

Legend

- Material Destination
- Current Material Location
- Existing Road
- Existing Pad

Land Farm Material Relocation Map April 13, 2015



0 1,250 2,500 5,000
Feet

Analytical Results

Contaminant of Concern ↓	COGCC standards	Location →	RWF 531-13 Batch 1	RWF 531-13 Batch 1	RWF 531-13 Batch 2	RWF 531-13 Batch 3	RWF 531-13 Batch 3
		Date Sampled	4/22/2014	7/9/2014	8/13/2014	9/19/2014	2/4/2014
Organic Compounds in Soil							
TPH	500	mg/kg	2,400	194	110	779	196
DRO		mg/kg	1,300	110	110	750	180
GRO		mg/kg	1100	84	ND	29	16
Benzene	0.17	mg/kg	ND		ND	ND	
Toluene	85	mg/kg	1.60		ND	ND	
Ethylbenzene	100	mg/kg	1.40		ND	ND	
Xylenes (Total)	175	mg/kg	26.00		ND	0.32	
Acenaphthene	1,000	mg/kg	0.35		ND	ND	
Anthracene	1,000	mg/kg	ND		ND	0.07	
Benzo(A)anthracene	0.22	mg/kg	ND		0.02	0.009	
Benzo(B)fluoranthene	0.22	mg/kg	ND		ND	0.017	
Benzo(K)fluoranthene	2.2	mg/kg	ND		ND	ND	
Benzo(A)pyrene	0.022	mg/kg	ND		ND	ND	
Chrysene	22	mg/kg	ND		ND	0.012	
Dibenzo(A,H)anthracene	0.022	mg/kg	ND		ND	ND	
Fluoranthene	1,000	mg/kg	ND		ND	0.0088	
Fluorene	1,000	mg/kg	0.42		0.011	0.11	
Indeno(1,2,3-cd)pyrene	0.22	mg/kg	ND		ND	ND	
Naphthalene	23	mg/kg	0.32		0.024	0.15	
Pyrene	1,000	mg/kg	ND		ND	0.017	
Inorganics in Soil							
EC	<4 or 2 x background	mmhos/c m	4.5		5.7	4	
SAR	<12		22		33	27	
pH	6-9		9.1		8.1	9	
Metals in Soil							
Arsenic	0.39	mg/kg	4.3		6.9	5.1	
Barium total	15,000	mg/kg	670		5600	310	
Cadmium	70	mg/kg	0.94		ND	ND	
Chromium (III)	120,000	mg/kg	10		14	11	
Chromium (VI)	23	mg/kg	ND		0.55	ND	
Copper	3,100	mg/kg	12		20	15	
Lead	400	mg/kg	15		12	29	
Mercury	23	mg/kg	0.027		0.042	0.035	
Nickel	1,600	mg/kg	15		15	16	
Selenium	390	mg/kg	2.3		2.3	3	
Silver	390	mg/kg	ND		ND	ND	
Zinc	23,000	mg/kg	55		57	62	

Analytical Results

Contaminant of Concern ↓	COGCC standards	Location →	Clough 18 Batch 1	Clough 18 Batch 2	Clough 18 Batch 3	Clough 18 Batch 4	Clough 18 Batch 5	Clough 18 Batch 6
		Date Sampled	10/28/2014	10/28/2014	12/4/2014	12/4/2014	1/26/2015	2/12/2015
Organic Compounds in Soil								
TPH	500	mg/kg	494	400	237	151	166	170
DRO		mg/kg	420	310	200	140	140	170
GRO		mg/kg	74	90	37	11	26	0
Benzene	0.17	mg/kg	ND	ND	ND	ND	ND	ND
Toluene	85	mg/kg	ND	ND	ND	ND	ND	ND
Ethylbenzene	100	mg/kg	ND	ND	ND	ND	ND	ND
Xylenes (Total)	175	mg/kg	ND	ND	ND	ND	ND	ND
Acenaphthene	1,000	mg/kg	ND	0.0076	ND	ND	ND	ND
Anthracene	1,000	mg/kg	0.055	0.026	0.026	0.013	0.011	ND
Benzo(A)anthracene	0.22	mg/kg	ND	0.0087	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	0.01	ND	ND	ND	ND
Dibenzo(A,H)anthracene	0.022	mg/kg	ND	ND	ND	ND	ND	ND
Fluoranthene	1,000	mg/kg	0.011	ND	ND	ND	ND	ND
Fluorene	1,000	mg/kg	0.093	0.053	0.043	0.015	0.015	0.048
Indeno(1,2,3-cd)pyrene	0.22	mg/kg	ND	ND	ND	ND	ND	ND
Naphthalene	23	mg/kg	0.021	0.025	0.018	ND	ND	0.059
Pyrene	1,000	mg/kg	0.021	0.0076	ND	ND	ND	0.0083
Inorganics in Soil								
EC	<4 or 2 x background	mmhos/cm	8.5	8.7	8.5	8.5	6.3	1.5
SAR	<12		19	19	15	12	14	14
pH	6-9		8.7	8.4	8.6	8.2	8.8	8
Metals in Soil								
Arsenic	0.39	mg/kg	7.9	7.5	11	6.9	8.7	7.5
Barium total	15,000	mg/kg	550	500	300	400	480	530
Cadmium	70	mg/kg	12	0.79	1.5	0.93	3.7	1.2
Chromium (III)	120,000	mg/kg	6.6	9.1	10	9.6	8.9	12
Chromium (VI)	23	mg/kg	ND	ND	ND	ND	ND	ND
Copper	3,100	mg/kg	8.8	11	13	10	11	11
Lead	400	mg/kg	19	19	15	13	15	16
Mercury	23	mg/kg	0.033	0.038	0.031	0.027	0.035	0.031
Nickel	1,600	mg/kg	9.3	13	15	13	13	15
Selenium	390	mg/kg	ND	0.38	0.62	ND	ND	ND
Silver	390	mg/kg	ND	ND	ND	ND	ND	ND
Zinc	23,000	mg/kg	49	60	65	62	64	52



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

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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
Barium	670		1.9	mg/Kg-dry	5	4/30/2014 12:59 AM
Cadmium	0.94		1.9	mg/Kg-dry	5	4/30/2014 12:59 AM
Chromium	11		0.76	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

QC BATCH REPORT

Work Order: 14041172

Project: WPX RWF 531-13 Landfarm Batch 1 4.22.14

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

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: <div style="text-align: center; font-size: 2em;">5.02</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"/>	

	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
<i>Surr: 4-Terphenyl-d14</i>	<i>84.7</i>		<i>39-133</i>	<i>mg/Kg-dry</i>	<i>1</i>	7/15/2014 03:21 PM
				<i>%REC</i>	<i>1</i>	7/15/2014 03:21 PM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	84		SW8015		Prep: SW5035 / 7/11/14	Analyst: IT
<i>Surr: Toluene-d8</i>	<i>126</i>		<i>50-150</i>	<i>mg/Kg-dry</i>	<i>1</i>	7/14/2014 03:37 PM
				<i>%REC</i>	<i>1</i>	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

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: **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.



ALS Laboratory Group

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

Chain-of-Custody

Form 20218

WORKORDER #

1407549

PAGE

1 of 1

DISPOSAL

By Lab or Return to Client

PROJECT NAME

WPX RWF 531-13

SAMPLER

Reed Wold

DATE

7/9/14

TURNAROUND

3 Day

PROJECT No.

Batch 1

EDD FORMAT

PURCHASE ORDER

COMPANY NAME

HRL Compliance

BILL TO COMPANY

WPX

SEND REPORT TO

Mark Mumby

INVOICE ATTN TO

Karolina Blaney

ADDRESS

2385 F 1/2 Rd

ADDRESS

1058 Co Rd 215

CITY / STATE / ZIP

Grand Junction, CO 81506

CITY / STATE / ZIP

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@wpenergy.com

Lab ID

Field ID

Matrix

Sample Date

Sample Time

Bottles

Pres.

QC

1

Batch 1

SG

7/9/14

1:45

1

8

x

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

For metals or anions, please detail analytes below.

Comments:

4.8°C

QC PACKAGE (check below)

X

LEVEL II (Standard QC)

LEVEL III (Std QC + forms)

LEVEL IV (Std QC + forms + raw data)

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

SIGNATURE

PRINTED NAME

DATE

TIME

RELINQUISHED BY

Reed Wold

Reed Wold

7/9/14 2:00

RECEIVED BY

WMM

WMM

7-9-14 3:00

RELINQUISHED BY

WMM

WMM

7-9-14 3:10

RECEIVED BY

Diane F. Shew

Diane F. Shew

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 Diane Shaw
eSignature

11-Jul-14
Date

Reviewed by: Ann Preston
eSignature

14-Jul-14
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

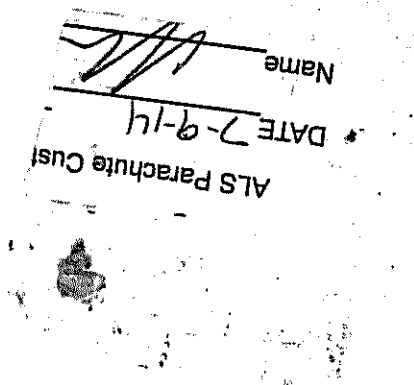
After printing this label:

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.

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

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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

Environmental The ALS logo, a stylized blue triangle with a yellow flame inside.

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

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**

MBLK 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

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: **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**

MBLK		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

1408671

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>Ray D. L.</i>	<i>Ray D. L.</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 HERENCIA</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: Michael
 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
 HOLLAND, MI 49424

BILL SENDER

Delivery Address Bar Code



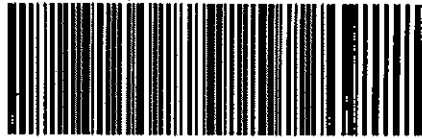
Ref # 001314-1
 Invoice #
 PO #
 Dept #

THU - 14 AUG 10:30A
 PRIORITY OVERNIGHT

TRK# 7708 3005 5140
 E2V1

68 HLMA

49424
 MI 48
 GRR



020100728403

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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CUSTODY SEAL

Seal Broken By: _____
 Date: 8/14/14 Time: 1:10 PM
 Name: M. M. ALS Company: ALS Parachute

Notation of \$100 per item is a timely attorney's documented strict time

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



828
 12
 5

TRK# 7708 3005 5140



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
<i>Surr: 4-Terphenyl-d14</i>	<i>118</i>		<i>39-133</i>	<i>%REC</i>	<i>1</i>	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
<i>Surr: Toluene-d8</i>	<i>125</i>		<i>50-150</i>	<i>%REC</i>	<i>1</i>	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								
<i>Surr: Toluene-d8</i>	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			
<i>Surr: Toluene-d8</i>	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			
<i>Surr: Toluene-d8</i>	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	
<i>Surr: Toluene-d8</i>	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	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>970.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>97</i>	<i>70-130</i>	<i>996</i>	<i>2.59</i>	<i>30</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>1023</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>102</i>	<i>70-130</i>	<i>941.5</i>	<i>8.3</i>	<i>30</i>	
<i>Surr: Dibromofluoromethane</i>	<i>972</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>97.2</i>	<i>70-130</i>	<i>1008</i>	<i>3.69</i>	<i>30</i>	
<i>Surr: Toluene-d8</i>	<i>950.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>95</i>	<i>70-130</i>	<i>894.5</i>	<i>6.07</i>	<i>30</i>	

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. R

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 Joseph Ribar 20-Sep-14
eSignature Date

Reviewed by: Ann Preston 22-Sep-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>3.4 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



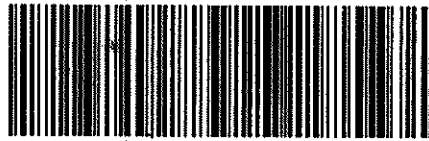
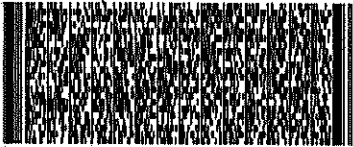
Ref # 091914-1
 Invoice #
 PO # Parachute
 Dept #

SATURDAY 12:00P
 PRIORITY OVERNIGHT

TRK# 7712 2235 7960
 8281

X0 HLMA

49424
 MI-LB
 GRR



52201CDB48AC3

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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

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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.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
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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
1058 County Road 215

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.



04-Nov-2014

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

Re: **WPX Clough 18 Batch 1 10.28.14**

Work Order: **14101770**

Dear Mark,

ALS Environmental received 1 sample on 30-Oct-2014 09:30 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 24.

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

Sincerely,

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 The ALS logo, a stylized blue triangle with a yellow flame.

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: HRL Compliance Solutions, Inc
Project: WPX Clough 18 Batch 1 10.28.14
Work Order: 14101770

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>
14101770-01	Clough 18 Batch 1	Soil		10/28/2014 13:46	10/30/2014 09:30	<input type="checkbox"/>

Client: HRL Compliance Solutions, Inc
Project: WPX Clough 18 Batch 1 10.28.14
Work Order: 14101770

Case Narrative

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

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

<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: 04-Nov-14

Client: HRL Compliance Solutions, Inc
Project: WPX Clough 18 Batch 1 10.28.14
Sample ID: Clough 18 Batch 1
Collection Date: 10/28/2014 01:46 PM

Work Order: 14101770
Lab ID: 14101770-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3541 / 10/31/14	Analyst: IT
DRO (C10-C28)	420		4.5	mg/Kg-dry	1	10/31/2014 08:23 PM
Surr: 4-Terphenyl-d14	110		39-133	%REC	1	10/31/2014 08:23 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015		Prep: SW5035 / 10/31/14	Analyst: IT
GRO (C6-C10)	74		2.7	mg/Kg-dry	1	11/1/2014 10:42 AM
Surr: Toluene-d8	124		50-150	%REC	1	11/1/2014 10:42 AM
MERCURY BY CVAA						
			SW7471		Prep: SW7471 / 10/31/14	Analyst: LR
Mercury	0.033		0.016	mg/Kg-dry	1	10/31/2014 02:19 PM
METALS ANALYSIS BY ICP						
			SW846 6010C		Prep: SW3050B / 10/31/14	Analyst: JEC
Arsenic	7.9		0.39	mg/Kg-dry	1	10/31/2014 06:21 PM
Barium	550		0.39	mg/Kg-dry	1	10/31/2014 06:21 PM
Cadmium	12		0.31	mg/Kg-dry	1	10/31/2014 06:21 PM
Chromium	6.9		0.39	mg/Kg-dry	1	10/31/2014 06:21 PM
Copper	8.8		0.39	mg/Kg-dry	1	10/31/2014 06:21 PM
Lead	19		0.39	mg/Kg-dry	1	10/31/2014 06:21 PM
Nickel	9.3		0.39	mg/Kg-dry	1	10/31/2014 06:21 PM
Selenium	ND		0.39	mg/Kg-dry	1	10/31/2014 06:21 PM
Silver	ND		0.39	mg/Kg-dry	1	10/31/2014 06:21 PM
Zinc	49		0.79	mg/Kg-dry	1	10/31/2014 06:21 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 11/1/14	Analyst: JEC
Calcium	250		5.0	mg/L	10	11/3/2014 03:20 PM
Magnesium	70		2.0	mg/L	10	11/3/2014 03:20 PM
Sodium	1,300		2.0	mg/L	10	11/3/2014 03:20 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHOD		Prep: USDA Method 20B / 11/1/14	Analyst: JEC
Sodium Adsorption Ratio	19		0.010	none	1	11/3/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 10/31/14	Analyst: RM
Acenaphthene	ND		7.3	µg/Kg-dry	1	11/3/2014 01:25 PM
Acenaphthylene	ND		7.3	µg/Kg-dry	1	11/3/2014 01:25 PM
Anthracene	55		7.3	µg/Kg-dry	1	11/3/2014 01:25 PM
Benzo(a)anthracene	ND		7.3	µg/Kg-dry	1	11/3/2014 01:25 PM
Benzo(a)pyrene	ND		7.3	µg/Kg-dry	1	11/3/2014 01:25 PM
Benzo(b)fluoranthene	ND		7.3	µg/Kg-dry	1	11/3/2014 01:25 PM
Benzo(g,h,i)perylene	ND		7.3	µg/Kg-dry	1	11/3/2014 01:25 PM
Benzo(k)fluoranthene	ND		7.3	µg/Kg-dry	1	11/3/2014 01:25 PM
Chrysene	ND		7.3	µg/Kg-dry	1	11/3/2014 01:25 PM

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

ALS Group USA, Corp

Date: 04-Nov-14

Client: HRL Compliance Solutions, Inc
Project: WPX Clough 18 Batch 1 10.28.14
Sample ID: Clough 18 Batch 1
Collection Date: 10/28/2014 01:46 PM

Work Order: 14101770
Lab ID: 14101770-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		7.3	µg/Kg-dry	1	11/3/2014 01:25 PM
Fluoranthene	11		7.3	µg/Kg-dry	1	11/3/2014 01:25 PM
Fluorene	93		7.3	µg/Kg-dry	1	11/3/2014 01:25 PM
Indeno(1,2,3-cd)pyrene	ND		7.3	µg/Kg-dry	1	11/3/2014 01:25 PM
Naphthalene	21		7.3	µg/Kg-dry	1	11/3/2014 01:25 PM
Pyrene	21		7.3	µg/Kg-dry	1	11/3/2014 01:25 PM
Surr: 2-Fluorobiphenyl	72.4		12-100	%REC	1	11/3/2014 01:25 PM
Surr: 4-Terphenyl-d14	96.3		25-137	%REC	1	11/3/2014 01:25 PM
Surr: Nitrobenzene-d5	65.0		37-107	%REC	1	11/3/2014 01:25 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 10/31/14 Analyst: RS		
Benzene	ND		33	µg/Kg-dry	1	11/1/2014 03:13 AM
Ethylbenzene	ND		33	µg/Kg-dry	1	11/1/2014 03:13 AM
m,p-Xylene	ND		66	µg/Kg-dry	1	11/1/2014 03:13 AM
o-Xylene	ND		33	µg/Kg-dry	1	11/1/2014 03:13 AM
Toluene	ND		33	µg/Kg-dry	1	11/1/2014 03:13 AM
Xylenes, Total	ND		99	µg/Kg-dry	1	11/1/2014 03:13 AM
Surr: 1,2-Dichloroethane-d4	104		70-130	%REC	1	11/1/2014 03:13 AM
Surr: 4-Bromofluorobenzene	103		70-130	%REC	1	11/1/2014 03:13 AM
Surr: Dibromofluoromethane	97.5		70-130	%REC	1	11/1/2014 03:13 AM
Surr: Toluene-d8	101		70-130	%REC	1	11/1/2014 03:13 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHOD	Prep: USDA Method 20B / 11/1/14 Analyst: JB		
Electrical Conductivity @ Saturation	8.5		0.050	mmhos/cm @25	10	11/3/2014 02:00 PM
CHROMIUM, TRIVALENT			CALCULATION	Analyst: MB		
Chromium, Trivalent	6.6		0.55	mg/Kg-dry	1	11/3/2014 05:30 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 10/30/14 Analyst: MB		
Chromium, Hexavalent	ND		0.54	mg/Kg-dry	1	10/31/2014 04:00 PM
MOISTURE			A2540 G	Analyst: EVb		
Moisture	8.7		0.050	% of sample	1	10/30/2014 09:00 PM
PH			SW9045D	Prep: EXTRACT / 10/31/14 Analyst: JB		
pH	8.7			s.u.	1	10/31/2014 02:30 PM

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

ALS Group USA, Corp

Date: 04-Nov-14

Client: HRL Compliance Solutions, Inc
Work Order: 14101770
Project: WPX Clough 18 Batch 1 10.28.14

QC BATCH REPORT

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

MBLK		Sample ID: DBLKS1-64524-64524				Units: mg/Kg		Analysis Date: 10/31/2014 05:10 PM		
Client ID:		Run ID: GC8_141031A				SeqNo: 3013968		Prep Date: 10/31/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	5.0								
Surr: 4-Terphenyl-d14	1.106	0	2	0	55.3	39-133	0			

LCS		Sample ID: DLCSS1-64524-64524				Units: mg/Kg		Analysis Date: 10/31/2014 05:37 PM		
Client ID:		Run ID: GC8_141031A				SeqNo: 3013969		Prep Date: 10/31/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	157.4	5.0	200	0	78.7	61-109	0			
Surr: 4-Terphenyl-d14	0.7984	0	2	0	39.9	39-133	0			

MS		Sample ID: 14101675-01A MS				Units: mg/Kg		Analysis Date: 10/31/2014 06:05 PM		
Client ID:		Run ID: GC8_141031A				SeqNo: 3013970		Prep Date: 10/31/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	332	7.9	315.7	32.31	94.9	48-110	0			
Surr: 4-Terphenyl-d14	1.621	0	3.157	0	51.3	39-133	0			

MSD		Sample ID: 14101675-01A MSD				Units: mg/Kg		Analysis Date: 10/31/2014 06:32 PM		
Client ID:		Run ID: GC8_141031A				SeqNo: 3013971		Prep Date: 10/31/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	296.1	7.9	316.6	32.31	83.3	48-110	332	11.4	30	
Surr: 4-Terphenyl-d14	1.796	0	3.166	0	56.7	39-133	1.621	10.2	30	

The following samples were analyzed in this batch: 14101770-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101770
Project: WPX Clough 18 Batch 1 10.28.14

QC BATCH REPORT

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

MBLK		Sample ID: MBLK-64541-64541				Units: µg/Kg		Analysis Date: 11/1/2014 03:36 AM		
Client ID:		Run ID: GC9_141031A				SeqNo: 3013773		Prep Date: 10/31/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	2,500								
<i>Surr: Toluene-d8</i>	4925	0	5000	0	98.5	50-150	0			

LCS		Sample ID: LCS-64541-64541				Units: µg/Kg		Analysis Date: 11/1/2014 03:11 AM		
Client ID:		Run ID: GC9_141031A				SeqNo: 3013772		Prep Date: 10/31/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	563600	2,500	500000	0	113	70-130	0			
<i>Surr: Toluene-d8</i>	4400	0	5000	0	88	50-150	0			

MS		Sample ID: 14101776-01B MS				Units: µg/Kg		Analysis Date: 11/1/2014 04:26 AM		
Client ID:		Run ID: GC9_141031A				SeqNo: 3013775		Prep Date: 10/31/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	584900	2,500	500000	0	117	70-130	0			
<i>Surr: Toluene-d8</i>	4868	0	5000	0	97.4	50-150	0			

MSD		Sample ID: 14101776-01B MSD				Units: µg/Kg		Analysis Date: 11/1/2014 04:52 AM		
Client ID:		Run ID: GC9_141031A				SeqNo: 3013776		Prep Date: 10/31/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	571300	2,500	500000	0	114	70-130	584900	2.36	30	
<i>Surr: Toluene-d8</i>	4797	0	5000	0	95.9	50-150	4868	1.46	30	

The following samples were analyzed in this batch:

14101770-01A

Client: HRL Compliance Solutions, Inc
Work Order: 14101770
Project: WPX Clough 18 Batch 1 10.28.14

QC BATCH REPORT

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

MBLK				Sample ID: MBLK-64488-64488				Units: mg/Kg			Analysis Date: 10/31/2014 01:31 PM			
Client ID:				Run ID: HG1_141031A				SeqNo: 3011644			Prep Date: 10/31/2014		DF: 1	
Analyte				Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury ND 0.020

LCS		Sample ID: LCS-64488-64488				Units:mg/Kg		Analysis Date: 10/31/2014 01:34 PM		
Client ID:		Run ID: HG1_141031A			SeqNo:3011645		Prep Date: 10/31/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1772 0.020 0.1665 0 106 80-120 0

MS		Sample ID: 14101776-02AMS					Units: mg/Kg		Analysis Date: 10/31/2014 01:38 PM		
Client ID:			Run ID: HG1_141031A			SeqNo: 3011647		Prep Date: 10/31/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury 0.1177 0.011 0.09259 0.003715 123 75-125 0

MSD				Sample ID: 14101776-02AMSD				Units:mg/Kg			Analysis Date: 10/31/2014 01:42 PM		
Client ID:				Run ID: HG1_141031A				SeqNo:3011648		Prep Date: 10/31/2014		DF: 1	
Analyte				Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1153 0.011 0.09302 0.003715 120 75-125 0.1177 2.05 35

The following samples were analyzed in this batch:

14101770-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101770
Project: WPX Clough 18 Batch 1 10.28.14

QC BATCH REPORT

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

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

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

The following samples were analyzed in this batch:

14101770-01C

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101770
Project: WPX Clough 18 Batch 1 10.28.14

QC BATCH REPORT

Batch ID: **64547**

Instrument ID **ICP2**

Method: **SW846 6010C**

MBLK					Sample ID: MBLK-64547-64547			Units:mg/Kg		Analysis Date: 10/31/2014 05:59 PM		
Client ID:			Run ID: ICP2_141031B			SeqNo:3013182		Prep Date: 10/31/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
Arsenic	ND	0.25										
Barium	ND	0.25										
Cadmium	ND	0.50										
Chromium	ND	0.25										
Copper	ND	0.50										
Lead	ND	0.25										
Nickel	ND	0.25										
Selenium	ND	0.50										
Silver	ND	0.25										
Zinc	0.1616	0.50								J		

LCS					Sample ID: LCS-64547-64547			Units:mg/Kg		Analysis Date: 10/31/2014 06:04 PM		
Client ID:			Run ID: ICP2_141031B			SeqNo:3013183		Prep Date: 10/31/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
Arsenic	4.698	0.25	5	0	94	80-120	0					
Barium	4.693	0.25	5	0	93.9	80-120	0					
Cadmium	4.521	0.50	5	0	90.4	80-120	0					
Chromium	4.838	0.25	5	0	96.8	80-120	0					
Copper	4.869	0.50	5	0	97.4	80-120	0					
Lead	4.768	0.25	5	0	95.4	80-120	0					
Nickel	4.749	0.25	5	0	95	80-120	0					
Selenium	4.747	0.50	5	0	94.9	80-120	0					
Silver	4.927	0.25	5	0	98.5	80-120	0					
Zinc	5.021	0.50	5	0	100	80-120	0					

MS					Sample ID: 14101823-03AMS			Units: mg/Kg		Analysis Date: 10/31/2014 07:24 PM		
Client ID:			Run ID: ICP2_141031B			SeqNo: 3013197		Prep Date: 10/31/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
Arsenic	15.46	0.38	7.508	7.58	105	75-125	0					
Barium	242.1	0.38	7.508	266	-318	75-125	0			SO		
Cadmium	7.121	0.75	7.508	0.1906	92.3	75-125	0					
Chromium	18.31	0.38	7.508	10.66	102	75-125	0					
Copper	19.91	0.75	7.508	13.2	89.3	75-125	0					
Lead	26.37	0.38	7.508	19.95	85.5	75-125	0					
Nickel	20.94	0.38	7.508	13.89	93.9	75-125	0					
Selenium	7.369	0.75	7.508	0.3791	93.1	75-125	0					
Silver	8.355	0.38	7.508	-0.03233	112	75-125	0					
Zinc	76.58	0.75	7.508	67.38	123	75-125	0			O		

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101770
Project: WPX Clough 18 Batch 1 10.28.14

QC BATCH REPORT

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

MSD		Sample ID: 14101823-03AMSD				Units: mg/Kg		Analysis Date: 10/31/2014 07:29 PM		
Client ID:		Run ID: ICP2_141031B				SeqNo: 3013198		Prep Date: 10/31/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	14.57	0.37	7.496	7.58	93.2	75-125	15.46	5.94	20	
Barium	268.5	0.37	7.496	266	33.6	75-125	242.1	10.3	20	SO
Cadmium	7.08	0.75	7.496	0.1906	91.9	75-125	7.121	0.577	20	
Chromium	17.9	0.37	7.496	10.66	96.5	75-125	18.31	2.25	20	
Copper	19.51	0.75	7.496	13.2	84	75-125	19.91	2.04	20	
Lead	25.67	0.37	7.496	19.95	76.3	75-125	26.37	2.7	20	
Nickel	20.24	0.37	7.496	13.89	84.8	75-125	20.94	3.38	20	
Selenium	7.556	0.75	7.496	0.3791	95.7	75-125	7.369	2.5	20	
Silver	8.241	0.37	7.496	-0.03233	110	75-125	8.355	1.38	20	
Zinc	74.71	0.75	7.496	67.38	97.9	75-125	76.58	2.47	20	O

The following samples were analyzed in this batch: 14101770-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101770
Project: WPX Clough 18 Batch 1 10.28.14

QC BATCH REPORT

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

MBLK		Sample ID: SBLKS1-64523-64523				Units: µg/Kg		Analysis Date: 11/3/2014 10:23 AM		
Client ID:		Run ID: SVMS8_141103A				SeqNo: 3014423		Prep Date: 10/31/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	6.7								
Acenaphthylene	ND	6.7								
Anthracene	ND	6.7								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(g,h,i)perylene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Chrysene	ND	6.7								
Dibenzo(a,h)anthracene	ND	6.7								
Fluoranthene	ND	6.7								
Fluorene	ND	6.7								
Indeno(1,2,3-cd)pyrene	ND	6.7								
Naphthalene	ND	6.7								
Pyrene	ND	6.7								
<i>Surr: 2-Fluorobiphenyl</i>	1311	0	1667	0	78.7	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1758	0	1667	0	105	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1172	0	1667	0	70.3	37-107	0			

LCS		Sample ID: SLCSS1-64523-64523				Units: µg/Kg		Analysis Date: 11/3/2014 10:43 AM		
Client ID:		Run ID: SVMS8_141103A				SeqNo: 3014431		Prep Date: 10/31/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	536.7	6.7	666.7	0	80.5	45-110	0			
Acenaphthylene	533	6.7	666.7	0	79.9	45-105	0			
Anthracene	625.3	6.7	666.7	0	93.8	55-105	0			
Benzo(a)anthracene	633.3	6.7	666.7	0	95	50-110	0			
Benzo(a)pyrene	713.7	6.7	666.7	0	107	50-110	0			
Benzo(b)fluoranthene	700.7	6.7	666.7	0	105	45-115	0			
Benzo(g,h,i)perylene	641.3	6.7	666.7	0	96.2	40-125	0			
Benzo(k)fluoranthene	688	6.7	666.7	0	103	45-115	0			
Chrysene	664	6.7	666.7	0	99.6	55-110	0			
Dibenzo(a,h)anthracene	691	6.7	666.7	0	104	40-125	0			
Fluoranthene	635	6.7	666.7	0	95.2	55-115	0			
Fluorene	545.3	6.7	666.7	0	81.8	50-110	0			
Indeno(1,2,3-cd)pyrene	699.7	6.7	666.7	0	105	40-120	0			
Naphthalene	523	6.7	666.7	0	78.4	40-105	0			
Pyrene	660	6.7	666.7	0	99	45-125	0			
<i>Surr: 2-Fluorobiphenyl</i>	1219	0	1667	0	73.2	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1567	0	1667	0	94	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1147	0	1667	0	68.8	37-107	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101770
Project: WPX Clough 18 Batch 1 10.28.14

QC BATCH REPORT

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

MS				Sample ID: 14101675-01A MS			Units: µg/Kg		Analysis Date: 11/3/2014 11:03 AM	
Client ID:		Run ID: SVMS8_141103A			SeqNo: 3014432		Prep Date: 10/31/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	987.6	13	1313	0	75.2	45-110	0			
Acenaphthylene	1011	13	1313	0	77	45-105	0			
Anthracene	1150	13	1313	0	87.5	55-105	0			
Benzo(a)anthracene	1134	13	1313	0	86.3	50-110	0			
Benzo(a)pyrene	1309	13	1313	0	99.6	50-110	0			
Benzo(b)fluoranthene	1264	13	1313	0	96.2	45-115	0			
Benzo(g,h,i)perylene	1254	13	1313	0	95.4	40-125	0			
Benzo(k)fluoranthene	1265	13	1313	0	96.3	45-115	0			
Chrysene	1184	13	1313	0	90.1	55-110	0			
Dibenzo(a,h)anthracene	1323	13	1313	0	101	40-125	0			
Fluoranthene	1085	13	1313	0	82.6	55-115	0			
Fluorene	1039	13	1313	0	79.1	50-110	0			
Indeno(1,2,3-cd)pyrene	1329	13	1313	0	101	40-120	0			
Naphthalene	943.6	13	1313	0	71.8	40-105	0			
Pyrene	1284	13	1313	4.249	97.5	45-125	0			
Surr: 2-Fluorobiphenyl	2242	0	3283	0	68.3	12-100	0			
Surr: 4-Terphenyl-d14	2906	0	3283	0	88.5	25-137	0			
Surr: Nitrobenzene-d5	1991	0	3283	0	60.6	37-107	0			

MSD				Sample ID: 14101675-01A MSD			Units: µg/Kg		Analysis Date: 11/3/2014 11:24 AM	
Client ID:		Run ID: SVMS8_141103A			SeqNo: 3014433		Prep Date: 10/31/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	957.2	13	1325	0	72.2	45-110	987.6	3.12	30	
Acenaphthylene	1017	13	1325	0	76.7	45-105	1011	0.552	30	
Anthracene	1096	13	1325	0	82.7	55-105	1150	4.76	30	
Benzo(a)anthracene	1146	13	1325	0	86.5	50-110	1134	1.05	30	
Benzo(a)pyrene	1365	13	1325	0	103	50-110	1309	4.18	30	
Benzo(b)fluoranthene	1235	13	1325	0	93.2	45-115	1264	2.29	30	
Benzo(g,h,i)perylene	1209	13	1325	0	91.2	40-125	1254	3.62	30	
Benzo(k)fluoranthene	1252	13	1325	0	94.5	45-115	1265	1.06	30	
Chrysene	1192	13	1325	0	90	55-110	1184	0.711	30	
Dibenzo(a,h)anthracene	1262	13	1325	0	95.2	40-125	1323	4.74	30	
Fluoranthene	1113	13	1325	0	84	55-115	1085	2.56	30	
Fluorene	960.5	13	1325	0	72.5	50-110	1039	7.89	30	
Indeno(1,2,3-cd)pyrene	1282	13	1325	0	96.7	40-120	1329	3.62	30	
Naphthalene	1017	13	1325	0	76.7	40-105	943.6	7.47	30	
Pyrene	1166	13	1325	4.249	87.7	45-125	1284	9.67	30	
Surr: 2-Fluorobiphenyl	2199	0	3312	0	66.4	12-100	2242	1.91	40	
Surr: 4-Terphenyl-d14	2663	0	3312	0	80.4	25-137	2906	8.72	40	
Surr: Nitrobenzene-d5	2050	0	3312	0	61.9	37-107	1991	2.93	40	

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101770
Project: WPX Clough 18 Batch 1 10.28.14

QC BATCH REPORT

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

The following samples were analyzed in this batch:

14101770-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101770
Project: WPX Clough 18 Batch 1 10.28.14

QC BATCH REPORT

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

Sample ID: MBLK-64543-64543				Units: µg/Kg			Analysis Date: 10/31/2014 04:10 PM			
Client ID:		Run ID: VMS9_141031A			SeqNo: 3012585		Prep Date: 10/31/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	30								
Ethylbenzene	ND	30								
m,p-Xylene	ND	60								
o-Xylene	ND	30								
Toluene	ND	30								
Xylenes, Total	ND	90								
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>984</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.4</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>948</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>94.8</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Dibromofluoromethane</i>	<i>948.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>94.8</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Toluene-d8</i>	<i>987</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.7</i>	<i>70-130</i>	<i>0</i>			

LCS				Sample ID: LCS-64543-64543			Units: µg/Kg		Analysis Date: 10/31/2014 01:22 PM		
Client ID:			Run ID: VMS9_141031A			SeqNo:3012584		Prep Date: 10/31/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1072	30	1000	0	107	75-125	0				
Ethylbenzene	1046	30	1000	0	105	75-125	0				
m,p-Xylene	2064	60	2000	0	103	80-125	0				
o-Xylene	1021	30	1000	0	102	75-125	0				
Toluene	1030	30	1000	0	103	70-125	0				
Xylenes, Total	3086	90	3000	0	103	75-125	0				
Surr: 1,2-Dichloroethane-d4	989.5	0	1000	0	99	70-130	0				
Surr: 4-Bromofluorobenzene	1029	0	1000	0	103	70-130	0				
Surr: Dibromofluoromethane	971.5	0	1000	0	97.2	70-130	0				
Surr: Toluene-d8	999.5	0	1000	0	100	70-130	0				

MS					Sample ID: 14101776-03B MS			Units: µg/Kg		Analysis Date: 11/1/2014 01:19 PM	
Client ID:			Run ID: VMS7_141031C			SeqNo:3012881		Prep Date: 10/31/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1097	30	1000	0	110	75-125	0				
Ethylbenzene	1062	30	1000	0	106	75-125	0				
m,p-Xylene	2094	60	2000	0	105	80-125	0				
o-Xylene	1032	30	1000	0	103	75-125	0				
Toluene	1040	30	1000	0	104	70-125	0				
Xylenes, Total	3126	90	3000	0	104	75-125	0				
Surr: 1,2-Dichloroethane-d4	935.5	0	1000	0	93.6	70-130	0				
Surr: 4-Bromofluorobenzene	1034	0	1000	0	103	70-130	0				
Surr: Dibromofluoromethane	967.5	0	1000	0	96.8	70-130	0				
Surr: Toluene-d8	961	0	1000	0	96.1	70-130	0				

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101770
Project: WPX Clough 18 Batch 1 10.28.14

QC BATCH REPORT

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

MSD				Sample ID: 14101776-03B MSD				Units: µg/Kg		Analysis Date: 11/1/2014 01:44 PM	
Client ID:			Run ID: VMS7_141031C			SeqNo: 3012882		Prep Date: 10/31/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1137	30	1000	0	114	75-125	1097	3.58	30		
Ethylbenzene	1092	30	1000	0	109	75-125	1062	2.79	30		
m,p-Xylene	2187	60	2000	0	109	80-125	2094	4.32	30		
o-Xylene	1080	30	1000	0	108	75-125	1032	4.59	30		
Toluene	1090	30	1000	0	109	70-125	1040	4.69	30		
Xylenes, Total	3268	90	3000	0	109	75-125	3126	4.41	30		
Surr: 1,2-Dichloroethane-d4	925.5	0	1000	0	92.6	70-130	935.5	1.07	30		
Surr: 4-Bromofluorobenzene	1028	0	1000	0	103	70-130	1034	0.631	30		
Surr: Dibromofluoromethane	976.5	0	1000	0	97.6	70-130	967.5	0.926	30		
Surr: Toluene-d8	962	0	1000	0	96.2	70-130	961	0.104	30		

The following samples were analyzed in this batch: 14101770-01A

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101770
Project: WPX Clough 18 Batch 1 10.28.14

QC BATCH REPORT

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

DUP		Sample ID: 14101732-01C DUP				Units: mmhos/cm @25°C		Analysis Date: 11/3/2014 02:00 PM		
Client ID:		Run ID: WETCHEM_141103C				SeqNo: 3014032		Prep Date: 11/1/2014		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	4.38	0.050	0	0	0		4.52	3.15	50	

The following samples were analyzed in this batch:

14101770-01C

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101770
Project: WPX Clough 18 Batch 1 10.28.14

QC BATCH REPORT

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

LCS		Sample ID: LCS-64548-64548				Units: s.u.		Analysis Date: 10/31/2014 02:30 PM		
Client ID:		Run ID: WETCHEM_141031I			SeqNo: 3011817		Prep Date: 10/31/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	3.95	0	4	0	98.8	90-110	0			

DUP		Sample ID: 14101769-01B DUP					Units: s.u.		Analysis Date: 10/31/2014 02:30 PM		
Client ID:		Run ID: WETCHEM_141031I			SeqNo: 3011820		Prep Date: 10/31/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
pH	8.54	0	0	0	0	0-0	8.67	1.51	20		

The following samples were analyzed in this batch:

14101770-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101770
Project: WPX Clough 18 Batch 1 10.28.14

QC BATCH REPORT

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

MBLK		Sample ID: MBLK-64560-64560				Units: mg/Kg		Analysis Date: 10/31/2014 04:00 PM		
Client ID:		Run ID: WETCHEM_141031K				SeqNo: 3011912		Prep Date: 10/30/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 0.50

LCS		Sample ID: LCS-64560-64560				Units: mg/Kg		Analysis Date: 10/31/2014 04:00 PM		
Client ID:		Run ID: WETCHEM_141031K				SeqNo: 3011911		Prep Date: 10/30/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.82 0.50 2 0 91 80-120 0

MS		Sample ID: 14101675-01A MS				Units: mg/Kg		Analysis Date: 10/31/2014 04:00 PM		
Client ID:		Run ID: WETCHEM_141031K				SeqNo: 3011897		Prep Date: 10/30/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 0.50 1.992 0 0 75-125 0 S

MS		Sample ID: 14101675-01A MSI				Units: mg/Kg		Analysis Date: 10/31/2014 04:00 PM		
Client ID:		Run ID: WETCHEM_141031K				SeqNo: 3011899		Prep Date: 10/30/2014		DF: 100
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 502.4 49 699.6 0 71.8 75-125 0 S

MSD		Sample ID: 14101675-01A MSD				Units: mg/Kg		Analysis Date: 10/31/2014 04:00 PM		
Client ID:		Run ID: WETCHEM_141031K				SeqNo: 3011898		Prep Date: 10/30/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 0.50 1.992 0 0 75-125 0 0 20 S

The following samples were analyzed in this batch:

14101770-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101770
Project: WPX Clough 18 Batch 1 10.28.14

QC BATCH REPORT

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

MBLK				Sample ID: WBLKS-R151570				Units: % of sample			Analysis Date: 10/30/2014 09:00 PM			
Client ID:				Run ID: MOIST_141030C				SeqNo: 3011991			Prep Date:		DF: 1	
Analyte				Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture ND 0.050

LCS		Sample ID: LCS-R151570					Units: % of sample		Analysis Date: 10/30/2014 09:00 PM		
Client ID:			Run ID: MOIST_141030C			SeqNo: 3011990		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 100 0.050 100 0 100 99.5-100.5 0

DUP		Sample ID: 14101731-01ADUP					Units: % of sample		Analysis Date: 10/30/2014 09:00 PM		
Client ID:			Run ID: MOIST_141030C			SeqNo: 3011969		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 12.25 0.050 0 0 0 0-0 14.05 13.7 20

DUP				Sample ID: 14101763-01ADUP				Units: % of sample			Analysis Date: 10/30/2014 09:00 PM			
Client ID:				Run ID: MOIST_141030C				SeqNo: 3011977		Prep Date:		DF: 1		
Analyte				Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 18.52 0.050 0 0 0 0-0 20.92 12.2 20

The following samples were analyzed in this batch:

14101770-01B

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

Chain-of-Custody

WORKORDER
#

14101770

PAGE

1 of 1


DISPOSAL

☒ By Lab or ☐ Return to Client

PROJECT NAME		COMPANY NAME		ADDRESS		CITY / STATE / ZIP		PHONE		FAX		E-MAIL	
Clough 18 Batch 1		HRL Compliance Solutions, Inc.		2385 F 1/2 Road		Grand Junction, CO 81505		970-243-3271		970-243-3280		mmumby@hrlcomp.com; mlobato@hrlcomp.com	
PROJECT NO.		BILL TO COMPANY		ADDRESS		CITY / STATE / ZIP		PHONE		FAX		E-MAIL	
		WPX Energy		1058 Co. Rd. 215		Parachute, CO 81635		970-683-2295				Karolina.blaney@wpxenergy.com	
SEND REPORT TO		INVOICE ATTN TO											
Mark Mumby		Karolina Blaney											
DATE		TURNAROUND		DISPOSAL		1 of 1							
10/25/14		3 Day		By Lab or Return to Client									
SAMPLER		SITE ID		EDD FORMAT		PURCHASE ORDER							
Mike Lobato													
Lab ID		Field ID		Matrix		Sample Date		Sample Time		# Bottles		Pres. QC	
1		Clough 18 Batch 1		Soil		10/25/14		1346		3		8 X	

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

For metals or anions, please detail analytes below.

Comments: Complete Calc Table 910-1.  4.20	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)

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	<i>[Signature]</i>	Mike Lobato	10/28/14	1611
RECEIVED BY	<i>[Signature]</i>	<i>[Signature]</i>	10/28	1611
RELINQUISHED BY	<i>[Signature]</i>	<i>[Signature]</i>	10/28	1630
RECEIVED BY	<i>[Signature]</i>	Diane F. Shea	10/30/14	0930
RELINQUISHED BY				
RECEIVED BY				

Sample Receipt Checklist

Client Name: **HRL**

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

Work Order: **14101770**

Received by: **DS**

Checklist completed by <u>Ann Preston</u>	30-Oct-14	Reviewed by: <u>Ann Preston</u>	30-Oct-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 type="checkbox"/>	No <input checked="" type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>4.2°C</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:			
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) 399-8870
 Nick Martinez
 ALS Environmental
 127 E. 1st Street

Origin ID: RLA



Ship Date: 29OCT14
 Weight: 58.0 LB
 CAD: 2284040WNET3550

Dim: 14 X 26 X 15 IN

Parachute, CO 81433

SHIP TO: (816) 399-8870
 sample receiving
 ALS Laboratory Group
 3352 128TH AVE

BILL SENDER

HOLLAND, MI 49424

Delivery Address Bar Code



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

4 of 4

WED - 29 OCT 10:30A
 PRIORITY OVERNIGHT

MP# 7716 8054 8864

5293

Mat# 7716 8054 8550

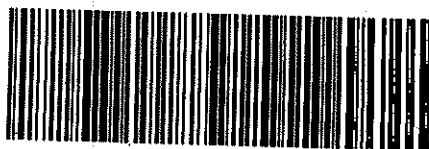
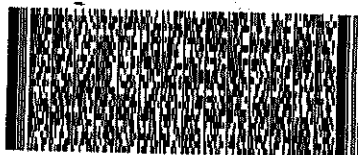
5291

XX HLMA

49424

MLU

GRR



0230 LOPBAG3

After printing this label:

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

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

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ALS Parachute Custody Seal

DATE 10/28

Time 17:37

Name



04-Nov-2014

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

Re: **WPX Clough 18 Batch 2 10.28.14**

Work Order: **14101772**

Dear Mark,

ALS Environmental received 1 sample on 30-Oct-2014 09:30 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 24.

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

Sincerely,

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 Clough 18 Batch 2 10.28.14
Work Order: 14101772

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>
14101772-01	Clough 18 Batch 2	Soil		10/28/2014 13:55	10/30/2014 09:30	<input type="checkbox"/>

Client: HRL Compliance Solutions, Inc
Project: WPX Clough 18 Batch 2 10.28.14
Work Order: 14101772

Case Narrative

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

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

<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: 04-Nov-14

Client: HRL Compliance Solutions, Inc
Project: WPX Clough 18 Batch 2 10.28.14
Sample ID: Clough 18 Batch 2
Collection Date: 10/28/2014 01:55 PM

Work Order: 14101772
Lab ID: 14101772-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3541 / 10/31/14	Analyst: IT
DRO (C10-C28)	310		4.5	mg/Kg-dry	1	10/31/2014 09:18 PM
<i>Surr: 4-Terphenyl-d14</i>	<i>80.4</i>		<i>39-133</i>	<i>%REC</i>	<i>1</i>	10/31/2014 09:18 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015		Prep: SW5035 / 10/31/14	Analyst: IT
GRO (C6-C10)	90		2.8	mg/Kg-dry	1	11/1/2014 11:32 AM
<i>Surr: Toluene-d8</i>	<i>135</i>		<i>50-150</i>	<i>%REC</i>	<i>1</i>	11/1/2014 11:32 AM
MERCURY BY CVAA						
			SW7471		Prep: SW7471 / 10/31/14	Analyst: LR
Mercury	0.038		0.014	mg/Kg-dry	1	10/31/2014 02:23 PM
METALS ANALYSIS BY ICP						
			SW846 6010C		Prep: SW3050B / 10/31/14	Analyst: JEC
Arsenic	7.5		0.36	mg/Kg-dry	1	10/31/2014 06:33 PM
Barium	500		0.36	mg/Kg-dry	1	10/31/2014 06:33 PM
Cadmium	0.79		0.28	mg/Kg-dry	1	10/31/2014 06:33 PM
Chromium	9.1		0.36	mg/Kg-dry	1	10/31/2014 06:33 PM
Copper	11		0.36	mg/Kg-dry	1	10/31/2014 06:33 PM
Lead	19		0.36	mg/Kg-dry	1	10/31/2014 06:33 PM
Nickel	13		0.36	mg/Kg-dry	1	10/31/2014 06:33 PM
Selenium	0.38		0.36	mg/Kg-dry	1	10/31/2014 06:33 PM
Silver	ND		0.36	mg/Kg-dry	1	10/31/2014 06:33 PM
Zinc	60		0.71	mg/Kg-dry	1	10/31/2014 06:33 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 11/1/14	Analyst: JEC
Calcium	290		5.0	mg/L	10	11/3/2014 03:33 PM
Magnesium	73		2.0	mg/L	10	11/3/2014 03:33 PM
Sodium	1,400		2.0	mg/L	10	11/3/2014 03:33 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHOD		Prep: USDA Method 20B / 11/1/14	Analyst: JEC
Sodium Adsorption Ratio	19		0.010	none	1	11/3/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 10/31/14	Analyst: RM
Acenaphthene	7.6		7.2	µg/Kg-dry	1	11/3/2014 02:06 PM
Acenaphthylene	ND		7.2	µg/Kg-dry	1	11/3/2014 02:06 PM
Anthracene	26		7.2	µg/Kg-dry	1	11/3/2014 02:06 PM
Benzo(a)anthracene	8.7		7.2	µg/Kg-dry	1	11/3/2014 02:06 PM
Benzo(a)pyrene	ND		7.2	µg/Kg-dry	1	11/3/2014 02:06 PM
Benzo(b)fluoranthene	ND		7.2	µg/Kg-dry	1	11/3/2014 02:06 PM
Benzo(g,h,i)perylene	ND		7.2	µg/Kg-dry	1	11/3/2014 02:06 PM
Benzo(k)fluoranthene	ND		7.2	µg/Kg-dry	1	11/3/2014 02:06 PM
Chrysene	10		7.2	µg/Kg-dry	1	11/3/2014 02:06 PM

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

ALS Group USA, Corp

Date: 04-Nov-14

Client: HRL Compliance Solutions, Inc
Project: WPX Clough 18 Batch 2 10.28.14
Sample ID: Clough 18 Batch 2
Collection Date: 10/28/2014 01:55 PM

Work Order: 14101772
Lab ID: 14101772-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		7.2	µg/Kg-dry	1	11/3/2014 02:06 PM
Fluoranthene	ND		7.2	µg/Kg-dry	1	11/3/2014 02:06 PM
Fluorene	53		7.2	µg/Kg-dry	1	11/3/2014 02:06 PM
Indeno(1,2,3-cd)pyrene	ND		7.2	µg/Kg-dry	1	11/3/2014 02:06 PM
Naphthalene	25		7.2	µg/Kg-dry	1	11/3/2014 02:06 PM
Pyrene	7.6		7.2	µg/Kg-dry	1	11/3/2014 02:06 PM
Surr: 2-Fluorobiphenyl	71.4		12-100	%REC	1	11/3/2014 02:06 PM
Surr: 4-Terphenyl-d14	82.3		25-137	%REC	1	11/3/2014 02:06 PM
Surr: Nitrobenzene-d5	67.4		37-107	%REC	1	11/3/2014 02:06 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 10/31/14 Analyst: RS		
Benzene	ND		33	µg/Kg-dry	1	11/1/2014 12:54 PM
Ethylbenzene	ND		33	µg/Kg-dry	1	11/1/2014 12:54 PM
m,p-Xylene	ND		66	µg/Kg-dry	1	11/1/2014 12:54 PM
o-Xylene	ND		33	µg/Kg-dry	1	11/1/2014 12:54 PM
Toluene	ND		33	µg/Kg-dry	1	11/1/2014 12:54 PM
Xylenes, Total	ND		99	µg/Kg-dry	1	11/1/2014 12:54 PM
Surr: 1,2-Dichloroethane-d4	95.0		70-130	%REC	1	11/1/2014 12:54 PM
Surr: 4-Bromofluorobenzene	105		70-130	%REC	1	11/1/2014 12:54 PM
Surr: Dibromofluoromethane	97.0		70-130	%REC	1	11/1/2014 12:54 PM
Surr: Toluene-d8	98.0		70-130	%REC	1	11/1/2014 12:54 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHOD	Prep: USDA Method 20B / 11/1/14 Analyst: JB		
Electrical Conductivity @ Saturation	8.7		0.050	mmhos/cm @25	10	11/3/2014 02:00 PM
CHROMIUM, TRIVALENT			CALCULATION	Analyst: MB		
Chromium, Trivalent	9.1		0.55	mg/Kg-dry	1	11/3/2014 05:30 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 10/30/14 Analyst: MB		
Chromium, Hexavalent	ND		0.55	mg/Kg-dry	1	10/31/2014 04:00 PM
MOISTURE			A2540 G	Analyst: EVb		
Moisture	9.1		0.050	% of sample	1	10/30/2014 09:00 PM
PH			SW9045D	Prep: EXTRACT / 10/31/14 Analyst: JB		
pH	8.4			s.u.	1	10/31/2014 02:30 PM

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

ALS Group USA, Corp

Date: 04-Nov-14

Client: HRL Compliance Solutions, Inc
Work Order: 14101772
Project: WPX Clough 18 Batch 2 10.28.14

QC BATCH REPORT

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

MBLK		Sample ID: DBLKS1-64524-64524				Units:mg/Kg		Analysis Date: 10/31/2014 05:10 PM		
Client ID:			Run ID: GC8_141031A		SeqNo:3013968		Prep Date: 10/31/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	5.0								
Surr: 4-Terphenyl-d14	1.106	0	2	0	55.3	39-133	0			

LCS				Sample ID: DLCSS1-64524-64524				Units: mg/Kg			Analysis Date: 10/31/2014 05:37 PM			
Client ID:				Run ID: GC8_141031A				SeqNo: 3013969			Prep Date: 10/31/2014		DF: 1	
Analyte				Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
DRO (C10-C28)				157.4	5.0	200	0	78.7	61-109	0				
Surr: 4-Terphenyl-d14				0.7984	0	2	0	39.9	39-133	0				

MS				Sample ID: 14101675-01A MS			Units:mg/Kg		Analysis Date: 10/31/2014 06:05 PM		
Client ID:			Run ID: GC8_141031A			SeqNo:3013970		Prep Date: 10/31/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
DRO (C10-C28)	332	7.9	315.7	32.31	94.9	48-110	0				
Surr: 4-Terphenyl-d14	1.621	0	3.157	0	51.3	39-133	0				

MSD				Sample ID: 14101675-01A MSD				Units:mg/Kg		Analysis Date: 10/31/2014 06:32 PM	
Client ID:			Run ID: GC8_141031A			SeqNo:3013971		Prep Date: 10/31/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
DRO (C10-C28)	296.1	7.9	316.6	32.31	83.3	48-110	332	11.4	30		
Surr: 4-Terphenyl-d14	1.796	0	3.166	0	56.7	39-133	1.621	10.2	30		

The following samples were analyzed in this batch: 14101772-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101772
Project: WPX Clough 18 Batch 2 10.28.14

QC BATCH REPORT

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

MBLK		Sample ID: MBLK-64541-64541				Units: µg/Kg		Analysis Date: 11/1/2014 03:36 AM		
Client ID:		Run ID: GC9_141031A			SeqNo:3013773		Prep Date: 10/31/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	2,500								
Surr: Toluene-d8	4925	0	5000	0	98.5	50-150	0			

LCS		Sample ID: LCS-64541-64541				Units: µg/Kg		Analysis Date: 11/1/2014 03:11 AM		
Client ID:		Run ID: GC9_141031A			SeqNo:3013772		Prep Date: 10/31/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	563600	2,500	500000	0	113	70-130	0			
Surr: Toluene-d8	4400	0	5000	0	88	50-150	0			

MS		Sample ID: 14101776-01B MS				Units: µg/Kg		Analysis Date: 11/1/2014 04:26 AM		
Client ID:		Run ID: GC9_141031A			SeqNo:3013775		Prep Date: 10/31/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	584900	2,500	500000	0	117	70-130	0			
Surr: Toluene-d8	4868	0	5000	0	97.4	50-150	0			

MSD		Sample ID: 14101776-01B MSD				Units: µg/Kg		Analysis Date: 11/1/2014 04:52 AM		
Client ID:		Run ID: GC9_141031A			SeqNo:3013776		Prep Date: 10/31/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	571300	2,500	500000	0	114	70-130	584900	2.36	30	
Surr: Toluene-d8	4797	0	5000	0	95.9	50-150	4868	1.46	30	

The following samples were analyzed in this batch: 14101772-01A

Client: HRL Compliance Solutions, Inc
Work Order: 14101772
Project: WPX Clough 18 Batch 2 10.28.14

QC BATCH REPORT

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

MBLK		Sample ID: MBLK-64488-64488				Units: mg/Kg		Analysis Date: 10/31/2014 01:31 PM			
Client ID:		Run ID: HG1_141031A		SeqNo: 3011644		Prep Date: 10/31/2014		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury ND 0.020

LCS		Sample ID: LCS-64488-64488					Units:mg/Kg		Analysis Date: 10/31/2014 01:34 PM		
Client ID:			Run ID: HG1_141031A			SeqNo:3011645		Prep Date: 10/31/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury 0.1772 0.020 0.1665 0 106 80-120 0

MS		Sample ID: 14101776-02AMS					Units:mg/Kg		Analysis Date: 10/31/2014 01:38 PM		
Client ID:			Run ID: HG1_141031A		SeqNo: 3011647		Prep Date: 10/31/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury 0.1177 0.011 0.09259 0.003715 123 75-125 0

MSD				Sample ID: 14101776-02AMSD				Units:mg/Kg			Analysis Date: 10/31/2014 01:42 PM		
Client ID:				Run ID: HG1_141031A				SeqNo: 3011648		Prep Date: 10/31/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			

Mercury 0.1153 0.011 0.09302 0.003715 120 75-125 0.1177 2.05 35

The following samples were analyzed in this batch:

14101772-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101772
Project: WPX Clough 18 Batch 2 10.28.14

QC BATCH REPORT

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

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

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

The following samples were analyzed in this batch:

14101772-01C

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101772
Project: WPX Clough 18 Batch 2 10.28.14

QC BATCH REPORT

Batch ID: **64547**

Instrument ID **ICP2**

Method: **SW846 6010C**

MBLK					Sample ID: MBLK-64547-64547			Units:mg/Kg		Analysis Date: 10/31/2014 05:59 PM		
Client ID:			Run ID: ICP2_141031B			SeqNo:3013182		Prep Date: 10/31/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
Arsenic	ND	0.25										
Barium	ND	0.25										
Cadmium	ND	0.50										
Chromium	ND	0.25										
Copper	ND	0.50										
Lead	ND	0.25										
Nickel	ND	0.25										
Selenium	ND	0.50										
Silver	ND	0.25										
Zinc	0.1616	0.50								J		

LCS					Sample ID: LCS-64547-64547			Units:mg/Kg		Analysis Date: 10/31/2014 06:04 PM		
Client ID:			Run ID: ICP2_141031B			SeqNo:3013183		Prep Date: 10/31/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
Arsenic	4.698	0.25	5	0	94	80-120	0					
Barium	4.693	0.25	5	0	93.9	80-120	0					
Cadmium	4.521	0.50	5	0	90.4	80-120	0					
Chromium	4.838	0.25	5	0	96.8	80-120	0					
Copper	4.869	0.50	5	0	97.4	80-120	0					
Lead	4.768	0.25	5	0	95.4	80-120	0					
Nickel	4.749	0.25	5	0	95	80-120	0					
Selenium	4.747	0.50	5	0	94.9	80-120	0					
Silver	4.927	0.25	5	0	98.5	80-120	0					
Zinc	5.021	0.50	5	0	100	80-120	0					

MS					Sample ID: 14101823-03AMS			Units: mg/Kg		Analysis Date: 10/31/2014 07:24 PM		
Client ID:			Run ID: ICP2_141031B			SeqNo: 3013197		Prep Date: 10/31/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
Arsenic	15.46	0.38	7.508	7.58	105	75-125	0					
Barium	242.1	0.38	7.508	266	-318	75-125	0			SO		
Cadmium	7.121	0.75	7.508	0.1906	92.3	75-125	0					
Chromium	18.31	0.38	7.508	10.66	102	75-125	0					
Copper	19.91	0.75	7.508	13.2	89.3	75-125	0					
Lead	26.37	0.38	7.508	19.95	85.5	75-125	0					
Nickel	20.94	0.38	7.508	13.89	93.9	75-125	0					
Selenium	7.369	0.75	7.508	0.3791	93.1	75-125	0					
Silver	8.355	0.38	7.508	-0.03233	112	75-125	0					
Zinc	76.58	0.75	7.508	67.38	123	75-125	0			O		

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101772
Project: WPX Clough 18 Batch 2 10.28.14

QC BATCH REPORT

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

MSD		Sample ID: 14101823-03AMSD				Units: mg/Kg		Analysis Date: 10/31/2014 07:29 PM		
Client ID:		Run ID: ICP2_141031B				SeqNo: 3013198		Prep Date: 10/31/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	14.57	0.37	7.496	7.58	93.2	75-125	15.46	5.94	20	
Barium	268.5	0.37	7.496	266	33.6	75-125	242.1	10.3	20	SO
Cadmium	7.08	0.75	7.496	0.1906	91.9	75-125	7.121	0.577	20	
Chromium	17.9	0.37	7.496	10.66	96.5	75-125	18.31	2.25	20	
Copper	19.51	0.75	7.496	13.2	84	75-125	19.91	2.04	20	
Lead	25.67	0.37	7.496	19.95	76.3	75-125	26.37	2.7	20	
Nickel	20.24	0.37	7.496	13.89	84.8	75-125	20.94	3.38	20	
Selenium	7.556	0.75	7.496	0.3791	95.7	75-125	7.369	2.5	20	
Silver	8.241	0.37	7.496	-0.03233	110	75-125	8.355	1.38	20	
Zinc	74.71	0.75	7.496	67.38	97.9	75-125	76.58	2.47	20	O

The following samples were analyzed in this batch: 14101772-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101772
Project: WPX Clough 18 Batch 2 10.28.14

QC BATCH REPORT

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

MBLK		Sample ID: SBLKS1-64523-64523				Units: µg/Kg		Analysis Date: 11/3/2014 10:23 AM		
Client ID:		Run ID: SVMS8_141103A				SeqNo: 3014423		Prep Date: 10/31/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	6.7								
Acenaphthylene	ND	6.7								
Anthracene	ND	6.7								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(g,h,i)perylene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Chrysene	ND	6.7								
Dibenzo(a,h)anthracene	ND	6.7								
Fluoranthene	ND	6.7								
Fluorene	ND	6.7								
Indeno(1,2,3-cd)pyrene	ND	6.7								
Naphthalene	ND	6.7								
Pyrene	ND	6.7								
<i>Surr: 2-Fluorobiphenyl</i>	1311	0	1667	0	78.7	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1758	0	1667	0	105	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1172	0	1667	0	70.3	37-107	0			

LCS		Sample ID: SLCSS1-64523-64523				Units: µg/Kg		Analysis Date: 11/3/2014 10:43 AM		
Client ID:		Run ID: SVMS8_141103A				SeqNo: 3014431		Prep Date: 10/31/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	536.7	6.7	666.7	0	80.5	45-110	0			
Acenaphthylene	533	6.7	666.7	0	79.9	45-105	0			
Anthracene	625.3	6.7	666.7	0	93.8	55-105	0			
Benzo(a)anthracene	633.3	6.7	666.7	0	95	50-110	0			
Benzo(a)pyrene	713.7	6.7	666.7	0	107	50-110	0			
Benzo(b)fluoranthene	700.7	6.7	666.7	0	105	45-115	0			
Benzo(g,h,i)perylene	641.3	6.7	666.7	0	96.2	40-125	0			
Benzo(k)fluoranthene	688	6.7	666.7	0	103	45-115	0			
Chrysene	664	6.7	666.7	0	99.6	55-110	0			
Dibenzo(a,h)anthracene	691	6.7	666.7	0	104	40-125	0			
Fluoranthene	635	6.7	666.7	0	95.2	55-115	0			
Fluorene	545.3	6.7	666.7	0	81.8	50-110	0			
Indeno(1,2,3-cd)pyrene	699.7	6.7	666.7	0	105	40-120	0			
Naphthalene	523	6.7	666.7	0	78.4	40-105	0			
Pyrene	660	6.7	666.7	0	99	45-125	0			
<i>Surr: 2-Fluorobiphenyl</i>	1219	0	1667	0	73.2	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1567	0	1667	0	94	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1147	0	1667	0	68.8	37-107	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101772
Project: WPX Clough 18 Batch 2 10.28.14

QC BATCH REPORT

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

MS				Sample ID: 14101675-01A MS			Units: µg/Kg		Analysis Date: 11/3/2014 11:03 AM		
Client ID:		Run ID: SVMS8_141103A			SeqNo:3014432		Prep Date: 10/31/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	987.6	13	1313	0	75.2	45-110	0				
Acenaphthylene	1011	13	1313	0	77	45-105	0				
Anthracene	1150	13	1313	0	87.5	55-105	0				
Benzo(a)anthracene	1134	13	1313	0	86.3	50-110	0				
Benzo(a)pyrene	1309	13	1313	0	99.6	50-110	0				
Benzo(b)fluoranthene	1264	13	1313	0	96.2	45-115	0				
Benzo(g,h,i)perylene	1254	13	1313	0	95.4	40-125	0				
Benzo(k)fluoranthene	1265	13	1313	0	96.3	45-115	0				
Chrysene	1184	13	1313	0	90.1	55-110	0				
Dibenzo(a,h)anthracene	1323	13	1313	0	101	40-125	0				
Fluoranthene	1085	13	1313	0	82.6	55-115	0				
Fluorene	1039	13	1313	0	79.1	50-110	0				
Indeno(1,2,3-cd)pyrene	1329	13	1313	0	101	40-120	0				
Naphthalene	943.6	13	1313	0	71.8	40-105	0				
Pyrene	1284	13	1313	4.249	97.5	45-125	0				
Surr: 2-Fluorobiphenyl	2242	0	3283	0	68.3	12-100	0				
Surr: 4-Terphenyl-d14	2906	0	3283	0	88.5	25-137	0				
Surr: Nitrobenzene-d5	1991	0	3283	0	60.6	37-107	0				

MSD				Sample ID: 14101675-01A MSD			Units: µg/Kg		Analysis Date: 11/3/2014 11:24 AM		
Client ID:			Run ID: SVMS8_141103A			SeqNo:3014433		Prep Date: 10/31/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	957.2	13	1325	0	72.2	45-110	987.6	3.12	30		
Acenaphthylene	1017	13	1325	0	76.7	45-105	1011	0.552	30		
Anthracene	1096	13	1325	0	82.7	55-105	1150	4.76	30		
Benzo(a)anthracene	1146	13	1325	0	86.5	50-110	1134	1.05	30		
Benzo(a)pyrene	1365	13	1325	0	103	50-110	1309	4.18	30		
Benzo(b)fluoranthene	1235	13	1325	0	93.2	45-115	1264	2.29	30		
Benzo(g,h,i)perylene	1209	13	1325	0	91.2	40-125	1254	3.62	30		
Benzo(k)fluoranthene	1252	13	1325	0	94.5	45-115	1265	1.06	30		
Chrysene	1192	13	1325	0	90	55-110	1184	0.711	30		
Dibenzo(a,h)anthracene	1262	13	1325	0	95.2	40-125	1323	4.74	30		
Fluoranthene	1113	13	1325	0	84	55-115	1085	2.56	30		
Fluorene	960.5	13	1325	0	72.5	50-110	1039	7.89	30		
Indeno(1,2,3-cd)pyrene	1282	13	1325	0	96.7	40-120	1329	3.62	30		
Naphthalene	1017	13	1325	0	76.7	40-105	943.6	7.47	30		
Pyrene	1166	13	1325	4.249	87.7	45-125	1284	9.67	30		
Surr: 2-Fluorobiphenyl	2199	0	3312	0	66.4	12-100	2242	1.91	40		
Surr: 4-Terphenyl-d14	2663	0	3312	0	80.4	25-137	2906	8.72	40		
Surr: Nitrobenzene-d5	2050	0	3312	0	61.9	37-107	1991	2.93	40		

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101772
Project: WPX Clough 18 Batch 2 10.28.14

QC BATCH REPORT

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

The following samples were analyzed in this batch:

14101772-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101772
Project: WPX Clough 18 Batch 2 10.28.14

QC BATCH REPORT

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

Sample ID: MBLK-64543-64543				Units: µg/Kg			Analysis Date: 10/31/2014 04:10 PM			
Client ID:		Run ID: VMS9_141031A			SeqNo: 3012585		Prep Date: 10/31/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	30								
Ethylbenzene	ND	30								
m,p-Xylene	ND	60								
o-Xylene	ND	30								
Toluene	ND	30								
Xylenes, Total	ND	90								
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>984</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.4</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>948</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>94.8</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Dibromofluoromethane</i>	<i>948.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>94.8</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Toluene-d8</i>	<i>987</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.7</i>	<i>70-130</i>	<i>0</i>			

LCS				Sample ID: LCS-64543-64543			Units: µg/Kg		Analysis Date: 10/31/2014 01:22 PM		
Client ID:			Run ID: VMS9_141031A			SeqNo:3012584		Prep Date: 10/31/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1072	30	1000	0	107	75-125	0				
Ethylbenzene	1046	30	1000	0	105	75-125	0				
m,p-Xylene	2064	60	2000	0	103	80-125	0				
o-Xylene	1021	30	1000	0	102	75-125	0				
Toluene	1030	30	1000	0	103	70-125	0				
Xylenes, Total	3086	90	3000	0	103	75-125	0				
Surr: 1,2-Dichloroethane-d4	989.5	0	1000	0	99	70-130	0				
Surr: 4-Bromofluorobenzene	1029	0	1000	0	103	70-130	0				
Surr: Dibromofluoromethane	971.5	0	1000	0	97.2	70-130	0				
Surr: Toluene-d8	999.5	0	1000	0	100	70-130	0				

MS				Sample ID: 14101776-03B MS			Units: µg/Kg		Analysis Date: 11/1/2014 01:19 PM		
Client ID:			Run ID: VMS7_141031C			SeqNo:3012881		Prep Date: 10/31/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1097	30	1000	0	110	75-125	0				
Ethylbenzene	1062	30	1000	0	106	75-125	0				
m,p-Xylene	2094	60	2000	0	105	80-125	0				
o-Xylene	1032	30	1000	0	103	75-125	0				
Toluene	1040	30	1000	0	104	70-125	0				
Xylenes, Total	3126	90	3000	0	104	75-125	0				
Surr: 1,2-Dichloroethane-d4	935.5	0	1000	0	93.6	70-130	0				
Surr: 4-Bromofluorobenzene	1034	0	1000	0	103	70-130	0				
Surr: Dibromofluoromethane	967.5	0	1000	0	96.8	70-130	0				
Surr: Toluene-d8	961	0	1000	0	96.1	70-130	0				

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101772
Project: WPX Clough 18 Batch 2 10.28.14

QC BATCH REPORT

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

MSD				Sample ID: 14101776-03B MSD				Units: µg/Kg		Analysis Date: 11/1/2014 01:44 PM	
Client ID:			Run ID: VMS7_141031C			SeqNo: 3012882		Prep Date: 10/31/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1137	30	1000	0	114	75-125	1097	3.58	30		
Ethylbenzene	1092	30	1000	0	109	75-125	1062	2.79	30		
m,p-Xylene	2187	60	2000	0	109	80-125	2094	4.32	30		
o-Xylene	1080	30	1000	0	108	75-125	1032	4.59	30		
Toluene	1090	30	1000	0	109	70-125	1040	4.69	30		
Xylenes, Total	3268	90	3000	0	109	75-125	3126	4.41	30		
Surr: 1,2-Dichloroethane-d4	925.5	0	1000	0	92.6	70-130	935.5	1.07	30		
Surr: 4-Bromofluorobenzene	1028	0	1000	0	103	70-130	1034	0.631	30		
Surr: Dibromofluoromethane	976.5	0	1000	0	97.6	70-130	967.5	0.926	30		
Surr: Toluene-d8	962	0	1000	0	96.2	70-130	961	0.104	30		

The following samples were analyzed in this batch: 14101772-01A

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101772
Project: WPX Clough 18 Batch 2 10.28.14

QC BATCH REPORT

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

DUP		Sample ID: 14101732-01C DUP				Units: mmhos/cm @25°C		Analysis Date: 11/3/2014 02:00 PM		
Client ID:		Run ID: WETCHEM_141103C				SeqNo: 3014032		Prep Date: 11/1/2014		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	4.38	0.050	0	0	0		4.52	3.15	50	

The following samples were analyzed in this batch:

14101772-01C

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101772
Project: WPX Clough 18 Batch 2 10.28.14

QC BATCH REPORT

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

LCS				Sample ID: LCS-64548-64548				Units: s.u.			Analysis Date: 10/31/2014 02:30 PM			
Client ID:				Run ID: WETCHEM_141031I				SeqNo: 3011817			Prep Date: 10/31/2014		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
pH		3.95	0	4	0	98.8	90-110	0						

DUP		Sample ID: 14101769-01B DUP				Units: s.u.		Analysis Date: 10/31/2014 02:30 PM		
Client ID:		Run ID: WETCHEM_141031I			SeqNo: 3011820		Prep Date: 10/31/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	8.54	0	0	0	0	0-0	8.67	1.51	20	

The following samples were analyzed in this batch:

14101772-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101772
Project: WPX Clough 18 Batch 2 10.28.14

QC BATCH REPORT

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

MBLK		Sample ID: MBLK-64560-64560				Units: mg/Kg		Analysis Date: 10/31/2014 04:00 PM		
Client ID:		Run ID: WETCHEM_141031K				SeqNo: 3011912		Prep Date: 10/30/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 0.50

LCS		Sample ID: LCS-64560-64560				Units: mg/Kg		Analysis Date: 10/31/2014 04:00 PM		
Client ID:		Run ID: WETCHEM_141031K				SeqNo: 3011911		Prep Date: 10/30/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.82 0.50 2 0 91 80-120 0

MS		Sample ID: 14101675-01A MS				Units: mg/Kg		Analysis Date: 10/31/2014 04:00 PM		
Client ID:		Run ID: WETCHEM_141031K				SeqNo: 3011897		Prep Date: 10/30/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 0.50 1.992 0 0 75-125 0 S

MS		Sample ID: 14101675-01A MSI				Units: mg/Kg		Analysis Date: 10/31/2014 04:00 PM		
Client ID:		Run ID: WETCHEM_141031K				SeqNo: 3011899		Prep Date: 10/30/2014		DF: 100
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 502.4 49 699.6 0 71.8 75-125 0 S

MSD		Sample ID: 14101675-01A MSD				Units: mg/Kg		Analysis Date: 10/31/2014 04:00 PM		
Client ID:		Run ID: WETCHEM_141031K				SeqNo: 3011898		Prep Date: 10/30/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 0.50 1.992 0 0 75-125 0 0 20 S

The following samples were analyzed in this batch:

14101772-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 14101772
Project: WPX Clough 18 Batch 2 10.28.14

QC BATCH REPORT

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

MBLK		Sample ID: WBLKS-R151570				Units: % of sample		Analysis Date: 10/30/2014 09:00 PM		
Client ID:		Run ID: MOIST_141030C			SeqNo: 3011991		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture ND 0.050

LCS				Sample ID: LCS-R151570				Units: % of sample			Analysis Date: 10/30/2014 09:00 PM			
Client ID:				Run ID: MOIST_141030C				SeqNo: 3011990		Prep Date:		DF: 1		
Analyte				Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 100 0.050 100 0 100 99.5-100.5 0

DUP				Sample ID: 14101731-01ADUP				Units: % of sample			Analysis Date: 10/30/2014 09:00 PM		
Client ID:				Run ID: MOIST_141030C				SeqNo: 3011969		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			

Moisture 12.25 0.050 0 0 0 0-0 14.05 13.7 20

DUP		Sample ID: 14101763-01ADUP					Units: % of sample		Analysis Date: 10/30/2014 09:00 PM		
Client ID:			Run ID: MOIST_141030C			SeqNo: 3011977		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 18.52 0.050 0 0 0 0-0 20.92 12.2 20

The following samples were analyzed in this batch:

14101772-01B

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



ALS Environmental

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

Chain-of-Custody

WORKORDER # 14101772

PROJECT NAME <i>Clough 18 Batch 2</i>		SAMPLER <i>Mike Lobato</i>		DATE <i>10/28/14</i>		Form 202r	
PROJECT No.		SITE ID <i>Clough 18</i>		TURNAROUND <i>3 Day</i>		PAGE 1 of 1	
COMPANY NAME <i>HRL Compliance Solutions, Inc.</i>		BILL TO COMPANY <i>WPX Energy</i>		DISPOSAL <i>By Lab</i> or Return to Client			
SEND REPORT TO <i>Mark Mumby</i>		INVOICE ATTN TO <i>Karolina Blaney</i>					
ADDRESS <i>2385 F 1/2 Road</i>		ADDRESS <i>1058 Co. Rd. 215</i>					
CITY/STATE/ZIP <i>Grand Junction, CO 81505</i>		CITY/STATE/ZIP <i>Parachute, CO 81635</i>					
PHONE <i>970-243-3271</i>		PHONE <i>970-683-2295</i>					
FAX <i>970-243-3280</i>		FAX					
E-MAIL <i>mmumby@hrlcomp.com; mlobato@hrlcomp.com</i>		E-MAIL <i>Karolina.blaney@wpxenergy.com</i>					
Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC
<i>1</i>	<i>Clough 18 Batch 2</i>	<i>Soil</i>	<i>10/28/14</i>	<i>1355</i>	<i>3</i>	<i>8</i>	<i>X</i>

COGCC Table 910-1

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

For metals or anions, please detail analytes below.

Comments:

Complete COGCC Table 910-1

4.20

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)

SIGNATURE	PRINTED NAME	DATE	TIME
<i>Mike Lobato</i>	Mike Lobato	10/29/14	1623
<i>[Signature]</i>	<i>[Signature]</i>	10/29/14	1623
<i>[Signature]</i>	<i>[Signature]</i>	10/29/14	1630
<i>[Signature]</i>	Diane E Shea	10/30/14	0930

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

Sample Receipt Checklist

Client Name: **HRL**

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

Work Order: **14101772**

Received by: **DS**

Checklist completed by <u>Diane Shaw</u>	30-Oct-14	Reviewed by: <u>Ann Preston</u>	30-Oct-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>4.2 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>10/30/2014 3:28:03 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:

From: (816) 399-9070
 Mark Martinez
 ALS Environmental
 127 E. 1st Street
 Parachute, CO 81835

Origin ID: RILA



Ship Date: 28OCT14
 Address: 58.0 LB
 CAD: 22848404NET3550

Dim: 14 X 29 X 19 IN

SHIP TO: (816) 399-9070
 sample receiving
 ALS Laboratory Group
 3352 128TH AVE

BILL BENDER

HOLLAND, MI 48424

Delivery Address Bar Code



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

4 of 4

WED - 29 OCT 10:30A
 PRIORITY OVERNIGHT

MP# 7716 8054 8884

Met# 7716 8054 8550

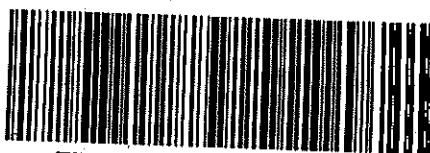
8291

XX HLMA

49424

MS-UN

GRR



52310FF48AC3

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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ALS Parachute Custody Seal

DATE 10/28/14

Time 17:17

Name



10-Dec-2014

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

Re: **WPX Clough 18 Spill 12.4.14**

Work Order: **1412257**

Dear Mark,

ALS Environmental received 2 samples 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 26.

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 The ALS logo, a stylized blue triangle with a yellow flame inside.

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: HRL Compliance Solutions, Inc
Project: WPX Clough 18 Spill 12.4.14
Work Order: 1412257

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>
1412257-01	Clough 18 Batch 3 N	Soil		12/4/2014 09:35	12/5/2014 09:00	<input type="checkbox"/>
1412257-02	Clough 18 Batch 4 S	Soil		12/4/2014 09:45	12/5/2014 09:00	<input type="checkbox"/>

Client: HRL Compliance Solutions, Inc
Project: WPX Clough 18 Spill 12.4.14
Work Order: 1412257

Case Narrative

Batch 65664 MS/MSD data for PAHs is not related to this project's samples. No data requires qualification.

Batch 65701 MS/MSD data for Metals is not related to this project's samples. No data requires qualification. Samples 1412257-01 and 1412257-02 reporting limits for Selenium were elevated due to dilution for high concentrations of non-target analytes.

Batch 65748 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: 10-Dec-14

Client: HRL Compliance Solutions, Inc

Project: WPX Clough 18 Spill 12.4.14

Sample ID: Clough 18 Batch 3 N

Collection Date: 12/4/2014 09:35 AM

Work Order: 1412257

Lab ID: 1412257-01

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	200		SW8015M		Prep: SW3541 / 12/5/14	Analyst: IT
Surr: 4-Terphenyl-d14	70.0		4.6	mg/Kg-dry	1	12/6/2014 01:29 AM
			39-133	%REC	1	12/6/2014 01:29 AM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	37		SW8015		Prep: SW5035 / 12/5/14	Analyst: IT
Surr: Toluene-d8	108		2.8	mg/Kg-dry	1	12/6/2014 02:11 AM
			50-150	%REC	1	12/6/2014 02:11 AM
MERCURY BY CVAA						
Mercury	0.031		SW7471		Prep: SW7471 / 12/5/14	Analyst: LR
			0.014	mg/Kg-dry	1	12/5/2014 04:11 PM
METALS ANALYSIS BY ICP						
Arsenic	11		SW846 6010C		Prep: SW3050B / 12/6/14	Analyst: JEC
Barium	300		0.40	mg/Kg-dry	1	12/8/2014 06:47 PM
Cadmium	1.5		0.40	mg/Kg-dry	1	12/8/2014 06:47 PM
Chromium	10		0.32	mg/Kg-dry	1	12/8/2014 06:47 PM
Copper	13		0.40	mg/Kg-dry	1	12/8/2014 06:47 PM
Lead	15		0.40	mg/Kg-dry	1	12/8/2014 06:47 PM
Nickel	15		0.40	mg/Kg-dry	1	12/8/2014 06:47 PM
Selenium	0.62		0.40	mg/Kg-dry	1	12/9/2014 01:14 PM
Silver	ND		0.40	mg/Kg-dry	1	12/9/2014 01:14 PM
Zinc	65		0.80	mg/Kg-dry	1	12/8/2014 06:47 PM
SOLUBLE CATIONS FOR SAR						
Calcium	250		SW846 6010C		Prep: USDA Method 20B / 12/10/14	Analyst: JEC
Magnesium	77		5.0	mg/L	10	12/10/2014 04:38 PM
Sodium	1,100		2.0	mg/L	10	12/10/2014 04:38 PM
			2.0	mg/L	10	12/10/2014 04:38 PM
SODIUM ADSORPTION RATIO						
Sodium Adsorption Ratio	15		USDA H60 METHOD		Prep: USDA Method 20B / 12/10/14	Analyst: JEC
			0.010	none	1	12/10/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
Acenaphthene	ND		SW846 8270D		Prep: SW3541 / 12/5/14	Analyst: RM
Acenaphthylene	ND		7.3	µg/Kg-dry	1	12/8/2014 05:57 PM
Anthracene	26		7.3	µg/Kg-dry	1	12/8/2014 05:57 PM
Benzo(a)anthracene	ND		7.3	µg/Kg-dry	1	12/8/2014 05:57 PM
Benzo(a)pyrene	ND		7.3	µg/Kg-dry	1	12/8/2014 05:57 PM
Benzo(b)fluoranthene	ND		7.3	µg/Kg-dry	1	12/8/2014 05:57 PM
Benzo(g,h,i)perylene	ND		7.3	µg/Kg-dry	1	12/8/2014 05:57 PM
Benzo(k)fluoranthene	ND		7.3	µg/Kg-dry	1	12/8/2014 05:57 PM
Chrysene	ND		7.3	µg/Kg-dry	1	12/8/2014 05:57 PM

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

ALS Group USA, Corp

Date: 10-Dec-14

Client: HRL Compliance Solutions, Inc

Project: WPX Clough 18 Spill 12.4.14

Sample ID: Clough 18 Batch 3 N

Collection Date: 12/4/2014 09:35 AM

Work Order: 1412257

Lab ID: 1412257-01

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		7.3	µg/Kg-dry	1	12/8/2014 05:57 PM
Fluoranthene	ND		7.3	µg/Kg-dry	1	12/8/2014 05:57 PM
Fluorene	43		7.3	µg/Kg-dry	1	12/8/2014 05:57 PM
Indeno(1,2,3-cd)pyrene	ND		7.3	µg/Kg-dry	1	12/8/2014 05:57 PM
Naphthalene	18		7.3	µg/Kg-dry	1	12/8/2014 05:57 PM
Pyrene	ND		7.3	µg/Kg-dry	1	12/8/2014 05:57 PM
Surr: 2-Fluorobiphenyl	59.6		12-100	%REC	1	12/8/2014 05:57 PM
Surr: 4-Terphenyl-d14	80.3		25-137	%REC	1	12/8/2014 05:57 PM
Surr: Nitrobenzene-d5	61.5		37-107	%REC	1	12/8/2014 05:57 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 12/5/14		Analyst: BG
Benzene	ND		33	µg/Kg-dry	1	12/8/2014 12:40 PM
Ethylbenzene	ND		33	µg/Kg-dry	1	12/8/2014 12:40 PM
m,p-Xylene	ND		67	µg/Kg-dry	1	12/8/2014 12:40 PM
o-Xylene	ND		33	µg/Kg-dry	1	12/8/2014 12:40 PM
Toluene	ND		33	µg/Kg-dry	1	12/8/2014 12:40 PM
Xylenes, Total	ND		100	µg/Kg-dry	1	12/8/2014 12:40 PM
Surr: 1,2-Dichloroethane-d4	97.8		70-130	%REC	1	12/8/2014 12:40 PM
Surr: 4-Bromofluorobenzene	107		70-130	%REC	1	12/8/2014 12:40 PM
Surr: Dibromofluoromethane	87.5		70-130	%REC	1	12/8/2014 12:40 PM
Surr: Toluene-d8	109		70-130	%REC	1	12/8/2014 12:40 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHOD	Prep: USDA Method 20B / 12/10/14		Analyst: JB
Electrical Conductivity @ Saturation	8.2		0.050	mmhos/cm @25	10	12/10/2014 04:15 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: MB
Chromium, Trivalent	10		0.56	mg/Kg-dry	1	12/9/2014 04:30 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 12/8/14		Analyst: DAH
Chromium, Hexavalent	ND		0.56	mg/Kg-dry	1	12/9/2014 02:30 PM
MOISTURE			A2540 G			Analyst: EVb
Moisture	10		0.050	% of sample	1	12/5/2014 04:00 PM
PH			SW9045D	Prep: EXTRACT / 12/8/14		Analyst: AXL
pH	8.6			s.u.	1	12/8/2014 05:00 PM

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

ALS Group USA, Corp

Date: 10-Dec-14

Client: HRL Compliance Solutions, Inc

Project: WPX Clough 18 Spill 12.4.14

Sample ID: Clough 18 Batch 4 S

Collection Date: 12/4/2014 09:45 AM

Work Order: 1412257

Lab ID: 1412257-02

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3541 / 12/5/14	Analyst: IT
DRO (C10-C28)	140		4.5	mg/Kg-dry	1	12/6/2014 01:55 AM
Surr: 4-Terphenyl-d14	73.1		39-133	%REC	1	12/6/2014 01:55 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015		Prep: SW5035 / 12/5/14	Analyst: IT
GRO (C6-C10)	11		2.8	mg/Kg-dry	1	12/6/2014 02:35 AM
Surr: Toluene-d8	104		50-150	%REC	1	12/6/2014 02:35 AM
MERCURY BY CVAA						
			SW7471		Prep: SW7471 / 12/5/14	Analyst: LR
Mercury	0.027		0.014	mg/Kg-dry	1	12/5/2014 03:13 PM
METALS ANALYSIS BY ICP						
			SW846 6010C		Prep: SW3050B / 12/6/14	Analyst: JEC
Arsenic	6.9		0.38	mg/Kg-dry	1	12/8/2014 06:52 PM
Barium	400		0.38	mg/Kg-dry	1	12/8/2014 06:52 PM
Cadmium	0.93		0.30	mg/Kg-dry	1	12/8/2014 06:52 PM
Chromium	9.6		0.38	mg/Kg-dry	1	12/8/2014 06:52 PM
Copper	10		0.38	mg/Kg-dry	1	12/8/2014 06:52 PM
Lead	13		0.38	mg/Kg-dry	1	12/8/2014 06:52 PM
Nickel	13		0.38	mg/Kg-dry	1	12/8/2014 06:52 PM
Selenium	0.45		0.38	mg/Kg-dry	1	12/9/2014 01:20 PM
Silver	ND		0.38	mg/Kg-dry	1	12/9/2014 01:20 PM
Zinc	62		0.75	mg/Kg-dry	1	12/8/2014 06:52 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 12/10/14	Analyst: JEC
Calcium	360		5.0	mg/L	10	12/10/2014 04:43 PM
Magnesium	94		2.0	mg/L	10	12/10/2014 04:43 PM
Sodium	1,000		2.0	mg/L	10	12/10/2014 04:43 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHOD		Prep: USDA Method 20B / 12/10/14	Analyst: JEC
Sodium Adsorption Ratio	12		0.010	none	1	12/10/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 12/5/14	Analyst: RM
Acenaphthene	ND		7.3	µg/Kg-dry	1	12/8/2014 06:18 PM
Acenaphthylene	ND		7.3	µg/Kg-dry	1	12/8/2014 06:18 PM
Anthracene	13		7.3	µg/Kg-dry	1	12/8/2014 06:18 PM
Benzo(a)anthracene	ND		7.3	µg/Kg-dry	1	12/8/2014 06:18 PM
Benzo(a)pyrene	ND		7.3	µg/Kg-dry	1	12/8/2014 06:18 PM
Benzo(b)fluoranthene	ND		7.3	µg/Kg-dry	1	12/8/2014 06:18 PM
Benzo(g,h,i)perylene	ND		7.3	µg/Kg-dry	1	12/8/2014 06:18 PM
Benzo(k)fluoranthene	ND		7.3	µg/Kg-dry	1	12/8/2014 06:18 PM
Chrysene	ND		7.3	µg/Kg-dry	1	12/8/2014 06:18 PM

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

ALS Group USA, Corp

Date: 10-Dec-14

Client: HRL Compliance Solutions, Inc

Project: WPX Clough 18 Spill 12.4.14

Sample ID: Clough 18 Batch 4 S

Collection Date: 12/4/2014 09:45 AM

Work Order: 1412257

Lab ID: 1412257-02

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		7.3	µg/Kg-dry	1	12/8/2014 06:18 PM
Fluoranthene	ND		7.3	µg/Kg-dry	1	12/8/2014 06:18 PM
Fluorene	15		7.3	µg/Kg-dry	1	12/8/2014 06:18 PM
Indeno(1,2,3-cd)pyrene	ND		7.3	µg/Kg-dry	1	12/8/2014 06:18 PM
Naphthalene	ND		7.3	µg/Kg-dry	1	12/8/2014 06:18 PM
Pyrene	ND		7.3	µg/Kg-dry	1	12/8/2014 06:18 PM
Surr: 2-Fluorobiphenyl	66.4		12-100	%REC	1	12/8/2014 06:18 PM
Surr: 4-Terphenyl-d14	81.8		25-137	%REC	1	12/8/2014 06:18 PM
Surr: Nitrobenzene-d5	70.4		37-107	%REC	1	12/8/2014 06:18 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 12/5/14		Analyst: BG
Benzene	ND		34	µg/Kg-dry	1	12/8/2014 01:06 AM
Ethylbenzene	ND		34	µg/Kg-dry	1	12/8/2014 01:06 AM
m,p-Xylene	ND		67	µg/Kg-dry	1	12/8/2014 01:06 AM
o-Xylene	ND		34	µg/Kg-dry	1	12/8/2014 01:06 AM
Toluene	ND		34	µg/Kg-dry	1	12/8/2014 01:06 AM
Xylenes, Total	ND		100	µg/Kg-dry	1	12/8/2014 01:06 AM
Surr: 1,2-Dichloroethane-d4	99.6		70-130	%REC	1	12/8/2014 01:06 AM
Surr: 4-Bromofluorobenzene	100		70-130	%REC	1	12/8/2014 01:06 AM
Surr: Dibromofluoromethane	94.6		70-130	%REC	1	12/8/2014 01:06 AM
Surr: Toluene-d8	88.6		70-130	%REC	1	12/8/2014 01:06 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHOD	Prep: USDA Method 20B / 12/10/14		Analyst: JB
Electrical Conductivity @ Saturation	8.5		0.050	mmhos/cm @25	10	12/10/2014 04:15 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: MB
Chromium, Trivalent	9.6		0.56	mg/Kg-dry	1	12/9/2014 04:30 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 12/8/14		Analyst: DAH
Chromium, Hexavalent	ND		0.56	mg/Kg-dry	1	12/9/2014 02:30 PM
MOISTURE			A2540 G			Analyst: EVB
Moisture	11		0.050	% of sample	1	12/5/2014 04:00 PM
PH			SW9045D	Prep: EXTRACT / 12/8/14		Analyst: AXL
pH	8.2			s.u.	1	12/8/2014 05:00 PM

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

ALS Group USA, Corp

Date: 10-Dec-14

Client: HRL Compliance Solutions, Inc
Work Order: 1412257
Project: WPX Clough 18 Spill 12.4.14

QC BATCH REPORT

Batch ID: **65665** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-65665-65665				Units: mg/Kg		Analysis Date: 12/5/2014 08:23 PM		
Client ID:		Run ID: GC8_141205A				SeqNo: 3064025		Prep Date: 12/5/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	5.0								
Surr: 4-Terphenyl-d14	1.832	0	2	0	91.6	39-133	0			

LCS		Sample ID: DLCSS1-65665-65665				Units: mg/Kg		Analysis Date: 12/5/2014 08:48 PM		
Client ID:		Run ID: GC8_141205A				SeqNo: 3064026		Prep Date: 12/5/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	165.8	5.0	200	0	82.9	61-109	0			
Surr: 4-Terphenyl-d14	1.49	0	2	0	74.5	39-133	0			

MS		Sample ID: 1412197-01A MS				Units: mg/Kg		Analysis Date: 12/5/2014 09:14 PM		
Client ID:		Run ID: GC8_141205A				SeqNo: 3064027		Prep Date: 12/5/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	368	8.2	327.5	95.64	83.2	48-110	0			
Surr: 4-Terphenyl-d14	2.419	0	3.275	0	73.9	39-133	0			

MSD		Sample ID: 1412197-01A MSD				Units: mg/Kg		Analysis Date: 12/5/2014 09:39 PM		
Client ID:		Run ID: GC8_141205A				SeqNo: 3064028		Prep Date: 12/5/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	351.8	8.1	322.2	95.64	79.5	48-110	368	4.52	30	
Surr: 4-Terphenyl-d14	2.496	0	3.222	0	77.5	39-133	2.419	3.14	30	

The following samples were analyzed in this batch: | 1412257-01B | 1412257-02B |

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412257
Project: WPX Clough 18 Spill 12.4.14

QC BATCH REPORT

Batch ID: **65691** Instrument ID **GC10** Method: **SW8015**

MBLK		Sample ID: MBLK-65691-65691				Units: µg/Kg		Analysis Date: 12/6/2014 12:58 PM		
Client ID:		Run ID: GC10_141205A				SeqNo: 3064022		Prep Date: 12/5/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	2,500								
<i>Surr: Toluene-d8</i>	<i>5406</i>	<i>0</i>	<i>5000</i>	<i>0</i>	<i>108</i>	<i>50-150</i>	<i>0</i>			

LCS		Sample ID: LCS-65691-65691				Units: µg/Kg		Analysis Date: 12/6/2014 12:34 PM		
Client ID:		Run ID: GC10_141205A				SeqNo: 3064021		Prep Date: 12/5/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	566800	2,500	500000	0	113	70-130	0			
<i>Surr: Toluene-d8</i>	<i>5359</i>	<i>0</i>	<i>5000</i>	<i>0</i>	<i>107</i>	<i>50-150</i>	<i>0</i>			

MS		Sample ID: 1412255-01A MS				Units: µg/Kg		Analysis Date: 12/6/2014 05:00 AM		
Client ID:		Run ID: GC10_141205A				SeqNo: 3064019		Prep Date: 12/5/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	560400	2,500	500000	0	112	70-130	0			
<i>Surr: Toluene-d8</i>	<i>5296</i>	<i>0</i>	<i>5000</i>	<i>0</i>	<i>106</i>	<i>50-150</i>	<i>0</i>			

MSD		Sample ID: 1412255-01A MSD				Units: µg/Kg		Analysis Date: 12/6/2014 05:25 AM		
Client ID:		Run ID: GC10_141205A				SeqNo: 3064020		Prep Date: 12/5/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	543400	2,500	500000	0	109	70-130	560400	3.08	30	
<i>Surr: Toluene-d8</i>	<i>5240</i>	<i>0</i>	<i>5000</i>	<i>0</i>	<i>105</i>	<i>50-150</i>	<i>5296</i>	<i>1.05</i>	<i>30</i>	

The following samples were analyzed in this batch:

1412257-01A	1412257-02A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: HRL Compliance Solutions, Inc
Work Order: 1412257
Project: WPX Clough 18 Spill 12.4.14

QC BATCH REPORT

Batch ID: **65642** Instrument ID **HG1** Method: **SW7471**

MBLK		Sample ID: MBLK-65642-65642				Units: mg/Kg		Analysis Date: 12/5/2014 02:59 PM		
Client ID:		Run ID: HG1_141205A				SeqNo: 3063762		Prep Date: 12/5/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury ND 0.020

LCS		Sample ID: LCS-65642-65642				Units: mg/Kg		Analysis Date: 12/5/2014 03:02 PM		
Client ID:		Run ID: HG1_141205A				SeqNo: 3063763		Prep Date: 12/5/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1728 0.020 0.1665 0 104 80-120 0

MS		Sample ID: 1412257-02BMS				Units: mg/Kg		Analysis Date: 12/5/2014 03:15 PM		
Client ID: Clough 18 Batch 4 S		Run ID: HG1_141205A				SeqNo: 3063769		Prep Date: 12/5/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1431 0.013 0.1043 0.02382 114 75-125 0

MSD		Sample ID: 1412257-02BMSD				Units: mg/Kg		Analysis Date: 12/5/2014 03:18 PM		
Client ID: Clough 18 Batch 4 S		Run ID: HG1_141205A				SeqNo: 3063770		Prep Date: 12/5/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1473 0.012 0.103 0.02382 120 75-125 0.1431 2.9 35

The following samples were analyzed in this batch:

1412257-01B 1412257-02B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412257
Project: WPX Clough 18 Spill 12.4.14

QC BATCH REPORT

Batch ID: **65701** Instrument ID **ICP2** Method: **SW846 6010C**

Sample ID: MBLK-65701-65701				Units: mg/L			Analysis Date: 12/8/2014 05:10 PM			
Client ID:		Run ID: ICP2_141208A			SeqNo: 3065721		Prep Date: 12/6/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	ND	0.50								
Chromium	ND	0.25								
Copper	ND	0.50								
Lead	ND	0.25								
Nickel	ND	0.25								
Selenium	ND	0.50								
Silver	ND	0.25								
Zinc	0.1439	0.50								J

MBLK				Sample ID: MBLK-65701-65701				Units:mg/Kg			Analysis Date: 12/9/2014 11:43 AM			
Client ID:				Run ID: ICP2_141209A				SeqNo:3067281			Prep Date: 12/6/2014		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Silver		ND	0.25											

LCS				Sample ID: LCS-65701-65701				Units:mg/Kg			Analysis Date: 12/8/2014 05:18 PM		
Client ID:			Run ID: ICP2_141208A			SeqNo:3066193			Prep Date: 12/6/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Arsenic	4.696	0.25	5	0	93.9	80-120	0						
Barium	4.847	0.25	5	0	96.9	80-120	0						
Cadmium	4.64	0.50	5	0	92.8	80-120	0						
Chromium	5.081	0.25	5	0	102	80-120	0						
Copper	5.006	0.50	5	0	100	80-120	0						
Lead	5.09	0.25	5	0	102	80-120	0						
Nickel	4.903	0.25	5	0	98.1	80-120	0						
Selenium	4.74	0.50	5	0	94.8	80-120	0						
Silver	4.378	0.25	5	0	87.6	80-120	0						
Zinc	4.936	0.50	5	0	98.7	80-120	0						

LCS		Sample ID: LCS-65701-65701					Units:mg/Kg		Analysis Date: 12/9/2014 11:49 AM		
Client ID:		Run ID: ICP2_141209A			SeqNo:3067282		Prep Date: 12/6/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Silver	4.522	0.25	5	0	90.4	80-120	0				

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412257
Project: WPX Clough 18 Spill 12.4.14

QC BATCH REPORT

Batch ID: **65701**

Instrument ID **ICP2**

Method: **SW846 6010C**

MS				Sample ID: 1412277-03AMS				Units:mg/Kg			Analysis Date: 12/8/2014 05:51 PM			
Client ID:				Run ID: ICP2_141208A				SeqNo:3066199			Prep Date: 12/6/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Arsenic	15.23	0.34	6.859	7.716	110	75-125	0							
Barium	129.3	0.34	6.859	115.9	195	75-125	0			SO				
Cadmium	6.249	0.69	6.859	-0.04429	91.7	75-125	0							
Chromium	20.48	0.34	6.859	9.629	158	75-125	0			S				
Copper	20.33	0.69	6.859	13.41	101	75-125	0							
Lead	22.56	0.34	6.859	15.18	108	75-125	0							
Nickel	22.89	0.34	6.859	15.69	105	75-125	0							
Selenium	8.366	0.69	6.859	1.348	102	75-125	0							
Zinc	92.75	0.69	6.859	81.28	167	75-125	0			SO				

MS				Sample ID: 1412277-03AMS				Units:mg/Kg			Analysis Date: 12/9/2014 12:22 PM			
Client ID:				Run ID: ICP2_141209A				SeqNo:3067288			Prep Date: 12/6/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Silver	6.838	0.34	6.859	-0.0769	101	75-125	0							

MSD				Sample ID: 1412277-03AMSD			Units:mg/Kg		Analysis Date: 12/8/2014 05:57 PM		
Client ID:			Run ID: ICP2_141208A			SeqNo:3066200		Prep Date: 12/6/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	15.01	0.35	6.935	7.716	105	75-125	15.23	1.43	20		
Barium	117.4	0.35	6.935	115.9	21.5	75-125	129.3	9.62	20	SO	
Cadmium	6.444	0.69	6.935	-0.04429	93.6	75-125	6.249	3.07	20		
Chromium	21.03	0.35	6.935	9.629	164	75-125	20.48	2.65	20	S	
Copper	20.93	0.69	6.935	13.41	109	75-125	20.33	2.94	20		
Lead	22.62	0.35	6.935	15.18	107	75-125	22.56	0.265	20		
Nickel	23.88	0.35	6.935	15.69	118	75-125	22.89	4.25	20		
Selenium	8.269	0.69	6.935	1.348	99.8	75-125	8.366	1.16	20		
Zinc	95.06	0.69	6.935	81.28	199	75-125	92.75	2.45	20	SO	

MSD				Sample ID: 1412277-03AMSD				Units:mg/Kg			Analysis Date: 12/9/2014 12:27 PM			
Client ID:				Run ID: ICP2_141209A				SeqNo:3067289			Prep Date: 12/6/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Silver	6.985	0.35	6.935	-0.0769	102	75-125	6.838	2.12	20					

The following samples were analyzed in this batch:

1412257-01B 1412257-02B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412257
Project: WPX Clough 18 Spill 12.4.14

QC BATCH REPORT

Batch ID: **65781** Instrument ID **ICP2** Method: **SW846 6010C**

DUP				Sample ID: 1412255-01CDUP				Units:mg/L			Analysis Date: 12/10/2014 05:17 PM			
Client ID:				Run ID: ICP2_141210A				SeqNo:3070221			Prep Date: 12/10/2014		DF: 10	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Calcium		55.64	5.0	0	0	0	0-0	59.15	6.11					
Magnesium		41.13	2.0	0	0	0	0-0	44.65	8.21					
Sodium		384	2.0	0	0	0	0-0	406.3	5.62					

DUP				Sample ID: 1412255-01CDUP				Units:none			Analysis Date: 12/10/2014			
Client ID:				Run ID: SAR_141210A				SeqNo:3070226			Prep Date: 12/10/2014		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Sodium Adsorption Ratio		9.518	0.010	0	0	0		9.709	1.99	50				

The following samples were analyzed in this batch: | 1412257-01C 1412257-02C |

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412257
Project: WPX Clough 18 Spill 12.4.14

QC BATCH REPORT

Batch ID: **65664** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKS1-65664-65664				Units: µg/Kg		Analysis Date: 12/8/2014 01:32 PM		
Client ID:		Run ID: SVMS8_141208A				SeqNo: 3067936		Prep Date: 12/5/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	6.7								
Acenaphthylene	ND	6.7								
Anthracene	ND	6.7								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(g,h,i)perylene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Chrysene	ND	6.7								
Dibenzo(a,h)anthracene	ND	6.7								
Fluoranthene	ND	6.7								
Fluorene	ND	6.7								
Indeno(1,2,3-cd)pyrene	ND	6.7								
Naphthalene	ND	6.7								
Pyrene	ND	6.7								
<i>Surr: 2-Fluorobiphenyl</i>	1301	0	1667	0	78.1	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1806	0	1667	0	108	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1496	0	1667	0	89.7	37-107	0			

LCS		Sample ID: SLCSS1-65664-65664				Units: µg/Kg		Analysis Date: 12/8/2014 01:52 PM		
Client ID:		Run ID: SVMS8_141208A				SeqNo: 3067937		Prep Date: 12/5/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	638.7	6.7	666.7	0	95.8	45-110	0			
Acenaphthylene	636.7	6.7	666.7	0	95.5	45-105	0			
Anthracene	689	6.7	666.7	0	103	55-105	0			
Benzo(a)anthracene	708.3	6.7	666.7	0	106	50-110	0			
Benzo(a)pyrene	719.3	6.7	666.7	0	108	50-110	0			
Benzo(b)fluoranthene	726	6.7	666.7	0	109	45-115	0			
Benzo(g,h,i)perylene	778.7	6.7	666.7	0	117	40-125	0			
Benzo(k)fluoranthene	719	6.7	666.7	0	108	45-115	0			
Chrysene	679.3	6.7	666.7	0	102	55-110	0			
Dibenzo(a,h)anthracene	778	6.7	666.7	0	117	40-125	0			
Fluoranthene	695	6.7	666.7	0	104	55-115	0			
Fluorene	605.7	6.7	666.7	0	90.8	50-110	0			
Indeno(1,2,3-cd)pyrene	784.3	6.7	666.7	0	118	40-120	0			
Naphthalene	603	6.7	666.7	0	90.4	40-105	0			
Pyrene	779.7	6.7	666.7	0	117	45-125	0			
<i>Surr: 2-Fluorobiphenyl</i>	1406	0	1667	0	84.4	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1789	0	1667	0	107	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1622	0	1667	0	97.3	37-107	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412257
Project: WPX Clough 18 Spill 12.4.14

QC BATCH REPORT

Batch ID: **65664** Instrument ID **SVMS8** Method: **SW846 8270D**

MS				Sample ID: 1412195-04B MS			Units: µg/Kg		Analysis Date: 12/8/2014 02:33 PM	
Client ID:				Run ID: SVMS8_141208A			SeqNo: 3067938		Prep Date: 12/5/2014	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1178	13	1300	0	90.6	45-110	0			
Acenaphthylene	1211	13	1300	0	93.1	45-105	0			
Anthracene	1340	13	1300	0	103	55-105	0			
Benzo(a)anthracene	1375	13	1300	0	106	50-110	0			
Benzo(a)pyrene	1459	13	1300	0	112	50-110	0			S
Benzo(b)fluoranthene	1485	13	1300	0	114	45-115	0			
Benzo(g,h,i)perylene	1555	13	1300	0	120	40-125	0			
Benzo(k)fluoranthene	1480	13	1300	0	114	45-115	0			
Chrysene	1329	13	1300	0	102	55-110	0			
Dibenzo(a,h)anthracene	1490	13	1300	0	115	40-125	0			
Fluoranthene	1354	13	1300	0	104	55-115	0			
Fluorene	1198	13	1300	0	92.1	50-110	0			
Indeno(1,2,3-cd)pyrene	1493	13	1300	0	115	40-120	0			
Naphthalene	1148	13	1300	0	88.3	40-105	0			
Pyrene	1567	13	1300	0	120	45-125	0			
<i>Surr: 2-Fluorobiphenyl</i>	2607	0	3251	0	80.2	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	3601	0	3251	0	111	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	3263	0	3251	0	100	37-107	0			

MSD				Sample ID: 1412195-04B MSD			Units: µg/Kg		Analysis Date: 12/8/2014 02:53 PM	
Client ID:				Run ID: SVMS8_141208A			SeqNo: 3067940		Prep Date: 12/5/2014	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1124	13	1266	0	88.7	45-110	1178	4.73	30	
Acenaphthylene	1172	13	1266	0	92.6	45-105	1211	3.21	30	
Anthracene	1262	13	1266	0	99.6	55-105	1340	6.02	30	
Benzo(a)anthracene	1299	13	1266	0	103	50-110	1375	5.69	30	
Benzo(a)pyrene	1383	13	1266	0	109	50-110	1459	5.33	30	
Benzo(b)fluoranthene	1415	13	1266	0	112	45-115	1485	4.84	30	
Benzo(g,h,i)perylene	1425	13	1266	0	113	40-125	1555	8.74	30	
Benzo(k)fluoranthene	1372	13	1266	0	108	45-115	1480	7.62	30	
Chrysene	1244	13	1266	0	98.2	55-110	1329	6.61	30	
Dibenzo(a,h)anthracene	1359	13	1266	0	107	40-125	1490	9.15	30	
Fluoranthene	1255	13	1266	0	99.1	55-115	1354	7.59	30	
Fluorene	1093	13	1266	0	86.3	50-110	1198	9.11	30	
Indeno(1,2,3-cd)pyrene	1421	13	1266	0	112	40-120	1493	4.96	30	
Naphthalene	1109	13	1266	0	87.6	40-105	1148	3.46	30	
Pyrene	1504	13	1266	0	119	45-125	1567	4.13	30	
<i>Surr: 2-Fluorobiphenyl</i>	2580	0	3165	0	81.5	12-100	2607	1.04	40	
<i>Surr: 4-Terphenyl-d14</i>	3297	0	3165	0	104	25-137	3601	8.81	40	
<i>Surr: Nitrobenzene-d5</i>	3115	0	3165	0	98.4	37-107	3263	4.64	40	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412257
Project: WPX Clough 18 Spill 12.4.14

QC BATCH REPORT

Batch ID: **65664** Instrument ID **SVMS8** Method: **SW846 8270D**

The following samples were analyzed in this batch:

1412257-01B	1412257-02B
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: HRL Compliance Solutions, Inc
Work Order: 1412257
Project: WPX Clough 18 Spill 12.4.14

QC BATCH REPORT

Batch ID: **65687** Instrument ID **VMS5** Method: **SW8260B**

MBLK				Sample ID: MBLK-65687-65687				Units: µg/Kg			Analysis Date: 12/6/2014 01:34 AM			
Client ID:				Run ID: VMS5_141205B				SeqNo:3064142			Prep Date: 12/5/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Benzene	ND	30												
Ethylbenzene	ND	30												
m,p-Xylene	ND	60												
o-Xylene	ND	30												
Toluene	ND	30												
Xylenes, Total	ND	90												
Surr: 1,2-Dichloroethane-d4	969	0	1000	0	96.9	70-130		0						
Surr: 4-Bromofluorobenzene	981	0	1000	0	98.1	70-130		0						
Surr: Dibromofluoromethane	995.5	0	1000	0	99.6	70-130		0						
Surr: Toluene-d8	992	0	1000	0	99.2	70-130		0						

LCS				Sample ID: LCS-65687-65687			Units: µg/Kg		Analysis Date: 12/6/2014 12:17 PM		
Client ID:			Run ID: VMS5_141205B			SeqNo:3064143		Prep Date: 12/5/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1058	30	1000	0	106	75-125	0				
Ethylbenzene	1112	30	1000	0	111	75-125	0				
m,p-Xylene	2255	60	2000	0	113	80-125	0				
o-Xylene	1122	30	1000	0	112	75-125	0				
Toluene	1066	30	1000	0	107	70-125	0				
Xylenes, Total	3376	90	3000	0	113	75-125	0				
Surr: 1,2-Dichloroethane-d4	954.5	0	1000	0	95.4	70-130	0				
Surr: 4-Bromofluorobenzene	1034	0	1000	0	103	70-130	0				
Surr: Dibromofluoromethane	998.5	0	1000	0	99.8	70-130	0				
Surr: Toluene-d8	988	0	1000	0	98.8	70-130	0				

MS					Sample ID: 1412257-01A MS		Units: µg/Kg		Analysis Date: 12/8/2014 04:35 AM		
Client ID: Clough 18 Batch 3 N			Run ID: VMS6_141207A			SeqNo: 3064765		Prep Date: 12/5/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1005	30	1000	0	100	75-125	0				
Ethylbenzene	1047	30	1000	0	105	75-125	0				
m,p-Xylene	2102	60	2000	24	104	80-125	0				
o-Xylene	1086	30	1000	14	107	75-125	0				
Toluene	976	30	1000	0	97.6	70-125	0				
Xylenes, Total	3187	90	3000	38	105	75-125	0				
Surr: 1,2-Dichloroethane-d4	999	0	1000	0	99.9	70-130	0				
Surr: 4-Bromofluorobenzene	993.5	0	1000	0	99.4	70-130	0				
Surr: Dibromofluoromethane	979.5	0	1000	0	98	70-130	0				
Surr: Toluene-d8	986.5	0	1000	0	98.6	70-130	0				

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412257
Project: WPX Clough 18 Spill 12.4.14

QC BATCH REPORT

Batch ID: **65687** Instrument ID **VMS5** Method: **SW8260B**

MSD				Sample ID: 1412257-01A MSD			Units: µg/Kg		Analysis Date: 12/8/2014 05:01 AM	
Client ID: Clough 18 Batch 3 N				Run ID: VMS6_141207A			SeqNo: 3064766		Prep Date: 12/5/2014	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	908.5	30	1000	0	90.8	75-125	1005	10.1	30	
Ethylbenzene	1022	30	1000	0	102	75-125	1047	2.42	30	
m,p-Xylene	2038	60	2000	24	101	80-125	2102	3.09	30	
o-Xylene	1051	30	1000	14	104	75-125	1086	3.23	30	
Toluene	976	30	1000	0	97.6	70-125	976	0	30	
Xylenes, Total	3088	90	3000	38	102	75-125	3187	3.14	30	
Surr: 1,2-Dichloroethane-d4	895.5	0	1000	0	89.6	70-130	999	10.9	30	
Surr: 4-Bromofluorobenzene	1017	0	1000	0	102	70-130	993.5	2.34	30	
Surr: Dibromofluoromethane	934	0	1000	0	93.4	70-130	979.5	4.76	30	
Surr: Toluene-d8	1049	0	1000	0	105	70-130	986.5	6.14	30	

The following samples were analyzed in this batch: 1412257-01A 1412257-02A

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412257
Project: WPX Clough 18 Spill 12.4.14

QC BATCH REPORT

Batch ID: **65748** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK		Sample ID: MBLK-65748-65748				Units: mg/Kg		Analysis Date: 12/9/2014 02:30 PM		
Client ID:		Run ID: WETCHEM_141209L				SeqNo: 3067968		Prep Date: 12/8/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 0.50

LCS		Sample ID: LCS-65748-65748				Units: mg/Kg		Analysis Date: 12/9/2014 02:30 PM		
Client ID:		Run ID: WETCHEM_141209L				SeqNo: 3067969		Prep Date: 12/8/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.772 0.50 2 0 88.6 80-120 0

MS		Sample ID: 1412255-01B MS				Units: mg/Kg		Analysis Date: 12/9/2014 02:30 PM		
Client ID:		Run ID: WETCHEM_141209L				SeqNo: 3067971		Prep Date: 12/8/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.508 0.50 1.984 0.368 57.5 75-125 0 S

MS		Sample ID: 1412255-01B MSI				Units: mg/Kg		Analysis Date: 12/9/2014 02:30 PM		
Client ID:		Run ID: WETCHEM_141209L				SeqNo: 3067973		Prep Date: 12/8/2014		DF: 100
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 656.2 50 692.3 0.368 94.7 75-125 0

MSD		Sample ID: 1412255-01B MSD				Units: mg/Kg		Analysis Date: 12/9/2014 02:30 PM		
Client ID:		Run ID: WETCHEM_141209L				SeqNo: 3067972		Prep Date: 12/8/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.62 0.50 2 0.368 62.6 75-125 1.508 7.17 20 S

The following samples were analyzed in this batch:

1412257-01B 1412257-02B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412257
Project: WPX Clough 18 Spill 12.4.14

QC BATCH REPORT

Batch ID: **65749** Instrument ID **WETCHEM** Method: **SW9045D**

LCS				Sample ID: LCS-65749-65749				Units: s.u.			Analysis Date: 12/8/2014 05:00 PM			
Client ID:				Run ID: WETCHEM_141208G				SeqNo: 3065632			Prep Date: 12/8/2014		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
pH		4.03	0	4	0	101	90-110	0						

DUP		Sample ID: 1412273-01A dup					Units: s.u.		Analysis Date: 12/8/2014 05:00 PM		
Client ID:		Run ID: WETCHEM_141208G			SeqNo: 3065637		Prep Date: 12/8/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
pH	7.73	0	0	0	0	0-0	7.69	0.519	20		

The following samples were analyzed in this batch:

1412257-01B 1412257-02B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412257
Project: WPX Clough 18 Spill 12.4.14

QC BATCH REPORT

Batch ID: **65781** Instrument ID **WETCHEM** Method: **USDA H60 Method**

DUP		Sample ID: 1412255-01C DUP				Units: mmhos/cm @25°C		Analysis Date: 12/10/2014 04:15 PM		
Client ID:		Run ID: WETCHEM_141210Q				SeqNo: 3070020		Prep Date: 12/10/2014		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	2.79	0.050	0	0	0		2.96	5.91	50	

The following samples were analyzed in this batch:

1412257-01C	1412257-02C
-------------	-------------

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412257
Project: WPX Clough 18 Spill 12.4.14

QC BATCH REPORT

Batch ID: **R153789** Instrument ID **MOIST** Method: **A2540 G**

MBLK		Sample ID: WBLKS-R153789				Units: % of sample		Analysis Date: 12/5/2014 04:00 PM		
Client ID:		Run ID: MOIST_141205C				SeqNo: 3065063		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture ND 0.050

LCS		Sample ID: LCS-R153789				Units: % of sample		Analysis Date: 12/5/2014 04:00 PM		
Client ID:		Run ID: MOIST_141205C				SeqNo: 3065061		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 100 0.050 100 0 100 99.5-100.5 0

DUP		Sample ID: 1412194-01A DUP				Units: % of sample		Analysis Date: 12/5/2014 04:00 PM		
Client ID:		Run ID: MOIST_141205C				SeqNo: 3065009		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 8.39 0.050 0 0 0 0-0 8.69 3.51 20

DUP		Sample ID: 1412253-01A DUP				Units: % of sample		Analysis Date: 12/5/2014 04:00 PM		
Client ID:		Run ID: MOIST_141205C				SeqNo: 3065041		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 10.11 0.050 0 0 0 0-0 10.03 0.794 20

The following samples were analyzed in this batch:







1412257-01B 1412257-02B

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



1412257

Form 2022a

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY		Matt Fought	12/4/14	1:00
RECEIVED BY			12-4-14	1:00
RELINQUISHED BY			12-4-14	1:10
RECEIVED BY		Diane E. Smith	12/5/14	0900
RELINQUISHED BY				
RECEIVED BY				

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

Sample Receipt Checklist

Client Name: **HRL**

Date/Time Received: **05-Dec-14 09:00**

Work Order: **1412257**

Received by: **DS**

Checklist completed by <u><i>Diane Shaw</i></u>	05-Dec-14	Reviewed by: <u><i>Ann Preston</i></u>	05-Dec-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>12/5/2014 11:04:47 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) 399-6870
 Nick Martinez
 ALS Environmental
 127 E. 1st Street
 PARACHUTE, MI 49424

Origin ID: HLMA



Ship Date: 04DEC14
 ActWgt: 50.0 LB
 CAD: 2264848/NET3550

Dims: 11 X 20 X 14 IN

Delivery Address Bar Code



SHIP TO: (616) 399-6870
 sample receiving
 ALS Laboratory Group
 3352 128TH AVE

BILL SENDER

HOLLAND, MI 49424

Ref # 120414-1
 Invoice #
 PO # Parachute
 Dept #

1 of 5
 FRI - 05 DEC 10:30A
 PRIORITY OVERNIGHT

TRK# 7721 0182 7326

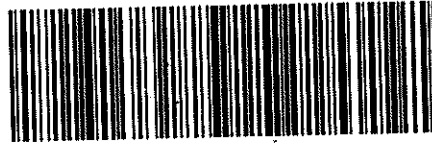
MASTER

49424

MI-US

GRR

68 HLMA



52232.DC758AC3

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ALS Parachute Custody Seal

DATE 12-31-14 Time 17:30

Name



03-Feb-2015

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

Re: **Clough 18 Batch 5 1.26.15**

Work Order: **15011080**

Dear Karolina,

ALS Environmental received 1 sample on 28-Jan-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 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

Environmental The ALS logo, a stylized blue triangle with a yellow flame inside.

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: WPX Energy Rocky Mountain, LLC
Project: Clough 18 Batch 5 1.26.15
Work Order: 15011080

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>
15011080-01	Clough 18 batch 5	Soil		1/26/2015 11:00	1/28/2015 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 03-Feb-15

Client: WPX Energy Rocky Mountain, LLC

Project: Clough 18 Batch 5 1.26.15

Work Order: 15011080

Case Narrative

Batch 67254 MS/MSD data for PAHs 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	Milligrams per Kilogram
mg/Kg-dry	Milligrams per Kilogram Dry Weight
mmhos/cm @25°C	Millimhos-Centimeter at 25 Degrees Celcius
none	
s.u.	Standard Units

ALS Group USA, Corp

Date: 03-Feb-15

Client: WPX Energy Rocky Mountain, LLC

Project: Clough 18 Batch 5 1.26.15

Work Order: 15011080

Sample ID: Clough 18 batch 5

Lab ID: 15011080-01

Collection Date: 1/26/2015 11:00 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	140		SW8015M		Prep: SW3541 / 1/29/15	Analyst: IT
Surr: 4-Terphenyl-d14	68.7		39-133	%REC	1	1/29/2015 08:44 PM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	24		SW8015		Prep: SW5035 / 1/29/15	Analyst: IT
Surr: Toluene-d8	120		50-150	%REC	1	1/29/2015 08:01 PM
MERCURY BY CVAA						
Mercury	0.035		SW7471		Prep: SW7471 / 1/28/15	Analyst: LR
			0.014	mg/Kg-dry	1	1/28/2015 08:11 PM
METALS ANALYSIS BY ICP						
Arsenic	8.7		SW846 6010C		Prep: SW3050B / 1/30/15	Analyst: JEC
Barium	480		0.42	mg/Kg-dry	1	1/30/2015 11:39 PM
Cadmium	3.7		0.42	mg/Kg-dry	1	2/2/2015 02:20 PM
Chromium	8.9		0.85	mg/Kg-dry	1	1/30/2015 11:39 PM
Copper	11		0.42	mg/Kg-dry	1	1/30/2015 11:39 PM
Lead	15		0.85	mg/Kg-dry	1	1/30/2015 11:39 PM
Nickel	13		0.42	mg/Kg-dry	1	1/30/2015 11:39 PM
Selenium	ND		0.42	mg/Kg-dry	1	2/2/2015 02:20 PM
Silver	ND		0.85	mg/Kg-dry	1	1/30/2015 11:39 PM
Zinc	64		0.42	mg/Kg-dry	1	1/30/2015 11:39 PM
SOLUBLE CATIONS FOR SAR						
Calcium	180		SW846 6010C		Prep: USDA Method 20B / 1/30/15	Analyst: JEC
Magnesium	47		5.0	mg/Kg	10	1/30/2015 10:44 PM
Sodium	790		2.0	mg/Kg	10	1/30/2015 10:44 PM
SODIUM ADSORPTION RATIO						
Sodium Adsorption Ratio	14		USDA H60 METHOD		Prep: USDA Method 20B / 1/30/15	Analyst: JEC
			0.010	none	1	1/30/2015
SEMI-VOLATILE ORGANIC COMPOUNDS						
Acenaphthene	ND		SW846 8270D		Prep: SW3541 / 1/29/15	Analyst: RM
Anthracene	11		7.5	µg/Kg-dry	1	1/30/2015 02:53 AM
Benzo(a)anthracene	ND		7.5	µg/Kg-dry	1	1/30/2015 02:53 AM
Benzo(a)pyrene	ND		7.5	µg/Kg-dry	1	1/30/2015 02:53 AM
Benzo(b)fluoranthene	ND		7.5	µg/Kg-dry	1	1/30/2015 02:53 AM
Benzo(g,h,i)perylene	ND		7.5	µg/Kg-dry	1	1/30/2015 02:53 AM
Benzo(k)fluoranthene	ND		7.5	µg/Kg-dry	1	1/30/2015 02:53 AM
Chrysene	ND		7.5	µg/Kg-dry	1	1/30/2015 02:53 AM
Dibenzo(a,h)anthracene	ND		7.5	µg/Kg-dry	1	1/30/2015 02:53 AM

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

ALS Group USA, Corp

Date: 03-Feb-15

Client: WPX Energy Rocky Mountain, LLC

Project: Clough 18 Batch 5 1.26.15

Work Order: 15011080

Sample ID: Clough 18 batch 5

Lab ID: 15011080-01

Collection Date: 1/26/2015 11:00 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	ND		7.5	µg/Kg-dry	1	1/30/2015 02:53 AM
Fluorene	15		7.5	µg/Kg-dry	1	1/30/2015 02:53 AM
Indeno(1,2,3-cd)pyrene	ND		7.5	µg/Kg-dry	1	1/30/2015 02:53 AM
Naphthalene	ND		7.5	µg/Kg-dry	1	1/30/2015 02:53 AM
Pyrene	ND		7.5	µg/Kg-dry	1	1/30/2015 02:53 AM
Surr: 2,4,6-Tribromophenol	65.7		34-140	%REC	1	1/30/2015 02:53 AM
Surr: 2-Fluorobiphenyl	59.7		12-100	%REC	1	1/30/2015 02:53 AM
Surr: 2-Fluorophenol	66.7		33-117	%REC	1	1/30/2015 02:53 AM
Surr: 4-Terphenyl-d14	98.1		25-137	%REC	1	1/30/2015 02:53 AM
Surr: Nitrobenzene-d5	63.1		37-107	%REC	1	1/30/2015 02:53 AM
Surr: Phenol-d6	67.4		40-106	%REC	1	1/30/2015 02:53 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 1/29/15	Analyst: BG	
Benzene	ND		35	µg/Kg-dry	1	1/29/2015 09:05 PM
Ethylbenzene	ND		35	µg/Kg-dry	1	1/29/2015 09:05 PM
m,p-Xylene	ND		70	µg/Kg-dry	1	1/29/2015 09:05 PM
o-Xylene	ND		35	µg/Kg-dry	1	1/29/2015 09:05 PM
Toluene	ND		35	µg/Kg-dry	1	1/29/2015 09:05 PM
Xylenes, Total	ND		100	µg/Kg-dry	1	1/29/2015 09:05 PM
Surr: 1,2-Dichloroethane-d4	98.8		70-130	%REC	1	1/29/2015 09:05 PM
Surr: 4-Bromofluorobenzene	93.4		70-130	%REC	1	1/29/2015 09:05 PM
Surr: Dibromofluoromethane	97.7		70-130	%REC	1	1/29/2015 09:05 PM
Surr: Toluene-d8	95.0		70-130	%REC	1	1/29/2015 09:05 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHOD	Prep: USDA Method 20B / 1/30/15	Analyst: JB	
Electrical Conductivity @ Saturation	6.3		0.050	mmhos/cm @25	10	1/30/2015 03:00 PM
CHROMIUM, TRIVALENT			CALCULATION	Analyst: MB		
Chromium, Trivalent	8.9		0.58	mg/Kg-dry	1	2/2/2015 11:50 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 1/29/15	Analyst: DAH	
Chromium, Hexavalent	ND		0.58	mg/Kg-dry	1	1/30/2015 12:00 PM
MOISTURE			E160.3M	Analyst: EVB		
Moisture	14		0.050	% of sample	1	1/30/2015 10:45 AM
PH			SW9045D	Prep: EXTRACT / 1/30/15	Analyst: JB	
pH	8.8			s.u.	1	1/30/2015 02:00 PM

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15011080
Project: Clough 18 Batch 5 1.26.15

QC BATCH REPORT

Batch ID: **67255** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-67255-67255				Units: mg/Kg		Analysis Date: 1/29/2015 05:15 PM		
Client ID:		Run ID: GC8_150129A				SeqNo: 3128565		Prep Date: 1/29/2015		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	1.495	0	2	0	74.7	39-133	0			

LCS		Sample ID: DLCSS1-67255-67255				Units: mg/Kg		Analysis Date: 1/29/2015 05:45 PM		
Client ID:		Run ID: GC8_150129A				SeqNo: 3128566		Prep Date: 1/29/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	167.1	5.0	200	0	83.6	61-109	0			
Surr: 4-Terphenyl-d14	1.349	0	2	0	67.5	39-133	0			

MS		Sample ID: 15011079-01A MS				Units: mg/Kg		Analysis Date: 1/29/2015 06:15 PM		
Client ID:		Run ID: GC8_150129A				SeqNo: 3128568		Prep Date: 1/29/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	421.9	8.0	319.9	144.5	86.7	48-110	0			
Surr: 4-Terphenyl-d14	2.497	0	3.199	0	78.1	39-133	0			

MSD		Sample ID: 15011079-01A MSD				Units: mg/Kg		Analysis Date: 1/29/2015 06:45 PM		
Client ID:		Run ID: GC8_150129A				SeqNo: 3128570		Prep Date: 1/29/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	415.5	7.9	314.7	144.5	86.1	48-110	421.9	1.54	30	
Surr: 4-Terphenyl-d14	2.569	0	3.147	0	81.6	39-133	2.497	2.82	30	

The following samples were analyzed in this batch: | 15011080-01A |

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15011080
Project: Clough 18 Batch 5 1.26.15

QC BATCH REPORT

Batch ID: **67258** Instrument ID **GC10** Method: **SW8015**

MS				Sample ID: 15011079-01A MS			Units: µg/Kg		Analysis Date: 1/29/2015 08:27 PM	
Client ID:				Run ID: GC10_150129A			SeqNo: 3128659		Prep Date: 1/29/2015	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	503500	2,500	500000	23440	96	70-130	0			
<i>Surr: Toluene-d8</i>	<i>5313</i>	<i>0</i>	<i>5000</i>	<i>0</i>	<i>106</i>	<i>50-150</i>	<i>0</i>			

MSD				Sample ID: 15011079-01A MSD			Units: µg/Kg		Analysis Date: 1/29/2015 08:50 PM	
Client ID:				Run ID: GC10_150129A			SeqNo: 3128660		Prep Date: 1/29/2015	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	495300	2,500	500000	23440	94.4	70-130	503500	1.64	30	
<i>Surr: Toluene-d8</i>	<i>5826</i>	<i>0</i>	<i>5000</i>	<i>0</i>	<i>117</i>	<i>50-150</i>	<i>5313</i>	<i>9.22</i>	<i>30</i>	

The following samples were analyzed in this batch: | 15011080-01A |

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15011080
Project: Clough 18 Batch 5 1.26.15

QC BATCH REPORT

Batch ID: **67201** Instrument ID **HG1** Method: **SW7471**

MBLK				Sample ID: MBLK-67201-67201				Units: mg/Kg			Analysis Date: 1/28/2015 04:39 PM												
Client ID:				Run ID: HG1_150128A				SeqNo: 3126280			Prep Date: 1/28/2015		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-67201-67201				Units:mg/Kg			Analysis Date: 1/28/2015 04:41 PM			
Client ID:				Run ID: HG1_150128A				SeqNo:3126281		Prep Date: 1/28/2015		DF: 1		
Analyte				Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1693 0.020 0.1665 0 102 80-120 0

MS				Sample ID: 1501918-25AMS				Units: mg/Kg			Analysis Date: 1/28/2015 04:46 PM			
Client ID:				Run ID: HG1_150128A				SeqNo: 3126283			Prep Date: 1/28/2015		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			

Mercury 0.1178 0.013 0.1065 0.01261 98.7 75-125 0

MSD				Sample ID: 1501918-25AMSD				Units: mg/Kg			Analysis Date: 1/28/2015 04:48 PM												
Client ID:				Run ID: HG1_150128A				SeqNo: 3126284		Prep Date: 1/28/2015		DF: 1											
Analyte				Result		PQL		SPK Val		SPK Ref Value		%REC		Control Limit		RPD Ref Value		%RPD		RPD Limit		Qual	

Mercury 0.1285 0.013 0.1114 0.01261 104 75-125 0.1178 8.72 35

The following samples were analyzed in this batch:

15011080-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15011080
Project: Clough 18 Batch 5 1.26.15

QC BATCH REPORT

Batch ID: **67273** Instrument ID **ICP2** Method: **SW846 6010C**

DUP		Sample ID: 15011079-01ADUP				Units: mg/L		Analysis Date: 1/30/2015 10:37 PM		
Client ID:		Run ID: ICP2_150130A				SeqNo: 3129919		Prep Date: 1/30/2015		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	287	5.0	0	0	0	0-0	0			
Magnesium	48.8	2.0	0	0	0	0-0	0			
Sodium	471	2.0	0	0	0	0-0	0			

DUP		Sample ID: 15011079-01ADUP				Units: none		Analysis Date: 1/30/2015		
Client ID:		Run ID: SAR_150130A				SeqNo: 3130513		Prep Date: 1/30/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	6.766	0.010	0	0	0		6.312	6.94	50	

The following samples were analyzed in this batch: | 15011080-01A |

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15011080
Project: Clough 18 Batch 5 1.26.15

QC BATCH REPORT

Batch ID: **67313** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK		Sample ID: MBLK-67313-67313				Units: mg/L		Analysis Date: 2/2/2015 01:41 PM		
Client ID:		Run ID: ICP2_150202A				SeqNo: 3131172		Prep Date: 1/30/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.1537	0.25								J
Lead	ND	0.25								
Selenium	ND	0.50								

LCS		Sample ID: LCS-67313-67313				Units: mg/L		Analysis Date: 2/2/2015 01:46 PM		
Client ID:		Run ID: ICP2_150202A				SeqNo: 3131173		Prep Date: 1/30/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	4.832	0.25	5	0	96.6	80-120	0			
Lead	5.047	0.25	5	0	101	80-120	0			
Selenium	4.712	0.50	5	0	94.2	80-120	0			

MS		Sample ID: 1501995-01AMS				Units: mg/Kg		Analysis Date: 2/2/2015 02:58 PM		
Client ID:		Run ID: ICP2_150202A				SeqNo: 3131201		Prep Date: 1/30/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	6.835	0.33	6.545	-0.1107	106	75-125	0			
Barium	6.495	0.33	6.545	0.2939	94.7	75-125	0			
Cadmium	5.87	0.65	6.545	-0.1145	91.4	75-125	0			
Chromium	6.968	0.33	6.545	-0.003369	107	75-125	0			
Copper	6.558	0.65	6.545	-0.02144	101	75-125	0			
Lead	6.569	0.33	6.545	-0.03012	101	75-125	0			
Nickel	6.429	0.33	6.545	0.07622	97.1	75-125	0			
Selenium	9.611	0.65	6.545	1.708	121	75-125	0			
Silver	7.106	0.33	6.545	-0.004499	109	75-125	0			
Zinc	7.094	0.65	6.545	0.1809	106	75-125	0			

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15011080
Project: Clough 18 Batch 5 1.26.15

QC BATCH REPORT

Batch ID: **67313** Instrument ID **ICP2** Method: **SW846 6010C**

MSD		Sample ID: 1501995-01AMSD				Units: mg/Kg		Analysis Date: 2/2/2015 03:03 PM		
Client ID:		Run ID: ICP2_150202A				SeqNo: 3131202		Prep Date: 1/30/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	6.879	0.33	6.596	-0.1107	106	75-125	6.835	0.641	20	
Barium	6.53	0.33	6.596	0.2939	94.5	75-125	6.495	0.535	20	
Cadmium	5.834	0.66	6.596	-0.1145	90.2	75-125	5.87	0.617	20	
Chromium	7.013	0.33	6.596	-0.003369	106	75-125	6.968	0.655	20	
Copper	6.534	0.66	6.596	-0.02144	99.4	75-125	6.558	0.366	20	
Lead	6.539	0.33	6.596	-0.03012	99.6	75-125	6.569	0.456	20	
Nickel	6.399	0.33	6.596	0.07622	95.9	75-125	6.429	0.465	20	
Selenium	9.644	0.66	6.596	1.708	120	75-125	9.611	0.334	20	
Silver	7.119	0.33	6.596	-0.004499	108	75-125	7.106	0.179	20	
Zinc	6.725	0.66	6.596	0.1809	99.2	75-125	7.094	5.33	20	

The following samples were analyzed in this batch: | 15011080-01A |

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15011080
Project: Clough 18 Batch 5 1.26.15

QC BATCH REPORT

Batch ID: **67254** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKS1-67254-67254				Units: µg/Kg		Analysis Date: 1/29/2015 02:02 PM		
Client ID:		Run ID: SVMS8_150129A				SeqNo: 3128038		Prep Date: 1/29/2015		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-Fluorobiphenyl</i>	1026	0	1667	0	61.5	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1953	0	1667	0	117	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1048	0	1667	0	62.9	37-107	0			

LCS		Sample ID: SLCSS1-67254-67254				Units: µg/Kg		Analysis Date: 1/29/2015 02:22 PM		
Client ID:		Run ID: SVMS8_150129A				SeqNo: 3128039		Prep Date: 1/29/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	439.7	6.7	666.7	0	65.9	45-110	0			
Anthracene	483	6.7	666.7	0	72.4	55-105	0			
Benzo(a)anthracene	526.7	6.7	666.7	0	79	50-110	0			
Benzo(a)pyrene	633	6.7	666.7	0	94.9	50-110	0			
Benzo(b)fluoranthene	664.7	6.7	666.7	0	99.7	45-115	0			
Benzo(g,h,i)perylene	513.3	6.7	666.7	0	77	40-125	0			
Benzo(k)fluoranthene	660.7	6.7	666.7	0	99.1	45-115	0			
Chrysene	535.7	6.7	666.7	0	80.3	55-110	0			
Dibenzo(a,h)anthracene	509	6.7	666.7	0	76.3	40-125	0			
Fluoranthene	484	6.7	666.7	0	72.6	55-115	0			
Fluorene	466.3	6.7	666.7	0	69.9	50-110	0			
Indeno(1,2,3-cd)pyrene	538.3	6.7	666.7	0	80.7	40-120	0			
Naphthalene	463.7	6.7	666.7	0	69.5	40-105	0			
Pyrene	574.3	6.7	666.7	0	86.1	45-125	0			
<i>Surr: 2-Fluorobiphenyl</i>	1090	0	1667	0	65.4	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1763	0	1667	0	106	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1151	0	1667	0	69.1	37-107	0			

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15011080
Project: Clough 18 Batch 5 1.26.15

QC BATCH REPORT

Batch ID: **67254** Instrument ID **SVMS8** Method: **SW846 8270D**

MS				Sample ID: 15011115-01A MS			Units: µg/Kg		Analysis Date: 1/29/2015 08:46 PM	
Client ID:		Run ID: SVMS8_150129A			SeqNo: 3128040		Prep Date: 1/29/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	785	13	1268	0	61.9	45-110	0			
Anthracene	956.8	13	1268	6.313	74.9	55-105	0			
Benzo(a)anthracene	1264	13	1268	14.29	98.5	50-110	0			
Benzo(a)pyrene	1430	13	1268	37.54	110	50-110	0			
Benzo(b)fluoranthene	1480	13	1268	35.88	114	45-115	0			
Benzo(g,h,i)perylene	1356	13	1268	34.22	104	40-125	0			
Benzo(k)fluoranthene	1269	13	1268	31.56	97.6	45-115	0			
Chrysene	1269	13	1268	11.3	99.2	55-110	0			
Dibenzo(a,h)anthracene	1087	13	1268	0	85.7	40-125	0			
Fluoranthene	1467	13	1268	14.95	115	55-115	0			
Fluorene	823	13	1268	0	64.9	50-110	0			
Indeno(1,2,3-cd)pyrene	1370	13	1268	43.19	105	40-120	0			
Naphthalene	664.5	13	1268	0	52.4	40-105	0			
Pyrene	1772	13	1268	18.61	138	45-125	0			S
Surr: 2-Fluorobiphenyl	1740	0	3170	0	54.9	12-100	0			
Surr: 4-Terphenyl-d14	2895	0	3170	0	91.3	25-137	0			
Surr: Nitrobenzene-d5	1614	0	3170	0	50.9	37-107	0			

MSD				Sample ID: 15011115-01A MSD			Units: µg/Kg		Analysis Date: 1/29/2015 09:07 PM	
Client ID:		Run ID: SVMS8_150129A			SeqNo: 3128041		Prep Date: 1/29/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	723.3	13	1284	0	56.3	45-110	785	8.18	30	
Anthracene	868.3	13	1284	6.313	67.2	55-105	956.8	9.7	30	
Benzo(a)anthracene	960.7	13	1284	14.29	73.7	50-110	1264	27.2	30	
Benzo(a)pyrene	1135	13	1284	37.54	85.5	50-110	1430	23	30	
Benzo(b)fluoranthene	1157	13	1284	35.88	87.4	45-115	1480	24.5	30	
Benzo(g,h,i)perylene	1108	13	1284	34.22	83.6	40-125	1356	20.2	30	
Benzo(k)fluoranthene	1038	13	1284	31.56	78.4	45-115	1269	20	30	
Chrysene	969.7	13	1284	11.3	74.7	55-110	1269	26.8	30	
Dibenzo(a,h)anthracene	1047	13	1284	0	81.6	40-125	1087	3.75	30	
Fluoranthene	886.3	13	1284	14.95	67.9	55-115	1467	49.4	30	R
Fluorene	793.9	13	1284	0	61.8	50-110	823	3.61	30	
Indeno(1,2,3-cd)pyrene	1125	13	1284	43.19	84.3	40-120	1370	19.6	30	
Naphthalene	677.7	13	1284	0	52.8	40-105	664.5	1.97	30	
Pyrene	1097	13	1284	18.61	84	45-125	1772	47	30	R
Surr: 2-Fluorobiphenyl	1796	0	3209	0	56	12-100	1740	3.19	40	
Surr: 4-Terphenyl-d14	2855	0	3209	0	89	25-137	2895	1.39	40	
Surr: Nitrobenzene-d5	1747	0	3209	0	54.4	37-107	1614	7.93	40	

The following samples were analyzed in this batch: 15011080-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15011080
Project: Clough 18 Batch 5 1.26.15

QC BATCH REPORT

Batch ID: **67282** Instrument ID **VMS5** Method: **SW8260B**

MBLK				Sample ID: MBLK-67282-67282				Units: µg/Kg			Analysis Date: 1/30/2015 01:50 PM			
Client ID:				Run ID: VMS5_150130A				SeqNo:3129793			Prep Date: 1/29/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Benzene	ND	30												
Ethylbenzene	ND	30												
m,p-Xylene	ND	60												
o-Xylene	ND	30												
Toluene	ND	30												
Xylenes, Total	ND	90												
Surr: 1,2-Dichloroethane-d4	993	0	1000	0	99.3	70-130		0						
Surr: 4-Bromofluorobenzene	938	0	1000	0	93.8	70-130		0						
Surr: Dibromofluoromethane	1026	0	1000	0	103	70-130		0						
Surr: Toluene-d8	983.5	0	1000	0	98.4	70-130		0						

LCS				Sample ID: LCS-67282-67282			Units: µg/Kg		Analysis Date: 1/30/2015 12:33 PM		
Client ID:			Run ID: VMS5_150130A			SeqNo: 3129788		Prep Date: 1/29/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1061	30	1000	0	106	75-125	0				
Ethylbenzene	1070	30	1000	0	107	75-125	0				
m,p-Xylene	2144	60	2000	0	107	80-125	0				
o-Xylene	1079	30	1000	0	108	75-125	0				
Toluene	1034	30	1000	0	103	70-125	0				
Xylenes, Total	3224	90	3000	0	107	75-125	0				
Surr: 1,2-Dichloroethane-d4	1016	0	1000	0	102	70-130	0				
Surr: 4-Bromofluorobenzene	991.5	0	1000	0	99.2	70-130	0				
Surr: Dibromofluoromethane	1078	0	1000	0	108	70-130	0				
Surr: Toluene-d8	970	0	1000	0	97	70-130	0				

MS					Sample ID: 15011145-04A MS			Units: µg/Kg		Analysis Date: 1/31/2015 01:24 AM	
Client ID:			Run ID: VMS7_150130A			SeqNo:3130379		Prep Date: 1/29/2015		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	984	30	1000	0	98.4	75-125	0				
m,p-Xylene	1984	60	2000	0	99.2	80-125	0				
o-Xylene	995.5	30	1000	0	99.6	75-125	0				
Toluene	995	30	1000	0	99.5	70-125	0				
Xylenes, Total	2980	90	3000	0	99.3	75-125	0				
Surr: 1,2-Dichloroethane-d4	981	0	1000	0	98.1	70-130	0				
Surr: 4-Bromofluorobenzene	999	0	1000	0	99.9	70-130	0				
Surr: Dibromofluoromethane	972.5	0	1000	0	97.2	70-130	0				
Surr: Toluene-d8	948.5	0	1000	0	94.8	70-130	0				

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15011080
Project: Clough 18 Batch 5 1.26.15

QC BATCH REPORT

Batch ID: **67282** Instrument ID **VMS5** Method: **SW8260B**

MSD				Sample ID: 15011145-04A MSD			Units: µg/Kg		Analysis Date: 1/31/2015 01:50 AM	
Client ID:				Run ID: VMS7_150130A			SeqNo: 3130380		Prep Date: 1/29/2015	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	902.5	30	1000	0	90.2	75-125	996.5	9.9	30	
Ethylbenzene	900	30	1000	0	90	75-125	984	8.92	30	
m,p-Xylene	1827	60	2000	0	91.4	80-125	1984	8.26	30	
o-Xylene	907.5	30	1000	0	90.8	75-125	995.5	9.25	30	
Toluene	911.5	30	1000	0	91.2	70-125	995	8.76	30	
Xylenes, Total	2734	90	3000	0	91.2	75-125	2980	8.59	30	
Surr: 1,2-Dichloroethane-d4	963.5	0	1000	0	96.4	70-130	981	1.8	30	
Surr: 4-Bromofluorobenzene	976	0	1000	0	97.6	70-130	999	2.33	30	
Surr: Dibromofluoromethane	952.5	0	1000	0	95.2	70-130	972.5	2.08	30	
Surr: Toluene-d8	944.5	0	1000	0	94.4	70-130	948.5	0.423	30	

The following samples were analyzed in this batch: | 15011080-01A |

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15011080
Project: Clough 18 Batch 5 1.26.15

QC BATCH REPORT

Batch ID: **67273** Instrument ID **WETCHEM** Method: **USDA H60 Method**

DUP		Sample ID: 15011079-01A DUP				Units: mmhos/cm @25°C		Analysis Date: 1/30/2015 03:00 PM		
Client ID:		Run ID: WETCHEM_150130G				SeqNo: 3129115		Prep Date: 1/30/2015		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	4.95	0.050	0	0	0		4.97	0.403	50	

The following samples were analyzed in this batch:

15011080-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15011080
Project: Clough 18 Batch 5 1.26.15

QC BATCH REPORT

Batch ID: **67314** Instrument ID **WETCHEM** Method: **SW9045D**

LCS					Sample ID: LCS-67314-67314					Units:s.u.			Analysis Date: 1/30/2015 02:00 PM				
Client ID:					Run ID: WETCHEM_150130H					SeqNo:3129118			Prep Date: 1/30/2015			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: 15011027-01A DUP					Units:s.u.			Analysis Date: 1/30/2015 02:00 PM				
Client ID:					Run ID: WETCHEM_150130H					SeqNo:3129122			Prep Date: 1/30/2015			DF: 1	
Analyte					Result		PQL	SPK Val	SPK Ref Value	%REC		Control Limit	RPD Ref Value		%RPD	RPD Limit	Qual
pH					8.76		0	0	0	0		0-0	8.74		0.229	20	

Sample ID: 15011027-06A DUP					Units: s.u.		Analysis Date: 1/30/2015 02:00 PM				
Client ID:			Run ID: WETCHEM_150130H			SeqNo: 3129128		Prep Date: 1/30/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
pH	8.77	0	0	0	0	0-0	8.7	0.801	20		

The following samples were analyzed in this batch:

15011080-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15011080
Project: Clough 18 Batch 5 1.26.15

QC BATCH REPORT

Batch ID: **67315** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK		Sample ID: MBLK-67315-67315				Units: mg/Kg		Analysis Date: 1/30/2015 12:00 PM		
Client ID:		Run ID: WETCHEM_150130B				SeqNo: 3128523		Prep Date: 1/29/2015		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-67315-67315				Units: mg/Kg		Analysis Date: 1/30/2015 12:00 PM		
Client ID:		Run ID: WETCHEM_150130B				SeqNo: 3128522		Prep Date: 1/29/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.808 0.50 2 0 90.4 80-120 0

MS		Sample ID: 15011027-01A MS				Units: mg/Kg		Analysis Date: 1/30/2015 12:00 PM		
Client ID:		Run ID: WETCHEM_150130B				SeqNo: 3128509		Prep Date: 1/29/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.728 0.49 1.969 0.1514 80.1 75-125 0

MS		Sample ID: 15011027-01A MSI				Units: mg/Kg		Analysis Date: 1/30/2015 12:00 PM		
Client ID:		Run ID: WETCHEM_150130B				SeqNo: 3128511		Prep Date: 1/29/2015		DF: 100
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 729.6 50 862.4 0.1514 84.6 75-125 0

MSD		Sample ID: 15011027-01A MSD				Units: mg/Kg		Analysis Date: 1/30/2015 12:00 PM		
Client ID:		Run ID: WETCHEM_150130B				SeqNo: 3128510		Prep Date: 1/29/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.889 0.49 1.976 0.1514 87.9 75-125 1.728 8.9 20

The following samples were analyzed in this batch:

15011080-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15011080
Project: Clough 18 Batch 5 1.26.15

QC BATCH REPORT

Batch ID: **R156865** Instrument ID **MOIST** Method: **E160.3M**

MBLK		Sample ID: WBLKS-R156865				Units: % of sample		Analysis Date: 1/30/2015 10:45 AM		
Client ID:		Run ID: MOIST_150130A				SeqNo: 3131015		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-R156865				Units: % of sample		Analysis Date: 1/30/2015 10:45 AM		
Client ID:		Run ID: MOIST_150130A				SeqNo: 3131014		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: 1501821-08A DUP				Units: % of sample		Analysis Date: 1/30/2015 10:45 AM		
Client ID:		Run ID: MOIST_150130A				SeqNo: 3130987		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 20.93 0.050 0 0 0 20.67 1.25 20

DUP		Sample ID: 1501821-56A DUP				Units: % of sample		Analysis Date: 1/30/2015 10:45 AM		
Client ID:		Run ID: MOIST_150130A				SeqNo: 3131008		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 17.88 0.050 0 0 0 17.73 0.842 20

The following samples were analyzed in this batch:

15011080-01A

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



ALS Laboratory Group

HOLLAND, Michigan 48424

Chain-of-Custody

Form 282r

WORKORDER #

15011080

PAGE

1 of 1

DISPOSAL

By Lab or Return to Client

SAMPLER

DATE

PROJECT NAME

Clough 18 batch 5

SITE ID

Clough 18 batch 5

TURNAROUND

5 day

PROJECT No.

EDD FORMAT

PURCHASE ORDER

COMPANY NAME

WPX Energy

BILL TO COMPANY

WPX Energy

SEND REPORT TO

Blaney

INVOICE ATTN TO

Karolina Blaney; Leo Braun

ADDRESS

ADDRESS

1058 Co Rd 215

CITY/STATE/ZIP

CITY/STATE/ZIP

Parachute CO 81635

PHONE

PHONE

970-883-2295

FAX

FAX

E-MAIL

Karolina.blaney@wpxenergy.com

E-MAIL

Karolina.blaney@wpxenergy.com;
leo.braun@wpxenergy.com

Lab ID

Field ID

Matrix

Sample Date

Sample Time

Bottles

Pres.

QC

910-1

01

Clough 18 batch 5

S

1/28/2015

11:00

1

none

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

Blaney

Karolina Blaney

1/28/2015

16:00

RECEIVED BY

W

M

1-26

1501

RELINQUISHED BY

W

M

1-26

1501

RECEIVED BY

Wilson

1/28

1000

RELINQUISHED BY

RECEIVED BY

Sample Receipt Checklist

Client Name: **WPX**

Date/Time Received: **28-Jan-15 10:00**

Work Order: **15011080**

Received by: **SAW**

Checklist completed by Samantha Wilson
eSignature

28-Jan-15
Date

Reviewed by: Ann Preston
eSignature

28-Jan-15
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>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>1/28/2015 12:22:52 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 checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

From: (816) 298-1033
 Nick Martinez
 ALS Environmental
 127 E. 1st Street
 PARACHUTE, CO 81635

Origin ID: RLA



Ship Date: 26JAN15
 ActWgt: 64.0 LB
 CAD: 2264469MET3619

Dim: 14 X 26 X 15 IN

Delivery Address Bar Code



Ref # 012015-1
 Invoice #
 PO # Parachute
 Dept #

SHIP TO: (816) 399-4870
 sample receiving
 ALS Laboratory Group
 3352 128TH AVE

BILL BENDER

HOLLAND, MI 49424

TUE - 27 JAN 10:30A
 PRIORITY OVERNIGHT

4 of 4

MP# 7727 1754 0114

Metri 7727 1754 0272

6281

49424

MS-US

GRR

XX HLMA



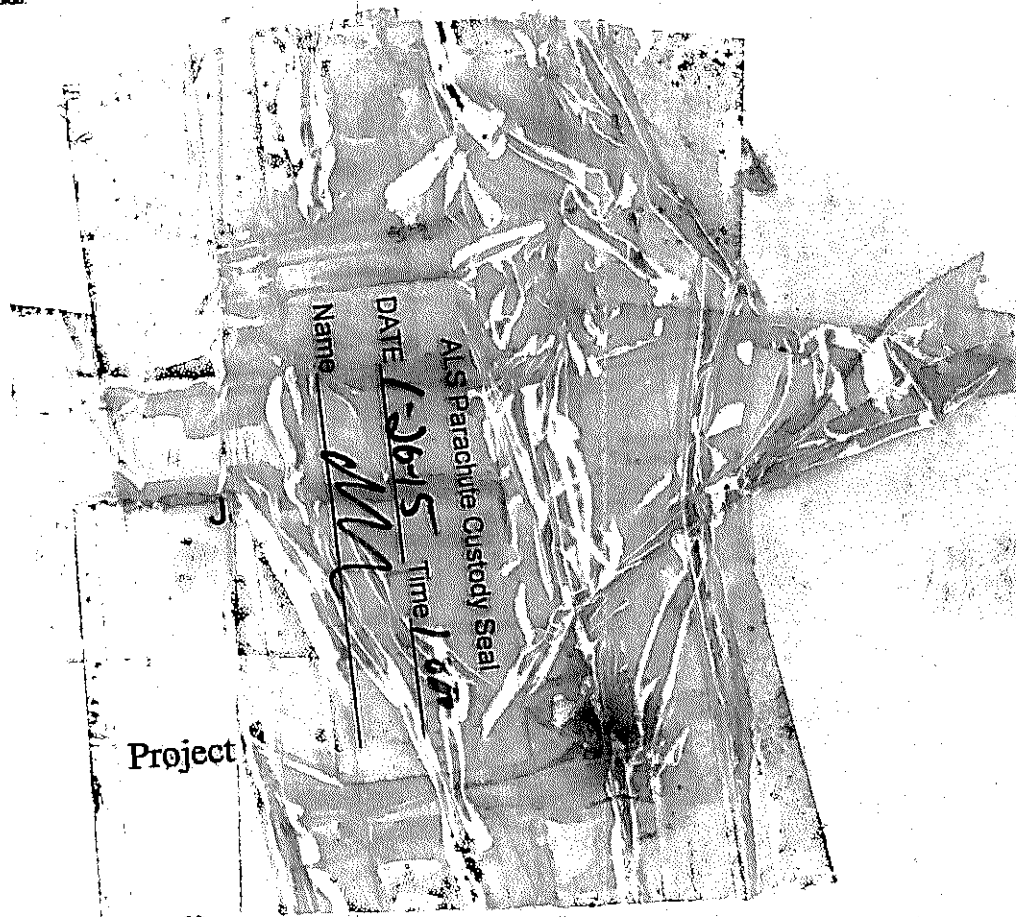
SCT 11/15/15EE 48

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Est. 1970

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

Report Summary

Monday February 23, 2015

Report Number: L748891

Samples Received: 02/13/15

Client Project: CLOUGH 18 BATCH 6

Description: Clough 18 Batch 6

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,
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REPORT OF ANALYSIS

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

February 23, 2015

Date Received : February 13, 2015
Description : Clough 18 Batch 6
Sample ID : CLOUGH 18 BATCH 6
Collected By :
Collection Date : 02/12/15 10:00

ESC Sample # : L748891-01

Site ID : CLOUGH 18 BATCH 6

Project # : CLOUGH 18 BATCH 6

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	02/16/15	1
Chromium, Trivalent	12.	2.0	mg/kg	Calc.	02/19/15	1
ORP	160		mV	2580 B-2011	02/20/15	1
pH	8.0	0.10	su	9045D	02/16/15	1
Sodium Adsorption Ratio	14.			Calc.	02/22/15	1
Specific Conductance	1500		umhos/cm	9050AMod	02/17/15	1
Mercury	0.031	0.020	mg/kg	7471A	02/18/15	1
Arsenic	7.5	2.0	mg/kg	6010B	02/18/15	1
Barium	530	0.50	mg/kg	6010B	02/18/15	1
Cadmium	1.2	0.50	mg/kg	6010B	02/18/15	1
Chromium	12.	1.0	mg/kg	6010B	02/18/15	1
Copper	11.	2.0	mg/kg	6010B	02/18/15	1
Lead	16.	0.50	mg/kg	6010B	02/18/15	1
Nickel	15.	2.0	mg/kg	6010B	02/18/15	1
Selenium	BDL	2.0	mg/kg	6010B	02/18/15	1
Silver	BDL	1.0	mg/kg	6010B	02/18/15	1
Zinc	52.	5.0	mg/kg	6010B	02/18/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 02/23/15 08:31 Printed: 02/23/15 08:31
L748891-01 (PH) - 8.0@21.6c



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REPORT OF ANALYSIS

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

February 23, 2015

Date Received : February 13, 2015
Description : Clough 18 Batch 6
Sample ID : CLOUGH 18 BATCH 6
Collected By :
Collection Date : 02/12/15 10:00

ESC Sample # : L748891-02

Site ID : CLOUGH 18 BATCH 6

Project # : CLOUGH 18 BATCH 6

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021	02/18/15	5
Toluene	BDL	0.025	mg/kg	8021	02/18/15	5
Ethylbenzene	BDL	0.0025	mg/kg	8021	02/18/15	5
Total Xylene	BDL	0.0075	mg/kg	8021	02/18/15	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015	02/18/15	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	102.		% Rec.	8015	02/18/15	1
a,a,a-Trifluorotoluene(PID)	101.		% Rec.	8021	02/18/15	1
TPH (GC/FID) High Fraction	170	4.0	mg/kg	3546/DRO	02/18/15	1
Surrogate recovery(%)						
o-Terphenyl	77.4		% Rec.	3546/DRO	02/18/15	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	02/15/15	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	02/15/15	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	02/15/15	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	02/15/15	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	02/15/15	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	02/15/15	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	02/15/15	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	02/15/15	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	02/15/15	1
Fluorene	0.048	0.0060	mg/kg	8270C-SIM	02/15/15	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	02/15/15	1
Naphthalene	0.059	0.020	mg/kg	8270C-SIM	02/15/15	1
Pyrene	0.0083	0.0060	mg/kg	8270C-SIM	02/15/15	1
Surrogate Recovery						
Nitrobenzene-d5	83.7		% Rec.	8270C-SIM	02/15/15	1
2-Fluorobiphenyl	73.6		% Rec.	8270C-SIM	02/15/15	1
p-Terphenyl-d14	72.1		% Rec.	8270C-SIM	02/15/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 02/23/15 08:31 Printed: 02/23/15 08:31



YOUR LAB OF CHOICE

WPX Energy
Ms. Karolina Blaney
1058 County Road 215

Parachute, CO 81635

Quality Assurance Report
Level II

L748891

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

February 23, 2015

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Chromium, Hexavalent	< 2	mg/kg			WG770428	02/16/15 05:08
Acenaphthene	< .006	mg/kg			WG770585	02/15/15 02:18
Anthracene	< .006	mg/kg			WG770585	02/15/15 02:18
Benzo(a)anthracene	< .006	mg/kg			WG770585	02/15/15 02:18
Benzo(a)pyrene	< .006	mg/kg			WG770585	02/15/15 02:18
Benzo(b)fluoranthene	< .006	mg/kg			WG770585	02/15/15 02:18
Benzo(k)fluoranthene	< .006	mg/kg			WG770585	02/15/15 02:18
Chrysene	< .006	mg/kg			WG770585	02/15/15 02:18
Dibenz(a,h)anthracene	< .006	mg/kg			WG770585	02/15/15 02:18
Fluoranthene	< .006	mg/kg			WG770585	02/15/15 02:18
Fluorene	< .006	mg/kg			WG770585	02/15/15 02:18
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG770585	02/15/15 02:18
Naphthalene	< .02	mg/kg			WG770585	02/15/15 02:18
Pyrene	< .006	mg/kg			WG770585	02/15/15 02:18
2-Fluorobiphenyl		% Rec.	74.80	38.2-135	WG770585	02/15/15 02:18
Nitrobenzene-d5		% Rec.	86.50	28.4-151	WG770585	02/15/15 02:18
p-Terphenyl-d14		% Rec.	75.30	34.2-141	WG770585	02/15/15 02:18
Specific Conductance	1.58	umhos/cm			WG770581	02/17/15 15:48
TPH (GC/FID) High Fraction	< 4	mg/kg			WG770396	02/17/15 21:53
o-Terphenyl		% Rec.	75.30	50-150	WG770396	02/17/15 21:53
Benzene	< .0005	mg/kg			WG770847	02/18/15 10:50
Ethylbenzene	< .0005	mg/kg			WG770847	02/18/15 10:50
Toluene	< .005	mg/kg			WG770847	02/18/15 10:50
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG770847	02/18/15 10:50
Total Xylene	< .0015	mg/kg			WG770847	02/18/15 10:50
a,a,a-Trifluorotoluene(FID)		% Rec.	104.0	59-128	WG770847	02/18/15 10:50
a,a,a-Trifluorotoluene(PID)		% Rec.	102.0	54-144	WG770847	02/18/15 10:50
Arsenic	< 2	mg/kg			WG770627	02/18/15 14:38
Barium	< .5	mg/kg			WG770627	02/18/15 14:38
Cadmium	< .5	mg/kg			WG770627	02/18/15 14:38
Chromium	< 1	mg/kg			WG770627	02/18/15 14:38
Copper	< 2	mg/kg			WG770627	02/18/15 14:38
Lead	< .5	mg/kg			WG770627	02/18/15 14:38
Nickel	< 2	mg/kg			WG770627	02/18/15 14:38
Selenium	< 2	mg/kg			WG770627	02/18/15 14:38
Silver	< 1	mg/kg			WG770627	02/18/15 14:38
Zinc	< 5	mg/kg			WG770627	02/18/15 14:38
Mercury	< .02	mg/kg			WG770434	02/18/15 16:20

Analyte	Units	Result	Duplicate		RPD	Limit	Ref Samp	Batch
			Duplicate					
Chromium, Hexavalent	mg/kg	0.0	0.0		0.0	20	L748857-01	WG770428
pH	su	7.50	7.60		0.793	1	L748857-03	WG770430
pH	su	6.60	6.60		0.755	1	L748978-08	WG770430

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Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
Specific Conductance	umhos/cm	140.	140.	2.12	20	L748857-01	WG770581
Specific Conductance	umhos/cm	820.	820.	0.365	20	L749077-02	WG770581
ORP	mV	62.0	61.0	1.63	20	L748817-01	WG770899
ORP	mV	160.	170.	2.99	20	L749077-02	WG770899

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Chromium,Hexavalent	mg/kg	146	119.	81.5	80-120	WG770428
Acenaphthene	mg/kg	.08	0.0604	75.5	48.7-127	WG770585
Anthracene	mg/kg	.08	0.0604	75.5	51.3-136	WG770585
Benzo(a)anthracene	mg/kg	.08	0.0612	76.5	55-126	WG770585
Benzo(a)pyrene	mg/kg	.08	0.0542	67.8	51.9-127	WG770585
Benzo(b)fluoranthene	mg/kg	.08	0.0592	74.0	54-125	WG770585
Benzo(k)fluoranthene	mg/kg	.08	0.0688	85.9	53.9-132	WG770585
Chrysene	mg/kg	.08	0.0689	86.1	55.7-133	WG770585
Dibenz(a,h)anthracene	mg/kg	.08	0.0691	86.4	52.6-137	WG770585
Fluoranthene	mg/kg	.08	0.0602	75.2	54-132	WG770585
Fluorene	mg/kg	.08	0.0603	75.3	48.7-127	WG770585
Indeno(1,2,3-cd)pyrene	mg/kg	.08	0.0677	84.7	53.8-138	WG770585
Naphthalene	mg/kg	.08	0.0667	83.4	42-127	WG770585
Pyrene	mg/kg	.08	0.0712	89.0	54-129	WG770585
2-Fluorobiphenyl				74.80	38.2-135	WG770585
Nitrobenzene-d5				86.90	28.4-151	WG770585
p-Terphenyl-d14				73.50	34.2-141	WG770585
pH	su	5.9	5.90	100.	98.3-101.7	WG770430
Specific Conductance	umhos/cm	759	778.	103.	85-115	WG770581
TPH (GC/FID) High Fraction	mg/kg	60	45.7	76.2	50-150	WG770396
o-Terphenyl				69.50	50-150	WG770396
Benzene	mg/kg	.05	0.0416	83.2	70-130	WG770847
Ethylbenzene	mg/kg	.05	0.0463	92.7	70-130	WG770847
Toluene	mg/kg	.05	0.0455	91.0	70-130	WG770847
Total Xylene	mg/kg	.15	0.148	99.0	70-130	WG770847
a,a,a-Trifluorotoluene(PID)				102.0	54-144	WG770847
TPH (GC/FID) Low Fraction	mg/kg	5.5	5.23	95.1	63.5-137	WG770847
a,a,a-Trifluorotoluene(FID)				101.0	59-128	WG770847
Arsenic	mg/kg	100	102.	102.	80-120	WG770627
Barium	mg/kg	100	106.	106.	80-120	WG770627
Cadmium	mg/kg	100	103.	103.	80-120	WG770627
Chromium	mg/kg	100	99.9	100.	80-120	WG770627
Copper	mg/kg	100	101.	101.	80-120	WG770627
Lead	mg/kg	100	103.	103.	80-120	WG770627
Nickel	mg/kg	100	101.	101.	80-120	WG770627
Selenium	mg/kg	100	104.	104.	80-120	WG770627
Silver	mg/kg	100	99.9	100.	80-120	WG770627

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Analyte	Units	Laboratory Control		Sample	% Rec	Limit	Batch
		Known	Val	Result			
Zinc	mg/kg	100		100.	100.	80-120	WG770627
Mercury	mg/kg	.458		0.440	96.0	80-120	WG770434
ORP	mV	100		109.	109.	90-110	WG770899

Analyte	Units	Laboratory Control		Sample Duplicate	Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Chromium, Hexavalent	mg/kg	120.	119.	82.0	80-120	0.837	20	WG770428
Acenaphthene	mg/kg	0.0642	0.0604	80.0	48.7-127	6.04	20	WG770585
Anthracene	mg/kg	0.0646	0.0604	81.0	51.3-136	6.75	20	WG770585
Benzo(a)anthracene	mg/kg	0.0653	0.0612	82.0	55-126	6.50	20	WG770585
Benzo(a)pyrene	mg/kg	0.0560	0.0542	70.0	51.9-127	3.21	20	WG770585
Benzo(b)fluoranthene	mg/kg	0.0652	0.0592	81.0	54-125	9.59	20	WG770585
Benzo(k)fluoranthene	mg/kg	0.0740	0.0688	92.0	53.9-132	7.39	20	WG770585
Chrysene	mg/kg	0.0730	0.0689	91.0	55.7-133	5.79	20	WG770585
Dibenz(a,h)anthracene	mg/kg	0.0744	0.0691	93.0	52.6-137	7.34	20	WG770585
Fluoranthene	mg/kg	0.0641	0.0602	80.0	54-132	6.29	20	WG770585
Fluorene	mg/kg	0.0635	0.0603	79.0	48.7-127	5.28	20	WG770585
Indeno(1,2,3-cd)pyrene	mg/kg	0.0729	0.0677	91.0	53.8-138	7.37	20	WG770585
Naphthalene	mg/kg	0.0712	0.0667	89.0	42-127	6.55	20	WG770585
Pyrene	mg/kg	0.0759	0.0712	95.0	54-129	6.43	20	WG770585
2-Fluorobiphenyl				79.80	38.2-135			WG770585
Nitrobenzene-d5				92.70	28.4-151			WG770585
p-Terphenyl-d14				78.60	34.2-141			WG770585
pH	su	5.90	5.90	100.	98.3-101.7	0.0	20	WG770430
Specific Conductance	umhos/	777.	778.	102.	85-115	0.129	20	WG770581
TPH (GC/FID) High Fraction	mg/kg	41.6	45.7	69.0	50-150	9.43	20	WG770396
o-Terphenyl				62.00	50-150			WG770396
Benzene	mg/kg	0.0425	0.0416	85.0	70-130	2.04	20	WG770847
Ethylbenzene	mg/kg	0.0471	0.0463	94.0	70-130	1.65	20	WG770847
Toluene	mg/kg	0.0462	0.0455	92.0	70-130	1.45	20	WG770847
Total Xylene	mg/kg	0.151	0.148	101.	70-130	1.78	20	WG770847
a,a,a-Trifluorotoluene(PID)				102.0	54-144			WG770847
TPH (GC/FID) Low Fraction	mg/kg	5.41	5.23	98.0	63.5-137	3.28	20	WG770847
a,a,a-Trifluorotoluene(FID)				102.0	59-128			WG770847
Arsenic	mg/kg	102.	102.	102.	80-120	0.0	20	WG770627
Barium	mg/kg	106.	106.	106.	80-120	0.0	20	WG770627
Cadmium	mg/kg	103.	103.	102.	80-120	0.0	20	WG770627
Chromium	mg/kg	101.	99.9	101.	80-120	1.00	20	WG770627
Copper	mg/kg	102.	101.	102.	80-120	1.00	20	WG770627
Lead	mg/kg	103.	103.	103.	80-120	0.0	20	WG770627
Nickel	mg/kg	101.	101.	101.	80-120	0.0	20	WG770627
Selenium	mg/kg	104.	104.	104.	80-120	0.0	20	WG770627

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Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Silver	mg/kg	101.	99.9	101.	80-120	1.00	20	WG770627
Zinc	mg/kg	99.9	100.	100.	80-120	0.0	20	WG770627
Mercury	mg/kg	0.451	0.440	98.0	80-120	2.00	20	WG770434
ORP	mV	108.	109.	108.	90-110	0.922	20	WG770899

Analyte	Units	MS Res	Matrix Spike		TV	% Rec	Limit	Ref Samp	Batch
			Ref	Res					
Chromium, Hexavalent	mg/kg	19.3	0.0		20	96.0	75-125	L748857-01	WG770428
TPH (GC/FID) High Fraction	mg/kg	406.	341.		60	110.	50-150	L748905-01	WG770396
o-Terphenyl						68.90	50-150		WG770396
Acenaphthene	mg/kg	0.0695	0.0		.08	87.0	39.4-132	L748897-02	WG770585
Anthracene	mg/kg	0.0751	0.0		.08	94.0	36.7-144	L748897-02	WG770585
Benzo(a)anthracene	mg/kg	0.0660	0.0		.08	82.0	28-144	L748897-02	WG770585
Benzo(a)pyrene	mg/kg	0.0608	0.0		.08	76.0	23.8-147	L748897-02	WG770585
Benzo(b)fluoranthene	mg/kg	0.0612	0.0		.08	77.0	18.2-147	L748897-02	WG770585
Benzo(k)fluoranthene	mg/kg	0.0599	0.0		.08	75.0	26.5-143	L748897-02	WG770585
Chrysene	mg/kg	0.0698	0.00301		.08	84.0	27.4-150	L748897-02	WG770585
Dibenz(a,h)anthracene	mg/kg	0.0665	0.0		.08	83.0	13.8-150	L748897-02	WG770585
Fluoranthene	mg/kg	0.0645	0.00269		.08	77.0	23.2-158	L748897-02	WG770585
Fluorene	mg/kg	0.104	0.0395		.08	81.0	30.8-139	L748897-02	WG770585
Indeno(1,2,3-cd)pyrene	mg/kg	0.0652	0.0		.08	81.0	10.7-155	L748897-02	WG770585
Naphthalene	mg/kg	0.124	0.0134		.08	140.*	34.9-133	L748897-02	WG770585
Pyrene	mg/kg	0.0775	0.00521		.08	90.0	22.6-151	L748897-02	WG770585
2-Fluorobiphenyl						75.10	38.2-135		WG770585
Nitrobenzene-d5						83.10	28.4-151		WG770585
p-Terphenyl-d14						74.00	34.2-141		WG770585
Benzene	mg/kg	0.181	0.000444		.05	72.0	49.7-127	L748857-02	WG770847
Ethylbenzene	mg/kg	0.189	0.000212		.05	76.0	40.8-141	L748857-02	WG770847
Toluene	mg/kg	0.191	0.000394		.05	76.0	49.8-132	L748857-02	WG770847
Total Xylene	mg/kg	0.601	0.00116		.15	80.0	41.2-140	L748857-02	WG770847
a,a,a-Trifluorotoluene(PID)						101.0	54-144		WG770847
TPH (GC/FID) Low Fraction	mg/kg	20.2	0.0		5.5	73.0	28.5-138	L748857-02	WG770847
a,a,a-Trifluorotoluene(FID)						98.30	59-128		WG770847
Lead	mg/kg	224.	87.5		100	140.*	75-125	L748838-03	WG770627
Mercury	mg/kg	0.425	0.00429		.458	92.0	75-125	L748506-41	WG770434

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Chromium, Hexavalent	mg/kg	19.3	19.3	96.5	75-125	0.0	20	L748857-01	WG770428
TPH (GC/FID) High Fraction	mg/kg	367.	406.	42.4*	50-150	10.2	20	L748905-01	WG770396
o-Terphenyl				70.40	50-150				WG770396

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Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Acenaphthene	mg/kg	0.0717	0.0695	89.6	39.4-132	3.02	20	L748897-02	WG770585
Anthracene	mg/kg	0.0776	0.0751	96.9	36.7-144	3.21	20.7	L748897-02	WG770585
Benzo(a)anthracene	mg/kg	0.0651	0.0660	81.4	28-144	1.33	24.7	L748897-02	WG770585
Benzo(a)pyrene	mg/kg	0.0587	0.0608	73.4	23.8-147	3.52	25.3	L748897-02	WG770585
Benzo(b)fluoranthene	mg/kg	0.0588	0.0612	73.5	18.2-147	4.06	29.5	L748897-02	WG770585
Benzo(k)fluoranthene	mg/kg	0.0588	0.0599	73.5	26.5-143	1.96	26.1	L748897-02	WG770585
Chrysene	mg/kg	0.0699	0.0698	83.6	27.4-150	0.120	25.7	L748897-02	WG770585
Dibenz(a,h)anthracene	mg/kg	0.0635	0.0665	79.4	13.8-150	4.49	25.8	L748897-02	WG770585
Fluoranthene	mg/kg	0.0648	0.0645	77.6	23.2-158	0.530	26	L748897-02	WG770585
Fluorene	mg/kg	0.112	0.104	90.8	30.8-139	7.30	20	L748897-02	WG770585
Indeno(1,2,3-cd)pyrene	mg/kg	0.0620	0.0652	77.5	10.7-155	5.02	26.9	L748897-02	WG770585
Naphthalene	mg/kg	0.114	0.124	125.	34.9-133	8.75	20.4	L748897-02	WG770585
Pyrene	mg/kg	0.0786	0.0775	91.8	22.6-151	1.45	25.1	L748897-02	WG770585
2-Fluorobiphenyl				78.10	38.2-135				WG770585
Nitrobenzene-d5				85.10	28.4-151				WG770585
p-Terphenyl-d14				76.40	34.2-141				WG770585
Benzene	mg/kg	0.203	0.181	81.2	49.7-127	11.9	23.5	L748857-02	WG770847
Ethylbenzene	mg/kg	0.215	0.189	85.8	40.8-141	12.5	23.8	L748857-02	WG770847
Toluene	mg/kg	0.218	0.191	87.0	49.8-132	13.3	23.5	L748857-02	WG770847
Total Xylene	mg/kg	0.677	0.601	90.1	41.2-140	11.9	23.7	L748857-02	WG770847
a,a,a-Trifluorotoluene(PID)				101.0	54-144				WG770847
TPH (GC/FID) Low Fraction	mg/kg	20.8	20.2	75.7	28.5-138	3.13	23.6	L748857-02	WG770847
a,a,a-Trifluorotoluene(FID)				96.70	59-128				WG770847
Lead	mg/kg	398.	224.	310.*	75-125	56.0*	20	L748838-03	WG770627
Mercury	mg/kg	0.424	0.425	91.6	75-125	0.0	20	L748506-41	WG770434

Post Spike

Serial Dilution

Batch number /Run number / Sample number cross reference

WG770428: R3020046: L748891-01
WG770585: R3020071: L748891-02
WG770430: R3020077: L748891-01
WG770581: R3020235: L748891-01
WG770396: R3020278 R3020478: L748891-02
WG770847: R3020388: L748891-02
WG770627: R3020455 R3020592: L748891-01
WG770434: R3020503: L748891-01
WG770899: R3020912: L748891-01
WG771000: R3021074: L748891-01

* * Calculations are performed prior to rounding of reported values.

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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.