



31-Oct-2019

Kris Rowe
HRL Compliance Solutions, Inc
2385 F 1/2 Road
Grand Junction, CO 81505

Re: **Whiting Petroleum-Mcllenes 67-68 (BKGDS)**

Work Order: **19102079**

Dear Kris,

ALS Environmental received 3 samples on 26-Oct-2019 10:00 AM for the analyses presented in the following report.

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

Sample results are compliant with industry accepted practices and Quality Control 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 13.

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

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton", is written over a faint, larger version of the same signature.

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

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

Environmental ALS Environmental logo icon consisting of a stylized flame inside a triangle.

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RIGHT SOLUTIONS RIGHT PARTNER

Client: HRL Compliance Solutions, Inc
Project: Whiting Petroleum-McHenes 67-68 (BKGDS)
Work Order: 19102079

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>
19102079-01	BKGD 1	Soil		10/25/2019 11:10	10/26/2019 10:00	<input type="checkbox"/>
19102079-02	BKGD 2	Soil		10/25/2019 11:20	10/26/2019 10:00	<input type="checkbox"/>
19102079-03	BKGD 3	Soil		10/25/2019 11:30	10/26/2019 10:00	<input type="checkbox"/>

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
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 Reporting Limit, 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
°C	Degrees Celcius
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

Date: 31-Oct-19

Client: HRL Compliance Solutions, Inc
Project: Whiting Petroleum-McIlhenes 67-68 (BKGDS)
Sample ID: BKGD 1
Collection Date: 10/25/2019 11:10 AM

Work Order: 19102079
Lab ID: 19102079-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS							
Arsenic	4.4		0.038	0.32	mg/Kg-dry	1	10/30/2019 16:45
Method: SW6020A Prep: SW3050B / 10/30/19 Analyst: STP							
SOLUBLE CATIONS FOR SAR							
Calcium	110		2.5	5.0	mg/L	10	10/30/2019 15:35
Magnesium	14		0.50	2.0	mg/L	10	10/30/2019 15:35
Sodium	13		0.45	2.0	mg/L	10	10/30/2019 15:35
Method: SW6020A Prep: USDA Method 20B / 10/30/19 Analyst: STP							
SODIUM ADSORPTION RATIO							
Sodium Adsorption Ratio	0.30		0.010	0.010	none	1	10/30/2019
Method: USDA H60 METHOD 2 Prep: USDA Method 20B / 10/30/19 Analyst: STP							
ELECTRICAL CONDUCTIVITY (SAR)							
Electrical Conductivity @ Saturation	0.73		0.011	0.10	mmhos/cm @25°	20	10/30/2019 10:18
Method: USDA H60 METHOD 2 Prep: USDA Method 20B / 10/30/19 Analyst: QTN							
MOISTURE							
Moisture	1.2		0.10	0.10	% of sample	1	10/28/2019 12:56
Method: SW3550C Analyst: KTP							
PH							
pH	8.36		0.10	0.100	s.u.	1	10/28/2019 15:00
Temperature	21.9		0.10	0.100	°C	1	10/28/2019 15:00
Method: SW9045D Prep: EXTRACT / 10/28/19 Analyst: DNW							

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

ALS Group, USA

Date: 31-Oct-19

Client: HRL Compliance Solutions, Inc
Project: Whiting Petroleum-McIlhenes 67-68 (BKGDS)
Sample ID: BKGD 2
Collection Date: 10/25/2019 11:20 AM

Work Order: 19102079
Lab ID: 19102079-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS							
Arsenic	4.9		0.047	0.39	mg/Kg-dry	1	10/30/2019 16:47
Method: SW6020A Prep: SW3050B / 10/30/19 Analyst: STP							
SOLUBLE CATIONS FOR SAR							
Calcium	120		2.5	5.0	mg/L	10	10/30/2019 15:37
Magnesium	9.5		0.50	2.0	mg/L	10	10/30/2019 15:37
Sodium	6.8		0.45	2.0	mg/L	10	10/30/2019 15:37
Method: SW6020A Prep: USDA Method 20B / 10/30/19 Analyst: STP							
SODIUM ADSORPTION RATIO							
Sodium Adsorption Ratio	0.16		0.010	0.010	none	1	10/30/2019
Method: USDA H60 METHOD 2 Prep: USDA Method 20B / 10/30/19 Analyst: STP							
ELECTRICAL CONDUCTIVITY (SAR)							
Electrical Conductivity @ Saturation	0.72		0.011	0.10	mmhos/cm @25°	20	10/30/2019 10:18
Method: USDA H60 METHOD 2 Prep: USDA Method 20B / 10/30/19 Analyst: QTN							
MOISTURE							
Moisture	1.5		0.10	0.10	% of sample	1	10/28/2019 12:56
Method: SW3550C Analyst: KTP							
PH							
pH	8.18		0.10	0.100	s.u.	1	10/28/2019 15:00
Temperature	22.0		0.10	0.100	°C	1	10/28/2019 15:00
Method: SW9045D Prep: EXTRACT / 10/28/19 Analyst: DNW							

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

ALS Group, USA

Date: 31-Oct-19

Client: HRL Compliance Solutions, Inc
Project: Whiting Petroleum-McIlhenes 67-68 (BKGDS)
Sample ID: BKGD 3
Collection Date: 10/25/2019 11:30 AM

Work Order: 19102079
Lab ID: 19102079-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS							
Arsenic	4.4		0.047	0.39	mg/Kg-dry	1	10/30/2019 16:49
Method: SW6020A Prep: SW3050B / 10/30/19 Analyst: STP							
SOLUBLE CATIONS FOR SAR							
Calcium	170		2.5	5.0	mg/L	10	10/30/2019 15:38
Magnesium	19		0.50	2.0	mg/L	10	10/30/2019 15:38
Sodium	6.3		0.45	2.0	mg/L	10	10/30/2019 15:38
Method: SW6020A Prep: USDA Method 20B / 10/30/19 Analyst: STP							
SODIUM ADSORPTION RATIO							
Sodium Adsorption Ratio	0.12		0.010	0.010	none	1	10/30/2019
Method: USDA H60 METHOD 2 Prep: USDA Method 20B / 10/30/19 Analyst: STP							
ELECTRICAL CONDUCTIVITY (SAR)							
Electrical Conductivity @ Saturation	1.1		0.011	0.10	mmhos/cm @25°	20	10/30/2019 10:18
Method: USDA H60 METHOD 2 Prep: USDA Method 20B / 10/30/19 Analyst: QTN							
MOISTURE							
Moisture	1.5		0.10	0.10	% of sample	1	10/28/2019 12:56
Method: SW3550C Analyst: KTP							
PH							
pH	7.76		0.10	0.100	s.u.	1	10/28/2019 15:00
Temperature	22.0		0.10	0.100	°C	1	10/28/2019 15:00
Method: SW9045D Prep: EXTRACT / 10/28/19 Analyst: DNW							

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

Client: HRL Compliance Solutions, Inc
Work Order: 19102079
Project: Whiting Petroleum-McHenes 67-68 (BKGDS)

QC BATCH REPORT

Batch ID: **144829** Instrument ID **ICPMS3** Method: **SW6020A**

DUP	Sample ID: 19102081-03ADUP				Units: mg/L		Analysis Date: 10/30/2019 03:45 P			
Client ID:	Run ID: ICPMS3_191030A			SeqNo: 6022979		Prep Date: 10/30/2019		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	132.1	5.0	0	0	0	0-0	146.3	10.2		
Magnesium	18.08	2.0	0	0	0	0-0	20.15	10.9		
Sodium	11.94	2.0	0	0	0	0-0	13.33	11		

The following samples were analyzed in this batch:

19102079-01A	19102079-02A	19102079-03A
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Client: HRL Compliance Solutions, Inc
Work Order: 19102079
Project: Whiting Petroleum-McHenes 67-68 (BKGDS)

QC BATCH REPORT

Batch ID: **144854** Instrument ID **ICPMS3** Method: **SW6020A**

MBLK		Sample ID: MBLK-144854-144854				Units: mg/Kg		Analysis Date: 10/30/2019 04:38 P		
Client ID:		Run ID: ICPMS3_191030B				SeqNo: 6023330		Prep Date: 10/30/2019		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.25								

LCS		Sample ID: LCS-144854-144854				Units: mg/Kg		Analysis Date: 10/30/2019 04:40 P		
Client ID:		Run ID: ICPMS3_191030B				SeqNo: 6023333		Prep Date: 10/30/2019		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.921	0.25	5	0	98.4	80-120	0			

MS		Sample ID: 19102263-02AMS				Units: mg/Kg		Analysis Date: 10/30/2019 05:09 P		
Client ID:		Run ID: ICPMS3_191030B				SeqNo: 6023377		Prep Date: 10/30/2019		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	17.63	0.40	7.974	9.932	96.6	75-125	0			

MSD		Sample ID: 19102263-02AMSD				Units: mg/Kg		Analysis Date: 10/30/2019 05:10 P		
Client ID:		Run ID: ICPMS3_191030B				SeqNo: 6023379		Prep Date: 10/30/2019		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	17.41	0.41	8.104	9.932	92.2	75-125	17.63	1.31	20	

The following samples were analyzed in this batch:

19102079-01A	19102079-02A	19102079-03A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: HRL Compliance Solutions, Inc
Work Order: 19102079
Project: Whiting Petroleum-McHenes 67-68 (BKGDS)

QC BATCH REPORT

Batch ID: **144829** Instrument ID **SAR** Method: **USDA H60 Metho**

DUP		Sample ID: 19102081-03ADUP				Units: none		Analysis Date: 10/30/2019		
Client ID:		Run ID: SAR_191030A			SeqNo: 6023286		Prep Date: 10/30/2019		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	0.2584	0.010	0	0	0		0.274	5.83	50	

The following samples were analyzed in this batch:

19102079-01A	19102079-02A	19102079-03A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: HRL Compliance Solutions, Inc
Work Order: 19102079
Project: Whiting Petroleum-McIlhenes 67-68 (BKGDS)

QC BATCH REPORT

Batch ID: **144739** Instrument ID **WETCHEM** Method: **SW9045D**

LCS		Sample ID: LCS-144739-144739				Units: s.u.		Analysis Date: 10/28/2019 03:00 P			
Client ID:		Run ID: WETCHEM_191028L		SeqNo: 6016719		Prep Date: 10/28/2019		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
pH	3.99	0.10	4	0	99.8	90-110	0				

DUP		Sample ID: 19102079-01A DUP				Units: s.u.		Analysis Date: 10/28/2019 03:00 P			
Client ID: BKGD 1		Run ID: WETCHEM_191028L		SeqNo: 6016721		Prep Date: 10/28/2019		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
pH	8.42	0.10	0	0	0	0-0	8.36	0.715	20		
Temperature	21.9	0.10	0	0	0		21.9	0			

The following samples were analyzed in this batch:

19102079-01A	19102079-02A	19102079-03A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: HRL Compliance Solutions, Inc
Work Order: 19102079
Project: Whiting Petroleum-McIlhenes 67-68 (BKGDS)

QC BATCH REPORT

Batch ID: **R274011** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R274011				Units: % of sample			Analysis Date: 10/28/2019 12:56 P		
Client ID:		Run ID: MOIST_191028C				SeqNo: 6018570		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Moisture	U	0.10									

LCS		Sample ID: LCS-R274011				Units: % of sample			Analysis Date: 10/28/2019 12:56 P		
Client ID:		Run ID: MOIST_191028C				SeqNo: 6018569		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Moisture	100	0.10	100	0	100	98-102	0				

DUP		Sample ID: 19101932-04B DUP				Units: % of sample			Analysis Date: 10/28/2019 12:56 P		
Client ID:		Run ID: MOIST_191028C				SeqNo: 6018551		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Moisture	5.43	0.10	0	0	0	0-0	5.67	4.32	10		

DUP		Sample ID: 19101968-02B DUP				Units: % of sample			Analysis Date: 10/28/2019 12:56 P		
Client ID:		Run ID: MOIST_191028C				SeqNo: 6018556		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Moisture	14.51	0.10	0	0	0	0-0	14.77	1.78	10		

The following samples were analyzed in this batch:

19102079-01A	19102079-02A	19102079-03A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.



ALS Laboratory Group

3352 126th Avenue, Holland, MI 49424
 TF: 616 399 6070 FX: 616 399 6185

Chain-of-Custody

WORKORDER #	19102079
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Form 202r8

PROJECT NAME		Whiting Petroleum-McClenes 67-68 (BKGD8)		SAMPLER		Matt Smith		DATE		10/25/2019		PAGE		1 of 1	
PROJECT No.				SITE ID		McClenes 67-68		TURNAROUND		2-Day Turnaround		DISPOSAL		By Lab or Return to Client	
COMPANY NAME		HRL COMPLIANCE SOLUTIONS Inc.		BILL TO COMPANY		HRL COMPLIANCE SOLUTIONS Inc.		DRO							
SEND REPORT TO		KRIS ROWE & Matt Smith		INVOICE ATTN TO		Melissa DeRose		GRO							
ADDRESS		2385 F 1/2		ADDRESS		2385 F 1/2 Road		BTEX							
CITY / STATE / ZIP		GRAND JUNCTION CO 81505		CITY / STATE / ZIP		Grand Junction, CO 81505		910-1 Metals							
PHONE		970-243-3271		PHONE		970-243-3271		Semi Vols - PAH							
FAX		970-243-3280		FAX				SAR / EC / pH							
E-MAIL		KROWE@HRLCOMP.COM		E-MAIL		mderose@HRLcomp.com		ARSENIC							
Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC								
1	BKGD 1	S	10/25/2019	11:10	1										
2	BKGD 2	S	10/25/2019	11:20	1										
3	BKGD 3	S	10/25/2019	11:30	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: Keep soil for possible additional analysis SR2 3.2-L	QC PACKAGE (check below)
	<input type="checkbox"/> LEVEL II (Standard QC)
	<input type="checkbox"/> LEVEL III (Std QC + forms)
	<input type="checkbox"/> LEVEL IV (Std QC + forms + raw data)
Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-6035	

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	<i>[Signature]</i>	Matt Smith	10/25/2019	1200
RECEIVED BY	<i>[Signature]</i>	Diane E. Shea	10/26/19	1000
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

Sample Receipt Checklist

Client Name: **HRL**

Date/Time Received: **26-Oct-19 10:00**

Work Order: **19102079**

Received by: **DS**

Checklist completed by Diane Shaw 26-Oct-19
eSignature Date

Reviewed by: Chad Whilton 28-Oct-19
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>3.2/3.2 c</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>10/26/2019 11:09:39 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:	<u></u>		

Login Notes:



Client Contacted: _____ Date Contacted: _____ Person Contacted: _____
 Contacted By: _____ Regarding: _____

Comments:

CorrectiveAction: