



October 8, 2015

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

Re: GV 18-23 Historical Release Closure Request

Dear Mr. Spencer,

Attached are the laboratory reports and the sample location map for soil samples collected from the excavated area, landfarmed material, and nearby non-impacted native soil in order to close the historical release that occurred at the GV 18-23 well pad and was discovered on July 29, 2014.

Soil impacted by the produced water spill was excavated and a total of five grab confirmation samples were collected from the bottom and four walls of the excavation. The impacted soil was transported to the SG 22-32 well pad (permitted with a Form 4) where it was landfarmed in 4 separate batches. One composite sample was collected from each landfarm batch. All samples were analyzed for 910-1 list of constituents. Five grab samples were collected from nearby non-impacted, native soil to establish the background concentrations for arsenic. In accordance with the COGCC Rule 910.b.(3)E. one grab sample was analyzed for inorganics to establish background soil conditions.

As the attached laboratory reports indicate, the constituents of concern listed above tested below the cleanup requirements. Based on these results, WPX respectfully requests closure of this incident.

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

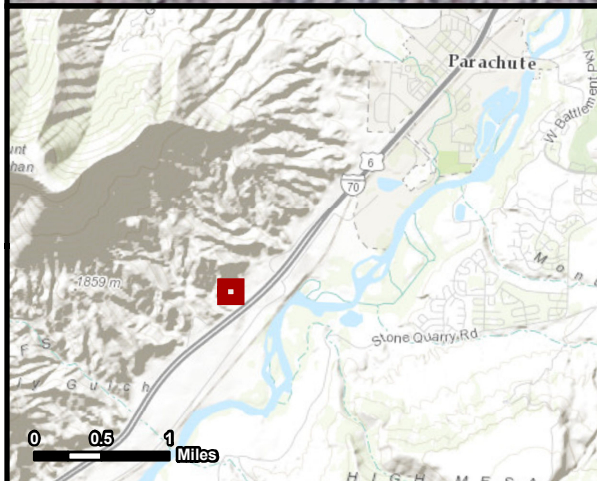
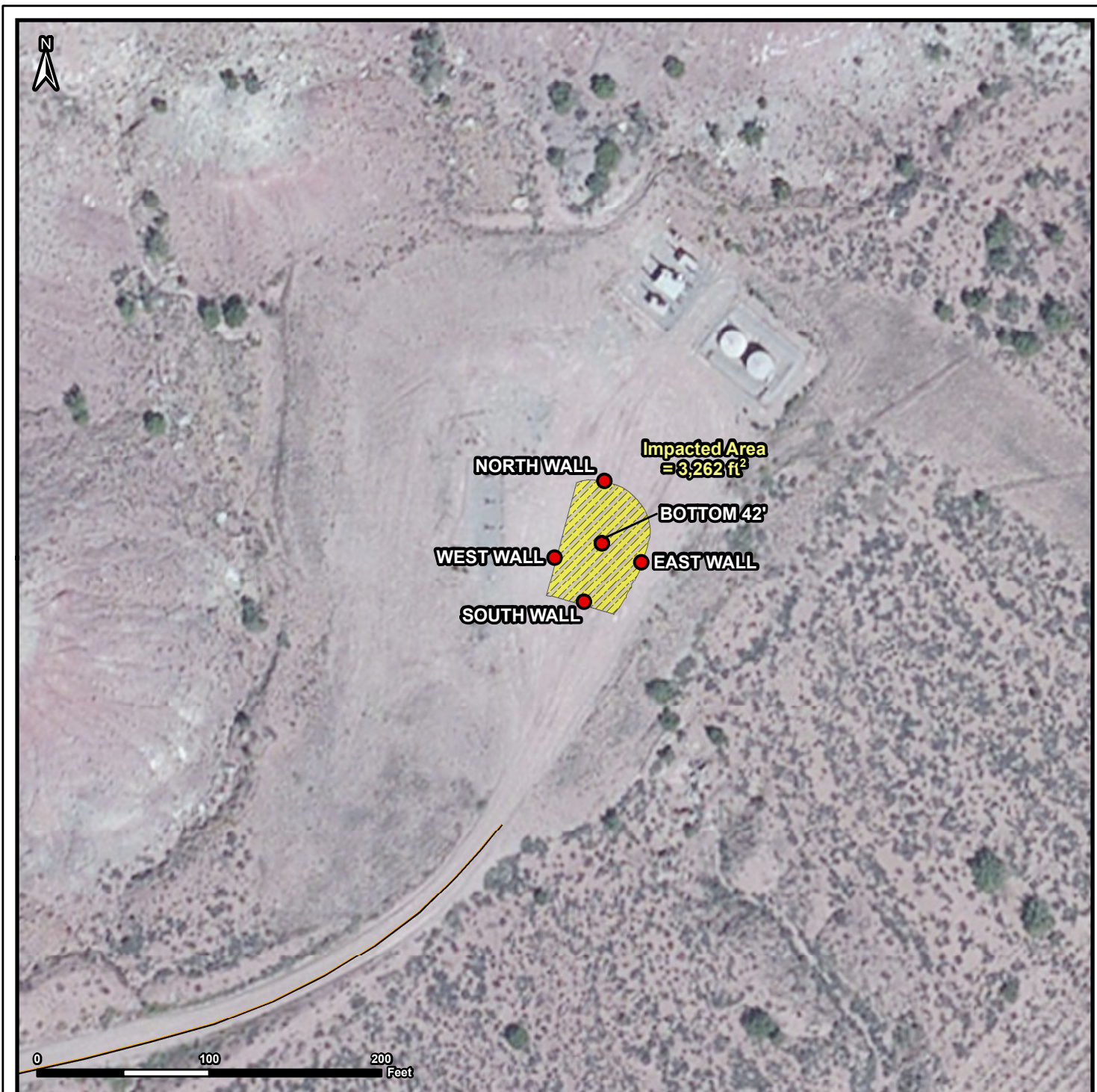
Sincerely,

A handwritten signature in blue ink that reads "Karolina Blaney".

Karolina Blaney
Environmental Specialist

Attachments (2)

- Sampling Location Map
- Laboratory Reports



NOTES / COMMENTS:

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



Spill Closure Map GV 18-23

39.427342 -108.081522
Section 23, Township 7 South, Range 96 West

Mapped Features

- Sample Location
- Impacted Area

PLSS

- Township
- Section

Transportation

- CO Highways
- County Roads
- Local Streets
- Access Roads

Hydrography

- Ditch
- Intermittent Stream
- Perennial Stream
- Waterbody
- Watershed



HRL COMPLIANCE SOLUTIONS, INC.
Environmental Consultants

Author: E. Fought

Revision: 0

Date: 10/6/2015



Legend

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

GV 18-23
Arsenic Background Sample Location Map
T7S R96W, Section 23

October 8, 2015



Contaminant of Concern ↓	COGCC standards	Location →	North Wall	South Wall	West Wall	East Wall	Bottom 42'
		Date Sampled →	8/5/2014	8/6/2015	8/6/2015	8/6/2015	8/6/2015
Organic Compounds in Soil							
TPH	500	mg/kg	16	17	ND	17	62
DRO		mg/kg	16	17	ND	17	29
GRO		mg/kg	ND	ND	ND	ND	33
Benzene	0.17	mg/kg	ND	ND	ND	ND	ND
Toluene	85	mg/kg	ND	ND	ND	ND	ND
Ethylbenzene	100	mg/kg	ND	ND	ND	ND	ND
Xylenes (Total)	175	mg/kg	ND	ND	ND	ND	0.15
Acenaphthene	1,000	mg/kg	ND	ND	ND	ND	ND
Anthracene	1,000	mg/kg	ND	ND	ND	ND	ND
Benzo(A)anthracene	0.22	mg/kg	ND	ND	ND	ND	ND
Benzo(B)fluoranthene	0.22	mg/kg	ND	ND	ND	ND	ND
Benzo(K)fluoranthene	2.2	mg/kg	ND	ND	ND	ND	ND
Benzo(A)pyrene	0.022	mg/kg	ND	ND	ND	ND	ND
Chrysene	22	mg/kg	ND	ND	ND	ND	ND
Dibenzo(A,H)anthracene	0.022	mg/kg	ND	ND	ND	ND	ND
Fluoranthene	1,000	mg/kg	ND	ND	ND	ND	ND
Fluorene	1,000	mg/kg	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	0.22	mg/kg	ND	ND	ND	ND	ND
Naphthalene	23	mg/kg	ND	ND	ND	ND	ND
Pyrene	1,000	mg/kg	ND	ND	ND	ND	ND
Inorganics in Soil							
EC	<4 or 2 x background	mmhos/cm	28	18	8.7	16	23
SAR	<12		43	24	11	20	41
pH	6-9		8.1	8	7.9	8	8.8
Metals in Soil							
Arsenic	0.39	mg/kg	6.5	4.8	7	5.8	5.9
Barium total	15,000	mg/kg	230	240	180	230	34
Cadmium	70	mg/kg	ND	ND	ND	ND	ND
Chromium (III)	120,000	mg/kg	15	12	15	12	21
Chromium (VI)	23	mg/kg	ND	ND	ND	ND	ND
Copper	3,100	mg/kg	14	12	14	13	24
Lead	400	mg/kg	16	13	16	15	18
Mercury	23	mg/kg	0.029	0.023	0.03	0.028	0.042
Nickel	1,600	mg/kg	21	17	22	17	27
Selenium	390	mg/kg	ND	2.2	2.4	2.6	3.5
Silver	390	mg/kg	ND	ND	ND	ND	ND
Zinc	23,000	mg/kg	72	62	71	59	98

Contaminant of Concern ↓	COGCC standards	Location →	GV 18-23 Batch 1	GV 18-23 Batch 2	GV 18-23 Batch 3	GV 18-23 Batch 4
		Date Sampled →	12/3/2014	3/24/2015	4/15/2015	5/14/2015
Organic Compounds in Soil						
TPH	500	mg/kg	120	208	80	18.9
DRO		mg/kg	120	150	80	16
GRO		mg/kg	ND	58	ND	2.9
Benzene	0.17	mg/kg	ND	0.089	ND	ND
Toluene	85	mg/kg	ND	ND	ND	ND
Ethylbenzene	100	mg/kg	ND	ND	ND	ND
Xylenes (Total)	175	mg/kg	0.170	0.310	ND	ND
Acenaphthene	1,000	mg/kg	ND	ND	ND	ND
Anthracene	1,000	mg/kg	0.0077	ND	ND	ND
Benzo(A)anthracene	0.22	mg/kg	0.014	ND	ND	ND
Benzo(B)fluoranthene	0.22	mg/kg	0.012	0.013	ND	ND
Benzo(K)fluoranthene	2.2	mg/kg	0.0081	ND	ND	ND
Benzo(A)pyrene	0.022	mg/kg	0.011	0.0079	ND	ND
Chrysene	22	mg/kg	ND	0.010	ND	ND
Dibenzo(A,H)anthracene	0.022	mg/kg	ND	ND	ND	ND
Fluoranthene	1,000	mg/kg	0.020	0.024	ND	ND
Fluorene	1,000	mg/kg	0.012	ND	ND	ND
Indeno(1,2,3-cd)pyrene	0.22	mg/kg	0.010	ND	ND	ND
Naphthalene	23	mg/kg	0.040	ND	ND	ND
Pyrene	1,000	mg/kg	0.019	ND	ND	ND
Inorganics in Soil						
EC	<4 or 2 x background	mmhos/cm	13	16	4.7	3.9
SAR	<12		16	28	22	23
pH	6-9		7.8	7.8	7.7	7.6
Metals in Soil						
Arsenic	0.39	mg/kg	8.1	7.8	6.3	2.2
Barium total	15,000	mg/kg	1400	880	1200	170
Cadmium	70	mg/kg	ND	ND	ND	ND
Chromium (III)	120,000	mg/kg	13	14	ND	3.7
Chromium (VI)	23	mg/kg	ND	ND	ND	ND
Copper	3,100	mg/kg	16	15	13	7.8
Lead	400	mg/kg	15	16	17	8.3
Mercury	23	mg/kg	0.029	0.028	ND	0.022
Nickel	1,600	mg/kg	16	18	18	6.4
Selenium	390	mg/kg	0.86	ND	ND	ND
Silver	390	mg/kg	ND	ND	ND	ND
Zinc	23,000	mg/kg	71	74	65	25

Contaminant of Concern ↓	COGCC standards	Location →	GV 18-23-B-1	GV 18-23-B-2	GV 18-23-B-3	GV 18-23-B-4	GV 18-23-B-5
		Date Sampled →					
Organic Compounds in Soil							
TPH	500	mg/kg					
DRO		mg/kg					
GRO		mg/kg					
Benzene	0.17	mg/kg					
Toluene	85	mg/kg					
Ethylbenzene	100	mg/kg					
Xylenes (Total)	175	mg/kg					
Acenaphthene	1,000	mg/kg					
Anthracene	1,000	mg/kg					
Benzo(A)anthracene	0.22	mg/kg					
Benzo(B)fluoranthene	0.22	mg/kg					
Benzo(K)fluoranthene	2.2	mg/kg					
Benzo(A)pyrene	0.022	mg/kg					
Chrysene	22	mg/kg					
Dibenzo(A,H)anthracene	0.022	mg/kg					
Fluoranthene	1,000	mg/kg					
Fluorene	1,000	mg/kg					
Indeno(1,2,3-cd)pyrene	0.22	mg/kg					
Naphthalene	23	mg/kg					
Pyrene	1,000	mg/kg					
Inorganics in Soil							
EC	<4 or 2 x background	mmhos/cm					6.8
SAR	<12						6
pH	6-9						8
Metals in Soil							
Arsenic	0.39	mg/kg	8.4	5.5	6.4	6.5	5.4
Barium total	15,000	mg/kg					
Cadmium	70	mg/kg					
Chromium (III)	120,000	mg/kg					
Chromium (VI)	23	mg/kg					
Copper	3,100	mg/kg					
Lead	400	mg/kg					
Mercury	23	mg/kg					
Nickel	1,600	mg/kg					
Selenium	390	mg/kg					
Silver	390	mg/kg					
Zinc	23,000	mg/kg					



13-Aug-2014

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

Re: **WPX GV 18-23 Historical Spill 8.5-8.6.14**

Work Order: **1408368**

Dear Mark,

ALS Environmental received 5 samples on 08-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 31.

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 GV 18-23 Historical Spill 8.5-8.6.14
Work Order: 1408368

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>
1408368-01	North Wall	Soil		8/5/2014 15:00	8/8/2014 09:30	<input type="checkbox"/>
1408368-02	Bottom 42 Ft	Soil		8/6/2014 11:30	8/8/2014 09:30	<input type="checkbox"/>
1408368-03	East Wall	Soil		8/6/2014 15:00	8/8/2014 09:30	<input type="checkbox"/>
1408368-04	South Wall	Soil		8/6/2014 15:10	8/8/2014 09:30	<input type="checkbox"/>
1408368-05	West Wall	Soil		8/6/2014 18:15	8/8/2014 09:30	<input type="checkbox"/>

Client: HRL Compliance Solutions, Inc
Project: WPX GV 18-23 Historical Spill 8.5-8.6.14
Work Order: 1408368

Case Narrative

Batch 61460 MS/MSD data for DRO is not related to this project's samples. No data requires qualification.

Batch 61480 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: 13-Aug-14

Client: HRL Compliance Solutions, Inc
Project: WPX GV 18-23 Historical Spill 8.5-8.6.14
Sample ID: North Wall
Collection Date: 8/5/2014 03:00 PM

Work Order: 1408368
Lab ID: 1408368-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	16		SW8015M		Prep: SW3541 / 8/8/14	Analyst: IT
<i>Surr: 4-Terphenyl-d14</i>	<i>59.4</i>		<i>39-133</i>	<i>%REC</i>	<i>1</i>	<i>8/9/2014 01:32 AM</i>
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015		Prep: SW5035 / 8/8/14	Analyst: IT
<i>Surr: Toluene-d8</i>	<i>122</i>		<i>50-150</i>	<i>%REC</i>	<i>1</i>	<i>8/8/2014 04:45 PM</i>
MERCURY BY CVAA						
Mercury	0.029		SW7471		Prep: SW7471 / 8/11/14	Analyst: LR
			0.016	mg/Kg-dry	1	8/11/2014 06:19 PM
METALS BY ICP-MS						
Arsenic	6.5		SW6020A		Prep: SW3050B / 8/8/14	Analyst: ML
Barium	230		2.3	mg/Kg-dry	5	8/9/2014 08:12 PM
Cadmium	ND		2.3	mg/Kg-dry	5	8/9/2014 08:12 PM
Chromium	15		0.93	mg/Kg-dry	5	8/9/2014 08:12 PM
Copper	14		2.3	mg/Kg-dry	5	8/9/2014 08:12 PM
Lead	16		2.3	mg/Kg-dry	5	8/9/2014 08:12 PM
Nickel	21		2.3	mg/Kg-dry	5	8/9/2014 08:12 PM
Selenium	ND		2.3	mg/Kg-dry	5	8/9/2014 08:12 PM
Silver	ND		2.3	mg/Kg-dry	5	8/9/2014 08:12 PM
Zinc	72		4.6	mg/Kg-dry	5	8/9/2014 08:12 PM
SOLUBLE CATIONS FOR SAR						
			SW6020A		Prep: USDA Method 20B / 8/12/14	Analyst: RH
Calcium	460		100	mg/L	200	8/13/2014 01:31 PM
Magnesium	190		40	mg/L	200	8/13/2014 01:31 PM
Sodium	4,400		40	mg/L	200	8/13/2014 01:31 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHOD		Prep: USDA Method 20B / 8/12/14	Analyst: RH
Sodium Adsorption Ratio	43		0.010	none	1	8/13/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 8/8/14	Analyst: RM
Acenaphthene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:55 PM
Acenaphthylene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:55 PM
Anthracene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:55 PM
Benzo(a)anthracene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:55 PM
Benzo(a)pyrene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:55 PM
Benzo(b)fluoranthene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:55 PM
Benzo(g,h,i)perylene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:55 PM
Benzo(k)fluoranthene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:55 PM
Chrysene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:55 PM

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

ALS Group USA, Corp

Date: 13-Aug-14

Client: HRL Compliance Solutions, Inc
Project: WPX GV 18-23 Historical Spill 8.5-8.6.14
Sample ID: North Wall
Collection Date: 8/5/2014 03:00 PM

Work Order: 1408368
Lab ID: 1408368-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:55 PM
Fluoranthene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:55 PM
Fluorene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:55 PM
Indeno(1,2,3-cd)pyrene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:55 PM
Naphthalene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:55 PM
Pyrene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:55 PM
Surr: 2-Fluorobiphenyl	54.9		12-100	%REC	1	8/11/2014 09:55 PM
Surr: 4-Terphenyl-d14	81.7		25-137	%REC	1	8/11/2014 09:55 PM
Surr: Nitrobenzene-d5	48.6		37-107	%REC	1	8/11/2014 09:55 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 8/8/14		Analyst: RS
Benzene	ND		34	µg/Kg-dry	1	8/9/2014 02:15 PM
Ethylbenzene	ND		34	µg/Kg-dry	1	8/9/2014 02:15 PM
m,p-Xylene	ND		68	µg/Kg-dry	1	8/9/2014 02:15 PM
o-Xylene	ND		34	µg/Kg-dry	1	8/9/2014 02:15 PM
Toluene	ND		34	µg/Kg-dry	1	8/9/2014 02:15 PM
Xylenes, Total	ND		100	µg/Kg-dry	1	8/9/2014 02:15 PM
Surr: 1,2-Dichloroethane-d4	97.0		70-130	%REC	1	8/9/2014 02:15 PM
Surr: 4-Bromofluorobenzene	98.8		70-130	%REC	1	8/9/2014 02:15 PM
Surr: Dibromofluoromethane	90.6		70-130	%REC	1	8/9/2014 02:15 PM
Surr: Toluene-d8	98.8		70-130	%REC	1	8/9/2014 02:15 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHOD	Prep: USDA Method 20B / 8/12/14		Analyst: JB
Electrical Conductivity @ Saturation	28		0.050	mmhos/cm @25	10	8/12/2014 12:00 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: EE
Chromium, Trivalent	15		0.56	mg/Kg-dry	1	8/11/2014 02:25 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 8/11/14		Analyst: JI
Chromium, Hexavalent	ND		0.56	mg/Kg-dry	1	8/11/2014 01:30 PM
MOISTURE			A2540 G			Analyst: AT
Moisture	11		0.050	% of sample	1	8/8/2014 04:57 PM
PH			SW9045D	Prep: EXTRACT / 8/11/14		Analyst: TM
pH	8.1			s.u.	1	8/11/2014 11:45 AM

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

ALS Group USA, Corp

Date: 13-Aug-14

Client: HRL Compliance Solutions, Inc
Project: WPX GV 18-23 Historical Spill 8.5-8.6.14
Sample ID: Bottom 42 Ft
Collection Date: 8/6/2014 11:30 AM

Work Order: 1408368
Lab ID: 1408368-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3541 / 8/8/14	Analyst: IT
DRO (C10-C28)	29		4.5	mg/Kg-dry	1	8/9/2014 01:57 AM
Surr: 4-Terphenyl-d14	67.3		39-133	%REC	1	8/9/2014 01:57 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015		Prep: SW5035 / 8/8/14	Analyst: IT
GRO (C6-C10)	33		2.7	mg/Kg-dry	1	8/8/2014 05:11 PM
Surr: Toluene-d8	118		50-150	%REC	1	8/8/2014 05:11 PM
MERCURY BY CVAA						
			SW7471		Prep: SW7471 / 8/11/14	Analyst: LR
Mercury	0.042		0.014	mg/Kg-dry	1	8/11/2014 06:30 PM
METALS BY ICP-MS						
			SW6020A		Prep: SW3050B / 8/8/14	Analyst: ML
Arsenic	5.9		2.1	mg/Kg-dry	5	8/9/2014 08:18 PM
Barium	34		2.1	mg/Kg-dry	5	8/9/2014 08:18 PM
Cadmium	ND		0.86	mg/Kg-dry	5	8/9/2014 08:18 PM
Chromium	21		2.1	mg/Kg-dry	5	8/9/2014 08:18 PM
Copper	24		2.1	mg/Kg-dry	5	8/9/2014 08:18 PM
Lead	18		2.1	mg/Kg-dry	5	8/9/2014 08:18 PM
Nickel	27		2.1	mg/Kg-dry	5	8/9/2014 08:18 PM
Selenium	3.5		2.1	mg/Kg-dry	5	8/9/2014 08:18 PM
Silver	ND		2.1	mg/Kg-dry	5	8/9/2014 08:18 PM
Zinc	98		4.3	mg/Kg-dry	5	8/9/2014 08:18 PM
SOLUBLE CATIONS FOR SAR						
			SW6020A		Prep: USDA Method 20B / 8/12/14	Analyst: RH
Calcium	430		100	mg/L	200	8/13/2014 01:37 PM
Magnesium	150		40	mg/L	200	8/13/2014 01:37 PM
Sodium	3,900		40	mg/L	200	8/13/2014 01:37 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHOD		Prep: USDA Method 20B / 8/12/14	Analyst: RH
Sodium Adsorption Ratio	41		0.010	none	1	8/13/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 8/8/14	Analyst: RM
Acenaphthene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:15 PM
Acenaphthylene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:15 PM
Anthracene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:15 PM
Benzo(a)anthracene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:15 PM
Benzo(a)pyrene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:15 PM
Benzo(b)fluoranthene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:15 PM
Benzo(g,h,i)perylene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:15 PM
Benzo(k)fluoranthene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:15 PM
Chrysene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:15 PM

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

ALS Group USA, Corp

Date: 13-Aug-14

Client: HRL Compliance Solutions, Inc
Project: WPX GV 18-23 Historical Spill 8.5-8.6.14
Sample ID: Bottom 42 Ft
Collection Date: 8/6/2014 11:30 AM

Work Order: 1408368
Lab ID: 1408368-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:15 PM
Fluoranthene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:15 PM
Fluorene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:15 PM
Indeno(1,2,3-cd)pyrene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:15 PM
Naphthalene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:15 PM
Pyrene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:15 PM
Surr: 2-Fluorobiphenyl	60.4		12-100	%REC	1	8/11/2014 10:15 PM
Surr: 4-Terphenyl-d14	87.7		25-137	%REC	1	8/11/2014 10:15 PM
Surr: Nitrobenzene-d5	55.5		37-107	%REC	1	8/11/2014 10:15 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 8/8/14		Analyst: RS
Benzene	ND		33	µg/Kg-dry	1	8/9/2014 02:41 PM
Ethylbenzene	ND		33	µg/Kg-dry	1	8/9/2014 02:41 PM
m,p-Xylene	130		65	µg/Kg-dry	1	8/9/2014 02:41 PM
o-Xylene	ND		33	µg/Kg-dry	1	8/9/2014 02:41 PM
Toluene	ND		33	µg/Kg-dry	1	8/9/2014 02:41 PM
Xylenes, Total	150		98	µg/Kg-dry	1	8/9/2014 02:41 PM
Surr: 1,2-Dichloroethane-d4	96.8		70-130	%REC	1	8/9/2014 02:41 PM
Surr: 4-Bromofluorobenzene	101		70-130	%REC	1	8/9/2014 02:41 PM
Surr: Dibromofluoromethane	91.6		70-130	%REC	1	8/9/2014 02:41 PM
Surr: Toluene-d8	96.6		70-130	%REC	1	8/9/2014 02:41 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHOD	Prep: USDA Method 20B / 8/12/14		Analyst: JB
Electrical Conductivity @ Saturation	23		0.050	mmhos/cm @25	10	8/12/2014 12:00 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: EE
Chromium, Trivalent	21		0.55	mg/Kg-dry	1	8/11/2014 02:25 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 8/11/14		Analyst: JI
Chromium, Hexavalent	ND		0.54	mg/Kg-dry	1	8/11/2014 01:30 PM
MOISTURE			A2540 G			Analyst: AT
Moisture	8.3		0.050	% of sample	1	8/8/2014 04:57 PM
PH			SW9045D	Prep: EXTRACT / 8/11/14		Analyst: TM
pH	8.8			s.u.	1	8/11/2014 11:45 AM

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

ALS Group USA, Corp

Date: 13-Aug-14

Client: HRL Compliance Solutions, Inc
Project: WPX GV 18-23 Historical Spill 8.5-8.6.14
Sample ID: East Wall
Collection Date: 8/6/2014 03:00 PM

Work Order: 1408368
Lab ID: 1408368-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	17		SW8015M		Prep: SW3541 / 8/8/14	Analyst: IT
<i>Surr: 4-Terphenyl-d14</i>	60.6		4.6	mg/Kg-dry	1	8/9/2014 02:48 AM
			39-133	%REC	1	8/9/2014 02:48 AM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015		Prep: SW5035 / 8/8/14	Analyst: IT
<i>Surr: Toluene-d8</i>	118		2.8	mg/Kg-dry	1	8/8/2014 06:53 PM
			50-150	%REC	1	8/8/2014 06:53 PM
MERCURY BY CVAA						
Mercury	0.028		SW7471		Prep: SW7471 / 8/11/14	Analyst: LR
			0.017	mg/Kg-dry	1	8/11/2014 06:32 PM
METALS BY ICP-MS						
Arsenic	5.8		SW6020A		Prep: SW3050B / 8/8/14	Analyst: ML
Barium	230		2.0	mg/Kg-dry	5	8/9/2014 08:24 PM
Cadmium	ND		2.0	mg/Kg-dry	5	8/9/2014 08:24 PM
Chromium	13		0.80	mg/Kg-dry	5	8/9/2014 08:24 PM
Copper	13		2.0	mg/Kg-dry	5	8/9/2014 08:24 PM
Lead	15		2.0	mg/Kg-dry	5	8/9/2014 08:24 PM
Nickel	17		2.0	mg/Kg-dry	5	8/9/2014 08:24 PM
Selenium	2.6		2.0	mg/Kg-dry	5	8/9/2014 08:24 PM
Silver	ND		2.0	mg/Kg-dry	5	8/9/2014 08:24 PM
Zinc	59		4.0	mg/Kg-dry	5	8/9/2014 08:24 PM
SOLUBLE CATIONS FOR SAR						
			SW6020A		Prep: USDA Method 20B / 8/12/14	Analyst: RH
Calcium	580		10	mg/L	20	8/13/2014 01:43 PM
Magnesium	180		4.0	mg/L	20	8/13/2014 01:43 PM
Sodium	2,200		4.0	mg/L	20	8/13/2014 01:43 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHOD		Prep: USDA Method 20B / 8/12/14	Analyst: RH
Sodium Adsorption Ratio	20		0.010	none	1	8/13/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 8/8/14	Analyst: RM
Acenaphthene	ND		7.4	µg/Kg-dry	1	8/11/2014 10:35 PM
Acenaphthylene	ND		7.4	µg/Kg-dry	1	8/11/2014 10:35 PM
Anthracene	ND		7.4	µg/Kg-dry	1	8/11/2014 10:35 PM
Benzo(a)anthracene	ND		7.4	µg/Kg-dry	1	8/11/2014 10:35 PM
Benzo(a)pyrene	ND		7.4	µg/Kg-dry	1	8/11/2014 10:35 PM
Benzo(b)fluoranthene	ND		7.4	µg/Kg-dry	1	8/11/2014 10:35 PM
Benzo(g,h,i)perylene	ND		7.4	µg/Kg-dry	1	8/11/2014 10:35 PM
Benzo(k)fluoranthene	ND		7.4	µg/Kg-dry	1	8/11/2014 10:35 PM
Chrysene	ND		7.4	µg/Kg-dry	1	8/11/2014 10:35 PM

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

ALS Group USA, Corp

Date: 13-Aug-14

Client: HRL Compliance Solutions, Inc
Project: WPX GV 18-23 Historical Spill 8.5-8.6.14
Sample ID: East Wall
Collection Date: 8/6/2014 03:00 PM

Work Order: 1408368
Lab ID: 1408368-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		7.4	µg/Kg-dry	1	8/11/2014 10:35 PM
Fluoranthene	ND		7.4	µg/Kg-dry	1	8/11/2014 10:35 PM
Fluorene	ND		7.4	µg/Kg-dry	1	8/11/2014 10:35 PM
Indeno(1,2,3-cd)pyrene	ND		7.4	µg/Kg-dry	1	8/11/2014 10:35 PM
Naphthalene	ND		7.4	µg/Kg-dry	1	8/11/2014 10:35 PM
Pyrene	ND		7.4	µg/Kg-dry	1	8/11/2014 10:35 PM
Surr: 2-Fluorobiphenyl	60.9		12-100	%REC	1	8/11/2014 10:35 PM
Surr: 4-Terphenyl-d14	83.0		25-137	%REC	1	8/11/2014 10:35 PM
Surr: Nitrobenzene-d5	57.8		37-107	%REC	1	8/11/2014 10:35 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 8/8/14		Analyst: RS
Benzene	ND		33	µg/Kg-dry	1	8/9/2014 03:07 PM
Ethylbenzene	ND		33	µg/Kg-dry	1	8/9/2014 03:07 PM
m,p-Xylene	ND		67	µg/Kg-dry	1	8/9/2014 03:07 PM
o-Xylene	ND		33	µg/Kg-dry	1	8/9/2014 03:07 PM
Toluene	ND		33	µg/Kg-dry	1	8/9/2014 03:07 PM
Xylenes, Total	ND		100	µg/Kg-dry	1	8/9/2014 03:07 PM
Surr: 1,2-Dichloroethane-d4	96.8		70-130	%REC	1	8/9/2014 03:07 PM
Surr: 4-Bromofluorobenzene	99.5		70-130	%REC	1	8/9/2014 03:07 PM
Surr: Dibromofluoromethane	91.0		70-130	%REC	1	8/9/2014 03:07 PM
Surr: Toluene-d8	98.1		70-130	%REC	1	8/9/2014 03:07 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHOD	Prep: USDA Method 20B / 8/12/14		Analyst: JB
Electrical Conductivity @ Saturation	16		0.050	mmhos/cm @25	10	8/12/2014 12:00 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: EE
Chromium, Trivalent	12		0.56	mg/Kg-dry	1	8/11/2014 02:25 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 8/11/14		Analyst: JI
Chromium, Hexavalent	ND		0.55	mg/Kg-dry	1	8/11/2014 01:30 PM
MOISTURE			A2540 G			Analyst: AT
Moisture	10		0.050	% of sample	1	8/8/2014 04:57 PM
PH			SW9045D	Prep: EXTRACT / 8/11/14		Analyst: TM
pH	8.0			s.u.	1	8/11/2014 11:45 AM

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

ALS Group USA, Corp

Date: 13-Aug-14

Client: HRL Compliance Solutions, Inc
Project: WPX GV 18-23 Historical Spill 8.5-8.6.14
Sample ID: South Wall
Collection Date: 8/6/2014 03:10 PM

Work Order: 1408368
Lab ID: 1408368-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	17		SW8015M		Prep: SW3541 / 8/8/14	Analyst: IT
Surr: 4-Terphenyl-d14	61.0		4.7	mg/Kg-dry	1	8/9/2014 03:14 AM
			39-133	%REC	1	8/9/2014 03:14 AM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015		Prep: SW5035 / 8/8/14	Analyst: IT
Surr: Toluene-d8	115		2.8	mg/Kg-dry	1	8/8/2014 07:18 PM
			50-150	%REC	1	8/8/2014 07:18 PM
MERCURY BY CVAA						
Mercury	0.023		SW7471		Prep: SW7471 / 8/11/14	Analyst: LR
			0.014	mg/Kg-dry	1	8/11/2014 06:35 PM
METALS BY ICP-MS						
Arsenic	4.8		SW6020A		Prep: SW3050B / 8/8/14	Analyst: ML
Barium	240		2.0	mg/Kg-dry	5	8/9/2014 08:31 PM
Cadmium	ND		2.0	mg/Kg-dry	5	8/9/2014 08:31 PM
Chromium	13		0.79	mg/Kg-dry	5	8/9/2014 08:31 PM
Copper	12		2.0	mg/Kg-dry	5	8/9/2014 08:31 PM
Lead	13		2.0	mg/Kg-dry	5	8/9/2014 08:31 PM
Nickel	17		2.0	mg/Kg-dry	5	8/9/2014 08:31 PM
Selenium	2.2		2.0	mg/Kg-dry	5	8/9/2014 08:31 PM
Silver	ND		2.0	mg/Kg-dry	5	8/9/2014 08:31 PM
Zinc	62		3.9	mg/Kg-dry	5	8/9/2014 08:31 PM
SOLUBLE CATIONS FOR SAR						
			SW6020A		Prep: USDA Method 20B / 8/12/14	Analyst: RH
Calcium	590		10	mg/L	20	8/13/2014 01:56 PM
Magnesium	240		4.0	mg/L	20	8/13/2014 01:56 PM
Sodium	2,700		4.0	mg/L	20	8/13/2014 01:56 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHOD		Prep: USDA Method 20B / 8/12/14	Analyst: RH
Sodium Adsorption Ratio	24		0.010	none	1	8/13/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 8/8/14	Analyst: RM
Acenaphthene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:35 PM
Acenaphthylene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:35 PM
Anthracene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:35 PM
Benzo(a)anthracene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:35 PM
Benzo(a)pyrene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:35 PM
Benzo(b)fluoranthene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:35 PM
Benzo(g,h,i)perylene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:35 PM
Benzo(k)fluoranthene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:35 PM
Chrysene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:35 PM

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

ALS Group USA, Corp

Date: 13-Aug-14

Client: HRL Compliance Solutions, Inc
Project: WPX GV 18-23 Historical Spill 8.5-8.6.14
Sample ID: South Wall
Collection Date: 8/6/2014 03:10 PM

Work Order: 1408368
Lab ID: 1408368-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:35 PM
Fluoranthene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:35 PM
Fluorene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:35 PM
Indeno(1,2,3-cd)pyrene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:35 PM
Naphthalene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:35 PM
Pyrene	ND		7.5	µg/Kg-dry	1	8/11/2014 09:35 PM
Surr: 2-Fluorobiphenyl	50.2		12-100	%REC	1	8/11/2014 09:35 PM
Surr: 4-Terphenyl-d14	78.4		25-137	%REC	1	8/11/2014 09:35 PM
Surr: Nitrobenzene-d5	48.4		37-107	%REC	1	8/11/2014 09:35 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 8/8/14		Analyst: RS
Benzene	ND		34	µg/Kg-dry	1	8/9/2014 03:33 PM
Ethylbenzene	ND		34	µg/Kg-dry	1	8/9/2014 03:33 PM
m,p-Xylene	ND		67	µg/Kg-dry	1	8/9/2014 03:33 PM
o-Xylene	ND		34	µg/Kg-dry	1	8/9/2014 03:33 PM
Toluene	ND		34	µg/Kg-dry	1	8/9/2014 03:33 PM
Xylenes, Total	ND		100	µg/Kg-dry	1	8/9/2014 03:33 PM
Surr: 1,2-Dichloroethane-d4	97.4		70-130	%REC	1	8/9/2014 03:33 PM
Surr: 4-Bromofluorobenzene	101		70-130	%REC	1	8/9/2014 03:33 PM
Surr: Dibromofluoromethane	91.1		70-130	%REC	1	8/9/2014 03:33 PM
Surr: Toluene-d8	98.8		70-130	%REC	1	8/9/2014 03:33 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHOD	Prep: USDA Method 20B / 8/12/14		Analyst: JB
Electrical Conductivity @ Saturation	18		0.050	mmhos/cm @25	10	8/12/2014 12:00 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: EE
Chromium, Trivalent	12		0.56	mg/Kg-dry	1	8/11/2014 02:25 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 8/11/14		Analyst: JI
Chromium, Hexavalent	ND		0.56	mg/Kg-dry	1	8/11/2014 01:30 PM
MOISTURE			A2540 G			Analyst: AT
Moisture	11		0.050	% of sample	1	8/8/2014 04:57 PM
PH			SW9045D	Prep: EXTRACT / 8/11/14		Analyst: TM
pH	8.0			s.u.	1	8/11/2014 11:45 AM

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

ALS Group USA, Corp

Date: 13-Aug-14

Client: HRL Compliance Solutions, Inc
Project: WPX GV 18-23 Historical Spill 8.5-8.6.14
Sample ID: West Wall
Collection Date: 8/6/2014 06:15 PM

Work Order: 1408368
Lab ID: 1408368-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3541 / 8/8/14	Analyst: IT
DRO (C10-C28)	ND		4.5	mg/Kg-dry	1	8/9/2014 03:39 AM
Surr: 4-Terphenyl-d14	60.2		39-133	%REC	1	8/9/2014 03:39 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015		Prep: SW5035 / 8/8/14	Analyst: IT
GRO (C6-C10)	ND		2.8	mg/Kg-dry	1	8/8/2014 07:43 PM
Surr: Toluene-d8	117		50-150	%REC	1	8/8/2014 07:43 PM
MERCURY BY CVAA						
			SW7471		Prep: SW7471 / 8/11/14	Analyst: LR
Mercury	0.030		0.014	mg/Kg-dry	1	8/11/2014 06:37 PM
METALS BY ICP-MS						
			SW6020A		Prep: SW3050B / 8/8/14	Analyst: ML
Arsenic	7.0		2.0	mg/Kg-dry	5	8/9/2014 08:37 PM
Barium	180		2.0	mg/Kg-dry	5	8/9/2014 08:37 PM
Cadmium	ND		0.79	mg/Kg-dry	5	8/9/2014 08:37 PM
Chromium	15		2.0	mg/Kg-dry	5	8/9/2014 08:37 PM
Copper	14		2.0	mg/Kg-dry	5	8/9/2014 08:37 PM
Lead	16		2.0	mg/Kg-dry	5	8/9/2014 08:37 PM
Nickel	22		2.0	mg/Kg-dry	5	8/9/2014 08:37 PM
Selenium	2.4		2.0	mg/Kg-dry	5	8/9/2014 08:37 PM
Silver	ND		2.0	mg/Kg-dry	5	8/9/2014 08:37 PM
Zinc	71		4.0	mg/Kg-dry	5	8/9/2014 08:37 PM
SOLUBLE CATIONS FOR SAR						
			SW6020A		Prep: USDA Method 20B / 8/12/14	Analyst: RH
Calcium	560		10	mg/L	20	8/13/2014 02:02 PM
Magnesium	69		4.0	mg/L	20	8/13/2014 02:02 PM
Sodium	1,000		4.0	mg/L	20	8/13/2014 02:02 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHOD		Prep: USDA Method 20B / 8/12/14	Analyst: RH
Sodium Adsorption Ratio	11		0.010	none	1	8/13/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 8/8/14	Analyst: RM
Acenaphthene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:55 PM
Acenaphthylene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:55 PM
Anthracene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:55 PM
Benzo(a)anthracene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:55 PM
Benzo(a)pyrene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:55 PM
Benzo(b)fluoranthene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:55 PM
Benzo(g,h,i)perylene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:55 PM
Benzo(k)fluoranthene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:55 PM
Chrysene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:55 PM

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

ALS Group USA, Corp

Date: 13-Aug-14

Client: HRL Compliance Solutions, Inc
Project: WPX GV 18-23 Historical Spill 8.5-8.6.14
Sample ID: West Wall
Collection Date: 8/6/2014 06:15 PM

Work Order: 1408368
Lab ID: 1408368-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:55 PM
Fluoranthene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:55 PM
Fluorene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:55 PM
Indeno(1,2,3-cd)pyrene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:55 PM
Naphthalene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:55 PM
Pyrene	ND		7.2	µg/Kg-dry	1	8/11/2014 10:55 PM
Surr: 2-Fluorobiphenyl	58.8		12-100	%REC	1	8/11/2014 10:55 PM
Surr: 4-Terphenyl-d14	79.2		25-137	%REC	1	8/11/2014 10:55 PM
Surr: Nitrobenzene-d5	55.9		37-107	%REC	1	8/11/2014 10:55 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 8/8/14		Analyst: RS
Benzene	ND		33	µg/Kg-dry	1	8/9/2014 03:59 PM
Ethylbenzene	ND		33	µg/Kg-dry	1	8/9/2014 03:59 PM
m,p-Xylene	ND		66	µg/Kg-dry	1	8/9/2014 03:59 PM
o-Xylene	ND		33	µg/Kg-dry	1	8/9/2014 03:59 PM
Toluene	ND		33	µg/Kg-dry	1	8/9/2014 03:59 PM
Xylenes, Total	ND		99	µg/Kg-dry	1	8/9/2014 03:59 PM
Surr: 1,2-Dichloroethane-d4	98.4		70-130	%REC	1	8/9/2014 03:59 PM
Surr: 4-Bromofluorobenzene	99.6		70-130	%REC	1	8/9/2014 03:59 PM
Surr: Dibromofluoromethane	90.7		70-130	%REC	1	8/9/2014 03:59 PM
Surr: Toluene-d8	98.2		70-130	%REC	1	8/9/2014 03:59 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHOD	Prep: USDA Method 20B / 8/12/14		Analyst: JB
Electrical Conductivity @ Saturation	8.7		0.050	mmhos/cm @25	10	8/12/2014 12:00 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: EE
Chromium, Trivalent	15		0.55	mg/Kg-dry	1	8/11/2014 02:25 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 8/11/14		Analyst: JI
Chromium, Hexavalent	ND		0.55	mg/Kg-dry	1	8/11/2014 01:30 PM
MOISTURE			A2540 G			Analyst: AT
Moisture	9.2		0.050	% of sample	1	8/8/2014 04:57 PM
PH			SW9045D	Prep: EXTRACT / 8/11/14		Analyst: TM
pH	7.9			s.u.	1	8/11/2014 11:45 AM

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

ALS Group USA, Corp

Date: 13-Aug-14

Client: HRL Compliance Solutions, Inc

Work Order: 1408368

Project: WPX GV 18-23 Historical Spill 8.5-8.6.14

QC BATCH REPORT

Batch ID: **61460**

Instrument ID **GC8**

Method: **SW8015M**

MBLK		Sample ID: DBLKS1-61460-61460				Units: mg/Kg		Analysis Date: 8/8/2014 10:07 PM		
Client ID:		Run ID: GC8_140808B				SeqNo: 2883943		Prep Date: 8/8/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	4.2								
<i>Surr: 4-Terphenyl-d14</i>	1.21	0	1.667	0	72.6	39-133	0			

LCS		Sample ID: DLCSS1-61460-61460				Units: mg/Kg		Analysis Date: 8/8/2014 10:33 PM		
Client ID:		Run ID: GC8_140808B				SeqNo: 2883944		Prep Date: 8/8/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	127.2	4.2	166.7	0	76.3	61-109	0			
<i>Surr: 4-Terphenyl-d14</i>	1.106	0	1.667	0	66.4	39-133	0			

MS		Sample ID: 1408177-02B MS				Units: mg/Kg		Analysis Date: 8/8/2014 10:58 PM		
Client ID:		Run ID: GC8_140808B				SeqNo: 2883945		Prep Date: 8/8/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	225.3	8.0	319.8	225	0.105	48-110	0			S
<i>Surr: 4-Terphenyl-d14</i>	2.061	0	3.198	0	64.5	39-133	0			

MSD		Sample ID: 1408177-02B MSD				Units: mg/Kg		Analysis Date: 8/8/2014 11:24 PM		
Client ID:		Run ID: GC8_140808B				SeqNo: 2883946		Prep Date: 8/8/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	464.5	7.9	314.9	225	76	48-110	225.3	69.3	30	R
<i>Surr: 4-Terphenyl-d14</i>	2.109	0	3.149	0	67	39-133	2.061	2.31	30	

The following samples were analyzed in this batch:

1408368-01B	1408368-02B	1408368-03B
1408368-04B	1408368-05B	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1408368
Project: WPX GV 18-23 Historical Spill 8.5-8.6.14

QC BATCH REPORT

Batch ID: **61502** Instrument ID: **GC9** Method: **SW8015**

MBLK		Sample ID: MBLK-61502-61502				Units: µg/Kg		Analysis Date: 8/8/2014 03:29 PM		
Client ID:		Run ID: GC9_140808A				SeqNo: 2884018		Prep Date: 8/8/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	2,500								
<i>Surr: Toluene-d8</i>	5034	0	5000	0	101	50-150	0			

LCS		Sample ID: LCS-61502-61502				Units: µg/Kg		Analysis Date: 8/8/2014 03:04 PM		
Client ID:		Run ID: GC9_140808A				SeqNo: 2884017		Prep Date: 8/8/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	513100	2,500	500000	0	103	70-130	0			
<i>Surr: Toluene-d8</i>	4390	0	5000	0	87.8	50-150	0			

MS		Sample ID: 1408368-01A MS				Units: µg/Kg		Analysis Date: 8/8/2014 06:01 PM		
Client ID: North Wall		Run ID: GC9_140808A				SeqNo: 2884021		Prep Date: 8/8/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	420900	2,500	500000	0	84.2	70-130	0			
<i>Surr: Toluene-d8</i>	3694	0	5000	0	73.9	50-150	0			

MSD		Sample ID: 1408368-01A MSD				Units: µg/Kg		Analysis Date: 8/8/2014 06:27 PM		
Client ID: North Wall		Run ID: GC9_140808A				SeqNo: 2884022		Prep Date: 8/8/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	526000	2,500	500000	0	105	70-130	420900	22.2	30	
<i>Surr: Toluene-d8</i>	4442	0	5000	0	88.8	50-150	3694	18.4	30	

The following samples were analyzed in this batch:

1408368-01A	1408368-02A	1408368-03A
1408368-04A	1408368-05A	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1408368
Project: WPX GV 18-23 Historical Spill 8.5-8.6.14

QC BATCH REPORT

Batch ID: **61511** Instrument ID **HG1** Method: **SW7471**

Sample ID: MBLK-61511-61511				Units: mg/Kg			Analysis Date: 8/11/2014 05:58 PM				
Client ID:			Run ID: HG1_140811A			SeqNo: 2884854		Prep Date: 8/11/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Mercury	0.00125	0.020								J	

LCS				Sample ID: LCS-61511-61511				Units:mg/Kg			Analysis Date: 8/11/2014 06:00 PM			
Client ID:				Run ID: HG1_140811A				SeqNo:2884866			Prep Date: 8/11/2014		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Mercury		0.1889	0.020	0.1665	0	113	80-120	0						

MS	Sample ID: 1408171-02AMS				Units:mg/Kg		Analysis Date: 8/11/2014 06:05 PM			
	Client ID:		Run ID: HG1_140811A		SeqNo:2884868		Prep Date: 8/11/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1225	0.012	0.1029	0.001342	118	75-125	0			

MSD				Sample ID: 1408171-02AMSD				Units:mg/Kg			Analysis Date: 8/11/2014 06:07 PM			
Client ID:				Run ID: HG1_140811A				SeqNo:2884870			Prep Date: 8/11/2014		DF: 1	
Analyte				Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Mercury				0.1248	0.013	0.1053	0.001342	117	75-125	0.1225	1.87	35		

The following samples were analyzed in this batch:

1408368-01B	1408368-02B	1408368-03B
1408368-04B	1408368-05B	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1408368
Project: WPX GV 18-23 Historical Spill 8.5-8.6.14

QC BATCH REPORT

Batch ID: **61480** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK				Sample ID: MBLK-61480-61480				Units:mg/Kg		Analysis Date: 8/11/2014 03:09 AM		
Client ID:			Run ID: ICPMS1_140810A				SeqNo:2883583		Prep Date: 8/8/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
Arsenic	0.03906	0.25								J		
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	0.03435	0.50								J		

LCS				Sample ID: LCS-61480-61480				Units:mg/Kg			Analysis Date: 8/11/2014 03:15 AM			
Client ID:				Run ID: ICPMS1_140810A				SeqNo:2883584			Prep Date: 8/8/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Arsenic	4.612	0.25	5	0	92.2	80-120	0							
Barium	4.853	0.25	5	0	97.1	80-120	0							
Cadmium	4.829	0.10	5	0	96.6	80-120	0							
Chromium	5.035	0.25	5	0	101	80-120	0							
Copper	4.783	0.25	5	0	95.7	80-120	0							
Lead	4.801	0.25	5	0	96	80-120	0							
Nickel	4.857	0.25	5	0	97.1	80-120	0							
Selenium	4.73	0.25	5	0	94.6	80-120	0							
Silver	4.885	0.25	5	0	97.7	80-120	0							
Zinc	4.898	0.50	5	0	98	80-120	0							

MS					Sample ID: 1408253-09AMS		Units:mg/Kg		Analysis Date: 8/11/2014 03:27 AM		
Client ID:			Run ID: ICPMS1_140810A			SeqNo:2883586		Prep Date: 8/8/2014		DF: 4	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	8.414	1.4	6.897	2.695	82.9	75-125	0				
Barium	17.69	1.4	6.897	10.25	108	75-125	0				
Cadmium	6.712	0.55	6.897	0.2966	93	75-125	0				
Chromium	10.46	1.4	6.897	2.885	110	75-125	0				
Copper	10.51	1.4	6.897	4.32	89.7	75-125	0				
Lead	21.96	1.4	6.897	16.86	73.9	75-125	0			S	
Nickel	8.764	1.4	6.897	2.036	97.6	75-125	0				
Selenium	6.703	1.4	6.897	0.789	85.8	75-125	0				
Silver	6.37	1.4	6.897	0.03289	91.9	75-125	0				
Zinc	49.71	2.8	6.897	42.13	110	75-125	0			O	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1408368
Project: WPX GV 18-23 Historical Spill 8.5-8.6.14

QC BATCH REPORT

Batch ID: **61480** Instrument ID **ICPMS1** Method: **SW6020A**

MSD				Sample ID: 1408253-09AMSD			Units:mg/Kg		Analysis Date: 8/9/2014 06:32 PM		
Client ID:			Run ID: ICPMS1_140808A			SeqNo:2883049		Prep Date: 8/8/2014		DF: 4	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	9.843	1.4	6.993	3.16	95.6	75-125	9.112	7.72	25		
Barium	20.83	1.4	6.993	11.21	138	75-125	19.92	4.46	25	S	
Cadmium	7.801	0.56	6.993	0.2947	107	75-125	7.098	9.44	25		
Chromium	12.3	1.4	6.993	2.663	138	75-125	9.807	22.6	25	S	
Copper	12.64	1.4	6.993	4.508	116	75-125	10.44	19.1	25		
Lead	26.81	1.4	6.993	18.09	125	75-125	23.64	12.6	25		
Nickel	10.53	1.4	6.993	1.921	123	75-125	8.579	20.5	25		
Selenium	8.05	1.4	6.993	0.4882	108	75-125	7.101	12.5	25		
Silver	7.315	1.4	6.993	0.03289	104	75-125	6.64	9.67	25		
Zinc	61.09	2.8	6.993	41.32	283	75-125	47.97	24.1	25	SO	

MSD				Sample ID: 1408253-09AMSD			Units:mg/Kg		Analysis Date: 8/11/2014 03:34 AM		
Client ID:			Run ID: ICPMS1_140810A			SeqNo:2883587		Prep Date: 8/8/2014		DF: 4	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	9.116	1.4	6.993	2.695	91.8	75-125	8.414	8.01	25		
Barium	18.43	1.4	6.993	10.25	117	75-125	17.69	4.11	25		
Cadmium	7.021	0.56	6.993	0.2966	96.2	75-125	6.712	4.5	25		
Chromium	10.79	1.4	6.993	2.885	113	75-125	10.46	3.19	25		
Copper	10.91	1.4	6.993	4.32	94.2	75-125	10.51	3.75	25		
Lead	24.65	1.4	6.993	16.86	111	75-125	21.96	11.6	25		
Nickel	8.94	1.4	6.993	2.036	98.7	75-125	8.764	1.99	25		
Selenium	7.136	1.4	6.993	0.789	90.8	75-125	6.703	6.25	25		
Silver	6.526	1.4	6.993	0.03289	92.8	75-125	6.37	2.42	25		
Zinc	52.87	2.8	6.993	42.13	153	75-125	49.71	6.15	25	SO	

The following samples were analyzed in this batch:

1408368-01B	1408368-02B	1408368-03B
1408368-04B	1408368-05B	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1408368
Project: WPX GV 18-23 Historical Spill 8.5-8.6.14

QC BATCH REPORT

Batch ID: **61504** Instrument ID **ICPMS2** Method: **SW6020A**

DUP		Sample ID: 1408368-03CDUP				Units: mg/L		Analysis Date: 8/13/2014 01:49 PM		
Client ID: East Wall		Run ID: ICPMS2_140813A				SeqNo: 2888216		Prep Date: 8/12/2014		DF: 20
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	587.6	10	0	0	0	0-0	576	1.99		
Magnesium	184.5	4.0	0	0	0	0-0	176	4.75		
Sodium	2316	4.0	0	0	0	0-0	2190	5.59		

DUP		Sample ID: 1408368-03CDUP				Units: none		Analysis Date: 8/13/2014		
Client ID: East Wall		Run ID: SAR_140813A				SeqNo: 2888258		Prep Date: 8/12/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	21.36	0.010	0	0	0		20.49	4.13	50	

The following samples were analyzed in this batch:

1408368-01C	1408368-02C	1408368-03C
1408368-04C	1408368-05C	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1408368
Project: WPX GV 18-23 Historical Spill 8.5-8.6.14

QC BATCH REPORT

Batch ID: **61482** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKS1-61482-61482				Units: µg/Kg		Analysis Date: 8/11/2014 03:46 PM		
Client ID:		Run ID: SVMS8_140811B				SeqNo: 2885978		Prep Date: 8/8/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	6.7								
Acenaphthylene	ND	6.7								
Anthracene	ND	6.7								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(g,h,i)perylene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Chrysene	ND	6.7								
Dibenzo(a,h)anthracene	ND	6.7								
Fluoranthene	ND	6.7								
Fluorene	ND	6.7								
Indeno(1,2,3-cd)pyrene	ND	6.7								
Naphthalene	ND	6.7								
Pyrene	ND	6.7								
<i>Surr: 2-Fluorobiphenyl</i>	1050	0	1667	0	63	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1718	0	1667	0	103	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1026	0	1667	0	61.6	37-107	0			

LCS		Sample ID: SLCSS1-61482-61482				Units: µg/Kg		Analysis Date: 8/11/2014 04:06 PM		
Client ID:		Run ID: SVMS8_140811B				SeqNo: 2885979		Prep Date: 8/8/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	419.3	6.7	666.7	0	62.9	45-110	0			
Acenaphthylene	438.7	6.7	666.7	0	65.8	45-105	0			
Anthracene	522	6.7	666.7	0	78.3	55-105	0			
Benzo(a)anthracene	495.3	6.7	666.7	0	74.3	50-110	0			
Benzo(a)pyrene	575.3	6.7	666.7	0	86.3	50-110	0			
Benzo(b)fluoranthene	582.7	6.7	666.7	0	87.4	45-115	0			
Benzo(g,h,i)perylene	459	6.7	666.7	0	68.8	40-125	0			
Benzo(k)fluoranthene	551.7	6.7	666.7	0	82.7	45-115	0			
Chrysene	477.7	6.7	666.7	0	71.6	55-110	0			
Dibenzo(a,h)anthracene	483.3	6.7	666.7	0	72.5	40-125	0			
Fluoranthene	503.7	6.7	666.7	0	75.5	55-115	0			
Fluorene	474	6.7	666.7	0	71.1	50-110	0			
Indeno(1,2,3-cd)pyrene	554	6.7	666.7	0	83.1	40-120	0			
Naphthalene	395.3	6.7	666.7	0	59.3	40-105	0			
Pyrene	615.3	6.7	666.7	0	92.3	45-125	0			
<i>Surr: 2-Fluorobiphenyl</i>	1043	0	1667	0	62.6	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1550	0	1667	0	93	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	973.3	0	1667	0	58.4	37-107	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 1408368
Project: WPX GV 18-23 Historical Spill 8.5-8.6.14

QC BATCH REPORT

Batch ID: **61482** Instrument ID **SVMS8** Method: **SW846 8270D**

MS				Sample ID: 1408368-04B MS			Units: µg/Kg		Analysis Date: 8/11/2014 08:55 PM	
Client ID: South Wall				Run ID: SVMS8_140811B			SeqNo: 2885991		Prep Date: 8/8/2014	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	730.2	13	1251	0	58.3	45-110	0			
Acenaphthylene	797.1	13	1251	0	63.7	45-105	0			
Anthracene	957.3	13	1251	0	76.5	55-105	0			
Benzo(a)anthracene	937.2	13	1251	0	74.9	50-110	0			
Benzo(a)pyrene	1085	13	1251	0	86.7	50-110	0			
Benzo(b)fluoranthene	1048	13	1251	0	83.7	45-115	0			
Benzo(g,h,i)perylene	954.8	13	1251	0	76.3	40-125	0			
Benzo(k)fluoranthene	951.6	13	1251	0	76	45-115	0			
Chrysene	896.6	13	1251	0	71.6	55-110	0			
Dibenzo(a,h)anthracene	1030	13	1251	0	82.3	40-125	0			
Fluoranthene	897.8	13	1251	0	71.7	55-115	0			
Fluorene	851.5	13	1251	0	68	50-110	0			
Indeno(1,2,3-cd)pyrene	1129	13	1251	0	90.2	40-120	0			
Naphthalene	725.8	13	1251	0	58	40-105	0			
Pyrene	1106	13	1251	0	88.3	45-125	0			
Surr: 2-Fluorobiphenyl	1902	0	3128	0	60.8	12-100	0			
Surr: 4-Terphenyl-d14	2715	0	3128	0	86.8	25-137	0			
Surr: Nitrobenzene-d5	1874	0	3128	0	59.9	37-107	0			

MSD				Sample ID: 1408368-04B MSD			Units: µg/Kg		Analysis Date: 8/11/2014 09:15 PM	
Client ID: South Wall				Run ID: SVMS8_140811B			SeqNo: 2885992		Prep Date: 8/8/2014	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	778.4	13	1330	0	58.5	45-110	730.2	6.4	30	
Acenaphthylene	855.5	13	1330	0	64.3	45-105	797.1	7.07	30	
Anthracene	1034	13	1330	0	77.8	55-105	957.3	7.74	30	
Benzo(a)anthracene	1012	13	1330	0	76.1	50-110	937.2	7.65	30	
Benzo(a)pyrene	1166	13	1330	0	87.7	50-110	1085	7.2	30	
Benzo(b)fluoranthene	1125	13	1330	0	84.6	45-115	1048	7.07	30	
Benzo(g,h,i)perylene	1032	13	1330	0	77.6	40-125	954.8	7.81	30	
Benzo(k)fluoranthene	1006	13	1330	0	75.6	45-115	951.6	5.53	30	
Chrysene	978.5	13	1330	0	73.6	55-110	896.6	8.74	30	
Dibenzo(a,h)anthracene	1105	13	1330	0	83.1	40-125	1030	7.03	30	
Fluoranthene	929.3	13	1330	0	69.9	55-115	897.8	3.45	30	
Fluorene	906.7	13	1330	0	68.2	50-110	851.5	6.28	30	
Indeno(1,2,3-cd)pyrene	1216	13	1330	0	91.4	40-120	1129	7.43	30	
Naphthalene	810.3	13	1330	0	60.9	40-105	725.8	11	30	
Pyrene	1250	13	1330	0	94	45-125	1106	12.2	30	
Surr: 2-Fluorobiphenyl	2129	0	3324	0	64	12-100	1902	11.2	40	
Surr: 4-Terphenyl-d14	3043	0	3324	0	91.5	25-137	2715	11.4	40	
Surr: Nitrobenzene-d5	2100	0	3324	0	63.2	37-107	1874	11.4	40	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1408368
Project: WPX GV 18-23 Historical Spill 8.5-8.6.14

QC BATCH REPORT

Batch ID: **61482** Instrument ID **SVMS8** Method: **SW846 8270D**

The following samples were analyzed in this batch:

1408368-01B	1408368-02B	1408368-03B
1408368-04B	1408368-05B	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1408368
Project: WPX GV 18-23 Historical Spill 8.5-8.6.14

QC BATCH REPORT

Batch ID: **61462** Instrument ID **VMS8** Method: **SW8260B**

MBLK				Sample ID: MBLK-61462-61462				Units: µg/Kg			Analysis Date: 8/8/2014 09:31 PM			
Client ID:				Run ID: VMS8_140808A				SeqNo:2883685			Prep Date: 8/8/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Benzene	ND	30												
Ethylbenzene	ND	30												
m,p-Xylene	ND	60												
o-Xylene	ND	30												
Toluene	ND	30												
Xylenes, Total	ND	90												
Surr: 1,2-Dichloroethane-d4	972	0	1000	0	97.2	70-130	0							
Surr: 4-Bromofluorobenzene	971	0	1000	0	97.1	70-130	0							
Surr: Dibromofluoromethane	954	0	1000	0	95.4	70-130	0							
Surr: Toluene-d8	988.5	0	1000	0	98.8	70-130	0							

LCS				Sample ID: LCS-61462-61462				Units: µg/Kg			Analysis Date: 8/8/2014 07:53 PM			
Client ID:				Run ID: VMS8_140808A				SeqNo:2883684			Prep Date: 8/8/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Benzene	866	30	1000	0	86.6	75-125	0							
Ethylbenzene	875.5	30	1000	0	87.6	75-125	0							
m,p-Xylene	1721	60	2000	0	86	80-125	0							
o-Xylene	879.5	30	1000	0	88	75-125	0							
Toluene	865	30	1000	0	86.5	70-125	0							
Xylenes, Total	2600	90	3000	0	86.7	75-125	0							
Surr: 1,2-Dichloroethane-d4	969.5	0	1000	0	97	70-130	0							
Surr: 4-Bromofluorobenzene	996	0	1000	0	99.6	70-130	0							
Surr: Dibromofluoromethane	994.5	0	1000	0	99.4	70-130	0							
Surr: Toluene-d8	1010	0	1000	0	101	70-130	0							

The following samples were analyzed in this batch:

1408368-01A	1408368-02A	1408368-03A
1408368-04A	1408368-05A	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1408368
Project: WPX GV 18-23 Historical Spill 8.5-8.6.14

QC BATCH REPORT

Batch ID: **61504** Instrument ID **WETCHEM** Method: **USDA H60 Method**

DUP		Sample ID: 1408368-03C DUP				Units: mmhos/cm @25°C		Analysis Date: 8/12/2014 12:00 PM		
Client ID: East Wall		Run ID: WETCHEM_140812C				SeqNo: 2885781		Prep Date: 8/12/2014		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	16	0.050	0	0	0		15.62	2.4	50	

The following samples were analyzed in this batch:

1408368-01C	1408368-02C	1408368-03C
1408368-04C	1408368-05C	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1408368
Project: WPX GV 18-23 Historical Spill 8.5-8.6.14

QC BATCH REPORT

Batch ID: **61532** Instrument ID **WETCHEM** Method: **SW9045D**

LCS				Sample ID: LCS-61532-61532				Units:s.u.			Analysis Date: 8/11/2014 11:45 AM		
Client ID:				Run ID: WETCHEM_140811G				SeqNo:2884164		Prep Date: 8/11/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			

pH 3.92 0 4 0 98 90-110 0

DUP				Sample ID: 1408368-03B DUP				Units: s.u.		Analysis Date: 8/11/2014 11:45 AM			
Client ID: East Wall				Run ID: WETCHEM_140811G				SeqNo: 2884174		Prep Date: 8/11/2014		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		

pH 7.97 0 0 0 0 0-0 8.04 0.874 20

DUP				Sample ID: 1408368-05B DUP				Units: s.u.		Analysis Date: 8/11/2014 11:45 AM			
Client ID: West Wall				Run ID: WETCHEM_140811G				SeqNo: 2884177		Prep Date: 8/11/2014		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 7.88 0.127 20

The following samples were analyzed in this batch:

1408368-01B	1408368-02B	1408368-03B
1408368-04B	1408368-05B	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1408368
Project: WPX GV 18-23 Historical Spill 8.5-8.6.14

QC BATCH REPORT

Batch ID: **61553** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK		Sample ID: MBLK-61553-61553				Units: mg/Kg		Analysis Date: 8/11/2014 01:30 PM		
Client ID:		Run ID: WETCHEM_140811H				SeqNo: 2884251		Prep Date: 8/11/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 0.49

LCS		Sample ID: LCS-61553-61553				Units: mg/Kg		Analysis Date: 8/11/2014 01:30 PM		
Client ID:		Run ID: WETCHEM_140811H				SeqNo: 2884252		Prep Date: 8/11/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.868 0.50 2 0 93.4 80-120 0

MS		Sample ID: 1408299-01BMS				Units: mg/Kg		Analysis Date: 8/11/2014 01:30 PM		
Client ID:		Run ID: WETCHEM_140811H				SeqNo: 2884254		Prep Date: 8/11/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.92 0.50 2 0 96 75-125 0

MS		Sample ID: 1408299-01BMSI				Units: mg/Kg		Analysis Date: 8/11/2014 01:30 PM		
Client ID:		Run ID: WETCHEM_140811H				SeqNo: 2884256		Prep Date: 8/11/2014		DF: 100
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1266 49 1559 0 81.2 75-125 0

MSD		Sample ID: 1408299-01BMSD				Units: mg/Kg		Analysis Date: 8/11/2014 01:30 PM		
Client ID:		Run ID: WETCHEM_140811H				SeqNo: 2884255		Prep Date: 8/11/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.912 0.50 1.992 0 96 75-125 1.92 0.399 20

The following samples were analyzed in this batch:

1408368-01B	1408368-02B	1408368-03B
1408368-04B	1408368-05B	

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

Client: HRL Compliance Solutions, Inc
Work Order: 1408368
Project: WPX GV 18-23 Historical Spill 8.5-8.6.14

QC BATCH REPORT

Batch ID: **R145987** Instrument ID **MOIST** Method: **A2540 G**

MBLK		Sample ID: WBLKS-R145987				Units: % of sample		Analysis Date: 8/8/2014 04:57 PM		
Client ID:		Run ID: MOIST_140808B				SeqNo: 2882692		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-R145987				Units: % of sample		Analysis Date: 8/8/2014 04:57 PM		
Client ID:		Run ID: MOIST_140808B				SeqNo: 2882691		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: 1408371-07B DUP				Units: % of sample		Analysis Date: 8/8/2014 04:57 PM		
Client ID:		Run ID: MOIST_140808B				SeqNo: 2882684		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 5.03 0.050 0 0 0 0-0 5.03 0 20

DUP		Sample ID: 1408371-08B DUP				Units: % of sample		Analysis Date: 8/8/2014 04:57 PM		
Client ID:		Run ID: MOIST_140808B				SeqNo: 2882686		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 11.37 0.050 0 0 0 0-0 10.27 10.2 20

The following samples were analyzed in this batch:

1408368-01B	1408368-02B	1408368-03B
1408368-04B	1408368-05B	

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

Chain-of-Custody

Form 202r8

WORKORDER

1408368

PAGE

1 of 1


DISPOSAL

☒ By Lab ☐ Return to Client

[illegible]

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

For metals or anions, please detail analytes below.

Comments: <div style="text-align: center; font-size: 2em;">4.82</div> 	QC PACKAGE (check below)	
	<input checked="" type="checkbox"/>	LEVEL II (Standard QC)
	<input type="checkbox"/>	LEVEL III (Std QC + forma)
	<input type="checkbox"/>	LEVEL IV (Std QC + forma + raw data)
	<input type="checkbox"/>	
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-NaHSO ₄ 7-Other 8-4 degrees C 9-5035		

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	<i>[Signature]</i>	<i>[Signature]</i>	8/7/14	2:45
RECEIVED BY	<i>[Signature]</i>	<i>[Signature]</i>	8-7-14	8:45
RELINQUISHED BY	<i>[Signature]</i>	<i>[Signature]</i>	8/7/14	3:00
RECEIVED BY	<i>[Signature]</i>	Diane F. Sher	8/8/14	0930
RELINQUISHED BY				
RECEIVED BY				

Sample Receipt Checklist

Client Name: **HRL**

Date/Time Received: **08-Aug-14 09:30**

Work Order: **1408368**

Received by: **DS**

Checklist completed by <u>Diane Shaw</u>	08-Aug-14	Reviewed by: <u>Ann Preston</u>	10-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>4.8 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>8/8/2014 11:59:27 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) 399-8870
 Nick Martinez
 ALS Environmental
 127 E. 1st Street
 PARACHUTE, MI 49424

Origin ID: HLMA



Ship Date: 07AUG14
 Actual Wt: 58.0 LB
 CAD: 22048404NET3530

Dims: 24 X 15 X 15 IN

Delivery Address Bar Code



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

BILL REMINDER

HOLLAND, MI 49424

Ref # 080714-1
 Invoice #
 PO # Parachute
 Dept #

1 of 3

FRI - 08 AUG 10:30A
 PRIORITY OVERNIGHT

TRK# 7707 8925 5808

SERIAL
MASTER

49424
 MI US
 GRR

68 HLMA

522012020404

After printing this label:

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ALS Parachute Custody/Seal

DATE 8-7-14

TIME 12:00

Name



09-Dec-2014

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

Re: **WPX GV 18-23 Batch 1 12.3.14**

Work Order: **1412196**

Dear Mark,

ALS Environmental received 1 sample on 04-Dec-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 GV 18-23 Batch 1 12.3.14
Work Order: 1412196

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>
1412196-01	GV 18-23 Batch 1	Soil		12/3/2014 12:05	12/4/2014 09:30	<input type="checkbox"/>

Client: HRL Compliance Solutions, Inc
Project: WPX GV 18-23 Batch 1 12.3.14
Work Order: 1412196

Case Narrative

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

Batch 65665 sample 1412196-01 DRO surrogate recovery was high due to matrix interference. No data requires qualification.

Batch 65698 MS/MSD data for Hexavalent Chromium 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.

<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: 09-Dec-14

Client: HRL Compliance Solutions, Inc
Project: WPX GV 18-23 Batch 1 12.3.14
Sample ID: GV 18-23 Batch 1
Collection Date: 12/3/2014 12:05 PM

Work Order: 1412196
Lab ID: 1412196-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	120		SW8015M		Prep: SW3541 / 12/5/14	Analyst: IT
Surr: 4-Terphenyl-d14	172	S	39-133	%REC	1	12/5/2014 10:56 PM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015		Prep: SW5035 / 12/4/14	Analyst: IT
Surr: Toluene-d8	105		50-150	%REC	1	12/5/2014 09:17 PM
MERCURY BY CVAA						
Mercury	0.029		SW7471		Prep: SW7471 / 12/5/14	Analyst: LR
			0.014	mg/Kg-dry	1	12/5/2014 03:52 PM
METALS ANALYSIS BY ICP						
Arsenic	8.1		SW846 6010C		Prep: SW3050B / 12/6/14	Analyst: JEC
Barium	1,400		0.39	mg/Kg-dry	1	12/8/2014 05:40 PM
Cadmium	ND		0.39	mg/Kg-dry	1	12/8/2014 05:40 PM
Chromium	13		0.32	mg/Kg-dry	1	12/8/2014 05:40 PM
Copper	16		0.39	mg/Kg-dry	1	12/8/2014 05:40 PM
Lead	15		0.39	mg/Kg-dry	1	12/8/2014 05:40 PM
Nickel	16		0.39	mg/Kg-dry	1	12/8/2014 05:40 PM
Selenium	0.86		0.39	mg/Kg-dry	1	12/9/2014 12:11 PM
Silver	ND		0.39	mg/Kg-dry	1	12/9/2014 12:11 PM
Zinc	71		0.79	mg/Kg-dry	1	12/8/2014 05:40 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 12/8/14	Analyst: JEC
Calcium	510		5.0	mg/L	10	12/8/2014 04:17 PM
Magnesium	190		2.0	mg/L	10	12/8/2014 04:17 PM
Sodium	1,700		2.0	mg/L	10	12/8/2014 04:17 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHOD		Prep: USDA Method 20B / 12/8/14	Analyst: JEC
Sodium Adsorption Ratio	16		0.010	none	1	12/8/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 12/5/14	Analyst: RM
Acenaphthene	ND		7.4	µg/Kg-dry	1	12/8/2014 03:34 PM
Acenaphthylene	ND		7.4	µg/Kg-dry	1	12/8/2014 03:34 PM
Anthracene	7.7		7.4	µg/Kg-dry	1	12/8/2014 03:34 PM
Benzo(a)anthracene	14		7.4	µg/Kg-dry	1	12/8/2014 03:34 PM
Benzo(a)pyrene	11		7.4	µg/Kg-dry	1	12/8/2014 03:34 PM
Benzo(b)fluoranthene	12		7.4	µg/Kg-dry	1	12/8/2014 03:34 PM
Benzo(g,h,i)perylene	9.2		7.4	µg/Kg-dry	1	12/8/2014 03:34 PM
Benzo(k)fluoranthene	8.1		7.4	µg/Kg-dry	1	12/8/2014 03:34 PM
Chrysene	ND		7.4	µg/Kg-dry	1	12/8/2014 03:34 PM

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

ALS Group USA, Corp

Date: 09-Dec-14

Client: HRL Compliance Solutions, Inc
Project: WPX GV 18-23 Batch 1 12.3.14
Sample ID: GV 18-23 Batch 1
Collection Date: 12/3/2014 12:05 PM

Work Order: 1412196
Lab ID: 1412196-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	ND		7.4	µg/Kg-dry	1	12/8/2014 03:34 PM
Fluoranthene	20		7.4	µg/Kg-dry	1	12/8/2014 03:34 PM
Fluorene	12		7.4	µg/Kg-dry	1	12/8/2014 03:34 PM
Indeno(1,2,3-cd)pyrene	10		7.4	µg/Kg-dry	1	12/8/2014 03:34 PM
Naphthalene	40		7.4	µg/Kg-dry	1	12/8/2014 03:34 PM
Pyrene	19		7.4	µg/Kg-dry	1	12/8/2014 03:34 PM
Surr: 2-Fluorobiphenyl	66.2		12-100	%REC	1	12/8/2014 03:34 PM
Surr: 4-Terphenyl-d14	89.2		25-137	%REC	1	12/8/2014 03:34 PM
Surr: Nitrobenzene-d5	71.2		37-107	%REC	1	12/8/2014 03:34 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 12/4/14		Analyst: BG
Benzene	ND		34	µg/Kg-dry	1	12/6/2014 04:33 AM
Ethylbenzene	ND		34	µg/Kg-dry	1	12/6/2014 04:33 AM
m,p-Xylene	130		67	µg/Kg-dry	1	12/6/2014 04:33 AM
o-Xylene	38		34	µg/Kg-dry	1	12/6/2014 04:33 AM
Toluene	ND		34	µg/Kg-dry	1	12/6/2014 04:33 AM
Xylenes, Total	170		100	µg/Kg-dry	1	12/6/2014 04:33 AM
Surr: 1,2-Dichloroethane-d4	101		70-130	%REC	1	12/6/2014 04:33 AM
Surr: 4-Bromofluorobenzene	99.0		70-130	%REC	1	12/6/2014 04:33 AM
Surr: Dibromofluoromethane	94.2		70-130	%REC	1	12/6/2014 04:33 AM
Surr: Toluene-d8	102		70-130	%REC	1	12/6/2014 04:33 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHOD	Prep: USDA Method 20B / 12/8/14		Analyst: JB
Electrical Conductivity @ Saturation	13		0.050	mmhos/cm @25	10	12/8/2014 02:30 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: MB
Chromium, Trivalent	13		0.56	mg/Kg-dry	1	12/9/2014 04:30 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 12/4/14		Analyst: DAH
Chromium, Hexavalent	ND		0.55	mg/Kg-dry	1	12/5/2014 03:00 PM
MOISTURE			A2540 G			Analyst: EVB
Moisture	11		0.050	% of sample	1	12/5/2014 04:00 PM
PH			SW9045D	Prep: EXTRACT / 12/5/14		Analyst: AXL
pH	7.8			s.u.	1	12/5/2014 02:00 PM

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

ALS Group USA, Corp

Date: 09-Dec-14

Client: HRL Compliance Solutions, Inc

Work Order: 1412196

Project: WPX GV 18-23 Batch 1 12.3.14

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: 1412196-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412196
Project: WPX GV 18-23 Batch 1 12.3.14

QC BATCH REPORT

Batch ID: **65645** Instrument ID **GC10** Method: **SW8015**

MBLK		Sample ID: MBLK-65645-65645				Units: µg/Kg		Analysis Date: 12/5/2014 03:55 PM		
Client ID:		Run ID: GC10_141205A				SeqNo: 3063991		Prep Date: 12/4/2014		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>5464</i>	<i>0</i>	<i>5000</i>	<i>0</i>	<i>109</i>	<i>50-150</i>	<i>0</i>			

LCS		Sample ID: LCS-65645-65645				Units: µg/Kg		Analysis Date: 12/5/2014 03:31 PM		
Client ID:		Run ID: GC10_141205A				SeqNo: 3063990		Prep Date: 12/4/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	554100	2,500	500000	0	111	70-130	0			
<i>Surr: Toluene-d8</i>	<i>5173</i>	<i>0</i>	<i>5000</i>	<i>0</i>	<i>103</i>	<i>50-150</i>	<i>0</i>			

MS		Sample ID: 1412177-01A MS				Units: µg/Kg		Analysis Date: 12/5/2014 11:21 PM		
Client ID:		Run ID: GC10_141205A				SeqNo: 3064010		Prep Date: 12/4/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	540800	2,500	500000	0	108	70-130	0			
<i>Surr: Toluene-d8</i>	<i>5242</i>	<i>0</i>	<i>5000</i>	<i>0</i>	<i>105</i>	<i>50-150</i>	<i>0</i>			

MSD		Sample ID: 1412177-01A MSD				Units: µg/Kg		Analysis Date: 12/5/2014 11:45 PM		
Client ID:		Run ID: GC10_141205A				SeqNo: 3064011		Prep Date: 12/4/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	505500	2,500	500000	0	101	70-130	540800	6.75	30	
<i>Surr: Toluene-d8</i>	<i>5049</i>	<i>0</i>	<i>5000</i>	<i>0</i>	<i>101</i>	<i>50-150</i>	<i>5242</i>	<i>3.74</i>	<i>30</i>	

The following samples were analyzed in this batch:

1412196-01A

Client: HRL Compliance Solutions, Inc
Work Order: 1412196
Project: WPX GV 18-23 Batch 1 12.3.14

QC BATCH REPORT

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

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

Mercury ND 0.020

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

Mercury 0.1728 0.020 0.1665 0 104 80-120 0

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

Mercury 0.1431 0.013 0.1043 0.02382 114 75-125 0

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

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

The following samples were analyzed in this batch:

1412196-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412196
Project: WPX GV 18-23 Batch 1 12.3.14

QC BATCH REPORT

Batch ID: **65647** Instrument ID **ICP2** Method: **SW846 6010C**

DUP					Sample ID: 1412196-01CDUP		Units:mg/L		Analysis Date: 12/8/2014 04:22 PM		
Client ID: GV 18-23 Batch 1			Run ID: ICP2_141208A		SeqNo:3065706		Prep Date: 12/8/2014		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Calcium	519.7	5.0	0	0	0	0-0	509.1	2.06			
Magnesium	198.8	2.0	0	0	0	0-0	192.6	3.16			
Sodium	1728	2.0	0	0	0	0-0	1679	2.89			

DUP				Sample ID: 1412196-01CDUP				Units: none			Analysis Date: 12/8/2014			
Client ID: GV 18-23 Batch 1				Run ID: SAR_141208A				SeqNo: 3065775			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			
Sodium Adsorption Ratio		16.34	0.010	0	0	0		16.08	1.65	50				

The following samples were analyzed in this batch: | 1412196-01C |

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412196
Project: WPX GV 18-23 Batch 1 12.3.14

QC BATCH REPORT

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

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

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

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

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

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

Client: HRL Compliance Solutions, Inc
 Work Order: 1412196
 Project: WPX GV 18-23 Batch 1 12.3.14

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:

1412196-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412196
Project: WPX GV 18-23 Batch 1 12.3.14

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: 1412196
Project: WPX GV 18-23 Batch 1 12.3.14

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: 1412196
Project: WPX GV 18-23 Batch 1 12.3.14

QC BATCH REPORT

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

The following samples were analyzed in this batch:

1412196-01B

Client: HRL Compliance Solutions, Inc
Work Order: 1412196
Project: WPX GV 18-23 Batch 1 12.3.14

QC BATCH REPORT

Batch ID: **65637** Instrument ID **VMS8** Method: **SW8260B**

MBLK				Sample ID: MBLK-65637-65637				Units: µg/Kg			Analysis Date: 12/4/2014 02:50 PM			
Client ID:				Run ID: VMS8_141204A				SeqNo:3062618			Prep Date: 12/4/2014		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	998	0	1000	0	99.8	70-130		0						
Surr: 4-Bromofluorobenzene	1006	0	1000	0	101	70-130		0						
Surr: Dibromofluoromethane	932	0	1000	0	93.2	70-130		0						
Surr: Toluene-d8	951	0	1000	0	95.1	70-130		0						

LCS				Sample ID: LCS-65637-65637			Units: µg/Kg		Analysis Date: 12/4/2014 10:41 AM		
Client ID:			Run ID: VMS8_141204A			SeqNo: 3062705		Prep Date: 12/4/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1082	30	1000	0	108	75-125	0				
Ethylbenzene	1091	30	1000	0	109	75-125	0				
m,p-Xylene	2010	60	2000	0	100	80-125	0				
o-Xylene	1007	30	1000	0	101	75-125	0				
Toluene	1076	30	1000	0	108	70-125	0				
Xylenes, Total	3017	90	3000	0	101	75-125	0				
Surr: 1,2-Dichloroethane-d4	1004	0	1000	0	100	70-130	0				
Surr: 4-Bromofluorobenzene	991	0	1000	0	99.1	70-130	0				
Surr: Dibromofluoromethane	988.5	0	1000	0	98.8	70-130	0				
Surr: Toluene-d8	1007	0	1000	0	101	70-130	0				

MS					Sample ID: 1412196-01A MS		Units: µg/Kg		Analysis Date: 12/6/2014 04:59 AM		
Client ID: GV 18-23 Batch 1			Run ID: VMS6_141205A			SeqNo: 3064166		Prep Date: 12/4/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	967.5	30	1000	0	96.8	75-125	0				
Ethylbenzene	971.5	30	1000	0	97.2	75-125	0				
m,p-Xylene	2048	60	2000	118	96.5	80-125	0				
o-Xylene	1022	30	1000	33.5	98.8	75-125	0				
Toluene	919	30	1000	0	91.9	70-125	0				
Xylenes, Total	3069	90	3000	154	97.2	75-125	0				
Surr: 1,2-Dichloroethane-d4	1010	0	1000	0	101	70-130	0				
Surr: 4-Bromofluorobenzene	1021	0	1000	0	102	70-130	0				
Surr: Dibromofluoromethane	984.5	0	1000	0	98.4	70-130	0				
Surr: Toluene-d8	966.5	0	1000	0	96.6	70-130	0				

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412196
Project: WPX GV 18-23 Batch 1 12.3.14

QC BATCH REPORT

Batch ID: **65637** Instrument ID **VMS8** Method: **SW8260B**

MSD				Sample ID: 1412196-01A MSD			Units: µg/Kg		Analysis Date: 12/6/2014 05:25 AM	
Client ID: GV 18-23 Batch 1				Run ID: VMS6_141205A			SeqNo: 3064167		Prep Date: 12/4/2014	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	932.5	30	1000	0	93.2	75-125	967.5	3.68	30	
Ethylbenzene	956	30	1000	0	95.6	75-125	971.5	1.61	30	
m,p-Xylene	2035	60	2000	118	95.8	80-125	2048	0.612	30	
o-Xylene	1008	30	1000	33.5	97.4	75-125	1022	1.38	30	
Toluene	937	30	1000	0	93.7	70-125	919	1.94	30	
Xylenes, Total	3042	90	3000	154	96.3	75-125	3069	0.867	30	
Surr: 1,2-Dichloroethane-d4	976	0	1000	0	97.6	70-130	1010	3.47	30	
Surr: 4-Bromofluorobenzene	998.5	0	1000	0	99.8	70-130	1021	2.23	30	
Surr: Dibromofluoromethane	1020	0	1000	0	102	70-130	984.5	3.54	30	
Surr: Toluene-d8	1012	0	1000	0	101	70-130	966.5	4.6	30	

The following samples were analyzed in this batch: 1412196-01A

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412196
Project: WPX GV 18-23 Batch 1 12.3.14

QC BATCH REPORT

Batch ID: **65647** Instrument ID **WETCHEM** Method: **USDA H60 Method**

DUP		Sample ID: 1412196-01C DUP				Units: mmhos/cm @25°C		Analysis Date: 12/8/2014 02:30 PM		
Client ID: GV 18-23 Batch 1		Run ID: WETCHEM_141208E				SeqNo: 3065576		Prep Date: 12/8/2014		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	13.16	0.050	0	0	0		12.86	2.31	50	

The following samples were analyzed in this batch:

1412196-01C

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412196
Project: WPX GV 18-23 Batch 1 12.3.14

QC BATCH REPORT

Batch ID: **65692** Instrument ID **WETCHEM** Method: **SW9045D**

LCS				Sample ID: LCS-65692-65692				Units: s.u.			Analysis Date: 12/5/2014 02:00 PM			
Client ID:				Run ID: WETCHEM_141205J				SeqNo: 3063589			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			
pH		3.96	0	4	0	99	90-110	0						

DUP				Sample ID: 1412196-01B dup				Units: s.u.			Analysis Date: 12/5/2014 02:00 PM			
Client ID: GV 18-23 Batch 1				Run ID: WETCHEM_141205J				SeqNo: 3063602			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				
pH	7.81	0	0	0	0	0-0	7.76	0.642	20					

The following samples were analyzed in this batch:

1412196-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412196
Project: WPX GV 18-23 Batch 1 12.3.14

QC BATCH REPORT

Batch ID: **65698** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK				Sample ID: MBLK-65698-65698				Units: mg/Kg			Analysis Date: 12/5/2014 03:00 PM												
Client ID:				Run ID: WETCHEM_141205N				SeqNo: 3063945			Prep Date: 12/4/2014		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 0 0 0 0-0 0

LCS		Sample ID: LCS-65698-65698				Units:mg/Kg		Analysis Date: 12/5/2014 03:00 PM		
Client ID:		Run ID: WETCHEM_141205N			SeqNo:3063946		Prep Date: 12/4/2014		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: 1412176-01B MS				Units:mg/Kg		Analysis Date: 12/5/2014 03:00 PM		
Client ID:		Run ID: WETCHEM_141205N		SeqNo:3063948		Prep Date: 12/4/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 0.316 0.50 2 0.3608 -2.24 75-125 0 JS

MS		Sample ID: 1412176-01B MSI				Units:mg/Kg		Analysis Date: 12/5/2014 03:00 PM		
Client ID:		Run ID: WETCHEM_141205N		SeqNo:3063954		Prep Date: 12/4/2014		DF: 100		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 680.4 49 788.7 0.3608 86.2 75-125 0

MSD		Sample ID: 1412176-01B MSD				Units:mg/Kg		Analysis Date: 12/5/2014 03:00 PM		
Client ID:		Run ID: WETCHEM_141205N		SeqNo:3063949		Prep Date: 12/4/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 0.3135 0.50 1.984 0.3608 -2.38 75-125 0.316 0 20 JS

The following samples were analyzed in this batch:

1412196-01B

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

Client: HRL Compliance Solutions, Inc
Work Order: 1412196
Project: WPX GV 18-23 Batch 1 12.3.14

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:

1412196-01B

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

Sample Receipt Checklist

Client Name: **HRL**

Date/Time Received: **04-Dec-14 09:30**

Work Order: **1412196**

Received by: **DS**

Checklist completed by <u>Diane Shaw</u>	04-Dec-14	Reviewed by: <u>Ann Preston</u>	04-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>4.2 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>12/4/2014 1:08:23 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: (616) 399-6070
 Nick Martinez
 ALS Environmental
 127 E. 1st Street
 PARACHUTE, CO 81635

Origin ID: RLA



Ship Date: 03DEC14
 ActWgt: 68.0 LB
 CAD: 2264840/NET3550

Dims: 24 X 15 X 15 IN

Delivery Address Bar Code



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

BILL SENDER

Ref # 120314-1
 Invoice #
 PO # Parachute
 Dept #

HOLLAND, MI 49424

1 of 2

THU - 04 DEC 10:30A
 PRIORITY OVERNIGHT

TRK# 7720 8412 1035

8281

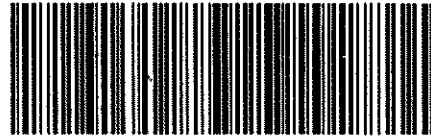
MASTER

XX HLMA

49424

MI-US

GRR



52202/0075BA03

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ALS Parachute Custody Seal
 DATE 12-3-14 Time 17:00
 Name MM



01-Apr-2015

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

Re: **GV 18-23 Batch 2**

Work Order: **15031441**

Dear Karolina,

ALS Environmental received 1 sample on 25-Mar-2015 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,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

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

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

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: WPX Energy Rocky Mountain, LLC
Project: GV 18-23 Batch 2
Work Order: 15031441

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>
15031441-01	GV 18-23 Batch 2	Soil		3/24/2015 10:00	3/25/2015 10:30	<input type="checkbox"/>

Client: WPX Energy Rocky Mountain, LLC**Project:** GV 18-23 Batch 2**Work Order:** 15031441**Case Narrative**

Batch 69287, Method CR6_7196_S, Sample 15031441-01A MS/MSD: The MS and MSD recovery was below the lower control limit for Hexavalent Chromium. The corresponding result in the parent sample may be biased low

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

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

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

ALS Group USA, Corp

Date: 01-Apr-15

Client: WPX Energy Rocky Mountain, LLC
Project: GV 18-23 Batch 2
Sample ID: GV 18-23 Batch 2
Collection Date: 3/24/2015 10:00 AM

Work Order: 15031441
Lab ID: 15031441-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3541 / 3/26/15	Analyst: IT
DRO (C10-C28)	150		4.5	mg/Kg-dry	1	3/26/2015 07:02 PM
Surr: 4-Terphenyl-d14	74.1		39-133	%REC	1	3/26/2015 07:02 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 3/26/15	Analyst: IT
GRO (C6-C10)	58		2.8	mg/Kg-dry	1	3/31/2015 04:16 PM
Surr: Toluene-d8	117		50-150	%REC	1	3/31/2015 04:16 PM
MERCURY BY CVAA						
			SW7471B		Prep: SW7471 / 3/26/15	Analyst: LR
Mercury	0.028		0.015	mg/Kg-dry	1	3/26/2015 10:55 PM
METALS ANALYSIS BY ICP						
			SW846 6010C		Prep: SW3050B / 3/26/15	Analyst: JEC
Arsenic	7.8		0.40	mg/Kg-dry	1	3/27/2015 01:14 PM
Barium	880		0.40	mg/Kg-dry	1	3/27/2015 01:14 PM
Cadmium	ND		0.79	mg/Kg-dry	1	3/27/2015 01:14 PM
Chromium	14		0.40	mg/Kg-dry	1	3/27/2015 01:14 PM
Copper	15		0.79	mg/Kg-dry	1	3/27/2015 01:14 PM
Lead	16		0.40	mg/Kg-dry	1	3/27/2015 01:14 PM
Nickel	18		0.40	mg/Kg-dry	1	3/27/2015 01:14 PM
Selenium	ND		0.79	mg/Kg-dry	1	3/27/2015 01:14 PM
Silver	ND		0.40	mg/Kg-dry	1	3/27/2015 01:14 PM
Zinc	74		0.79	mg/Kg-dry	1	3/27/2015 01:14 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 3/27/15	Analyst: JEC
Calcium	460		5.0	mg/L	10	3/27/2015 04:40 PM
Magnesium	110		2.0	mg/L	10	3/27/2015 04:40 PM
Sodium	2,600		2.0	mg/L	10	3/27/2015 04:40 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 3/27/15	Analyst: JEC
Sodium Adsorption Ratio	28		0.010	none	1	3/27/2015
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 3/27/15	Analyst: RS
Acenaphthene	ND		7.2	µg/Kg-dry	1	3/28/2015 12:32 PM
Anthracene	ND		7.2	µg/Kg-dry	1	3/28/2015 12:32 PM
Benzo(a)anthracene	ND		7.2	µg/Kg-dry	1	3/28/2015 12:32 PM
Benzo(a)pyrene	7.9		7.2	µg/Kg-dry	1	3/28/2015 12:32 PM
Benzo(b)fluoranthene	13		7.2	µg/Kg-dry	1	3/28/2015 12:32 PM
Benzo(g,h,i)perylene	ND		7.2	µg/Kg-dry	1	3/28/2015 12:32 PM
Benzo(k)fluoranthene	ND		7.2	µg/Kg-dry	1	3/28/2015 12:32 PM
Chrysene	10		7.2	µg/Kg-dry	1	3/28/2015 12:32 PM
Dibenzo(a,h)anthracene	ND		7.2	µg/Kg-dry	1	3/28/2015 12:32 PM

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

ALS Group USA, Corp

Date: 01-Apr-15

Client: WPX Energy Rocky Mountain, LLC
Project: GV 18-23 Batch 2
Sample ID: GV 18-23 Batch 2
Collection Date: 3/24/2015 10:00 AM

Work Order: 15031441
Lab ID: 15031441-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	24		7.2	µg/Kg-dry	1	3/28/2015 12:32 PM
Fluorene	ND		7.2	µg/Kg-dry	1	3/28/2015 12:32 PM
Indeno(1,2,3-cd)pyrene	ND		7.2	µg/Kg-dry	1	3/28/2015 12:32 PM
Naphthalene	ND		7.2	µg/Kg-dry	1	3/28/2015 12:32 PM
Pyrene	ND		7.2	µg/Kg-dry	1	3/28/2015 12:32 PM
Surr: 2,4,6-Tribromophenol	74.5		34-140	%REC	1	3/28/2015 12:32 PM
Surr: 2-Fluorobiphenyl	57.9		12-100	%REC	1	3/28/2015 12:32 PM
Surr: 2-Fluorophenol	67.9		33-117	%REC	1	3/28/2015 12:32 PM
Surr: 4-Terphenyl-d14	85.5		25-137	%REC	1	3/28/2015 12:32 PM
Surr: Nitrobenzene-d5	60.1		37-107	%REC	1	3/28/2015 12:32 PM
Surr: Phenol-d6	68.4		40-106	%REC	1	3/28/2015 12:32 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 3/27/15		
Benzene	89		33	µg/Kg-dry	1	Analyst: LSY 3/31/2015 03:13 AM
Ethylbenzene	ND		33	µg/Kg-dry	1	3/31/2015 03:13 AM
m,p-Xylene	280		66	µg/Kg-dry	1	3/31/2015 03:13 AM
o-Xylene	ND		33	µg/Kg-dry	1	3/31/2015 03:13 AM
Toluene	ND		33	µg/Kg-dry	1	3/31/2015 03:13 AM
Xylenes, Total	310		100	µg/Kg-dry	1	3/31/2015 03:13 AM
Surr: 1,2-Dichloroethane-d4	92.8		70-130	%REC	1	3/31/2015 03:13 AM
Surr: 4-Bromofluorobenzene	108		70-130	%REC	1	3/31/2015 03:13 AM
Surr: Dibromofluoromethane	93.8		70-130	%REC	1	3/31/2015 03:13 AM
Surr: Toluene-d8	100		70-130	%REC	1	3/31/2015 03:13 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 3/27/15		
Electrical Conductivity @ Saturation	16		0.050	mmhos/cm @2	10	Analyst: JB 3/30/2015 12:00 PM
CHROMIUM, TRIVALENT			CALCULATION	Analyst: EE		
Chromium, Trivalent	14		0.55	mg/Kg-dry	1	3/31/2015 05:20 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 3/31/15		
Chromium, Hexavalent	ND		1.2	mg/Kg-dry	1	Analyst: EE 3/31/2015 03:45 PM
MOISTURE			E160.3M	Analyst: EVB		
Moisture	9.7		0.050	% of sample	1	3/27/2015 03:15 PM
PH			SW9045D	Prep: EXTRACT / 3/27/15		
pH	7.8			s.u.	1	Analyst: JRF 3/27/2015 03:30 PM

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

ALS Group USA, Corp

Date: 01-Apr-15

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15031441
Project: GV 18-23 Batch 2

QC BATCH REPORT

Batch ID: **69073** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-69073-69073				Units: mg/Kg		Analysis Date: 3/26/2015 05:02 PM		
Client ID:		Run ID: GC8_150326A				SeqNo: 3198312		Prep Date: 3/26/2015		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								
<i>Surr: 4-Terphenyl-d14</i>	1.607	0	2	0	80.4	39-133		0		

LCS		Sample ID: DLCSS1-69073-69073				Units: mg/Kg		Analysis Date: 3/26/2015 05:32 PM		
Client ID:		Run ID: GC8_150326A				SeqNo: 3198313		Prep Date: 3/26/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	200.1	5.0	200	0	100	61-109		0		
<i>Surr: 4-Terphenyl-d14</i>	1.419	0	2	0	71	39-133		0		

MS		Sample ID: 15031441-01A MS				Units: mg/Kg		Analysis Date: 3/26/2015 06:02 PM		
Client ID: GV 18-23 Batch 2		Run ID: GC8_150326A				SeqNo: 3198314		Prep Date: 3/26/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	465.4	8.1	323.9	133.8	102	48-110		0		
<i>Surr: 4-Terphenyl-d14</i>	2.541	0	3.239	0	78.5	39-133		0		

MSD		Sample ID: 15031441-01A MSD				Units: mg/Kg		Analysis Date: 3/26/2015 06:32 PM		
Client ID: GV 18-23 Batch 2		Run ID: GC8_150326A				SeqNo: 3198315		Prep Date: 3/26/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	418.8	8.3	332.1	133.8	85.8	48-110	465.4	10.5	30	
<i>Surr: 4-Terphenyl-d14</i>	2.37	0	3.321	0	71.4	39-133	2.541	6.97	30	

The following samples were analyzed in this batch:

15031441-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15031441
Project: GV 18-23 Batch 2

QC BATCH REPORT

Batch ID: **69124** Instrument ID **GC9** Method: **SW8015D**

MBLK		Sample ID: MBLK-69124-69124				Units: µg/Kg		Analysis Date: 3/27/2015 03:01 AM		
Client ID:		Run ID: GC9_150326A				SeqNo: 3198083		Prep Date: 3/26/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	2,500								
Surr: Toluene-d8	4213	0	5000	0	84.3	50-150	0			

LCS		Sample ID: LCS-69124-69124				Units: µg/Kg		Analysis Date: 3/27/2015 02:36 AM		
Client ID:		Run ID: GC9_150326A				SeqNo: 3198079		Prep Date: 3/26/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	454900	2,500	500000	0	91	70-130	0			
Surr: Toluene-d8	4465	0	5000	0	89.3	50-150	0			

MS		Sample ID: 15031494-02A MS				Units: µg/Kg		Analysis Date: 3/27/2015 05:05 AM		
Client ID:		Run ID: GC9_150326A				SeqNo: 3198094		Prep Date: 3/26/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	432300	2,500	500000	0	86.5	70-130	0			
Surr: Toluene-d8	4349	0	5000	0	87	50-150	0			

MSD		Sample ID: 15031494-02A MSD				Units: µg/Kg		Analysis Date: 3/27/2015 05:30 AM		
Client ID:		Run ID: GC9_150326A				SeqNo: 3198096		Prep Date: 3/26/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	426700	2,500	500000	0	85.3	70-130	432300	1.3	30	
Surr: Toluene-d8	4436	0	5000	0	88.7	50-150	4349	1.97	30	

The following samples were analyzed in this batch:

15031441-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15031441
Project: GV 18-23 Batch 2

QC BATCH REPORT

Batch ID: **69081** Instrument ID **HG1** Method: **SW7471B**

MBLK		Sample ID: MBLK-69081-69081				Units: mg/Kg		Analysis Date: 3/26/2015 09:45 PM		
Client ID:		Run ID: HG1_150326A				SeqNo: 3198086		Prep Date: 3/26/2015		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-69081-69081				Units: mg/Kg		Analysis Date: 3/26/2015 09:48 PM		
Client ID:		Run ID: HG1_150326A				SeqNo: 3198088		Prep Date: 3/26/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1891 0.020 0.1665 0 114 80-120 0

MS		Sample ID: 15031440-01BMS				Units: mg/Kg		Analysis Date: 3/26/2015 10:50 PM		
Client ID:		Run ID: HG1_150326A			SeqNo: 3198122		Prep Date: 3/26/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1408 0.012 0.1029 0.03372 104 75-125 0

MSD		Sample ID: 15031440-01BMSD				Units: mg/Kg		Analysis Date: 3/26/2015 10:52 PM		
Client ID:		Run ID: HG1_150326A			SeqNo: 3198123		Prep Date: 3/26/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1412 0.012 0.1014 0.03372 106 75-125 0.1408 0.273 35

The following samples were analyzed in this batch:

15031441-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15031441
Project: GV 18-23 Batch 2

QC BATCH REPORT

Batch ID: **69098** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK		Sample ID: MBLK-69098-69098				Units: mg/L		Analysis Date: 3/26/2015 07:42 PM		
Client ID:		Run ID: ICP2_150326B				SeqNo: 3197476		Prep Date: 3/26/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	ND	0.50								
Chromium	ND	0.25								
Copper	ND	0.50								
Lead	ND	0.25								
Nickel	ND	0.25								
Selenium	ND	0.50								
Silver	ND	0.25								
Zinc	ND	0.50								

LCS		Sample ID: LCS-69098-69098				Units: mg/L		Analysis Date: 3/26/2015 07:48 PM		
Client ID:		Run ID: ICP2_150326B				SeqNo: 3197477		Prep Date: 3/26/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.8	0.25	5	0	96	80-120	0			
Barium	5.434	0.25	5	0	109	80-120	0			
Cadmium	4.936	0.50	5	0	98.7	80-120	0			
Chromium	4.973	0.25	5	0	99.5	80-120	0			
Copper	5.323	0.50	5	0	106	80-120	0			
Lead	5.423	0.25	5	0	108	80-120	0			
Nickel	5.147	0.25	5	0	103	80-120	0			
Selenium	4.932	0.50	5	0	98.6	80-120	0			
Silver	5.639	0.25	5	0	113	80-120	0			
Zinc	5.052	0.50	5	0	101	80-120	0			

MS		Sample ID: 15031445-02AMS				Units: mg/Kg		Analysis Date: 3/26/2015 07:59 PM		
Client ID:		Run ID: ICP2_150326B				SeqNo: 3197479		Prep Date: 3/26/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	15.94	0.38	7.519	6.698	123	75-125	0			
Barium	485.9	0.38	7.519	454.5	417	75-125	0			SO
Cadmium	8.489	0.75	7.519	0.7425	103	75-125	0			
Chromium	18.68	0.38	7.519	10.77	105	75-125	0			
Copper	17.7	0.75	7.519	11.09	87.9	75-125	0			
Lead	21.48	0.38	7.519	15.46	80.1	75-125	0			
Nickel	17.91	0.38	7.519	12.13	76.8	75-125	0			
Selenium	7.926	0.75	7.519	0.06447	105	75-125	0			
Silver	9.483	0.38	7.519	-0.1154	128	75-125	0			S
Zinc	62	0.75	7.519	55.64	84.6	75-125	0			O

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15031441
Project: GV 18-23 Batch 2

QC BATCH REPORT

Batch ID: **69098** Instrument ID **ICP2** Method: **SW846 6010C**

MSD		Sample ID: 15031445-02AMSD				Units: mg/Kg		Analysis Date: 3/26/2015 08:04 PM		
Client ID:		Run ID: ICP2_150326B				SeqNo: 3197480		Prep Date: 3/26/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	16.51	0.38	7.519	6.698	131	75-125	15.94	3.55	20	S
Barium	510.3	0.38	7.519	454.5	741	75-125	485.9	4.9	20	SO
Cadmium	8.534	0.75	7.519	0.7425	104	75-125	8.489	0.529	20	
Chromium	20.47	0.38	7.519	10.77	129	75-125	18.68	9.16	20	S
Copper	20	0.75	7.519	11.09	118	75-125	17.7	12.2	20	
Lead	23.07	0.38	7.519	15.46	101	75-125	21.48	7.11	20	
Nickel	20.23	0.38	7.519	12.13	108	75-125	17.91	12.2	20	
Selenium	7.723	0.75	7.519	0.06447	102	75-125	7.926	2.6	20	
Silver	9.561	0.38	7.519	-0.1154	129	75-125	9.483	0.819	20	S
Zinc	67.28	0.75	7.519	55.64	155	75-125	62	8.17	20	SO

The following samples were analyzed in this batch:

15031441-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15031441
Project: GV 18-23 Batch 2

QC BATCH REPORT

Batch ID: **69141** Instrument ID **ICP2** Method: **SW846 6010C**

DUP		Sample ID: 15031443-01BDUP				Units: mg/L		Analysis Date: 3/27/2015 04:51 PM		
Client ID:		Run ID: ICP2_150327A				SeqNo: 3200250		Prep Date: 3/27/2015		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	83.79	5.0	0	0	0	0-0	83.79	0		
Magnesium	11.29	2.0	0	0	0	0-0	11.29	0		
Sodium	39.43	2.0	0	0	0	0-0	39.43	0		

DUP		Sample ID: 15031443-01BDUP				Units: none		Analysis Date: 3/27/2015		
Client ID:		Run ID: SAR_150327A				SeqNo: 3200358		Prep Date: 3/27/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	1.073	0.010	0	0	0		1.128	4.95	50	

The following samples were analyzed in this batch:

15031441-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15031441
Project: GV 18-23 Batch 2

QC BATCH REPORT

Batch ID: **69135** Instrument ID **SVMS5** Method: **SW846 8270D**

MBLK		Sample ID: SBLKS1-69135-69135				Units: µg/Kg		Analysis Date: 3/27/2015 09:42 PM		
Client ID:		Run ID: SVMS5_150327A				SeqNo: 3200485		Prep Date: 3/27/2015		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								
<hr/>										
<i>Surr: 2,4,6-Tribromophenol</i>	1054	0	1667	0	63.3	34-140		0		
<i>Surr: 2-Fluorobiphenyl</i>	963.7	0	1667	0	57.8	12-100		0		
<hr/>										
<i>Surr: 2-Fluorophenol</i>	1193	0	1667	0	71.6	33-117		0		
<i>Surr: 4-Terphenyl-d14</i>	1541	0	1667	0	92.5	25-137		0		
<hr/>										
<i>Surr: Nitrobenzene-d5</i>	1053	0	1667	0	63.2	37-107		0		
<i>Surr: Phenol-d6</i>	1188	0	1667	0	71.3	40-106		0		

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15031441
Project: GV 18-23 Batch 2

QC BATCH REPORT

Batch ID: **69135** Instrument ID **SVMS5** Method: **SW846 8270D**

LCS		Sample ID: SLCSS1-69135-69135				Units: µg/Kg		Analysis Date: 3/27/2015 10:05 PM		
Client ID:		Run ID: SVMS5_150327A				SeqNo: 3200486		Prep Date: 3/27/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	494	6.7	666.7	0	74.1	45-110	0			
Anthracene	612.7	6.7	666.7	0	91.9	55-105	0			
Benzo(a)anthracene	591.3	6.7	666.7	0	88.7	50-110	0			
Benzo(a)pyrene	568.7	6.7	666.7	0	85.3	50-110	0			
Benzo(b)fluoranthene	599.3	6.7	666.7	0	89.9	45-115	0			
Benzo(g,h,i)perylene	519.3	6.7	666.7	0	77.9	40-125	0			
Benzo(k)fluoranthene	592.3	6.7	666.7	0	88.8	45-115	0			
Chrysene	606.7	6.7	666.7	0	91	55-110	0			
Dibenzo(a,h)anthracene	496.7	6.7	666.7	0	74.5	40-125	0			
Fluoranthene	575	6.7	666.7	0	86.2	55-115	0			
Fluorene	533.7	6.7	666.7	0	80	50-110	0			
Indeno(1,2,3-cd)pyrene	518	6.7	666.7	0	77.7	40-120	0			
Naphthalene	522	6.7	666.7	0	78.3	40-105	0			
Pyrene	665.7	6.7	666.7	0	99.8	45-125	0			
<i>Surr: 2,4,6-Tribromophenol</i>	1367	0	1667	0	82	34-140	0			
<i>Surr: 2-Fluorobiphenyl</i>	1188	0	1667	0	71.3	12-100	0			
<i>Surr: 2-Fluorophenol</i>	1421	0	1667	0	85.3	33-117	0			
<i>Surr: 4-Terphenyl-d14</i>	1648	0	1667	0	98.9	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1311	0	1667	0	78.6	37-107	0			
<i>Surr: Phenol-d6</i>	1455	0	1667	0	87.3	40-106	0			

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15031441
Project: GV 18-23 Batch 2

QC BATCH REPORT

Batch ID: **69135** Instrument ID **SVMS5** Method: **SW846 8270D**

MS				Sample ID: 15031441-01A MS			Units: µg/Kg		Analysis Date: 3/27/2015 11:46 PM	
Client ID: GV 18-23 Batch 2				Run ID: SVMS5_150327A			SeqNo: 3200487		Prep Date: 3/27/2015	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	916.5	13	1266	0	72.4	45-110	0			
Anthracene	1187	13	1266	0	93.7	55-105	0			
Benzo(a)anthracene	1107	13	1266	5.488	87	50-110	0			
Benzo(a)pyrene	1057	13	1266	7.103	82.9	50-110	0			
Benzo(b)fluoranthene	1139	13	1266	11.3	89.1	45-115	0			
Benzo(g,h,i)perylene	999.4	13	1266	0	78.9	40-125	0			
Benzo(k)fluoranthene	1067	13	1266	4.52	83.9	45-115	0			
Chrysene	1105	13	1266	9.363	86.6	55-110	0			
Dibenzo(a,h)anthracene	954.4	13	1266	0	75.4	40-125	0			
Fluoranthene	1135	13	1266	21.95	88	55-115	0			
Fluorene	1016	13	1266	0	80.2	50-110	0			
Indeno(1,2,3-cd)pyrene	974.7	13	1266	4.52	76.6	40-120	0			
Naphthalene	887.3	13	1266	0	70.1	40-105	0			
Pyrene	1257	13	1266	0	99.3	45-125	0			
Surr: 2,4,6-Tribromophenol	2596	0	3165	0	82	34-140	0			
Surr: 2-Fluorobiphenyl	2000	0	3165	0	63.2	12-100	0			
Surr: 2-Fluorophenol	2313	0	3165	0	73.1	33-117	0			
Surr: 4-Terphenyl-d14	2919	0	3165	0	92.2	25-137	0			
Surr: Nitrobenzene-d5	2175	0	3165	0	68.7	37-107	0			
Surr: Phenol-d6	2309	0	3165	0	73	40-106	0			

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15031441
Project: GV 18-23 Batch 2

QC BATCH REPORT

Batch ID: **69135** Instrument ID **SVMS5** Method: **SW846 8270D**

MSD				Sample ID: 15031441-01A MSD			Units: µg/Kg		Analysis Date: 3/28/2015 12:09 PM	
Client ID: GV 18-23 Batch 2				Run ID: SVMS5_150327A			SeqNo: 3200501		Prep Date: 3/27/2015	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	819.9	13	1265	0	64.8	45-110	916.5	11.1	30	
Anthracene	1151	13	1265	0	90.9	55-105	1187	3.08	30	
Benzo(a)anthracene	1081	13	1265	5.488	85	50-110	1107	2.42	30	
Benzo(a)pyrene	1036	13	1265	7.103	81.3	50-110	1057	2.04	30	
Benzo(b)fluoranthene	1077	13	1265	11.3	84.3	45-115	1139	5.58	30	
Benzo(g,h,i)perylene	986.3	13	1265	0	77.9	40-125	999.4	1.32	30	
Benzo(k)fluoranthene	1060	13	1265	4.52	83.4	45-115	1067	0.639	30	
Chrysene	1103	13	1265	9.363	86.4	55-110	1105	0.216	30	
Dibenzo(a,h)anthracene	928.1	13	1265	0	73.3	40-125	954.4	2.8	30	
Fluoranthene	1075	13	1265	21.95	83.2	55-115	1135	5.48	30	
Fluorene	954	13	1265	0	75.4	50-110	1016	6.28	30	
Indeno(1,2,3-cd)pyrene	962.2	13	1265	4.52	75.7	40-120	974.7	1.29	30	
Naphthalene	772.4	13	1265	0	61	40-105	887.3	13.8	30	
Pyrene	1220	13	1265	0	96.4	45-125	1257	2.96	30	
Surr: 2,4,6-Tribromophenol	2514	0	3163	0	79.5	34-140	2596	3.19	40	
Surr: 2-Fluorobiphenyl	1786	0	3163	0	56.5	12-100	2000	11.3	40	
Surr: 2-Fluorophenol	1975	0	3163	0	62.4	33-117	2313	15.8	40	
Surr: 4-Terphenyl-d14	2856	0	3163	0	90.3	25-137	2919	2.19	40	
Surr: Nitrobenzene-d5	1877	0	3163	0	59.3	37-107	2175	14.7	40	
Surr: Phenol-d6	2023	0	3163	0	63.9	40-106	2309	13.2	40	

The following samples were analyzed in this batch:

15031441-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15031441
Project: GV 18-23 Batch 2

QC BATCH REPORT

Batch ID: **69152** Instrument ID **VMS8** Method: **SW8260B**

MBLK				Sample ID: MBLK-69152-69152				Units: µg/Kg			Analysis Date: 3/27/2015 08:45 PM			
Client ID:				Run ID: VMS8_150327A				SeqNo: 3199904			Prep Date: 3/27/2015		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	1014	0	1000	0	101	70-130		0						
Surr: 4-Bromofluorobenzene	977	0	1000	0	97.7	70-130		0						
Surr: Dibromofluoromethane	977.5	0	1000	0	97.8	70-130		0						
Surr: Toluene-d8	976.5	0	1000	0	97.6	70-130		0						

LCS				Sample ID: LCS-69152-69152			Units: µg/Kg		Analysis Date: 3/27/2015 07:07 PM		
Client ID:			Run ID: VMS8_150327A			SeqNo: 3199292		Prep Date: 3/27/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1056	30	1000	0	106	75-125	0				
Ethylbenzene	992.5	30	1000	0	99.2	75-125	0				
m,p-Xylene	1983	60	2000	0	99.2	80-125	0				
o-Xylene	991.5	30	1000	0	99.2	75-125	0				
Toluene	1044	30	1000	0	104	70-125	0				
Xylenes, Total	2974	90	3000	0	99.2	75-125	0				
Surr: 1,2-Dichloroethane-d4	1030	0	1000	0	103	70-130	0				
Surr: 4-Bromofluorobenzene	991.5	0	1000	0	99.2	70-130	0				
Surr: Dibromofluoromethane	1010	0	1000	0	101	70-130	0				
Surr: Toluene-d8	990.5	0	1000	0	99	70-130	0				

MS				Sample ID: 15031454-03A MS			Units: µg/Kg		Analysis Date: 3/28/2015 09:25 PM		
Client ID:			Run ID: VMS5_150327C			SeqNo: 3199902		Prep Date: 3/27/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	2508	30	1000	1662	84.7	75-125	0				
Ethylbenzene	10580	30	1000	11000	-41.8	75-125	0			SEO	
m,p-Xylene	53930	60	2000	56820	-145	80-125	0			SEO	
o-Xylene	9883	30	1000	10220	-33.7	75-125	0			SEO	
Toluene	23260	30	1000	24770	-152	70-125	0			SEO	
Xylenes, Total	63810	90	3000	67040	-108	75-125	0			SEO	
Surr: 1,2-Dichloroethane-d4	966	0	1000	0	96.6	70-130	0				
Surr: 4-Bromofluorobenzene	935	0	1000	0	93.5	70-130	0				
Surr: Dibromofluoromethane	965	0	1000	0	96.5	70-130	0				
Surr: Toluene-d8	1746	0	1000	0	175	70-130	0			S	

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15031441
Project: GV 18-23 Batch 2

QC BATCH REPORT

Batch ID: **69152** Instrument ID **VMS8** Method: **SW8260B**

MSD				Sample ID: 15031454-03A MSD			Units: µg/Kg		Analysis Date: 3/28/2015 09:50 PM		
Client ID:			Run ID: VMS5_150327C			SeqNo: 3199903		Prep Date: 3/27/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	2412	30	1000	1662	75	75-125	2508	3.94	30		
Ethylbenzene	10520	30	1000	11000	-48.2	75-125	10580	0.602	30	SEO	
m,p-Xylene	53230	60	2000	56820	-180	80-125	53930	1.3	30	SEO	
o-Xylene	9841	30	1000	10220	-37.9	75-125	9883	0.426	30	SEO	
Toluene	22170	30	1000	24770	-261	70-125	23260	4.8	30	SEO	
Xylenes, Total	63070	90	3000	67040	-132	75-125	63810	1.17	30	SEO	
Surr: 1,2-Dichloroethane-d4	954	0	1000	0	95.4	70-130	966	1.25	30		
Surr: 4-Bromofluorobenzene	943	0	1000	0	94.3	70-130	935	0.852	30		
Surr: Dibromofluoromethane	979	0	1000	0	97.9	70-130	965	1.44	30		
Surr: Toluene-d8	1704	0	1000	0	170	70-130	1746	2.41	30	S	

The following samples were analyzed in this batch:

15031441-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15031441
Project: GV 18-23 Batch 2

QC BATCH REPORT

Batch ID: **69141** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

DUP		Sample ID: 15031443-01B DUP				Units: mmhos/cm @25°		Analysis Date: 3/30/2015 12:00 PM		
Client ID:		Run ID: WETCHEM_150330B				SeqNo: 3200507		Prep Date: 3/27/2015		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	0.823	0.050	0	0	0		0.809	1.72	50	

The following samples were analyzed in this batch:

15031441-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15031441
Project: GV 18-23 Batch 2

QC BATCH REPORT

Batch ID: **69166** Instrument ID **WETCHEM** Method: **SW9045D**

LCS		Sample ID: LCS-69166-69166					Units: s.u.		Analysis Date: 3/27/2015 03:30 PM		
Client ID:		Run ID: WETCHEM_150327I					SeqNo: 3199082		Prep Date: 3/27/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH	4.02	0	4	0	100	90-110	0			
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DUP		Sample ID: 15031588-01B DUP					Units: s.u.		Analysis Date: 3/27/2015 03:30 PM		
Client ID:		Run ID: WETCHEM_150327I			SeqNo: 3199094		Prep Date: 3/27/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH	7.2	0	0	0	0	0-0	7.26	0.83	20	
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DUP				Sample ID: 15031612-01B DUP				Units: s.u.			Analysis Date: 3/27/2015 03:30 PM			
Client ID:				Run ID: WETCHEM_150327I				SeqNo: 3199096			Prep Date: 3/27/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

pH	8.07	0	0	0	0	0-0	8.08	0.124	20	
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The following samples were analyzed in this batch:

15031441-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15031441
Project: GV 18-23 Batch 2

QC BATCH REPORT

Batch ID: **69287** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK		Sample ID: MBLK-69287-69287				Units: mg/Kg		Analysis Date: 3/31/2015 03:45 PM		
Client ID:		Run ID: WETCHEM_150331J		SeqNo: 3203694		Prep Date: 3/31/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.13	1.0								J

LCS		Sample ID: LCS-69287-69287				Units: mg/Kg		Analysis Date: 3/31/2015 03:45 PM		
Client ID:		Run ID: WETCHEM_150331J		SeqNo: 3203695		Prep Date: 3/31/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	4.66	1.0	5	0	93.2	80-120	0			

MS		Sample ID: 15031441-01A MS				Units: mg/Kg		Analysis Date: 3/31/2015 03:45 PM		
Client ID: GV 18-23 Batch 2		Run ID: WETCHEM_150331J		SeqNo: 3203697		Prep Date: 3/31/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.7826	0.87	4.348	0.1354	14.9	75-125	0			JS

MS		Sample ID: 15031441-01A MSI				Units: mg/Kg		Analysis Date: 3/31/2015 03:45 PM		
Client ID: GV 18-23 Batch 2		Run ID: WETCHEM_150331J		SeqNo: 3203699		Prep Date: 3/31/2015		DF: 100		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1888	100	1994	0.1354	94.6	75-125	0			

MSD		Sample ID: 15031441-01A MSD				Units: mg/Kg		Analysis Date: 3/31/2015 03:45 PM		
Client ID: GV 18-23 Batch 2		Run ID: WETCHEM_150331J		SeqNo: 3203698		Prep Date: 3/31/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.713	0.93	4.63	0.1354	12.5	75-125	0.7826	0	20	JS

The following samples were analyzed in this batch:

15031441-01A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15031441
Project: GV 18-23 Batch 2

QC BATCH REPORT

Batch ID: **R160122** Instrument ID **MOIST** Method: **E160.3M**

MBLK		Sample ID: WBLKS-R160122				Units: % of sample		Analysis Date: 3/27/2015 03:15 PM		
Client ID:		Run ID: MOIST_150327A				SeqNo: 3200383		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-R160122					Units: % of sample		Analysis Date: 3/27/2015 03:15 PM		
Client ID:			Run ID: MOIST_150327A			SeqNo: 3200382		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: 15031326-01A DUP				Units: % of sample			Analysis Date: 3/27/2015 03:15 PM			
Client ID:				Run ID: MOIST_150327A				SeqNo: 3200361			Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

Moisture 10.06 0.050 0 0 0 9.51 5.62 20

DUP				Sample ID: 15031438-01A DUP				Units: % of sample			Analysis Date: 3/27/2015 03:15 PM			
Client ID:				Run ID: MOIST_150327A				SeqNo: 3200373			Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

Moisture 22.93 0.050 0 0 0 22.19 3.28 20

The following samples were analyzed in this batch:

15031441-01A

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

3/24/2015

FedEx Ship Manager - Print Your Label(s)

From: (816) 298-1033
Nick Martinez
ALS Environmental
127 E 1st Street

Origin ID: RILA



Ship Date: 24MAR15
ActWgt: 54.0 LB
CAD: 2264840/NET3810

Dims: 24 X 15 X 15 IN

PARACHUTE, CO 81635

Delivery Address Bar Code



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

BILL SENDER

Ref # 032415-1
Invoice #
PO # Parachute
Dept #

HOLLAND, MI 49424

2 of 2

WED - 25 MAR 10:30A
PRIORITY OVERNIGHT

MP# 7732 0612 9684

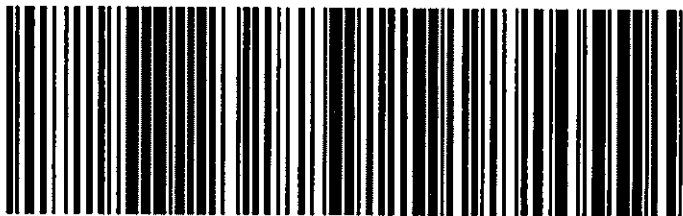
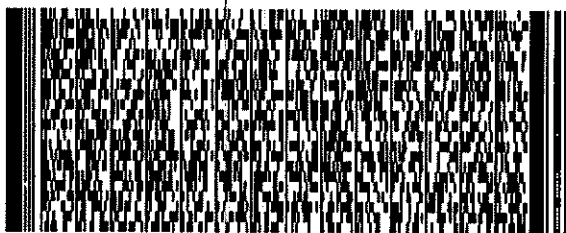
0263

Mstr# 7732 0613 0037

0261

XX HLMA

49424
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537J11879AEE4B

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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Sample Receipt Checklist

Client Name: **WPX**

Date/Time Received: **25-Mar-15 10:30**

Work Order: **15031441**

Received by: **KRW**

Checklist completed by Keith Wurenga
eSignature

25-Mar-15
Date

Reviewed by: Chad Whelton
eSignature

25-Mar-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>5.2 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>3/25/2015 2:35:54 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<u>-</u>		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



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

Tax I.D. 62-0814289

Est. 1970

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

Report Summary

Thursday April 23, 2015

Report Number: L759629

Samples Received: 04/16/15

Client Project: GV 18-23 BATCH 3

Description: GV 18-23 BATCH 3

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

T. Alan Harvill , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BIO041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

April 23, 2015

Date Received : April 16, 2015
Description : GV 18-23 BATCH 3
Sample ID : GV 18-23 BATCH 3
Collected By :
Collection Date : 04/15/15 13:30

ESC Sample # : L759629-01

Site ID : GV 18-23 BATCH 3

Project # : GV 18-23 BATCH 3

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021	04/22/15	5
Toluene	BDL	0.025	mg/kg	8021	04/22/15	5
Ethylbenzene	BDL	0.0025	mg/kg	8021	04/22/15	5
Total Xylene	BDL	0.0075	mg/kg	8021	04/22/15	5
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015	04/22/15	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	99.9		% Rec.	8015	04/22/15	1
a,a,a-Trifluorotoluene(PID)	101.		% Rec.	8021	04/22/15	1
TPH (GC/FID) High Fraction	80.	4.0	mg/kg	3546/DRO	04/17/15	1
Surrogate recovery(%)						
o-Terphenyl	60.7		% Rec.	3546/DRO	04/17/15	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	04/17/15	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	04/17/15	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	04/17/15	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	04/17/15	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	04/17/15	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	04/17/15	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	04/17/15	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	04/17/15	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	04/17/15	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	04/17/15	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	04/17/15	1
Naphthalene	BDL	0.020	mg/kg	8270C-SIM	04/17/15	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	04/17/15	1
Surrogate Recovery						
Nitrobenzene-d5	76.0		% Rec.	8270C-SIM	04/17/15	1
2-Fluorobiphenyl	61.4		% Rec.	8270C-SIM	04/17/15	1
p-Terphenyl-d14	67.5		% Rec.	8270C-SIM	04/17/15	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: 04/23/15 09:35 Printed: 04/23/15 09:35



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REPORT OF ANALYSIS

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

April 23, 2015

Date Received : April 16, 2015
Description : GV 18-23 BATCH 3
Sample ID : GV 18-23 BATCH 3
Collected By :
Collection Date : 04/15/15 13:30

ESC Sample # : L759629-02

Site ID : GV 18-23 BATCH 3

Project # : GV 18-23 BATCH 3

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	04/23/15	1
Chromium, Trivalent	BDL	0.50	mg/kg	Calc.	04/17/15	1
ORP	70.		mV	2580 B-2011	04/21/15	1
pH	7.7	0.10	su	9045D	04/17/15	1
Sodium Adsorption Ratio	22.			Calc.	04/22/15	1
Specific Conductance	4700		umhos/cm	9050AMod	04/17/15	1
Mercury	BDL	0.020	mg/kg	7471A	04/20/15	1
Arsenic	6.3	2.0	mg/kg	6010B	04/17/15	1
Barium	1200	0.50	mg/kg	6010B	04/17/15	1
Cadmium	BDL	0.50	mg/kg	6010B	04/17/15	1
Chromium	15.	1.0	mg/kg	6010B	04/17/15	1
Copper	13.	2.0	mg/kg	6010B	04/17/15	1
Lead	17.	0.50	mg/kg	6010B	04/17/15	1
Nickel	18.	2.0	mg/kg	6010B	04/17/15	1
Selenium	BDL	2.0	mg/kg	6010B	04/17/15	1
Silver	BDL	1.0	mg/kg	6010B	04/17/15	1
Zinc	65.	5.0	mg/kg	6010B	04/17/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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L759629-02 (PH) - 7.7 at 20.7 c

L759629-02 (ORP) - 70 AT 20.4C



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April 23, 2015

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Arsenic	< 2	mg/kg			WG782650	04/17/15 10:15
Barium	< .5	mg/kg			WG782650	04/17/15 10:15
Cadmium	< .5	mg/kg			WG782650	04/17/15 10:15
Chromium	< 1	mg/kg			WG782650	04/17/15 10:15
Copper	< 2	mg/kg			WG782650	04/17/15 10:15
Lead	< .5	mg/kg			WG782650	04/17/15 10:15
Nickel	< 2	mg/kg			WG782650	04/17/15 10:15
Selenium	< 2	mg/kg			WG782650	04/17/15 10:15
Silver	< 1	mg/kg			WG782650	04/17/15 10:15
Zinc	< 5	mg/kg			WG782650	04/17/15 10:15
Specific Conductance	1.10	umhos/cm			WG782617	04/17/15 15:08
TPH (GC/FID) High Fraction	< 4	mg/kg			WG782954	04/17/15 16:32
o-Terphenyl		% Rec.	72.80	50-150	WG782954	04/17/15 16:32
Acenaphthene	< .006	mg/kg			WG782426	04/17/15 14:15
Anthracene	< .006	mg/kg			WG782426	04/17/15 14:15
Benzo(a)anthracene	< .006	mg/kg			WG782426	04/17/15 14:15
Benzo(a)pyrene	< .006	mg/kg			WG782426	04/17/15 14:15
Benzo(b)fluoranthene	< .006	mg/kg			WG782426	04/17/15 14:15
Benzo(k)fluoranthene	< .006	mg/kg			WG782426	04/17/15 14:15
Chrysene	< .006	mg/kg			WG782426	04/17/15 14:15
Dibenz(a,h)anthracene	< .006	mg/kg			WG782426	04/17/15 14:15
Fluoranthene	< .006	mg/kg			WG782426	04/17/15 14:15
Fluorene	< .006	mg/kg			WG782426	04/17/15 14:15
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG782426	04/17/15 14:15
Naphthalene	< .02	mg/kg			WG782426	04/17/15 14:15
Pyrene	< .006	mg/kg			WG782426	04/17/15 14:15
2-Fluorobiphenyl		% Rec.	80.60	40.6-122	WG782426	04/17/15 14:15
Nitrobenzene-d5		% Rec.	83.40	22.1-146	WG782426	04/17/15 14:15
p-Terphenyl-d14		% Rec.	85.80	32.2-131	WG782426	04/17/15 14:15
Mercury	< .02	mg/kg			WG782786	04/20/15 09:13
Benzene	< .0005	mg/kg			WG782834	04/22/15 03:42
Ethylbenzene	< .0005	mg/kg			WG782834	04/22/15 03:42
Toluene	< .005	mg/kg			WG782834	04/22/15 03:42
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG782834	04/22/15 03:42
Total Xylene	< .0015	mg/kg			WG782834	04/22/15 03:42
a,a,a-Trifluorotoluene(FID)		% Rec.	102.0	59-128	WG782834	04/22/15 03:42
a,a,a-Trifluorotoluene(PID)		% Rec.	102.0	54-144	WG782834	04/22/15 03:42
Chromium,Hexavalent	< 2	mg/kg			WG783098	04/23/15 02:32

Analyte	Units	Result	Duplicate		RPD	Limit	Ref Samp	Batch
			Duplicate					
Specific Conductance	umhos/cm	4700	4700		0.426	20	L759629-02	WG782617
pH	su	7.00	7.00		0.143	1	L759627-01	WG782796
pH	su	8.30	8.30		0.241	1	L759827-05	WG782796

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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April 23, 2015

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
ORP	mV	64.0	60.0	6.45	20	L760142-05	WG783519
Chromium,Hexavalent	mg/kg	0.0	0.0	0.0	20	L760142-03	WG783098
Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch	
		Known Val	Result				
Arsenic	mg/kg	100	99.4	99.0	80-120	WG782650	
Barium	mg/kg	100	100.	100.	80-120	WG782650	
Cadmium	mg/kg	100	99.6	100.	80-120	WG782650	
Chromium	mg/kg	100	96.4	96.0	80-120	WG782650	
Copper	mg/kg	100	97.3	97.0	80-120	WG782650	
Lead	mg/kg	100	95.8	96.0	80-120	WG782650	
Nickel	mg/kg	100	94.8	95.0	80-120	WG782650	
Selenium	mg/kg	100	102.	102.	80-120	WG782650	
Silver	mg/kg	100	97.4	97.0	80-120	WG782650	
Zinc	mg/kg	100	95.5	96.0	80-120	WG782650	
Specific Conductance	umhos/cm	534	540.	101.	85-115	WG782617	
pH	su	7.84	7.80	99.5	98.3-101.7	WG782796	
TPH (GC/FID) High Fraction	mg/kg	60	38.0	63.3	50-150	WG782954	
o-Terphenyl				56.20	50-150	WG782954	
Acenaphthene	mg/kg	.08	0.0783	97.9	52.4-120	WG782426	
Anthracene	mg/kg	.08	0.0815	102.	50.3-130	WG782426	
Benzo(a)anthracene	mg/kg	.08	0.0787	98.4	46.7-125	WG782426	
Benzo(a)pyrene	mg/kg	.08	0.0787	98.3	42.3-119	WG782426	
Benzo(b)fluoranthene	mg/kg	.08	0.0818	102.	43.6-124	WG782426	
Benzo(k)fluoranthene	mg/kg	.08	0.0822	103.	46.1-131	WG782426	
Chrysene	mg/kg	.08	0.0795	99.4	49.5-131	WG782426	
Dibenz(a,h)anthracene	mg/kg	.08	0.0909	114.	44.8-133	WG782426	
Fluoranthene	mg/kg	.08	0.0779	97.4	49.3-128	WG782426	
Fluorene	mg/kg	.08	0.0774	96.8	50.6-121	WG782426	
Indeno(1,2,3-cd)pyrene	mg/kg	.08	0.0888	111.	46.1-135	WG782426	
Naphthalene	mg/kg	.08	0.0748	93.4	49.6-115	WG782426	
Pyrene	mg/kg	.08	0.0863	108.	44.7-130	WG782426	
2-Fluorobiphenyl				82.50	40.6-122	WG782426	
Nitrobenzene-d5				86.60	22.1-146	WG782426	
p-Terphenyl-d14				83.40	32.2-131	WG782426	
Mercury	mg/kg	.458	0.504	110.	80-120	WG782786	
ORP	mV	100	108.	108.	90-110	WG783519	
Benzene	mg/kg	.05	0.0492	98.3	70-130	WG782834	
Ethylbenzene	mg/kg	.05	0.0528	106.	70-130	WG782834	
Toluene	mg/kg	.05	0.0530	106.	70-130	WG782834	
Total Xylene	mg/kg	.15	0.162	108.	70-130	WG782834	
a,a,a-Trifluorotoluene(PID)				102.0	54-144	WG782834	

* Performance of this Analyte is outside of established criteria.

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Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
TPH (GC/FID) Low Fraction	mg/kg	5.5	5.55	101.	63.5-137	WG782834
a,a,a-Trifluorotoluene(FID)				97.70	59-128	WG782834
Chromium,Hexavalent	mg/kg	59.8	48.6	81.3	80-120	WG783098

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Arsenic	mg/kg	104.	99.4	104.	80-120	5.00	20	WG782650
Barium	mg/kg	105.	100.	105.	80-120	5.00	20	WG782650
Cadmium	mg/kg	104.	99.6	104.	80-120	5.00	20	WG782650
Chromium	mg/kg	102.	96.4	102.	80-120	5.00	20	WG782650
Copper	mg/kg	101.	97.3	101.	80-120	4.00	20	WG782650
Lead	mg/kg	101.	95.8	100.	80-120	5.00	20	WG782650
Nickel	mg/kg	99.4	94.8	99.0	80-120	5.00	20	WG782650
Selenium	mg/kg	106.	102.	106.	80-120	4.00	20	WG782650
Silver	mg/kg	103.	97.4	103.	80-120	5.00	20	WG782650
Zinc	mg/kg	99.8	95.5	100.	80-120	4.00	20	WG782650

Specific Conductance	umhos/	540.	540.	101.	85-115	0.0	20	WG782617
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pH	su	7.80	7.80	99.0	98.3-101.7	0.0	20	WG782796
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TPH (GC/FID) High Fraction	mg/kg	41.9	38.0	70.0	50-150	9.84	20	WG782954
o-Terphenyl				65.40	50-150			WG782954

Acenaphthene	mg/kg	0.0734	0.0783	92.0	52.4-120	6.48	20	WG782426
Anthracene	mg/kg	0.0781	0.0815	98.0	50.3-130	4.36	20	WG782426
Benzo(a)anthracene	mg/kg	0.0732	0.0787	91.0	46.7-125	7.29	20	WG782426
Benzo(a)pyrene	mg/kg	0.0738	0.0787	92.0	42.3-119	6.40	20	WG782426
Benzo(b)fluoranthene	mg/kg	0.0752	0.0818	94.0	43.6-124	8.45	20	WG782426
Benzo(k)fluoranthene	mg/kg	0.0745	0.0822	93.0	46.1-131	9.82	20	WG782426
Chrysene	mg/kg	0.0765	0.0795	96.0	49.5-131	3.84	20	WG782426
Dibenz(a,h)anthracene	mg/kg	0.0826	0.0909	103.	44.8-133	9.47	20	WG782426
Fluoranthene	mg/kg	0.0708	0.0779	88.0	49.3-128	9.55	20	WG782426
Fluorene	mg/kg	0.0731	0.0774	91.0	50.6-121	5.71	20	WG782426
Indeno(1,2,3-cd)pyrene	mg/kg	0.0820	0.0888	102.	46.1-135	8.05	20	WG782426
Naphthalene	mg/kg	0.0707	0.0748	88.0	49.6-115	5.53	20	WG782426
Pyrene	mg/kg	0.0806	0.0863	101.	44.7-130	6.92	20	WG782426
2-Fluorobiphenyl				76.60	40.6-122			WG782426
Nitrobenzene-d5				80.40	22.1-146			WG782426
p-Terphenyl-d14				78.90	32.2-131			WG782426

Mercury	mg/kg	0.476	0.504	104.	80-120	6.00	20	WG782786
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ORP	mV	106.	108.	106.	90-110	1.87	20	WG783519
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Benzene	mg/kg	0.0476	0.0492	95.0	70-130	3.15	20	WG782834
Ethylbenzene	mg/kg	0.0511	0.0528	102.	70-130	3.14	20	WG782834
Toluene	mg/kg	0.0513	0.0530	102.	70-130	3.31	20	WG782834
Total Xylene	mg/kg	0.157	0.162	105.	70-130	3.06	20	WG782834

* Performance of this Analyte is outside of established criteria.

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Analyte	Laboratory Control Sample Duplicate				Limit	RPD	Limit	Batch
	Units	Result	Ref	%Rec				
a,a,a-Trifluorotoluene(PID)				102.0	54-144			
TPH (GC/FID) Low Fraction	mg/kg	5.63	5.55	102.	63.5-137	1.38	20	WG782834
a,a,a-Trifluorotoluene(FID)				98.00	59-128			WG782834
Chromium,Hexavalent	mg/kg	48.6	48.6	81.0	80-120	0.0	20	WG783098

Analyte	Matrix Spike				Limit	Ref Samp	Batch
	Units	MS Res	Ref Res	TV			
Arsenic	mg/kg	131.	11.6	100	120.	L759571-01	WG782650
Barium	mg/kg	136.	32.8	100	100.	L759571-01	WG782650
Cadmium	mg/kg	101.	-0.000571	100	100.	L759571-01	WG782650
Chromium	mg/kg	104.	10.8	100	93.0	L759571-01	WG782650
Copper	mg/kg	100.	5.08	100	95.0	L759571-01	WG782650
Lead	mg/kg	102.	7.19	100	95.0	L759571-01	WG782650
Nickel	mg/kg	101.	4.51	100	97.0	L759571-01	WG782650
Selenium	mg/kg	101.	0.500	100	100.	L759571-01	WG782650
Silver	mg/kg	97.6	-0.164	100	98.0	L759571-01	WG782650
Zinc	mg/kg	104.	10.9	100	93.0	L759571-01	WG782650
TPH (GC/FID) High Fraction	mg/kg	119.	80.4	60	64.0	L759629-01	WG782954
o-Terphenyl					50.80		WG782954
Acenaphthene	mg/kg	0.0734	0.0	.08	92.0	L759476-02	WG782426
Anthracene	mg/kg	0.0782	0.0	.08	98.0	L759476-02	WG782426
Benzo(a)anthracene	mg/kg	0.0737	0.0	.08	92.0	L759476-02	WG782426
Benzo(a)pyrene	mg/kg	0.0754	0.0	.08	94.0	L759476-02	WG782426
Benzo(b)fluoranthene	mg/kg	0.0671	0.0	.08	84.0	L759476-02	WG782426
Benzo(k)fluoranthene	mg/kg	0.0751	0.0	.08	94.0	L759476-02	WG782426
Chrysene	mg/kg	0.0756	0.0	.08	94.0	L759476-02	WG782426
Dibenz(a,h)anthracene	mg/kg	0.0858	0.0	.08	110.	L759476-02	WG782426
Fluoranthene	mg/kg	0.0714	0.0	.08	89.0	L759476-02	WG782426
Fluorene	mg/kg	0.0719	0.0	.08	90.0	L759476-02	WG782426
Indeno(1,2,3-cd)pyrene	mg/kg	0.0802	0.0	.08	100.	L759476-02	WG782426
Naphthalene	mg/kg	0.0699	0.0	.08	87.0	L759476-02	WG782426
Pyrene	mg/kg	0.0758	0.0	.08	95.0	L759476-02	WG782426
2-Fluorobiphenyl					81.70		WG782426
Nitrobenzene-d5					85.10		WG782426
p-Terphenyl-d14					82.00		WG782426
Mercury	mg/kg	0.498	0.0195	.458	100.	L759629-02	WG782786
Benzene	mg/kg	0.193	0.000615	.05	77.0	L759437-01	WG782834
Ethylbenzene	mg/kg	0.190	0.000348	.05	76.0	L759437-01	WG782834
Toluene	mg/kg	0.200	0.000727	.05	80.0	L759437-01	WG782834
Total Xylene	mg/kg	0.583	0.00149	.15	78.0	L759437-01	WG782834
a,a,a-Trifluorotoluene(PID)					101.0		WG782834
TPH (GC/FID) Low Fraction	mg/kg	19.3	0.0	5.5	70.0	L759437-01	WG782834
a,a,a-Trifluorotoluene(FID)					96.20		WG782834
Chromium,Hexavalent	mg/kg	20.4	0.0	20	100.	L760142-03	WG783098

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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L759629

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Tax I.D. 62-0814289

Est. 1970

April 23, 2015

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Arsenic	mg/kg	137.	131.	125.	75-125	4.00	20	L759571-01	WG782650
Barium	mg/kg	132.	136.	98.8	75-125	3.00	20	L759571-01	WG782650
Cadmium	mg/kg	102.	101.	102.	75-125	1.00	20	L759571-01	WG782650
Chromium	mg/kg	105.	104.	94.0	75-125	1.00	20	L759571-01	WG782650
Copper	mg/kg	102.	100.	96.4	75-125	1.00	20	L759571-01	WG782650
Lead	mg/kg	103.	102.	95.7	75-125	1.00	20	L759571-01	WG782650
Nickel	mg/kg	102.	101.	97.4	75-125	1.00	20	L759571-01	WG782650
Selenium	mg/kg	103.	101.	102.	75-125	1.00	20	L759571-01	WG782650
Silver	mg/kg	100.	97.6	100.	75-125	3.00	20	L759571-01	WG782650
Zinc	mg/kg	104.	104.	93.4	75-125	1.00	20	L759571-01	WG782650
TPH (GC/FID) High Fraction	mg/kg	120.	119.	65.4	50-150	0.770	20	L759629-01	WG782954
o-Terphenyl				57.20	50-150				WG782954
Acenaphthene	mg/kg	0.0699	0.0734	87.3	31.9-130	4.93	20	L759476-02	WG782426
Anthracene	mg/kg	0.0752	0.0782	94.0	26.5-141	3.87	21.2	L759476-02	WG782426
Benzo(a)anthracene	mg/kg	0.0705	0.0737	88.1	18.3-136	4.47	24.6	L759476-02	WG782426
Benzo(a)pyrene	mg/kg	0.0707	0.0754	88.4	16.9-135	6.43	25.2	L759476-02	WG782426
Benzo(b)fluoranthene	mg/kg	0.0634	0.0671	79.2	10-134	5.69	30.9	L759476-02	WG782426
Benzo(k)fluoranthene	mg/kg	0.0702	0.0751	87.8	18.2-138	6.69	25.6	L759476-02	WG782426
Chrysene	mg/kg	0.0736	0.0756	92.0	17.1-145	2.56	24.2	L759476-02	WG782426
Dibenz(a,h)anthracene	mg/kg	0.0815	0.0858	102.	18.5-138	5.10	24.3	L759476-02	WG782426
Fluoranthene	mg/kg	0.0641	0.0714	80.1	15.4-144	10.7	27.1	L759476-02	WG782426
Fluorene	mg/kg	0.0659	0.0719	82.4	23.5-136	8.68	20	L759476-02	WG782426
Indeno(1,2,3-cd)pyrene	mg/kg	0.0752	0.0802	94.0	14.5-142	6.49	25.8	L759476-02	WG782426
Naphthalene	mg/kg	0.0679	0.0699	84.9	29.2-128	2.85	20	L759476-02	WG782426
Pyrene	mg/kg	0.0676	0.0758	84.5	11-148	11.5	26.1	L759476-02	WG782426
2-Fluorobiphenyl				83.50	40.6-122				WG782426
Nitrobenzene-d5				86.40	22.1-146				WG782426
p-Terphenyl-d14				85.70	32.2-131				WG782426
Mercury	mg/kg	0.461	0.498	96.3	75-125	8.00	20	L759629-02	WG782786
Benzene	mg/kg	0.209	0.193	83.2	49.7-127	7.91	23.5	L759437-01	WG782834
Ethylbenzene	mg/kg	0.209	0.190	83.4	40.8-141	9.54	23.8	L759437-01	WG782834
Toluene	mg/kg	0.218	0.200	86.9	49.8-132	8.63	23.5	L759437-01	WG782834
Total Xylene	mg/kg	0.634	0.583	84.4	41.2-140	8.47	23.7	L759437-01	WG782834
a,a,a-Trifluorotoluene(PID)				101.0	54-144				WG782834
TPH (GC/FID) Low Fraction	mg/kg	20.6	19.3	74.9	28.5-138	6.68	23.6	L759437-01	WG782834
a,a,a-Trifluorotoluene(FID)				96.20	59-128				WG782834
Chromium,Hexavalent	mg/kg	20.7	20.4	104.	75-125	1.46	20	L760142-03	WG783098

Post Spike

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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Post Spike

Serial Dilution

Batch number /Run number / Sample number cross reference

WG782650: R3031384: L759629-02
WG782617: R3031486: L759629-02
WG782796: R3031510: L759629-02
WG782954: R3031517: L759629-01
WG782426: R3031660: L759629-01
WG782786: R3031745: L759629-02
WG783519: R3032169: L759629-02
WG783220: R3032294: L759629-02
WG782834: R3032352: L759629-01
WG783098: R3032397: L759629-02

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

* Performance of this Analyte is outside of established criteria.

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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.



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

Report Summary

Thursday May 28, 2015

Report Number: L765419

Samples Received: 05/15/15

Client Project: GV 18-23 BATCH 4

Description: GV 18-23 BATCH 4

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

T. Alan Harvill , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BIO041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

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REPORT OF ANALYSIS

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

May 28, 2015

Date Received : May 15, 2015
Description : GV 18-23 BATCH 4
Sample ID : GV 18-23 BATCH 4
Collected By :
Collection Date : 05/14/15 14:00

ESC Sample # : L765419-01

Site ID : GV 18-23 BATCH 4

Project # : GV 18-23 BATCH 4

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0025	mg/kg	8021	05/22/15	5
Toluene	BDL	0.025	mg/kg	8021	05/22/15	5
Ethylbenzene	0.014	0.0025	mg/kg	8021	05/22/15	5
Total Xylene	0.0088	0.0075	mg/kg	8021	05/22/15	5
TPH (GC/FID) Low Fraction	2.9	0.50	mg/kg	8015	05/22/15	5
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	90.2		% Rec.	8015	05/22/15	1
a,a,a-Trifluorotoluene(PID)	97.2		% Rec.	8021	05/22/15	1
TPH (GC/FID) High Fraction	16.	4.0	mg/kg	3546/DRO	05/17/15	1
Surrogate recovery(%)						
o-Terphenyl	61.3		% Rec.	3546/DRO	05/17/15	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0060	mg/kg	8270C-SIM	05/18/15	1
Acenaphthene	BDL	0.0060	mg/kg	8270C-SIM	05/18/15	1
Benzo(a)anthracene	BDL	0.0060	mg/kg	8270C-SIM	05/18/15	1
Benzo(a)pyrene	BDL	0.0060	mg/kg	8270C-SIM	05/18/15	1
Benzo(b)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	05/18/15	1
Benzo(k)fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	05/18/15	1
Chrysene	BDL	0.0060	mg/kg	8270C-SIM	05/18/15	1
Dibenz(a,h)anthracene	BDL	0.0060	mg/kg	8270C-SIM	05/18/15	1
Fluoranthene	BDL	0.0060	mg/kg	8270C-SIM	05/18/15	1
Fluorene	BDL	0.0060	mg/kg	8270C-SIM	05/18/15	1
Indeno(1,2,3-cd)pyrene	BDL	0.0060	mg/kg	8270C-SIM	05/18/15	1
Naphthalene	BDL	0.020	mg/kg	8270C-SIM	05/18/15	1
Pyrene	BDL	0.0060	mg/kg	8270C-SIM	05/18/15	1
Surrogate Recovery						
Nitrobenzene-d5	80.0		% Rec.	8270C-SIM	05/18/15	1
2-Fluorobiphenyl	71.7		% Rec.	8270C-SIM	05/18/15	1
p-Terphenyl-d14	67.2		% Rec.	8270C-SIM	05/18/15	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: 05/26/15 13:28 Revised: 05/28/15 16:44



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REPORT OF ANALYSIS

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

May 28, 2015

Date Received : May 15, 2015
Description : GV 18-23 BATCH 4
Sample ID : GV 18-23 BATCH 4
Collected By :
Collection Date : 05/14/15 14:00

ESC Sample # : L765419-02

Site ID : GV 18-23 BATCH 4

Project # : GV 18-23 BATCH 4

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	05/16/15	1
Chromium, Trivalent	3.7	2.0	mg/kg	Calc.	05/19/15	1
ORP	56.		mV	2580 B-2011	05/23/15	1
pH	7.6	0.10	su	9045D	05/16/15	1
Sodium Adsorption Ratio	23.			Calc.	05/22/15	1
Specific Conductance	3900		umhos/cm	9050AMod	05/17/15	1
Mercury	0.022	0.020	mg/kg	7471A	05/16/15	1
Arsenic	2.2	2.0	mg/kg	6010B	05/19/15	1
Barium	170	0.50	mg/kg	6010B	05/19/15	1
Cadmium	BDL	0.50	mg/kg	6010B	05/19/15	1
Chromium	3.7	1.0	mg/kg	6010B	05/19/15	1
Copper	7.8	2.0	mg/kg	6010B	05/19/15	1
Lead	8.3	0.50	mg/kg	6010B	05/19/15	1
Nickel	6.4	2.0	mg/kg	6010B	05/19/15	1
Selenium	BDL	2.0	mg/kg	6010B	05/19/15	1
Silver	BDL	1.0	mg/kg	6010B	05/19/15	1
Zinc	25.	5.0	mg/kg	6010B	05/19/15	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: 05/26/15 13:28 Revised: 05/28/15 16:45
L765419-02 (PH) - 7.6 at 21.0c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L765419-01	WG789424	SAMP	Naphthalene	R3037605	J3
L765419-02	WG789185	SAMP	Mercury	R3037386	J3

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J3	The associated batch QC was outside the established quality control range for precision.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.



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Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Mercury	< .02	mg/kg			WG789185	05/16/15 09:08
Chromium, Hexavalent	< 2	mg/kg			WG789309	05/16/15 13:30
TPH (GC/FID) High Fraction	< 4	mg/kg			WG789493	05/17/15 09:03
o-Terphenyl		% Rec.	84.10	50-150	WG789493	05/17/15 09:03
Specific Conductance	1.18	umhos/cm			WG789315	05/17/15 08:00
Acenaphthene	< .006	mg/kg			WG789424	05/18/15 03:01
Anthracene	< .006	mg/kg			WG789424	05/18/15 03:01
Benzo(a)anthracene	< .006	mg/kg			WG789424	05/18/15 03:01
Benzo(a)pyrene	< .006	mg/kg			WG789424	05/18/15 03:01
Benzo(b)fluoranthene	< .006	mg/kg			WG789424	05/18/15 03:01
Benzo(k)fluoranthene	< .006	mg/kg			WG789424	05/18/15 03:01
Chrysene	< .006	mg/kg			WG789424	05/18/15 03:01
Dibenz(a,h)anthracene	< .006	mg/kg			WG789424	05/18/15 03:01
Fluoranthene	< .006	mg/kg			WG789424	05/18/15 03:01
Fluorene	< .006	mg/kg			WG789424	05/18/15 03:01
Indeno(1,2,3-cd)pyrene	< .006	mg/kg			WG789424	05/18/15 03:01
Naphthalene	< .02	mg/kg			WG789424	05/18/15 03:01
Pyrene	< .006	mg/kg			WG789424	05/18/15 03:01
2-Fluorobiphenyl		% Rec.	73.00	40.6-122	WG789424	05/18/15 03:01
Nitrobenzene-d5		% Rec.	69.40	22.1-146	WG789424	05/18/15 03:01
p-Terphenyl-d14		% Rec.	62.80	32.2-131	WG789424	05/18/15 03:01
Arsenic	< 2	mg/kg			WG789811	05/19/15 11:00
Barium	< .5	mg/kg			WG789811	05/19/15 11:00
Cadmium	< .5	mg/kg			WG789811	05/19/15 11:00
Chromium	< 1	mg/kg			WG789811	05/19/15 11:00
Copper	< 2	mg/kg			WG789811	05/19/15 11:00
Lead	< .5	mg/kg			WG789811	05/19/15 11:00
Nickel	< 2	mg/kg			WG789811	05/19/15 11:00
Selenium	< 2	mg/kg			WG789811	05/19/15 11:00
Silver	< 1	mg/kg			WG789811	05/19/15 11:00
Zinc	< 5	mg/kg			WG789811	05/19/15 11:00
Benzene	< .0005	mg/kg			WG789536	05/22/15 12:32
Ethylbenzene	< .0005	mg/kg			WG789536	05/22/15 12:32
Toluene	< .005	mg/kg			WG789536	05/22/15 12:32
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG789536	05/22/15 12:32
Total Xylene	< .0015	mg/kg			WG789536	05/22/15 12:32
a,a,a-Trifluorotoluene(FID)		% Rec.	90.80	59-128	WG789536	05/22/15 12:32
a,a,a-Trifluorotoluene(PID)		% Rec.	97.70	54-144	WG789536	05/22/15 12:32

Analyte	Units	Result	Duplicate		RPD	Limit	Ref Samp	Batch
			Duplicate					
Chromium, Hexavalent	mg/kg	0.0	0.0		0.0	20	L765169-05	WG789309
Specific Conductance	umhos/cm	5.30	4.80		9.90	20	L764498-03	WG789315

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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May 28, 2015

Analyte	Units	Result	Duplicate		RPD	Limit	Ref Samp	Batch
			Duplicate					
pH	su	7.70	7.80		0.901	1	L765212-01	WG789354
pH	su	8.40	8.40		0.593	1	L765462-10	WG789354
ORP	mV	54.0	56.0		3.64	20	L765419-02	WG790617
ORP	mV	46.0	45.0		2.20	20	L766227-03	WG790617

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Mercury	mg/kg	.3	0.284	95.0	80-120	WG789185
Chromium, Hexavalent	mg/kg	59.8	71.8	120.*	80-120	WG789309
TPH (GC/FID) High Fraction	mg/kg	60	48.9	81.5	50-150	WG789493
o-Terphenyl				79.10	50-150	WG789493
Specific Conductance	umhos/cm	534	543.	102.	85-115	WG789315
pH	su	7.84	7.85	100.	98.3-101.7	WG789354
Acenaphthene	mg/kg	.08	0.0581	72.6	52.4-120	WG789424
Anthracene	mg/kg	.08	0.0570	71.3	50.3-130	WG789424
Benzo(a)anthracene	mg/kg	.08	0.0530	66.2	46.7-125	WG789424
Benzo(a)pyrene	mg/kg	.08	0.0525	65.7	42.3-119	WG789424
Benzo(b)fluoranthene	mg/kg	.08	0.0542	67.7	43.6-124	WG789424
Benzo(k)fluoranthene	mg/kg	.08	0.0573	71.7	46.1-131	WG789424
Chrysene	mg/kg	.08	0.0576	72.0	49.5-131	WG789424
Dibenz(a,h)anthracene	mg/kg	.08	0.0611	76.4	44.8-133	WG789424
Fluoranthene	mg/kg	.08	0.0582	72.8	49.3-128	WG789424
Fluorene	mg/kg	.08	0.0561	70.1	50.6-121	WG789424
Indeno(1,2,3-cd)pyrene	mg/kg	.08	0.0606	75.7	46.1-135	WG789424
Naphthalene	mg/kg	.08	0.0574	71.8	49.6-115	WG789424
Pyrene	mg/kg	.08	0.0593	74.1	44.7-130	WG789424
2-Fluorobiphenyl				66.80	40.6-122	WG789424
Nitrobenzene-d5				69.80	22.1-146	WG789424
p-Terphenyl-d14				60.00	32.2-131	WG789424
Arsenic	mg/kg	100	102.	102.	80-120	WG789811
Barium	mg/kg	100	103.	103.	80-120	WG789811
Cadmium	mg/kg	100	98.5	98.0	80-120	WG789811
Chromium	mg/kg	100	104.	104.	80-120	WG789811
Copper	mg/kg	100	96.6	97.0	80-120	WG789811
Lead	mg/kg	100	102.	102.	80-120	WG789811
Nickel	mg/kg	100	97.4	97.0	80-120	WG789811
Selenium	mg/kg	100	102.	102.	80-120	WG789811
Silver	mg/kg	100	99.2	99.0	80-120	WG789811
Zinc	mg/kg	100	95.8	96.0	80-120	WG789811
Benzene	mg/kg	.05	0.0477	95.5	70-130	WG789536
Ethylbenzene	mg/kg	.05	0.0493	98.6	70-130	WG789536

* 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
Karolina Blaney
1058 County Road 215

Parachute, CO 81635

Quality Assurance Report
Level II

L765419

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

May 28, 2015

Analyte	Units	Laboratory Control		Sample	% Rec	Limit	Batch
		Known	Val	Result			
Toluene	mg/kg	.05		0.0485	97.0	70-130	WG789536
Total Xylene	mg/kg	.15		0.147	98.1	70-130	WG789536
a,a,a-Trifluorotoluene(FID)					90.40	59-128	WG789536
a,a,a-Trifluorotoluene(PID)					96.60	54-144	WG789536
TPH (GC/FID) Low Fraction	mg/kg	5.5		4.63	84.2	63.5-137	WG789536
a,a,a-Trifluorotoluene(FID)					97.60	59-128	WG789536
a,a,a-Trifluorotoluene(PID)					107.0	54-144	WG789536
ORP	mV	100		101.	101.	90-110	WG790617

Analyte	Units	Laboratory Control		Sample Duplicate	Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Mercury	mg/kg	0.359	0.284	120.	80-120	23.0*	20	WG789185
Chromium,Hexavalent	mg/kg	71.8	71.8	120.	80-120	0.0	20	WG789309
TPH (GC/FID) High Fraction	mg/kg	51.2	48.9	85.0	50-150	4.59	20	WG789493
o-Terphenyl				85.40	50-150			WG789493
Specific Conductance	umhos/	545.	543.	102.	85-115	0.368	20	WG789315
pH	su	7.85	7.85	100.	98.3-101.7	0.0	20	WG789354
Acenaphthene	mg/kg	0.0609	0.0581	76.0	52.4-120	4.77	20	WG789424
Anthracene	mg/kg	0.0597	0.0570	75.0	50.3-130	4.61	20	WG789424
Benzo(a)anthracene	mg/kg	0.0580	0.0530	72.0	46.7-125	9.15	20	WG789424
Benzo(a)pyrene	mg/kg	0.0572	0.0525	72.0	42.3-119	8.53	20	WG789424
Benzo(b)fluoranthene	mg/kg	0.0595	0.0542	74.0	43.6-124	9.38	20	WG789424
Benzo(k)fluoranthene	mg/kg	0.0582	0.0573	73.0	46.1-131	1.55	20	WG789424
Chrysene	mg/kg	0.0599	0.0576	75.0	49.5-131	3.86	20	WG789424
Dibenz(a,h)anthracene	mg/kg	0.0648	0.0611	81.0	44.8-133	5.86	20	WG789424
Fluoranthene	mg/kg	0.0610	0.0582	76.0	49.3-128	4.70	20	WG789424
Fluorene	mg/kg	0.0584	0.0561	73.0	50.6-121	3.99	20	WG789424
Indeno(1,2,3-cd)pyrene	mg/kg	0.0642	0.0606	80.0	46.1-135	5.82	20	WG789424
Naphthalene	mg/kg	0.0604	0.0574	75.0	49.6-115	5.01	20	WG789424
Pyrene	mg/kg	0.0622	0.0593	78.0	44.7-130	4.75	20	WG789424
2-Fluorobiphenyl				63.30	40.6-122			WG789424
Nitrobenzene-d5				59.20	22.1-146			WG789424
p-Terphenyl-d14				64.40	32.2-131			WG789424
Arsenic	mg/kg	96.1	102.	96.0	80-120	5.00	20	WG789811
Barium	mg/kg	98.3	103.	98.0	80-120	4.00	20	WG789811
Cadmium	mg/kg	94.3	98.5	94.0	80-120	4.00	20	WG789811
Chromium	mg/kg	98.8	104.	99.0	80-120	5.00	20	WG789811
Copper	mg/kg	92.5	96.6	92.0	80-120	4.00	20	WG789811
Lead	mg/kg	97.1	102.	97.0	80-120	5.00	20	WG789811
Nickel	mg/kg	92.7	97.4	93.0	80-120	5.00	20	WG789811
Selenium	mg/kg	96.8	102.	97.0	80-120	5.00	20	WG789811
Silver	mg/kg	95.0	99.2	95.0	80-120	4.00	20	WG789811
Zinc	mg/kg	91.8	95.8	92.0	80-120	4.00	20	WG789811

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Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Benzene	mg/kg	0.0478	0.0477	96.0	70-130	0.160	20	WG789536
Ethylbenzene	mg/kg	0.0498	0.0493	100.	70-130	1.00	20	WG789536
Toluene	mg/kg	0.0483	0.0485	96.0	70-130	0.460	20	WG789536
Total Xylene	mg/kg	0.149	0.147	99.0	70-130	1.35	20	WG789536
a,a,a-Trifluorotoluene(FID)				90.60	59-128			WG789536
a,a,a-Trifluorotoluene(PID)				97.30	54-144			WG789536
TPH (GC/FID) Low Fraction	mg/kg	4.61	4.63	84.0	63.5-137	0.500	20	WG789536
a,a,a-Trifluorotoluene(FID)				97.00	59-128			WG789536
a,a,a-Trifluorotoluene(PID)				106.0	54-144			WG789536
ORP	mV	100.	101.	100.	90-110	0.995	20	WG790617

Analyte	Units	Matrix Spike				Limit	Ref Samp	Batch
		MS Res	Ref Res	TV	% Rec			
Mercury	mg/kg	0.344	0.0111	.3	110.	75-125	L765411-02	WG789185
Chromium, Hexavalent	mg/kg	22.4	0.0	20	110.	75-125	L765169-05	WG789309
Acenaphthene	mg/kg	0.0469	0.0	.08	59.0	31.9-130	L765419-01	WG789424
Anthracene	mg/kg	0.0489	0.0	.08	61.0	26.5-141	L765419-01	WG789424
Benzo(a)anthracene	mg/kg	0.0467	0.0	.08	58.0	18.3-136	L765419-01	WG789424
Benzo(a)pyrene	mg/kg	0.0457	0.0	.08	57.0	16.9-135	L765419-01	WG789424
Benzo(b)fluoranthene	mg/kg	0.0374	0.0	.08	47.0	10-134	L765419-01	WG789424
Benzo(k)fluoranthene	mg/kg	0.0450	0.0	.08	56.0	18.2-138	L765419-01	WG789424
Chrysene	mg/kg	0.0526	0.0	.08	66.0	17.1-145	L765419-01	WG789424
Dibenz(a,h)anthracene	mg/kg	0.0626	0.0	.08	78.0	18.5-138	L765419-01	WG789424
Fluoranthene	mg/kg	0.0495	0.0	.08	62.0	15.4-144	L765419-01	WG789424
Fluorene	mg/kg	0.0458	0.0	.08	57.0	23.5-136	L765419-01	WG789424
Indeno(1,2,3-cd)pyrene	mg/kg	0.0580	0.0	.08	72.0	14.5-142	L765419-01	WG789424
Naphthalene	mg/kg	0.0562	0.0	.08	70.0	29.2-128	L765419-01	WG789424
Pyrene	mg/kg	0.0624	0.0	.08	78.0	11-148	L765419-01	WG789424
2-Fluorobiphenyl					63.10	40.6-122		WG789424
Nitrobenzene-d5					84.00	22.1-146		WG789424
p-Terphenyl-d14					84.20	32.2-131		WG789424
TPH (GC/FID) High Fraction	mg/kg	245.	141.	6	180.*	50-150	L765380-02	WG789493
o-Terphenyl					76.10	50-150		WG789493
Arsenic	mg/kg	99.3	1.16	100	98.0	75-125	L765614-06	WG789811
Barium	mg/kg	144.	44.9	100	99.0	75-125	L765614-06	WG789811
Cadmium	mg/kg	93.3	-0.242	100	93.0	75-125	L765614-06	WG789811
Chromium	mg/kg	121.	15.0	100	110.	75-125	L765614-06	WG789811
Copper	mg/kg	119.	8.81	100	110.	75-125	L765614-06	WG789811
Lead	mg/kg	107.	9.09	100	98.0	75-125	L765614-06	WG789811
Nickel	mg/kg	120.	21.0	100	99.0	75-125	L765614-06	WG789811
Selenium	mg/kg	94.0	0.508	100	94.0	75-125	L765614-06	WG789811
Silver	mg/kg	102.	-0.0331	100	100.	75-125	L765614-06	WG789811
Zinc	mg/kg	167.	59.9	100	110.	75-125	L765614-06	WG789811
Benzene	mg/kg	0.211	0.000230	.05	84.0	49.7-127	L765212-01	WG789536
Ethylbenzene	mg/kg	0.197	0.000352	.05	78.0	40.8-141	L765212-01	WG789536

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Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Toluene	mg/kg	0.203	0.00138	.05	81.0	49.8-132	L765212-01	WG789536
Total Xylene	mg/kg	0.587	0.00207	.15	78.0	41.2-140	L765212-01	WG789536
a,a,a-Trifluorotoluene(FID)					90.00	59-128		WG789536
a,a,a-Trifluorotoluene(PID)					96.40	54-144		WG789536
TPH (GC/FID) Low Fraction	mg/kg	15.9	0.0	5.5	58.0	28.5-138	L765212-01	WG789536
a,a,a-Trifluorotoluene(FID)					94.70	59-128		WG789536
a,a,a-Trifluorotoluene(PID)					103.0	54-144		WG789536

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Mercury	mg/kg	0.344	0.344	111.	75-125	0.0	20	L765411-02	WG789185
Chromium, Hexavalent	mg/kg	23.2	22.4	116.	75-125	3.51	20	L765169-05	WG789309
Acenaphthene	mg/kg	0.0506	0.0469	63.2	31.9-130	7.45	20	L765419-01	WG789424
Anthracene	mg/kg	0.0564	0.0489	70.5	26.5-141	14.2	21.2	L765419-01	WG789424
Benzo(a)anthracene	mg/kg	0.0504	0.0467	63.0	18.3-136	7.65	24.6	L765419-01	WG789424
Benzo(a)pyrene	mg/kg	0.0521	0.0457	65.2	16.9-135	13.2	25.2	L765419-01	WG789424
Benzo(b)fluoranthene	mg/kg	0.0453	0.0374	56.6	10-134	19.1	30.9	L765419-01	WG789424
Benzo(k)fluoranthene	mg/kg	0.0535	0.0450	66.8	18.2-138	17.1	25.6	L765419-01	WG789424
Chrysene	mg/kg	0.0536	0.0526	67.0	17.1-145	1.90	24.2	L765419-01	WG789424
Dibenz(a,h)anthracene	mg/kg	0.0570	0.0626	71.2	18.5-138	9.42	24.3	L765419-01	WG789424
Fluoranthene	mg/kg	0.0516	0.0495	64.5	15.4-144	4.30	27.1	L765419-01	WG789424
Fluorene	mg/kg	0.0542	0.0458	67.7	23.5-136	16.7	20	L765419-01	WG789424
Indeno(1,2,3-cd)pyrene	mg/kg	0.0544	0.0580	68.0	14.5-142	6.39	25.8	L765419-01	WG789424
Naphthalene	mg/kg	0.0762	0.0562	95.2	29.2-128	30.2*	20	L765419-01	WG789424
Pyrene	mg/kg	0.0494	0.0624	61.8	11-148	23.2	26.1	L765419-01	WG789424
2-Fluorobiphenyl				70.30	40.6-122				WG789424
Nitrobenzene-d5				84.00	22.1-146				WG789424
p-Terphenyl-d14				64.80	32.2-131				WG789424
TPH (GC/FID) High Fraction	mg/kg	203.	245.	104.	50-150	18.9	20	L765380-02	WG789493
o-Terphenyl				79.80	50-150				WG789493
Arsenic	mg/kg	94.1	99.3	92.9	75-125	5.00	20	L765614-06	WG789811
Barium	mg/kg	133.	144.	88.3	75-125	8.00	20	L765614-06	WG789811
Cadmium	mg/kg	88.8	93.3	89.1	75-125	5.00	20	L765614-06	WG789811
Chromium	mg/kg	119.	121.	104.	75-125	2.00	20	L765614-06	WG789811
Copper	mg/kg	117.	119.	108.	75-125	1.00	20	L765614-06	WG789811
Lead	mg/kg	98.6	107.	89.5	75-125	8.00	20	L765614-06	WG789811
Nickel	mg/kg	114.	120.	93.2	75-125	5.00	20	L765614-06	WG789811
Selenium	mg/kg	87.0	94.0	86.5	75-125	8.00	20	L765614-06	WG789811
Silver	mg/kg	99.6	102.	99.6	75-125	3.00	20	L765614-06	WG789811
Zinc	mg/kg	158.	167.	97.8	75-125	6.00	20	L765614-06	WG789811
Benzene	mg/kg	0.179	0.211	71.6	49.7-127	16.5	23.5	L765212-01	WG789536
Ethylbenzene	mg/kg	0.147	0.197	58.8	40.8-141	28.7*	23.8	L765212-01	WG789536
Toluene	mg/kg	0.163	0.203	64.5	49.8-132	22.1	23.5	L765212-01	WG789536
Total Xylene	mg/kg	0.448	0.587	59.5	41.2-140	26.7*	23.7	L765212-01	WG789536
a,a,a-Trifluorotoluene(FID)				90.30	59-128				WG789536
a,a,a-Trifluorotoluene(PID)				96.60	54-144				WG789536
TPH (GC/FID) Low Fraction	mg/kg	16.5	15.9	60.1	28.5-138	3.88	23.6	L765212-01	WG789536
a,a,a-Trifluorotoluene(FID)				94.70	59-128				WG789536

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Post Spike

a,a,a-Trifluorotoluene(PID) 103.0 54-144

Post Spike

Serial Dilution

Batch number /Run number / Sample number cross reference

WG789185: R3037386: L765419-02
WG789309: R3037394: L765419-02
WG789493: R3037561 R3037635: L765419-01
WG789315: R3037579: L765419-02
WG789354: R3037586: L765419-02
WG789424: R3037605: L765419-01
WG789811: R3037903 R3038349: L765419-02
WG789953: R3038847: L765419-02
WG789536: R3039007: L765419-01
WG790617: R3039123: L765419-02

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
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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.



05-Oct-2015

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

Re: **GV 18-23 Backgrounds**

Work Order: **15091654**

Dear Karolina,

ALS Environmental received 5 samples on 29-Sep-2015 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 17.

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

Sincerely,

A handwritten signature in black ink that reads "Les Arnold".

Electronically approved by: Les Arnold

Les Arnold
Senior Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

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

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Environmental 

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Client: WPX Energy Rocky Mountain, LLC
Project: GV 18-23 Backgrounds
Work Order: 15091654

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>
15091654-01	GV 18-23-B-1	Soil		9/28/2015 09:45	9/29/2015 09:00	<input type="checkbox"/>
15091654-02	GV 18-23-B-2	Soil		9/28/2015 09:50	9/29/2015 09:00	<input type="checkbox"/>
15091654-03	GV 18-23-B-3	Soil		9/28/2015 09:55	9/29/2015 09:00	<input type="checkbox"/>
15091654-04	GV 18-23-B-4	Soil		9/28/2015 10:00	9/29/2015 09:00	<input type="checkbox"/>
15091654-05	GV 18-23-B-5	Soil		9/28/2015 10:05	9/29/2015 09:00	<input type="checkbox"/>

Client: WPX Energy Rocky Mountain, LLC
Project: GV 18-23 Backgrounds
Work Order: 15091654

Case Narrative

Samples for the above noted Work Order were received on 09/29/2015. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting.

With the following exceptions, all sample analyses achieved analytical criteria.

Sample Receiving:

No deviations or anomalies were noted.

Volatile Organics:

No deviations or anomalies were noted.

Extractable Organics:

No deviations or anomalies were noted.

Metals:

No deviations or anomalies were noted.

Wet Chemistry:

No deviations or anomalies were noted.

ALS Group USA, Corp**Date:** 05-Oct-15**Client:** WPX Energy Rocky Mountain, LLC**Project:** GV 18-23 Backgrounds**Work Order:** 15091654**Sample ID:** GV 18-23-B-1**Lab ID:** 15091654-01**Collection Date:** 9/28/2015 09:45 AM**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS ANALYSIS BY ICP						
Arsenic	8.4		SW846 6010C 0.32	mg/Kg-dry	Prep: SW3050B / 9/30/15 1	Analyst: JEC 9/30/2015 09:31 PM
MOISTURE						
Moisture	1.7		E160.3M 0.050	% of sample	1	Analyst: TM 9/30/2015 04:16 PM

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

ALS Group USA, Corp**Date:** 05-Oct-15**Client:** WPX Energy Rocky Mountain, LLC**Project:** GV 18-23 Backgrounds**Work Order:** 15091654**Sample ID:** GV 18-23-B-2**Lab ID:** 15091654-02**Collection Date:** 9/28/2015 09:50 AM**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS ANALYSIS BY ICP						
Arsenic	5.5		SW846 6010C 0.39	mg/Kg-dry	Prep: SW3050B / 9/30/15 1	Analyst: JEC 9/30/2015 09:36 PM
MOISTURE						
Moisture	3.9		E160.3M 0.050	% of sample	1	Analyst: TM 9/30/2015 04:16 PM

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

ALS Group USA, Corp**Date:** 05-Oct-15**Client:** WPX Energy Rocky Mountain, LLC**Project:** GV 18-23 Backgrounds**Work Order:** 15091654**Sample ID:** GV 18-23-B-3**Lab ID:** 15091654-03**Collection Date:** 9/28/2015 09:55 AM**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS ANALYSIS BY ICP						
Arsenic	6.4		SW846 6010C 0.37	mg/Kg-dry	Prep: SW3050B / 9/30/15 1	Analyst: JEC 9/30/2015 09:42 PM
MOISTURE						
Moisture	5.4		E160.3M 0.050	% of sample	1	Analyst: TM 9/30/2015 04:16 PM

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

ALS Group USA, Corp**Date:** 05-Oct-15**Client:** WPX Energy Rocky Mountain, LLC**Project:** GV 18-23 Backgrounds**Work Order:** 15091654**Sample ID:** GV 18-23-B-4**Lab ID:** 15091654-04**Collection Date:** 9/28/2015 10:00 AM**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS ANALYSIS BY ICP						
Arsenic	6.5		SW846 6010C 0.40	mg/Kg-dry	Prep: SW3050B / 9/30/15 1	Analyst: JEC 9/30/2015 09:47 PM
MOISTURE						
Moisture	2.4		E160.3M 0.050	% of sample	1	Analyst: TM 9/30/2015 04:16 PM

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

ALS Group USA, Corp

Date: 05-Oct-15

Client: WPX Energy Rocky Mountain, LLC

Project: GV 18-23 Backgrounds

Sample ID: GV 18-23-B-5

Collection Date: 9/28/2015 10:05 AM

Work Order: 15091654

Lab ID: 15091654-05

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS ANALYSIS BY ICP			SW846 6010C		Prep: SW3050B / 9/30/15	Analyst: JEC
Arsenic	5.4		0.37	mg/Kg-dry	1	9/30/2015 09:53 PM
SOLUBLE CATIONS FOR SAR			SW846 6010C		Prep: USDA Method 20B / 10/5/15	Analyst: JEC
Calcium	510		5.0	mg/L	10	10/5/2015 12:14 PM
Magnesium	79		2.0	mg/L	10	10/5/2015 12:14 PM
Sodium	550		2.0	mg/L	10	10/5/2015 12:14 PM
SODIUM ADSORPTION RATIO			USDA H60 METHO		Prep: USDA Method 20B / 10/5/15	Analyst: JEC
Sodium Adsorption Ratio	6.0		0.010	none	1	10/5/2015
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO		Prep: USDA Method 20B / 10/5/15	Analyst: JB
Electrical Conductivity @ Saturation	6.8		0.050	mmhos/cm @2	10	10/5/2015 04:30 PM
MOISTURE			E160.3M			Analyst: TM
Moisture	3.6		0.050	% of sample	1	9/30/2015 04:16 PM
PH			SW9045D		Prep: EXTRACT / 9/30/15	Analyst: STP
pH	8.0			s.u.	1	9/30/2015 02:30 PM

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

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

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
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

Batch ID: 76771

Instrument ID SAR

Method: USDA H60 Metho

DUP	Sample ID: 15091651-04ADUP				Units: none		Analysis Date: 10/5/2015			
Client ID:		Run ID: SAR_151005A			SeqNo: 3490918		Prep Date: 10/5/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	0.05216	0.010	0	0	0		0.04793	8.45	50	

The following samples were analyzed in this batch:

15091654-05A

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15091654
Project: GV 18-23 Backgrounds

QC BATCH REPORT

Batch ID: **76776** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK		Sample ID: MBLK-76776-76776				Units: mg/Kg		Analysis Date: 9/30/2015 07:57 PM		
Client ID:		Run ID: ICP2_150930B				SeqNo: 3485247		Prep Date: 9/30/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic ND 0.25

LCS		Sample ID: LCS-76776-76776				Units: mg/Kg		Analysis Date: 9/30/2015 08:03 PM		
Client ID:		Run ID: ICP2_150930B			SeqNo: 3485248		Prep Date: 9/30/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 4.762 0.25 5 0 95.2 80-120 0

MS		Sample ID: 15091652-03AMS				Units: mg/Kg		Analysis Date: 9/30/2015 09:09 PM		
Client ID:		Run ID: ICP2_150930B			SeqNo: 3485260		Prep Date: 9/30/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 19.71 0.39 7.728 5.625 182 75-125 0 S

MSD		Sample ID: 15091652-03AMSD				Units: mg/Kg		Analysis Date: 9/30/2015 09:15 PM		
Client ID:		Run ID: ICP2_150930B			SeqNo: 3485261		Prep Date: 9/30/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 14 0.39 7.752 5.625 108 75-125 19.71 33.9 20 R

The following samples were analyzed in this batch:

15091654-01A	15091654-02A	15091654-03A
15091654-04A	15091654-05A	

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15091654
Project: GV 18-23 Backgrounds

QC BATCH REPORT

Batch ID: **76771** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

DUP		Sample ID: 15091651-04A DUP				Units: mmhos/cm @25°		Analysis Date: 10/5/2015 04:30 PM		
Client ID:		Run ID: WETCHEM_151005M				SeqNo: 3491316		Prep Date: 10/5/2015		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	0.311	0.050	0	0	0		0.305	1.95	50	

The following samples were analyzed in this batch:

15091654-05A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15091654
Project: GV 18-23 Backgrounds

QC BATCH REPORT

Batch ID: **76783** Instrument ID **WETCHEM** Method: **SW9045D**

LCS		Sample ID: LCS-76783-76783				Units: s.u.		Analysis Date: 9/30/2015 02:30 PM		
Client ID:		Run ID: WETCHEM_150930G				SeqNo: 3484154		Prep Date: 9/30/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	3.96	0	4	0	99	90-110	0			

DUP				Sample ID: 15091651-04A DUP				Units: s.u.		Analysis Date: 9/30/2015 02:30 PM			
Client ID:				Run ID: WETCHEM_150930G				SeqNo: 3484157		Prep Date: 9/30/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
pH	8.14	0	0	0	0	0-0	8.06	0.988	20				

The following samples were analyzed in this batch:

15091654-05A

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

Client: WPX Energy Rocky Mountain, LLC
Work Order: 15091654
Project: GV 18-23 Backgrounds

QC BATCH REPORT

Batch ID: **R172831** Instrument ID **MOIST** Method: **E160.3M**

MBLK		Sample ID: WBLKS-R172831				Units: % of sample			Analysis Date: 9/30/2015 04:16 PM		
Client ID:		Run ID: MOIST_150930C				SeqNo: 3486194		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-R172831				Units: % of sample			Analysis Date: 9/30/2015 04:16 PM		
Client ID:		Run ID: MOIST_150930C				SeqNo: 3486193		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: 15091677-05B DUP				Units: % of sample			Analysis Date: 9/30/2015 04:16 PM		
Client ID:		Run ID: MOIST_150930C				SeqNo: 3486184		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 15.95 0.050 0 0 0 14.83 7.28 20

DUP		Sample ID: 15091751-01A DUP				Units: % of sample			Analysis Date: 9/30/2015 04:16 PM		
Client ID:		Run ID: MOIST_150930C				SeqNo: 3486188		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 23.09 0.050 0 0 0 21.06 9.2 20

The following samples were analyzed in this batch:

15091654-01A	15091654-02A	15091654-03A
15091654-04A	15091654-05A	

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

WORKORDER
#

15091654

PAGE

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DISPOSAL

By Lab or Return to Client

[illegible]

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

For metals or anions, please detail analytes below.

Comments: <div style="text-align: center; font-size: 2em; font-family: cursive;">3-200</div>	QC PACKAGE (check below)	
	<input checked="" type="checkbox"/>	LEVEL II (Standard QC)
	<input type="checkbox"/>	LEVEL III (Std QC + forms)
	<input type="checkbox"/>	LEVEL IV (Std QC + forms + raw data)
	<input type="checkbox"/>	
Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035		

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	<i>Karolina Blaney</i>	Karolina Blaney	9/28/2015	15:00:00 PM
RECEIVED BY	<i>[Signature]</i>	<i>[Signature]</i>	9/28/15	11/10
RELINQUISHED BY	<i>[Signature]</i>	<i>[Signature]</i>	9/28/15	1030
RECEIVED BY	<i>[Signature]</i>	<i>[Signature]</i>	9/28/15	900
RELINQUISHED BY				
RECEIVED BY				

ORIGIN ID: RILA (616) 288-1033
NICK MARTINEZ
ALS ENVIRONMENTAL PARACHUTE
PARACHUTE SERVICE CENTER
127 EAST 1ST. ST
PARACHUTE, CO 81635
UNITED STATES US

SHIP DATE: 28SEP15
ACTWGT: 78.00 LB
CAD: 2284840/NET 3670
DIMS: 24x15x15 IN
BILL SENDER:

TO **SAMPLE RECEIVING**
ALS ENVIRONMENTAL HOLLAND LAB
3352 128TH AVE

HOLLAND MI 49424

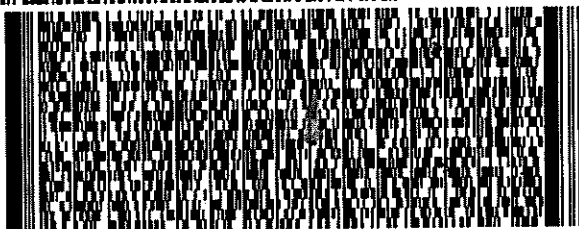
(616) 399-6070

NY-

PO: PARACHUTE

REF: 092815-1

DEPT:

REL#
3785346

2 of 3

NPS#

0263

7746 1479 8550

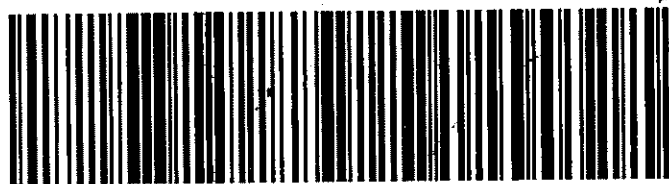
Mstr# 7746 1479 8458

0201

XX HLMA

TUE - 29 SEP 10:30A
PRIORITY OVERNIGHT

49424
MI-US GRR



539,297D731D0

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 label is visible.

[illegible]

Sample Receipt Checklist

Client Name: **WPX**

Date/Time Received: **29-Sep-15 09:00**

Work Order: **15091654**

Received by: **NML**

Checklist completed by Diane Shaw 29-Sep-15
eSignature Date

Reviewed by: Lee Arnold 29-Sep-15
eSignature Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.2/3.2 c</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/29/2015 1:40:37 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<u>-</u>		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction: