

Legend

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

RWF 11-35
Arsenic Background Sample Location Map
T6S R94W, Section 35

March 5, 2014





05-Feb-2014

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

Re: **WPX RWF 11-35 Cuttings 1.28.14**

Work Order: **14011112**

Dear Mark,

ALS Environmental received 6 samples on 29-Jan-2014 12:30 PM 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 29.

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
Project: WPX RWF 11-35 Cuttings 1.28.14
Work Order: 14011112

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>
14011112-01	Cuttings	Soil		1/28/2014 08:40	1/29/2014 12:30	<input type="checkbox"/>
14011112-02	RWF11-35-B-1	Soil		1/28/2014 08:50	1/29/2014 12:30	<input type="checkbox"/>
14011112-03	RWF11-35-B-2	Soil		1/28/2014 08:55	1/29/2014 12:30	<input type="checkbox"/>
14011112-04	RWF11-35-B-3	Soil		1/28/2014 09:00	1/29/2014 12:30	<input type="checkbox"/>
14011112-05	RWF11-35-B-4	Soil		1/28/2014 09:05	1/29/2014 12:30	<input type="checkbox"/>
14011112-06	RWF11-35-B-5	Soil		1/28/2014 09:10	1/29/2014 12:30	<input type="checkbox"/>

Client: HRL Compliance Solutions
Project: WPX RWF 11-35 Cuttings 1.28.14
Work Order: 14011112

Case Narrative

Batch 55414 MS/MSD data for Metals is not related to this project's samples. No data requires qualification.

Client: HRL Compliance Solutions
Project: WPX RWF 11-35 Cuttings 1.28.14
WorkOrder: 14011112

QUALIFIERS, ACRONYMS, UNITS

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

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

Client: HRL Compliance Solutions
Project: WPX RWF 11-35 Cuttings 1.28.14
Sample ID: Cuttings
Collection Date: 1/28/2014 08:40 AM

Work Order: 14011112
Lab ID: 14011112-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	120		SW8015M		Prep Date: 1/29/2014	Analyst: IT
<i>Surr: 4-Terphenyl-d14</i>	53.2		5.8	mg/Kg-dry	1	1/30/2014 10:35 AM
			39-115	%REC	1	1/30/2014 10:35 AM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015		Prep Date: 1/29/2014	Analyst: IT
<i>Surr: Toluene-d8</i>	107		3.5	mg/Kg-dry	1	1/30/2014 03:35 PM
			50-150	%REC	1	1/30/2014 03:35 PM
MERCURY BY CVAA						
Mercury	0.087		SW7471		Prep Date: 1/30/2014	Analyst: LR
			0.021	mg/Kg-dry	1	1/30/2014 03:36 PM
METALS BY ICP-MS						
Arsenic	ND		SW6020A		Prep Date: 1/31/2014	Analyst: RH
			2.8	mg/Kg-dry	5	2/1/2014 03:18 AM
Barium	23,000		280	mg/Kg-dry	500	2/4/2014 12:13 PM
Cadmium	ND		1.1	mg/Kg-dry	5	2/1/2014 03:18 AM
Chromium	8.7		2.8	mg/Kg-dry	5	2/1/2014 03:18 AM
Copper	22		2.8	mg/Kg-dry	5	2/1/2014 03:18 AM
Lead	6.8		2.8	mg/Kg-dry	5	2/1/2014 03:18 AM
Nickel	19		2.8	mg/Kg-dry	5	2/1/2014 03:18 AM
Selenium	ND		2.8	mg/Kg-dry	5	2/1/2014 03:18 AM
Silver	ND		2.8	mg/Kg-dry	5	2/1/2014 03:18 AM
Zinc	50		5.6	mg/Kg-dry	5	2/1/2014 03:18 AM
SOLUBLE CATIONS FOR SAR						
Calcium	64		SW6020A		Prep Date: 1/31/2014	Analyst: RH
			10	mg/L	20	1/31/2014 11:55 AM
Magnesium	ND		4.0	mg/L	20	1/31/2014 11:55 AM
Sodium	900		4.0	mg/L	20	1/31/2014 11:55 AM
SODIUM ADSORPTION RATIO						
Sodium Adsorption Ratio	30		USDA H60 METHO		Prep Date: 1/31/2014	Analyst: ML
			0.010	none	1	1/31/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
Acenaphthene	ND		SW8270		Prep Date: 1/29/2014	Analyst: RM
			9.2	µg/Kg-dry	1	1/30/2014 07:02 PM
Acenaphthylene	ND		9.2	µg/Kg-dry	1	1/30/2014 07:02 PM
Anthracene	ND		9.2	µg/Kg-dry	1	1/30/2014 07:02 PM
Benzo(a)anthracene	ND		9.2	µg/Kg-dry	1	1/30/2014 07:02 PM
Benzo(a)pyrene	ND		9.2	µg/Kg-dry	1	1/30/2014 07:02 PM
Benzo(b)fluoranthene	ND		9.2	µg/Kg-dry	1	1/30/2014 07:02 PM
Benzo(g,h,i)perylene	ND		9.2	µg/Kg-dry	1	1/30/2014 07:02 PM
Benzo(k)fluoranthene	ND		9.2	µg/Kg-dry	1	1/30/2014 07:02 PM
Chrysene	ND		9.2	µg/Kg-dry	1	1/30/2014 07:02 PM
Dibenzo(a,h)anthracene	ND		9.2	µg/Kg-dry	1	1/30/2014 07:02 PM
Fluoranthene	ND		9.2	µg/Kg-dry	1	1/30/2014 07:02 PM

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

ALS Group USA, Corp

Date: 05-Feb-14

Client: HRL Compliance Solutions
Project: WPX RWF 11-35 Cuttings 1.28.14
Sample ID: Cuttings
Collection Date: 1/28/2014 08:40 AM

Work Order: 14011112
Lab ID: 14011112-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		9.2	µg/Kg-dry	1	1/30/2014 07:02 PM
Indeno(1,2,3-cd)pyrene	ND		9.2	µg/Kg-dry	1	1/30/2014 07:02 PM
Naphthalene	ND		9.2	µg/Kg-dry	1	1/30/2014 07:02 PM
Pyrene	ND		9.2	µg/Kg-dry	1	1/30/2014 07:02 PM
Surr: 2-Fluorobiphenyl	66.1		12-100	%REC	1	1/30/2014 07:02 PM
Surr: 4-Terphenyl-d14	89.2		25-137	%REC	1	1/30/2014 07:02 PM
Surr: Nitrobenzene-d5	63.0		37-107	%REC	1	1/30/2014 07:02 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep Date: 1/29/2014	Analyst: RS
Benzene	ND		42	µg/Kg-dry	1	1/30/2014 11:04 AM
Ethylbenzene	ND		42	µg/Kg-dry	1	1/30/2014 11:04 AM
m,p-Xylene	ND		85	µg/Kg-dry	1	1/30/2014 11:04 AM
o-Xylene	ND		42	µg/Kg-dry	1	1/30/2014 11:04 AM
Toluene	67		42	µg/Kg-dry	1	1/30/2014 11:04 AM
Xylenes, Total	ND		130	µg/Kg-dry	1	1/30/2014 11:04 AM
Surr: 1,2-Dichloroethane-d4	98.2		70-130	%REC	1	1/30/2014 11:04 AM
Surr: 4-Bromofluorobenzene	100		70-130	%REC	1	1/30/2014 11:04 AM
Surr: Dibromofluoromethane	96.6		70-130	%REC	1	1/30/2014 11:04 AM
Surr: Toluene-d8	98.4		70-130	%REC	1	1/30/2014 11:04 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO		Prep Date: 1/31/2014	Analyst: MELB
Electrical Conductivity @ Saturation	4.5		0.25	mmhos/cm @25	50	1/31/2014 11:00 AM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JJG
Chromium, Trivalent	8.7		0.71	mg/Kg-dry	1	2/4/2014 07:38 AM
CHROMIUM, HEXAVALENT			SW7196A		Prep Date: 1/30/2014	Analyst: MB
Chromium, Hexavalent	ND		0.70	mg/Kg-dry	1	1/30/2014 04:30 PM
MOISTURE			A2540 G			Analyst: AT
Moisture	29		0.050	% of sample	1	1/29/2014 01:48 PM
PH			SW9045D		Prep Date: 1/29/2014	Analyst: EE
pH	9.2			s.u.	1	1/29/2014 03:00 PM

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

ALS Group USA, Corp

Date: 05-Feb-14

Client: HRL Compliance Solutions
Project: WPX RWF 11-35 Cuttings 1.28.14
Sample ID: RWF11-35-B-1
Collection Date: 1/28/2014 08:50 AM

Work Order: 14011112
Lab ID: 14011112-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS			SW6020A		Prep Date: 1/31/2014	Analyst: RH
Arsenic	3.5		3.4	mg/Kg-dry	5	2/1/2014 03:23 AM
MOISTURE			A2540 G			Analyst: AT
Moisture	44		0.050	% of sample	1	1/29/2014 01:48 PM

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

ALS Group USA, Corp

Date: 05-Feb-14

Client: HRL Compliance Solutions

Project: WPX RWF 11-35 Cuttings 1.28.14

Sample ID: RWF11-35-B-2

Collection Date: 1/28/2014 08:55 AM

Work Order: 14011112

Lab ID: 14011112-03

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS			SW6020A		Prep Date: 1/31/2014	Analyst: RH
Arsenic	7.8		2.0	mg/Kg-dry	5	2/1/2014 03:28 AM
MOISTURE			A2540 G			Analyst: AT
Moisture	13		0.050	% of sample	1	1/29/2014 01:48 PM

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

ALS Group USA, Corp

Date: 05-Feb-14

Client: HRL Compliance Solutions
Project: WPX RWF 11-35 Cuttings 1.28.14
Sample ID: RWF11-35-B-3
Collection Date: 1/28/2014 09:00 AM

Work Order: 14011112
Lab ID: 14011112-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>						
METALS BY ICP-MS			SW6020A		Prep Date: 1/31/2014	Analyst: RH
Arsenic	3.8		2.3	mg/Kg-dry	5	2/1/2014 03:34 AM
MOISTURE			A2540 G			Analyst: AT
Moisture	25		0.050	% of sample	1	1/29/2014 01:48 PM

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

ALS Group USA, Corp**Date:** 05-Feb-14**Client:** HRL Compliance Solutions**Project:** WPX RWF 11-35 Cuttings 1.28.14**Work Order:** 14011112**Sample ID:** RWF11-35-B-4**Lab ID:** 14011112-05**Collection Date:** 1/28/2014 09:05 AM**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>						
METALS BY ICP-MS			SW6020A		Prep Date: 1/31/2014	Analyst: RH
Arsenic	4.5		2.0	mg/Kg-dry	5	2/1/2014 03:56 AM
MOISTURE			A2540 G			Analyst: AT
Moisture	20		0.050	% of sample	1	1/29/2014 01:48 PM

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

ALS Group USA, Corp

Date: 05-Feb-14

Client: HRL Compliance Solutions
Project: WPX RWF 11-35 Cuttings 1.28.14
Sample ID: RWF11-35-B-5
Collection Date: 1/28/2014 09:10 AM

Work Order: 14011112
Lab ID: 14011112-06
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS			SW6020A		Prep Date: 1/31/2014	Analyst: RH
Arsenic	4.5		2.0	mg/Kg-dry	5	2/1/2014 04:02 AM
MOISTURE			A2540 G			Analyst: AT
Moisture	17		0.050	% of sample	1	1/29/2014 01:48 PM

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

Client: HRL Compliance Solutions
Work Order: 14011112
Project: WPX RWF 11-35 Cuttings 1.28.14

QC BATCH REPORT

Batch ID: **55340** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-55340-55340				Units: mg/Kg		Analysis Date: 1/29/2014 05:24 PM		
Client ID:		Run ID: GC8_140129C				SeqNo: 2628019		Prep Date: 1/29/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	4.2								
Surr: 4-Terphenyl-d14	0.993	0	1.667	0	59.6	39-115	0			

LCS		Sample ID: DLCSS1-55340-55340				Units: mg/Kg		Analysis Date: 1/29/2014 05:54 PM		
Client ID:		Run ID: GC8_140129C				SeqNo: 2628020		Prep Date: 1/29/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	140.5	4.2	166.7	0	84.3	49-124	0			
Surr: 4-Terphenyl-d14	0.7813	0	1.667	0	46.9	39-115	0			

MS		Sample ID: 14011073-01B MS				Units: mg/Kg		Analysis Date: 1/29/2014 06:24 PM		
Client ID:		Run ID: GC8_140129C				SeqNo: 2628021		Prep Date: 1/29/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	258.6	8.3	330.6	0	78.2	49-130	0			
Surr: 4-Terphenyl-d14	1.411	0	3.306	0	42.7	39-115	0			

MSD		Sample ID: 14011073-01B MSD				Units: mg/Kg		Analysis Date: 1/29/2014 06:54 PM		
Client ID:		Run ID: GC8_140129C				SeqNo: 2628022		Prep Date: 1/29/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	242.5	8.2	326.1	0	74.4	49-130	258.6	6.41	30	
Surr: 4-Terphenyl-d14	1.368	0	3.261	0	42	39-115	1.411	3.07	30	

The following samples were analyzed in this batch:

14011112-01B

Client: HRL Compliance Solutions
Work Order: 14011112
Project: WPX RWF 11-35 Cuttings 1.28.14

QC BATCH REPORT

Batch ID: **55347** Instrument ID **GC10** Method: **SW8015**

MBLK		Sample ID: MBLK-55347-55347				Units: µg/Kg		Analysis Date: 1/29/2014 11:48 PM		
Client ID:		Run ID: GC10_140129B				SeqNo: 2628110		Prep Date: 1/29/2014		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>	5245	0	5000	0	105	50-150	0			

LCS		Sample ID: LCS-55347-55347				Units: µg/Kg		Analysis Date: 1/29/2014 10:36 PM		
Client ID:		Run ID: GC10_140129B				SeqNo: 2628109		Prep Date: 1/29/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	508300	2,500	500000	0	102	70-130	0			
<i>Surr: Toluene-d8</i>	5589	0	5000	0	112	50-150	0			

MS		Sample ID: 14011115-01A MS				Units: µg/Kg		Analysis Date: 1/30/2014 08:54 AM		
Client ID:		Run ID: GC10_140129B				SeqNo: 2628114		Prep Date: 1/29/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	471000	2,500	500000	0	94.2	70-130	0			
<i>Surr: Toluene-d8</i>	5602	0	5000	0	112	50-150	0			

MSD		Sample ID: 14011115-01A MSD				Units: µg/Kg		Analysis Date: 1/30/2014 09:18 AM		
Client ID:		Run ID: GC10_140129B				SeqNo: 2628115		Prep Date: 1/29/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	463800	2,500	500000	0	92.8	70-130	471000	1.54	30	
<i>Surr: Toluene-d8</i>	5492	0	5000	0	110	50-150	5602	1.98	30	

The following samples were analyzed in this batch:

14011112-01A

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

Client: HRL Compliance Solutions
Work Order: 14011112
Project: WPX RWF 11-35 Cuttings 1.28.14

QC BATCH REPORT

Batch ID: **55376** Instrument ID **HG1** Method: **SW7471**

MBLK		Sample ID: MBLK-55376-55376					Units: mg/Kg		Analysis Date: 1/30/2014 03:15 PM		
Client ID:			Run ID: HG1_140130A			SeqNo: 2628699		Prep Date: 1/30/2014		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-55376-55376					Units: mg/Kg		Analysis Date: 1/30/2014 03:18 PM		
Client ID:			Run ID: HG1_140130A			SeqNo: 2628700		Prep Date: 1/30/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury 0.1822 0.020 0.1665 0 109 80-120 0

MS		Sample ID: 14011124-02AMS					Units: mg/Kg		Analysis Date: 1/30/2014 03:45 PM		
Client ID:			Run ID: HG1_140130A			SeqNo: 2628715		Prep Date: 1/30/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury 0.1447 0.014 0.1168 0.02275 104 75-125 0

MSD		Sample ID: 14011124-02AMSD				Units: mg/Kg		Analysis Date: 1/30/2014 03:47 PM		
Client ID:			Run ID: HG1_140130A			SeqNo: 2628716		Prep Date: 1/30/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1421 0.014 0.1166 0.02275 102 75-125 0.1447 1.82 35

The following samples were analyzed in this batch:

1401112-01B

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

Client: HRL Compliance Solutions
Work Order: 14011112
Project: WPX RWF 11-35 Cuttings 1.28.14

QC BATCH REPORT

Batch ID: **55359** Instrument ID **ICPMS2** Method: **SW6020A**

DUP		Sample ID: 14011115-02CDUP				Units: mg/L		Analysis Date: 1/31/2014 12:11 PM		
Client ID:		Run ID: ICPMS2_140131A				SeqNo: 2629907		Prep Date: 1/31/2014		DF: 20
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	34.06	10	0	0	0	0-0	34.68	1.8		
Magnesium	31.24	4.0	0	0	0	0-0	31.72	1.52		
Sodium	233	4.0	0	0	0	0-0	230.4	1.12		

DUP		Sample ID: 14011115-02CDUP				Units: none		Analysis Date: 1/31/2014		
Client ID:		Run ID: SAR_140131A				SeqNo: 2629937		Prep Date: 1/31/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	6.936	0.010	0	0	0		6.803	1.94	50	

The following samples were analyzed in this batch:

14011112-01C

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

Client: HRL Compliance Solutions
Work Order: 14011112
Project: WPX RWF 11-35 Cuttings 1.28.14

QC BATCH REPORT

Batch ID: **55414** Instrument ID **ICPMS2** Method: **SW6020A**

MBLK		Sample ID: MBLK-55414-55414				Units: mg/Kg		Analysis Date: 2/1/2014 03:07 AM		
Client ID:		Run ID: ICPMS2_140131A				SeqNo: 2630695		Prep Date: 1/31/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	ND	0.10								
Chromium	ND	0.25								
Copper	ND	0.25								
Lead	0.00129	0.25								J
Nickel	ND	0.25								
Selenium	ND	0.25								
Silver	ND	0.25								
Zinc	0.1046	0.50								J

LCS		Sample ID: LCS-55414-55414				Units: mg/Kg		Analysis Date: 2/1/2014 03:12 AM		
Client ID:		Run ID: ICPMS2_140131A				SeqNo: 2630696		Prep Date: 1/31/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.6	0.25	5	0	92	80-120	0			
Barium	4.664	0.25	5	0	93.3	80-120	0			
Cadmium	4.65	0.10	5	0	93	80-120	0			
Chromium	4.64	0.25	5	0	92.8	80-120	0			
Copper	4.619	0.25	5	0	92.4	80-120	0			
Lead	4.674	0.25	5	0	93.5	80-120	0			
Nickel	4.597	0.25	5	0	91.9	80-120	0			
Selenium	4.622	0.25	5	0	92.4	80-120	0			
Silver	4.706	0.25	5	0	94.1	80-120	0			
Zinc	4.773	0.50	5	0	95.5	80-120	0			

MS		Sample ID: 14011162-04BMS				Units: mg/Kg		Analysis Date: 2/1/2014 06:42 AM		
Client ID:		Run ID: ICPMS2_140131A				SeqNo: 2630749		Prep Date: 1/31/2014		DF: 4
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.62	1.3	6.402	7.384	50.6	75-125	0			S
Barium	46.56	1.3	6.402	58	-179	75-125	0			SO
Cadmium	5.905	0.51	6.402	0.1874	89.3	75-125	0			
Chromium	8.092	1.3	6.402	1.941	96.1	75-125	0			
Copper	18.09	1.3	6.402	13.97	64.3	75-125	0			S
Lead	8.686	1.3	6.402	3.262	84.7	75-125	0			
Nickel	9.242	1.3	6.402	3.486	89.9	75-125	0			
Selenium	6.21	1.3	6.402	0.5712	88.1	75-125	0			
Silver	5.506	1.3	6.402	0.01379	85.8	75-125	0			
Zinc	18.77	2.6	6.402	13.79	77.9	75-125	0			

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

Client: HRL Compliance Solutions
Work Order: 14011112
Project: WPX RWF 11-35 Cuttings 1.28.14

QC BATCH REPORT

Batch ID: **55414** Instrument ID **ICPMS2** Method: **SW6020A**

MSD		Sample ID: 14011162-04BMSD				Units: mg/Kg		Analysis Date: 2/1/2014 06:47 AM		
Client ID:		Run ID: ICPMS2_140131A				SeqNo: 2630750		Prep Date: 1/31/2014		DF: 4
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.59	1.3	6.527	7.384	49.1	75-125	10.62	0.352	25	S
Barium	53.63	1.3	6.527	58	-67	75-125	46.56	14.1	25	SO
Cadmium	6.209	0.52	6.527	0.1874	92.2	75-125	5.905	5.01	25	
Chromium	8.031	1.3	6.527	1.941	93.3	75-125	8.092	0.755	25	
Copper	19.99	1.3	6.527	13.97	92.2	75-125	18.09	9.99	25	
Lead	8.83	1.3	6.527	3.262	85.3	75-125	8.686	1.64	25	
Nickel	9.146	1.3	6.527	3.486	86.7	75-125	9.242	1.04	25	
Selenium	6.705	1.3	6.527	0.5712	94	75-125	6.21	7.67	25	
Silver	5.76	1.3	6.527	0.01379	88	75-125	5.506	4.51	25	
Zinc	19.09	2.6	6.527	13.79	81.2	75-125	18.77	1.65	25	

The following samples were analyzed in this batch:

14011112-01B	14011112-02A	14011112-03A
14011112-04A	14011112-05A	14011112-06A

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

Client: HRL Compliance Solutions
Work Order: 14011112
Project: WPX RWF 11-35 Cuttings 1.28.14

QC BATCH REPORT

Batch ID: **55338** Instrument ID **SVMS8** Method: **SW8270**

MBLK		Sample ID: SBLKS1-55338-55338				Units: µg/Kg		Analysis Date: 1/30/2014 09:57 AM		
Client ID:		Run ID: SVMS8_140130A				SeqNo: 2628151		Prep Date: 1/29/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	6.7								
Acenaphthylene	ND	6.7								
Anthracene	ND	6.7								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(g,h,i)perylene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Chrysene	ND	6.7								
Dibenzo(a,h)anthracene	ND	6.7								
Fluoranthene	ND	6.7								
Fluorene	ND	6.7								
Indeno(1,2,3-cd)pyrene	ND	6.7								
Naphthalene	ND	6.7								
Pyrene	ND	6.7								
<i>Surr: 2-Fluorobiphenyl</i>	1107	0	1667	0	66.4	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1562	0	1667	0	93.7	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1037	0	1667	0	62.2	37-107	0			

LCS		Sample ID: SLCSS1-55338-55338				Units: µg/Kg		Analysis Date: 1/30/2014 10:17 AM		
Client ID:		Run ID: SVMS8_140130A				SeqNo: 2628152		Prep Date: 1/29/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	463	6.7	666.7	0	69.4	45-110	0			
Acenaphthylene	494.3	6.7	666.7	0	74.1	45-105	0			
Anthracene	572	6.7	666.7	0	85.8	55-105	0			
Benzo(a)anthracene	589	6.7	666.7	0	88.3	50-110	0			
Benzo(a)pyrene	610	6.7	666.7	0	91.5	50-110	0			
Benzo(b)fluoranthene	631.3	6.7	666.7	0	94.7	45-115	0			
Benzo(g,h,i)perylene	558.7	6.7	666.7	0	83.8	40-125	0			
Benzo(k)fluoranthene	607.3	6.7	666.7	0	91.1	45-115	0			
Chrysene	571.7	6.7	666.7	0	85.7	55-110	0			
Dibenzo(a,h)anthracene	564.7	6.7	666.7	0	84.7	40-125	0			
Fluoranthene	613.3	6.7	666.7	0	92	55-115	0			
Fluorene	546.3	6.7	666.7	0	81.9	50-110	0			
Indeno(1,2,3-cd)pyrene	579.3	6.7	666.7	0	86.9	40-120	0			
Naphthalene	472	6.7	666.7	0	70.8	40-105	0			
Pyrene	583	6.7	666.7	0	87.4	45-125	0			
<i>Surr: 2-Fluorobiphenyl</i>	1206	0	1667	0	72.4	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1686	0	1667	0	101	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1099	0	1667	0	65.9	37-107	0			

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

Client: HRL Compliance Solutions
Work Order: 14011112
Project: WPX RWF 11-35 Cuttings 1.28.14

QC BATCH REPORT

Batch ID: **55338** Instrument ID **SVMS8** Method: **SW8270**

MS				Sample ID: 1401974-01B MS			Units: µg/Kg		Analysis Date: 1/30/2014 11:58 AM	
Client ID:		Run ID: SVMS8_140130A			SeqNo: 2628265		Prep Date: 1/29/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	850.4	13	1293	0	65.7	45-110	0			
Acenaphthylene	891.7	13	1293	0	68.9	45-105	0			
Anthracene	1031	13	1293	0	79.7	55-105	0			
Benzo(a)anthracene	1036	13	1293	0	80.1	50-110	0			
Benzo(a)pyrene	1095	13	1293	0	84.7	50-110	0			
Benzo(b)fluoranthene	1152	13	1293	0	89	45-115	0			
Benzo(g,h,i)perylene	1051	13	1293	0	81.2	40-125	0			
Benzo(k)fluoranthene	1139	13	1293	0	88	45-115	0			
Chrysene	975.2	13	1293	0	75.4	55-110	0			
Dibenzo(a,h)anthracene	1054	13	1293	0	81.5	40-125	0			
Fluoranthene	1110	13	1293	0	85.8	55-115	0			
Fluorene	987.5	13	1293	0	76.3	50-110	0			
Indeno(1,2,3-cd)pyrene	1103	13	1293	0	85.3	40-120	0			
Naphthalene	859.4	13	1293	0	66.4	40-105	0			
Pyrene	1020	13	1293	0	78.8	45-125	0			
Surr: 2-Fluorobiphenyl	2159	0	3233	0	66.8	12-100	0			
Surr: 4-Terphenyl-d14	2911	0	3233	0	90	25-137	0			
Surr: Nitrobenzene-d5	1950	0	3233	0	60.3	37-107	0			

MSD				Sample ID: 1401974-01B MSD			Units: µg/Kg		Analysis Date: 1/30/2014 12:19 PM	
Client ID:		Run ID: SVMS8_140130A			SeqNo: 2628266		Prep Date: 1/29/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	844.4	13	1303	0	64.8	45-110	850.4	0.709	30	
Acenaphthylene	899.1	13	1303	0	69	45-105	891.7	0.819	30	
Anthracene	1020	13	1303	0	78.3	55-105	1031	1.09	30	
Benzo(a)anthracene	1052	13	1303	0	80.7	50-110	1036	1.55	30	
Benzo(a)pyrene	1121	13	1303	0	86	50-110	1095	2.27	30	
Benzo(b)fluoranthene	1169	13	1303	0	89.7	45-115	1152	1.53	30	
Benzo(g,h,i)perylene	1096	13	1303	0	84.1	40-125	1051	4.25	30	
Benzo(k)fluoranthene	1168	13	1303	0	89.6	45-115	1139	2.49	30	
Chrysene	1006	13	1303	0	77.2	55-110	975.2	3.11	30	
Dibenzo(a,h)anthracene	1107	13	1303	0	84.9	40-125	1054	4.89	30	
Fluoranthene	1087	13	1303	0	83.4	55-115	1110	2.15	30	
Fluorene	978.6	13	1303	0	75.1	50-110	987.5	0.904	30	
Indeno(1,2,3-cd)pyrene	1147	13	1303	0	88	40-120	1103	3.86	30	
Naphthalene	851.5	13	1303	0	65.3	40-105	859.4	0.923	30	
Pyrene	1027	13	1303	0	78.8	45-125	1020	0.746	30	
Surr: 2-Fluorobiphenyl	2154	0	3258	0	66.1	12-100	2159	0.217	40	
Surr: 4-Terphenyl-d14	2945	0	3258	0	90.4	25-137	2911	1.17	40	
Surr: Nitrobenzene-d5	1981	0	3258	0	60.8	37-107	1950	1.57	40	

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

Client: HRL Compliance Solutions
Work Order: 14011112
Project: WPX RWF 11-35 Cuttings 1.28.14

QC BATCH REPORT

Batch ID: **55338** Instrument ID **SVMS8** Method: **SW8270**

The following samples were analyzed in this batch:

14011112- 01B

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

Client: HRL Compliance Solutions
Work Order: 14011112
Project: WPX RWF 11-35 Cuttings 1.28.14

QC BATCH REPORT

Batch ID: **55346** Instrument ID **VMS6** Method: **SW8260B**

MBLK				Sample ID: MBLK-55346-55346				Units: µg/Kg			Analysis Date: 1/29/2014 02:23 PM		
Client ID:			Run ID: VMS6_140129A				SeqNo: 2628136			Prep Date: 1/29/2014		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	960	0	1000	0	96	70-130		0					
Surr: 4-Bromofluorobenzene	968.5	0	1000	0	96.8	70-130		0					
Surr: Dibromofluoromethane	953.5	0	1000	0	95.4	70-130		0					
Surr: Toluene-d8	1012	0	1000	0	101	70-130		0					

LCS				Sample ID: LCS-55346-55346			Units: µg/Kg		Analysis Date: 1/29/2014 01:05 PM		
Client ID:		Run ID: VMS6_140129A			SeqNo: 2628135		Prep Date: 1/29/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1089	30	1000	0	109	75-125	0				
Ethylbenzene	1080	30	1000	0	108	75-125	0				
m,p-Xylene	2144	60	2000	0	107	80-125	0				
o-Xylene	1066	30	1000	0	107	75-125	0				
Toluene	1084	30	1000	0	108	70-125	0				
Xylenes, Total	3210	90	3000	0	107	75-125	0				
Surr: 1,2-Dichloroethane-d4	968.5	0	1000	0	96.8	70-130	0				
Surr: 4-Bromofluorobenzene	981.5	0	1000	0	98.2	70-130	0				
Surr: Dibromofluoromethane	986	0	1000	0	98.6	70-130	0				
Surr: Toluene-d8	1012	0	1000	0	101	70-130	0				

MS				Sample ID: 14011107-05A MS				Units: µg/Kg		Analysis Date: 1/29/2014 10:49 PM	
Client ID:			Run ID: VMS5_140129A			SeqNo: 2627959		Prep Date: 1/29/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1066	30	1000	0	107	75-125	0				
Ethylbenzene	1058	30	1000	0	106	75-125	0				
m,p-Xylene	2140	60	2000	0	107	80-125	0				
o-Xylene	1069	30	1000	0	107	75-125	0				
Toluene	1043	30	1000	0	104	70-125	0				
Xylenes, Total	3210	90	3000	0	107	75-125	0				
Surr: 1,2-Dichloroethane-d4	970	0	1000	0	97	70-130	0				
Surr: 4-Bromofluorobenzene	1040	0	1000	0	104	70-130	0				
Surr: Dibromofluoromethane	962.5	0	1000	0	96.2	70-130	0				
Surr: Toluene-d8	979	0	1000	0	97.9	70-130	0				

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

Client: HRL Compliance Solutions
Work Order: 14011112
Project: WPX RWF 11-35 Cuttings 1.28.14

QC BATCH REPORT

Batch ID: **55346** Instrument ID **VMS6** Method: **SW8260B**

MSD				Sample ID: 14011107-05A MSD				Units: µg/Kg		Analysis Date: 1/29/2014 11:15 PM	
Client ID:			Run ID: VMS5_140129A			SeqNo: 2627960		Prep Date: 1/29/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1040	30	1000	0	104	75-125	1066	2.52	30		
Ethylbenzene	1048	30	1000	0	105	75-125	1058	0.997	30		
m,p-Xylene	2119	60	2000	0	106	80-125	2140	1.01	30		
o-Xylene	1060	30	1000	0	106	75-125	1069	0.893	30		
Toluene	1017	30	1000	0	102	70-125	1043	2.52	30		
Xylenes, Total	3178	90	3000	0	106	75-125	3210	0.971	30		
Surr: 1,2-Dichloroethane-d4	978.5	0	1000	0	97.8	70-130	970	0.872	30		
Surr: 4-Bromofluorobenzene	1020	0	1000	0	102	70-130	1040	1.89	30		
Surr: Dibromofluoromethane	961	0	1000	0	96.1	70-130	962.5	0.156	30		
Surr: Toluene-d8	979	0	1000	0	97.9	70-130	979	0	30		

The following samples were analyzed in this batch:

14011112-01A

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

Client: HRL Compliance Solutions
Work Order: 14011112
Project: WPX RWF 11-35 Cuttings 1.28.14

QC BATCH REPORT

Batch ID: **55357** Instrument ID **WETCHEM** Method: **SW9045D**

LCS					Sample ID: LCS-55357-55357					Units: s.u.			Analysis Date: 1/29/2014 03:00 PM				
Client ID:					Run ID: WETCHEM_140129K					SeqNo: 2627696			Prep Date: 1/29/2014			DF: 1	
Analyte					Result		PQL	SPK Val	SPK Ref Value	%REC		Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
pH					3.93		0	4	0	98.2		90-110	0				

DUP					Sample ID: 14011073-01B DUP					Units: s.u.			Analysis Date: 1/29/2014 03:00 PM		
Client ID:				Run ID: WETCHEM_140129K				SeqNo: 2627698			Prep Date: 1/29/2014			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	7.99	0.996	20					

The following samples were analyzed in this batch:

14011112-01B

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

Client: HRL Compliance Solutions
Work Order: 14011112
Project: WPX RWF 11-35 Cuttings 1.28.14

QC BATCH REPORT

Batch ID: **55359** Instrument ID **WETCHEM** Method: **USDA H60 Method**

DUP		Sample ID: 14011115-02C DUP				Units: mmhos/cm @25°C		Analysis Date: 1/31/2014 11:00 AM		
Client ID:		Run ID: WETCHEM_140131K				SeqNo: 2630120		Prep Date: 1/31/2014		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	1.797	0.050	0	0	0		1.832	1.93	50	

The following samples were analyzed in this batch:

14011112-01C

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

Client: HRL Compliance Solutions
Work Order: 14011112
Project: WPX RWF 11-35 Cuttings 1.28.14

QC BATCH REPORT

Batch ID: **55395** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK		Sample ID: MBLK-55395-55395				Units: mg/Kg		Analysis Date: 1/30/2014 04:30 PM		
Client ID:		Run ID: WETCHEM_140130U				SeqNo: 2628970		Prep Date: 1/30/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 0.50

LCS		Sample ID: LCS-55395-55395				Units: mg/Kg		Analysis Date: 1/30/2014 04:30 PM		
Client ID:		Run ID: WETCHEM_140130U				SeqNo: 2628969		Prep Date: 1/30/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.924 0.50 2 0 96.2 80-120 0

MS		Sample ID: 14011115-03B MS				Units: mg/Kg		Analysis Date: 1/30/2014 04:30 PM		
Client ID:		Run ID: WETCHEM_140130U				SeqNo: 2628965		Prep Date: 1/30/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.865 0.50 1.992 0.02756 92.2 75-125 0

MS		Sample ID: 14011115-03B MSI				Units: mg/Kg		Analysis Date: 1/30/2014 04:30 PM		
Client ID:		Run ID: WETCHEM_140130U				SeqNo: 2628967		Prep Date: 1/30/2014		DF: 100
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1051 50 1077 0.02756 97.6 75-125 0

MSD		Sample ID: 14011115-03B MSD				Units: mg/Kg		Analysis Date: 1/30/2014 04:30 PM		
Client ID:		Run ID: WETCHEM_140130U				SeqNo: 2628966		Prep Date: 1/30/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.865 0.50 1.992 0.02756 92.2 75-125 1.865 0 20

The following samples were analyzed in this batch:

14011112-01B

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

Client: HRL Compliance Solutions
Work Order: 14011112
Project: WPX RWF 11-35 Cuttings 1.28.14

QC BATCH REPORT

Batch ID: **R134807** Instrument ID **MOIST** Method: **A2540 G**

MBLK		Sample ID: WBLKS-R134807				Units: % of sample		Analysis Date: 1/29/2014 01:48 PM		
Client ID:		Run ID: MOIST_140129A				SeqNo: 2628003		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-R134807				Units: % of sample		Analysis Date: 1/29/2014 01:48 PM		
Client ID:		Run ID: MOIST_140129A				SeqNo: 2628002		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: 14011115-01B DUP				Units: % of sample		Analysis Date: 1/29/2014 01:48 PM		
Client ID:		Run ID: MOIST_140129A				SeqNo: 2627996		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 8.56 0.050 0 0 0 0-0 8.42 1.65 20

DUP		Sample ID: 14011118-01A DUP				Units: % of sample		Analysis Date: 1/29/2014 01:48 PM		
Client ID:		Run ID: MOIST_140129A				SeqNo: 2628000		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 15.22 0.050 0 0 0 0-0 15.21 0.0657 20

The following samples were analyzed in this batch:

14011112-01B	14011112-02A	14011112-03A
14011112-04A	14011112-05A	14011112-06A

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

Chain-of-Custody

Form 202r8

WORKORDER
#

1401112


PAGE 1 of 1




DISPOSAL ☒ By Lab or ☐ Return to Client

PROJECT NAME		SAMPLER		DATE		PAGE	
PROJECT No.		SITE ID		TURNAROUND		DISPOSAL	
COMPANY NAME		BILL TO COMPANY		By Lab		or Return to Client	
SEND REPORT TO		INVOICE ATTN TO					
ADDRESS		ADDRESS					
CITY / STATE / ZIP		CITY / STATE / ZIP					
PHONE		PHONE					
FAX		FAX					
E-MAIL		E-MAIL					
Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC
1	cuttings	So	11/28/14	8:40	3	8	
2	RWF 11-35-B-1	↓	↓	8:50	1	↓	
3	RWF 11-35-B-2	↓	↓	8:55	1	↓	
4	RWF 11-35-B-3	↓	↓	9:00	1	↓	
5	RWF 11-35-B-4	↓	↓	9:05	1	↓	
6	RWF 11-35-B-5	↓	↓	9:10	1	↓	

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

For metals or anions, please detail analytes below.

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

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY		Rec'd Wold	1/28/14	10:00
RECEIVED BY	N.M.	N.M.	1-28-14	10:00
RELINQUISHED BY		N.M.	1-28-14	10:00
RECEIVED BY		Diane F. Shaw	1/29/14	1230
RELINQUISHED BY				
RECEIVED BY				

Sample Receipt Checklist

Client Name: **HRL**

Date/Time Received: **29-Jan-14 12:30**

Work Order: **14011112**

Received by: **DS**

Checklist completed by Diane Shaw 29-Jan-14
eSignature Date

Reviewed by: Ann Preston 29-Jan-14
eSignature Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.0 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>1/29/2014 1:36:36 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:			

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

From: (970) 424-4749
Lab Hub, LLC

Origin ID: RILA



Ship Date: 28 JAN 14
ActWgt: 70.0 LB
CAD: 103923490/MET3490

Dims: 25 X 14 X 15 IN

127 E First Street

PARACHUTE, CO 81635



J14101312270326

SHIP TO: (616) 399-6070

BILL RECIPIENT

Sample receiving
ALS Holland
3352 128TH AVE

HOLLAND, MI 49424

Delivery Address Bar Code



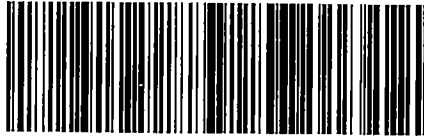
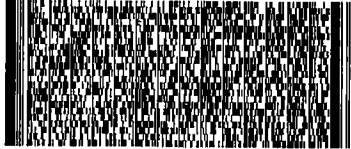
Ref # 1001-012814-1
Invoice #
PO #
Dept #

WED - 29 JAN 10:30A
PRIORITY OVERNIGHT

TRK# 7977 5231 6142
8201

XX GRRR

49424
MI-US
GRR



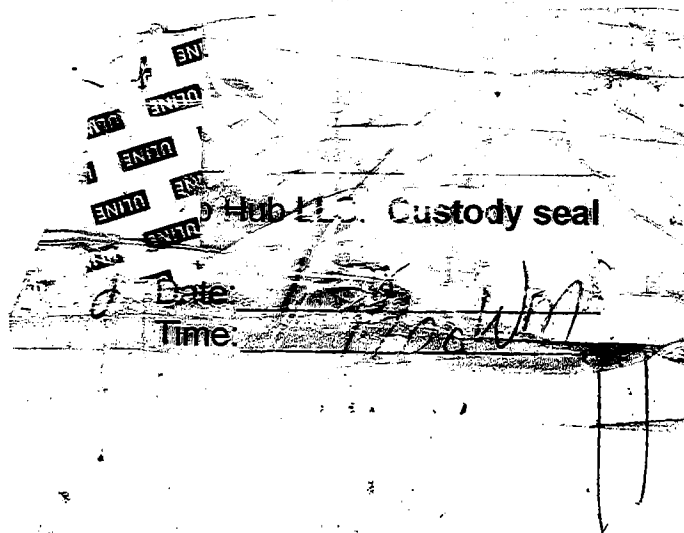
5226106507220

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2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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

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





03-Mar-2014

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

Re: **WPX RWF 11-35 Cuttings 2.27.14**

Work Order: **14021277**

Dear Mark,

ALS Environmental received 1 sample on 28-Feb-2014 10:00 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 10.

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

Sincerely,

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

Electronically approved by: Ann Preston

Ann Preston
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

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

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

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: HRL Compliance Solutions
Project: WPX RWF 11-35 Cuttings 2.27.14
Work Order: 14021277

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>
14021277-01	RWF 11-35	Soil		2/27/2014 10:00	2/28/2014 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 03-Mar-14

Client: HRL Compliance Solutions
Project: WPX RWF 11-35 Cuttings 2.27.14
Work Order: 14021277

Case Narrative

Batch 56212 MS/MSD data for Barium is not related to this project's samples. No data requires qualification.

Client: HRL Compliance Solutions
Project: WPX RWF 11-35 Cuttings 2.27.14
WorkOrder: 14021277

QUALIFIERS, ACRONYMS, UNITS

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

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

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

ALS Group USA, Corp

Date: 03-Mar-14

Client: HRL Compliance Solutions
Project: WPX RWF 11-35 Cuttings 2.27.14
Sample ID: RWF 11-35
Collection Date: 2/27/2014 10:00 AM

Work Order: 14021277
Lab ID: 14021277-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>						
METALS BY ICP-MS			SW6020A		Prep: SW3050B / 2/28/14	Analyst: ML
Barium	8,500		16	mg/Kg-dry	100	2/28/2014 10:41 PM
MOISTURE			A2540 G			Analyst: AT
Moisture	17		0.050	% of sample	1	2/28/2014 02:12 PM

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

Client: HRL Compliance Solutions
Work Order: 14021277
Project: WPX RWF 11-35 Cuttings 2.27.14

QC BATCH REPORT

Batch ID: **56212** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: MBLK-56212-56212				Units: mg/Kg		Analysis Date: 2/28/2014 08:25 PM		
Client ID:		Run ID: ICPMS1_140228A				SeqNo: 2660668		Prep Date: 2/28/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	ND	0.25								

LCS		Sample ID: LCS-56212-56212				Units: mg/Kg		Analysis Date: 2/28/2014 08:31 PM		
Client ID:		Run ID: ICPMS1_140228A				SeqNo: 2660669		Prep Date: 2/28/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	4.708	0.25	5	0	94.2	80-120	0			

MS		Sample ID: 14021215-01BMS				Units: mg/Kg		Analysis Date: 2/28/2014 09:30 PM		
Client ID:		Run ID: ICPMS1_140228A				SeqNo: 2660679		Prep Date: 2/28/2014		DF: 4
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	46.12	1.3	6.562	36	154	75-125	0			SO

MSD		Sample ID: 14021215-01BMSD				Units: mg/Kg		Analysis Date: 2/28/2014 09:36 PM		
Client ID:		Run ID: ICPMS1_140228A				SeqNo: 2660680		Prep Date: 2/28/2014		DF: 4
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	45.3	1.3	6.693	36	139	75-125	46.12	1.78	25	SO

The following samples were analyzed in this batch:

14021277-01A

Client: HRL Compliance Solutions
Work Order: 14021277
Project: WPX RWF 11-35 Cuttings 2.27.14

QC BATCH REPORT

Batch ID: **R136539** Instrument ID **MOIST** Method: **A2540 G**

MBLK		Sample ID: WBLKS-R136539				Units: % of sample		Analysis Date: 2/28/2014 02:12 PM		
Client ID:		Run ID: MOIST_140228B				SeqNo: 2661892		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-R136539				Units: % of sample		Analysis Date: 2/28/2014 02:12 PM		
Client ID:		Run ID: MOIST_140228B				SeqNo: 2661891		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 99.99 0.050 100 0 100 99.5-100.5 0

DUP		Sample ID: 14021216-04A DUP				Units: % of sample		Analysis Date: 2/28/2014 02:12 PM		
Client ID:		Run ID: MOIST_140228B				SeqNo: 2661874		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 15.31 0.050 0 0 0 0-0 15.82 3.28 20

DUP		Sample ID: 14021277-01A DUP				Units: % of sample		Analysis Date: 2/28/2014 02:12 PM		
Client ID: RWF 11-35		Run ID: MOIST_140228B				SeqNo: 2661887		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 18.81 0.050 0 0 0 0-0 16.88 10.8 20

The following samples were analyzed in this batch:

14021277-01A

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



ALS Laboratory Group

HOLLAND, Michigan 49424

Chain-of-Custody

Form 202r8

WORKORDER
#

14021277

PROJECT NAME		RWF 11-35 cuttings		SAMPLER				DATE		2/27/2014		PAGE		1 of 1	
PROJECT No.				SITE ID		RWF 11-35		TURNAROUND		24 hrs		DISPOSAL		By Lab or Return to Client	
COMPANY NAME		HRL Compliance		EDD FORMAT											
SEND REPORT TO		Mumby & Blaney		PURCHASE ORDER											
ADDRESS				BILL TO COMPANY		WPX Energy									
CITY / STATE / ZIP				INVOICE ATTN TO		Karolina Blaney; Leo Braun									
PHONE				ADDRESS		1058 Co Rd 215									
FAX				CITY / STATE / ZIP		Parachure CO 81635									
E-MAIL		Karolina.blaney@wpxenergy.com & mmumby@hrlcomp.com		PHONE		970-683-2295									
Lab ID		Field ID		Matrix		Sample Date		Sample Time		# Bottles		Pres.		QC	
1		RWF 11-35		soil		2/27/2014		10:00		1		none		x x	

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

For metals or anions, please detail analytes below.

Comments:	QC PACKAGE (check below)
	<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"/>

3.25
[Signature]

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 [Signature]			
RECEIVED BY [Signature]	W. Martine	2-27	1710
RELINQUISHED BY [Signature]			
RECEIVED BY [Signature]	W. Martine	2-27	1710
RELINQUISHED BY [Signature]			
RECEIVED BY [Signature]	Diane F Shaw	2/28/14	1000

Sample Receipt Checklist

Client Name: **HRL**

Date/Time Received: **28-Feb-14 10:00**

Work Order: **14021277**

Received by: **DS**

Checklist completed by <u>Diane Shaw</u>	28-Feb-14	Reviewed by: <u>Ann Preston</u>	28-Feb-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 type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.2 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>2/28/2014 9:58:41 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: (970) 424-4749
Lab Hub, LLC
127 E First Street
PARACHUTE, CO 81635

Origin ID: RILA



J14101402070326

Ship Date: 27FEB14
ActWgt: 33.0 LB
CAD: 103923490/INET3490
Dims: 16 X 11 X 15 IN

Delivery Address Bar Code



Ref # 1001-022714-8
Invoice #
PO #
Dept #

SHIP TO: (616) 399-6070
Sample receiving
ALS Holland
3352 128TH AVE

BILL RECIPIENT

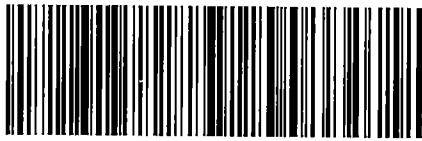
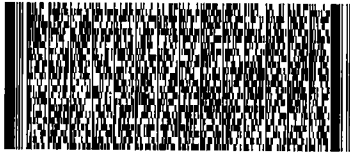
HOLLAND, MI 49424

FRI - 28 FEB 10:30A
PRIORITY OVERNIGHT

TRK# 7980 6369 4264
0201

XX GRRA

49424
MI-US
GRR



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