



30-Oct-2019

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

Re: **Whiting Petroleum-McIlhenes 67-68 (Pit)**

Work Order: **19102080**

Dear Kris,

ALS Environmental received 2 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 10.

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".

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 

[www.alsglobal.com](http://www.alsglobal.com)

RIGHT SOLUTIONS RIGHT PARTNER

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**Client:** HRL Compliance Solutions, Inc  
**Project:** Whiting Petroleum-McIlhenes 67-68 (Pit)  
**Work Order:** 19102080

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**Work Order Sample Summary**

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<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>
19102080-01	Pile #1	Soil		10/25/2019 10:15	10/26/2019 10:00	<input type="checkbox"/>
19102080-02	Pile #2	Soil		10/25/2019 10:25	10/26/2019 10:00	<input type="checkbox"/>

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<b><u>Qualifier</u></b>	<b><u>Description</u></b>
*	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.

<b><u>Acronym</u></b>	<b><u>Description</u></b>
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

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

# ALS Group, USA

Date: 30-Oct-19

**Client:** HRL Compliance Solutions, Inc  
**Project:** Whiting Petroleum-McIlhenes 67-68 (Pit)  
**Sample ID:** Pile #1  
**Collection Date:** 10/25/2019 10:15 AM

**Work Order:** 19102080  
**Lab ID:** 19102080-01  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015M</b>		Prep: SW3550 / 10/28/19		Analyst: <b>KB</b>
<b>DRO (C10-C28)</b>	<b>140</b>		<b>2.9</b>	<b>5.1</b>	<b>mg/Kg-dry</b>	1	10/29/2019 13:42
Surr: 4-Terphenyl-d14	59.5			33-111	%REC	1	10/29/2019 13:42
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>		Prep: SW5035 / 10/28/19		Analyst: <b>KB</b>
GRO (C6-C10)	U		2.1	5.0	mg/Kg	1	10/30/2019 10:50
Surr: Toluene-d8	97.6			71-123	%REC	1	10/30/2019 10:50
<b>VOLATILE ORGANIC COMPOUNDS</b>							
			Method: <b>SW8260C</b>		Prep: SW5035 / 10/28/19		Analyst: <b>MF</b>
Benzene	U		0.0051	0.030	mg/Kg	1	10/30/2019 13:19
Ethylbenzene	U		0.0063	0.030	mg/Kg	1	10/30/2019 13:19
m,p-Xylene	U		0.040	0.060	mg/Kg	1	10/30/2019 13:19
o-Xylene	U		0.012	0.030	mg/Kg	1	10/30/2019 13:19
Toluene	U		0.0081	0.030	mg/Kg	1	10/30/2019 13:19
Xylenes, Total	U		0.040	0.089	mg/Kg	1	10/30/2019 13:19
Surr: 1,2-Dichloroethane-d4	111			70-130	%REC	1	10/30/2019 13:19
Surr: 4-Bromofluorobenzene	97.8			70-130	%REC	1	10/30/2019 13:19
Surr: Dibromofluoromethane	104			70-130	%REC	1	10/30/2019 13:19
Surr: Toluene-d8	102			70-130	%REC	1	10/30/2019 13:19
<b>MOISTURE</b>							
			Method: <b>SW3550C</b>				Analyst: <b>KTP</b>
Moisture	<b>5.5</b>		<b>0.10</b>	<b>0.10</b>	<b>% of sample</b>	1	10/28/2019 12:56

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

# ALS Group, USA

Date: 30-Oct-19

**Client:** HRL Compliance Solutions, Inc  
**Project:** Whiting Petroleum-McIlhenes 67-68 (Pit)  
**Sample ID:** Pile #2  
**Collection Date:** 10/25/2019 10:25 AM

**Work Order:** 19102080  
**Lab ID:** 19102080-02  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015M</b>		Prep: SW3550 / 10/28/19		Analyst: <b>KB</b>
<b>DRO (C10-C28)</b>	<b>220</b>		<b>2.9</b>	<b>5.1</b>	<b>mg/Kg-dry</b>	1	10/29/2019 14:11
Surr: 4-Terphenyl-d14	67.6			33-111	%REC	1	10/29/2019 14:11
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>		Prep: SW5035 / 10/28/19		Analyst: <b>KB</b>
GRO (C6-C10)	U		2.5	5.9	mg/Kg	1	10/30/2019 11:20
Surr: Toluene-d8	93.3			71-123	%REC	1	10/30/2019 11:20
<b>VOLATILE ORGANIC COMPOUNDS</b>							
			Method: <b>SW8260C</b>		Prep: SW5035 / 10/28/19		Analyst: <b>MF</b>
Benzene	U		0.0060	0.035	mg/Kg	1	10/30/2019 13:43
Ethylbenzene	U		0.0074	0.035	mg/Kg	1	10/30/2019 13:43
m,p-Xylene	U		0.047	0.071	mg/Kg	1	10/30/2019 13:43
o-Xylene	U		0.014	0.035	mg/Kg	1	10/30/2019 13:43
Toluene	U		0.0096	0.035	mg/Kg	1	10/30/2019 13:43
Xylenes, Total	U		0.047	0.11	mg/Kg	1	10/30/2019 13:43
Surr: 1,2-Dichloroethane-d4	109			70-130	%REC	1	10/30/2019 13:43
Surr: 4-Bromofluorobenzene	102			70-130	%REC	1	10/30/2019 13:43
Surr: Dibromofluoromethane	104			70-130	%REC	1	10/30/2019 13:43
Surr: Toluene-d8	94.6			70-130	%REC	1	10/30/2019 13:43
<b>MOISTURE</b>							
			Method: <b>SW3550C</b>				Analyst: <b>KTP</b>
Moisture	<b>5.9</b>		<b>0.10</b>	<b>0.10</b>	<b>% of sample</b>	1	10/28/2019 12:56

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

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 19102080  
**Project:** Whiting Petroleum-McIlhenes 67-68 (Pit)

# QC BATCH REPORT

Batch ID: **144703** Instrument ID **GC8** Method: **SW8015M**

<b>MBLK</b>		Sample ID: <b>DBLKS1-144703-144703</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/29/2019 10:18 A</b>		
Client ID:		Run ID: <b>GC8_191029A</b>				SeqNo: <b>6019614</b>		Prep Date: <b>10/28/2019</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	U	5.0								
<i>Surr: 4-Terphenyl-d14</i>	2.095	0	3.33	0	62.9	33-111	0			

<b>LCS</b>		Sample ID: <b>DLCSS1-144703-144703</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/29/2019 10:47 A</b>		
Client ID:		Run ID: <b>GC8_191029A</b>				SeqNo: <b>6019616</b>		Prep Date: <b>10/28/2019</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	305.7	5.0	333	0	91.8	58-111	0			
<i>Surr: 4-Terphenyl-d14</i>	1.71	0	3.33	0	51.4	33-111	0			

<b>MS</b>		Sample ID: <b>19102081-02A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/29/2019 12:44 P</b>		
Client ID:		Run ID: <b>GC8_191029A</b>				SeqNo: <b>6019622</b>		Prep Date: <b>10/28/2019</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	461.3	4.9	325.6	127.6	102	58-111	0			
<i>Surr: 4-Terphenyl-d14</i>	1.906	0	3.256	0	58.5	33-111	0			

<b>MSD</b>		Sample ID: <b>19102081-02A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/29/2019 01:13 P</b>		
Client ID:		Run ID: <b>GC8_191029A</b>				SeqNo: <b>6019623</b>		Prep Date: <b>10/28/2019</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	422.3	4.8	323	127.6	91.2	58-111	461.3	8.84	30	
<i>Surr: 4-Terphenyl-d14</i>	1.867	0	3.23	0	57.8	33-111	1.906	2.09	30	

The following samples were analyzed in this batch:

19102080-01A	19102080-02A
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**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 19102080  
**Project:** Whiting Petroleum-McIlhenes 67-68 (Pit)

## QC BATCH REPORT

Batch ID: **144709**      Instrument ID **GC10**      Method: **SW8015D**

<b>MBLK</b>		Sample ID: <b>MBLK-144709-144709</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>10/29/2019 05:09 A</b>		
Client ID:		Run ID: <b>GC10_191028A</b>				SeqNo: <b>6019186</b>		Prep Date: <b>10/28/2019</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	U	5,000								
<i>Surr: Toluene-d8</i>	5114	0	5000	0	102	71-123	0			

<b>LCS</b>		Sample ID: <b>LCS-144709-144709</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>10/29/2019 04:39 A</b>		
Client ID:		Run ID: <b>GC10_191028A</b>				SeqNo: <b>6019185</b>		Prep Date: <b>10/28/2019</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	407800	5,000	500000	0	81.6	71-123	0			
<i>Surr: Toluene-d8</i>	5500	0	5000	0	110	71-123	0			

<b>MS</b>		Sample ID: <b>19102081-01A MS</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>10/29/2019 09:38 A</b>		
Client ID:		Run ID: <b>GC10_191028A</b>				SeqNo: <b>6019194</b>		Prep Date: <b>10/28/2019</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	533500	6,000	603600	0	88.4	71-123	0			
<i>Surr: Toluene-d8</i>	6522	0	6036	0	108	71-123	0			

<b>MSD</b>		Sample ID: <b>19102081-01A MSD</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>10/29/2019 10:08 A</b>		
Client ID:		Run ID: <b>GC10_191028A</b>				SeqNo: <b>6019195</b>		Prep Date: <b>10/28/2019</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	530500	5,700	567300	0	93.5	71-123	533500	0.559	30	
<i>Surr: Toluene-d8</i>	5742	0	5673	0	101	71-123	6522	12.7	30	

The following samples were analyzed in this batch:

19102080-01A	19102080-02A
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** HRL Compliance Solutions, Inc  
**Work Order:** 19102080  
**Project:** Whiting Petroleum-McIlhenes 67-68 (Pit)

## 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:

19102080-01A	19102080-02A
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.





# ALS Laboratory Group

3352 126<sup>th</sup> Avenue, Holland, MI 49424  
 TF: 616 399 6070 FX: 616 399 6185

## Chain-of-Custody

Form 202r6

WORKORDER #

19102080

PAGE

1 of 1

SAMPLER Matt Smith

DATE

10/25/2019

DISPOSAL

By Lab or Return to Client

PROJECT NAME Whiting Petroleum- McIlhenes 67-68 (Pkt)

SITE ID McIlhenes 67-68

TURNAROUND

2-Day Turnaround

PROJECT No.

EDD FORMAT

PURCHASE ORDER

COMPANY NAME HRL COMPLIANCE SOLUTIONS Inc.

BILL TO COMPANY HRL COMPLIANCE SOLUTIONS Inc.

SEND REPORT TO KRIS ROWE & Matt Smith

INVOICE ATTN TO Melissa DeRose

ADDRESS 2385 F 1/2

ADDRESS 2385 F 1/2 Road

CITY / STATE / ZIP GRAND JUNCTION CO 81505

CITY / STATE / ZIP Grand Junction, CO 81505

PHONE 970-243-3271

PHONE 970-243-3271

FAX 970-243-3280

FAX

E-MAIL KROWE@HRLCOMP.COM

E-MAIL mderose@HRLcomp.com

Lab ID

Field ID

Matrix

Sample Date

Sample Time

# Bottles

Pres.

QC

DRO

GRO

BTEX

910-1 Metals

Semi Vols - PAH

SAR / EC / pH

ARSENIC

1

Pile #1

S

10/25/2019

10:15

1

x

x

x

2

Pile #2

S

10/25/2019

10:25

1

x

x

x

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

For metals or anions, please detail analytes below.

Comments:

Keep soil for possible additional analysis

SR2 32%

QC PACKAGE (check below)

LEVEL II (Standard QC)

LEVEL III (Std QC + forms)

LEVEL IV (Std QC + forms + raw data)

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

SIGNATURE

PRINTED NAME

DATE

TIME

RELINQUISHED BY

Matt Smith

Matt Smith

10/25/2019

1700

RECEIVED BY

Diane E. Shan

Diane E. Shan

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: **19102080**

Received by: **DS**

Checklist completed by Diane Shaw  
eSignature

26-Oct-19  
Date

Reviewed by: Chad Whelton  
eSignature

28-Oct-19  
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 11:18:20 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:

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Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction: