyst: AT
Moisture	11		0.050	% of sample	1	4/8/2014 02:49 PM
PH			SW9045D	Prep: EXTRACT / 4/8/14		Analyst: AT
pH	9.2			s.u.	1	4/8/2014 05:04 PM

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

ALS Group USA, Corp

Date: 11-Apr-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Produced Water Spill 4.7.14
Sample ID: West Wall
Collection Date: 4/7/2014 02:20 PM

Work Order: 1404371
Lab ID: 1404371-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3541 / 4/8/14	Analyst: IT
DRO (C10-C28)	ND		4.6	mg/Kg-dry	1	4/9/2014 05:51 AM
Surr: 4-Terphenyl-d14	64.8		39-115	%REC	1	4/9/2014 05:51 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015		Prep: SW5035 / 4/8/14	Analyst: IT
GRO (C6-C10)	ND		2.8	mg/Kg-dry	1	4/8/2014 07:39 PM
Surr: Toluene-d8	100		50-150	%REC	1	4/8/2014 07:39 PM
MERCURY BY CVAA						
			SW7471		Prep: SW7471 / 4/9/14	Analyst: LR
Mercury	ND		0.016	mg/Kg-dry	1	4/9/2014 03:50 PM
METALS BY ICP-MS						
			SW6020A		Prep: SW3050B / 4/9/14	Analyst: ML
Arsenic	4.4		2.3	mg/Kg-dry	5	4/9/2014 04:34 PM
Barium	1,800		23	mg/Kg-dry	50	4/10/2014 05:04 PM
Cadmium	ND		0.92	mg/Kg-dry	5	4/9/2014 04:34 PM
Chromium	10		2.3	mg/Kg-dry	5	4/9/2014 04:34 PM
Copper	9.4		2.3	mg/Kg-dry	5	4/9/2014 04:34 PM
Lead	12		2.3	mg/Kg-dry	5	4/9/2014 04:34 PM
Nickel	13		2.3	mg/Kg-dry	5	4/9/2014 04:34 PM
Selenium	ND		2.3	mg/Kg-dry	5	4/9/2014 04:34 PM
Silver	ND		2.3	mg/Kg-dry	5	4/9/2014 04:34 PM
Zinc	51		4.6	mg/Kg-dry	5	4/9/2014 04:34 PM
SOLUBLE CATIONS FOR SAR						
			SW6020A		Prep: USDA Method 20B / 4/10/14	Analyst: RH
Calcium	11		10	mg/L	20	4/11/2014 03:34 AM
Magnesium	6.3		4.0	mg/L	20	4/11/2014 03:34 AM
Sodium	650		4.0	mg/L	20	4/11/2014 03:34 AM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 4/10/14	Analyst: RH
Sodium Adsorption Ratio	39		0.010	none	1	4/10/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW8270		Prep: SW3541 / 4/8/14	Analyst: HL
Acenaphthene	ND		7.4	µg/Kg-dry	1	4/9/2014 04:06 PM
Acenaphthylene	ND		7.4	µg/Kg-dry	1	4/9/2014 04:06 PM
Anthracene	ND		7.4	µg/Kg-dry	1	4/9/2014 04:06 PM
Benzo(a)anthracene	ND		7.4	µg/Kg-dry	1	4/9/2014 04:06 PM
Benzo(a)pyrene	ND		7.4	µg/Kg-dry	1	4/9/2014 04:06 PM
Benzo(b)fluoranthene	ND		7.4	µg/Kg-dry	1	4/9/2014 04:06 PM
Benzo(g,h,i)perylene	ND		7.4	µg/Kg-dry	1	4/9/2014 04:06 PM
Benzo(k)fluoranthene	ND		7.4	µg/Kg-dry	1	4/9/2014 04:06 PM
Chrysene	ND		7.4	µg/Kg-dry	1	4/9/2014 04:06 PM

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

ALS Group USA, Corp

Date: 11-Apr-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Produced Water Spill 4.7.14
Sample ID: West Wall
Collection Date: 4/7/2014 02:20 PM

Work Order: 1404371
Lab ID: 1404371-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		7.4	µg/Kg-dry	1	4/9/2014 04:06 PM
Fluoranthene	ND		7.4	µg/Kg-dry	1	4/9/2014 04:06 PM
Fluorene	ND		7.4	µg/Kg-dry	1	4/9/2014 04:06 PM
Indeno(1,2,3-cd)pyrene	ND		7.4	µg/Kg-dry	1	4/9/2014 04:06 PM
Naphthalene	ND		7.4	µg/Kg-dry	1	4/9/2014 04:06 PM
Pyrene	ND		7.4	µg/Kg-dry	1	4/9/2014 04:06 PM
Surr: 2-Fluorobiphenyl	71.0		12-100	%REC	1	4/9/2014 04:06 PM
Surr: 4-Terphenyl-d14	88.4		25-137	%REC	1	4/9/2014 04:06 PM
Surr: Nitrobenzene-d5	83.6		37-107	%REC	1	4/9/2014 04:06 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 4/8/14		Analyst: RS
Benzene	ND		34	µg/Kg-dry	1	4/8/2014 08:09 PM
Ethylbenzene	ND		34	µg/Kg-dry	1	4/8/2014 08:09 PM
m,p-Xylene	ND		68	µg/Kg-dry	1	4/8/2014 08:09 PM
o-Xylene	ND		34	µg/Kg-dry	1	4/8/2014 08:09 PM
Toluene	ND		34	µg/Kg-dry	1	4/8/2014 08:09 PM
Xylenes, Total	ND		100	µg/Kg-dry	1	4/8/2014 08:09 PM
Surr: 1,2-Dichloroethane-d4	105		70-130	%REC	1	4/8/2014 08:09 PM
Surr: 4-Bromofluorobenzene	91.4		70-130	%REC	1	4/8/2014 08:09 PM
Surr: Dibromofluoromethane	98.8		70-130	%REC	1	4/8/2014 08:09 PM
Surr: Toluene-d8	97.2		70-130	%REC	1	4/8/2014 08:09 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 4/10/14		Analyst: JB
Electrical Conductivity @ Saturation	3.6		0.25	mmhos/cm @25	50	4/10/2014 03:00 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JJG
Chromium, Trivalent	10		0.56	mg/Kg-dry	1	4/11/2014 10:22 AM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 4/9/14		Analyst: MB
Chromium, Hexavalent	ND		0.56	mg/Kg-dry	1	4/10/2014 09:00 AM
MOISTURE			A2540 G			Analyst: AT
Moisture	11		0.050	% of sample	1	4/8/2014 02:49 PM
PH			SW9045D	Prep: EXTRACT / 4/8/14		Analyst: AT
pH	9.3			s.u.	1	4/8/2014 05:04 PM

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

ALS Group USA, Corp

Date: 11-Apr-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Produced Water Spill 4.7.14
Sample ID: Bottom
Collection Date: 4/7/2014 02:30 PM

Work Order: 1404371
Lab ID: 1404371-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3541 / 4/8/14	Analyst: IT
DRO (C10-C28)	99		4.4	mg/Kg-dry	1	4/9/2014 06:21 AM
Surr: 4-Terphenyl-d14	94.9		39-115	%REC	1	4/9/2014 06:21 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015		Prep: SW5035 / 4/8/14	Analyst: IT
GRO (C6-C10)	ND		2.7	mg/Kg-dry	1	4/8/2014 08:05 PM
Surr: Toluene-d8	118		50-150	%REC	1	4/8/2014 08:05 PM
MERCURY BY CVAA						
			SW7471		Prep: SW7471 / 4/9/14	Analyst: LR
Mercury	0.023		0.016	mg/Kg-dry	1	4/9/2014 04:09 PM
METALS BY ICP-MS						
			SW6020A		Prep: SW3050B / 4/9/14	Analyst: ML
Arsenic	7.9		2.1	mg/Kg-dry	5	4/9/2014 04:40 PM
Barium	430		2.1	mg/Kg-dry	5	4/9/2014 04:40 PM
Cadmium	ND		0.86	mg/Kg-dry	5	4/9/2014 04:40 PM
Chromium	14		2.1	mg/Kg-dry	5	4/9/2014 04:40 PM
Copper	19		2.1	mg/Kg-dry	5	4/9/2014 04:40 PM
Lead	18		2.1	mg/Kg-dry	5	4/9/2014 04:40 PM
Nickel	20		2.1	mg/Kg-dry	5	4/9/2014 04:40 PM
Selenium	ND		2.1	mg/Kg-dry	5	4/9/2014 04:40 PM
Silver	ND		2.1	mg/Kg-dry	5	4/9/2014 04:40 PM
Zinc	80		4.3	mg/Kg-dry	5	4/9/2014 04:40 PM
SOLUBLE CATIONS FOR SAR						
			SW6020A		Prep: USDA Method 20B / 4/10/14	Analyst: RH
Calcium	11		10	mg/L	20	4/11/2014 03:40 AM
Magnesium	ND		4.0	mg/L	20	4/11/2014 03:40 AM
Sodium	590		4.0	mg/L	20	4/11/2014 03:40 AM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 4/10/14	Analyst: RH
Sodium Adsorption Ratio	39		0.010	none	1	4/10/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW8270		Prep: SW3541 / 4/8/14	Analyst: HL
Acenaphthene	ND		7.0	µg/Kg-dry	1	4/9/2014 12:16 PM
Acenaphthylene	ND		7.0	µg/Kg-dry	1	4/9/2014 12:16 PM
Anthracene	ND		7.0	µg/Kg-dry	1	4/9/2014 12:16 PM
Benzo(a)anthracene	ND		7.0	µg/Kg-dry	1	4/9/2014 12:16 PM
Benzo(a)pyrene	ND		7.0	µg/Kg-dry	1	4/9/2014 12:16 PM
Benzo(b)fluoranthene	ND		7.0	µg/Kg-dry	1	4/9/2014 12:16 PM
Benzo(g,h,i)perylene	ND		7.0	µg/Kg-dry	1	4/9/2014 12:16 PM
Benzo(k)fluoranthene	ND		7.0	µg/Kg-dry	1	4/9/2014 12:16 PM
Chrysene	ND		7.0	µg/Kg-dry	1	4/9/2014 12:16 PM

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

ALS Group USA, Corp

Date: 11-Apr-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Produced Water Spill 4.7.14
Sample ID: Bottom
Collection Date: 4/7/2014 02:30 PM

Work Order: 1404371
Lab ID: 1404371-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		7.0	µg/Kg-dry	1	4/9/2014 12:16 PM
Fluoranthene	ND		7.0	µg/Kg-dry	1	4/9/2014 12:16 PM
Fluorene	10		7.0	µg/Kg-dry	1	4/9/2014 12:16 PM
Indeno(1,2,3-cd)pyrene	ND		7.0	µg/Kg-dry	1	4/9/2014 12:16 PM
Naphthalene	24		7.0	µg/Kg-dry	1	4/9/2014 12:16 PM
Pyrene	ND		7.0	µg/Kg-dry	1	4/9/2014 12:16 PM
Surr: 2-Fluorobiphenyl	61.7		12-100	%REC	1	4/9/2014 12:16 PM
Surr: 4-Terphenyl-d14	83.5		25-137	%REC	1	4/9/2014 12:16 PM
Surr: Nitrobenzene-d5	86.7		37-107	%REC	1	4/9/2014 12:16 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 4/8/14	Analyst: RS	
Benzene	ND		32	µg/Kg-dry	1	4/8/2014 09:23 PM
Ethylbenzene	59		32	µg/Kg-dry	1	4/8/2014 09:23 PM
m,p-Xylene	320		65	µg/Kg-dry	1	4/8/2014 09:23 PM
o-Xylene	70		32	µg/Kg-dry	1	4/8/2014 09:23 PM
Toluene	ND		32	µg/Kg-dry	1	4/8/2014 09:23 PM
Xylenes, Total	380		97	µg/Kg-dry	1	4/8/2014 09:23 PM
Surr: 1,2-Dichloroethane-d4	101		70-130	%REC	1	4/8/2014 09:23 PM
Surr: 4-Bromofluorobenzene	97.2		70-130	%REC	1	4/8/2014 09:23 PM
Surr: Dibromofluoromethane	94.8		70-130	%REC	1	4/8/2014 09:23 PM
Surr: Toluene-d8	96.6		70-130	%REC	1	4/8/2014 09:23 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 4/10/14	Analyst: JB	
Electrical Conductivity @ Saturation	3.0		0.25	mmhos/cm @25	50	4/10/2014 03:00 PM
CHROMIUM, TRIVALENT			CALCULATION	Analyst: JJG		
Chromium, Trivalent	14		0.54	mg/Kg-dry	1	4/11/2014 10:22 AM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 4/9/14	Analyst: MB	
Chromium, Hexavalent	ND		0.54	mg/Kg-dry	1	4/10/2014 09:00 AM
MOISTURE			A2540 G	Analyst: AT		
Moisture	7.4		0.050	% of sample	1	4/8/2014 02:49 PM
PH			SW9045D	Prep: EXTRACT / 4/8/14	Analyst: AT	
pH	9.5			s.u.	1	4/8/2014 05:04 PM

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

ALS Group USA, Corp

Date: 11-Apr-14

Client: HRL Compliance Solutions, Inc

QC BATCH REPORT

Work Order: 1404371

Project: WPX RWF 531-13 Produced Water Spill 4.7.14

Batch ID: **57334**

Instrument ID **GC8**

Method: **SW8015M**

MBLK		Sample ID: DBLKS1-57334-57334				Units: mg/Kg		Analysis Date: 4/9/2014 12:22 PM		
Client ID:		Run ID: GC8_140408A				SeqNo: 2703591		Prep Date: 4/8/2014		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	1.163	0	1.667	0	69.8	39-115	0			

LCS		Sample ID: DLCSS1-57334-57334				Units: mg/Kg		Analysis Date: 4/9/2014 12:52 PM		
Client ID:		Run ID: GC8_140408A				SeqNo: 2703592		Prep Date: 4/8/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	150.5	4.2	166.7	0	90.3	49-124	0			
Surr: 4-Terphenyl-d14	1.296	0	1.667	0	77.8	39-115	0			

MS		Sample ID: 1404203-01B MS				Units: mg/Kg		Analysis Date: 4/9/2014 01:22 AM		
Client ID:		Run ID: GC8_140408A				SeqNo: 2703581		Prep Date: 4/8/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	845.9	8.0	321.3	599.3	76.8	49-130	0			
Surr: 4-Terphenyl-d14	8.982	0	3.213	0	280	39-115	0			S

MSD		Sample ID: 1404203-01B MSD				Units: mg/Kg		Analysis Date: 4/9/2014 01:52 AM		
Client ID:		Run ID: GC8_140408A				SeqNo: 2703582		Prep Date: 4/8/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	1077	8.0	319.9	599.3	149	49-130	845.9	24	30	S
Surr: 4-Terphenyl-d14	11.27	0	3.199	0	352	39-115	8.982	22.6	30	S

The following samples were analyzed in this batch:

1404371-01B	1404371-02B	1404371-03B
1404371-04B	1404371-05B	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1404371
Project: WPX RWF 531-13 Produced Water Spill 4.7.14

QC BATCH REPORT

Batch ID: **57349** Instrument ID **GC9** Method: **SW8015**

MBLK		Sample ID: MBLK-57349-57349				Units: µg/Kg		Analysis Date: 4/8/2014 04:36 PM		
Client ID:		Run ID: GC9_140408A				SeqNo: 2703542		Prep Date: 4/8/2014		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								
<i>Surr: Toluene-d8</i>	<i>4948</i>	<i>0</i>	<i>5000</i>	<i>0</i>	<i>99</i>	<i>50-150</i>	<i>0</i>			

LCS		Sample ID: LCS-57349-57349				Units: µg/Kg		Analysis Date: 4/8/2014 04:10 PM		
Client ID:		Run ID: GC9_140408A				SeqNo: 2703541		Prep Date: 4/8/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	530100	2,500	500000	0	106	70-130	0			
<i>Surr: Toluene-d8</i>	<i>4818</i>	<i>0</i>	<i>5000</i>	<i>0</i>	<i>96.4</i>	<i>50-150</i>	<i>0</i>			

MS		Sample ID: 1404252-01A MS				Units: µg/Kg		Analysis Date: 4/8/2014 08:31 PM		
Client ID:		Run ID: GC9_140408A				SeqNo: 2703551		Prep Date: 4/8/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	541600	2,500	500000	0	108	70-130	0			
<i>Surr: Toluene-d8</i>	<i>5508</i>	<i>0</i>	<i>5000</i>	<i>0</i>	<i>110</i>	<i>50-150</i>	<i>0</i>			

MSD		Sample ID: 1404252-01A MSD				Units: µg/Kg		Analysis Date: 4/8/2014 08:57 PM		
Client ID:		Run ID: GC9_140408A				SeqNo: 2703552		Prep Date: 4/8/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	531200	2,500	500000	0	106	70-130	541600	1.93	30	
<i>Surr: Toluene-d8</i>	<i>4748</i>	<i>0</i>	<i>5000</i>	<i>0</i>	<i>95</i>	<i>50-150</i>	<i>5508</i>	<i>14.8</i>	<i>30</i>	

The following samples were analyzed in this batch:

1404371-01A	1404371-02A	1404371-03A
1404371-04A	1404371-05A	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1404371
Project: WPX RWF 531-13 Produced Water Spill 4.7.14

QC BATCH REPORT

Batch ID: **57363** Instrument ID **HG1** Method: **SW7471**

MBLK		Sample ID: MBLK-57363-57363				Units: mg/Kg		Analysis Date: 4/9/2014 03:33 PM		
Client ID:		Run ID: HG1_140409A				SeqNo: 2705297		Prep Date: 4/9/2014		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-57363-57363				Units: mg/Kg		Analysis Date: 4/9/2014 04:06 PM		
Client ID:		Run ID: HG1_140409A				SeqNo: 2705310		Prep Date: 4/9/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1746 0.020 0.1665 0 105 80-120 0

MS		Sample ID: 1404371-04BMS				Units: mg/Kg		Analysis Date: 4/9/2014 03:52 PM		
Client ID: West Wall		Run ID: HG1_140409A				SeqNo: 2705305		Prep Date: 4/9/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1384 0.014 0.1148 0.01134 111 75-125 0

MSD		Sample ID: 1404371-04BMSD				Units: mg/Kg		Analysis Date: 4/9/2014 03:54 PM		
Client ID: West Wall		Run ID: HG1_140409A				SeqNo: 2705306		Prep Date: 4/9/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1493 0.014 0.1201 0.01134 115 75-125 0.1384 7.57 35

The following samples were analyzed in this batch:

1404371-01B	1404371-02B	1404371-03B
1404371-04B	1404371-05B	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1404371
Project: WPX RWF 531-13 Produced Water Spill 4.7.14

QC BATCH REPORT

Batch ID: **57360** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK				Sample ID: MBLK-57360-57360				Units: mg/Kg		Analysis Date: 4/9/2014 12:05 PM	
Client ID:			Run ID: ICPMS1_140408A			SeqNo: 2704593		Prep Date: 4/9/2014		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	ND	0.50									

LCS				Sample ID: LCS-57360-57360				Units: mg/Kg			Analysis Date: 4/9/2014 12:11 PM			
Client ID:				Run ID: ICPMS1_140408A				SeqNo: 2704594			Prep Date: 4/9/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Arsenic	4.404	0.25	5	0	88.1	80-120	0							
Barium	4.638	0.25	5	0	92.8	80-120	0							
Cadmium	4.63	0.10	5	0	92.6	80-120	0							
Chromium	4.554	0.25	5	0	91.1	80-120	0							
Copper	4.596	0.25	5	0	91.9	80-120	0							
Lead	4.663	0.25	5	0	93.3	80-120	0							
Nickel	4.451	0.25	5	0	89	80-120	0							
Selenium	4.329	0.25	5	0	86.6	80-120	0							
Silver	4.502	0.25	5	0	90	80-120	0							
Zinc	4.524	0.50	5	0	90.5	80-120	0							

MS					Sample ID: 1404321-01AMS			Units: mg/Kg		Analysis Date: 4/9/2014 12:43 PM		
Client ID:			Run ID: ICPMS1_140408A			SeqNo: 2704599		Prep Date: 4/9/2014		DF: 5		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
Arsenic	10.86	1.8	7.112	4.782	85.5	75-125	0					
Barium	94.77	1.8	7.112	77.95	237	75-125	0			SO		
Cadmium	7.187	0.71	7.112	0.1449	99	75-125	0					
Chromium	22.62	1.8	7.112	11.86	151	75-125	0			S		
Copper	17.14	1.8	7.112	9.116	113	75-125	0					
Lead	21.42	1.8	7.112	15.23	87	75-125	0					
Nickel	19.95	1.8	7.112	10.42	134	75-125	0			S		
Selenium	8.009	1.8	7.112	0.9607	99.1	75-125	0					
Silver	6.867	1.8	7.112	0.03715	96	75-125	0					
Zinc	44.74	3.6	7.112	32.26	175	75-125	0			SO		

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

Client: HRL Compliance Solutions, Inc
Work Order: 1404371
Project: WPX RWF 531-13 Produced Water Spill 4.7.14

QC BATCH REPORT

Batch ID: **57360** Instrument ID **ICPMS1** Method: **SW6020A**

MSD		Sample ID: 1404321-01AMSD				Units: mg/Kg		Analysis Date: 4/9/2014 12:49 PM		
Client ID:		Run ID: ICPMS1_140408A				SeqNo: 2704600		Prep Date: 4/9/2014		DF: 5
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.808	1.8	7.236	4.782	69.5	75-125	10.86	10.2	25	S
Barium	80.1	1.8	7.236	77.95	29.8	75-125	94.77	16.8	25	SO
Cadmium	6.122	0.72	7.236	0.1449	82.6	75-125	7.187	16	25	
Chromium	18.46	1.8	7.236	11.86	91.2	75-125	22.62	20.3	25	
Copper	13.76	1.8	7.236	9.116	64.2	75-125	17.14	21.9	25	S
Lead	18.65	1.8	7.236	15.23	47.3	75-125	21.42	13.8	25	S
Nickel	16.02	1.8	7.236	10.42	77.5	75-125	19.95	21.8	25	
Selenium	6.559	1.8	7.236	0.9607	77.4	75-125	8.009	19.9	25	
Silver	5.705	1.8	7.236	0.03715	78.3	75-125	6.867	18.5	25	
Zinc	37.26	3.6	7.236	32.26	69.1	75-125	44.74	18.2	25	SO

The following samples were analyzed in this batch:

1404371-01B	1404371-02B	1404371-03B
1404371-04B	1404371-05B	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1404371
Project: WPX RWF 531-13 Produced Water Spill 4.7.14

QC BATCH REPORT

Batch ID: **57394** Instrument ID **ICPMS2** Method: **SW6020A**

DUP		Sample ID: 1404371-05CDUP				Units: mg/L		Analysis Date: 4/11/2014 03:46 AM		
Client ID: Bottom		Run ID: ICPMS2_140410A				SeqNo: 2707296		Prep Date: 4/10/2014		DF: 20
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	11.69	10	0	0	0	0-0	11.42	2.32		
Magnesium	3.924	4.0	0	0	0	0-0	3.742	0		J
Sodium	569	4.0	0	0	0	0-0	588.6	3.39		

DUP		Sample ID: 1404371-05CDUP				Units: none		Analysis Date: 4/10/2014		
Client ID: Bottom		Run ID: SAR_140410A				SeqNo: 2708488		Prep Date: 4/10/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	36.77	0.010	0	0	0		38.65	4.98	50	

The following samples were analyzed in this batch:

1404371-01C	1404371-02C	1404371-03C
1404371-04C	1404371-05C	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1404371
Project: WPX RWF 531-13 Produced Water Spill 4.7.14

QC BATCH REPORT

Batch ID: **57354** Instrument ID **SVMS4** Method: **SW8270**

MBLK		Sample ID: SBLKS1-57354-57354				Units: µg/Kg		Analysis Date: 4/9/2014 12:49 PM		
Client ID:		Run ID: SVMS4_140409A				SeqNo: 2704588		Prep Date: 4/8/2014		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								
<i>Surr: 2-Fluorobiphenyl</i>	1187	0	1667	0	71.2	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1647	0	1667	0	98.8	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1387	0	1667	0	83.2	37-107	0			

LCS		Sample ID: SLCSS1-57354-57354				Units: µg/Kg		Analysis Date: 4/9/2014 10:39 AM		
Client ID:		Run ID: SVMS4_140409A				SeqNo: 2704584		Prep Date: 4/8/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	479.7	6.7	666.7	0	71.9	45-110	0			
Acenaphthylene	469.7	6.7	666.7	0	70.4	45-105	0			
Anthracene	543	6.7	666.7	0	81.4	55-105	0			
Benzo(a)anthracene	523.7	6.7	666.7	0	78.5	50-110	0			
Benzo(a)pyrene	574	6.7	666.7	0	86.1	50-110	0			
Benzo(b)fluoranthene	491.3	6.7	666.7	0	73.7	45-115	0			
Benzo(g,h,i)perylene	489.3	6.7	666.7	0	73.4	40-125	0			
Benzo(k)fluoranthene	657.3	6.7	666.7	0	98.6	45-115	0			
Chrysene	538	6.7	666.7	0	80.7	55-110	0			
Dibenzo(a,h)anthracene	514	6.7	666.7	0	77.1	40-125	0			
Fluoranthene	570.7	6.7	666.7	0	85.6	55-115	0			
Fluorene	516.3	6.7	666.7	0	77.4	50-110	0			
Indeno(1,2,3-cd)pyrene	515	6.7	666.7	0	77.2	40-120	0			
Naphthalene	469.7	6.7	666.7	0	70.4	40-105	0			
Pyrene	523.7	6.7	666.7	0	78.5	45-125	0			
<i>Surr: 2-Fluorobiphenyl</i>	1219	0	1667	0	73.1	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1555	0	1667	0	93.3	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1448	0	1667	0	86.9	37-107	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 1404371
Project: WPX RWF 531-13 Produced Water Spill 4.7.14

QC BATCH REPORT

Batch ID: **57354** Instrument ID **SVMS4** Method: **SW8270**

MS				Sample ID: 1404371-05B MS			Units: µg/Kg		Analysis Date: 4/9/2014 11:11 AM	
Client ID: Bottom				Run ID: SVMS4_140409A			SeqNo: 2704585		Prep Date: 4/8/2014	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	972.1	13	1321	0	73.6	45-110	0			
Acenaphthylene	959.6	13	1321	0	72.6	45-105	0			
Anthracene	1111	13	1321	0	84.1	55-105	0			
Benzo(a)anthracene	1020	13	1321	0	77.2	50-110	0			
Benzo(a)pyrene	1109	13	1321	0	84	50-110	0			
Benzo(b)fluoranthene	1077	13	1321	0	81.5	45-115	0			
Benzo(g,h,i)perylene	913.4	13	1321	0	69.1	40-125	0			
Benzo(k)fluoranthene	1172	13	1321	0	88.7	45-115	0			
Chrysene	1018	13	1321	0	77.1	55-110	0			
Dibenzo(a,h)anthracene	980.1	13	1321	0	74.2	40-125	0			
Fluoranthene	1111	13	1321	0	84.1	55-115	0			
Fluorene	1107	13	1321	9.376	83.1	50-110	0			
Indeno(1,2,3-cd)pyrene	973.5	13	1321	0	73.7	40-120	0			
Naphthalene	1087	13	1321	22.63	80.6	40-105	0			
Pyrene	1041	13	1321	0	78.8	45-125	0			
Surr: 2-Fluorobiphenyl	2528	0	3302	0	76.6	12-100	0			
Surr: 4-Terphenyl-d14	2962	0	3302	0	89.7	25-137	0			
Surr: Nitrobenzene-d5	3232	0	3302	0	97.9	37-107	0			

MSD				Sample ID: 1404371-05B MSD			Units: µg/Kg		Analysis Date: 4/9/2014 11:44 AM	
Client ID: Bottom				Run ID: SVMS4_140409A			SeqNo: 2704586		Prep Date: 4/8/2014	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	874.3	13	1285	0	68	45-110	972.1	10.6	30	
Acenaphthylene	864.1	13	1285	0	67.2	45-105	959.6	10.5	30	
Anthracene	1001	13	1285	0	77.9	55-105	1111	10.4	30	
Benzo(a)anthracene	939.2	13	1285	0	73.1	50-110	1020	8.21	30	
Benzo(a)pyrene	1008	13	1285	0	78.4	50-110	1109	9.59	30	
Benzo(b)fluoranthene	978.4	13	1285	0	76.1	45-115	1077	9.61	30	
Benzo(g,h,i)perylene	846.7	13	1285	0	65.9	40-125	913.4	7.57	30	
Benzo(k)fluoranthene	1049	13	1285	0	81.6	45-115	1172	11.1	30	
Chrysene	941.2	13	1285	0	73.2	55-110	1018	7.88	30	
Dibenzo(a,h)anthracene	906.5	13	1285	0	70.5	40-125	980.1	7.8	30	
Fluoranthene	1022	13	1285	0	79.5	55-115	1111	8.38	30	
Fluorene	984.2	13	1285	9.376	75.9	50-110	1107	11.7	30	
Indeno(1,2,3-cd)pyrene	902	13	1285	0	70.2	40-120	973.5	7.62	30	
Naphthalene	947.6	13	1285	22.63	72	40-105	1087	13.7	30	
Pyrene	968.1	13	1285	0	75.3	45-125	1041	7.24	30	
Surr: 2-Fluorobiphenyl	2256	0	3212	0	70.2	12-100	2528	11.4	40	
Surr: 4-Terphenyl-d14	2713	0	3212	0	84.5	25-137	2962	8.78	40	
Surr: Nitrobenzene-d5	2817	0	3212	0	87.7	37-107	3232	13.7	40	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1404371
Project: WPX RWF 531-13 Produced Water Spill 4.7.14

QC BATCH REPORT

Batch ID: **57354** Instrument ID **SVMS4** Method: **SW8270**

The following samples were analyzed in this batch:

1404371-01B	1404371-02B	1404371-03B
1404371-04B	1404371-05B	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1404371
Project: WPX RWF 531-13 Produced Water Spill 4.7.14

QC BATCH REPORT

Batch ID: **57348** Instrument ID **VMS5** Method: **SW8260B**

MBLK				Sample ID: MBLK-57348-57348				Units: µg/Kg			Analysis Date: 4/8/2014 02:28 PM		
Client ID:			Run ID: VMS5_140408A				SeqNo: 2703693			Prep Date: 4/8/2014		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	964.5	0	1000	0	96.4	70-130		0					
Surr: 4-Bromofluorobenzene	957.5	0	1000	0	95.8	70-130		0					
Surr: Dibromofluoromethane	1016	0	1000	0	102	70-130		0					
Surr: Toluene-d8	1020	0	1000	0	102	70-130		0					

LCS				Sample ID: LCS-57348-57348			Units: µg/Kg		Analysis Date: 4/8/2014 01:12 PM		
Client ID:		Run ID: VMS5_140408A			SeqNo: 2703692		Prep Date: 4/8/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	967.5	30	1000	0	96.8	75-125	0				
Ethylbenzene	952	30	1000	0	95.2	75-125	0				
m,p-Xylene	1884	60	2000	0	94.2	80-125	0				
o-Xylene	939	30	1000	0	93.9	75-125	0				
Toluene	948.5	30	1000	0	94.8	70-125	0				
Xylenes, Total	2822	90	3000	0	94.1	75-125	0				
Surr: 1,2-Dichloroethane-d4	960.5	0	1000	0	96	70-130	0				
Surr: 4-Bromofluorobenzene	968.5	0	1000	0	96.8	70-130	0				
Surr: Dibromofluoromethane	1014	0	1000	0	101	70-130	0				
Surr: Toluene-d8	1014	0	1000	0	101	70-130	0				

MS					Sample ID: 1404369-02A MS			Units: µg/Kg		Analysis Date: 4/8/2014 09:47 PM	
Client ID:			Run ID: VMS9_140408A			SeqNo: 2703652		Prep Date: 4/8/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1092	30	1000	0	109	75-125	0				
Ethylbenzene	983.5	30	1000	0	98.4	75-125	0				
m,p-Xylene	1960	60	2000	0	98	80-125	0				
o-Xylene	969	30	1000	0	96.9	75-125	0				
Toluene	1093	30	1000	0	109	70-125	0				
Xylenes, Total	2928	90	3000	0	97.6	75-125	0				
Surr: 1,2-Dichloroethane-d4	1020	0	1000	0	102	70-130	0				
Surr: 4-Bromofluorobenzene	1031	0	1000	0	103	70-130	0				
Surr: Dibromofluoromethane	972.5	0	1000	0	97.2	70-130	0				
Surr: Toluene-d8	1024	0	1000	0	102	70-130	0				

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

Client: HRL Compliance Solutions, Inc
Work Order: 1404371
Project: WPX RWF 531-13 Produced Water Spill 4.7.14

QC BATCH REPORT

Batch ID: **57348** Instrument ID **VMS5** Method: **SW8260B**

MSD				Sample ID: 1404369-02A MSD				Units: µg/Kg		Analysis Date: 4/8/2014 10:12 PM	
Client ID:			Run ID: VMS9_140408A			SeqNo: 2703653		Prep Date: 4/8/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1114	30	1000	0	111	75-125	1092	1.99	30		
Ethylbenzene	980	30	1000	0	98	75-125	983.5	0.357	30		
m,p-Xylene	1999	60	2000	0	100	80-125	1960	2	30		
o-Xylene	997.5	30	1000	0	99.8	75-125	969	2.9	30		
Toluene	1092	30	1000	0	109	70-125	1093	0.137	30		
Xylenes, Total	2996	90	3000	0	99.9	75-125	2928	2.3	30		
Surr: 1,2-Dichloroethane-d4	1016	0	1000	0	102	70-130	1020	0.442	30		
Surr: 4-Bromofluorobenzene	1038	0	1000	0	104	70-130	1031	0.677	30		
Surr: Dibromofluoromethane	967.5	0	1000	0	96.8	70-130	972.5	0.515	30		
Surr: Toluene-d8	1026	0	1000	0	103	70-130	1024	0.195	30		

The following samples were analyzed in this batch:

1404371-01A	1404371-02A	1404371-03A
1404371-04A	1404371-05A	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1404371
Project: WPX RWF 531-13 Produced Water Spill 4.7.14

QC BATCH REPORT

Batch ID: **57356** Instrument ID **WETCHEM** Method: **SW9045D**

LCS		Sample ID: LCS-57356-57356					Units: s.u.		Analysis Date: 4/8/2014 05:04 PM		
Client ID:			Run ID: WETCHEM_140408I			SeqNo: 2703174		Prep Date: 4/8/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH 3.88 0 4 0 97 90-110 0

DUP		Sample ID: 1404321-01A DUP					Units: s.u.		Analysis Date: 4/8/2014 05:04 PM		
Client ID:		Run ID: WETCHEM_140408I			SeqNo: 2703176		Prep Date: 4/8/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH 7.41 0 0 0 0 0-0 7.38 0.406 20

DUP				Sample ID: 1404371-03B DUP				Units: s.u.			Analysis Date: 4/8/2014 05:04 PM			
Client ID: South Wall				Run ID: WETCHEM_140408I				SeqNo: 2703186			Prep Date: 4/8/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

pH 9.13 0 0 0 0 0-0 9.18 0.546 20

The following samples were analyzed in this batch:

1404371-01B	1404371-02B	1404371-03B
1404371-04B	1404371-05B	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1404371
Project: WPX RWF 531-13 Produced Water Spill 4.7.14

QC BATCH REPORT

Batch ID: **57394** Instrument ID **WETCHEM** Method: **USDA H60 Method**

DUP		Sample ID: 1404371-05C DUP				Units: mmhos/cm @25°C		Analysis Date: 4/10/2014 03:00 PM		
Client ID: Bottom		Run ID: WETCHEM_140410F				SeqNo: 2706692		Prep Date: 4/10/2014		DF: 50
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	3.01	0.25	0	0	0		3.005	0.166	50	

The following samples were analyzed in this batch:

1404371-01C	1404371-02C	1404371-03C
1404371-04C	1404371-05C	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1404371
Project: WPX RWF 531-13 Produced Water Spill 4.7.14

QC BATCH REPORT

Batch ID: **57419** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK		Sample ID: MBLK-57419-57419				Units: mg/Kg		Analysis Date: 4/10/2014 09:00 AM		
Client ID:		Run ID: WETCHEM_140410B				SeqNo: 2705935		Prep Date: 4/9/2014		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-57419-57419				Units: mg/Kg		Analysis Date: 4/10/2014 09:00 AM		
Client ID:		Run ID: WETCHEM_140410B				SeqNo: 2705936		Prep Date: 4/9/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.748 0.50 2 0 87.4 80-120 0

MS		Sample ID: 1404369-01B MS				Units: mg/Kg		Analysis Date: 4/10/2014 09:00 AM		
Client ID:		Run ID: WETCHEM_140410B				SeqNo: 2705938		Prep Date: 4/9/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.755 0.50 2.008 0.2143 76.7 75-125 0

MS		Sample ID: 1404369-01B MSI				Units: mg/Kg		Analysis Date: 4/10/2014 09:00 AM		
Client ID:		Run ID: WETCHEM_140410B				SeqNo: 2705940		Prep Date: 4/9/2014		DF: 100
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 728.9 49 705.9 0.2143 103 75-125 0

MSD		Sample ID: 1404369-01B MSD				Units: mg/Kg		Analysis Date: 4/10/2014 09:00 AM		
Client ID:		Run ID: WETCHEM_140410B				SeqNo: 2705939		Prep Date: 4/9/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.762 0.50 2.016 0.2143 76.8 75-125 1.755 0.402 20

The following samples were analyzed in this batch:

1404371-01B	1404371-02B	1404371-03B
1404371-04B	1404371-05B	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1404371
Project: WPX RWF 531-13 Produced Water Spill 4.7.14

QC BATCH REPORT

Batch ID: **R138586** Instrument ID **MOIST** Method: **A2540 G**

MBLK		Sample ID: WBLKS-R138586				Units: % of sample		Analysis Date: 4/8/2014 02:49 PM		
Client ID:		Run ID: MOIST_140408A				SeqNo: 2703867		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-R138586				Units: % of sample		Analysis Date: 4/8/2014 02:49 PM		
Client ID:		Run ID: MOIST_140408A				SeqNo: 2703866		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: 1404292-01A DUP				Units: % of sample		Analysis Date: 4/8/2014 02:49 PM		
Client ID:		Run ID: MOIST_140408A				SeqNo: 2703847		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 18.36 0.050 0 0 0 0-0 19.55 6.28 20

DUP		Sample ID: 1404381-03A DUP				Units: % of sample		Analysis Date: 4/8/2014 02:49 PM		
Client ID:		Run ID: MOIST_140408A				SeqNo: 2703861		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 3.82 0.050 0 0 0 0-0 4.02 5.1 20

The following samples were analyzed in this batch:

1404371-01B	1404371-02B	1404371-03B
1404371-04B	1404371-05B	

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

WORKORDER
#

1404371

PAGE

1 of 1

DISPOSAL

☐ By Lab or ☐ Return to Client[illegible]

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

For metals or anions, please detail analytes below.

Comments:

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

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

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	<i>Ray W. D.</i>	<i>Ray W. D.</i>	4/7/14	3:00
RECEIVED BY	<i>W. M.</i>	<i>W. M. MARTINEC</i>	4-7-14	3:00
RELINQUISHED BY	<i>W. M.</i>	<i>W. M.</i>	4-7-14	15:00
RECEIVED BY	<i>D. F. Sha</i>	<i>Diane F. Sha</i>	4/8/14	1000
RELINQUISHED BY				
RECEIVED BY				

Sample Receipt Checklist

Client Name: HRL

Date/Time Received: 08-Apr-14 10:00

Work Order: 1404371

Received by: KRW

Checklist completed by Keith Wurenga 08-Apr-14
eSignature Date

Reviewed by: Ann Preston 08-Apr-14
eSignature Date

Matrices: Soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>4.6 C</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>4/8/2014 11:19:02 AM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:			

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

From: (616) 399-6070
 Sample Receiving
 ALS Laboratory Group
 3352 128th Avenue
 Holland, MI 49424

Origin ID: GRRA



Ship Date: 07APR14
 ActWgt: 74.8 LB
 CAD: 2264840/NET3480

Dims: 24 X 15 X 15 IN

Delivery Address Bar Code



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

BILL SENDER

Ref # 040714-4
 Invoice #
 PO #
 Dept #

HOLLAND, MI 49424

2 of 2

TUE -08 APR 10:30A
 PRIORITY OVERNIGHT

MP# 7984 7203 7646

Mstr# 7984 7203 7521

0201

49424

MI-US

GRR

68 GRRA

522G17809F220

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LR TS 42121



01-May-2014

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

Re: **WPX RWF 531-13 Landfarm Batch 1 4.22.14**

Work Order: **14041172**

Dear Mark,

ALS Environmental received 1 sample on 23-Apr-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 27.

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

Sincerely,

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

Electronically approved by: Ann Preston

Ann Preston
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

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

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

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Landfarm Batch 1 4.22.14
Work Order: 14041172

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
14041172-01	Batch 1	Soil		4/22/2014 13:30	4/23/2014 10:00	<input type="checkbox"/>

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Landfarm Batch 1 4.22.14
Work Order: 14041172

Case Narrative

Batch 57954 MS/MSD data for Hexavalent Chromium is not related to this project's samples. No data requires qualification.

Batch 57975 sample 14041172-01 was run at a dilution for BTEX.

Batch 57977 sample 14041172-01 DRO surrogate recovery was high due to matrix interference. No data requires qualification.

Batch 58070 MS/MSD data for Metals is not related to this project's samples. No data requires qualification.

Batch 58134 sample 14041172-01 was run at a dilution due to matrix interference.

<u>Qualifier</u>	<u>Description</u>
*	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

<u>Acronym</u>	<u>Description</u>
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

<u>Units Reported</u>	<u>Description</u>
% 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: 01-May-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Landfarm Batch 1 4.22.14
Sample ID: Batch 1
Collection Date: 4/22/2014 01:30 PM

Work Order: 14041172
Lab ID: 14041172-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	1,300		SW8015M		Prep: SW3541 / 4/25/14	Analyst: IT
<i>Surr: 4-Terphenyl-d14</i>	606	S	4.5	mg/Kg-dry	1	4/28/2014 01:57 PM
			39-133	%REC	1	4/28/2014 01:57 PM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	1,100		SW8015		Prep: SW5035 / 4/25/14	Analyst: IT
<i>Surr: Toluene-d8</i>	120		2.7	mg/Kg-dry	1	4/25/2014 05:55 PM
			50-150	%REC	1	4/25/2014 05:55 PM
MERCURY BY CVAA						
Mercury	0.027		SW7471		Prep: SW7471 / 4/29/14	Analyst: LR
			0.016	mg/Kg-dry	1	4/29/2014 03:28 PM
METALS BY ICP-MS						
Arsenic	4.3		SW6020A		Prep: SW3050B / 4/29/14	Analyst: ML
			1.9	mg/Kg-dry	5	4/30/2014 12:59 AM
Barium	670		1.9	mg/Kg-dry	5	4/30/2014 12:59 AM
Cadmium	0.94		0.76	mg/Kg-dry	5	4/30/2014 12:59 AM
Chromium	11		1.9	mg/Kg-dry	5	4/30/2014 12:59 AM
Copper	12		1.9	mg/Kg-dry	5	4/30/2014 12:59 AM
Lead	15		1.9	mg/Kg-dry	5	4/30/2014 12:59 AM
Nickel	15		1.9	mg/Kg-dry	5	4/30/2014 12:59 AM
Selenium	2.3		1.9	mg/Kg-dry	5	4/30/2014 12:59 AM
Silver	ND		1.9	mg/Kg-dry	5	4/30/2014 12:59 AM
Zinc	55		3.8	mg/Kg-dry	5	4/30/2014 12:59 AM
SOLUBLE CATIONS FOR SAR						
			SW6020A		Prep: USDA Method 20B / 4/28/14	Analyst: RH
Calcium	48		10	mg/L	20	4/30/2014 07:18 AM
Magnesium	27		4.0	mg/L	20	4/30/2014 07:18 AM
Sodium	790		4.0	mg/L	20	4/30/2014 07:18 AM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 4/28/14	Analyst: RH
Sodium Adsorption Ratio	22		0.010	none	1	4/29/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW8270		Prep: SW3541 / 4/30/14	Analyst: HL
Acenaphthene	350		71	µg/Kg-dry	10	5/1/2014 11:57 AM
Acenaphthylene	ND		71	µg/Kg-dry	10	5/1/2014 11:57 AM
Anthracene	ND		71	µg/Kg-dry	10	5/1/2014 11:57 AM
Benzo(a)anthracene	ND		71	µg/Kg-dry	10	5/1/2014 11:57 AM
Benzo(a)pyrene	ND		71	µg/Kg-dry	10	5/1/2014 11:57 AM
Benzo(b)fluoranthene	ND		71	µg/Kg-dry	10	5/1/2014 11:57 AM
Benzo(g,h,i)perylene	ND		71	µg/Kg-dry	10	5/1/2014 11:57 AM
Benzo(k)fluoranthene	ND		71	µg/Kg-dry	10	5/1/2014 11:57 AM
Chrysene	ND		71	µg/Kg-dry	10	5/1/2014 11:57 AM

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

ALS Group USA, Corp

Date: 01-May-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Landfarm Batch 1 4.22.14
Sample ID: Batch 1
Collection Date: 4/22/2014 01:30 PM

Work Order: 14041172
Lab ID: 14041172-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		71	µg/Kg-dry	10	5/1/2014 11:57 AM
Fluoranthene	ND		71	µg/Kg-dry	10	5/1/2014 11:57 AM
Fluorene	420		71	µg/Kg-dry	10	5/1/2014 11:57 AM
Indeno(1,2,3-cd)pyrene	ND		71	µg/Kg-dry	10	5/1/2014 11:57 AM
Naphthalene	320		71	µg/Kg-dry	10	5/1/2014 11:57 AM
Pyrene	ND		71	µg/Kg-dry	10	5/1/2014 11:57 AM
Surr: 2-Fluorobiphenyl	74.0		12-100	%REC	10	5/1/2014 11:57 AM
Surr: 4-Terphenyl-d14	83.4		25-137	%REC	10	5/1/2014 11:57 AM
Surr: Nitrobenzene-d5	81.0		37-107	%REC	10	5/1/2014 11:57 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 4/25/14		Analyst: BG
Benzene	ND		330	µg/Kg-dry	10	4/29/2014 09:28 PM
Ethylbenzene	1,400		330	µg/Kg-dry	10	4/29/2014 09:28 PM
m,p-Xylene	20,000		660	µg/Kg-dry	10	4/29/2014 09:28 PM
o-Xylene	6,100		330	µg/Kg-dry	10	4/29/2014 09:28 PM
Toluene	1,600		330	µg/Kg-dry	10	4/29/2014 09:28 PM
Xylenes, Total	26,000		980	µg/Kg-dry	10	4/29/2014 09:28 PM
Surr: 1,2-Dichloroethane-d4	95.7		70-130	%REC	10	4/29/2014 09:28 PM
Surr: 4-Bromofluorobenzene	86.4		70-130	%REC	10	4/29/2014 09:28 PM
Surr: Dibromofluoromethane	99.0		70-130	%REC	10	4/29/2014 09:28 PM
Surr: Toluene-d8	99.5		70-130	%REC	10	4/29/2014 09:28 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 4/28/14		Analyst: JB
Electrical Conductivity @ Saturation	4.5		0.050	mmhos/cm @25	10	4/29/2014 03:40 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JJG
Chromium, Trivalent	10		0.55	mg/Kg-dry	1	4/30/2014 04:26 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 4/25/14		Analyst: JI
Chromium, Hexavalent	ND		0.54	mg/Kg-dry	1	4/25/2014 12:00 PM
MOISTURE			A2540 G			Analyst: AT
Moisture	8.6		0.050	% of sample	1	4/23/2014 04:12 PM
PH			SW9045D	Prep: EXTRACT / 4/24/14		Analyst: AT
pH	9.1			s.u.	1	4/24/2014 10:37 AM

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

ALS Group USA, Corp

Date: 01-May-14

Client: HRL Compliance Solutions, Inc

Work Order: 14041172

Project: WPX RWF 531-13 Landfarm Batch 1 4.22.14

QC BATCH REPORT

Batch ID: **57977**

Instrument ID **GC8**

Method: **SW8015M**

MBLK		Sample ID: DBLKS1-57977-57977				Units: mg/Kg		Analysis Date: 4/28/2014 09:27 AM		
Client ID:		Run ID: GC8_140428A				SeqNo: 2734258		Prep Date: 4/25/2014		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	1.326	0	1.667	0	79.5	39-133	0			

LCS		Sample ID: DLCSS1-57977-57977				Units: mg/Kg		Analysis Date: 4/28/2014 09:57 AM		
Client ID:		Run ID: GC8_140428A				SeqNo: 2734259		Prep Date: 4/25/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	122.1	4.2	166.7	0	73.3	61-109	0			
Surr: 4-Terphenyl-d14	1.374	0	1.667	0	82.5	39-133	0			

MS		Sample ID: 14041170-01B MS				Units: mg/Kg		Analysis Date: 4/28/2014 10:27 AM		
Client ID:		Run ID: GC8_140428A				SeqNo: 2734261		Prep Date: 4/25/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	552.2	8.1	324.7	320.4	71.4	48-110	0			
Surr: 4-Terphenyl-d14	2.67	0	3.247	0	82.2	39-133	0			

MSD		Sample ID: 14041170-01B MSD				Units: mg/Kg		Analysis Date: 4/28/2014 10:57 AM		
Client ID:		Run ID: GC8_140428A				SeqNo: 2734263		Prep Date: 4/25/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	553.8	8.3	331.9	320.4	70.3	48-110	552.2	0.301	30	
Surr: 4-Terphenyl-d14	3.173	0	3.319	0	95.6	39-133	2.67	17.2	30	

The following samples were analyzed in this batch:

14041172-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14041172
Project: WPX RWF 531-13 Landfarm Batch 1 4.22.14

QC BATCH REPORT

Batch ID: **57976** Instrument ID **GC9** Method: **SW8015**

MBLK		Sample ID: MBLK-57976-57976				Units: µg/Kg		Analysis Date: 4/25/2014 05:03 PM		
Client ID:		Run ID: GC9_140425A				SeqNo: 2733471		Prep Date: 4/25/2014		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								
<i>Surr: Toluene-d8</i>	4866	0	5000	0	97.3	50-150	0			

LCS		Sample ID: LCS-57976-57976				Units: µg/Kg		Analysis Date: 4/25/2014 03:47 PM		
Client ID:		Run ID: GC9_140425A				SeqNo: 2733470		Prep Date: 4/25/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	437100	2,500	500000	0	87.4	70-130	0			
<i>Surr: Toluene-d8</i>	4430	0	5000	0	88.6	50-150	0			

MS		Sample ID: 14041170-01A MS				Units: µg/Kg		Analysis Date: 4/26/2014 12:23 PM		
Client ID:		Run ID: GC9_140425A				SeqNo: 2733486		Prep Date: 4/25/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	506900	2,500	500000	0	101	70-130	0			
<i>Surr: Toluene-d8</i>	4826	0	5000	0	96.5	50-150	0			

MSD		Sample ID: 14041170-01A MSD				Units: µg/Kg		Analysis Date: 4/26/2014 12:49 PM		
Client ID:		Run ID: GC9_140425A				SeqNo: 2733487		Prep Date: 4/25/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	493100	2,500	500000	0	98.6	70-130	506900	2.76	30	
<i>Surr: Toluene-d8</i>	4780	0	5000	0	95.6	50-150	4826	0.979	30	

The following samples were analyzed in this batch:

14041172-01A

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

Client: HRL Compliance Solutions, Inc
Work Order: 14041172
Project: WPX RWF 531-13 Landfarm Batch 1 4.22.14

QC BATCH REPORT

Batch ID: **58050** Instrument ID **HG1** Method: **SW7471**

MBLK		Sample ID: MBLK-58050-58050					Units: mg/Kg		Analysis Date: 4/29/2014 02:42 PM		
Client ID:			Run ID: HG1_140429A			SeqNo: 2736814		Prep Date: 4/29/2014		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-58050-58050					Units: mg/Kg		Analysis Date: 4/29/2014 02:44 PM		
Client ID:			Run ID: HG1_140429A			SeqNo: 2736815		Prep Date: 4/29/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury 0.1861 0.020 0.1665 0 112 80-120 0

MS		Sample ID: 14041173-01BMS					Units: mg/Kg		Analysis Date: 4/29/2014 03:33 PM		
Client ID:			Run ID: HG1_140429A			SeqNo: 2736841		Prep Date: 4/29/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury 0.1353 0.013 0.1097 0.01353 111 75-125 0

MSD		Sample ID: 14041173-01BMSD				Units: mg/Kg		Analysis Date: 4/29/2014 03:35 PM		
Client ID:			Run ID: HG1_140429A			SeqNo: 2736842		Prep Date: 4/29/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1396 0.013 0.1092 0.01353 115 75-125 0.1353 3.11 35

The following samples were analyzed in this batch:

14041172-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14041172
Project: WPX RWF 531-13 Landfarm Batch 1 4.22.14

QC BATCH REPORT

Batch ID: **57961** Instrument ID **ICPMS2** Method: **SW6020A**

DUP		Sample ID: 14041168-01BDUP				Units: mg/L		Analysis Date: 4/30/2014 07:06 AM		
Client ID:		Run ID: ICPMS2_140429A				SeqNo: 2737519		Prep Date: 4/28/2014		DF: 20
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	75.62	10	0	0	0	0-0	77.06	1.89		
Magnesium	5.736	4.0	0	0	0	0-0	6.102	6.18		
Sodium	10.3	4.0	0	0	0	0-0	10.05	2.4		

DUP		Sample ID: 14041168-01BDUP				Units: none		Analysis Date: 4/29/2014		
Client ID:		Run ID: SAR_140429B				SeqNo: 2737880		Prep Date: 4/28/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	0.3077	0.010	0	0	0		0.2966	3.68	50	

The following samples were analyzed in this batch:

14041172-01C

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

Client: HRL Compliance Solutions, Inc
Work Order: 14041172
Project: WPX RWF 531-13 Landfarm Batch 1 4.22.14

QC BATCH REPORT

Batch ID: **58070** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: MBLK-58070-58070				Units: mg/Kg		Analysis Date: 4/29/2014 10:44 PM		
Client ID:		Run ID: ICPMS1_140429A				SeqNo: 2737236		Prep Date: 4/29/2014		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	0.03112	0.50								J

LCS		Sample ID: LCS-58070-58070				Units: mg/Kg		Analysis Date: 4/29/2014 10:50 PM		
Client ID:		Run ID: ICPMS1_140429A				SeqNo: 2737237		Prep Date: 4/29/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.471	0.25	5	0	89.4	80-120	0			
Barium	4.77	0.25	5	0	95.4	80-120	0			
Cadmium	4.588	0.10	5	0	91.8	80-120	0			
Chromium	4.666	0.25	5	0	93.3	80-120	0			
Copper	4.572	0.25	5	0	91.4	80-120	0			
Lead	4.83	0.25	5	0	96.6	80-120	0			
Nickel	4.642	0.25	5	0	92.8	80-120	0			
Selenium	4.045	0.25	5	0	80.9	80-120	0			
Silver	4.448	0.25	5	0	89	80-120	0			
Zinc	4.096	0.50	5	0	81.9	80-120	0			

MS		Sample ID: 14041170-01BMS				Units: mg/Kg		Analysis Date: 4/29/2014 11:31 PM		
Client ID:		Run ID: ICPMS1_140429A				SeqNo: 2737245		Prep Date: 4/29/2014		DF: 5
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	13.17	2.0	8.183	4.179	110	75-125	0			
Barium	336.9	2.0	8.183	346.6	-118	75-125	0			SO
Cadmium	7.958	0.82	8.183	0.1982	94.8	75-125	0			
Chromium	32.82	2.0	8.183	24.07	107	75-125	0			
Copper	18.69	2.0	8.183	10.25	103	75-125	0			
Lead	20.95	2.0	8.183	11.03	121	75-125	0			
Nickel	21.88	2.0	8.183	13.64	101	75-125	0			
Selenium	9.251	2.0	8.183	1.75	91.7	75-125	0			
Silver	6.862	2.0	8.183	0.05732	83.1	75-125	0			
Zinc	49.8	4.1	8.183	39.01	132	75-125	0			SO

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

Client: HRL Compliance Solutions, Inc
Work Order: 14041172
Project: WPX RWF 531-13 Landfarm Batch 1 4.22.14

QC BATCH REPORT

Batch ID: **58070** Instrument ID **ICPMS1** Method: **SW6020A**

MSD		Sample ID: 14041170-01BMSD				Units: mg/Kg		Analysis Date: 4/29/2014 11:37 PM		
Client ID:		Run ID: ICPMS1_140429A				SeqNo: 2737258		Prep Date: 4/29/2014		DF: 5
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	12.46	2.1	8.21	4.179	101	75-125	13.17	5.56	25	
Barium	373	2.1	8.21	346.6	322	75-125	336.9	10.2	25	SO
Cadmium	7.976	0.82	8.21	0.1982	94.7	75-125	7.958	0.225	25	
Chromium	32.14	2.1	8.21	24.07	98.2	75-125	32.82	2.09	25	
Copper	17.41	2.1	8.21	10.25	87.2	75-125	18.69	7.07	25	
Lead	19.25	2.1	8.21	11.03	100	75-125	20.95	8.46	25	
Nickel	21.33	2.1	8.21	13.64	93.7	75-125	21.88	2.54	25	
Selenium	8.76	2.1	8.21	1.75	85.4	75-125	9.251	5.45	25	
Silver	6.925	2.1	8.21	0.05732	83.7	75-125	6.862	0.922	25	
Zinc	46.14	4.1	8.21	39.01	86.8	75-125	49.8	7.62	25	O

The following samples were analyzed in this batch:

14041172-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14041172
Project: WPX RWF 531-13 Landfarm Batch 1 4.22.14

QC BATCH REPORT

Batch ID: **57974** Instrument ID **SVMS7** Method: **SW8270**

MBLK		Sample ID: SBLKS1-57974-57974				Units: µg/Kg		Analysis Date: 4/28/2014 04:40 PM		
Client ID:		Run ID: SVMS7_140428A				SeqNo: 2736350		Prep Date: 4/25/2014		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	24	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	29.67	6.7								
Fluorene	ND	6.7								
Indeno(1,2,3-cd)pyrene	ND	6.7								
Naphthalene	ND	6.7								
Pyrene	26.67	6.7								
<i>Surr: 2-Fluorobiphenyl</i>	1330	0	1667	0	79.8	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1804	0	1667	0	108	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1119	0	1667	0	67.1	37-107	0			

LCS		Sample ID: SLCSS1-57974-57974				Units: µg/Kg		Analysis Date: 4/28/2014 04:16 PM		
Client ID:		Run ID: SVMS7_140428A				SeqNo: 2736349		Prep Date: 4/25/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	472.7	6.7	666.7	0	70.9	45-110	0			
Acenaphthylene	490.7	6.7	666.7	0	73.6	45-105	0			
Anthracene	549.3	6.7	666.7	0	82.4	55-105	0			
Benzo(a)anthracene	573.7	6.7	666.7	0	86	50-110	0			B
Benzo(a)pyrene	598	6.7	666.7	0	89.7	50-110	0			
Benzo(b)fluoranthene	614	6.7	666.7	0	92.1	45-115	0			
Benzo(g,h,i)perylene	541	6.7	666.7	0	81.1	40-125	0			
Benzo(k)fluoranthene	613.7	6.7	666.7	0	92	45-115	0			
Chrysene	584	6.7	666.7	0	87.6	55-110	0			
Dibenzo(a,h)anthracene	524.3	6.7	666.7	0	78.6	40-125	0			
Fluoranthene	531	6.7	666.7	0	79.6	55-115	0			B
Fluorene	522	6.7	666.7	0	78.3	50-110	0			
Indeno(1,2,3-cd)pyrene	557	6.7	666.7	0	83.5	40-120	0			
Naphthalene	498	6.7	666.7	0	74.7	40-105	0			
Pyrene	643.7	6.7	666.7	0	96.5	45-125	0			B
<i>Surr: 2-Fluorobiphenyl</i>	1287	0	1667	0	77.2	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1897	0	1667	0	114	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1243	0	1667	0	74.6	37-107	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 14041172
Project: WPX RWF 531-13 Landfarm Batch 1 4.22.14

QC BATCH REPORT

Batch ID: **57974** Instrument ID **SVMS7** Method: **SW8270**

MS				Sample ID: 14041170-01B MS			Units: µg/Kg		Analysis Date: 4/29/2014 01:50 PM	
Client ID:				Run ID: SVMS4_140429A			SeqNo: 2737799		Prep Date: 4/25/2014	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1084	13	1300	0	83.3	45-110	0			
Acenaphthylene	1056	13	1300	0	81.2	45-105	0			
Anthracene	1149	13	1300	4.289	88.1	55-105	0			
Benzo(a)anthracene	1112	13	1300	0	85.5	50-110	0			B
Benzo(a)pyrene	1256	13	1300	0	96.6	50-110	0			
Benzo(b)fluoranthene	1250	13	1300	0	96.1	45-115	0			
Benzo(g,h,i)perylene	1009	13	1300	0	77.6	40-125	0			
Benzo(k)fluoranthene	1251	13	1300	0	96.2	45-115	0			
Chrysene	1213	13	1300	13.53	92.3	55-110	0			
Dibenzo(a,h)anthracene	1047	13	1300	0	80.5	40-125	0			
Fluoranthene	1233	13	1300	14.19	93.8	55-115	0			B
Fluorene	1095	13	1300	7.259	83.6	50-110	0			
Indeno(1,2,3-cd)pyrene	1025	13	1300	0	78.8	40-120	0			
Naphthalene	912.8	13	1300	0	70.2	40-105	0			
Pyrene	1156	13	1300	21.45	87.2	45-125	0			B
Surr: 2-Fluorobiphenyl	2705	0	3251	0	83.2	12-100	0			
Surr: 4-Terphenyl-d14	3078	0	3251	0	94.7	25-137	0			
Surr: Nitrobenzene-d5	2430	0	3251	0	74.8	37-107	0			

MSD				Sample ID: 14041170-01B MSD			Units: µg/Kg		Analysis Date: 4/29/2014 02:24 PM	
Client ID:				Run ID: SVMS4_140429A			SeqNo: 2737800		Prep Date: 4/25/2014	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1051	13	1286	0	81.7	45-110	1084	3.1	30	
Acenaphthylene	1053	13	1286	0	81.9	45-105	1056	0.302	30	
Anthracene	1227	13	1286	4.289	95.1	55-105	1149	6.57	30	
Benzo(a)anthracene	1173	13	1286	0	91.2	50-110	1112	5.41	30	B
Benzo(a)pyrene	1341	13	1286	0	104	50-110	1256	6.57	30	
Benzo(b)fluoranthene	1310	13	1286	0	102	45-115	1250	4.71	30	
Benzo(g,h,i)perylene	1076	13	1286	0	83.7	40-125	1009	6.47	30	
Benzo(k)fluoranthene	1326	13	1286	0	103	45-115	1251	5.77	30	
Chrysene	1278	13	1286	13.53	98.3	55-110	1213	5.18	30	
Dibenzo(a,h)anthracene	1127	13	1286	0	87.6	40-125	1047	7.29	30	
Fluoranthene	1341	13	1286	14.19	103	55-115	1233	8.35	30	B
Fluorene	1101	13	1286	7.259	85.1	50-110	1095	0.608	30	
Indeno(1,2,3-cd)pyrene	1103	13	1286	0	85.8	40-120	1025	7.41	30	
Naphthalene	781.9	13	1286	0	60.8	40-105	912.8	15.4	30	
Pyrene	1308	13	1286	21.45	100	45-125	1156	12.3	30	B
Surr: 2-Fluorobiphenyl	2465	0	3215	0	76.7	12-100	2705	9.3	40	
Surr: 4-Terphenyl-d14	3306	0	3215	0	103	25-137	3078	7.14	40	
Surr: Nitrobenzene-d5	1953	0	3215	0	60.8	37-107	2430	21.7	40	

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

Client: HRL Compliance Solutions, Inc
Work Order: 14041172
Project: WPX RWF 531-13 Landfarm Batch 1 4.22.14

QC BATCH REPORT

Batch ID: **57974** Instrument ID **SVMS7** Method: **SW8270**

The following samples were analyzed in this batch:

14041172- 01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14041172
Project: WPX RWF 531-13 Landfarm Batch 1 4.22.14

QC BATCH REPORT

Batch ID: **58134** Instrument ID **SVMS7** Method: **SW8270**

MBLK		Sample ID: SBLKS1-58134-58134				Units: µg/Kg		Analysis Date: 5/1/2014 10:40 AM		
Client ID:		Run ID: SVMS7_140501A				SeqNo: 2740589		Prep Date: 4/30/2014		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								
<i>Surr: 2-Fluorobiphenyl</i>	1205	0	1667	0	72.3	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1864	0	1667	0	112	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1061	0	1667	0	63.7	37-107	0			

LCS		Sample ID: SLCSS1-58134-58134				Units: µg/Kg		Analysis Date: 5/1/2014 10:17 AM		
Client ID:		Run ID: SVMS7_140501A				SeqNo: 2740588		Prep Date: 4/30/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	432.3	6.7	666.7	0	64.8	45-110	0			
Acenaphthylene	516	6.7	666.7	0	77.4	45-105	0			
Anthracene	523.3	6.7	666.7	0	78.5	55-105	0			
Benzo(a)anthracene	564.7	6.7	666.7	0	84.7	50-110	0			
Benzo(a)pyrene	580.3	6.7	666.7	0	87	50-110	0			
Benzo(b)fluoranthene	563.7	6.7	666.7	0	84.5	45-115	0			
Benzo(g,h,i)perylene	594.7	6.7	666.7	0	89.2	40-125	0			
Benzo(k)fluoranthene	583.3	6.7	666.7	0	87.5	45-115	0			
Chrysene	568	6.7	666.7	0	85.2	55-110	0			
Dibenzo(a,h)anthracene	550	6.7	666.7	0	82.5	40-125	0			
Fluoranthene	524	6.7	666.7	0	78.6	55-115	0			
Fluorene	469.7	6.7	666.7	0	70.4	50-110	0			
Indeno(1,2,3-cd)pyrene	595.7	6.7	666.7	0	89.3	40-120	0			
Naphthalene	488	6.7	666.7	0	73.2	40-105	0			
Pyrene	623.7	6.7	666.7	0	93.5	45-125	0			
<i>Surr: 2-Fluorobiphenyl</i>	1268	0	1667	0	76.1	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1898	0	1667	0	114	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1232	0	1667	0	73.9	37-107	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 14041172
Project: WPX RWF 531-13 Landfarm Batch 1 4.22.14

QC BATCH REPORT

Batch ID: **58134** Instrument ID **SVMS7** Method: **SW8270**

MS				Sample ID: 14041172-01B MS			Units: µg/Kg		Analysis Date: 5/1/2014 01:26 PM	
Client ID: Batch 1				Run ID: SVMS7_140501A			SeqNo: 2740591		Prep Date: 4/30/2014	
							DF: 10			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1317	130	1266	319.7	78.8	45-110	0			
Acenaphthylene	854.8	130	1266	0	67.5	45-105	0			
Anthracene	1159	130	1266	0	91.5	55-105	0			
Benzo(a)anthracene	1108	130	1266	0	87.5	50-110	0			
Benzo(a)pyrene	848.5	130	1266	0	67	50-110	0			
Benzo(b)fluoranthene	1178	130	1266	0	93	45-115	0			
Benzo(g,h,i)perylene	943.5	130	1266	0	74.5	40-125	0			
Benzo(k)fluoranthene	930.8	130	1266	0	73.5	45-115	0			
Chrysene	975.1	130	1266	0	77	55-110	0			
Dibenzo(a,h)anthracene	956.1	130	1266	0	75.5	40-125	0			
Fluoranthene	1057	130	1266	0	83.5	55-115	0			
Fluorene	1513	130	1266	388.2	88.8	50-110	0			
Indeno(1,2,3-cd)pyrene	1032	130	1266	0	81.5	40-120	0			
Naphthalene	1165	130	1266	293.6	68.8	40-105	0			
Pyrene	835.8	130	1266	0	66	45-125	0			
Surr: 2-Fluorobiphenyl	2482	0	3166	0	78.4	12-100	0			
Surr: 4-Terphenyl-d14	2716	0	3166	0	85.8	25-137	0			
Surr: Nitrobenzene-d5	2653	0	3166	0	83.8	37-107	0			

MSD				Sample ID: 14041172-01B MSD			Units: µg/Kg		Analysis Date: 5/1/2014 01:49 PM	
Client ID: Batch 1				Run ID: SVMS7_140501A			SeqNo: 2740592		Prep Date: 4/30/2014	
							DF: 10			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1235	130	1273	319.7	71.9	45-110	1317	6.43	30	
Acenaphthylene	802.1	130	1273	0	63	45-105	854.8	6.36	30	
Anthracene	1139	130	1273	0	89.5	55-105	1159	1.68	30	
Benzo(a)anthracene	1216	130	1273	0	95.5	50-110	1108	9.28	30	
Benzo(a)pyrene	878.5	130	1273	0	69	50-110	848.5	3.47	30	
Benzo(b)fluoranthene	1076	130	1273	0	84.5	45-115	1178	9.05	30	
Benzo(g,h,i)perylene	993.1	130	1273	0	78	40-125	943.5	5.12	30	
Benzo(k)fluoranthene	1025	130	1273	0	80.5	45-115	930.8	9.62	30	
Chrysene	903.9	130	1273	0	71	55-110	975.1	7.58	30	
Dibenzo(a,h)anthracene	833.9	130	1273	0	65.5	40-125	956.1	13.7	30	
Fluoranthene	1050	130	1273	0	82.5	55-115	1057	0.672	30	
Fluorene	1496	130	1273	388.2	87	50-110	1513	1.15	30	
Indeno(1,2,3-cd)pyrene	923	130	1273	0	72.5	40-120	1032	11.2	30	
Naphthalene	1528	130	1273	293.6	96.9	40-105	1165	26.9	30	
Pyrene	993.1	130	1273	0	78	45-125	835.8	17.2	30	
Surr: 2-Fluorobiphenyl	2279	0	3183	0	71.6	12-100	2482	8.53	40	
Surr: 4-Terphenyl-d14	2680	0	3183	0	84.2	25-137	2716	1.35	40	
Surr: Nitrobenzene-d5	2814	0	3183	0	88.4	37-107	2653	5.88	40	

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

Client: HRL Compliance Solutions, Inc
Work Order: 14041172
Project: WPX RWF 531-13 Landfarm Batch 1 4.22.14

QC BATCH REPORT

Batch ID: **58134** Instrument ID **SVMS7** Method: **SW8270**

The following samples were analyzed in this batch:

14041172- 01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14041172
Project: WPX RWF 531-13 Landfarm Batch 1 4.22.14

QC BATCH REPORT

Batch ID: **57975** Instrument ID **VMS6** Method: **SW8260B**

MBLK				Sample ID: MBLK-57975-57975				Units: µg/Kg			Analysis Date: 4/25/2014 03:04 PM		
Client ID:			Run ID: VMS6_140425A				SeqNo: 2732082			Prep Date: 4/25/2014		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	1008	0	1000	0	101	70-130		0					
Surr: 4-Bromofluorobenzene	989.5	0	1000	0	99	70-130		0					
Surr: Dibromofluoromethane	895	0	1000	0	89.5	70-130		0					
Surr: Toluene-d8	955.5	0	1000	0	95.6	70-130		0					

LCS				Sample ID: LCS-57975-57975			Units: µg/Kg		Analysis Date: 4/25/2014 01:21 PM		
Client ID:			Run ID: VMS6_140425A			SeqNo: 2732081		Prep Date: 4/25/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	927.5	30	1000	0	92.8	75-125	0				
Ethylbenzene	910.5	30	1000	0	91	75-125	0				
m,p-Xylene	1856	60	2000	0	92.8	80-125	0				
o-Xylene	931.5	30	1000	0	93.2	75-125	0				
Toluene	891.5	30	1000	0	89.2	70-125	0				
Xylenes, Total	2788	90	3000	0	92.9	75-125	0				
Surr: 1,2-Dichloroethane-d4	977.5	0	1000	0	97.8	70-130	0				
Surr: 4-Bromofluorobenzene	983.5	0	1000	0	98.4	70-130	0				
Surr: Dibromofluoromethane	1024	0	1000	0	102	70-130	0				
Surr: Toluene-d8	972	0	1000	0	97.2	70-130	0				

MS				Sample ID: 14041189-01A MS				Units: µg/Kg		Analysis Date: 4/29/2014 09:20 AM	
Client ID:			Run ID: VMS8_140428B			SeqNo: 2736140		Prep Date: 4/25/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	910.5	30	1000	0	91	75-125	0				
Ethylbenzene	906	30	1000	0	90.6	75-125	0				
m,p-Xylene	1770	60	2000	0	88.5	80-125	0				
o-Xylene	901	30	1000	0	90.1	75-125	0				
Toluene	907	30	1000	0	90.7	70-125	0				
Xylenes, Total	2671	90	3000	0	89	75-125	0				
Surr: 1,2-Dichloroethane-d4	997	0	1000	0	99.7	70-130	0				
Surr: 4-Bromofluorobenzene	992	0	1000	0	99.2	70-130	0				
Surr: Dibromofluoromethane	1005	0	1000	0	100	70-130	0				
Surr: Toluene-d8	1005	0	1000	0	100	70-130	0				

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

Client: HRL Compliance Solutions, Inc
Work Order: 14041172
Project: WPX RWF 531-13 Landfarm Batch 1 4.22.14

QC BATCH REPORT

Batch ID: **57975** Instrument ID **VMS6** Method: **SW8260B**

MSD				Sample ID: 14041189-01A MSD				Units: µg/Kg		Analysis Date: 4/29/2014 09:44 AM	
Client ID:			Run ID: VMS8_140428B			SeqNo: 2736141		Prep Date: 4/25/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	890	30	1000	0	89	75-125	910.5	2.28	30		
Ethylbenzene	899.5	30	1000	0	90	75-125	906	0.72	30		
m,p-Xylene	1777	60	2000	0	88.8	80-125	1770	0.395	30		
o-Xylene	892.5	30	1000	0	89.2	75-125	901	0.948	30		
Toluene	893.5	30	1000	0	89.4	70-125	907	1.5	30		
Xylenes, Total	2670	90	3000	0	89	75-125	2671	0.0562	30		
Surr: 1,2-Dichloroethane-d4	988.5	0	1000	0	98.8	70-130	997	0.856	30		
Surr: 4-Bromofluorobenzene	1000	0	1000	0	100	70-130	992	0.803	30		
Surr: Dibromofluoromethane	981.5	0	1000	0	98.2	70-130	1005	2.37	30		
Surr: Toluene-d8	1005	0	1000	0	100	70-130	1005	0	30		

The following samples were analyzed in this batch:

14041172-01A

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

Client: HRL Compliance Solutions, Inc
Work Order: 14041172
Project: WPX RWF 531-13 Landfarm Batch 1 4.22.14

QC BATCH REPORT

Batch ID: **57924** Instrument ID **WETCHEM** Method: **SW9045D**

LCS		Sample ID: LCS-57924-57924					Units: s.u.		Analysis Date: 4/24/2014 10:37 AM		
Client ID:			Run ID: WETCHEM_140424B			SeqNo: 2728570		Prep Date: 4/24/2014		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: 14041143-01B DUP					Units: s.u.		Analysis Date: 4/24/2014 10:37 AM		
Client ID:		Run ID: WETCHEM_140424B			SeqNo: 2728572		Prep Date: 4/24/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH 7.89 0 0 0 0 0-0 7.8 1.15 20

DUP		Sample ID: 14041145-05B DUP					Units: s.u.		Analysis Date: 4/24/2014 10:37 AM		
Client ID:			Run ID: WETCHEM_140424B			SeqNo: 2728582		Prep Date: 4/24/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH 7.93 0 0 0 0 0-0 7.86 0.887 20

The following samples were analyzed in this batch:

14041172-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14041172
Project: WPX RWF 531-13 Landfarm Batch 1 4.22.14

QC BATCH REPORT

Batch ID: **57954** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK		Sample ID: MBLK-57954-57954				Units: mg/Kg		Analysis Date: 4/25/2014 12:00 PM		
Client ID:		Run ID: WETCHEM_140425G				SeqNo: 2730505		Prep Date: 4/25/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 0.51

LCS		Sample ID: LCS-57954-57954				Units: mg/Kg		Analysis Date: 4/25/2014 12:00 PM		
Client ID:		Run ID: WETCHEM_140425G				SeqNo: 2730506		Prep Date: 4/25/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.98 0.49 1.969 0 101 80-120 0

MS		Sample ID: 14041170-01BMS				Units: mg/Kg		Analysis Date: 4/25/2014 12:00 PM		
Client ID:		Run ID: WETCHEM_140425G				SeqNo: 2730519		Prep Date: 4/25/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 0.9633 0.51 2.041 0 47.2 75-125 0 S

MS		Sample ID: 14041170-01BMSI				Units: mg/Kg		Analysis Date: 4/25/2014 12:00 PM		
Client ID:		Run ID: WETCHEM_140425G				SeqNo: 2730521		Prep Date: 4/25/2014		DF: 100
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 500.8 50 1229 0 40.7 75-125 0 S

MSD		Sample ID: 14041170-01BMSD				Units: mg/Kg		Analysis Date: 4/25/2014 12:00 PM		
Client ID:		Run ID: WETCHEM_140425G				SeqNo: 2730520		Prep Date: 4/25/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 0.9516 0.50 2.016 0 47.2 75-125 0.9633 1.22 20 S

The following samples were analyzed in this batch:

14041172-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14041172
Project: WPX RWF 531-13 Landfarm Batch 1 4.22.14

QC BATCH REPORT

Batch ID: **57961** Instrument ID **WETCHEM** Method: **USDA H60 Method**

DUP		Sample ID: 14041168-01B DUP				Units: mmhos/cm @25°C		Analysis Date: 4/29/2014 03:40 PM		
Client ID:		Run ID: WETCHEM_140429M				SeqNo: 2736506		Prep Date: 4/28/2014		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	0.423	0.050	0	0	0		0.465	9.46	50	

The following samples were analyzed in this batch:

14041172-01C

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

Client: HRL Compliance Solutions, Inc
Work Order: 14041172
Project: WPX RWF 531-13 Landfarm Batch 1 4.22.14

QC BATCH REPORT

Batch ID: **R139500** Instrument ID **MOIST** Method: **A2540 G**

MBLK		Sample ID: WBLKS-R139500				Units: % of sample		Analysis Date: 4/23/2014 04:12 PM		
Client ID:		Run ID: MOIST_140423B				SeqNo: 2728516		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-R139500				Units: % of sample		Analysis Date: 4/23/2014 04:12 PM		
Client ID:		Run ID: MOIST_140423B				SeqNo: 2728515		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: 14041140-09A DUP				Units: % of sample		Analysis Date: 4/23/2014 04:12 PM		
Client ID:		Run ID: MOIST_140423B				SeqNo: 2728501		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 22 0.050 0 0 0 0-0 22.37 1.67 20

DUP		Sample ID: 14041168-03A DUP				Units: % of sample		Analysis Date: 4/23/2014 04:12 PM		
Client ID:		Run ID: MOIST_140423B				SeqNo: 2728509		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 13.12 0.050 0 0 0 0-0 12.86 2 20

The following samples were analyzed in this batch:

14041172-01B

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

Chain-of-Custody

Form 202-8

WORKORDER

14041172

PAGE

1 of 1

DISPOSAL

By Lab or Return to Client

[illegible]

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

For metals or anions, please detail analytes below.

Comments:

5.02

QC PACKAGE (check below)

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

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	<i>[Signature]</i>	<i>[Signature]</i>	4/22/14	2:15
RECEIVED BY	<i>[Signature]</i>	<i>[Signature]</i>	4-22	2:15
RELINQUISHED BY	<i>[Signature]</i>	<i>[Signature]</i>	4/22	1600
RECEIVED BY	<i>[Signature]</i>	Diara F. Shen	4/23/14	1000
RELINQUISHED BY				
RECEIVED BY				

Sample Receipt Checklist

Client Name: HRL

Date/Time Received: 23-Apr-14 10:00

Work Order: 14041172

Received by: DS

Checklist completed by Diane Shaw 23-Apr-14
eSignature Date

Reviewed by: Ann Preston 24-Apr-14
eSignature Date

Matrices: Soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>5.0 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>4/23/2014 4:03:53 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:			

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



15-Jul-2014

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

Re: **WPX RWF 531-13 Batch 1 7.9.14**

Work Order: **1407549**

Dear Mark,

ALS Environmental received 1 sample on 11-Jul-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 11.

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

Sincerely,

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

Electronically approved by: Ann Preston

Ann Preston
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

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

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

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Batch 1 7.9.14
Work Order: 1407549

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1407549-01	Batch 1	Soil		7/9/2014 13:45	7/11/2014 09:30	<input type="checkbox"/>

ALS Group USA, Corp

Date: 15-Jul-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Batch 1 7.9.14
Work Order: 1407549

Case Narrative

Batch 60515 MS/MSD data for GRO is not related to this project's samples. No data requires qualification.

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Batch 1 7.9.14
WorkOrder: 1407549

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	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

<u>Acronym</u>	<u>Description</u>
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

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group USA, Corp

Date: 15-Jul-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Batch 1 7.9.14
Sample ID: Batch 1
Collection Date: 7/9/2014 01:45 PM

Work Order: 1407549
Lab ID: 1407549-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	110		SW8015M		Prep: SW3541 / 7/14/14	Analyst: IT
			4.7	mg/Kg-dry	1	7/15/2014 03:21 PM
Surr: 4-Terphenyl-d14	84.7		39-133	%REC	1	7/15/2014 03:21 PM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	84		SW8015		Prep: SW5035 / 7/11/14	Analyst: IT
			2.9	mg/Kg-dry	1	7/14/2014 03:37 PM
Surr: Toluene-d8	126		50-150	%REC	1	7/14/2014 03:37 PM
MOISTURE						
Moisture	14		A2540 G			Analyst: TM
			0.050	% of sample	1	7/11/2014 04:14 PM

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

ALS Group USA, Corp

Date: 15-Jul-14

Client: HRL Compliance Solutions, Inc
Work Order: 1407549
Project: WPX RWF 531-13 Batch 1 7.9.14

QC BATCH REPORT

Batch ID: **60543** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-60543-60543				Units: mg/Kg		Analysis Date: 7/15/2014 12:33 PM		
Client ID:		Run ID: GC8_140715B				SeqNo: 2849163		Prep Date: 7/14/2014		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	1.539	0	1.667	0	92.4	39-133	0			

LCS		Sample ID: DLCSS1-60543-60543				Units: mg/Kg		Analysis Date: 7/15/2014 01:03 PM		
Client ID:		Run ID: GC8_140715B				SeqNo: 2849166		Prep Date: 7/14/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	128.8	4.2	166.7	0	77.3	61-109	0			
Surr: 4-Terphenyl-d14	1.362	0	1.667	0	81.7	39-133	0			

MS		Sample ID: 1407456-10B MS				Units: mg/Kg		Analysis Date: 7/15/2014 01:33 PM		
Client ID:		Run ID: GC8_140715B				SeqNo: 2849167		Prep Date: 7/14/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	285.9	7.9	316.5	34.56	79.4	48-110	0			
Surr: 4-Terphenyl-d14	3.073	0	3.165	0	97.1	39-133	0			

MSD		Sample ID: 1407456-10B MSD				Units: mg/Kg		Analysis Date: 7/15/2014 02:03 PM		
Client ID:		Run ID: GC8_140715B				SeqNo: 2849169		Prep Date: 7/14/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	275.2	8.1	324.7	34.56	74.1	48-110	285.9	3.81	30	
Surr: 4-Terphenyl-d14	3.034	0	3.247	0	93.4	39-133	3.073	1.29	30	

The following samples were analyzed in this batch: 1407549-01A

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

Client: HRL Compliance Solutions, Inc
Work Order: 1407549
Project: WPX RWF 531-13 Batch 1 7.9.14

QC BATCH REPORT

Batch ID: **60515** Instrument ID **GC9** Method: **SW8015**

MBLK		Sample ID: MBLK-60515-60515				Units: µg/Kg		Analysis Date: 7/14/2014 01:30 PM		
Client ID:		Run ID: GC9_140714A				SeqNo: 2847030		Prep Date: 7/11/2014		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								
<i>Surr: Toluene-d8</i>	4435	0	5000	0	88.7	50-150	0			

LCS		Sample ID: LCS-60515-60515				Units: µg/Kg		Analysis Date: 7/14/2014 01:04 PM		
Client ID:		Run ID: GC9_140714A				SeqNo: 2847029		Prep Date: 7/11/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	552500	2,500	500000	0	111	70-130	0			
<i>Surr: Toluene-d8</i>	4926	0	5000	0	98.5	50-150	0			

MS		Sample ID: 1407548-01A MS				Units: µg/Kg		Analysis Date: 7/14/2014 04:02 PM		
Client ID:		Run ID: GC9_140714A				SeqNo: 2847307		Prep Date: 7/11/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	1145000	2,500	1000000	166900	97.8	70-130	0			
<i>Surr: Toluene-d8</i>	49840	0	5000	0	997	50-150	0			S

MSD		Sample ID: 1407548-01A MSD				Units: µg/Kg		Analysis Date: 7/14/2014 04:28 PM		
Client ID:		Run ID: GC9_140714A				SeqNo: 2847308		Prep Date: 7/11/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	1269000	2,500	1000000	166900	110	70-130	1145000	10.3	30	
<i>Surr: Toluene-d8</i>	50150	0	5000	0	1000	50-150	49840	0.608	30	S

The following samples were analyzed in this batch:

1407549-01A

Client: HRL Compliance Solutions, Inc
Work Order: 1407549
Project: WPX RWF 531-13 Batch 1 7.9.14

QC BATCH REPORT

Batch ID: **R144369** Instrument ID **MOIST** Method: **A2540 G**

MBLK		Sample ID: WBLKS-R144369				Units: % of sample		Analysis Date: 7/11/2014 04:14 PM		
Client ID:		Run ID: MOIST_140711B				SeqNo: 2847236		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-R144369				Units: % of sample		Analysis Date: 7/11/2014 04:14 PM		
Client ID:		Run ID: MOIST_140711B				SeqNo: 2847235		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: 1407489-01A DUP				Units: % of sample		Analysis Date: 7/11/2014 04:14 PM		
Client ID:		Run ID: MOIST_140711B				SeqNo: 2847222		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 7.06 0.050 0 0 0 0-0 7.25 2.66 20

DUP		Sample ID: 1407542-01A DUP				Units: % of sample		Analysis Date: 7/11/2014 04:14 PM		
Client ID:		Run ID: MOIST_140711B				SeqNo: 2847225		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 33.5 0.050 0 0 0 0-0 33.51 0.0298 20

The following samples were analyzed in this batch:

1407549-01A

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



1407540

Form 2021

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	<i>Reed W. L.</i>	<i>Reed W. L.</i>	7/9/14	2:00
RECEIVED BY	<i>W/L</i>	<i>W/L</i>	7-9-14	3:00
RELINQUISHED BY	<i>W/L</i>	<i>W/L</i>	7-9-14	3:10
RECEIVED BY	<i>Diane F. Sherr</i>	<i>Diane F. Sherr</i>	7/11/14	0930
RELINQUISHED BY				
RECEIVED BY				

Sample Receipt Checklist

Client Name: **HRL**

Date/Time Received: **11-Jul-14 09:30**

Work Order: **1407549**

Received by: **DS**

Checklist completed by <u><i>Diane Shaw</i></u>	11-Jul-14	Reviewed by: <u><i>Ann Preston</i></u>	14-Jul-14
eSignature	Date	eSignature	Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>4.8 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>7/11/2014 10:41:37 AM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:			

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

From: (979) 285-5783
Nick Martinez
ALS Environmental
127 E. 1st Street

PARACHUTE, CO 81635

Origin ID: RILA



Ship Date: 09 JUL 14
ActWgt: 64.0 LB
CAD: 2264840/NET3400

Dim: 24 X 15 X 15 IN

SHIP TO: (816) 399-6070
sample receiving
ALS Laboratory Group
3352 128TH AVE

BILL SENDER

HOLLAND, MI 49424

Delivery Address Bar Code



Ref # 070914-1
Invoice #
PO # Parachute
Dept #

THU - 10 JUL 10:30A
PRIORITY OVERNIGHT

TRK# 7705 6058 7490
0201

49424
MI-US
GRR

XX GRRA



522G2ED4F720

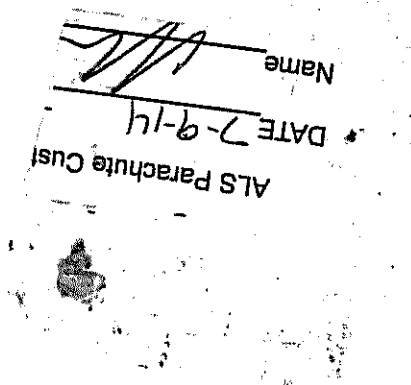
After printing this label:

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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4.87c





19-Aug-2014

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

Re: **WPX RWF 531-13 Batch 2 8.13.14**

Work Order: **1408671**

Dear Mark,

ALS Environmental received 1 sample on 14-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 23.

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

Sincerely,

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

Electronically approved by: Ann Preston

Ann Preston
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

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

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

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Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Batch 2 8.13.14
Work Order: 1408671

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1408671-01	Batch 2	Soil		8/13/2014 12:45	8/14/2014 09:30	<input type="checkbox"/>

ALS Group USA, Corp

Date: 19-Aug-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Batch 2 8.13.14
Work Order: 1408671

Case Narrative

Batch 61699 MS/MSD data for Hexavalent Chromium is not related to this project's samples. No data requires qualification.

Batch 61722 MS/MSD data for Metals is not related to this project's samples. No data requires qualification.

<u>Qualifier</u>	<u>Description</u>
*	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

<u>Acronym</u>	<u>Description</u>
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

<u>Units Reported</u>	<u>Description</u>
% 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: 19-Aug-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Batch 2 8.13.14
Sample ID: Batch 2
Collection Date: 8/13/2014 12:45 PM

Work Order: 1408671
Lab ID: 1408671-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	110		SW8015M		Prep: SW3541 / 8/14/14	Analyst: IT
Surr: 4-Terphenyl-d14	98.6		4.9	mg/Kg-dry	1	8/14/2014 11:39 PM
			39-133	%REC	1	8/14/2014 11:39 PM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015		Prep: SW5035 / 8/14/14	Analyst: IT
Surr: Toluene-d8	113		3.0	mg/Kg-dry	1	8/15/2014 03:46 PM
			50-150	%REC	1	8/15/2014 03:46 PM
MERCURY BY CVAA						
Mercury	0.042		SW7471		Prep: SW7471 / 8/15/14	Analyst: JEJ
			0.016	mg/Kg-dry	1	8/15/2014 11:56 AM
METALS BY ICP-MS						
Arsenic	6.9		SW6020A		Prep: SW3050B / 8/15/14	Analyst: RH
Barium	5,600		2.0	mg/Kg-dry	5	8/15/2014 11:29 PM
Cadmium	ND		200	mg/Kg-dry	500	8/18/2014 02:17 PM
Chromium	15		0.79	mg/Kg-dry	5	8/15/2014 11:29 PM
Copper	20		2.0	mg/Kg-dry	5	8/15/2014 11:29 PM
Lead	12		2.0	mg/Kg-dry	5	8/15/2014 11:29 PM
Nickel	15		2.0	mg/Kg-dry	5	8/15/2014 11:29 PM
Selenium	2.3		2.0	mg/Kg-dry	5	8/15/2014 11:29 PM
Silver	ND		2.0	mg/Kg-dry	5	8/15/2014 11:29 PM
Zinc	57		3.9	mg/Kg-dry	5	8/15/2014 11:29 PM
SOLUBLE CATIONS FOR SAR						
			SW6020A		Prep: USDA Method 20B / 8/18/14	Analyst: ML
Calcium	37		10	mg/L	20	8/18/2014 03:18 PM
Magnesium	17		4.0	mg/L	20	8/18/2014 03:18 PM
Sodium	960		4.0	mg/L	20	8/18/2014 03:18 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHOD		Prep: USDA Method 20B / 8/18/14	Analyst: ML
Sodium Adsorption Ratio	33		0.010	none	1	8/18/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 8/14/14	Analyst: RM
Acenaphthene	ND		7.9	µg/Kg-dry	1	8/18/2014 12:12 PM
Acenaphthylene	ND		7.9	µg/Kg-dry	1	8/18/2014 12:12 PM
Anthracene	ND		7.9	µg/Kg-dry	1	8/18/2014 12:12 PM
Benzo(a)anthracene	20		7.9	µg/Kg-dry	1	8/18/2014 12:12 PM
Benzo(a)pyrene	ND		7.9	µg/Kg-dry	1	8/18/2014 12:12 PM
Benzo(b)fluoranthene	ND		7.9	µg/Kg-dry	1	8/18/2014 12:12 PM
Benzo(g,h,i)perylene	ND		7.9	µg/Kg-dry	1	8/18/2014 12:12 PM
Benzo(k)fluoranthene	ND		7.9	µg/Kg-dry	1	8/18/2014 12:12 PM
Chrysene	ND		7.9	µg/Kg-dry	1	8/18/2014 12:12 PM

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

ALS Group USA, Corp

Date: 19-Aug-14

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Batch 2 8.13.14
Sample ID: Batch 2
Collection Date: 8/13/2014 12:45 PM

Work Order: 1408671
Lab ID: 1408671-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		7.9	µg/Kg-dry	1	8/18/2014 12:12 PM
Fluoranthene	ND		7.9	µg/Kg-dry	1	8/18/2014 12:12 PM
Fluorene	11		7.9	µg/Kg-dry	1	8/18/2014 12:12 PM
Indeno(1,2,3-cd)pyrene	ND		7.9	µg/Kg-dry	1	8/18/2014 12:12 PM
Naphthalene	24		7.9	µg/Kg-dry	1	8/18/2014 12:12 PM
Pyrene	ND		7.9	µg/Kg-dry	1	8/18/2014 12:12 PM
Surr: 2-Fluorobiphenyl	61.6		12-100	%REC	1	8/18/2014 12:12 PM
Surr: 4-Terphenyl-d14	93.5		25-137	%REC	1	8/18/2014 12:12 PM
Surr: Nitrobenzene-d5	57.1		37-107	%REC	1	8/18/2014 12:12 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 8/14/14		Analyst: RS
Benzene	ND		36	µg/Kg-dry	1	8/15/2014 02:24 AM
Ethylbenzene	ND		36	µg/Kg-dry	1	8/15/2014 02:24 AM
m,p-Xylene	ND		71	µg/Kg-dry	1	8/15/2014 02:24 AM
o-Xylene	ND		36	µg/Kg-dry	1	8/15/2014 02:24 AM
Toluene	ND		36	µg/Kg-dry	1	8/15/2014 02:24 AM
Xylenes, Total	ND		110	µg/Kg-dry	1	8/15/2014 02:24 AM
Surr: 1,2-Dichloroethane-d4	96.4		70-130	%REC	1	8/15/2014 02:24 AM
Surr: 4-Bromofluorobenzene	103		70-130	%REC	1	8/15/2014 02:24 AM
Surr: Dibromofluoromethane	96.6		70-130	%REC	1	8/15/2014 02:24 AM
Surr: Toluene-d8	97.9		70-130	%REC	1	8/15/2014 02:24 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHOD	Prep: USDA Method 20B / 8/18/14		Analyst: JB
Electrical Conductivity @ Saturation	5.7		0.050	mmhos/cm @25	10	8/18/2014 05:00 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JJG
Chromium, Trivalent	14		0.59	mg/Kg-dry	1	8/19/2014 07:41 AM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 8/14/14		Analyst: EE
Chromium, Hexavalent	0.55		0.54	mg/Kg-dry	1	8/15/2014 03:00 PM
MOISTURE			A2540 G			Analyst: TM
Moisture	16		0.050	% of sample	1	8/14/2014 04:43 PM
PH			SW9045D	Prep: EXTRACT / 8/14/14		Analyst: TM
pH	8.1			s.u.	1	8/14/2014 03:34 PM

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

ALS Group USA, Corp

Date: 19-Aug-14

Client: HRL Compliance Solutions, Inc

Work Order: 1408671

Project: WPX RWF 531-13 Batch 2 8.13.14

QC BATCH REPORT

Batch ID: **61670**

Instrument ID **GC8**

Method: **SW8015M**

MBLK		Sample ID: DBLKS1-61670-61670				Units: mg/Kg		Analysis Date: 8/14/2014 05:08 PM		
Client ID:		Run ID: GC8_140814A				SeqNo: 2890555		Prep Date: 8/14/2014		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	1.271	0	1.667	0	76.3	39-133	0			

LCS		Sample ID: DLCSS1-61670-61670				Units: mg/Kg		Analysis Date: 8/14/2014 05:38 PM		
Client ID:		Run ID: GC8_140814A				SeqNo: 2890556		Prep Date: 8/14/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	130.5	4.2	166.7	0	78.3	61-109	0			
Surr: 4-Terphenyl-d14	1.202	0	1.667	0	72.1	39-133	0			

MS		Sample ID: 1408600-01B MS				Units: mg/Kg		Analysis Date: 8/14/2014 06:08 PM		
Client ID:		Run ID: GC8_140814A				SeqNo: 2890557		Prep Date: 8/14/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	248.4	8.0	320.9	35.34	66.4	48-110	0			
Surr: 4-Terphenyl-d14	2.094	0	3.209	0	65.2	39-133	0			

MSD		Sample ID: 1408600-01B MSD				Units: mg/Kg		Analysis Date: 8/14/2014 06:38 PM		
Client ID:		Run ID: GC8_140814A				SeqNo: 2890558		Prep Date: 8/14/2014		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	8.3	330.3	35.34	71.9	48-110	248.4	9.39	30	
Surr: 4-Terphenyl-d14	2.29	0	3.303	0	69.3	39-133	2.094	8.95	30	

The following samples were analyzed in this batch: 1408671-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1408671
Project: WPX RWF 531-13 Batch 2 8.13.14

QC BATCH REPORT

Batch ID: **61673** Instrument ID **GC9** Method: **SW8015**

MBLK		Sample ID: MBLK-61673-61673				Units: µg/Kg		Analysis Date: 8/15/2014 01:14 PM		
Client ID:		Run ID: GC9_140815A				SeqNo: 2891700		Prep Date: 8/14/2014		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								
<i>Surr: Toluene-d8</i>	4747	0	5000	0	94.9	50-150	0			

LCS		Sample ID: LCS-61673-61673				Units: µg/Kg		Analysis Date: 8/15/2014 12:48 PM		
Client ID:		Run ID: GC9_140815A				SeqNo: 2891699		Prep Date: 8/14/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	465300	2,500	500000	0	93.1	70-130	0			
<i>Surr: Toluene-d8</i>	5278	0	5000	0	106	50-150	0			

MS		Sample ID: 1408576-01A MS				Units: µg/Kg		Analysis Date: 8/15/2014 04:12 PM		
Client ID:		Run ID: GC9_140815A				SeqNo: 2892452		Prep Date: 8/14/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	492900	2,500	500000	0	98.6	70-130	0			
<i>Surr: Toluene-d8</i>	4916	0	5000	0	98.3	50-150	0			

MSD		Sample ID: 1408576-01A MSD				Units: µg/Kg		Analysis Date: 8/15/2014 04:37 PM		
Client ID:		Run ID: GC9_140815A				SeqNo: 2892453		Prep Date: 8/14/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	442200	2,500	500000	0	88.4	70-130	492900	10.9	30	
<i>Surr: Toluene-d8</i>	5076	0	5000	0	102	50-150	4916	3.19	30	

The following samples were analyzed in this batch:

1408671-01A

Client: HRL Compliance Solutions, Inc
Work Order: 1408671
Project: WPX RWF 531-13 Batch 2 8.13.14

QC BATCH REPORT

Batch ID: **61680** Instrument ID **HG1** Method: **SW7471**

MBLK				Sample ID: MBLK-61680-61680				Units: mg/Kg			Analysis Date: 8/15/2014 11:47 AM												
Client ID:				Run ID: HG1_140815A				SeqNo: 2891072			Prep Date: 8/15/2014		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-61680-61680				Units:mg/Kg		Analysis Date: 8/15/2014 11:49 AM		
Client ID:			Run ID: HG1_140815A		SeqNo:2891073		Prep Date: 8/15/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1782 0.020 0.1665 0 107 80-120 0

MS				Sample ID: 1408704-08CMS				Units: mg/Kg			Analysis Date: 8/15/2014 12:05 PM												
Client ID:				Run ID: HG1_140815A				SeqNo: 2891085			Prep Date: 8/15/2014		DF: 1										
Analyte				Result		PQL		SPK Val		SPK Ref Value		%REC		Control Limit		RPD Ref Value		%RPD		RPD Limit		Qual	

Mercury 0.16 0.017 0.1423 0.03067 90.9 75-125 0

MSD				Sample ID: 1408704-08CMSD				Units:mg/Kg			Analysis Date: 8/15/2014 12:07 PM												
Client ID:				Run ID: HG1_140815A				SeqNo:2891086		Prep Date: 8/15/2014		DF: 1											
Analyte				Result		PQL		SPK Val		SPK Ref Value		%REC		Control Limit		RPD Ref Value		%RPD		RPD Limit		Qual	

Mercury 0.1582 0.017 0.1405 0.03067 90.7 75-125 0.16 1.14 35

The following samples were analyzed in this batch:

1408671-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1408671
Project: WPX RWF 531-13 Batch 2 8.13.14

QC BATCH REPORT

Batch ID: **61722** Instrument ID **ICPMS1** Method: **SW6020A**

Sample ID: MBLK-61722-61722				Units:mg/Kg			Analysis Date: 8/15/2014 11:11 PM			
Client ID:		Run ID: ICPMS1_140815A			SeqNo:2892552		Prep Date: 8/15/2014		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	0.01126	0.25								J
Cadmium	0.001688	0.10								J
Chromium	ND	0.25								
Copper	ND	0.25								
Lead	0.004962	0.25								J
Nickel	ND	0.25								
Selenium	0.04556	0.25								J
Silver	0.001932	0.25								J
Zinc	0.04192	0.50								J

LCS				Sample ID: LCS-61722-61722			Units:mg/Kg		Analysis Date: 8/15/2014 11:17 PM		
Client ID:			Run ID: ICPMS1_140815A			SeqNo:2892553		Prep Date: 8/15/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	4.602	0.25	5	0	92	80-120	0				
Barium	4.712	0.25	5	0	94.2	80-120	0				
Cadmium	4.708	0.10	5	0	94.2	80-120	0				
Chromium	5.09	0.25	5	0	102	80-120	0				
Copper	4.992	0.25	5	0	99.8	80-120	0				
Lead	4.7	0.25	5	0	94	80-120	0				
Nickel	5.15	0.25	5	0	103	80-120	0				
Selenium	4.614	0.25	5	0	92.3	80-120	0				
Silver	4.94	0.25	5	0	98.8	80-120	0				
Zinc	5.03	0.50	5	0	101	80-120	0				

MS					Sample ID: 1408704-11CMS		Units:mg/Kg		Analysis Date: 8/16/2014 12:30 AM		
Client ID:			Run ID: ICPMS1_140815A			SeqNo:2892569		Prep Date: 8/15/2014		DF: 4	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	15.82	1.5	7.353	5.962	134	75-125	0			S	
Barium	68.71	1.5	7.353	38.06	417	75-125	0			SO	
Cadmium	7.385	0.59	7.353	0.1525	98.4	75-125	0				
Chromium	28.99	1.5	7.353	17.44	157	75-125	0			S	
Copper	23.74	1.5	7.353	19.73	54.5	75-125	0			S	
Lead	18.26	1.5	7.353	8.935	127	75-125	0			S	
Nickel	39.79	1.5	7.353	25.3	197	75-125	0			S	
Selenium	8.1	1.5	7.353	1.707	86.9	75-125	0				
Silver	6.656	1.5	7.353	0.05821	89.7	75-125	0				
Zinc	56.68	2.9	7.353	40.91	214	75-125	0			SO	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1408671
Project: WPX RWF 531-13 Batch 2 8.13.14

QC BATCH REPORT

Batch ID: **61722** Instrument ID **ICPMS1** Method: **SW6020A**

MSD		Sample ID: 1408704-11CMSD				Units: mg/Kg		Analysis Date: 8/16/2014 12:37 AM		
Client ID:		Run ID: ICPMS1_140815A				SeqNo: 2892571		Prep Date: 8/15/2014		DF: 4
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	13.81	1.5	7.321	5.962	107	75-125	15.82	13.5	25	
Barium	70.69	1.5	7.321	38.06	446	75-125	68.71	2.84	25	SO
Cadmium	7.572	0.59	7.321	0.1525	101	75-125	7.385	2.5	25	
Chromium	30.6	1.5	7.321	17.44	180	75-125	28.99	5.42	25	S
Copper	29.24	1.5	7.321	19.73	130	75-125	23.74	20.8	25	S
Lead	17.73	1.5	7.321	8.935	120	75-125	18.26	2.92	25	
Nickel	37.63	1.5	7.321	25.3	168	75-125	39.79	5.6	25	S
Selenium	8.679	1.5	7.321	1.707	95.2	75-125	8.1	6.91	25	
Silver	6.846	1.5	7.321	0.05821	92.7	75-125	6.656	2.82	25	
Zinc	51.51	2.9	7.321	40.91	145	75-125	56.68	9.55	25	SO

The following samples were analyzed in this batch: 1408671-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1408671
Project: WPX RWF 531-13 Batch 2 8.13.14

QC BATCH REPORT

Batch ID: **61726** Instrument ID **ICPMS1** Method: **SW6020A**

DUP		Sample ID: 1408706-01C DUP				Units: mg/L		Analysis Date: 8/18/2014 03:31 PM		
Client ID:		Run ID: ICPMS1_140818A				SeqNo: 2893978		Prep Date: 8/18/2014		DF: 20
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	314.6	10	0	0	0	0-0	359.2	13.2		
Magnesium	27.9	4.0	0	0	0	0-0	31.66	12.6		
Sodium	1818	4.0	0	0	0	0-0	2100	14.4		

DUP		Sample ID: 1408706-01C DUP				Units: none		Analysis Date: 8/18/2014		
Client ID:		Run ID: SAR_140818A				SeqNo: 2894605		Prep Date: 8/18/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	26.36	0.010	0	0	0		28.51	7.85	50	

The following samples were analyzed in this batch: | 1408671-01C |

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

Client: HRL Compliance Solutions, Inc
Work Order: 1408671
Project: WPX RWF 531-13 Batch 2 8.13.14

QC BATCH REPORT

Batch ID: **61669** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKS1-61669-61669				Units: µg/Kg		Analysis Date: 8/15/2014 10:20 AM		
Client ID:		Run ID: SVMS8_140815A				SeqNo: 2894431		Prep Date: 8/14/2014		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								
<i>Surr: 2-Fluorobiphenyl</i>	1171	0	1667	0	70.2	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1685	0	1667	0	101	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1108	0	1667	0	66.5	37-107	0			

LCS		Sample ID: SLCSS1-61669-61669				Units: µg/Kg		Analysis Date: 8/15/2014 09:47 AM		
Client ID:		Run ID: SVMS8_140815A				SeqNo: 2894430		Prep Date: 8/14/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	480.3	6.7	666.7	0	72	45-110	0			
Acenaphthylene	493	6.7	666.7	0	73.9	45-105	0			
Anthracene	573	6.7	666.7	0	85.9	55-105	0			
Benzo(a)anthracene	544.3	6.7	666.7	0	81.6	50-110	0			
Benzo(a)pyrene	613.7	6.7	666.7	0	92	50-110	0			
Benzo(b)fluoranthene	649.7	6.7	666.7	0	97.4	45-115	0			
Benzo(g,h,i)perylene	534	6.7	666.7	0	80.1	40-125	0			
Benzo(k)fluoranthene	621.7	6.7	666.7	0	93.2	45-115	0			
Chrysene	579.7	6.7	666.7	0	86.9	55-110	0			
Dibenzo(a,h)anthracene	527.7	6.7	666.7	0	79.1	40-125	0			
Fluoranthene	567	6.7	666.7	0	85	55-115	0			
Fluorene	521.3	6.7	666.7	0	78.2	50-110	0			
Indeno(1,2,3-cd)pyrene	552.3	6.7	666.7	0	82.8	40-120	0			
Naphthalene	479	6.7	666.7	0	71.8	40-105	0			
Pyrene	690	6.7	666.7	0	103	45-125	0			
<i>Surr: 2-Fluorobiphenyl</i>	1204	0	1667	0	72.3	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1747	0	1667	0	105	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1241	0	1667	0	74.5	37-107	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 1408671
Project: WPX RWF 531-13 Batch 2 8.13.14

QC BATCH REPORT

Batch ID: **61669** Instrument ID **SVMS8** Method: **SW846 8270D**

MS				Sample ID: 1408600-01B MS			Units: µg/Kg		Analysis Date: 8/15/2014 12:47 PM	
Client ID:				Run ID: SVMS8_140815A			SeqNo: 2894437		Prep Date: 8/14/2014	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	914.5	13	1294	0	70.7	45-110	0			
Acenaphthylene	958.5	13	1294	0	74.1	45-105	0			
Anthracene	1129	13	1294	0	87.3	55-105	0			
Benzo(a)anthracene	1097	13	1294	0	84.8	50-110	0			
Benzo(a)pyrene	1231	13	1294	0	95.2	50-110	0			
Benzo(b)fluoranthene	1226	13	1294	0	94.7	45-115	0			
Benzo(g,h,i)perylene	1092	13	1294	0	84.4	40-125	0			
Benzo(k)fluoranthene	1142	13	1294	0	88.2	45-115	0			
Chrysene	1074	13	1294	0	83	55-110	0			
Dibenzo(a,h)anthracene	1114	13	1294	0	86.1	40-125	0			
Fluoranthene	1082	13	1294	0	83.6	55-115	0			
Fluorene	990.2	13	1294	0	76.5	50-110	0			
Indeno(1,2,3-cd)pyrene	1220	13	1294	0	94.3	40-120	0			
Naphthalene	889.3	13	1294	0	68.7	40-105	0			
Pyrene	1323	13	1294	0	102	45-125	0			
Surr: 2-Fluorobiphenyl	2348	0	3234	0	72.6	12-100	0			
Surr: 4-Terphenyl-d14	3200	0	3234	0	99	25-137	0			
Surr: Nitrobenzene-d5	2334	0	3234	0	72.2	37-107	0			

MSD				Sample ID: 1408600-01B MSD			Units: µg/Kg		Analysis Date: 8/15/2014 01:07 PM	
Client ID:				Run ID: SVMS8_140815A			SeqNo: 2894438		Prep Date: 8/14/2014	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	981.7	13	1333	0	73.6	45-110	914.5	7.09	30	
Acenaphthylene	1032	13	1333	0	77.4	45-105	958.5	7.43	30	
Anthracene	1205	13	1333	0	90.4	55-105	1129	6.49	30	
Benzo(a)anthracene	1169	13	1333	0	87.7	50-110	1097	6.37	30	
Benzo(a)pyrene	1294	13	1333	0	97.1	50-110	1231	4.98	30	
Benzo(b)fluoranthene	1276	13	1333	0	95.7	45-115	1226	4	30	
Benzo(g,h,i)perylene	1162	13	1333	0	87.2	40-125	1092	6.21	30	
Benzo(k)fluoranthene	1220	13	1333	0	91.5	45-115	1142	6.68	30	
Chrysene	1141	13	1333	0	85.6	55-110	1074	6.03	30	
Dibenzo(a,h)anthracene	1189	13	1333	0	89.2	40-125	1114	6.48	30	
Fluoranthene	1142	13	1333	0	85.7	55-115	1082	5.43	30	
Fluorene	1089	13	1333	0	81.7	50-110	990.2	9.51	30	
Indeno(1,2,3-cd)pyrene	1304	13	1333	0	97.8	40-120	1220	6.65	30	
Naphthalene	975.7	13	1333	0	73.2	40-105	889.3	9.27	30	
Pyrene	1414	13	1333	0	106	45-125	1323	6.65	30	
Surr: 2-Fluorobiphenyl	2526	0	3333	0	75.8	12-100	2348	7.29	40	
Surr: 4-Terphenyl-d14	3466	0	3333	0	104	25-137	3200	7.99	40	
Surr: Nitrobenzene-d5	2587	0	3333	0	77.6	37-107	2334	10.3	40	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1408671
Project: WPX RWF 531-13 Batch 2 8.13.14

QC BATCH REPORT

Batch ID: **61669** Instrument ID **SVMS8** Method: **SW846 8270D**

The following samples were analyzed in this batch:

1408671-01B

Client: HRL Compliance Solutions, Inc
 Work Order: 1408671
 Project: WPX RWF 531-13 Batch 2 8.13.14

QC BATCH REPORT

Batch ID: **61668** Instrument ID **VMS5** Method: **SW8260B**

MBLK				Sample ID: MBLK-61668-61668				Units: µg/Kg			Analysis Date: 8/14/2014 02:05 PM			
Client ID:				Run ID: VMS5_140814A				SeqNo: 2889855			Prep Date: 8/14/2014		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	1027	0	1000	0	103	70-130		0						
Surr: 4-Bromofluorobenzene	977.5	0	1000	0	97.8	70-130		0						
Surr: Dibromofluoromethane	979.5	0	1000	0	98	70-130		0						
Surr: Toluene-d8	1000	0	1000	0	100	70-130		0						

LCS				Sample ID: LCS-61668-61668			Units: µg/Kg		Analysis Date: 8/14/2014 12:49 PM		
Client ID:			Run ID: VMS5_140814A			SeqNo: 2889854		Prep Date: 8/14/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	996.5	30	1000	0	99.6	75-125	0				
Ethylbenzene	1004	30	1000	0	100	75-125	0				
m,p-Xylene	2022	60	2000	0	101	80-125	0				
o-Xylene	1002	30	1000	0	100	75-125	0				
Toluene	980	30	1000	0	98	70-125	0				
Xylenes, Total	3025	90	3000	0	101	75-125	0				
Surr: 1,2-Dichloroethane-d4	1016	0	1000	0	102	70-130	0				
Surr: 4-Bromofluorobenzene	1017	0	1000	0	102	70-130	0				
Surr: Dibromofluoromethane	996.5	0	1000	0	99.6	70-130	0				
Surr: Toluene-d8	1009	0	1000	0	101	70-130	0				

The following samples were analyzed in this batch:

1408671-01A

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

Client: HRL Compliance Solutions, Inc
Work Order: 1408671
Project: WPX RWF 531-13 Batch 2 8.13.14

QC BATCH REPORT

Batch ID: **61674** Instrument ID **WETCHEM** Method: **SW9045D**

LCS				Sample ID: LCS-61674-61674				Units:s.u.			Analysis Date: 8/14/2014 03:34 PM			
Client ID:				Run ID: WETCHEM_140814H				SeqNo:2889696		Prep Date: 8/14/2014		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: 1408600-01B DUP				Units: s.u.		Analysis Date: 8/14/2014 03:34 PM			
Client ID:				Run ID: WETCHEM_140814H				SeqNo: 2889702		Prep Date: 8/14/2014		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		

pH 8.85 0 0 0 0 0-0 8.82 0.34 20

DUP				Sample ID: 1408634-25D DUP				Units: s.u.		Analysis Date: 8/14/2014 03:34 PM			
Client ID:				Run ID: WETCHEM_140814H				SeqNo: 2889705		Prep Date: 8/14/2014		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		

pH 10.98 0 0 0 0 0-0 11.06 0.726 20

The following samples were analyzed in this batch:

1408671-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1408671
Project: WPX RWF 531-13 Batch 2 8.13.14

QC BATCH REPORT

Batch ID: **61699** Instrument ID **WETCHEM** Method: **SW7196A**

Sample ID: MBLK-61699-61699				Units: mg/Kg			Analysis Date: 8/15/2014 03:00 PM				
Client ID:			Run ID: WETCHEM_140815K			SeqNo: 2891862		Prep Date: 8/14/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Chromium, Hexavalent	0.204	0.50								J	

LCS				Sample ID: LCS-61699-61699				Units:mg/Kg			Analysis Date: 8/15/2014 03:00 PM			
Client ID:				Run ID: WETCHEM_140815K				SeqNo:2891863			Prep Date: 8/14/2014		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Chromium, Hexavalent		2.072	0.50	2	0	104	80-120	0						

MS				Sample ID: 1408600-01B MS				Units:mg/Kg			Analysis Date: 8/15/2014 03:00 PM			
Client ID:				Run ID: WETCHEM_140815K				SeqNo:2891866			Prep Date: 8/14/2014		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Chromium, Hexavalent		0.5534	0.49	1.976	0.4385	5.81	75-125	0			S			

MS		Sample ID: 1408600-01B MSI				Units:mg/Kg		Analysis Date: 8/15/2014 03:00 PM		
Client ID:		Run ID: WETCHEM_140815K			SeqNo:2891868		Prep Date: 8/14/2014		DF: 100	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1483	49	1603	0.4385	92.5	75-125	0			

MSD				Sample ID: 1408600-01B MSD				Units:mg/Kg			Analysis Date: 8/15/2014 03:00 PM				
Client ID:				Run ID: WETCHEM_140815K				SeqNo:2891867			Prep Date: 8/14/2014			DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Chromium, Hexavalent		0.5534	0.49	1.976	0.4385	5.81	75-125	0.5534	0	20	S				

The following samples were analyzed in this batch:

1408671-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1408671
Project: WPX RWF 531-13 Batch 2 8.13.14

QC BATCH REPORT

Batch ID: **61726** Instrument ID **WETCHEM** Method: **USDA H60 Method**

DUP		Sample ID: 1408706-01C DUP				Units: mmhos/cm @25°C		Analysis Date: 8/18/2014 05:00 PM		
Client ID:		Run ID: WETCHEM_140818J				SeqNo: 2893662		Prep Date: 8/18/2014		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	12.75	0.050	0	0	0		12.45	2.38	50	

The following samples were analyzed in this batch:

1408671-01C

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

Client: HRL Compliance Solutions, Inc
Work Order: 1408671
Project: WPX RWF 531-13 Batch 2 8.13.14

QC BATCH REPORT

Batch ID: **R146352** Instrument ID **MOIST** Method: **A2540 G**

MBLK		Sample ID: WBLKS-R146352				Units: % of sample		Analysis Date: 8/14/2014 04:43 PM		
Client ID:		Run ID: MOIST_140814A				SeqNo: 2890785		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-R146352				Units: % of sample		Analysis Date: 8/14/2014 04:43 PM		
Client ID:		Run ID: MOIST_140814A				SeqNo: 2890784		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: 1408628-01A DUP				Units: % of sample		Analysis Date: 8/14/2014 04:43 PM		
Client ID:		Run ID: MOIST_140814A				SeqNo: 2890761		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 78.49 0.050 0 0 0 0-0 78.71 0.28 20

DUP		Sample ID: 1408655-01A DUP				Units: % of sample		Analysis Date: 8/14/2014 04:43 PM		
Client ID:		Run ID: MOIST_140814A				SeqNo: 2890763		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 15.29 0.050 0 0 0 0-0 16.31 6.46 20

The following samples were analyzed in this batch:

1408671-01B

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



WORKORDER

140867

Form 2021a

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

For metals or anions, please detail analytes below.

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	<i>Recd DLD</i>	<i>Recd DLD</i>	8/13/14	2:00
RECEIVED BY	<i>N.M.</i>	<i>N.M.</i>	8-13-14	2:01
RELINQUISHED BY	<i>N.M.</i>	<i>N.M.</i>	8-13-14	2:10
RECEIVED BY	<i>[Signature]</i>	<i>ETHEL HERNANDEZ</i>	8/14/14	0930
RELINQUISHED BY				
RECEIVED BY				

Sample Receipt Checklist

Client Name: **HRL**

Date/Time Received: **14-Aug-14 09:30**

Work Order: **1408671**

Received by: **KRW**

Checklist completed by <u>Keith Wurenga</u>	14-Aug-14	Reviewed by: <u>Ann Preston</u>	15-Aug-14
eSignature	Date	eSignature	Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.8 C</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>8/14/2014 10:56:48 AM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:			

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

From: (616) 399-6070
 Attn: Mollie
 ALS Environmental
 127 E. 1st Street
 Holland, MI 49424

Origin ID: HLMA



Ship Date: 13AUG14
 Weight: 54.0 LB
 CAD: 22848489-ET3560

Dim: 14 X 20 X 19 IN

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

BILL SENDER

HOLLAND, MI 49424

Delivery Address Bar Code



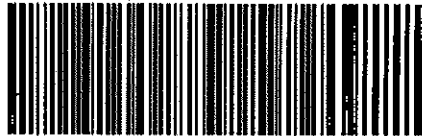
Ref # 001314-1
 Invoice #
 PO #
 Dept #

THU - 14 AUG 10:30A
 PRIORITY OVERNIGHT

TRK# 7708 3005 5140
 E2V1

68 HLMA

49424
 MI 48
 GRR



020100728403

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



TRK# 7708 3005 5140
 E2V1

828
 12



25-Sep-2014

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

Re: **WPX RWF 531-13 Batch 3 9.19.14**

Work Order: **14091025**

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,

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

Electronically approved by: Ann Preston

Ann Preston
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

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

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

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Batch 3 9.19.14
Work Order: 14091025

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
14091025-01	Batch 3	Soil		9/19/2014 09:20	9/20/2014 10:30	<input type="checkbox"/>

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Batch 3 9.19.14
Work Order: 14091025

Case Narrative

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

Batch 63022 sample Batch 3 MS/MSD recoveries for Barium and Zinc were outside of the control limits; however, the results in the parent sample were greater than 4x the spiked amount. No qualification is required for Barium and Zinc. The MS/MSD recoveries and the RPD for Lead were outside control limits. The corresponding result in the parent sample may be biased low for Lead. The MSD recovery for Copper was below control limits. The MS recovery and the RPD between the MS and MSD were in control. No qualification is required for Copper.

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

<u>Qualifier</u>	<u>Description</u>
*	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

<u>Acronym</u>	<u>Description</u>
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

<u>Units Reported</u>	<u>Description</u>
% 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 531-13 Batch 3 9.19.14
Sample ID: Batch 3
Collection Date: 9/19/2014 09:20 AM

Work Order: 14091025
Lab ID: 14091025-01
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)	750		4.6	mg/Kg-dry	1	9/22/2014 11:19 PM
Surr: 4-Terphenyl-d14	118		39-133	%REC	1	9/22/2014 11:19 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015		Prep: SW5035 / 9/22/14	Analyst: IT
GRO (C6-C10)	29		2.8	mg/Kg-dry	1	9/22/2014 02:15 PM
Surr: Toluene-d8	125		50-150	%REC	1	9/22/2014 02:15 PM
MERCURY BY CVAA						
			SW7471		Prep: SW7471 / 9/22/14	Analyst: LR
Mercury	0.035		0.016	mg/Kg-dry	1	9/22/2014 10:09 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 9/24/14	Analyst: JEC
Calcium	36		5.0	mg/L	10	9/24/2014 11:21 AM
Magnesium	13		2.0	mg/L	10	9/24/2014 11:21 AM
Sodium	750		2.0	mg/L	10	9/24/2014 11:21 AM
METALS BY ICP-MS						
			SW6020A		Prep: SW3050B / 9/22/14	Analyst: ML
Arsenic	5.1		2.2	mg/Kg-dry	5	9/22/2014 01:01 PM
Barium	310		2.2	mg/Kg-dry	5	9/22/2014 01:01 PM
Cadmium	ND		0.87	mg/Kg-dry	5	9/22/2014 01:01 PM
Chromium	11		2.2	mg/Kg-dry	5	9/22/2014 01:01 PM
Copper	15		2.2	mg/Kg-dry	5	9/22/2014 01:01 PM
Lead	29		2.2	mg/Kg-dry	5	9/22/2014 01:01 PM
Nickel	16		2.2	mg/Kg-dry	5	9/22/2014 01:01 PM
Selenium	3.0		2.2	mg/Kg-dry	5	9/22/2014 01:01 PM
Silver	ND		2.2	mg/Kg-dry	5	9/22/2014 01:01 PM
Zinc	62		4.3	mg/Kg-dry	5	9/22/2014 01:01 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHOD		Prep: USDA Method 20B / 9/24/14	Analyst: JEC
Sodium Adsorption Ratio	27		0.010	none	1	9/24/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 9/22/14	Analyst: JG
Acenaphthene	ND		7.3	µg/Kg-dry	1	9/23/2014 03:38 PM
Acenaphthylene	ND		7.3	µg/Kg-dry	1	9/23/2014 03:38 PM
Anthracene	70		7.3	µg/Kg-dry	1	9/23/2014 03:38 PM
Benzo(a)anthracene	9.9		7.3	µg/Kg-dry	1	9/23/2014 03:38 PM
Benzo(a)pyrene	ND		7.3	µg/Kg-dry	1	9/23/2014 03:38 PM
Benzo(b)fluoranthene	17		7.3	µg/Kg-dry	1	9/23/2014 03:38 PM
Benzo(g,h,i)perylene	ND		7.3	µg/Kg-dry	1	9/23/2014 03:38 PM
Benzo(k)fluoranthene	ND		7.3	µg/Kg-dry	1	9/23/2014 03:38 PM
Chrysene	12		7.3	µg/Kg-dry	1	9/23/2014 03:38 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 531-13 Batch 3 9.19.14
Sample ID: Batch 3
Collection Date: 9/19/2014 09:20 AM

Work Order: 14091025
Lab ID: 14091025-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		7.3	µg/Kg-dry	1	9/23/2014 03:38 PM
Fluoranthene	8.8		7.3	µg/Kg-dry	1	9/23/2014 03:38 PM
Fluorene	110		7.3	µg/Kg-dry	1	9/23/2014 03:38 PM
Indeno(1,2,3-cd)pyrene	ND		7.3	µg/Kg-dry	1	9/23/2014 03:38 PM
Naphthalene	150		7.3	µg/Kg-dry	1	9/23/2014 03:38 PM
Pyrene	17		7.3	µg/Kg-dry	1	9/23/2014 03:38 PM
Surr: 2-Fluorobiphenyl	79.1		12-100	%REC	1	9/23/2014 03:38 PM
Surr: 4-Terphenyl-d14	106		25-137	%REC	1	9/23/2014 03:38 PM
Surr: Nitrobenzene-d5	67.7		37-107	%REC	1	9/23/2014 03:38 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 9/22/14		Analyst: BG
Benzene	ND		33	µg/Kg-dry	1	9/22/2014 04:25 PM
Ethylbenzene	ND		33	µg/Kg-dry	1	9/22/2014 04:25 PM
m,p-Xylene	170		67	µg/Kg-dry	1	9/22/2014 04:25 PM
o-Xylene	160		33	µg/Kg-dry	1	9/22/2014 04:25 PM
Toluene	ND		33	µg/Kg-dry	1	9/22/2014 04:25 PM
Xylenes, Total	320		100	µg/Kg-dry	1	9/22/2014 04:25 PM
Surr: 1,2-Dichloroethane-d4	99.5		70-130	%REC	1	9/22/2014 04:25 PM
Surr: 4-Bromofluorobenzene	96.6		70-130	%REC	1	9/22/2014 04:25 PM
Surr: Dibromofluoromethane	98.2		70-130	%REC	1	9/22/2014 04:25 PM
Surr: Toluene-d8	100		70-130	%REC	1	9/22/2014 04:25 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHOD	Prep: USDA Method 20B / 9/24/14		Analyst: JB
Electrical Conductivity @ Saturation	4.0		0.050	mmhos/cm @25	10	9/24/2014 03:00 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JJG
Chromium, Trivalent	11		0.56	mg/Kg-dry	1	9/24/2014 03:56 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 9/22/14		Analyst: MB
Chromium, Hexavalent	ND		0.55	mg/Kg-dry	1	9/24/2014 09:45 AM
MOISTURE			A2540 G			Analyst: RLM
Moisture	10		0.050	% of sample	1	9/22/2014 10:30 AM
PH			SW9045D	Prep: EXTRACT / 9/22/14		Analyst: JB
pH	9.0			s.u.	1	9/23/2014 08:45 AM

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

Client: HRL Compliance Solutions, Inc

QC BATCH REPORT

Work Order: 14091025

Project: WPX RWF 531-13 Batch 3 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: 14091025-01B

Client: HRL Compliance Solutions, Inc
Work Order: 14091025
Project: WPX RWF 531-13 Batch 3 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: 14091025-01A

Client: HRL Compliance Solutions, Inc
Work Order: 14091025
Project: WPX RWF 531-13 Batch 3 9.19.14

QC BATCH REPORT

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

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:

14091025-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14091025
Project: WPX RWF 531-13 Batch 3 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:

14091025-01C

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

Client: HRL Compliance Solutions, Inc
Work Order: 14091025
Project: WPX RWF 531-13 Batch 3 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: 14091025
Project: WPX RWF 531-13 Batch 3 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: Batch 3			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: Batch 3			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:

14091025-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14091025
Project: WPX RWF 531-13 Batch 3 9.19.14

QC BATCH REPORT

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

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:

14091025-01C

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

Client: HRL Compliance Solutions, Inc
Work Order: 14091025
Project: WPX RWF 531-13 Batch 3 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								
<i>Surr: 2-Fluorobiphenyl</i>	1323	0	1667	0	79.4	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	2086	0	1667	0	125	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	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			
<i>Surr: 2-Fluorobiphenyl</i>	1319	0	1667	0	79.1	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1947	0	1667	0	117	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	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: 14091025
Project: WPX RWF 531-13 Batch 3 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: 14091025
Project: WPX RWF 531-13 Batch 3 9.19.14

QC BATCH REPORT

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

The following samples were analyzed in this batch:

14091025-01B

Client: HRL Compliance Solutions, Inc
Work Order: 14091025
Project: WPX RWF 531-13 Batch 3 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: 14091025
Project: WPX RWF 531-13 Batch 3 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: 14091025-01A

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

Client: HRL Compliance Solutions, Inc
Work Order: 14091025
Project: WPX RWF 531-13 Batch 3 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: Batch 3				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:

14091025-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14091025
Project: WPX RWF 531-13 Batch 3 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:

14091025-01C

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

Client: HRL Compliance Solutions, Inc
Work Order: 14091025
Project: WPX RWF 531-13 Batch 3 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:

14091025-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14091025
Project: WPX RWF 531-13 Batch 3 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:

14091025-01B

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 202r1

WORKORDER #

14091025

PAGE

1 of 1

DISPOSAL

By Lab or Return to Client

PROJECT NAME

WPX RWF 531-13

SAMPLER

Read Wold

SITE ID

RWF 531-13

DATE

9/19/14

TURNAROUND

3 Day

PROJECT No.

Batch 3

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 81508

CITY / STATE / ZIP

Parachute CO 81635

PHONE

970-243-3271

PHONE

970-683-2285

FAX

970-243-3280

FAX

E-MAIL

mmumby@hrlcomp.com
rwold@hrlcomp.com

E-MAIL

Karolina.blaney@wpxenergy.com

Lab ID

Field ID

Matrix

Sample Date

Sample Time

Bottles

Pres.

QC

-01

Batch 3

SO

9/19/14

9:20

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)

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

Read Wold

Read Wold

9/19/14

12:20

RECEIVED BY

MM

MM

9/19/14

17:10

RELINQUISHED BY

MM

MM

9/19/14

12:50

RECEIVED BY

Joseph R

J. R. Carr

9/20/14

10:30

RELINQUISHED BY

RECEIVED BY

Sample Receipt Checklist

Client Name: **HRL**

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

Work Order: **14091025**

Received by: **JR**

Checklist completed by <u>Joseph Ribar</u>	20-Sep-14	Reviewed by: <u>Ann Preston</u>	22-Sep-14
eSignature	Date	eSignature	Date

Matrices: **soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.4 C</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>9/20/2014 11:24:14 AM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

From: (816) 399-6070
 Nick Martinez
 ALS Environmental
 127 E. 1st Street
 PARACHUTE, CO 81835

Origin ID: RLA



Ship Date: 19SEP14
 Act/Wgt: 75.0 LB
 CAD: 2284840/NET3550

Dims: 24 X 15 X 15 IN

SHIP TO: (816) 399-6070
 sample receiving
 ALS Laboratory Group
 3352 128TH AVE

BILL SENDER

HOLLAND, MI 49424

Delivery Address Bar Code



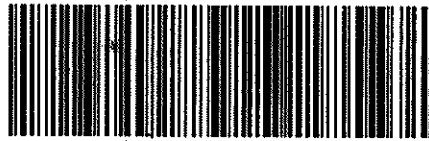
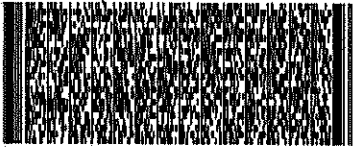
Ref # 091914-1
 Invoice #
 PO # Parachute
 Dept #

SATURDAY 12:00P
 PRIORITY OVERNIGHT

TRK# 7712 2235 7960
 8281

X0 HLMA

49424
 MI-LIB
 GRR



52201CDB48AC3

After printing this label:

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

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09-Dec-2014

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

Re: **WPX RWF 531-13 Batch 3 12.4.14**

Work Order: **1412253**

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 10.

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

Sincerely,

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

Electronically approved by: Ann Preston

Ann Preston
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

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

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

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Batch 3 12.4.14
Work Order: 1412253

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1412253-01	RWF 531-13 Batch 3	Soil		12/4/2014 10:15	12/5/2014 09:00	<input type="checkbox"/>

Client: HRL Compliance Solutions, Inc
Project: WPX RWF 531-13 Batch 3 12.4.14
WorkOrder: 1412253

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	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

<u>Acronym</u>	<u>Description</u>
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

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Ms. Karolina Blaney
WPX Energy
1058 County Road 215
Parachute, CO 81635

Report Summary

Monday February 09, 2015

Report Number: L747156

Samples Received: 02/05/15

Client Project: RWF 531-13

Description: RWF 531-13

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.

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REPORT OF ANALYSIS

February 09, 2015

Ms.Karolina Blaney
WPX Energy
1058 County Road 215
Parachute, CO 81635

Date Received : February 05, 2015
Description : RWF 531-13
Sample ID : RWF 531-13 BATCH 3
Collected By :
Collection Date : 02/04/15 12:00

ESC Sample # : L747156-01

Site ID : RWF 531-13 BATCH 3

Project # : RWF 531-13

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	16.	10.	mg/kg	8015D/GRO	02/06/15	100
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene(FID)	99.1		% Rec.	8015D/GRO	02/06/15	100
TPH (GC/FID) High Fraction	180	4.0	mg/kg	3546/DRO	02/06/15	1
Surrogate recovery(%)						
o-Terphenyl	59.5		% Rec.	3546/DRO	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.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 02/09/15 11:28 Printed: 02/09/15 12:07



YOUR LAB OF CHOICE

WPX Energy
Ms.Karolina Blaney
1058 County Road 215

Parachute, CO 81635

Quality Assurance Report
Level II

L747156

12065 Lebanon Rd.
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Est. 1970

February 09, 2015

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
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
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG768683	02/06/15 11:29
a,a,a-Trifluorotoluene(FID)		% Rec.	98.40	59-128	WG768683	02/06/15 11:29

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
TPH (GC/FID) High Fraction	mg/kg	60	55.2	92.1	50-150	WG768746
o-Terphenyl				83.30	50-150	WG768746
TPH (GC/FID) Low Fraction	mg/kg	5.5	5.37	97.7	63.5-137	WG768683
a,a,a-Trifluorotoluene(FID)				107.0	59-128	WG768683

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
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
TPH (GC/FID) Low Fraction	mg/kg	4.90	5.37	89.0	63.5-137	9.17	20	WG768683
a,a,a-Trifluorotoluene(FID)				107.0	59-128			WG768683

Analyte	Units	Matrix Spike			% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res	TV				
TPH (GC/FID) Low Fraction	mg/kg	24.3	0.0724	5.5	88.0	28.5-138	L747026-01	WG768683
a,a,a-Trifluorotoluene(FID)					106.0	59-128		WG768683

Analyte	Units	Matrix Spike Duplicate			Limit	RPD	Limit	Ref Samp	Batch
		MSD	Ref	%Rec					
TPH (GC/FID) Low Fraction	mg/kg	25.0	24.3	90.6	28.5-138	2.78	23.6	L747026-01	WG768683
a,a,a-Trifluorotoluene(FID)				106.0	59-128				WG768683

Batch number /Run number / Sample number cross reference

WG768746: R3018659: L747156-01
WG768683: R3018728: L747156-01

* * 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.'



YOUR LAB OF CHOICE

WPX Energy
Ms. Karolina Blaney
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Parachute, CO 81635

Quality Assurance Report
Level II

L747156

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February 09, 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.



18-Mar-2015

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

Re: **RWF 531-13 Batch 4**

Work Order: **1503593**

Dear Karolina,

ALS Environmental received 1 sample on 11-Mar-2015 09:30 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 25.

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

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

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

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RIGHT SOLUTIONS RIGHT PARTNER

Client: WPX Energy Rocky Mountain, LLC
Project: RWF 531-13 Batch 4
Work Order: 1503593

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1503593-01	RWF 531-13 Batch 4	Soil		3/10/2015 12:35	3/11/2015 09:30	<input type="checkbox"/>

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

<u>Acronym</u>	<u>Description</u>
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

<u>Units Reported</u>	<u>Description</u>
% 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: 18-Mar-15

Client: WPX Energy Rocky Mountain, LLC
Project: RWF 531-13 Batch 4
Sample ID: RWF 531-13 Batch 4
Collection Date: 3/10/2015 12:35 PM

Work Order: 1503593
Lab ID: 1503593-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	640		SW8015M		Prep: SW3541 / 3/16/15	Analyst: IT
<i>Surr: 4-Terphenyl-d14</i>	<i>55.1</i>		<i>4.5</i>	<i>mg/Kg-dry</i>	<i>1</i>	<i>3/16/2015 08:33 PM</i>
			<i>39-133</i>	<i>%REC</i>	<i>1</i>	<i>3/16/2015 08:33 PM</i>
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	25		SW8015D		Prep: SW5035 / 3/11/15	Analyst: IT
<i>Surr: Toluene-d8</i>	<i>126</i>		<i>2.7</i>	<i>mg/Kg-dry</i>	<i>1</i>	<i>3/13/2015 04:43 AM</i>
			<i>50-150</i>	<i>%REC</i>	<i>1</i>	<i>3/13/2015 04:43 AM</i>
MERCURY BY CVAA						
Mercury	0.016		SW7471B		Prep: SW7471 / 3/13/15	Analyst: LR
			0.014	mg/Kg-dry	1	3/13/2015 08:43 PM
METALS ANALYSIS BY ICP						
Arsenic	6.1		SW846 6010C		Prep: SW3050B / 3/12/15	Analyst: JEC
Barium	930		0.39	mg/Kg-dry	1	3/13/2015 04:47 PM
Cadmium	ND		0.39	mg/Kg-dry	1	3/13/2015 04:47 PM
Chromium	12		0.78	mg/Kg-dry	1	3/13/2015 04:47 PM
Copper	17		0.39	mg/Kg-dry	1	3/13/2015 04:47 PM
Lead	16		0.78	mg/Kg-dry	1	3/13/2015 04:47 PM
Nickel	16		0.39	mg/Kg-dry	1	3/13/2015 04:47 PM
Selenium	ND		0.39	mg/Kg-dry	1	3/13/2015 04:47 PM
Silver	ND		0.78	mg/Kg-dry	1	3/13/2015 04:47 PM
Zinc	71		0.39	mg/Kg-dry	1	3/13/2015 04:47 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 3/17/15	Analyst: JEC
Calcium	36		5.0	mg/L	10	3/17/2015 01:08 PM
Magnesium	11		2.0	mg/L	10	3/17/2015 01:08 PM
Sodium	560		2.0	mg/L	10	3/17/2015 01:08 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 3/17/15	Analyst: JEC
Sodium Adsorption Ratio	21		0.010	none	1	3/17/2015
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 3/16/15	Analyst: RM
Acenaphthene	ND		7.3	µg/Kg-dry	1	3/16/2015 06:26 PM
Anthracene	51		7.3	µg/Kg-dry	1	3/16/2015 06:26 PM
Benzo(a)anthracene	43		7.3	µg/Kg-dry	1	3/16/2015 06:26 PM
Benzo(a)pyrene	22		7.3	µg/Kg-dry	1	3/16/2015 06:26 PM
Benzo(b)fluoranthene	38		7.3	µg/Kg-dry	1	3/16/2015 06:26 PM
Benzo(g,h,i)perylene	21		7.3	µg/Kg-dry	1	3/16/2015 06:26 PM
Benzo(k)fluoranthene	12		7.3	µg/Kg-dry	1	3/16/2015 06:26 PM
Chrysene	33		7.3	µg/Kg-dry	1	3/16/2015 06:26 PM
Dibenzo(a,h)anthracene	ND		7.3	µg/Kg-dry	1	3/16/2015 06:26 PM

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

ALS Group USA, Corp

Date: 18-Mar-15

Client: WPX Energy Rocky Mountain, LLC

Project: RWF 531-13 Batch 4

Work Order: 1503593

Sample ID: RWF 531-13 Batch 4

Lab ID: 1503593-01

Collection Date: 3/10/2015 12:35 PM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	64		7.3	µg/Kg-dry	1	3/16/2015 06:26 PM
Fluorene	46		7.3	µg/Kg-dry	1	3/16/2015 06:26 PM
Indeno(1,2,3-cd)pyrene	24		7.3	µg/Kg-dry	1	3/16/2015 06:26 PM
Naphthalene	41		7.3	µg/Kg-dry	1	3/16/2015 06:26 PM
Pyrene	60		7.3	µg/Kg-dry	1	3/16/2015 06:26 PM
Surr: 2,4,6-Tribromophenol	76.0		34-140	%REC	1	3/16/2015 06:26 PM
Surr: 2-Fluorobiphenyl	72.0		12-100	%REC	1	3/16/2015 06:26 PM
Surr: 2-Fluorophenol	75.4		33-117	%REC	1	3/16/2015 06:26 PM
Surr: 4-Terphenyl-d14	87.3		25-137	%REC	1	3/16/2015 06:26 PM
Surr: Nitrobenzene-d5	68.0		37-107	%REC	1	3/16/2015 06:26 PM
Surr: Phenol-d6	75.2		40-106	%REC	1	3/16/2015 06:26 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 3/11/15	Analyst: BG	
Benzene	ND		33	µg/Kg-dry	1	3/12/2015 06:31 AM
Ethylbenzene	ND		33	µg/Kg-dry	1	3/12/2015 06:31 AM
m,p-Xylene	570		66	µg/Kg-dry	1	3/12/2015 06:31 AM
o-Xylene	150		33	µg/Kg-dry	1	3/12/2015 06:31 AM
Toluene	ND		33	µg/Kg-dry	1	3/12/2015 06:31 AM
Xylenes, Total	720		99	µg/Kg-dry	1	3/12/2015 06:31 AM
Surr: 1,2-Dichloroethane-d4	99.4		70-130	%REC	1	3/12/2015 06:31 AM
Surr: 4-Bromofluorobenzene	101		70-130	%REC	1	3/12/2015 06:31 AM
Surr: Dibromofluoromethane	95.4		70-130	%REC	1	3/12/2015 06:31 AM
Surr: Toluene-d8	105		70-130	%REC	1	3/12/2015 06:31 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 3/17/15	Analyst: JB	
Electrical Conductivity @ Saturation	3.3		0.050	mmhos/cm @2	10	3/17/2015 11:45 AM
CHROMIUM, TRIVALENT			CALCULATION	Analyst: JJG		
Chromium, Trivalent	12		0.55	mg/Kg-dry	1	3/18/2015 08:30 AM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 3/16/15	Analyst: MB	
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	3/17/2015 02:00 PM
MOISTURE			E160.3M	Analyst: EVB		
Moisture	8.7		0.050	% of sample	1	3/13/2015 12:35 PM
PH			SW9045D	Prep: EXTRACT / 3/12/15	Analyst: JRF	
pH	9.0		s.u.		1	3/12/2015 01:20 PM

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

ALS Group USA, Corp

Date: 18-Mar-15

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1503593
Project: RWF 531-13 Batch 4

QC BATCH REPORT

Batch ID: **68624** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-68624-68624				Units: mg/Kg		Analysis Date: 3/16/2015 05:03 PM		
Client ID:		Run ID: GC8_150316A				SeqNo: 3180178		Prep Date: 3/16/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	ND	5.0								
Surr: 4-Terphenyl-d14	1.237	0	2	0	61.8	39-133		0		

LCS		Sample ID: DLCSS1-68624-68624				Units: mg/Kg		Analysis Date: 3/16/2015 05:33 PM		
Client ID:		Run ID: GC8_150316A				SeqNo: 3180179		Prep Date: 3/16/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	173.3	5.0	200	0	86.6	61-109		0		
Surr: 4-Terphenyl-d14	1.148	0	2	0	57.4	39-133		0		

MS		Sample ID: 1503588-02A MS				Units: mg/Kg		Analysis Date: 3/16/2015 06:03 PM		
Client ID:		Run ID: GC8_150316A				SeqNo: 3180181		Prep Date: 3/16/2015		DF: 5
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	921.9	81	322.9	685.4	73.3	48-110		0		
Surr: 4-Terphenyl-d14	2.247	0	3.229	0	69.6	39-133		0		

MSD		Sample ID: 1503588-02A MSD				Units: mg/Kg		Analysis Date: 3/16/2015 06:33 PM		
Client ID:		Run ID: GC8_150316A				SeqNo: 3180183		Prep Date: 3/16/2015		DF: 5
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	937.7	78	313.3	685.4	80.5	48-110	921.9	1.7	30	
Surr: 4-Terphenyl-d14	1.899	0	3.133	0	60.6	39-133	2.247	16.8	30	

The following samples were analyzed in this batch: 1503593-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1503593
Project: RWF 531-13 Batch 4

QC BATCH REPORT

Batch ID: **68523** Instrument ID **GC9** Method: **SW8015D**

MBLK		Sample ID: MBLK-68523-68523				Units: µg/Kg		Analysis Date: 3/13/2015 03:54 AM		
Client ID:		Run ID: GC9_150312A				SeqNo: 3176256		Prep Date: 3/11/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	2,500								
Surr: Toluene-d8	5102	0	5000	0	102	50-150	0			

LCS		Sample ID: LCS-68523-68523				Units: µg/Kg		Analysis Date: 3/13/2015 03:29 AM		
Client ID:		Run ID: GC9_150312A				SeqNo: 3176255		Prep Date: 3/11/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	488700	2,500	500000	0	97.7	70-130	0			
Surr: Toluene-d8	4533	0	5000	0	90.7	50-150	0			

MS		Sample ID: 1503588-01A MS				Units: µg/Kg		Analysis Date: 3/13/2015 07:39 AM		
Client ID:		Run ID: GC9_150312A				SeqNo: 3176263		Prep Date: 3/11/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	451500	2,500	500000	0	90.3	70-130	0			
Surr: Toluene-d8	4848	0	5000	0	97	50-150	0			

MSD		Sample ID: 1503588-01A MSD				Units: µg/Kg		Analysis Date: 3/13/2015 08:04 AM		
Client ID:		Run ID: GC9_150312A				SeqNo: 3176264		Prep Date: 3/11/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	445700	2,500	500000	0	89.1	70-130	451500	1.3	30	
Surr: Toluene-d8	4528	0	5000	0	90.6	50-150	4848	6.85	30	

The following samples were analyzed in this batch: 1503593-01A

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1503593
Project: RWF 531-13 Batch 4

QC BATCH REPORT

Batch ID: **68556** Instrument ID **HG1** Method: **SW7471B**

MBLK		Sample ID: MBLK-68556-68556				Units: mg/Kg		Analysis Date: 3/13/2015 08:26 PM		
Client ID:		Run ID: HG1_150313A				SeqNo: 3178004		Prep Date: 3/13/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury ND 0.020

LCS		Sample ID: LCS-68556-68556				Units: mg/Kg		Analysis Date: 3/13/2015 08:36 PM		
Client ID:		Run ID: HG1_150313A			SeqNo: 3178008		Prep Date: 3/13/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1895 0.020 0.1665 0 114 80-120 0

MS		Sample ID: 1503595-01AMS				Units: mg/Kg		Analysis Date: 3/13/2015 08:47 PM		
Client ID:			Run ID: HG1_150313A			SeqNo: 3178013		Prep Date: 3/13/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1438 0.013 0.1044 0.02387 115 75-125 0

MSD				Sample ID: 1503595-01AMSD				Units: mg/Kg			Analysis Date: 3/13/2015 08:50 PM												
Client ID:				Run ID: HG1_150313A				SeqNo: 3178014			Prep Date: 3/13/2015		DF: 1										
Analyte				Result		PQL		SPK Val		SPK Ref Value		%REC		Control Limit		RPD Ref Value		%RPD		RPD Limit		Qual	

Mercury 0.1403 0.012 0.1037 0.02387 112 75-125 0.1438 2.42 35

The following samples were analyzed in this batch:

1503593-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1503593
Project: RWF 531-13 Batch 4

QC BATCH REPORT

Batch ID: **68545** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK		Sample ID: MBLK-68545-68545				Units: mg/Kg		Analysis Date: 3/13/2015 04:14 PM		
Client ID:		Run ID: ICP2_150313A				SeqNo: 3177445		Prep Date: 3/12/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	ND	0.50								
Chromium	0.01016	0.25								J
Copper	ND	0.50								
Lead	0.03105	0.25								J
Nickel	ND	0.25								
Selenium	ND	0.50								
Silver	ND	0.25								
Zinc	ND	0.50								

LCS		Sample ID: LCS-68545-68545				Units: mg/Kg		Analysis Date: 3/13/2015 04:20 PM		
Client ID:		Run ID: ICP2_150313A				SeqNo: 3177446		Prep Date: 3/12/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.812	0.25	5	0	96.2	80-120	0			
Barium	5.059	0.25	5	0	101	80-120	0			
Cadmium	4.99	0.50	5	0	99.8	80-120	0			
Chromium	5.233	0.25	5	0	105	80-120	0			
Copper	5.365	0.50	5	0	107	80-120	0			
Lead	5.269	0.25	5	0	105	80-120	0			
Nickel	5.218	0.25	5	0	104	80-120	0			
Selenium	4.917	0.50	5	0	98.3	80-120	0			
Silver	5.439	0.25	5	0	109	80-120	0			
Zinc	5.195	0.50	5	0	104	80-120	0			

MS		Sample ID: 1503596-03AMS				Units: mg/Kg		Analysis Date: 3/13/2015 05:42 PM		
Client ID:		Run ID: ICP2_150313A				SeqNo: 3177462		Prep Date: 3/12/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	19.7	0.39	7.825	10.46	118	75-125	0			
Barium	238.7	0.39	7.825	201.8	472	75-125	0			SO
Cadmium	8.629	0.78	7.825	0.4412	105	75-125	0			
Chromium	19.05	0.39	7.825	7.483	148	75-125	0			S
Copper	20.73	0.78	7.825	12.05	111	75-125	0			
Lead	22.21	0.39	7.825	14.02	105	75-125	0			
Nickel	20.68	0.39	7.825	13.16	96	75-125	0			
Selenium	7.573	0.78	7.825	-0.4337	102	75-125	0			
Silver	9.564	0.39	7.825	-0.145	124	75-125	0			
Zinc	67.45	0.78	7.825	56.87	135	75-125	0			SO

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1503593
Project: RWF 531-13 Batch 4

QC BATCH REPORT

Batch ID: **68545** Instrument ID **ICP2** Method: **SW846 6010C**

MS				Sample ID: 1503596-03AMS			Units: mg/Kg		Analysis Date: 3/16/2015 05:06 PM		
Client ID:			Run ID: ICP2_150316B			SeqNo: 3179842		Prep Date: 3/12/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	20.83	0.39	7.825	11.51	119	75-125	0				
Barium	256.4	0.39	7.825	205.7	648	75-125	0			SO	
Cadmium	8.505	0.78	7.825	0.3991	104	75-125	0				
Chromium	19.67	0.39	7.825	8.379	144	75-125	0			S	
Copper	21.01	0.78	7.825	12.4	110	75-125	0				
Lead	23.28	0.39	7.825	14.8	108	75-125	0				
Nickel	20.86	0.39	7.825	13.64	92.3	75-125	0				
Selenium	8.967	0.78	7.825	0.208	112	75-125	0				
Silver	10.58	0.39	7.825	-0.2068	138	75-125	0			S	
Zinc	68.78	0.78	7.825	59.17	123	75-125	0			O	

MSD				Sample ID: 1503596-03AMSD			Units: mg/Kg		Analysis Date: 3/13/2015 05:48 PM		
Client ID:			Run ID: ICP2_150313A			SeqNo: 3177463		Prep Date: 3/12/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	19.33	0.39	7.812	10.46	114	75-125	19.7	1.88	20		
Barium	213.1	0.39	7.812	201.8	145	75-125	238.7	11.3	20	SO	
Cadmium	8.616	0.78	7.812	0.4412	105	75-125	8.629	0.156	20		
Chromium	19.19	0.39	7.812	7.483	150	75-125	19.05	0.757	20	S	
Copper	20.89	0.78	7.812	12.05	113	75-125	20.73	0.79	20		
Lead	22.47	0.39	7.812	14.02	108	75-125	22.21	1.19	20		
Nickel	20.64	0.39	7.812	13.16	95.7	75-125	20.68	0.183	20		
Selenium	8.108	0.78	7.812	-0.4337	109	75-125	7.573	6.82	20		
Silver	9.479	0.39	7.812	-0.145	123	75-125	9.564	0.895	20		
Zinc	69.37	0.78	7.812	56.87	160	75-125	67.45	2.8	20	SO	

MSD				Sample ID: 1503596-03AMSD			Units: mg/Kg		Analysis Date: 3/16/2015 05:11 PM		
Client ID:			Run ID: ICP2_150316B			SeqNo: 3179843		Prep Date: 3/12/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	20.91	0.39	7.812	11.51	120	75-125	20.83	0.386	20		
Barium	217.4	0.39	7.812	205.7	150	75-125	256.4	16.5	20	SO	
Cadmium	8.63	0.78	7.812	0.3991	105	75-125	8.505	1.45	20		
Chromium	20.14	0.39	7.812	8.379	151	75-125	19.67	2.35	20	S	
Copper	21.41	0.78	7.812	12.4	115	75-125	21.01	1.88	20		
Lead	23.8	0.39	7.812	14.8	115	75-125	23.28	2.19	20		
Nickel	21.06	0.39	7.812	13.64	95	75-125	20.86	0.953	20		
Selenium	9.146	0.78	7.812	0.208	114	75-125	8.967	1.97	20		
Silver	10.55	0.39	7.812	-0.2068	138	75-125	10.58	0.222	20	S	
Zinc	71.25	0.78	7.812	59.17	155	75-125	68.78	3.53	20	SO	

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1503593
Project: RWF 531-13 Batch 4

QC BATCH REPORT

Batch ID: **68545** Instrument ID **ICP2** Method: **SW846 6010C**

The following samples were analyzed in this batch:

1503593-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1503593
Project: RWF 531-13 Batch 4

QC BATCH REPORT

Batch ID: **68575** Instrument ID **ICP2** Method: **SW846 6010C**

DUP		Sample ID: 1503594-01ADUP				Units: mg/L		Analysis Date: 3/17/2015 01:19 PM		
Client ID:		Run ID: ICP2_150317A				SeqNo: 3180998		Prep Date: 3/17/2015		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	334.6	5.0	0	0	0	0-0	307	8.58		
Magnesium	60.7	2.0	0	0	0	0-0	57.55	5.34		
Sodium	462.6	2.0	0	0	0	0-0	443.4	4.23		

DUP		Sample ID: 1503594-01ADUP				Units: none		Analysis Date: 3/17/2015		
Client ID:		Run ID: SAR_150317A				SeqNo: 3181110		Prep Date: 3/17/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	6.11	0.010	0	0	0		6.09	0.32	50	

The following samples were analyzed in this batch: | 1503593-01A |

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1503593
Project: RWF 531-13 Batch 4

QC BATCH REPORT

Batch ID: **68623** Instrument ID **SVMS4** Method: **SW846 8270D**

MBLK		Sample ID: SBLKS1-68623-68623				Units: µg/Kg		Analysis Date: 3/16/2015 06:00 PM		
Client ID:		Run ID: SVMS4_150316A				SeqNo: 3180314		Prep Date: 3/16/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	6.7								
Anthracene	ND	6.7								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(g,h,i)perylene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Chrysene	ND	6.7								
Dibenzo(a,h)anthracene	ND	6.7								
Fluoranthene	ND	6.7								
Fluorene	ND	6.7								
Indeno(1,2,3-cd)pyrene	ND	6.7								
Naphthalene	ND	6.7								
Pyrene	ND	6.7								
<i>Surr: 2,4,6-Tribromophenol</i>	<i>1181</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>70.9</i>	<i>34-140</i>	<i>0</i>			
<i>Surr: 2-Fluorobiphenyl</i>	<i>1057</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>63.4</i>	<i>12-100</i>	<i>0</i>			
<i>Surr: 2-Fluorophenol</i>	<i>1154</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>69.3</i>	<i>33-117</i>	<i>0</i>			
<i>Surr: 4-Terphenyl-d14</i>	<i>1446</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>86.7</i>	<i>25-137</i>	<i>0</i>			
<i>Surr: Nitrobenzene-d5</i>	<i>1029</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>61.7</i>	<i>37-107</i>	<i>0</i>			
<i>Surr: Phenol-d6</i>	<i>1124</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>67.4</i>	<i>40-106</i>	<i>0</i>			

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1503593
Project: RWF 531-13 Batch 4

QC BATCH REPORT

Batch ID: **68623** Instrument ID **SVMS4** Method: **SW846 8270D**

LCS		Sample ID: SLCSS1-68623-68623				Units: µg/Kg		Analysis Date: 3/16/2015 06:28 PM		
Client ID:		Run ID: SVMS4_150316A				SeqNo: 3180316		Prep Date: 3/16/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	537.7	6.7	666.7	0	80.6	45-110	0			
Anthracene	578.7	6.7	666.7	0	86.8	55-105	0			
Benzo(a)anthracene	545.7	6.7	666.7	0	81.8	50-110	0			
Benzo(a)pyrene	583.3	6.7	666.7	0	87.5	50-110	0			
Benzo(b)fluoranthene	593.7	6.7	666.7	0	89	45-115	0			
Benzo(g,h,i)perylene	609	6.7	666.7	0	91.3	40-125	0			
Benzo(k)fluoranthene	588.7	6.7	666.7	0	88.3	45-115	0			
Chrysene	576.3	6.7	666.7	0	86.4	55-110	0			
Dibenzo(a,h)anthracene	611.3	6.7	666.7	0	91.7	40-125	0			
Fluoranthene	602.7	6.7	666.7	0	90.4	55-115	0			
Fluorene	553.7	6.7	666.7	0	83	50-110	0			
Indeno(1,2,3-cd)pyrene	583	6.7	666.7	0	87.4	40-120	0			
Naphthalene	505.3	6.7	666.7	0	75.8	40-105	0			
Pyrene	563.3	6.7	666.7	0	84.5	45-125	0			
Surr: 2,4,6-Tribromophenol	1486	0	1667	0	89.1	34-140	0			
Surr: 2-Fluorobiphenyl	1382	0	1667	0	82.9	12-100	0			
Surr: 2-Fluorophenol	1437	0	1667	0	86.2	33-117	0			
Surr: 4-Terphenyl-d14	1420	0	1667	0	85.2	25-137	0			
Surr: Nitrobenzene-d5	1356	0	1667	0	81.4	37-107	0			
Surr: Phenol-d6	1415	0	1667	0	84.9	40-106	0			

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1503593
Project: RWF 531-13 Batch 4

QC BATCH REPORT

Batch ID: **68623** Instrument ID **SVMS4** Method: **SW846 8270D**

MS				Sample ID: 1503673-01A MS			Units: µg/Kg		Analysis Date: 3/16/2015 10:18 PM	
Client ID:				Run ID: SVMS4_150316A			SeqNo: 3180318		Prep Date: 3/16/2015	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1005	13	1279	0	0	45-110	0			
Anthracene	1077	13	1279	0	0	55-105	0			
Benzo(a)anthracene	1072	13	1279	0	0	50-110	0			
Benzo(a)pyrene	1056	13	1279	0	0	50-110	0			
Benzo(b)fluoranthene	1108	13	1279	0	0	45-115	0			
Benzo(g,h,i)perylene	1138	13	1279	0	0	40-125	0			
Benzo(k)fluoranthene	1038	13	1279	0	0	45-115	0			
Chrysene	1131	13	1279	0	0	55-110	0			
Dibenzo(a,h)anthracene	1104	13	1279	0	0	40-125	0			
Fluoranthene	1150	13	1279	0	0	55-115	0			
Fluorene	1047	13	1279	0	0	50-110	0			
Indeno(1,2,3-cd)pyrene	1131	13	1279	0	0	40-120	0			
Naphthalene	954.8	13	1279	0	0	40-105	0			
Pyrene	1098	13	1279	0	0	45-125	0			
Surr: 2,4,6-Tribromophenol	2689	0	3198	0	84.1	34-140	0			
Surr: 2-Fluorobiphenyl	2556	0	3198	0	79.9	12-100	0			
Surr: 2-Fluorophenol	2678	0	3198	0	83.7	33-117	0			
Surr: 4-Terphenyl-d14	2804	0	3198	0	87.7	25-137	0			
Surr: Nitrobenzene-d5	2594	0	3198	0	81.1	37-107	0			
Surr: Phenol-d6	2623	0	3198	0	82	40-106	0			

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1503593
Project: RWF 531-13 Batch 4

QC BATCH REPORT

Batch ID: **68623** Instrument ID **SVMS4** Method: **SW846 8270D**

MSD				Sample ID: 1503673-01A MSD			Units: µg/Kg		Analysis Date: 3/16/2015 10:44 PM	
Client ID:				Run ID: SVMS4_150316A			SeqNo: 3180319		Prep Date: 3/16/2015	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1025	13	1280	0	0	45-110	1005	2.03	30	
Anthracene	1112	13	1280	0	0	55-105	1077	3.18	30	
Benzo(a)anthracene	1101	13	1280	0	0	50-110	1072	2.61	30	
Benzo(a)pyrene	1087	13	1280	0	0	50-110	1056	2.88	30	
Benzo(b)fluoranthene	1124	13	1280	0	0	45-115	1108	1.45	30	
Benzo(g,h,i)perylene	1206	13	1280	0	0	40-125	1138	5.81	30	
Benzo(k)fluoranthene	1098	13	1280	0	0	45-115	1038	5.65	30	
Chrysene	1201	13	1280	0	0	55-110	1131	6.06	30	
Dibenzo(a,h)anthracene	1164	13	1280	0	0	40-125	1104	5.32	30	
Fluoranthene	1157	13	1280	0	0	55-115	1150	0.631	30	
Fluorene	1071	13	1280	0	0	50-110	1047	2.31	30	
Indeno(1,2,3-cd)pyrene	1167	13	1280	0	0	40-120	1131	3.14	30	
Naphthalene	974.1	13	1280	0	0	40-105	954.8	2	30	
Pyrene	1134	13	1280	0	0	45-125	1098	3.23	30	
Surr: 2,4,6-Tribromophenol	2761	0	3200	0	86.3	34-140	2689	2.64	40	
Surr: 2-Fluorobiphenyl	2674	0	3200	0	83.6	12-100	2556	4.5	40	
Surr: 2-Fluorophenol	2665	0	3200	0	83.3	33-117	2678	0.474	40	
Surr: 4-Terphenyl-d14	2936	0	3200	0	91.8	25-137	2804	4.62	40	
Surr: Nitrobenzene-d5	2594	0	3200	0	81.1	37-107	2594	0.00278	40	
Surr: Phenol-d6	2568	0	3200	0	80.3	40-106	2623	2.12	40	

The following samples were analyzed in this batch: | 1503593-01A |

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1503593
Project: RWF 531-13 Batch 4

QC BATCH REPORT

Batch ID: **68509** Instrument ID **VMS6** Method: **SW8260B**

MBLK				Sample ID: MBLK-68509-68509				Units: µg/Kg			Analysis Date: 3/11/2015 04:13 PM			
Client ID:				Run ID: VMS6_150311A				SeqNo: 3174629			Prep Date: 3/11/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Benzene	ND	30												
Ethylbenzene	ND	30												
m,p-Xylene	ND	60												
o-Xylene	ND	30												
Toluene	ND	30												
Xylenes, Total	ND	90												
Surr: 1,2-Dichloroethane-d4	1118	0	1000	0	112	70-130		0						
Surr: 4-Bromofluorobenzene	945.5	0	1000	0	94.6	70-130		0						
Surr: Dibromofluoromethane	944.5	0	1000	0	94.4	70-130		0						
Surr: Toluene-d8	1034	0	1000	0	103	70-130		0						

LCS				Sample ID: LCS-68509-68509			Units: µg/Kg		Analysis Date: 3/11/2015 02:55 PM		
Client ID:			Run ID: VMS6_150311A			SeqNo: 3173106		Prep Date: 3/11/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1027	30	1000	0	103	75-125	0				
Ethylbenzene	999.5	30	1000	0	100	75-125	0				
m,p-Xylene	1996	60	2000	0	99.8	80-125	0				
o-Xylene	1006	30	1000	0	101	75-125	0				
Toluene	1039	30	1000	0	104	70-125	0				
Xylenes, Total	3002	90	3000	0	100	75-125	0				
Surr: 1,2-Dichloroethane-d4	1114	0	1000	0	111	70-130	0				
Surr: 4-Bromofluorobenzene	980.5	0	1000	0	98	70-130	0				
Surr: Dibromofluoromethane	1062	0	1000	0	106	70-130	0				
Surr: Toluene-d8	1018	0	1000	0	102	70-130	0				

MS				Sample ID: 1503592-01A MS			Units: µg/Kg		Analysis Date: 3/12/2015 09:31 AM		
Client ID:			Run ID: VMS5_150311B			SeqNo: 3174564		Prep Date: 3/11/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1100	30	1000	0	110	75-125	0				
Ethylbenzene	1046	30	1000	0	105	75-125	0				
m,p-Xylene	2172	60	2000	116.5	103	80-125	0				
o-Xylene	1063	30	1000	32.5	103	75-125	0				
Toluene	1037	30	1000	0	104	70-125	0				
Xylenes, Total	3234	90	3000	152	103	75-125	0				
Surr: 1,2-Dichloroethane-d4	1028	0	1000	0	103	70-130	0				
Surr: 4-Bromofluorobenzene	993	0	1000	0	99.3	70-130	0				
Surr: Dibromofluoromethane	1014	0	1000	0	101	70-130	0				
Surr: Toluene-d8	1002	0	1000	0	100	70-130	0				

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1503593
Project: RWF 531-13 Batch 4

QC BATCH REPORT

Batch ID: **68509** Instrument ID **VMS6** Method: **SW8260B**

MSD					Sample ID: 1503592-01A MSD		Units: µg/Kg		Analysis Date: 3/12/2015 09:57 AM		
Client ID:			Run ID: VMS5_150311B			SeqNo: 3174565		Prep Date: 3/11/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1116	30	1000	0	112	75-125	1100	1.44	30		
Ethylbenzene	1110	30	1000	0	111	75-125	1046	5.94	30		
m,p-Xylene	2348	60	2000	116.5	112	80-125	2172	7.83	30		
o-Xylene	1266	30	1000	32.5	123	75-125	1063	17.4	30		
Toluene	1057	30	1000	0	106	70-125	1037	1.91	30		
Xylenes, Total	3614	90	3000	152	115	75-125	3234	11.1	30		
Surr: 1,2-Dichloroethane-d4	1132	0	1000	0	113	70-130	1028	9.63	30		
Surr: 4-Bromofluorobenzene	1106	0	1000	0	111	70-130	993	10.8	30		
Surr: Dibromofluoromethane	952.5	0	1000	0	95.2	70-130	1014	6.25	30		
Surr: Toluene-d8	1020	0	1000	0	102	70-130	1002	1.73	30		

The following samples were analyzed in this batch: 1503593-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1503593
Project: RWF 531-13 Batch 4

QC BATCH REPORT

Batch ID: **68559** Instrument ID **WETCHEM** Method: **SW9045D**

LCS				Sample ID: LCS-68559-68559				Units: s.u.			Analysis Date: 3/12/2015 01:20 PM			
Client ID:				Run ID: WETCHEM_150312F				SeqNo: 3174644			Prep Date: 3/12/2015		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
pH		3.97	0	4	0	99.2	90-110	0						

DUP					Sample ID: 1503588-02A DUP					Units: s.u.			Analysis Date: 3/12/2015 01:20 PM		
Client ID:				Run ID: WETCHEM_150312F				SeqNo: 3174648			Prep Date: 3/12/2015			DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
pH		9.05	0	0	0	0	0-0	9.01	0.443	20					

The following samples were analyzed in this batch:

1503593-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1503593
Project: RWF 531-13 Batch 4

QC BATCH REPORT

Batch ID: **68575** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

DUP		Sample ID: 1503594-01A DUP				Units: mmhos/cm @25°		Analysis Date: 3/17/2015 11:45 AM		
Client ID:		Run ID: WETCHEM_150317C				SeqNo: 3180630		Prep Date: 3/17/2015		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	4.89	0.050	0	0	0		5.02	2.62	50	

The following samples were analyzed in this batch:

1503593-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1503593
Project: RWF 531-13 Batch 4

QC BATCH REPORT

Batch ID: **68734** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK		Sample ID: MBLK-68734-68734				Units: mg/Kg		Analysis Date: 3/17/2015 02:00 PM		
Client ID:		Run ID: WETCHEM_150317K		SeqNo: 3181588		Prep Date: 3/16/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 1.0

LCS		Sample ID: LCS-68734-68734				Units: mg/Kg		Analysis Date: 3/17/2015 02:00 PM		
Client ID:		Run ID: WETCHEM_150317K		SeqNo: 3181587		Prep Date: 3/16/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.39 1.0 5 0 87.8 80-120 0

MS		Sample ID: 1503588-01A MS				Units: mg/Kg		Analysis Date: 3/17/2015 02:00 PM		
Client ID:		Run ID: WETCHEM_150317K		SeqNo: 3181578		Prep Date: 3/16/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.347 0.99 4.95 0.1212 85.4 75-125 0

MS		Sample ID: 1503588-01A MSI				Units: mg/Kg		Analysis Date: 3/17/2015 02:00 PM		
Client ID:		Run ID: WETCHEM_150317K		SeqNo: 3181580		Prep Date: 3/16/2015		DF: 100		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 2393 100 2848 0.1212 84 75-125 0

MSD		Sample ID: 1503588-01A MSD				Units: mg/Kg		Analysis Date: 3/17/2015 02:00 PM		
Client ID:		Run ID: WETCHEM_150317K		SeqNo: 3181579		Prep Date: 3/16/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.057 0.95 4.762 0.1212 82.7 75-125 4.347 6.89 20

The following samples were analyzed in this batch:

1503593-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 1503593
Project: RWF 531-13 Batch 4

QC BATCH REPORT

Batch ID: **R159209** Instrument ID **MOIST** Method: **E160.3M**

MBLK		Sample ID: WBLKS-R159209				Units: % of sample		Analysis Date: 3/13/2015 12:35 PM		
Client ID:		Run ID: MOIST_150313A				SeqNo: 3178660		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	0.03	0.050								J

LCS		Sample ID: LCS-R159209				Units: % of sample		Analysis Date: 3/13/2015 12:35 PM		
Client ID:		Run ID: MOIST_150313A				SeqNo: 3178659		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: 1503592-01A DUP				Units: % of sample		Analysis Date: 3/13/2015 12:35 PM		
Client ID:		Run ID: MOIST_150313A				SeqNo: 3178643		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	9.02	0.050	0	0	0		8.99	0.333	20	

DUP		Sample ID: 1503596-05A DUP				Units: % of sample		Analysis Date: 3/13/2015 12:35 PM		
Client ID:		Run ID: MOIST_150313A				SeqNo: 3178652		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	10.71	0.050	0	0	0		10.49	2.08	20	

The following samples were analyzed in this batch:

1503593-01A

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

WORKORDER
#

1503593

PAGE

1 of 1

DISPOSAL



By Lab or Return to Client

[illegible]

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

For metals or anions, please detail analytes below.

Comments: <div style="text-align: center;">4.0°C</div>	QC PACKAGE (check below)	
	<input checked="" type="checkbox"/>	LEVEL II (Standard QC)
	<input type="checkbox"/>	LEVEL III (Std QC + forms)
	<input type="checkbox"/>	LEVEL IV (Std QC + forms + raw data)
	<input type="checkbox"/>	
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-NaHSO ₄ 7-Other 8-4 degrees C 9-5035		

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	Kyrolina Blaney	kyrolina blaney	3/10/2015	18:00
RECEIVED BY		W	3/10	1630
RELINQUISHED BY		D	1	1
RECEIVED BY	D-2-2-11	Dione E. Shen	3/11/15	0930
RELINQUISHED BY				
RECEIVED BY				

3/10/2015

FedEx Ship Manager - Print Your Label(s)

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

Origin ID: RILA

FedEx
Express



J151215022303W

Ship Date: 10MAR15
ActWgt: 72.0 LB
CAD: 2264840/INET3810

Dims: 24 X 15 X 15 IN

Delivery Address Bar Code



Ref # 0301015-3
Invoice #
PO # Parachute
Dept #

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

BILL SENDER

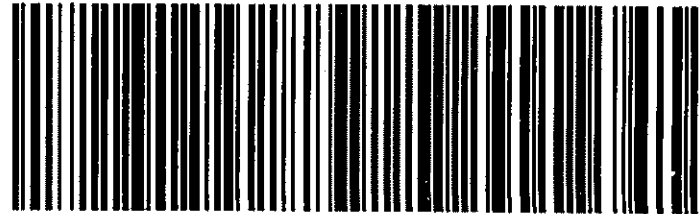
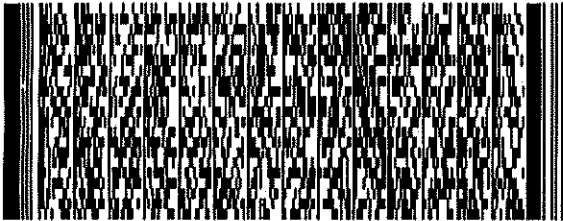
HOLLAND, MI 49424

WED - 11 MAR 10:30A
PRIORITY OVERNIGHT

TRK# 7730 9554 2370
6281

XX HLMA

49424
MI-US
GRR



537J167BAEE4B

/templates/components/dotcom_label_contents/FoldInstr/en/Folding_instructions.html loading...
/templates/components/dotcom_label_contents/WarningsOriginalLabel/en/Folding_warning.html loading...
/templates/components/dotcom_label_contents/TnCDom/us/en/TC_dom.html loading...

Name
Date 3-10-15
Time 17:00
ALS Parachute Custody Seal

Sample Receipt Checklist

Client Name: **WPX**

Date/Time Received: **11-Mar-15 09:30**

Work Order: **1503593**

Received by: **DS**

Checklist completed by Diane Shaw 11-Mar-15
eSignature Date

Reviewed by: Chad Whelton 11-Mar-15
eSignature Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>4.0 c</u> <u>SR2</u>		
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>3/11/2015 3:18:07 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<u>-</u>		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



27-Apr-2015

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

Re: **RWF 531-13 Batch 4**

Work Order: **15041119**

Dear Karolina,

ALS Environmental received 1 sample on 18-Apr-2015 10:00 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 9.

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

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

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

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

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: WPX Energy Rocky Mountain, LLC
Project: RWF 531-13 Batch 4
Work Order: 15041119

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
15041119-01	RWF 531-13 Batch 4	Soil		4/16/2015 09:30	4/18/2015 10:00	<input type="checkbox"/>

Client: WPX Energy Rocky Mountain, LLC
Project: RWF 531-13 Batch 4
WorkOrder: 15041119

QUALIFIERS, ACRONYMS, UNITS

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

<u>Acronym</u>	<u>Description</u>
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

<u>Units Reported</u>	<u>Description</u>
mg/Kg	Milligrams per Kilogram

ALS Group USA, Corp**Date:** 27-Apr-15**Client:** WPX Energy Rocky Mountain, LLC**Project:** RWF 531-13 Batch 4**Work Order:** 15041119**Sample ID:** RWF 531-13 Batch 4**Lab ID:** 15041119-01**Collection Date:** 4/16/2015 09:30 AM**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	350		SW8015M		Prep: SW3541 / 4/21/15	Analyst: IT
			4.0	mg/Kg	1	4/22/2015 03:00 AM
<i>Surr: 4-Terphenyl-d14</i>	<i>59.6</i>		<i>39-133</i>	<i>%REC</i>	1	4/22/2015 03:00 AM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	46		SW8015D		Prep: SW5035 / 4/20/15	Analyst: IT
			2.5	mg/Kg	1	4/20/2015 04:26 PM
<i>Surr: Toluene-d8</i>	<i>114</i>		<i>50-150</i>	<i>%REC</i>	1	4/20/2015 04:26 PM

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

ALS Group USA, Corp

Date: 27-Apr-15

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15041119
Project: RWF 531-13 Batch 4

QC BATCH REPORT

Batch ID: **70092** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-70092-70092				Units: mg/Kg		Analysis Date: 4/21/2015 10:59 PM		
Client ID:		Run ID: GC8_150421B				SeqNo: 3236762		Prep Date: 4/21/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	ND	5.0								
Surr: 4-Terphenyl-d14	1.69	0	2	0	84.5	39-133		0		

LCS		Sample ID: DLCSS1-70092-70092				Units: mg/Kg		Analysis Date: 4/21/2015 11:29 PM		
Client ID:		Run ID: GC8_150421B				SeqNo: 3236764		Prep Date: 4/21/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	187.6	5.0	200	0	93.8	61-109		0		
Surr: 4-Terphenyl-d14	1.477	0	2	0	73.9	39-133		0		

MS		Sample ID: 15041165-01A MS				Units: mg/Kg		Analysis Date: 4/21/2015 11:59 PM		
Client ID:		Run ID: GC8_150421B				SeqNo: 3236765		Prep Date: 4/21/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	1471	7.8	313.9	1487	-5.05	48-110		0		SO
Surr: 4-Terphenyl-d14	2.598	0	3.139	0	82.8	39-133		0		

MSD		Sample ID: 15041165-01A MSD				Units: mg/Kg		Analysis Date: 4/22/2015 12:29 PM		
Client ID:		Run ID: GC8_150421B				SeqNo: 3236774		Prep Date: 4/21/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	1416	8.0	319.6	1487	-22	48-110	1471	3.78	30	SO
Surr: 4-Terphenyl-d14	2.505	0	3.196	0	78.4	39-133	2.598	3.62	30	

The following samples were analyzed in this batch:

15041119-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15041119
Project: RWF 531-13 Batch 4

QC BATCH REPORT

Batch ID: **70010** Instrument ID **GC9** Method: **SW8015D**

MBLK		Sample ID: MBLK-70010-70010				Units: µg/Kg		Analysis Date: 4/20/2015 02:21 PM		
Client ID:		Run ID: GC9_150420A				SeqNo: 3234008		Prep Date: 4/20/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	2,500								
<i>Surr: Toluene-d8</i>	4978	0	5000	0	99.6	50-150	0			

LCS		Sample ID: LCS-70010-70010				Units: µg/Kg		Analysis Date: 4/20/2015 01:57 PM		
Client ID:		Run ID: GC9_150420A				SeqNo: 3234006		Prep Date: 4/20/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	431400	2,500	500000	0	86.3	70-130	0			
<i>Surr: Toluene-d8</i>	5049	0	5000	0	101	50-150	0			

MS		Sample ID: 1504975-01A MS				Units: µg/Kg		Analysis Date: 4/20/2015 05:18 PM		
Client ID:		Run ID: GC9_150420A				SeqNo: 3234034		Prep Date: 4/20/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	554700	2,500	500000	94410	92.1	70-130	0			
<i>Surr: Toluene-d8</i>	4390	0	5000	0	87.8	50-150	0			

MSD		Sample ID: 1504975-01A MSD				Units: µg/Kg		Analysis Date: 4/20/2015 05:43 PM		
Client ID:		Run ID: GC9_150420A				SeqNo: 3234037		Prep Date: 4/20/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	541800	2,500	500000	94410	89.5	70-130	554700	2.36	30	
<i>Surr: Toluene-d8</i>	4389	0	5000	0	87.8	50-150	4390	0.0114	30	

The following samples were analyzed in this batch:

15041119-01A

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

WORKORDER
#

15041119

PAGE

1 of 1

DISPOSAL

By Lab or Return to Client

[illegible]

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

For metals or anions, please detail analytes below.

Comments: <div style="text-align: center; font-size: 2em;">2.8°C @</div>	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	<i>Karolina Blaney</i>	Karolina Blaney	4/16/2015	17:00
RECEIVED BY	<i>[Signature]</i>	<i>N/m</i>	4-16	1730
RELINQUISHED BY	<i>[Signature]</i>	<i>n/m</i>	4-16	1735
RECEIVED BY	<i>[Signature]</i>	Diane F. Shaw	4/18/15	1000
RELINQUISHED BY				
RECEIVED BY				

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

Origin ID: RILA

FedEx
 Express



J151215022303UV

PARACHUTE, CO 81635

Ship Date: 17APR15
 ActWgt: 90.0 LB
 CAD: 2264840/NET3810

Dims: 24 X 15 X 15 IN

Delivery Address Bar Code



Ref # 041715-1
 Invoice #
 PO # Parachute
 Dept #

SHIP TO: (616) 399-6878

BILL SENDER

sample receiving
 ALS Laboratory Group
 3352 128TH AVE

HOLLAND, MI 49424

SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 7734 0127 3610

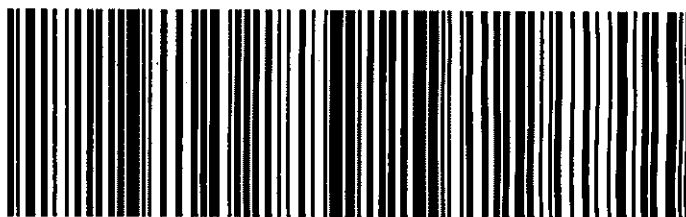
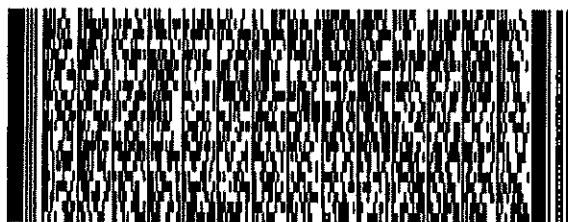
0281

X0 HLMA

49424

MI-US

GRR



537.28FCS/EE4B

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ALS Parachute Custody Seal

Time 1700 Date 4-17

Name

Sample Receipt Checklist

Client Name: **WPX**

Date/Time Received: **18-Apr-15 10:00**

Work Order: **15041119**

Received by: **KRW**

Checklist completed by Keith Wurenga
eSignature

20-Apr-15
Date

Reviewed by: Chad Whelton
eSignature

20-Apr-15
Date

Matrices: **Soil**

Carrier name: **FedEx**

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

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

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

Chain of custody present? Yes ☒ No ☐

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

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

Samples in proper container/bottle? Yes ☒ No ☐

Sample containers intact? Yes ☒ No ☐

Sufficient sample volume for indicated test? Yes ☒ No ☐

All samples received within holding time? Yes ☒ No ☐

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

Sample(s) received on ice? Yes ☒ No ☐

Temperature(s)/Thermometer(s): 2.8 C SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 4/20/2015 11:20:46 AM

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

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

pH adjusted? Yes ☐ No ☐ N/A ☒

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



16-Apr-2014

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

Re: **WPX 531-13 Backgrounds 4.9.14**

Work Order: **1404514**

Dear Mark,

ALS Environmental received 3 samples on 10-Apr-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 14.

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

Sincerely,

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

Electronically approved by: Ann Preston

Ann Preston
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

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

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

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: HRL Compliance Solutions, Inc
Project: WPX 531-13 Backgrounds 4.9.14
Work Order: 1404514

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1404514-01	RWF 531-13-B-1	Soil		4/9/2014 14:20	4/10/2014 09:30	<input type="checkbox"/>
1404514-02	RWF 531-13-B-2	Soil		4/9/2014 14:25	4/10/2014 09:30	<input type="checkbox"/>
1404514-03	RWF 531-13-B-3	Soil		4/9/2014 14:30	4/10/2014 09:30	<input type="checkbox"/>

<u>Qualifier</u>	<u>Description</u>
*	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

<u>Acronym</u>	<u>Description</u>
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

<u>Units Reported</u>	<u>Description</u>
% 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:** 16-Apr-14

Client: HRL Compliance Solutions, Inc
Project: WPX 531-13 Backgrounds 4.9.14
Sample ID: RWF 531-13-B-1
Collection Date: 4/9/2014 02:20 PM

Work Order: 1404514
Lab ID: 1404514-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>						
METALS BY ICP-MS			SW6020A		Prep: SW3050B / 4/12/14	Analyst: RH
Arsenic	6.4		1.7	mg/Kg-dry	5	4/14/2014 01:35 AM
MOISTURE			A2540 G			Analyst: AT
Moisture	1.8		0.050	% of sample	1	4/10/2014 11:00 AM

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

ALS Group USA, Corp**Date:** 16-Apr-14

Client: HRL Compliance Solutions, Inc
Project: WPX 531-13 Backgrounds 4.9.14
Sample ID: RWF 531-13-B-2
Collection Date: 4/9/2014 02:25 PM

Work Order: 1404514
Lab ID: 1404514-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>						
METALS BY ICP-MS			SW6020A		Prep: SW3050B / 4/12/14	Analyst: RH
Arsenic	2.7		2.1	mg/Kg-dry	5	4/14/2014 03:16 AM
MOISTURE			A2540 G			Analyst: AT
Moisture	1.5		0.050	% of sample	1	4/10/2014 11:00 AM

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

ALS Group USA, Corp

Date: 16-Apr-14

Client: HRL Compliance Solutions, Inc
Project: WPX 531-13 Backgrounds 4.9.14
Sample ID: RWF 531-13-B-3
Collection Date: 4/9/2014 02:30 PM

Work Order: 1404514
Lab ID: 1404514-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS						
Arsenic	7.0		SW6020A 2.0	mg/Kg-dry	Prep: SW3050B / 4/12/14 5	Analyst: RH 4/14/2014 03:46 AM
SOLUBLE CATIONS FOR SAR						
Calcium	ND		SW6020A 10	mg/L	Prep: USDA Method 20B / 4/13/14 20	Analyst: RH 4/13/2014 04:14 PM
Magnesium	ND		4.0	mg/L	20	4/13/2014 04:14 PM
Sodium	97		4.0	mg/L	20	4/13/2014 04:14 PM
SODIUM ADSORPTION RATIO						
Sodium Adsorption Ratio	8.9		USDA H60 METHO 0.010	none	Prep: USDA Method 20B / 4/13/14 1	Analyst: RH 4/13/2014
ELECTRICAL CONDUCTIVITY (SAR)						
Electrical Conductivity @ Saturation	0.49		USDA H60 METHO 0.050	mmhos/cm @25	Prep: USDA Method 20B / 4/13/14 10	Analyst: JB 4/14/2014 11:00 AM
MOISTURE						
Moisture	8.4		A2540 G 0.050	% of sample	Analyst: AT 1	4/10/2014 11:00 AM
PH						
pH	9.3		SW9045D s.u.		Prep: EXTRACT / 4/10/14 1	Analyst: AT 4/10/2014 08:30 AM

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

Client: HRL Compliance Solutions, Inc
Work Order: 1404514
Project: WPX 531-13 Backgrounds 4.9.14

QC BATCH REPORT

Batch ID: **57402** Instrument ID **ICPMS2** Method: **SW6020A**

DUP		Sample ID: 1404513-03BDUP				Units: mg/L		Analysis Date: 4/13/2014 04:08 PM		
Client ID:		Run ID: ICPMS2_140413A				SeqNo: 2710354		Prep Date: 4/13/2014		DF: 20
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	74.18	10	0	0	0	0-0	78.36	5.48		
Magnesium	2.034	4.0	0	0	0	0-0	2.164	0		J
Sodium	2.144	4.0	0	0	0	0-0	4.016	0		J

The following samples were analyzed in this batch:

1404514-03B

Client: HRL Compliance Solutions, Inc
Work Order: 1404514
Project: WPX 531-13 Backgrounds 4.9.14

QC BATCH REPORT

Batch ID: **57491** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: MBLK-57491-57491				Units: mg/Kg		Analysis Date: 4/13/2014 11:54 PM		
Client ID:		Run ID: ICPMS1_140412A				SeqNo: 2710651		Prep Date: 4/12/2014		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-57491-57491				Units: mg/Kg		Analysis Date: 4/14/2014		
Client ID:		Run ID: ICPMS1_140412A				SeqNo: 2710652		Prep Date: 4/12/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 4.544 0.25 5 0 90.9 80-120 0

MS		Sample ID: 1404528-05BMS				Units: mg/Kg		Analysis Date: 4/14/2014 04:40 AM		
Client ID:		Run ID: ICPMS1_140412A				SeqNo: 2710719		Prep Date: 4/12/2014		DF: 4
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 8.044 1.4 6.831 1.605 94.3 75-125 0

MSD		Sample ID: 1404528-05BMSD				Units: mg/Kg		Analysis Date: 4/14/2014 04:46 AM		
Client ID:		Run ID: ICPMS1_140412A				SeqNo: 2710720		Prep Date: 4/12/2014		DF: 4
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 8.138 1.4 6.775 1.605 96.4 75-125 8.044 1.17 25

The following samples were analyzed in this batch:

1404514-01A	1404514-02A	1404514-03A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: HRL Compliance Solutions, Inc
Work Order: 1404514
Project: WPX 531-13 Backgrounds 4.9.14

QC BATCH REPORT

Batch ID: **57402** Instrument ID **WETCHEM** Method: **USDA H60 Method**

DUP		Sample ID: 1404513-03B DUP				Units: mmhos/cm @25°C		Analysis Date: 4/14/2014 11:00 AM		
Client ID:		Run ID: WETCHEM_140414B				SeqNo: 2710883		Prep Date: 4/13/2014		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	0.418	0.050	0	0	0		0.452	7.82	50	

The following samples were analyzed in this batch:

1404514-03B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1404514
Project: WPX 531-13 Backgrounds 4.9.14

QC BATCH REPORT

Batch ID: **57431** Instrument ID **WETCHEM** Method: **SW9045D**

LCS					Sample ID: WLCSS1-041014-57431					Units: s.u.			Analysis Date: 4/10/2014 08:30 AM				
Client ID:					Run ID: WETCHEM_140410H					SeqNo: 2706863			Prep Date: 4/10/2014			DF: 1	
Analyte					Result	PQL	SPK Val	SPK Ref Value	%REC		Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
pH					3.99	0	4	0	99.8		90-110	0					

DUP					Sample ID: 1404485-01B DUP					Units: s.u.			Analysis Date: 4/10/2014 08:30 AM				
Client ID:					Run ID: WETCHEM_140410H					SeqNo: 2706865			Prep Date: 4/10/2014			DF: 1	
Analyte					Result		PQL	SPK Val	SPK Ref Value	%REC		Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
pH					12.1		0	0	0	0		0-0	12.15	0.412	20		

The following samples were analyzed in this batch:

1404514-03A

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

Client: HRL Compliance Solutions, Inc
 Work Order: 1404514
 Project: WPX 531-13 Backgrounds 4.9.14

QC BATCH REPORT

Batch ID: **R138764** Instrument ID **MOIST** Method: **A2540 G**

MBLK		Sample ID: WBLKS-R138764				Units: % of sample		Analysis Date: 4/10/2014 11:00 AM		
Client ID:		Run ID: MOIST_140410D				SeqNo: 2708390		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-R138764				Units: % of sample		Analysis Date: 4/10/2014 11:00 AM		
Client ID:		Run ID: MOIST_140410D				SeqNo: 2708389		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: 1404485-01B DUP				Units: % of sample		Analysis Date: 4/10/2014 11:00 AM		
Client ID:		Run ID: MOIST_140410D				SeqNo: 2708365		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 4.17 0.050 0 0 0 0-0 3.95 5.42 20

DUP		Sample ID: 1404509-01B DUP				Units: % of sample		Analysis Date: 4/10/2014 11:00 AM		
Client ID:		Run ID: MOIST_140410D				SeqNo: 2708377		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 11.49 0.050 0 0 0 0-0 11.2 2.56 20

The following samples were analyzed in this batch:

1404514-01A	1404514-02A	1404514-03A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Sample Receipt Checklist

Client Name: **HRL**

Date/Time Received: **10-Apr-14 09:30**

Work Order: **1404514**

Received by: **DS**

Checklist completed by Diane Shaw 10-Apr-14
eSignature Date

Reviewed by: Ann Preston 10-Apr-14
eSignature Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.2 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>4/10/2014 11:37:16 AM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:			

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

ALS Parachute Custody Seal
Date: 4-9-14 Time: 1630
Name: W. K. A. [illegible]