

**Starkey 1 (Location ID 335383)**  
**Partially Buried Vault Release**  
**Spill/Release Point ID 448190**  
**Form 19 (Notice of Completion)**  
**Narrative Attachment**

This Form 19 (Notice of Completion) was prepared for the purpose of describing completed work associated with the assessment of soil during the removal of a partially buried vessel (PBV) at the Starkey 1 (Location ID 335383) pad location in the Caerus Piceance, LLC (Caerus) area of operations.

All impacted soil removed during the excavation project was landfarmed on location. On November 9, 2016 a composite soil sample (Starkey 1 Landfarm) was collected from the onsite landfarm and submitted for laboratory analysis of all COGCC Table 910-1 analytes. Analytical results indicate that the soil sample was in compliance with COGCC Table 910-1 Concentration Levels for all analytes or were within background concentrations, except for the electrical conductivity (EC) measurement. However, the soil that this sample was collected from was buried within the excavation created during this remediation project at a depth greater than three feet below the ground surface and the COGCC does not apply the Concentration Level for EC to soils deeper than three feet below the ground surface.

Background samples were collected from an undisturbed area near the Chevron 41-8D pad (COGCC Location ID 324198). Laboratory analytical reports are included as an attachment.

Based on removal of the PBV, soil analytical results, and the backfilling of the excavation, Caerus requests an NFA designation for this project. Caerus also requests that the COAs attached to the COGCC-approved Form 27 (COGCC Document ID 2527215) be waived since the landfarm did not require remediation and the associated Remediation Project (Remediation Project #9911) be closed.



18-Nov-2016

Jake Janicek  
Caerus Oil and Gas LLC  
120 N. Railroad Ave. Suite D  
Parachute, CO 81635

Re: **Starkey 1 Landfarm**

Work Order: **1611728**

Dear Jake,

ALS Environmental received 1 sample on 10-Nov-2016 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 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 23.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton".

Electronically approved by: Chad Whelton

Chad Whelton  
Project Manager



Certificate No: MN 998501

### Report of Laboratory Analysis

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

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**Client:** Caerus Oil and Gas LLC  
**Project:** Starkey 1 Landfarm  
**Work Order:** 1611728

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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>
1611728-01	Starkey 1 Landfarm	Soil		11/9/2016 11:26	11/10/2016 09:30	<input type="checkbox"/>

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**Client:** Caerus Oil and Gas LLC  
**Project:** Starkey 1 Landfarm  
**WorkOrder:** 1611728

## **QUALIFIERS, ACRONYMS, UNITS**

<b><u>Qualifier</u></b>	<b><u>Description</u></b>
*	Value exceeds Regulatory Limit
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
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-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: 18-Nov-16

**Client:** Caerus Oil and Gas LLC  
**Project:** Starkey 1 Landfarm  
**Sample ID:** Starkey 1 Landfarm  
**Collection Date:** 11/9/2016 11:26 AM

**Work Order:** 1611728  
**Lab ID:** 1611728-01  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep: SW3546 / 11/14/16	Analyst: <b>IT</b>
<b>DRO (C10-C28)</b>	<b>320</b>		<b>5.7</b>	<b>mg/Kg-dry</b>	<b>1</b>	11/15/2016 03:28 AM
<i>Surr: 4-Terphenyl-d14</i>	<i>59.3</i>		<i>39-133</i>	<i>%REC</i>	<i>1</i>	11/15/2016 03:28 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015D</b>		Prep: SW5035 / 11/14/16	Analyst: <b>IT</b>
<b>GRO (C6-C10)</b>	<b>170</b>		<b>3.2</b>	<b>mg/Kg-dry</b>	<b>1</b>	11/14/2016 04:36 PM
<i>Surr: Toluene-d8</i>	<i>114</i>		<i>50-150</i>	<i>%REC</i>	<i>1</i>	11/14/2016 04:36 PM
<b>MERCURY BY CVAA</b>						
			<b>SW7471B</b>		Prep: SW7471 / 11/16/16	Analyst: <b>LR</b>
<b>Mercury</b>	<b>0.034</b>		<b>0.014</b>	<b>mg/Kg-dry</b>	<b>1</b>	11/17/2016 12:26 AM
<b>METALS ANALYSIS BY ICP</b>						
			<b>SW846 6010C</b>		Prep: SW3050B / 11/14/16	Analyst: <b>RH</b>
<b>Arsenic</b>	<b>8.2</b>		<b>0.42</b>	<b>mg/Kg-dry</b>	<b>1</b>	11/15/2016 12:54 PM
<b>Barium</b>	<b>190</b>		<b>0.42</b>	<b>mg/Kg-dry</b>	<b>1</b>	11/15/2016 12:54 PM
<b>Cadmium</b>	<b>ND</b>		<b>0.85</b>	<b>mg/Kg-dry</b>	<b>1</b>	11/15/2016 12:54 PM
<b>Chromium</b>	<b>9.0</b>		<b>0.42</b>	<b>mg/Kg-dry</b>	<b>1</b>	11/15/2016 12:54 PM
<b>Copper</b>	<b>17</b>		<b>0.85</b>	<b>mg/Kg-dry</b>	<b>1</b>	11/15/2016 12:54 PM
<b>Lead</b>	<b>11</b>		<b>0.42</b>	<b>mg/Kg-dry</b>	<b>1</b>	11/15/2016 12:54 PM
<b>Nickel</b>	<b>18</b>		<b>0.42</b>	<b>mg/Kg-dry</b>	<b>1</b>	11/15/2016 04:08 PM
<b>Selenium</b>	<b>ND</b>		<b>0.85</b>	<b>mg/Kg-dry</b>	<b>1</b>	11/15/2016 12:54 PM
<b>Silver</b>	<b>ND</b>		<b>0.42</b>	<b>mg/Kg-dry</b>	<b>1</b>	11/15/2016 12:54 PM
<b>Zinc</b>	<b>66</b>		<b>0.85</b>	<b>mg/Kg-dry</b>	<b>1</b>	11/15/2016 12:54 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW846 6010C</b>		Prep: USDA Method 20B / 11/16/16	Analyst: <b>RH</b>
<b>Calcium</b>	<b>500</b>		<b>5.0</b>	<b>mg/L</b>	<b>10</b>	11/16/2016 01:51 PM
<b>Magnesium</b>	<b>250</b>		<b>2.0</b>	<b>mg/L</b>	<b>10</b>	11/16/2016 01:51 PM
<b>Sodium</b>	<b>220</b>		<b>2.0</b>	<b>mg/L</b>	<b>10</b>	11/16/2016 01:51 PM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 11/16/16	Analyst: <b>RH</b>
<b>Sodium Adsorption Ratio</b>	<b>2.0</b>		<b>0.010</b>	<b>none</b>	<b>1</b>	11/16/2016
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW846 8270D</b>		Prep: SW3546 / 11/14/16	Analyst: <b>JF</b>
<b>Acenaphthene</b>	<b>ND</b>		<b>0.0077</b>	<b>mg/Kg-dry</b>	<b>1</b>	11/15/2016 12:26 PM
<b>Anthracene</b>	<b>ND</b>		<b>0.0077</b>	<b>mg/Kg-dry</b>	<b>1</b>	11/15/2016 12:26 PM
<b>Benzo(a)anthracene</b>	<b>ND</b>		<b>0.0077</b>	<b>mg/Kg-dry</b>	<b>1</b>	11/15/2016 12:26 PM
<b>Benzo(a)pyrene</b>	<b>ND</b>		<b>0.0077</b>	<b>mg/Kg-dry</b>	<b>1</b>	11/15/2016 12:26 PM
<b>Benzo(b)fluoranthene</b>	<b>ND</b>		<b>0.0077</b>	<b>mg/Kg-dry</b>	<b>1</b>	11/15/2016 12:26 PM
<b>Benzo(k)fluoranthene</b>	<b>ND</b>		<b>0.0077</b>	<b>mg/Kg-dry</b>	<b>1</b>	11/15/2016 12:26 PM
<b>Chrysene</b>	<b>ND</b>		<b>0.0077</b>	<b>mg/Kg-dry</b>	<b>1</b>	11/15/2016 12:26 PM
<b>Dibenzo(a,h)anthracene</b>	<b>ND</b>		<b>0.0077</b>	<b>mg/Kg-dry</b>	<b>1</b>	11/15/2016 12:26 PM
<b>Fluoranthene</b>	<b>ND</b>		<b>0.0077</b>	<b>mg/Kg-dry</b>	<b>1</b>	11/15/2016 12:26 PM

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

# ALS Group, USA

Date: 18-Nov-16

**Client:** Caerus Oil and Gas LLC  
**Project:** Starkey 1 Landfarm  
**Sample ID:** Starkey 1 Landfarm  
**Collection Date:** 11/9/2016 11:26 AM

**Work Order:** 1611728  
**Lab ID:** 1611728-01  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0077	mg/Kg-dry	1	11/15/2016 12:26 PM
Indeno(1,2,3-cd)pyrene	ND		0.0077	mg/Kg-dry	1	11/15/2016 12:26 PM
Naphthalene	ND		0.0077	mg/Kg-dry	1	11/15/2016 12:26 PM
Pyrene	ND		0.0077	mg/Kg-dry	1	11/15/2016 12:26 PM
Surr: 2-Fluorobiphenyl	77.3		12-100	%REC	1	11/15/2016 12:26 PM
Surr: 4-Terphenyl-d14	81.1		25-137	%REC	1	11/15/2016 12:26 PM
Surr: Nitrobenzene-d5	56.8		37-107	%REC	1	11/15/2016 12:26 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>	Prep: SW5035 / 11/13/16	Analyst: <b>LSY</b>	
Benzene	ND		0.039	mg/Kg-dry	1	11/16/2016 12:57 PM
Ethylbenzene	0.15		0.039	mg/Kg-dry	1	11/16/2016 12:57 PM
m,p-Xylene	1.8		0.078	mg/Kg-dry	1	11/16/2016 12:57 PM
o-Xylene	0.41		0.039	mg/Kg-dry	1	11/16/2016 12:57 PM
Toluene	0.042		0.039	mg/Kg-dry	1	11/16/2016 12:57 PM
Xylenes, Total	2.3		0.12	mg/Kg-dry	1	11/16/2016 12:57 PM
Surr: 1,2-Dichloroethane-d4	95.4		70-130	%REC	1	11/16/2016 12:57 PM
Surr: 4-Bromofluorobenzene	115		70-130	%REC	1	11/16/2016 12:57 PM
Surr: Dibromofluoromethane	77.2		70-130	%REC	1	11/16/2016 12:57 PM
Surr: Toluene-d8	98.0		70-130	%REC	1	11/16/2016 12:57 PM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>	Prep: USDA Method 20B / 11/16/16	Analyst: <b>JB</b>	
Electrical Conductivity @ Saturation	7.7		0.25	mmhos/cm @2	50	11/17/2016 04:45 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>	Analyst: <b>JB</b>		
Chromium, Trivalent	9.0		0.58	mg/Kg-dry	1	11/16/2016 08:20 AM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>	Prep: SW3060A / 11/14/16	Analyst: <b>MB</b>	
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	11/15/2016 05:00 PM
<b>MOISTURE</b>			<b>SW3550C</b>	Analyst: <b>EDL</b>		
Moisture	13		0.050	% of sample	1	11/10/2016 07:02 PM
<b>PH</b>			<b>SW9045D</b>	Prep: EXTRACT / 11/14/16	Analyst: <b>RZM</b>	
pH	7.7			s.u.	1	11/14/2016 04:05 PM

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

**Client:** Caerus Oil and Gas LLC  
**Work Order:** 1611728  
**Project:** Starkey 1 Landfarm

**QC BATCH REPORT**

Batch ID: **94467** Instrument ID **GC8** Method: **SW8015M**

<b>MBLK</b>		Sample ID: <b>DBLKS1-94467-94467</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/14/2016 06:08 PM</b>		
Client ID:		Run ID: <b>GC8_161114A</b>				SeqNo: <b>4153414</b>		Prep Date: <b>11/14/2016</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) ND 5.0  
*Surr: 4-Terphenyl-d14* 2.017 0 3.33 0 60.6 39-133 0

<b>LCS</b>		Sample ID: <b>DLCSS1-94467-94467</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/14/2016 06:37 PM</b>		
Client ID:		Run ID: <b>GC8_161114A</b>				SeqNo: <b>4153415</b>		Prep Date: <b>11/14/2016</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) 236.3 5.0 333 0 71 61-109 0  
*Surr: 4-Terphenyl-d14* 1.493 0 3.33 0 44.8 39-133 0

<b>MS</b>		Sample ID: <b>1611679-03A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/14/2016 07:07 PM</b>		
Client ID:		Run ID: <b>GC8_161114A</b>				SeqNo: <b>4153416</b>		Prep Date: <b>11/14/2016</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) 778.9 4.9 326.7 364.3 127 48-110 0 S  
*Surr: 4-Terphenyl-d14* 1.913 0 3.267 0 58.6 39-133 0

<b>MSD</b>		Sample ID: <b>1611679-03A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/14/2016 07:36 PM</b>		
Client ID:		Run ID: <b>GC8_161114A</b>				SeqNo: <b>4153417</b>		Prep Date: <b>11/14/2016</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) 793.8 4.9 329.5 364.3 130 48-110 778.9 1.9 30 S  
*Surr: 4-Terphenyl-d14* 2.136 0 3.295 0 64.8 39-133 1.913 11 30

The following samples were analyzed in this batch: 1611728-01A

**Client:** Caerus Oil and Gas LLC  
**Work Order:** 1611728  
**Project:** Starkey 1 Landfarm

## QC BATCH REPORT

Batch ID: **94465** Instrument ID **GC9** Method: **SW8015D**

<b>MBLK</b>		Sample ID: <b>MBLK-94465-94465</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>11/14/2016 02:06 PM</b>		
Client ID:		Run ID: <b>GC9_161114A</b>				SeqNo: <b>4153485</b>		Prep Date: <b>11/14/2016</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)	ND	2,500								
Surr: Toluene-d8	4265	0	5000	0	85.3	50-150	0			

<b>MBLK</b>		Sample ID: <b>MBLK-94465-94465</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>11/15/2016 01:11 A</b>		
Client ID:		Run ID: <b>GC9_161114B</b>				SeqNo: <b>4153536</b>		Prep Date: <b>11/14/2016</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)	ND	2,500								

<b>LCS</b>		Sample ID: <b>LCS-94465-94465</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>11/14/2016 01:42 PM</b>		
Client ID:		Run ID: <b>GC9_161114A</b>				SeqNo: <b>4153481</b>		Prep Date: <b>11/14/2016</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)	473500	2,500	500000	0	94.7	70-130	0			
Surr: Toluene-d8	5004	0	5000	0	100	50-150	0			

<b>LCS</b>		Sample ID: <b>LCS-94465-94465</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>11/15/2016 12:44 PM</b>		
Client ID:		Run ID: <b>GC9_161114B</b>				SeqNo: <b>4153542</b>		Prep Date: <b>11/14/2016</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)	10090	2,500	10000	0	101	80-120	0			

<b>LCSD</b>		Sample ID: <b>LCSD-94465-94465</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>11/15/2016 03:22 A</b>		
Client ID:		Run ID: <b>GC9_161114B</b>				SeqNo: <b>4153541</b>		Prep Date: <b>11/14/2016</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)	11560	2,500	10000	0	116	80-120	10090	13.6	20	

<b>MS</b>		Sample ID: <b>1611395-02A MS</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>11/14/2016 05:01 PM</b>		
Client ID:		Run ID: <b>GC9_161114A</b>				SeqNo: <b>4153497</b>		Prep Date: <b>11/14/2016</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)	707000	3,500	690500	0	102	70-130	0			
Surr: Toluene-d8	7761	0	6905	0	112	50-150	0			

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



**Client:** Caerus Oil and Gas LLC  
**Work Order:** 1611728  
**Project:** Starkey 1 Landfarm

## QC BATCH REPORT

Batch ID: **94465** Instrument ID **GC9** Method: **SW8015D**

<b>MSD</b>		Sample ID: <b>1611395-02A MSD</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>11/14/2016 05:26 PM</b>		
Client ID:		Run ID: <b>GC9_161114A</b>				SeqNo: <b>4153499</b>		Prep Date: <b>11/14/2016</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)	757900	3,500	690500	0	110	70-130	707000	6.95	30	
<i>Surr: Toluene-d8</i>	<i>7439</i>	<i>0</i>	<i>6905</i>	<i>0</i>	<i>108</i>	<i>50-150</i>	<i>7761</i>	<i>4.23</i>	<i>30</i>	

The following samples were analyzed in this batch:

1611728-01A

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

**Client:** Caerus Oil and Gas LLC  
**Work Order:** 1611728  
**Project:** Starkey 1 Landfarm

## QC BATCH REPORT

Batch ID: **94677** Instrument ID **HG1** Method: **SW7471B**

<b>MBLK</b>		Sample ID: <b>MBLK-94677-94677</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/16/2016 11:25 PM</b>		
Client ID:		Run ID: <b>HG1_161116A</b>				SeqNo: <b>4158001</b>		Prep Date: <b>11/16/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.0095	0.020								J

<b>LCS</b>		Sample ID: <b>LCS-94677-94677</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/16/2016 11:27 PM</b>		
Client ID:		Run ID: <b>HG1_161116A</b>				SeqNo: <b>4158002</b>		Prep Date: <b>11/16/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1692	0.020	0.1665		0	102	80-120	0		

<b>MS</b>		Sample ID: <b>1611420-03AMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/16/2016 11:38 PM</b>		
Client ID:		Run ID: <b>HG1_161116A</b>				SeqNo: <b>4158006</b>		Prep Date: <b>11/16/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1335	0.014	0.115	0.02647	93.1	75-125		0		

<b>MSD</b>		Sample ID: <b>1611420-03AMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/16/2016 11:40 PM</b>		
Client ID:		Run ID: <b>HG1_161116A</b>				SeqNo: <b>4158007</b>		Prep Date: <b>11/16/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1404	0.014	0.1159	0.02647	98.3	75-125	0.1335	5.03	35	

The following samples were analyzed in this batch:

1611728-01A

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

**Client:** Caerus Oil and Gas LLC  
**Work Order:** 1611728  
**Project:** Starkey 1 Landfarm

# QC BATCH REPORT

Batch ID: **94498** Instrument ID **ICP2** Method: **SW846 6010C**

<b>MBLK</b>		Sample ID: <b>MBLK-94498-94498</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/15/2016 12:04 PM</b>		
Client ID:		Run ID: <b>ICP2_161115A</b>				SeqNo: <b>4154287</b>		Prep Date: <b>11/14/2016</b>		DF: <b>1</b>
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	0.02936	0.50								J
Chromium	0.03967	0.25								J
Copper	ND	0.50								
Lead	ND	0.25								
Selenium	ND	0.50								
Silver	ND	0.25								
Zinc	0.06949	0.50								J

<b>MBLK</b>		Sample ID: <b>MBLK-94498-94498</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/15/2016 03:30 PM</b>		
Client ID:		Run ID: <b>ICP2_161115A</b>				SeqNo: <b>4155466</b>		Prep Date: <b>11/14/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nickel	ND	0.25								

<b>LCS</b>		Sample ID: <b>LCS-94498-94498</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/15/2016 12:09 PM</b>		
Client ID:		Run ID: <b>ICP2_161115A</b>				SeqNo: <b>4154288</b>		Prep Date: <b>11/14/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.654	0.25	5	0	93.1	80-120	0			
Barium	4.605	0.25	5	0	92.1	80-120	0			
Cadmium	4.714	0.50	5	0	94.3	80-120	0			
Chromium	4.684	0.25	5	0	93.7	80-120	0			
Copper	4.92	0.50	5	0	98.4	80-120	0			
Lead	4.544	0.25	5	0	90.9	80-120	0			
Selenium	4.406	0.50	5	0	88.1	80-120	0			
Silver	4.609	0.25	5	0	92.2	80-120	0			
Zinc	4.657	0.50	5	0	93.1	80-120	0			

<b>LCS</b>		Sample ID: <b>LCS-94498-94498</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/15/2016 03:35 PM</b>		
Client ID:		Run ID: <b>ICP2_161115A</b>				SeqNo: <b>4155467</b>		Prep Date: <b>11/14/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nickel	4.697	0.25	5	0	93.9	80-120	0			

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

**Client:** Caerus Oil and Gas LLC  
**Work Order:** 1611728  
**Project:** Starkey 1 Landfarm

# QC BATCH REPORT

Batch ID: **94498** Instrument ID **ICP2** Method: **SW846 6010C**

MS				Sample ID: 1611420-03AMS			Units: mg/Kg		Analysis Date: 11/15/2016 12:31 PM		
Client ID:			Run ID: ICP2_161115A			SeqNo: 4154292		Prep Date: 11/14/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Barium	39.55	0.40	7.949	27.06	157	75-125	0			S	
Chromium	15.26	0.40	7.949	5.228	126	75-125	0			S	
Copper	13.4	0.79	7.949	6.177	90.9	75-125	0				
Silver	7.604	0.40	7.949	-0.3095	99.6	75-125	0				

MS				Sample ID: 1611420-03AMS			Units: mg/Kg		Analysis Date: 11/15/2016 03:46 PM		
Client ID:			Run ID: ICP2_161115A			SeqNo: 4155469		Prep Date: 11/14/2016		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	14.55	4.0	7.949	8.87	71.4	75-125	0			S	
Cadmium	9.161	7.9	7.949	0.2087	113	75-125	0				
Lead	15.38	4.0	7.949	7.058	105	75-125	0				
Nickel	20.87	4.0	7.949	13.32	95	75-125	0				
Selenium	9.099	7.9	7.949	0.1652	112	75-125	0				
Zinc	46.91	7.9	7.949	42.42	56.5	75-125	0			SO	

MSD				Sample ID: 1611420-03AMSD			Units: mg/Kg		Analysis Date: 11/15/2016 12:37 PM		
Client ID:			Run ID: ICP2_161115A			SeqNo: 4154293		Prep Date: 11/14/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Barium	39.87	0.39	7.862	27.06	163	75-125	39.55	0.803	20	S	
Chromium	14.6	0.39	7.862	5.228	119	75-125	15.26	4.42	20		
Copper	13.06	0.79	7.862	6.177	87.6	75-125	13.4	2.57	20		
Silver	7.164	0.39	7.862	-0.3095	95.1	75-125	7.604	5.96	20		

MSD				Sample ID: 1611420-03AMSD			Units: mg/Kg		Analysis Date: 11/15/2016 03:52 PM		
Client ID:		Run ID: ICP2_161115A			SeqNo: 4155470		Prep Date: 11/14/2016		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	13.43	3.9	7.862	8.87	58	75-125	14.55	8.01	20	S	
Cadmium	7.831	7.9	7.862	0.2087	97	75-125	9.161	0	20	J	
Lead	13.67	3.9	7.862	7.058	84	75-125	15.38	11.8	20		
Nickel	17.53	3.9	7.862	13.32	53.6	75-125	20.87	17.4	20	S	
Selenium	8.598	7.9	7.862	0.1652	107	75-125	9.099	5.66	20		
Zinc	42.94	7.9	7.862	42.42	6.59	75-125	46.91	8.85	20	SO	

The following samples were analyzed in this batch: 1611728-01A

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

**Client:** Caerus Oil and Gas LLC  
**Work Order:** 1611728  
**Project:** Starkey 1 Landfarm

## QC BATCH REPORT

Batch ID: **94649** Instrument ID **SAR** Method: **USDA H60 Metho**

<b>DUP</b>		Sample ID: <b>1611909-01ADUP</b>				Units: <b>none</b>		Analysis Date: <b>11/16/2016</b>		
Client ID:		Run ID: <b>SAR_161116A</b>				SeqNo: <b>4157537</b>		Prep Date: <b>11/16/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	2.257	0.010	0	0	0		2.242	0.646	50	

The following samples were analyzed in this batch:

1611728-01A

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

**Client:** Caerus Oil and Gas LLC  
**Work Order:** 1611728  
**Project:** Starkey 1 Landfarm

## QC BATCH REPORT

Batch ID: **94466**      Instrument ID **SVMS5**      Method: **SW846 8270D**

MBLK		Sample ID: <b>SBLKS1-94466-94466</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>11/14/2016 05:42 PM</b>		
Client ID:		Run ID: <b>SVMS5_161114A</b>				SeqNo: <b>4153728</b>		Prep Date: <b>11/14/2016</b>		DF: <b>1</b>
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(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>	2783	0	3333	0	83.5	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	2792	0	3333	0	83.8	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	2093	0	3333	0	62.8	37-107	0			

LCS		Sample ID: <b>SLCSS1-94466-94466</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>11/14/2016 06:05 PM</b>		
Client ID:		Run ID: <b>SVMS5_161114A</b>				SeqNo: <b>4153729</b>		Prep Date: <b>11/14/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	986.7	6.7	1333	0	74	45-110	0			
Anthracene	1107	6.7	1333	0	83.1	55-105	0			
Benzo(a)anthracene	1151	6.7	1333	0	86.3	50-110	0			
Benzo(a)pyrene	1078	6.7	1333	0	80.9	50-110	0			
Benzo(b)fluoranthene	1034	6.7	1333	0	77.6	45-115	0			
Benzo(k)fluoranthene	1107	6.7	1333	0	83.1	45-115	0			
Chrysene	1116	6.7	1333	0	83.7	55-110	0			
Dibenzo(a,h)anthracene	1175	6.7	1333	0	88.2	40-125	0			
Fluoranthene	1098	6.7	1333	0	82.4	55-115	0			
Fluorene	1069	6.7	1333	0	80.2	50-110	0			
Indeno(1,2,3-cd)pyrene	1057	6.7	1333	0	79.3	40-120	0			
Naphthalene	858.7	6.7	1333	0	64.4	40-105	0			
Pyrene	1186	6.7	1333	0	89	45-125	0			
<i>Surr: 2-Fluorobiphenyl</i>	2645	0	3333	0	79.4	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	2697	0	3333	0	80.9	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	2045	0	3333	0	61.4	37-107	0			

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

**Client:** Caerus Oil and Gas LLC  
**Work Order:** 1611728  
**Project:** Starkey 1 Landfarm

## QC BATCH REPORT

Batch ID: **94466**      Instrument ID **SVMS5**      Method: **SW846 8270D**

MS				Sample ID: <b>1611649-09B MS</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>11/14/2016 09:01 PM</b>	
Client ID:				Run ID: <b>SVMS5_161114A</b>			SeqNo: <b>4153730</b>		Prep Date: <b>11/14/2016</b>	
									DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1017	6.4	1279	0	79.5	45-110	0			
Anthracene	1073	6.4	1279	0	83.9	55-105	0			
Benzo(a)anthracene	1093	6.4	1279	0	85.5	50-110	0			
Benzo(a)pyrene	1077	6.4	1279	0	84.2	50-110	0			
Benzo(b)fluoranthene	999.2	6.4	1279	0	78.1	45-115	0			
Benzo(k)fluoranthene	1089	6.4	1279	0	85.2	45-115	0			
Chrysene	1093	6.4	1279	0	85.5	55-110	0			
Dibenzo(a,h)anthracene	1147	6.4	1279	0	89.7	40-125	0			
Fluoranthene	1043	6.4	1279	0	81.6	55-115	0			
Fluorene	1078	6.4	1279	0	84.3	50-110	0			
Indeno(1,2,3-cd)pyrene	1015	6.4	1279	0	79.4	40-120	0			
Naphthalene	871.9	6.4	1279	0	68.2	40-105	0			
Pyrene	1158	6.4	1279	0	90.6	45-125	0			
Surr: 2-Fluorobiphenyl	2735	0	3198	0	85.5	12-100	0			
Surr: 4-Terphenyl-d14	2599	0	3198	0	81.3	25-137	0			
Surr: Nitrobenzene-d5	2145	0	3198	0	67.1	37-107	0			

MSD				Sample ID: <b>1611649-09B MSD</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>11/14/2016 09:24 PM</b>	
Client ID:				Run ID: <b>SVMS5_161114A</b>			SeqNo: <b>4153731</b>		Prep Date: <b>11/14/2016</b>	
									DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1063	6.6	1325	0	80.2	45-110	1017	4.43	30	
Anthracene	1139	6.6	1325	0	85.9	55-105	1073	5.91	30	
Benzo(a)anthracene	1184	6.6	1325	0	89.3	50-110	1093	7.96	30	
Benzo(a)pyrene	1115	6.6	1325	0	84.1	50-110	1077	3.44	30	
Benzo(b)fluoranthene	1046	6.6	1325	0	78.9	45-115	999.2	4.57	30	
Benzo(k)fluoranthene	1149	6.6	1325	0	86.7	45-115	1089	5.36	30	
Chrysene	1157	6.6	1325	0	87.3	55-110	1093	5.7	30	
Dibenzo(a,h)anthracene	1202	6.6	1325	0	90.7	40-125	1147	4.66	30	
Fluoranthene	1129	6.6	1325	0	85.2	55-115	1043	7.93	30	
Fluorene	1137	6.6	1325	0	85.8	50-110	1078	5.26	30	
Indeno(1,2,3-cd)pyrene	1079	6.6	1325	0	81.4	40-120	1015	6.1	30	
Naphthalene	880.9	6.6	1325	0	66.5	40-105	871.9	1.03	30	
Pyrene	1241	6.6	1325	0	93.7	45-125	1158	6.92	30	
Surr: 2-Fluorobiphenyl	2825	0	3314	0	85.2	12-100	2735	3.23	40	
Surr: 4-Terphenyl-d14	2833	0	3314	0	85.5	25-137	2599	8.61	40	
Surr: Nitrobenzene-d5	2174	0	3314	0	65.6	37-107	2145	1.35	40	

The following samples were analyzed in this batch: 1611728-01A

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

**Client:** Caerus Oil and Gas LLC  
**Work Order:** 1611728  
**Project:** Starkey 1 Landfarm

## QC BATCH REPORT

Batch ID: **94464**      Instrument ID **VMS7**      Method: **SW8260B**

<b>MBLK</b>		Sample ID: <b>MBLK-94464-94464</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>11/13/2016 11:15 A</b>		
Client ID:		Run ID: <b>VMS7_161113A</b>				SeqNo: <b>4150461</b>		Prep Date: <b>11/13/2016</b>		DF: <b>1</b>
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								
<i>Surr: 1,2-Dichloroethane-d4</i>	980	0	1000	0	98	70-130	0			
<i>Surr: 4-Bromofluorobenzene</i>	963	0	1000	0	96.3	70-130	0			
<i>Surr: Dibromofluoromethane</i>	922	0	1000	0	92.2	70-130	0			
<i>Surr: Toluene-d8</i>	1008	0	1000	0	101	70-130	0			

<b>LCS</b>		Sample ID: <b>LCS-94464-94464</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>11/13/2016 10:12 A</b>		
Client ID:		Run ID: <b>VMS7_161113A</b>				SeqNo: <b>4150460</b>		Prep Date: <b>11/13/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1070	30	1000	0	107	75-125	0			
Ethylbenzene	1048	30	1000	0	105	75-125	0			
m,p-Xylene	2118	60	2000	0	106	80-125	0			
o-Xylene	1055	30	1000	0	106	75-125	0			
Toluene	1046	30	1000	0	105	70-125	0			
Xylenes, Total	3174	90	3000	0	106	75-125	0			
<i>Surr: 1,2-Dichloroethane-d4</i>	979	0	1000	0	97.9	70-130	0			
<i>Surr: 4-Bromofluorobenzene</i>	1006	0	1000	0	101	70-130	0			
<i>Surr: Dibromofluoromethane</i>	991	0	1000	0	99.1	70-130	0			
<i>Surr: Toluene-d8</i>	988	0	1000	0	98.8	70-130	0			

<b>MS</b>		Sample ID: <b>1611395-02A MS</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>11/13/2016 07:48 PM</b>		
Client ID:		Run ID: <b>VMS9_161113A</b>				SeqNo: <b>4149968</b>		Prep Date: <b>11/13/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1441	41	1381	0	104	75-125	0			
Ethylbenzene	1464	41	1381	0	106	75-125	0			
m,p-Xylene	2975	83	2762	0	108	80-125	0			
o-Xylene	1470	41	1381	0	106	75-125	0			
Toluene	1442	41	1381	0	104	70-125	0			
Xylenes, Total	4445	120	4143	0	107	75-125	0			
<i>Surr: 1,2-Dichloroethane-d4</i>	1445	0	1381	0	105	70-130	0			
<i>Surr: 4-Bromofluorobenzene</i>	1414	0	1381	0	102	70-130	0			
<i>Surr: Dibromofluoromethane</i>	1284	0	1381	0	93	70-130	0			
<i>Surr: Toluene-d8</i>	1366	0	1381	0	98.9	70-130	0			

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



**Client:** Caerus Oil and Gas LLC  
**Work Order:** 1611728  
**Project:** Starkey 1 Landfarm

## QC BATCH REPORT

Batch ID: **94464** Instrument ID **VMS7** Method: **SW8260B**

MSD				Sample ID: 1611395-02A MSD			Units: µg/Kg-dry		Analysis Date: 11/13/2016 08:12 PM	
Client ID:		Run ID: VMS9_161113A			SeqNo: 4149969		Prep Date: 11/13/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1473	41	1381	0	107	75-125	1441	2.18	30	
Ethylbenzene	1474	41	1381	0	107	75-125	1464	0.705	30	
m,p-Xylene	2939	83	2762	0	106	80-125	2975	1.24	30	
o-Xylene	1483	41	1381	0	107	75-125	1470	0.888	30	
Toluene	1392	41	1381	0	101	70-125	1442	3.56	30	
Xylenes, Total	4422	120	4143	0	107	75-125	4445	0.53	30	
Surr: 1,2-Dichloroethane-d4	1481	0	1381	0	107	70-130	1445	2.45	30	
Surr: 4-Bromofluorobenzene	1456	0	1381	0	105	70-130	1414	2.93	30	
Surr: Dibromofluoromethane	1351	0	1381	0	97.8	70-130	1284	5.14	30	
Surr: Toluene-d8	1380	0	1381	0	99.9	70-130	1366	1.01	30	

The following samples were analyzed in this batch: 1611728-01A

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

**Client:** Caerus Oil and Gas LLC  
**Work Order:** 1611728  
**Project:** Starkey 1 Landfarm

## QC BATCH REPORT

Batch ID: **94502** Instrument ID **WETCHEM** Method: **SW9045D**

LCS				Sample ID: LCS-94502-94502				Units: s.u.			Analysis Date: 11/14/2016 04:05 PM		
Client ID:				Run ID: WETCHEM_161114N				SeqNo: 4151908		Prep Date: 11/14/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
pH	3.95	0	4	0	98.8	90-110	0						

DUP				Sample ID: 1611728-01A DUP				Units: s.u.		Analysis Date: 11/14/2016 04:05 PM			
Client ID: Starkey 1 Landfarm				Run ID: WETCHEM_161114N				SeqNo: 4151915		Prep Date: 11/14/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
pH	7.7	0	0	0	0	0-0	7.73	0.389	20				

DUP				Sample ID: 1611924-01A DUP				Units: s.u.		Analysis Date: 11/14/2016 04:05 PM	
Client ID:			Run ID: WETCHEM_161114N			SeqNo: 4151927		Prep Date: 11/14/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
pH	7.67	0	0	0	0	0-0	7.75	1.04	20		

The following samples were analyzed in this batch:

1611728-01A

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

**Client:** Caerus Oil and Gas LLC  
**Work Order:** 1611728  
**Project:** Starkey 1 Landfarm

## QC BATCH REPORT

Batch ID: **94571** Instrument ID **WETCHEM** Method: **SW7196A**

<b>MBLK</b>		Sample ID: <b>MBLK-94571-94571</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/15/2016 05:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_161115Q</b>		SeqNo: <b>4155113</b>		Prep Date: <b>11/14/2016</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 1.0

<b>LCS</b>		Sample ID: <b>LCS-94571-94571</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/15/2016 05:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_161115Q</b>		SeqNo: <b>4155112</b>		Prep Date: <b>11/14/2016</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.43 1.0 5 0 88.6 80-120 0

<b>MS</b>		Sample ID: <b>1611420-03A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/15/2016 05:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_161115Q</b>		SeqNo: <b>4155101</b>		Prep Date: <b>11/14/2016</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.222 1.0 5.051 0.02 83.2 75-125 0

<b>MS</b>		Sample ID: <b>1611420-03A MSI</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/15/2016 05:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_161115Q</b>		SeqNo: <b>4155103</b>		Prep Date: <b>11/14/2016</b>		DF: <b>100</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1554 97 1562 0.02 99.5 75-125 0

<b>MSD</b>		Sample ID: <b>1611420-03A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>11/15/2016 05:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_161115Q</b>		SeqNo: <b>4155102</b>		Prep Date: <b>11/14/2016</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 3.92 1.0 5 0.02 78 75-125 4.222 7.42 20

The following samples were analyzed in this batch:

1611728-01A

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

**Client:** Caerus Oil and Gas LLC  
**Work Order:** 1611728  
**Project:** Starkey 1 Landfarm

## QC BATCH REPORT

Batch ID: **94649** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

<b>DUP</b>		Sample ID: <b>1611909-01A DUP</b>				Units: <b>mmhos/cm @25°</b>		Analysis Date: <b>11/17/2016 04:45 PM</b>		
Client ID:		Run ID: <b>WETCHEM_1611170</b>			SeqNo: <b>4159987</b>		Prep Date: <b>11/16/2016</b>		DF: <b>50</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	1.315	0.25	0	0	0		1.2	9.15	50	

The following samples were analyzed in this batch:

1611728-01A

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

**Client:** Caerus Oil and Gas LLC  
**Work Order:** 1611728  
**Project:** Starkey 1 Landfarm

## QC BATCH REPORT

Batch ID: **R200363** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R200363				Units: % of sample		Analysis Date: 11/10/2016 07:02 PM		
Client ID:		Run ID: MOIST_161110E				SeqNo: 4147365		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-R200363				Units: % of sample			Analysis Date: 11/10/2016 07:02 PM		
Client ID:				Run ID: MOIST_161110E				SeqNo: 4147363		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: 1611649-56B DUP				Units: % of sample			Analysis Date: 11/10/2016 07:02 PM			
Client ID:				Run ID: MOIST_161110E				SeqNo: 4147327			Prep Date:		DF: 1	
Analyte				Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 20.85 0.050 0 0 0 19.13 8.6 20

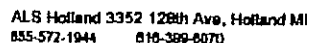
<b>DUP</b>				Sample ID: <b>1611728-01A DUP</b>				Units: % of sample			Analysis Date: <b>11/10/2016 07:02 PM</b>			
Client ID: <b>Starkey 1 Landfarm</b>				Run ID: <b>MOIST_161110E</b>				SeqNo: <b>4147359</b>			Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

Moisture 13.62 0.050 0 0 0 13.11 3.82 20

The following samples were analyzed in this batch:

1611728-01A

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

**WORKORDER**

1611728

Form 2020-8

PAGE

1 of

## DISPOSAL

By Lab or Return to C

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.**

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	<i>Tyler Rust</i>	Tyler Rust	11/9/16	2130
RECEIVED BY	<i>[Signature]</i>	<i>[Signature]</i>	11/9/16	2105
RELINQUISHED BY	<i>[Signature]</i>	<i>[Signature]</i>	11-9-16	1730
RECEIVED BY	<i>[Signature]</i>	Diane F. Sher	11/16/16	0930
RELINQUISHED BY				
RECEIVED BY				

ORIGIN ID: RILA (616) 298-1033  
 NICK MARTINEZ  
 ALS ENVIRONMENTAL PARACHUTE  
 PARACHUTE SERVICE CENTER  
 127 EAST 1ST ST  
 PARACHUTE, CO 61635  
 UNITED STATES US

SHIP DATE: 09NOV16  
 ACTWGT: 31.00 LB  
 CAD: 2264840/NET 3790  
 DIMS: 13x20x14 IN  
 BILL SENDER

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

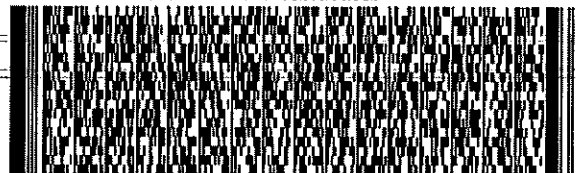
**HOLLAND MI 49424**

(616) 399-6070

REF: 110916-1

INV  
 PO: PARACHUTE

DEPT:



**FedEx**  
 Express



REL#  
 3785346

TRK#  
 0201

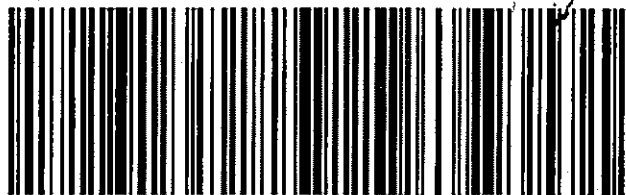
**7776 7899 6120**

**THU - 10 NOV 10:30A**  
**PRIORITY OVERNIGHT**

**XX HLMA**

MI-US

**49424**  
**GRR**



644JXC3811/14EB

**After printing this label:**

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

**Warning:** Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number. Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on [fedex.com](http://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.

<b>ALS Environmental</b>		<b>CUSTOMER SEAL</b>	
3352 128th Avenue Holland, MI 49424 Tel: +1 616 399-6070 Fax: +1 616 399-6185		Date: 11/09/2016 Name: Nick Martinez Company: ALS Environmental Seal Broken By: [Signature] Date: 11/09/2016	

Sample Receipt Checklist

Client Name: **CAERUS**

Date/Time Received: **10-Nov-16 09:30**

Work Order: **1611728**

Received by: **DS**

Checklist completed by Diane Shaw  
eSignature

10-Nov-16  
Date

Reviewed by: Chad Whelton  
eSignature

11-Nov-16  
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>4.0/4.0 c</u> <u>SR2</u>		
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>11/10/2016 1:59:24 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:





30-Jul-2013

Herman Lucero  
HRL Compliance Solutions  
2385 F 1/2 Road  
Grand Junction, CO 81505

Re: **Caerus Chevron 41-8D 13-199 7/22/13**

Work Order: **1307799**

Dear Herman,

ALS Environmental received 3 samples on 23-Jul-2013 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 14.

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

RIGHT SOLUTIONS RIGHT PARTNER

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**Client:** HRL Compliance Solutions  
**Project:** Caerus Chevron 41-8D 13-199 7/22/13  
**Work Order:** 1307799

**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>
1307799-01	BKGD 1	Soil		7/22/2013 13:45	7/23/2013 10:00	<input type="checkbox"/>
1307799-02	BKGD 2	Soil		7/22/2013 13:35	7/23/2013 10:00	<input type="checkbox"/>
1307799-03	BKGD 3	Soil		7/22/2013 13:30	7/23/2013 10:00	<input type="checkbox"/>

**Client:** HRL Compliance Solutions  
**Project:** Caerus Chevron 41-8D 13-199 7/22/13  
**WorkOrder:** 1307799

## **QUALIFIERS, ACRONYMS, UNITS**

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

<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
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-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: 30-Jul-13

Client: HRL Compliance Solutions

Project: Caerus Chevron 41-8D 13-199 7/22/13

Sample ID: BKGD 1

Collection Date: 7/22/2013 01:45 PM

Work Order: 1307799

Lab ID: 1307799-01

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>		Prep Date: <b>7/25/2013</b>	Analyst: <b>ML</b>
Arsenic	39		9.2	mg/Kg-dry	5	7/27/2013 02:20 AM
<b>SOLUBLE CATIONS FOR SAR</b>			<b>SW6020A</b>		Prep Date: <b>7/25/2013</b>	Analyst: <b>RH</b>
Calcium	81		10	mg/L	20	7/26/2013 03:49 PM
Magnesium	28		4.0	mg/L	20	7/26/2013 03:49 PM
Sodium	120		4.0	mg/L	20	7/26/2013 03:49 PM
<b>SODIUM ADSORPTION RATIO</b>			<b>USDA H60 METHO</b>		Prep Date: <b>7/25/2013</b>	Analyst: <b>RH</b>
Sodium Adsorption Ratio	2.8		0.010	none	1	7/26/2013
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>		Prep Date: <b>7/25/2013</b>	Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	1.2		0.050	mmhos/cm @25	10	7/25/2013 03:10 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>BD</b>
Moisture	82		0.050	% of sample	1	7/23/2013 12:40 PM
<b>PH</b>			<b>SW9045D</b>		Prep Date: <b>7/23/2013</b>	Analyst: <b>JB</b>
pH	9.1			s.u.	1	7/23/2013 11:00 AM

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

# ALS Group USA, Corp

Date: 30-Jul-13

**Client:** HRL Compliance Solutions

**Project:** Caerus Chevron 41-8D 13-199 7/22/13

**Sample ID:** BKGD 2

**Collection Date:** 7/22/2013 01:35 PM

**Work Order:** 1307799

**Lab ID:** 1307799-02

**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>		Prep Date: <b>7/25/2013</b>	Analyst: <b>ML</b>
Arsenic	8.3		2.0	mg/Kg-dry	5	7/27/2013 02:44 AM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>BD</b>
Moisture	7.3		0.050	% of sample	1	7/23/2013

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

# ALS Group USA, Corp

Date: 30-Jul-13

**Client:** HRL Compliance Solutions

**Project:** Caerus Chevron 41-8D 13-199 7/22/13

**Sample ID:** BKGD 3

**Collection Date:** 7/22/2013 01:30 PM

**Work Order:** 1307799

**Lab ID:** 1307799-03

**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>		Prep Date: <b>7/25/2013</b>	Analyst: <b>ML</b>
Arsenic	8.6		1.8	mg/Kg-dry	5	7/27/2013 02:50 AM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>BD</b>
Moisture	5.2		0.050	% of sample	1	7/23/2013

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

Client: HRL Compliance Solutions

Work Order: 1307799

Project: Caerus Chevron 41-8D 13-199 7/22/13

QC BATCH REPORT

Batch ID: 50013 Instrument ID ICPMS1 Method: SW6020A

<b>MBLK</b>		Sample ID: <b>MBLK-50013-50013</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/26/2013 02:01 PM</b>		
Client ID:		Run ID: <b>ICPMS1_130726A</b>				SeqNo: <b>2392468</b>		Prep Date: <b>7/25/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.03916	0.25								J

<b>LCS</b>		Sample ID: <b>LCS-50013-50013</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/26/2013 02:07 PM</b>		
Client ID:		Run ID: <b>ICPMS1_130726A</b>				SeqNo: <b>2392469</b>		Prep Date: <b>7/25/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.799	0.25	5	0	96	80-120	0			

<b>MS</b>		Sample ID: <b>1307769-02BMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/26/2013 02:19 PM</b>		
Client ID:		Run ID: <b>ICPMS1_130726A</b>				SeqNo: <b>2392471</b>		Prep Date: <b>7/25/2013</b>		DF: <b>5</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	12.8	1.9	7.418	5.276	101	75-125	0			

<b>MSD</b>		Sample ID: <b>1307769-02BMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/26/2013 02:25 PM</b>		
Client ID:		Run ID: <b>ICPMS1_130726A</b>				SeqNo: <b>2392472</b>		Prep Date: <b>7/25/2013</b>		DF: <b>5</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	13.82	1.9	7.645	5.276	112	75-125	12.8	7.68	25	

The following samples were analyzed in this batch:

1307799-01A	1307799-02A	1307799-03A
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**Client:** HRL Compliance Solutions  
**Work Order:** 1307799  
**Project:** Caerus Chevron 41-8D 13-199 7/22/13

## QC BATCH REPORT

Batch ID: **49915** Instrument ID **WETCHEM** Method: **USDA H60 Method**

<b>DUP</b>		Sample ID: <b>1307634-01B DUP</b>				Units: <b>mmhos/cm @25°C</b>		Analysis Date: <b>7/25/2013 03:10 PM</b>		
Client ID:		Run ID: <b>WETCHEM_130725J</b>				SeqNo: <b>2390794</b>		Prep Date: <b>7/25/2013</b>		DF: <b>10</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	1.583	0.050	0	0	0		1.847	15.4	50	

The following samples were analyzed in this batch:

1307799-01B

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



**Client:** HRL Compliance Solutions  
**Work Order:** 1307799  
**Project:** Caerus Chevron 41-8D 13-199 7/22/13

## QC BATCH REPORT

Batch ID: **49934** Instrument ID **WETCHEM** Method: **SW9045D**

LCS				Sample ID: LCS-49934-49934				Units: s.u.			Analysis Date: 7/23/2013 11:00 AM			
Client ID:				Run ID: WETCHEM_130723L				SeqNo: 2388161			Prep Date: 7/23/2013		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
pH		4.53	0	4.4	0	103	90-110	0						

DUP					Sample ID: 1307798-01B DUP					Units: s.u.			Analysis Date: 7/23/2013 11:00 AM		
Client ID:					Run ID: WETCHEM_130723L					SeqNo: 2388163		Prep Date: 7/23/2013		DF: 1	
Analyte					Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
pH					9.13	0	0	0	0	0-0	9.13	0	20		

The following samples were analyzed in this batch:

1307799-01A

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

Client: HRL Compliance Solutions  
 Work Order: 1307799  
 Project: Caerus Chevron 41-8D 13-199 7/22/13

## QC BATCH REPORT

Batch ID: **R124049** Instrument ID **MOIST** Method: **A2540 G**

<b>MBLK</b>	Sample ID: <b>WBLKS-R124049</b>				Units: % of sample			Analysis Date: <b>7/23/2013 12:40 PM</b>		
Client ID:	Run ID: <b>MOIST_130723A</b>				SeqNo: <b>2388372</b>			Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture ND 0.050

<b>LCS</b>	Sample ID: <b>LCS-R124049</b>				Units: % of sample			Analysis Date: <b>7/23/2013 12:40 PM</b>		
Client ID:	Run ID: <b>MOIST_130723A</b>				SeqNo: <b>2388371</b>			Prep Date:		DF: <b>1</b>
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

<b>DUP</b>	Sample ID: <b>1307776-06A DUP</b>				Units: % of sample			Analysis Date: <b>7/23/2013 12:40 PM</b>		
Client ID:	Run ID: <b>MOIST_130723A</b>				SeqNo: <b>2388357</b>			Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 48.63 0.050 0 0 0 0-0 49.35 1.47 20

<b>DUP</b>	Sample ID: <b>1307798-01B DUP</b>				Units: % of sample			Analysis Date: <b>7/23/2013 12:40 PM</b>		
Client ID:	Run ID: <b>MOIST_130723A</b>				SeqNo: <b>2388365</b>			Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 19.99 0.050 0 0 0 0-0 20.28 1.44 20

The following samples were analyzed in this batch:

1307799-01A

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

**Client:** HRL Compliance Solutions  
**Work Order:** 1307799  
**Project:** Caerus Chevron 41-8D 13-199 7/22/13

## QC BATCH REPORT

Batch ID: **R124058** Instrument ID **MOIST** Method: **A2540 G**

MBLK	Sample ID: WBLKS-R124058					Units: % of sample		Analysis Date: 7/23/2013		
Client ID:		Run ID: MOIST_130723C			SeqNo: 2388576		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-R124058				Units: % of sample			Analysis Date: 7/23/2013		
Client ID:		Run ID: MOIST_130723C				SeqNo: 2388574		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: 1307794-01B DUP				Units: % of sample		Analysis Date: 7/23/2013		
Client ID:		Run ID: MOIST_130723C				SeqNo: 2388528		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 15.1 0.050 0 0 0 0-0 15.45 2.29 20

DUP		Sample ID: 1307801-04A DUP				Units: % of sample		Analysis Date: 7/23/2013		
Client ID:		Run ID: MOIST_130723C			SeqNo: 2388551		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 32.26 0.050 0 0 0 0-0 31.81 1.4 20

The following samples were analyzed in this batch:

1307799-02A 1307799-03A

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



# ALS Laboratory Group

225 Commerce Drive, Fort Collins, Colorado 80524  
TF: (800) 443-1511 PH: (970) 490-1511 FX: (970) 490-1522

## Chain-of-Custody

Form 202r8

WORKORDER  
#

1307799

PAGE

1 of 1

DISPOSAL

By Lab or Return to Client

PROJECT NAME

CAERUS CHEVRON 41-8D

SAMPLER

Casey Richardson

DATE

7-22-13

TURNAROUND

5 DAY

PROJECT No.

13-199

SITE ID

EDD FORMAT

PURCHASE ORDER

COMPANY NAME

HCSI

BILL TO COMPANY

PDC Energy

SEND REPORT TO

Herman Lucero

INVOICE ATTN TO

Ed Winters

ADDRESS

2385 F 1/2 Road

ADDRESS

120 Railroad Ave. Suite D

CITY / STATE / ZIP

Grand Junction, CO. 81505

CITY / STATE / ZIP

Parachute, CO 81635

PHONE

970-243-3271

PHONE

970-285-9606

FAX

970-243-3280

FAX

E-MAIL

hlucero@hrlcomp.com

E-MAIL

ewinters@peld.com

Lab ID

Field ID

Matrix

Sample  
Date

Sample  
Time

#  
Bottles

Pres.

QC

SAR/EC/AR

ARSENIC

1

BKGD 1

SOIL

7-22-13

1345

2

8

X

X

2

BKGD 2

SOIL

7-22-13

1335

1

8

X

3

BKGD 3

SOIL

7-22-13

1330

1

8

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)

x

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

Casey Richardson

Casey Richardson

7-22-13

1625

RECEIVED BY

Colby Koerner

Colby Koerner

7/22/13

1625

RELINQUISHED BY

Colby Koerner

Colby Koerner

7/22/13

1625

RECEIVED BY

Fed Ex

RELINQUISHED BY

Diane F Shaw

Diane F Shaw

7/23/13

1000

RECEIVED BY

Sample Receipt Checklist

Client Name: HRL

Date/Time Received: 23-Jul-13 10:00

Work Order: 1307799

Received by: DS

Checklist completed by Diane Shaw 23-Jul-13  
eSignature Date

Reviewed by: Ann Preston 28-Jul-13  
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"/>	
Temperature(s)/Thermometer(s):	<u>5.0 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>7/23/2013 10:56:26 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

Origin ID: RILA



127 E First Street

PARACHUTE, CO 81635



J13111302120326

SHIP TO: (616) 399-6070

BILL RECIPIENT

Sample recieving  
ALS Holland  
3352 128TH AVE

HOLLAND, MI 49424

Ship Date: 22JUL13  
ActWgt: 80.0 LB  
CAD: 103923490/INET3370

Dims: 25 X 14 X 15 IN

Delivery Address Bar Code



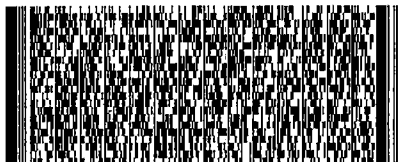
Ref # 1001-072213-3  
Invoice #  
PO #  
Dept #

TUE - 23 JUL 3:00P  
STANDARD OVERNIGHT

TRK# 7962 8879 8431  
0201

**XX GRRR**

**49424**  
MI-US  
GRR



518G1/AA04/63AB

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