



Legend

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

CMU 22-33
Arsenic Background Sample Location Map
T6S R90W, Section 33

July 3, 2014





20-Jun-2014

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

Re: **WPX CMU 22-33 Cuttings 6.12.14**

Work Order: **1406743**

Dear Mark,

ALS Environmental received 6 samples on 14-Jun-2014 09:15 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 28.

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

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Client: HRL Compliance Solutions, Inc
Project: WPX CMU 22-33 Cuttings 6.12.14
Work Order: 1406743

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>
1406743-01	CMU 22-33 Cuttings	Soil		6/12/2014 11:20	6/14/2014 09:15	<input type="checkbox"/>
1406743-02	CMU 22-33-B-1	Soil		6/12/2014 11:30	6/14/2014 09:15	<input type="checkbox"/>
1406743-03	CMU 22-33-B-2	Soil		6/12/2014 11:36	6/14/2014 09:15	<input type="checkbox"/>
1406743-04	CMU 22-33-B-3	Soil		6/12/2014 11:41	6/14/2014 09:15	<input type="checkbox"/>
1406743-05	CMU 22-33-B-4	Soil		6/12/2014 11:47	6/14/2014 09:15	<input type="checkbox"/>
1406743-06	CMU 22-33-B-5	Soil		6/12/2014 11:55	6/14/2014 09:15	<input type="checkbox"/>

Client: HRL Compliance Solutions, Inc
Project: WPX CMU 22-33 Cuttings 6.12.14
Work Order: 1406743

Case Narrative

Batch 59716 MS/MSD data for PAHs is not related to this project's samples. No data requires qualification.

Batch 59718 MS/MSD data for DRO is not related to this project's samples. No data requires qualification.

Batch 59745 MS/MSD data for Metals is not related to this project's samples. No data requires qualification.

Batch 59795 MS/MSD data for Hexavalent Chromium is not related to this project's samples. No data requires qualification.

Batch 59748 duplicate data for pH is not related to this project's samples. No data requires qualification.

Batch 59716 sample 1406743-01 had one low PAH surrogate recovery 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: 20-Jun-14

Client: HRL Compliance Solutions, Inc
Project: WPX CMU 22-33 Cuttings 6.12.14
Sample ID: CMU 22-33 Cuttings
Collection Date: 6/12/2014 11:20 AM

Work Order: 1406743
Lab ID: 1406743-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3541 / 6/16/14	Analyst: IT
DRO (C10-C28)	520		14	mg/Kg-dry	1	6/17/2014 12:18 PM
<i>Surr: 4-Terphenyl-d14</i>	<i>108</i>		<i>39-133</i>	<i>%REC</i>	<i>1</i>	6/17/2014 12:18 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015		Prep: SW5035 / 6/16/14	Analyst: IT
GRO (C6-C10)	ND		4.6	mg/Kg-dry	1	6/16/2014 04:40 PM
<i>Surr: Toluene-d8</i>	<i>96.9</i>		<i>50-150</i>	<i>%REC</i>	<i>1</i>	6/16/2014 04:40 PM
MERCURY BY CVAA						
			SW7471		Prep: SW7471 / 6/16/14	Analyst: LR
Mercury	0.084		0.027	mg/Kg-dry	1	6/17/2014 03:31 PM
METALS BY ICP-MS						
			SW6020A		Prep: SW3050B / 6/16/14	Analyst: ML
Arsenic	5.9		3.3	mg/Kg-dry	5	6/18/2014 01:46 PM
Barium	11,000		33	mg/Kg-dry	50	6/19/2014 07:50 PM
Cadmium	ND		1.3	mg/Kg-dry	5	6/18/2014 01:46 PM
Chromium	16		3.3	mg/Kg-dry	5	6/18/2014 01:46 PM
Copper	43		33	mg/Kg-dry	50	6/19/2014 07:50 PM
Lead	13		3.3	mg/Kg-dry	5	6/18/2014 01:46 PM
Nickel	14		3.3	mg/Kg-dry	5	6/18/2014 01:46 PM
Selenium	ND		3.3	mg/Kg-dry	5	6/18/2014 01:46 PM
Silver	ND		3.3	mg/Kg-dry	5	6/18/2014 01:46 PM
Zinc	70		6.7	mg/Kg-dry	5	6/18/2014 01:46 PM
SOLUBLE CATIONS FOR SAR						
			SW6020A		Prep: USDA Method 20B / 6/18/14	Analyst: RH
Calcium	170		10	mg/L	20	6/19/2014 05:10 AM
Magnesium	ND		4.0	mg/L	20	6/19/2014 05:10 AM
Sodium	850		4.0	mg/L	20	6/19/2014 05:10 AM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 6/18/14	Analyst: RH
Sodium Adsorption Ratio	18		0.010	none	1	6/18/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW8270		Prep: SW3541 / 6/16/14	Analyst: RM
Acenaphthene	ND		23	µg/Kg-dry	1	6/17/2014 06:05 AM
Acenaphthylene	ND		23	µg/Kg-dry	1	6/17/2014 06:05 AM
Anthracene	ND		23	µg/Kg-dry	1	6/17/2014 06:05 AM
Benzo(a)anthracene	ND		23	µg/Kg-dry	1	6/17/2014 06:05 AM
Benzo(a)pyrene	ND		21	µg/Kg-dry	1	6/17/2014 06:05 AM
Benzo(b)fluoranthene	ND		23	µg/Kg-dry	1	6/17/2014 06:05 AM
Benzo(g,h,i)perylene	ND		23	µg/Kg-dry	1	6/17/2014 06:05 AM
Benzo(k)fluoranthene	ND		23	µg/Kg-dry	1	6/17/2014 06:05 AM
Chrysene	ND		23	µg/Kg-dry	1	6/17/2014 06:05 AM

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

ALS Group USA, Corp

Date: 20-Jun-14

Client: HRL Compliance Solutions, Inc
Project: WPX CMU 22-33 Cuttings 6.12.14
Sample ID: CMU 22-33 Cuttings
Collection Date: 6/12/2014 11:20 AM

Work Order: 1406743
Lab ID: 1406743-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		21	µg/Kg-dry	1	6/17/2014 06:05 AM
Fluoranthene	ND		23	µg/Kg-dry	1	6/17/2014 06:05 AM
Fluorene	ND		23	µg/Kg-dry	1	6/17/2014 06:05 AM
Indeno(1,2,3-cd)pyrene	ND		23	µg/Kg-dry	1	6/17/2014 06:05 AM
Naphthalene	ND		23	µg/Kg-dry	1	6/17/2014 06:05 AM
Pyrene	ND		23	µg/Kg-dry	1	6/17/2014 06:05 AM
Surr: 2-Fluorobiphenyl	29.5		12-100	%REC	1	6/17/2014 06:05 AM
Surr: 4-Terphenyl-d14	41.5		25-137	%REC	1	6/17/2014 06:05 AM
Surr: Nitrobenzene-d5	26.9	S	37-107	%REC	1	6/17/2014 06:05 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 6/16/14		Analyst: BG
Benzene	59		55	µg/Kg-dry	1	6/16/2014 03:30 PM
Ethylbenzene	ND		55	µg/Kg-dry	1	6/16/2014 03:30 PM
m,p-Xylene	130		110	µg/Kg-dry	1	6/16/2014 03:30 PM
o-Xylene	ND		55	µg/Kg-dry	1	6/16/2014 03:30 PM
Toluene	130		55	µg/Kg-dry	1	6/16/2014 03:30 PM
Xylenes, Total	ND		170	µg/Kg-dry	1	6/16/2014 03:30 PM
Surr: 1,2-Dichloroethane-d4	97.2		70-130	%REC	1	6/16/2014 03:30 PM
Surr: 4-Bromofluorobenzene	98.4		70-130	%REC	1	6/16/2014 03:30 PM
Surr: Dibromofluoromethane	104		70-130	%REC	1	6/16/2014 03:30 PM
Surr: Toluene-d8	94.2		70-130	%REC	1	6/16/2014 03:30 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 6/18/14		Analyst: JB
Electrical Conductivity @ Saturation	5.0		0.050	mmhos/cm @25	10	6/18/2014 05:15 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JJG
Chromium, Trivalent	14		0.92	mg/Kg-dry	1	6/18/2014 03:52 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 6/17/14		Analyst: JI
Chromium, Hexavalent	1.3		0.93	mg/Kg-dry	1	6/17/2014 03:30 PM
MOISTURE			A2540 G			Analyst: TM
Moisture	46		0.050	% of sample	1	6/16/2014 09:56 AM
PH			SW9045D	Prep: EXTRACT / 6/16/14		Analyst: EE
pH	11			s.u.	1	6/16/2014 10:45 AM

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

ALS Group USA, Corp

Date: 20-Jun-14

Client: HRL Compliance Solutions, Inc
Project: WPX CMU 22-33 Cuttings 6.12.14
Sample ID: CMU 22-33-B-1
Collection Date: 6/12/2014 11:30 AM

Work Order: 1406743
Lab ID: 1406743-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>						
METALS BY ICP-MS			SW6020A		Prep: SW3050B / 6/16/14	Analyst: ML
Arsenic	2.7		2.0	mg/Kg-dry	5	6/18/2014 01:52 PM
MOISTURE			A2540 G			Analyst: TM
Moisture	3.8		0.050	% of sample	1	6/16/2014 09:56 AM

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

ALS Group USA, Corp**Date:** 20-Jun-14

Client: HRL Compliance Solutions, Inc
Project: WPX CMU 22-33 Cuttings 6.12.14
Sample ID: CMU 22-33-B-2
Collection Date: 6/12/2014 11:36 AM

Work Order: 1406743
Lab ID: 1406743-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>						
METALS BY ICP-MS			SW6020A		Prep: SW3050B / 6/16/14	Analyst: ML
Arsenic	3.9		2.1	mg/Kg-dry	5	6/18/2014 01:58 PM
MOISTURE			A2540 G			Analyst: TM
Moisture	4.8		0.050	% of sample	1	6/16/2014 09:56 AM

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

ALS Group USA, Corp

Date: 20-Jun-14

Client: HRL Compliance Solutions, Inc
Project: WPX CMU 22-33 Cuttings 6.12.14
Sample ID: CMU 22-33-B-3
Collection Date: 6/12/2014 11:41 AM

Work Order: 1406743
Lab ID: 1406743-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>						
METALS BY ICP-MS			SW6020A		Prep: SW3050B / 6/16/14	Analyst: ML
Arsenic	5.3		2.1	mg/Kg-dry	5	6/18/2014 02:04 PM
MOISTURE			A2540 G			Analyst: TM
Moisture	3.4		0.050	% of sample	1	6/16/2014 09:56 AM

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

ALS Group USA, Corp

Date: 20-Jun-14

Client: HRL Compliance Solutions, Inc
Project: WPX CMU 22-33 Cuttings 6.12.14
Sample ID: CMU 22-33-B-4
Collection Date: 6/12/2014 11:47 AM

Work Order: 1406743
Lab ID: 1406743-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>						
METALS BY ICP-MS			SW6020A		Prep: SW3050B / 6/16/14	Analyst: ML
Arsenic	5.7		1.9	mg/Kg-dry	5	6/18/2014 03:47 PM
MOISTURE			A2540 G			Analyst: TM
Moisture	6.3		0.050	% of sample	1	6/16/2014 09:56 AM

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

ALS Group USA, Corp

Date: 20-Jun-14

Client: HRL Compliance Solutions, Inc
Project: WPX CMU 22-33 Cuttings 6.12.14
Sample ID: CMU 22-33-B-5
Collection Date: 6/12/2014 11:55 AM

Work Order: 1406743
Lab ID: 1406743-06
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>						
METALS BY ICP-MS			SW6020A		Prep: SW3050B / 6/16/14	Analyst: ML
Arsenic	7.4		1.9	mg/Kg-dry	5	6/18/2014 03:54 PM
MOISTURE			A2540 G			Analyst: TM
Moisture	7.6		0.050	% of sample	1	6/16/2014 09:56 AM

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

Client: HRL Compliance Solutions, Inc

Work Order: 1406743

Project: WPX CMU 22-33 Cuttings 6.12.14

QC BATCH REPORT

Batch ID: 59718

Instrument ID GC8

Method: SW8015C

MBLK		Sample ID: DBLKS1-59718-59718				Units: mg/Kg		Analysis Date: 6/16/2014 06:18 PM		
Client ID:		Run ID: GC8_140616A				SeqNo: 2810995		Prep Date: 6/16/2014		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	1.609	0	1.667	0	96.6	39-133	0			

LCS		Sample ID: DLCSS1-59718-59718				Units: mg/Kg		Analysis Date: 6/16/2014 06:48 PM		
Client ID:		Run ID: GC8_140616A				SeqNo: 2810996		Prep Date: 6/16/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	158.8	4.2	166.7	0	95.3	61-109	0			
Surr: 4-Terphenyl-d14	1.433	0	1.667	0	86	39-133	0			

MS		Sample ID: 1406600-21B MS				Units: mg/Kg		Analysis Date: 6/16/2014 07:18 PM		
Client ID:		Run ID: GC8_140616A				SeqNo: 2810997		Prep Date: 6/16/2014		DF: 2
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	877.6	16	324.1	729.2	45.8	48-110	0			S
Surr: 4-Terphenyl-d14	3.348	0	3.241	0	103	39-133	0			

MSD		Sample ID: 1406600-21B MSD				Units: mg/Kg		Analysis Date: 6/16/2014 07:48 PM		
Client ID:		Run ID: GC8_140616A				SeqNo: 2810998		Prep Date: 6/16/2014		DF: 2
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	892.7	16	317.1	729.2	51.6	48-110	877.6	1.72	30	
Surr: 4-Terphenyl-d14	2.756	0	3.171	0	86.9	39-133	3.348	19.4	30	

The following samples were analyzed in this batch: 1406743-01B

Client: HRL Compliance Solutions, Inc
Work Order: 1406743
Project: WPX CMU 22-33 Cuttings 6.12.14

QC BATCH REPORT

Batch ID: **59723** Instrument ID **GC9** Method: **SW8015**

MBLK		Sample ID: MBLK-59723-59723				Units: µg/Kg		Analysis Date: 6/16/2014 03:48 PM		
Client ID:		Run ID: GC9_140616A				SeqNo: 2811060		Prep Date: 6/16/2014		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>	4957	0	5000	0	99.1	50-150	0			

LCS		Sample ID: LCS-59723-59723				Units: µg/Kg		Analysis Date: 6/16/2014 03:23 PM		
Client ID:		Run ID: GC9_140616A				SeqNo: 2811059		Prep Date: 6/16/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	474500	2,500	500000	0	94.9	70-130	0			
<i>Surr: Toluene-d8</i>	5911	0	5000	0	118	50-150	0			

MS		Sample ID: 1406743-01A MS				Units: µg/Kg		Analysis Date: 6/16/2014 06:49 PM		
Client ID: CMU 22-33 Cuttings		Run ID: GC9_140616A				SeqNo: 2811068		Prep Date: 6/16/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	539600	2,500	500000	0	108	70-130	0			
<i>Surr: Toluene-d8</i>	6265	0	5000	0	125	50-150	0			

MSD		Sample ID: 1406743-01A MSD				Units: µg/Kg		Analysis Date: 6/16/2014 07:14 PM		
Client ID: CMU 22-33 Cuttings		Run ID: GC9_140616A				SeqNo: 2811069		Prep Date: 6/16/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	467700	2,500	500000	0	93.5	70-130	539600	14.3	30	
<i>Surr: Toluene-d8</i>	5544	0	5000	0	111	50-150	6265	12.2	30	

The following samples were analyzed in this batch:

1406743-01A

Client: HRL Compliance Solutions, Inc
Work Order: 1406743
Project: WPX CMU 22-33 Cuttings 6.12.14

QC BATCH REPORT

Batch ID: **59741** Instrument ID **HG1** Method: **SW7471**

MBLK				Sample ID: MBLK-59741-59741				Units: mg/Kg			Analysis Date: 6/16/2014 08:15 PM			
Client ID:				Run ID: HG1_140616A				SeqNo: 2811207			Prep Date: 6/16/2014		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Mercury		0.004917	0.020								J			

LCS		Sample ID: LCS-59741-59741				Units: mg/Kg		Analysis Date: 6/16/2014 08:18 PM		
Client ID:		Run ID: HG1_140616A				SeqNo: 2811209		Prep Date: 6/16/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1903	0.020	0.1665	0	114	80-120	0			

MS				Sample ID: 1406681-05BMS				Units: mg/Kg			Analysis Date: 6/17/2014 02:47 PM			
Client ID:				Run ID: HG1_140617A				SeqNo: 2812758			Prep Date: 6/16/2014		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Mercury		0.1287	0.013	0.1089	0.005501	113	75-125		0					

MSD		Sample ID: 1406681-05BMSD				Units: mg/Kg		Analysis Date: 6/17/2014 02:49 PM		
Client ID:		Run ID: HG1_140617A			SeqNo: 2812759		Prep Date: 6/16/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1228	0.013	0.1063	0.005501	110	75-125	0.1287	4.7	35	

The following samples were analyzed in this batch:

1406743-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1406743
Project: WPX CMU 22-33 Cuttings 6.12.14

QC BATCH REPORT

Batch ID: **59745** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK				Sample ID: MBLK-59745-59745				Units: mg/Kg		Analysis Date: 6/18/2014 10:31 AM	
Client ID:			Run ID: ICPMS1_140618A			SeqNo: 2814208		Prep Date: 6/16/2014		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	0.002326	0.25								J	
Zinc	0.03902	0.50								J	

LCS				Sample ID: LCS-59745-59745				Units: mg/Kg			Analysis Date: 6/18/2014 10:37 AM			
Client ID:				Run ID: ICPMS1_140618A				SeqNo: 2814210			Prep Date: 6/16/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Arsenic	4.482	0.25	5	0	89.6	80-120	0							
Barium	4.652	0.25	5	0	93	80-120	0							
Cadmium	4.648	0.10	5	0	93	80-120	0							
Chromium	4.776	0.25	5	0	95.5	80-120	0							
Copper	4.784	0.25	5	0	95.7	80-120	0							
Lead	4.702	0.25	5	0	94	80-120	0							
Nickel	4.702	0.25	5	0	94	80-120	0							
Selenium	4.559	0.25	5	0	91.2	80-120	0							
Silver	4.85	0.25	5	0	97	80-120	0							
Zinc	4.804	0.50	5	0	96.1	80-120	0							

MS					Sample ID: 1406754-07CMS			Units: mg/Kg		Analysis Date: 6/18/2014 11:14 AM		
Client ID:			Run ID: ICPMS1_140618A			SeqNo: 2814221		Prep Date: 6/16/2014		DF: 100		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
Arsenic	21.02	32	6.329	14.65	101	75-125	0			J		
Barium	46.14	32	6.329	45.22	14.5	75-125	0			SO		
Cadmium	6.348	13	6.329	0.06065	99.3	75-125	0			J		
Chromium	12.82	32	6.329	8.974	60.7	75-125	0			JS		
Copper	18.21	32	6.329	12.39	91.9	75-125	0			J		
Lead	20.06	32	6.329	13.36	106	75-125	0			J		
Nickel	15.33	32	6.329	10.7	73.2	75-125	0			JS		
Selenium	8.899	32	6.329	1.515	117	75-125	0			J		
Silver	5.828	32	6.329	-0.03031	92.6	75-125	0			J		
Zinc	62.02	63	6.329	62.31	-4.56	75-125	0			JSO		

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

Client: HRL Compliance Solutions, Inc
Work Order: 1406743
Project: WPX CMU 22-33 Cuttings 6.12.14

QC BATCH REPORT

Batch ID: **59745** Instrument ID **ICPMS1** Method: **SW6020A**

MSD		Sample ID: 1406754-07CMSD				Units: mg/Kg		Analysis Date: 6/18/2014 11:20 AM		
Client ID:		Run ID: ICPMS1_140618A				SeqNo: 2814223		Prep Date: 6/16/2014		DF: 100
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	22.81	32	6.378	14.65	128	75-125	21.02	0	25	JS
Barium	43.78	32	6.378	45.22	-22.6	75-125	46.14	5.24	25	SO
Cadmium	6.384	13	6.378	0.06065	99.1	75-125	6.348	0	25	J
Chromium	15.57	32	6.378	8.974	103	75-125	12.82	0	25	J
Copper	19.6	32	6.378	12.39	113	75-125	18.21	0	25	J
Lead	18.99	32	6.378	13.36	88.2	75-125	20.06	0	25	J
Nickel	17.31	32	6.378	10.7	104	75-125	15.33	0	25	J
Selenium	5.041	32	6.378	1.515	55.3	75-125	8.899	0	25	JS
Silver	6.072	32	6.378	-0.03031	95.7	75-125	5.828	0	25	J
Zinc	67.03	64	6.378	62.31	74	75-125	62.02	7.76	25	SO

The following samples were analyzed in this batch:

1406743-01B	1406743-02A	1406743-03A
1406743-04A	1406743-05A	1406743-06A

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

Client: HRL Compliance Solutions, Inc
Work Order: 1406743
Project: WPX CMU 22-33 Cuttings 6.12.14

QC BATCH REPORT

Batch ID: **59716** Instrument ID **SVMS6** Method: **SW8270**

MBLK		Sample ID: SBLKS1-59716-59716				Units: µg/Kg		Analysis Date: 6/16/2014 06:12 PM		
Client ID:		Run ID: SVMS6_140616A				SeqNo: 2812050		Prep Date: 6/16/2014		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>	1193	0	1667	0	71.6	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1640	0	1667	0	98.4	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1061	0	1667	0	63.7	37-107	0			

LCS		Sample ID: SLCSS1-59716-59716				Units: µg/Kg		Analysis Date: 6/16/2014 06:33 PM		
Client ID:		Run ID: SVMS6_140616A				SeqNo: 2812051		Prep Date: 6/16/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	538.3	6.7	666.7	0	80.7	45-110	0			
Acenaphthylene	558.7	6.7	666.7	0	83.8	45-105	0			
Anthracene	636.7	6.7	666.7	0	95.5	55-105	0			
Benzo(a)anthracene	633.7	6.7	666.7	0	95	50-110	0			
Benzo(a)pyrene	636	6.7	666.7	0	95.4	50-110	0			
Benzo(b)fluoranthene	638	6.7	666.7	0	95.7	45-115	0			
Benzo(g,h,i)perylene	609.3	6.7	666.7	0	91.4	40-125	0			
Benzo(k)fluoranthene	616	6.7	666.7	0	92.4	45-115	0			
Chrysene	610.7	6.7	666.7	0	91.6	55-110	0			
Dibenzo(a,h)anthracene	633.7	6.7	666.7	0	95	40-125	0			
Fluoranthene	710	6.7	666.7	0	106	55-115	0			
Fluorene	590.7	6.7	666.7	0	88.6	50-110	0			
Indeno(1,2,3-cd)pyrene	641.7	6.7	666.7	0	96.2	40-120	0			
Naphthalene	524	6.7	666.7	0	78.6	40-105	0			
Pyrene	630.7	6.7	666.7	0	94.6	45-125	0			
<i>Surr: 2-Fluorobiphenyl</i>	1241	0	1667	0	74.5	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1756	0	1667	0	105	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1159	0	1667	0	69.6	37-107	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 1406743
Project: WPX CMU 22-33 Cuttings 6.12.14

QC BATCH REPORT

Batch ID: **59716** Instrument ID: **SVMS6** Method: **SW8270**

MS				Sample ID: 1406580-01A MS			Units: µg/Kg		Analysis Date: 6/16/2014 09:07 PM	
Client ID:		Run ID: SVMS6_140616A			SeqNo: 2812052		Prep Date: 6/16/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1615	20	1950	10.25	82.3	45-110	0			
Acenaphthylene	2099	20	1950	137.9	101	45-105	0			
Anthracene	2538	20	1950	324.3	114	55-105	0			S
Benzo(a)anthracene	5264	20	1950	1169	210	50-110	0			S
Benzo(a)pyrene	5757	20	1950	1256	231	50-110	0			S
Benzo(b)fluoranthene	5685	20	1950	1277	226	45-115	0			S
Benzo(g,h,i)perylene	3410	20	1950	626.3	143	40-125	0			S
Benzo(k)fluoranthene	2935	20	1950	493	125	45-115	0			S
Chrysene	5141	20	1950	1116	206	55-110	0			S
Dibenzo(a,h)anthracene	1983	20	1950	199.4	91.5	40-125	0			
Fluoranthene	5036	20	1950	1932	159	55-115	0			S
Fluorene	1830	20	1950	56.85	90.9	50-110	0			
Indeno(1,2,3-cd)pyrene	3474	20	1950	685.9	143	40-120	0			S
Naphthalene	1237	20	1950	26.1	62.1	40-105	0			
Pyrene	5749	20	1950	2139	185	45-125	0			S
Surr: 2-Fluorobiphenyl	3338	0	4875	0	68.5	12-100	0			
Surr: 4-Terphenyl-d14	4641	0	4875	0	95.2	25-137	0			
Surr: Nitrobenzene-d5	2644	0	4875	0	54.2	37-107	0			

MSD				Sample ID: 1406580-01A MSD			Units: µg/Kg		Analysis Date: 6/16/2014 09:28 PM	
Client ID:		Run ID: SVMS6_140616A			SeqNo: 2812053		Prep Date: 6/16/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1560	20	1971	10.25	78.6	45-110	1615	3.46	30	
Acenaphthylene	1803	20	1971	137.9	84.5	45-105	2099	15.2	30	
Anthracene	2260	20	1971	324.3	98.2	55-105	2538	11.6	30	
Benzo(a)anthracene	3489	20	1971	1169	118	50-110	5264	40.6	30	SR
Benzo(a)pyrene	3516	20	1971	1256	115	50-110	5757	48.3	30	SR
Benzo(b)fluoranthene	3488	20	1971	1277	112	45-115	5685	47.9	30	R
Benzo(g,h,i)perylene	2420	20	1971	626.3	91	40-125	3410	34	30	R
Benzo(k)fluoranthene	2470	20	1971	493	100	45-115	2935	17.2	30	
Chrysene	3350	20	1971	1116	113	55-110	5141	42.2	30	SR
Dibenzo(a,h)anthracene	1770	20	1971	199.4	79.7	40-125	1983	11.3	30	
Fluoranthene	4358	20	1971	1932	123	55-115	5036	14.4	30	S
Fluorene	1808	20	1971	56.85	88.9	50-110	1830	1.21	30	
Indeno(1,2,3-cd)pyrene	2551	20	1971	685.9	94.6	40-120	3474	30.6	30	R
Naphthalene	1346	20	1971	26.1	67	40-105	1237	8.41	30	
Pyrene	5415	20	1971	2139	166	45-125	5749	5.99	30	S
Surr: 2-Fluorobiphenyl	3252	0	4926	0	66	12-100	3338	2.61	40	
Surr: 4-Terphenyl-d14	5412	0	4926	0	110	25-137	4641	15.3	40	
Surr: Nitrobenzene-d5	2872	0	4926	0	58.3	37-107	2644	8.26	40	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1406743
Project: WPX CMU 22-33 Cuttings 6.12.14

QC BATCH REPORT

Batch ID: **59716** Instrument ID **SVMS6** Method: **SW8270**

The following samples were analyzed in this batch:

1406743-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1406743
Project: WPX CMU 22-33 Cuttings 6.12.14

QC BATCH REPORT

Batch ID: **59721** Instrument ID **VMS9** Method: **SW8260B**

MBLK				Sample ID: MBLK-59721-59721				Units: µg/Kg			Analysis Date: 6/16/2014 01:51 PM			
Client ID:				Run ID: VMS9_140616A				SeqNo: 2811675			Prep Date: 6/16/2014		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	1043	0	1000	0	104	70-130		0						
Surr: 4-Bromofluorobenzene	865	0	1000	0	86.5	70-130		0						
Surr: Dibromofluoromethane	974.5	0	1000	0	97.4	70-130		0						
Surr: Toluene-d8	915	0	1000	0	91.5	70-130		0						

LCS				Sample ID: LCS-59721-59721			Units: µg/Kg		Analysis Date: 6/16/2014 10:58 AM		
Client ID:			Run ID: VMS9_140616A			SeqNo: 2811672		Prep Date: 6/16/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1100	30	1000	0	110	75-125	0				
Ethylbenzene	1052	30	1000	0	105	75-125	0				
m,p-Xylene	2150	60	2000	0	107	80-125	0				
o-Xylene	1044	30	1000	0	104	75-125	0				
Toluene	1134	30	1000	0	113	70-125	0				
Xylenes, Total	3194	90	3000	0	106	75-125	0				
Surr: 1,2-Dichloroethane-d4	950	0	1000	0	95	70-130	0				
Surr: 4-Bromofluorobenzene	1036	0	1000	0	104	70-130	0				
Surr: Dibromofluoromethane	942.5	0	1000	0	94.2	70-130	0				
Surr: Toluene-d8	998	0	1000	0	99.8	70-130	0				

MS					Sample ID: 1406681-35A MS			Units: µg/Kg		Analysis Date: 6/19/2014 07:16 AM	
Client ID:			Run ID: VMS7_140618A			SeqNo: 2815451		Prep Date: 6/16/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	892	30	1000	0	89.2	75-125	0				
Ethylbenzene	898	30	1000	0	89.8	75-125	0				
m,p-Xylene	1804	60	2000	11.13	89.6	80-125	0				
o-Xylene	924	30	1000	0	92.4	75-125	0				
Toluene	889	30	1000	9.615	87.9	70-125	0				
Xylenes, Total	2728	90	3000	0	90.9	75-125	0				
Surr: 1,2-Dichloroethane-d4	975	0	1000	0	97.5	70-130	0				
Surr: 4-Bromofluorobenzene	1030	0	1000	0	103	70-130	0				
Surr: Dibromofluoromethane	975.5	0	1000	0	97.6	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: 1406743
Project: WPX CMU 22-33 Cuttings 6.12.14

QC BATCH REPORT

Batch ID: **59721** Instrument ID **VMS9** Method: **SW8260B**

MSD				Sample ID: 1406681-35A MSD			Units: µg/Kg		Analysis Date: 6/19/2014 07:43 AM	
Client ID:				Run ID: VMS7_140618A			SeqNo: 2815452		Prep Date: 6/16/2014	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	869	30	1000	0	86.9	75-125	892	2.61	30	
Ethylbenzene	894.5	30	1000	0	89.4	75-125	898	0.391	30	
m,p-Xylene	1810	60	2000	11.13	90	80-125	1804	0.36	30	
o-Xylene	920	30	1000	0	92	75-125	924	0.434	30	
Toluene	887.5	30	1000	9.615	87.8	70-125	889	0.169	30	
Xylenes, Total	2730	90	3000	0	91	75-125	2728	0.0916	30	
Surr: 1,2-Dichloroethane-d4	976	0	1000	0	97.6	70-130	975	0.103	30	
Surr: 4-Bromofluorobenzene	1022	0	1000	0	102	70-130	1030	0.78	30	
Surr: Dibromofluoromethane	980	0	1000	0	98	70-130	975.5	0.46	30	
Surr: Toluene-d8	995	0	1000	0	99.5	70-130	986.5	0.858	30	

The following samples were analyzed in this batch: 1406743-01A

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

Client: HRL Compliance Solutions, Inc
Work Order: 1406743
Project: WPX CMU 22-33 Cuttings 6.12.14

QC BATCH REPORT

Batch ID: **59748** Instrument ID **WETCHEM** Method: **SW9045D**

LCS		Sample ID: LCS-59748-59748					Units: s.u.		Analysis Date: 6/16/2014 10:45 AM		
Client ID:			Run ID: WETCHEM_140616K			SeqNo: 2810455		Prep Date: 6/16/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH	4.06	0	4	0	102	90-110	0			
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DUP		Sample ID: 1406413-09C DUP					Units: s.u.		Analysis Date: 6/16/2014 10:45 AM		
Client ID:		Run ID: WETCHEM_140616K			SeqNo: 2810460		Prep Date: 6/16/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH	6.34	0	0	0	0	0-0	6.33	0.158	20	H
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DUP		Sample ID: 1406469-05C DUP					Units: s.u.		Analysis Date: 6/16/2014 10:45 AM		
Client ID:			Run ID: WETCHEM_140616K			SeqNo: 2810463		Prep Date: 6/16/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH	7.46	0	0	0	0	0-0	7.51	0.668	20	H
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The following samples were analyzed in this batch:

1406743-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1406743
Project: WPX CMU 22-33 Cuttings 6.12.14

QC BATCH REPORT

Batch ID: **59760** Instrument ID **WETCHEM** Method: **USDA H60 Method**

DUP		Sample ID: 1406758-11A DUP				Units: mmhos/cm @25°C		Analysis Date: 6/18/2014 05:15 PM		
Client ID:		Run ID: WETCHEM_1406180				SeqNo: 2814650		Prep Date: 6/18/2014		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	1.323	0.050	0	0	0		1.247	5.91	50	

The following samples were analyzed in this batch:

1406743-01C

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

Client: HRL Compliance Solutions, Inc
Work Order: 1406743
Project: WPX CMU 22-33 Cuttings 6.12.14

QC BATCH REPORT

Batch ID: **59795** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK		Sample ID: MBLK-59795-59795				Units: mg/Kg		Analysis Date: 6/17/2014 03:30 PM		
Client ID:		Run ID: WETCHEM_140617P				SeqNo: 2812851		Prep Date: 6/17/2014		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-59795-59795				Units: mg/Kg		Analysis Date: 6/17/2014 03:30 PM		
Client ID:		Run ID: WETCHEM_140617P				SeqNo: 2812852		Prep Date: 6/17/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.663 0.50 1.984 0 83.8 80-120 0

MS		Sample ID: 1406541-03CMS				Units: mg/Kg		Analysis Date: 6/17/2014 03:30 PM		
Client ID:		Run ID: WETCHEM_140617P				SeqNo: 2812855		Prep Date: 6/17/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.376 0.50 2 0.1811 59.7 75-125 0 S

MS		Sample ID: 1406541-03CMSI				Units: mg/Kg		Analysis Date: 6/17/2014 03:30 PM		
Client ID:		Run ID: WETCHEM_140617P				SeqNo: 2812857		Prep Date: 6/17/2014		DF: 100
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1115 49 1.961 0.1811 56800 75-125 0 S

MSD		Sample ID: 1406541-03Cmsd				Units: mg/Kg		Analysis Date: 6/17/2014 03:30 PM		
Client ID:		Run ID: WETCHEM_140617P				SeqNo: 2812856		Prep Date: 6/17/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.413 0.50 1.984 0.1811 62.1 75-125 1.376 2.63 20 S

The following samples were analyzed in this batch:

1406743-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1406743
Project: WPX CMU 22-33 Cuttings 6.12.14

QC BATCH REPORT

Batch ID: **R142798** Instrument ID **MOIST** Method: **A2540 G**

MBLK		Sample ID: WBLKS-R142798				Units: % of sample		Analysis Date: 6/16/2014 09:56 AM		
Client ID:		Run ID: MOIST_140616A				SeqNo: 2811908		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-R142798				Units: % of sample		Analysis Date: 6/16/2014 09:56 AM		
Client ID:		Run ID: MOIST_140616A				SeqNo: 2811907		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: 1406681-36B DUP				Units: % of sample		Analysis Date: 6/16/2014 09:56 AM		
Client ID:		Run ID: MOIST_140616A				SeqNo: 2811887		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 21.37 0.050 0 0 0 0-0 23.68 10.3 20

DUP		Sample ID: 1406742-01B DUP				Units: % of sample		Analysis Date: 6/16/2014 09:56 AM		
Client ID:		Run ID: MOIST_140616A				SeqNo: 2811900		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 35.44 0.050 0 0 0 0-0 33.96 4.27 20

The following samples were analyzed in this batch:

1406743-01B	1406743-02A	1406743-03A
1406743-04A	1406743-05A	1406743-06A

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

Sample Receipt Checklist

Client Name: HRL

Date/Time Received: 14-Jun-14 09:15

Work Order: 1406743

Received by: DS

Checklist completed by Diane Shaw 14-Jun-14
eSignature Date

Reviewed by: Ann Preston 16-Jun-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>5.8 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>6/14/2014 1:01:51 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: (970) 285-5783
Nick Martinez
ALS Environmental
127 E. 1st Street

PARACHUTE, CO 81835

Origin ID: RRLA



BRL1 SENDER

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

HOLLAND, MI 49424

Ship Date: 12JUN14
ActWgt: 64.0 LB
CAD: 2264840/NET3490

Dims: 24 X 15 X 15 IN

Delivery Address Bar Code



Ref # 001214-1
Invoice #
PO # Parachute
Dept #

FRI - 13 JUN 10:30A
PRIORITY OVERNIGHT

TRK# 7702 8931 7466
[9261]

XX GRRA

49424
MI-US
GRR



92205/08CAF220

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.

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

ALS Parachute Custody Seal
DATE 6/17/14 Time 1700
Name [Signature]



23-Jun-2014

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

Re: **WPX CMU 22-33 cuttings 6.19.14**

Work Order: **14061061**

Dear Mark,

Revision: **1**

ALS Environmental received 1 sample on 20-Jun-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 CMU 22-33 cuttings 6.19.14
Work Order: 14061061

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>
14061061-01	CMU 22-33 cuttings	Solid		6/19/2014 15:00	6/20/2014 09:30	<input type="checkbox"/>

ALS Group USA, Corp

Date: 23-Jun-14

Client: HRL Compliance Solutions, Inc
Project: WPX CMU 22-33 cuttings 6.19.14
Work Order: 14061061

Case Narrative

Batch R1431149 duplicate data for % Moisture is not related to this project's samples. No data requires qualification.

Client: HRL Compliance Solutions, Inc
Project: WPX CMU 22-33 cuttings 6.19.14
WorkOrder: 14061061

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:** 23-Jun-14

Client: HRL Compliance Solutions, Inc
Project: WPX CMU 22-33 cuttings 6.19.14
Sample ID: CMU 22-33 cuttings
Collection Date: 6/19/2014 03:00 PM

Work Order: 14061061
Lab ID: 14061061-01
Matrix: SOLID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	40		SW8015M		Prep: SW3541 / 6/20/14	Analyst: IT
<i>Surr: 4-Terphenyl-d14</i>	68.6		4.6	mg/Kg-dry	1	6/21/2014 06:43 AM
			39-133	%REC	1	6/21/2014 06:43 AM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015		Prep: SW5035 / 6/20/14	Analyst: IT
<i>Surr: Toluene-d8</i>	103		2.8	mg/Kg-dry	1	6/21/2014 01:04 AM
			50-150	%REC	1	6/21/2014 01:04 AM
MOISTURE						
Moisture	10		A2540 G			Analyst: TM
			0.050	% of sample	1	6/20/2014 03:35 PM

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

Revision: 1

Client: HRL Compliance Solutions, Inc
Work Order: 14061061
Project: WPX CMU 22-33 cuttings 6.19.14

QC BATCH REPORT

Batch ID: **59919** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-59919-59919				Units: mg/Kg		Analysis Date: 6/21/2014 01:13 AM		
Client ID:		Run ID: GC8_140620A				SeqNo: 2819432		Prep Date: 6/20/2014		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	1.362	0	1.667	0	81.7	39-133	0			

LCS		Sample ID: DLCSS1-59919-59919				Units: mg/Kg		Analysis Date: 6/21/2014 01:43 AM		
Client ID:		Run ID: GC8_140620A				SeqNo: 2819433		Prep Date: 6/20/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	121.2	4.2	166.7	0	72.7	61-109	0			
Surr: 4-Terphenyl-d14	1.303	0	1.667	0	78.2	39-133	0			

MS		Sample ID: 14061060-02B MS				Units: mg/Kg		Analysis Date: 6/21/2014 03:13 AM		
Client ID:		Run ID: GC8_140620A				SeqNo: 2819437		Prep Date: 6/20/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	258.7	8.2	326.4	27.22	70.9	48-110	0			
Surr: 4-Terphenyl-d14	2.576	0	3.264	0	78.9	39-133	0			

MSD		Sample ID: 14061060-02B MSD				Units: mg/Kg		Analysis Date: 6/21/2014 03:43 AM		
Client ID:		Run ID: GC8_140620A				SeqNo: 2819438		Prep Date: 6/20/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	259.6	8.2	327.4	27.22	71	48-110	258.7	0.343	30	
Surr: 4-Terphenyl-d14	2.594	0	3.274	0	79.2	39-133	2.576	0.718	30	

The following samples were analyzed in this batch:

14061061-01A

Client: HRL Compliance Solutions, Inc
Work Order: 14061061
Project: WPX CMU 22-33 cuttings 6.19.14

QC BATCH REPORT

Batch ID: **59906** Instrument ID **GC9** Method: **SW8015**

MBLK		Sample ID: MBLK-59906-59906				Units: µg/Kg		Analysis Date: 6/20/2014 05:47 PM		
Client ID:		Run ID: GC9_140620A				SeqNo: 2819476		Prep Date: 6/20/2014		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>	5288	0	5000	0	106	50-150	0			

LCS		Sample ID: LCS-59906-59906				Units: µg/Kg		Analysis Date: 6/20/2014 05:22 PM		
Client ID:		Run ID: GC9_140620A				SeqNo: 2819475		Prep Date: 6/20/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	536500	2,500	500000	0	107	70-130	0			
<i>Surr: Toluene-d8</i>	5372	0	5000	0	107	50-150	0			

MS		Sample ID: 14061051-01B MS				Units: µg/Kg		Analysis Date: 6/20/2014 06:39 PM		
Client ID:		Run ID: GC9_140620A				SeqNo: 2819478		Prep Date: 6/20/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	496700	2,500	500000	30740	93.2	70-130	0			
<i>Surr: Toluene-d8</i>	5993	0	5000	0	120	50-150	0			

MSD		Sample ID: 14061051-01B MSD				Units: µg/Kg		Analysis Date: 6/20/2014 07:05 PM		
Client ID:		Run ID: GC9_140620A				SeqNo: 2819479		Prep Date: 6/20/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	493900	2,500	500000	30740	92.6	70-130	496700	0.57	30	
<i>Surr: Toluene-d8</i>	5968	0	5000	0	119	50-150	5993	0.426	30	

The following samples were analyzed in this batch:

14061061-01A

Client: HRL Compliance Solutions, Inc
Work Order: 14061061
Project: WPX CMU 22-33 cuttings 6.19.14

QC BATCH REPORT

Batch ID: **R143149** Instrument ID **MOIST** Method: **A2540 G**

MBLK		Sample ID: WBLKS-R143149				Units: % of sample		Analysis Date: 6/20/2014 03:35 PM		
Client ID:		Run ID: MOIST_140620B				SeqNo: 2819982		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	0.03	0.050								J

LCS		Sample ID: LCS-R143149				Units: % of sample		Analysis Date: 6/20/2014 03:35 PM		
Client ID:		Run ID: MOIST_140620B				SeqNo: 2819981		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: 14061061-01A DUP				Units: % of sample		Analysis Date: 6/20/2014 03:35 PM		
Client ID: CMU 22-33 cuttings		Run ID: MOIST_140620B				SeqNo: 2819964		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	11.79	0.050	0	0	0	0-0	10.35	13	20	

DUP		Sample ID: 1406995-01A DUP				Units: % of sample		Analysis Date: 6/20/2014 03:35 PM		
Client ID:		Run ID: MOIST_140620B				SeqNo: 2819980		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	6.71	0.050	0	0	0	0-0	7.89	16.2	20	H

The following samples were analyzed in this batch:

14061061-01A

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

Revision: 1

QC Page: 3 of 3



ALS Laboratory Group

HOLLAND, Michigan 48424

Chain-of-Custody

Form 202r8

WORKORDER #

14061061

PROJECT NAME		CMU 22-33 cuttings		SITE ID		CMU 22-33 cuttings		DATE		24 hrs		PAGE		1 of 1	
PROJECT No.				EDD FORMAT				TURNAROUND				DISPOSAL		By Lab or Return to Client	
COMPANY NAME		HRL Compliance		BILL TO COMPANY		WPX Energy		DRO+GRO							
SEND REPORT TO		Mumby & 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		970-683-2295									
FAX				FAX											
E-MAIL		Karolina.blaney@wpxenergy.com & mmumby@hrlcomp.com; rwold@hrlcomp.com		E-MAIL		Karolina.blaney@wpxenergy.com; leo.braun@wpxenergy.com									
Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC								
1	CMU 22-33 cuttings	NS	6/19/2014	15:00	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)
3.02	<input checked="" type="checkbox"/> LEVEL II (Standard QC)
	<input type="checkbox"/> LEVEL III (Std QC + forms)
	<input type="checkbox"/> LEVEL IV (Std QC + forms + raw data)
	<input type="checkbox"/>
Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035	

SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY		6/19/14	
RECEIVED BY		6-19	1730
RELINQUISHED BY		6-19	1800
RECEIVED BY	Diane F. Shan	6/20/14	0930
RELINQUISHED BY			
RECEIVED BY			

Sample Receipt Checklist

Client Name: HRL

Date/Time Received: 20-Jun-14 09:30

Work Order: 14061061

Received by: DS

Checklist completed by Diane Shaw 20-Jun-14
eSignature Date

Reviewed by: Ann Preston 20-Jun-14
eSignature Date

Matrices: Solid

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>3.0 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>6/20/2014 10:47:56 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:

Revision: 1

