



18-Jul-2019

Jake Janicek  
Caerus Oil and Gas LLC  
143 Diamond Ave.  
Parachute, CO 81635

Re: **Rulison Comp Station COA Sample**

Work Order: **19070639**

Dear Jake,

ALS Environmental received 1 sample on 11-Jul-2019 09:30 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 23.

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

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**Client:** Caerus Oil and Gas LLC  
**Project:** Rulison Comp Station COA Sample  
**Work Order:** 19070639

**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>
19070639-01	20190709-RulsCS-COA Sample	Soil		7/9/2019 14:50	7/11/2019 09:30	<input type="checkbox"/>

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**Client:** Caerus Oil and Gas LLC  
**Project:** Rulison Comp Station COA Sample  
**Work Order:** 19070639

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**Case Narrative**

Batch 139146, Method PNLVI\_8270\_S, Sample 19070639-01A: One or more surrogate recoveries were below the lower control limits. The sample results may be biased low.

Batch 139147, Method DRLVI\_8015\_S, Sample 19070639-01A MS/MSD: The MS/MSD recovery was above the upper control limit for DRO. The corresponding result in the parent sample may be biased high.

<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	Milligrams per Kilogram
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-Jul-19

**Client:** Caerus Oil and Gas LLC  
**Project:** Rulison Comp Station COA Sample  
**Sample ID:** 20190709-RulsCS-COA Sample  
**Collection Date:** 7/9/2019 02:50 PM

**Work Order:** 19070639  
**Lab ID:** 19070639-01  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>							
				Method: <b>SW8015C</b>		Prep: SW3546 / 7/17/19	Analyst: <b>KB</b>
<b>DRO (C10-C28)</b>	<b>91</b>		<b>3.3</b>	<b>5.7</b>	<b>mg/Kg-dry</b>	1	7/17/2019 13:04
Surr: 4-Terphenyl-d14	98.6			34-130	%REC	1	7/17/2019 13:04
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>							
				Method: <b>SW8015D</b>		Prep: SW5035 / 7/15/19	Analyst: <b>KB</b>
<b>GRO (C6-C10)</b>	<b>U</b>		<b>2.8</b>	<b>6.6</b>	<b>mg/Kg-dry</b>	1	7/15/2019 19:06
Surr: Toluene-d8	99.0			71-123	%REC	1	7/15/2019 19:06
<b>MERCURY BY CVAA</b>							
				Method: <b>SW7471B</b>		Prep: SW7471 / 7/16/19	Analyst: <b>RSB</b>
<b>Mercury</b>	<b>0.023</b>		<b>0.0019</b>	<b>0.019</b>	<b>mg/Kg-dry</b>	1	7/17/2019 10:43
<b>METALS BY ICP-MS</b>							
				Method: <b>SW6020A</b>		Prep: SW3050B / 7/12/19	Analyst: <b>ABL</b>
<b>Arsenic</b>	<b>9.1</b>		<b>0.048</b>	<b>0.40</b>	<b>mg/Kg-dry</b>	1	7/12/2019 20:44
<b>Barium</b>	<b>230</b>		<b>3.7</b>	<b>4.0</b>	<b>mg/Kg-dry</b>	10	7/15/2019 14:27
<b>Boron</b>	<b>11</b>		<b>1.5</b>	<b>1.6</b>	<b>mg/Kg-dry</b>	1	7/12/2019 20:44
<b>Cadmium</b>	<b>0.13</b>	J	<b>0.024</b>	<b>0.16</b>	<b>mg/Kg-dry</b>	1	7/12/2019 20:44
<b>Chromium</b>	<b>13</b>		<b>0.18</b>	<b>0.40</b>	<b>mg/Kg-dry</b>	1	7/12/2019 20:44
<b>Copper</b>	<b>14</b>		<b>0.40</b>	<b>0.40</b>	<b>mg/Kg-dry</b>	1	7/12/2019 20:44
<b>Lead</b>	<b>11</b>		<b>0.19</b>	<b>0.40</b>	<b>mg/Kg-dry</b>	1	7/12/2019 20:44
<b>Nickel</b>	<b>17</b>		<b>0.21</b>	<b>0.40</b>	<b>mg/Kg-dry</b>	1	7/12/2019 20:44
Selenium	U		0.37	0.40	mg/Kg-dry	1	7/12/2019 20:44
Silver	U		0.053	0.40	mg/Kg-dry	1	7/12/2019 20:44
<b>Zinc</b>	<b>35</b>		<b>0.78</b>	<b>0.80</b>	<b>mg/Kg-dry</b>	1	7/12/2019 20:44
<b>SOLUBLE CATIONS FOR SAR</b>							
				Method: <b>SW6020A</b>		Prep: USDA Method 20B / 7/16/19	Analyst: <b>ABL</b>
<b>Calcium</b>	<b>33</b>		<b>2.5</b>	<b>5.0</b>	<b>mg/L</b>	10	7/16/2019 19:17
<b>Magnesium</b>	<b>5.6</b>		<b>0.50</b>	<b>2.0</b>	<b>mg/L</b>	10	7/17/2019 13:53
<b>Sodium</b>	<b>43</b>		<b>0.45</b>	<b>2.0</b>	<b>mg/L</b>	10	7/17/2019 13:53
<b>SODIUM ADSORPTION RATIO</b>							
				Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 7/16/19	Analyst: <b>ABL</b>
<b>Sodium Adsorption Ratio</b>	<b>1.8</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	1	7/16/2019
<b>POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS)</b>							
				Method: <b>SW846 8270D</b>		Prep: SW3546 / 7/12/19	Analyst: <b>EEW</b>
Acenaphthene	U		0.00087	0.0045	mg/Kg-dry	1	7/15/2019 14:19
Anthracene	U		0.0015	0.0045	mg/Kg-dry	1	7/15/2019 14:19
Benzo(a)anthracene	U		0.0019	0.0045	mg/Kg-dry	1	7/15/2019 14:19
Benzo(a)pyrene	U		0.0012	0.0045	mg/Kg-dry	1	7/15/2019 14:19
Benzo(b)fluoranthene	U		0.0011	0.0045	mg/Kg-dry	1	7/15/2019 14:19
Benzo(k)fluoranthene	U		0.0013	0.0045	mg/Kg-dry	1	7/15/2019 14:19
Chrysene	U		0.00093	0.0045	mg/Kg-dry	1	7/15/2019 14:19
Dibenzo(a,h)anthracene	U		0.0011	0.0045	mg/Kg-dry	1	7/15/2019 14:19

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

**ALS Group, USA**

Date: 18-Jul-19

**Client:** Caerus Oil and Gas LLC  
**Project:** Rulison Comp Station COA Sample  
**Sample ID:** 20190709-RulsCS-COA Sample  
**Collection Date:** 7/9/2019 02:50 PM

**Work Order:** 19070639  
**Lab ID:** 19070639-01  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	U		0.00083	0.0045	mg/Kg-dry	1	7/15/2019 14:19
Fluorene	U		0.0015	0.0045	mg/Kg-dry	1	7/15/2019 14:19
Indeno(1,2,3-cd)pyrene	U		0.0016	0.0045	mg/Kg-dry	1	7/15/2019 14:19
Naphthalene	U		0.0020	0.0045	mg/Kg-dry	1	7/15/2019 14:19
Pyrene	U		0.00074	0.0045	mg/Kg-dry	1	7/15/2019 14:19
Surr: 2-Fluorobiphenyl	21.4			20-140	%REC	1	7/15/2019 14:19
Surr: 4-Terphenyl-d14	15.8	S		22-172	%REC	1	7/15/2019 14:19
Surr: Nitrobenzene-d5	11.5	S		28-140	%REC	1	7/15/2019 14:19
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260C</b>		Prep: SW5035 / 7/15/19		Analyst: <b>WH</b>
Benzene	U		0.0068	0.040	mg/Kg	1	7/17/2019 03:21
Ethylbenzene	U		0.0083	0.040	mg/Kg	1	7/17/2019 03:21
m,p-Xylene	U		0.053	0.079	mg/Kg	1	7/17/2019 03:21
o-Xylene	U		0.015	0.040	mg/Kg	1	7/17/2019 03:21
Toluene	U		0.011	0.040	mg/Kg	1	7/17/2019 03:21
Xylenes, Total	U		0.053	0.12	mg/Kg	1	7/17/2019 03:21
Surr: 1,2-Dichloroethane-d4	98.4			70-130	%REC	1	7/17/2019 03:21
Surr: 4-Bromofluorobenzene	101			70-130	%REC	1	7/17/2019 03:21
Surr: Dibromofluoromethane	102			70-130	%REC	1	7/17/2019 03:21
Surr: Toluene-d8	98.4			70-130	%REC	1	7/17/2019 03:21
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 7/16/19		Analyst: <b>QTN</b>
Electrical Conductivity @ Saturation	0.31		0.00055	0.0050	mmhos/cm @25°	1	7/17/2019 10:20
<b>CHROMIUM, TRIVALENT</b>			Method: <b>CALCULATION</b>				Analyst: <b>MB</b>
Chromium, Trivalent	13		0.35	1.1	mg/Kg-dry	1	7/16/2019 16:00
<b>CHROMIUM, HEXAVALENT</b>			Method: <b>SW7196A</b>		Prep: SW3060A / 7/16/19		Analyst: <b>RZM</b>
Chromium, Hexavalent	U		0.96	1.1	mg/Kg-dry	1	7/16/2019 14:43
<b>MOISTURE</b>			Method: <b>SW3550C</b>				Analyst: <b>MMO</b>
Moisture	12		0.10	0.10	% of sample	1	7/11/2019 13:55
<b>PH</b>			Method: <b>SW9045D</b>		Prep: EXTRACT / 7/12/19		Analyst: <b>DNW</b>
pH	9.11		0.10	0.100	s.u.	1	7/12/2019 11:00
Temperature	20.3		0.10	0.100	°C	1	7/12/2019 11:00

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

**Client:** Caerus Oil and Gas LLC  
**Work Order:** 19070639  
**Project:** Rulison Comp Station COA Sample

**QC BATCH REPORT**

Batch ID: **139147** Instrument ID **GC8** Method: **SW8015C**

MBLK		Sample ID: <b>DBLKS1-139147-139147</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/15/2019 10:39 AM</b>			
Client ID:		Run ID: <b>GC8_190715A</b>		SeqNo: <b>5784039</b>		Prep Date: <b>7/12/2019</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>	3.517	0	3.33	0	106	34-130	0				

LCS		Sample ID: <b>DLCSS1-139147-139147</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/15/2019 11:08 AM</b>			
Client ID:		Run ID: <b>GC8_190715A</b>		SeqNo: <b>5784040</b>		Prep Date: <b>7/12/2019</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)	382.6	5.0	333	0	115	65-122	0				
<i>Surr: 4-Terphenyl-d14</i>	3.15	0	3.33	0	94.6	34-130	0				

MS		Sample ID: <b>19070639-01A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/15/2019 12:06 PM</b>			
Client ID: <b>20190709-RulsCS-COA Sample</b>		Run ID: <b>GC8_190715A</b>		SeqNo: <b>5784042</b>		Prep Date: <b>7/12/2019</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)	444.6	5.0	330.9	21.38	128	65-122	0			S	
<i>Surr: 4-Terphenyl-d14</i>	1.126	0	3.309	0	34	34-130	0				

MSD		Sample ID: <b>19070639-01A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/15/2019 12:35 PM</b>			
Client ID: <b>20190709-RulsCS-COA Sample</b>		Run ID: <b>GC8_190715A</b>		SeqNo: <b>5784043</b>		Prep Date: <b>7/12/2019</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)	441.3	4.9	326.8	21.38	129	65-122	444.6	0.739	30	S	
<i>Surr: 4-Terphenyl-d14</i>	0.4253	0	3.268	0	13	34-130	1.126	90.4	30	SR	

The following samples were analyzed in this batch: 19070639-01A

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

**Client:** Caerus Oil and Gas LLC  
**Work Order:** 19070639  
**Project:** Rulison Comp Station COA Sample

# QC BATCH REPORT

Batch ID: **139306**      Instrument ID **GC8**      Method: **SW8015C**

MBLK		Sample ID: <b>DBLKS1-139306-139306</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/17/2019 11:36 AM</b>		
Client ID:		Run ID: <b>GC8_190717A</b>				SeqNo: <b>5789050</b>		Prep Date: <b>7/17/2019</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>	3.567	0	3.33	0	107	34-130	0			

LCS		Sample ID: <b>DLCSS1-139306-139306</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/17/2019 12:06 PM</b>		
Client ID:		Run ID: <b>GC8_190717A</b>				SeqNo: <b>5789051</b>		Prep Date: <b>7/17/2019</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)	367.9	5.0	333	0	110	65-122	0			
<i>Surr: 4-Terphenyl-d14</i>	3.483	0	3.33	0	105	34-130	0			

LCSD		Sample ID: <b>DLCSDS1-139306-139306</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/17/2019 12:35 PM</b>		
Client ID:		Run ID: <b>GC8_190717A</b>				SeqNo: <b>5789052</b>		Prep Date: <b>7/17/2019</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)	369.5	5.0	333	0	111	65-122	367.9	0.429	30	
<i>Surr: 4-Terphenyl-d14</i>	3.3	0	3.33	0	99.1	34-130	3.483	5.41	30	

The following samples were analyzed in this batch:

19070639-01A
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Client: Caerus Oil and Gas LLC  
 Work Order: 19070639  
 Project: Rulison Comp Station COA Sample

# QC BATCH REPORT

Batch ID: 139226 Instrument ID GC9 Method: SW8015D

MBLK		Sample ID: MBLK-139226-139226				Units: µg/Kg-dry		Analysis Date: 7/15/2019 06:36 PM		
Client ID:		Run ID: GC9_190715A		SeqNo: 5784657		Prep Date: 7/15/2019		DF: 1		
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>	4283	0	5000	0	85.7	71-123	0			

LCS		Sample ID: LCS-139226-139226				Units: µg/Kg-dry		Analysis Date: 7/15/2019 06:06 PM		
Client ID:		Run ID: GC9_190715A		SeqNo: 5784656		Prep Date: 7/15/2019		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	530400	5,000	500000	0	106	71-123	0			
<i>Surr: Toluene-d8</i>	5824	0	5000	0	116	71-123	0			

MS		Sample ID: 19070639-01A MS				Units: µg/Kg-dry		Analysis Date: 7/16/2019 12:03 PM		
Client ID: 20190709-RulsCS-COA Sample		Run ID: GC9_190715A		SeqNo: 5784667		Prep Date: 7/15/2019		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	655200	6,000	596700	0	110	71-123	0			
<i>Surr: Toluene-d8</i>	6747	0	5967	0	113	71-123	0			

MSD		Sample ID: 19070639-01A MSD				Units: µg/Kg-dry		Analysis Date: 7/16/2019 12:32 PM		
Client ID: 20190709-RulsCS-COA Sample		Run ID: GC9_190715A		SeqNo: 5784668		Prep Date: 7/15/2019		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	666300	6,300	632400	0	105	71-123	655200	1.68	30	
<i>Surr: Toluene-d8</i>	7347	0	6324	0	116	71-123	6747	8.51	30	

The following samples were analyzed in this batch:

19070639-01A
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**Client:** Caerus Oil and Gas LLC  
**Work Order:** 19070639  
**Project:** Rulison Comp Station COA Sample

# QC BATCH REPORT

Batch ID: **139311**      Instrument ID **HG4**      Method: **SW7471B**

MBLK		Sample ID: <b>MBLK-139311-139311</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/17/2019 09:57 AM</b>		
Client ID:		Run ID: <b>HG4_190717A</b>		SeqNo: <b>5787428</b>		Prep Date: <b>7/16/2019</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	U	0.020								

LCS		Sample ID: <b>LCS-139311-139311</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/17/2019 09:59 AM</b>		
Client ID:		Run ID: <b>HG4_190717A</b>		SeqNo: <b>5787429</b>		Prep Date: <b>7/16/2019</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1828	0.020	0.1665	0	110	80-120	0			

MS		Sample ID: <b>19070594-01AMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/17/2019 10:34 AM</b>		
Client ID:		Run ID: <b>HG4_190717A</b>		SeqNo: <b>5787445</b>		Prep Date: <b>7/16/2019</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1689	0.018	0.1493	0.01289	104	75-125	0			

MSD		Sample ID: <b>19070594-01AMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/17/2019 10:36 AM</b>		
Client ID:		Run ID: <b>HG4_190717A</b>		SeqNo: <b>5787446</b>		Prep Date: <b>7/16/2019</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.169	0.018	0.1476	0.01289	106	75-125	0.1689	0.0426	35	

The following samples were analyzed in this batch:

19070639-01A
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Caerus Oil and Gas LLC  
**Work Order:** 19070639  
**Project:** Rulison Comp Station COA Sample

# QC BATCH REPORT

Batch ID: **139120**      Instrument ID **ICPMS3**      Method: **SW6020A**

MBLK		Sample ID: <b>MBLK-139120-139120</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/12/2019 08:14 PM</b>			
Client ID:		Run ID: <b>ICPMS3_190712B</b>				SeqNo: <b>5781569</b>		Prep Date: <b>7/12/2019</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	U	0.23									
Barium	U	0.23									
Boron	U	0.92									
Cadmium	U	0.092									
Chromium	U	0.23									
Lead	U	0.23									
Nickel	U	0.23									
Silver	U	0.23									
Zinc	U	0.46									

MBLK		Sample ID: <b>MBLK-139120-139120</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/15/2019 02:04 PM</b>			
Client ID:		Run ID: <b>ICPMS3_190715B</b>				SeqNo: <b>5783062</b>		Prep Date: <b>7/12/2019</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Copper	U	0.23									
Selenium	U	0.23									

LCS		Sample ID: <b>LCS-139120-139120</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>7/12/2019 08:16 PM</b>			
Client ID:		Run ID: <b>ICPMS3_190712B</b>				SeqNo: <b>5781570</b>		Prep Date: <b>7/12/2019</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	4.816	0.24	4.739	0	102	80-120	0				
Barium	4.805	0.24	4.739	0	101	80-120	0				
Boron	22.57	0.95	23.7	0	95.2	80-120	0				
Cadmium	4.681	0.095	4.739	0	98.8	80-120	0				
Chromium	4.842	0.24	4.739	0	102	80-120	0				
Copper	5.299	0.24	4.739	0	112	80-120	0				
Lead	4.828	0.24	4.739	0	102	80-120	0				
Nickel	4.826	0.24	4.739	0	102	80-120	0				
Selenium	5.036	0.24	4.739	0	106	80-120	0				
Silver	4.842	0.24	4.739	0	102	80-120	0				
Zinc	4.943	0.47	4.739	0	104	80-120	0				

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

Client: Caerus Oil and Gas LLC  
 Work Order: 19070639  
 Project: Rulison Comp Station COA Sample

# QC BATCH REPORT

Batch ID: 139120 Instrument ID ICPMS3 Method: SW6020A

MS		Sample ID: 19070637-02AMS				Units: mg/Kg		Analysis Date: 7/12/2019 08:38 PM		
Client ID:		Run ID: ICPMS3_190712B			SeqNo: 5781582		Prep Date: 7/12/2019		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.917	0.39	7.752	3.031	88.8	75-125	0			
Barium	163.1	0.39	7.752	124.9	492	75-125	0			SEO
Boron	42.9	1.6	38.76	1.871	106	75-125	0			
Cadmium	6.492	0.16	7.752	0.1473	81.9	75-125	0			
Chromium	15.83	0.39	7.752	8.352	96.4	75-125	0			
Copper	18.61	0.39	7.752	4.61	181	75-125	0			S
Lead	13.53	0.39	7.752	5.455	104	75-125	0			
Nickel	12.92	0.39	7.752	4.956	103	75-125	0			
Selenium	7.263	0.39	7.752	0.3058	89.7	75-125	0			
Silver	6.41	0.39	7.752	0.02052	82.4	75-125	0			
Zinc	21.79	0.78	7.752	15.54	80.7	75-125	0			

MSD		Sample ID: 19070637-02AMSD				Units: mg/Kg		Analysis Date: 7/12/2019 08:40 PM		
Client ID:		Run ID: ICPMS3_190712B			SeqNo: 5781583		Prep Date: 7/12/2019		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.903	0.39	7.728	3.031	88.9	75-125	9.917	0.138	20	
Barium	113.4	0.39	7.728	124.9	-149	75-125	163.1	35.9	20	SRO
Boron	40.9	1.5	38.64	1.871	101	75-125	42.9	4.76	20	
Cadmium	6.731	0.15	7.728	0.1473	85.2	75-125	6.492	3.61	20	
Chromium	16.54	0.39	7.728	8.352	106	75-125	15.83	4.42	20	
Copper	11.77	0.39	7.728	4.61	92.7	75-125	18.61	45	20	R
Lead	12.03	0.39	7.728	5.455	85.1	75-125	13.53	11.7	20	
Nickel	12.14	0.39	7.728	4.956	92.9	75-125	12.92	6.26	20	
Selenium	7.28	0.39	7.728	0.3058	90.2	75-125	7.263	0.234	20	
Silver	6.733	0.39	7.728	0.02052	86.9	75-125	6.41	4.91	20	
Zinc	25.76	0.77	7.728	15.54	132	75-125	21.79	16.7	20	S

The following samples were analyzed in this batch:

19070639-01A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Caerus Oil and Gas LLC  
 Work Order: 19070639  
 Project: Rulison Comp Station COA Sample

# QC BATCH REPORT

Batch ID: 139297 Instrument ID ICPMS3 Method: SW6020A

DUP		Sample ID: 19070639-01ADUP				Units: mg/L		Analysis Date: 7/16/2019 07:18 PM		
Client ID: 20190709-RulsCS-COA Sample		Run ID: ICPMS3_190716A		SeqNo: 5786488		Prep Date: 7/16/2019		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	24.79	5.0	0	0	0	0-0	32.83	27.9		

DUP		Sample ID: 19070639-01ADUP				Units: mg/L		Analysis Date: 7/17/2019 01:55 PM		
Client ID: 20190709-RulsCS-COA Sample		Run ID: ICPMS3_190717A		SeqNo: 5788045		Prep Date: 7/16/2019		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Magnesium	4.309	2.0	0	0	0	0-0	5.578	25.7		
Sodium	34.73	2.0	0	0	0	0-0	42.71	20.6		

The following samples were analyzed in this batch:

19070639-01A

Batch ID: 139297 Instrument ID SAR Method: USDA H60 Metho

DUP		Sample ID: 19070639-01ADUP				Units: none		Analysis Date: 7/16/2019		
Client ID: 20190709-RulsCS-COA Sample		Run ID: SAR_190716A		SeqNo: 5788096		Prep Date: 7/16/2019		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	1.693	0.010	0	0	0		1.814	6.89	50	

The following samples were analyzed in this batch:

19070639-01A

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

Client: Caerus Oil and Gas LLC  
 Work Order: 19070639  
 Project: Rulison Comp Station COA Sample

# QC BATCH REPORT

Batch ID: 139146 Instrument ID SVMS9 Method: SW846 8270D

MBLK		Sample ID: SBLKS1-139146-139146				Units: µg/Kg		Analysis Date: 7/15/2019 12:45 PM		
Client ID:		Run ID: SVMS9_190715A		SeqNo: 5785593		Prep Date: 7/12/2019		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	U	4.2								
Anthracene	U	4.2								
Benzo(a)anthracene	U	4.2								
Benzo(a)pyrene	U	4.2								
Benzo(b)fluoranthene	U	4.2								
Benzo(k)fluoranthene	U	4.2								
Chrysene	U	4.2								
Dibenzo(a,h)anthracene	U	4.2								
Fluoranthene	U	4.2								
Fluorene	U	4.2								
Indeno(1,2,3-cd)pyrene	U	4.2								
Naphthalene	U	4.2								
Pyrene	U	4.2								
Surr: 2-Fluorobiphenyl	2350	0	3333	0	70.5	20-140	0			
Surr: 4-Terphenyl-d14	3674	0	3333	0	110	22-172	0			
Surr: Nitrobenzene-d5	2630	0	3333	0	78.9	28-140	0			

LCS		Sample ID: SLCSS1-139146-139146				Units: µg/Kg		Analysis Date: 7/15/2019 01:01 PM		
Client ID:		Run ID: SVMS9_190715A		SeqNo: 5785594		Prep Date: 7/12/2019		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1172	4.2	1333	0	87.9	40-140	0			
Anthracene	1753	4.2	1333	0	131	40-140	0			
Benzo(a)anthracene	1342	4.2	1333	0	101	40-140	0			
Benzo(a)pyrene	1389	4.2	1333	0	104	40-140	0			
Benzo(b)fluoranthene	1505	4.2	1333	0	113	40-140	0			
Benzo(k)fluoranthene	1124	4.2	1333	0	84.3	40-140	0			
Chrysene	1310	4.2	1333	0	98.3	40-140	0			
Dibenzo(a,h)anthracene	1091	4.2	1333	0	81.8	40-140	0			
Fluoranthene	1273	4.2	1333	0	95.5	40-140	0			
Fluorene	1199	4.2	1333	0	89.9	40-140	0			
Indeno(1,2,3-cd)pyrene	1202	4.2	1333	0	90.1	40-140	0			
Naphthalene	1361	4.2	1333	0	102	40-140	0			
Pyrene	1233	4.2	1333	0	92.5	40-140	0			
Surr: 2-Fluorobiphenyl	2226	0	3333	0	66.8	20-140	0			
Surr: 4-Terphenyl-d14	3722	0	3333	0	112	22-172	0			
Surr: Nitrobenzene-d5	2124	0	3333	0	63.7	28-140	0			

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

Client: Caerus Oil and Gas LLC  
 Work Order: 19070639  
 Project: Rulison Comp Station COA Sample

# QC BATCH REPORT

Batch ID: 139146 Instrument ID SVMS9 Method: SW846 8270D

MS				Sample ID: 19070686-13B MS			Units: µg/Kg		Analysis Date: 7/15/2019 01:16 PM		
Client ID:		Run ID: SVMS9_190715A		SeqNo: 5785595		Prep Date: 7/12/2019		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	1311	4.2	1330	34.19	96	40-140		0			
Anthracene	1874	4.2	1330	65.07	136	40-140		0			
Benzo(a)anthracene	1458	4.2	1330	49.16	106	40-140		0			
Benzo(a)pyrene	1445	4.2	1330	33.59	106	40-140		0			
Benzo(b)fluoranthene	1434	4.2	1330	46.64	104	40-140		0			
Benzo(k)fluoranthene	1255	4.2	1330	11.14	93.5	40-140		0			
Chrysene	1339	4.2	1330	37.39	97.8	40-140		0			
Dibenzo(a,h)anthracene	1231	4.2	1330	3.962	92.2	40-140		0			
Fluoranthene	1257	4.2	1330	67.1	89.4	40-140		0			
Fluorene	1392	4.2	1330	99.61	97.1	40-140		0			
Indeno(1,2,3-cd)pyrene	1345	4.2	1330	27.02	99	40-140		0			
Naphthalene	13550	4.2	1330	5504	605	40-140		0		SEO	
Pyrene	1216	4.2	1330	87.25	84.8	40-140		0			
Surr: 2-Fluorobiphenyl	4108	0	3327	0	123	20-140		0			
Surr: 4-Terphenyl-d14	3640	0	3327	0	109	22-172		0			
Surr: Nitrobenzene-d5	1755	0	3327	0	52.8	28-140		0			

MSD				Sample ID: 19070686-13B MSD			Units: µg/Kg		Analysis Date: 7/15/2019 01:32 PM		
Client ID:		Run ID: SVMS9_190715A		SeqNo: 5785596		Prep Date: 7/12/2019		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	1297	4.2	1328	34.19	95.1	40-140	1311	1.09	30		
Anthracene	1706	4.2	1328	65.07	124	40-140	1874	9.37	30		
Benzo(a)anthracene	1435	4.2	1328	49.16	104	40-140	1458	1.57	30		
Benzo(a)pyrene	1356	4.2	1328	33.59	99.6	40-140	1445	6.3	30		
Benzo(b)fluoranthene	1423	4.2	1328	46.64	104	40-140	1434	0.795	30		
Benzo(k)fluoranthene	1013	4.2	1328	11.14	75.4	40-140	1255	21.4	30		
Chrysene	1385	4.2	1328	37.39	102	40-140	1339	3.37	30		
Dibenzo(a,h)anthracene	1197	4.2	1328	3.962	89.8	40-140	1231	2.81	30		
Fluoranthene	1310	4.2	1328	67.1	93.6	40-140	1257	4.13	30		
Fluorene	1309	4.2	1328	99.61	91.1	40-140	1392	6.11	30		
Indeno(1,2,3-cd)pyrene	1300	4.2	1328	27.02	95.9	40-140	1345	3.39	30		
Naphthalene	7867	4.2	1328	5504	178	40-140	13550	53.1	30	SREO	
Pyrene	1337	4.2	1328	87.25	94.1	40-140	1216	9.51	30		
Surr: 2-Fluorobiphenyl	4103	0	3320	0	124	20-140	4108	0.136	0		
Surr: 4-Terphenyl-d14	3884	0	3320	0	117	22-172	3640	6.46	0		
Surr: Nitrobenzene-d5	2308	0	3320	0	69.5	28-140	1755	27.2	0		

The following samples were analyzed in this batch:

19070639-01A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Caerus Oil and Gas LLC  
**Work Order:** 19070639  
**Project:** Rulison Comp Station COA Sample

## QC BATCH REPORT

Batch ID: **139145**      Instrument ID **WETCHEM**      Method: **SW9045D**

<b>LCS</b>		Sample ID: <b>LCS-139145-139145</b>				Units: <b>s.u.</b>		Analysis Date: <b>7/12/2019 11:00 AM</b>			
Client ID:		Run ID: <b>WETCHEM_190712E</b>		SeqNo: <b>5779090</b>		Prep Date: <b>7/12/2019</b>		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
pH	3.96	0.10	4	0	99	90-110	0				

<b>DUP</b>		Sample ID: <b>19070568-01A DUP</b>				Units: <b>s.u.</b>		Analysis Date: <b>7/12/2019 11:00 AM</b>			
Client ID:		Run ID: <b>WETCHEM_190712E</b>		SeqNo: <b>5779092</b>		Prep Date: <b>7/12/2019</b>		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
pH	7.87	0.10	0	0	0	0-0	7.81	0.765	20		
Temperature	21.2	0.10	0	0	0		21.4	0.939			

<b>DUP</b>		Sample ID: <b>19070575-03A DUP</b>				Units: <b>s.u.</b>		Analysis Date: <b>7/12/2019 11:00 AM</b>			
Client ID:		Run ID: <b>WETCHEM_190712E</b>		SeqNo: <b>5779103</b>		Prep Date: <b>7/12/2019</b>		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
pH	7.68	0.10	0	0	0	0-0	7.6	1.05	20		
Temperature	21.3	0.10	0	0	0		21.3	0			

The following samples were analyzed in this batch:

19070639-01A

**Client:** Caerus Oil and Gas LLC  
**Work Order:** 19070639  
**Project:** Rulison Comp Station COA Sample

# QC BATCH REPORT

Batch ID: **139297**      Instrument ID **WETCHEM**      Method: **USDA H60 Metho**

<b>DUP</b>	Sample ID: <b>19070639-01A DUP</b>					Units: <b>mmhos/cm @25°</b>	Analysis Date: <b>7/17/2019 10:20 AM</b>			
Client ID: <b>20190709-RulsCS-COA Sample</b>		Run ID: <b>WETCHEM_190717D</b>			SeqNo: <b>5786985</b>		Prep Date: <b>7/16/2019</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	0.256	0.0050	0	0	0		0.312	19.7	50	

The following samples were analyzed in this batch:

19070639-01A
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Client: Caerus Oil and Gas LLC  
 Work Order: 19070639  
 Project: Rulison Comp Station COA Sample

# QC BATCH REPORT

Batch ID: 139314 Instrument ID WETCHEM Method: SW7196A

<b>MBLK</b>	Sample ID: <b>MBLK-139314-139314</b>		Units: <b>mg/Kg</b>		Analysis Date: <b>7/16/2019 02:43 PM</b>					
Client ID:	Run ID: <b>WETCHEM_190716M</b>		SeqNo: <b>5785408</b>		Prep Date: <b>7/16/2019</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 U 1.0

<b>MBLK</b>	Sample ID: <b>MBLK-139314-139314</b>		Units: <b>mg/Kg</b>		Analysis Date: <b>7/16/2019 02:28 PM</b>					
Client ID:	Run ID: <b>WETCHEM_190716N</b>		SeqNo: <b>5785585</b>		Prep Date: <b>7/16/2019</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 U 1.0

<b>LCS</b>	Sample ID: <b>LCS-139314-139314</b>		Units: <b>mg/Kg</b>		Analysis Date: <b>7/16/2019 02:43 PM</b>					
Client ID:	Run ID: <b>WETCHEM_190716M</b>		SeqNo: <b>5785409</b>		Prep Date: <b>7/16/2019</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 4.41 1.0 5 0 88.2 80-120 0

<b>LCS</b>	Sample ID: <b>LCS-139314-139314</b>		Units: <b>mg/Kg</b>		Analysis Date: <b>7/16/2019 02:28 PM</b>					
Client ID:	Run ID: <b>WETCHEM_190716N</b>		SeqNo: <b>5785586</b>		Prep Date: <b>7/16/2019</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 4.49 1.0 5 0 89.8 80-120 0

<b>MS</b>	Sample ID: <b>19070569-04A MS</b>		Units: <b>mg/Kg</b>		Analysis Date: <b>7/16/2019 02:43 PM</b>					
Client ID:	Run ID: <b>WETCHEM_190716M</b>		SeqNo: <b>5785412</b>		Prep Date: <b>7/16/2019</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 3.77 1.0 5 0.55 64.4 75-125 0 S

<b>MS</b>	Sample ID: <b>19070569-04A MSI</b>		Units: <b>mg/Kg</b>		Analysis Date: <b>7/16/2019 02:43 PM</b>					
Client ID:	Run ID: <b>WETCHEM_190716M</b>		SeqNo: <b>5785414</b>		Prep Date: <b>7/16/2019</b> DF: <b>200</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4228 200 4360 0.55 97 75-125 0

<b>MSD</b>	Sample ID: <b>19070569-04A MSD</b>		Units: <b>mg/Kg</b>		Analysis Date: <b>7/16/2019 02:43 PM</b>					
Client ID:	Run ID: <b>WETCHEM_190716M</b>		SeqNo: <b>5785413</b>		Prep Date: <b>7/16/2019</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 1.0 5 0.55 49 75-125 3.77 22.7 20 SR

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

**Client:** Caerus Oil and Gas LLC  
**Work Order:** 19070639  
**Project:** Rulison Comp Station COA Sample

# QC BATCH REPORT

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Batch ID: **139314**      Instrument ID **WETCHEM**      Method: **SW7196A**

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**The following samples were analyzed in this batch:**

19070639- 01A
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Caerus Oil and Gas LLC  
**Work Order:** 19070639  
**Project:** Rulison Comp Station COA Sample

# QC BATCH REPORT

Batch ID: **R265798**      Instrument ID **MOIST**      Method: **SW3550C**

MBLK		Sample ID: <b>WBLKS-R265798</b>				Units: % of sample			Analysis Date: <b>7/11/2019 01:55 PM</b>		
Client ID:		Run ID: <b>MOIST_190711C</b>				SeqNo: <b>5779164</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	U	0.10									

LCS		Sample ID: <b>LCS-R265798</b>				Units: % of sample			Analysis Date: <b>7/11/2019 01:55 PM</b>		
Client ID:		Run ID: <b>MOIST_190711C</b>				SeqNo: <b>5779163</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	0.10	100	0	100	98-102	0				

DUP		Sample ID: <b>19070637-04A DUP</b>				Units: % of sample			Analysis Date: <b>7/11/2019 01:55 PM</b>		
Client ID:		Run ID: <b>MOIST_190711C</b>				SeqNo: <b>5779157</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	17.53	0.10	0	0	0	0-0	17.29	1.38	10		

DUP		Sample ID: <b>19070637-06A DUP</b>				Units: % of sample			Analysis Date: <b>7/11/2019 01:55 PM</b>		
Client ID:		Run ID: <b>MOIST_190711C</b>				SeqNo: <b>5779160</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	8.16	0.10	0	0	0	0-0	8.24	0.976	10		

The following samples were analyzed in this batch:

19070639-01A
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ALS Environmental  
 10450 Stancliff Rd. #210  
 Houston, Texas 77099  
 (Tel) 281.530.5656  
 (Fax) 281.530.5887

# Chain of Custody Form

Page 1 of 1

ALS Environmental  
 3352 128th Avenue  
 Holland, Michigan 49424  
 (Tel) 616.399.6070  
 (Fax) 616.399.6185

Customer Information			Project Information				Parameter/Method Request for Analysis											
Purchase Order		Project Name	Rulison Comp Station COA Sample				A	TPH GRO/DRO										
Work Order		Project Number					B	BTEX										
Company Name	Caerus Oil and Gas LLC	Bill To Company	Caerus Oil and Gas LLC				C	Table 910 PAHs										
Send Report To	Jake Janicek	Invoice Attn.	Jake Janicek				D	Table 910 Metals										
Address	143 Diamond Ave	Address	143 Diamond Ave				E	EC										
City/State/Zip	Parachute, CO 81635	City/State/Zip	Parachute, CO 81635				F	SAR										
Phone	970-778-2314	Phone	970-778-2314				G	pH										
Fax		Fax					H	Benzene										
e-Mail Address	jjanicek@caerusoilandgas.com		jjanicek@caerusoilandgas.com				I	Arsenic										
							J											
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold	
1	20190709-RulsCS-COA Sample	7/9/2019	2:50 PM	SOIL		2	X	X	X	X	X	X	X					
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
Sampler(s): Please Print & Sign Jake Janicek			Shipment Method: Lab Hub		Turnaround Time in Business Days (BD): <input type="checkbox"/> 10 BD <input checked="" type="checkbox"/> 5 BD <input type="checkbox"/> 3 BD <input type="checkbox"/> 2 BD <input type="checkbox"/> 1 BD				Results Due Date:									
Relinquished by: Jake Janicek		Date: 7-10-19	Time: 1510	Received by: 		Date: 7-10-19	Time: 1510	Notes:										
Relinquished by: 		Date: 7-10-19	Time: 1830	Received by (Laboratory): FedEx		Date: 7/11/19	Time: 0930	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)								
Logged by (Laboratory): Kew		Date: 7/11/19	Time: 1245	Checked by (Laboratory): 				92	30°	<input checked="" type="checkbox"/> Level II: Standard QC		<input type="checkbox"/> Level III: Raw Data						
										<input type="checkbox"/> TRRP LRC		<input type="checkbox"/> TRRP Level IV						
										<input type="checkbox"/> Level IV: SW846 Methods/CLP like		<input type="checkbox"/> Other:						

Preservative Key: 1-HCl 2-HNO<sub>3</sub> 3-H<sub>2</sub>SO<sub>4</sub> 4-NaOH 5-Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> 6-NaHSO<sub>4</sub> 7-Other 8-None/4  
 Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.

Sample Receipt Checklist

Client Name: **CAERUS**

Date/Time Received: **11-Jul-19 09:30**

Work Order: **19070639**

Received by: **KRW**

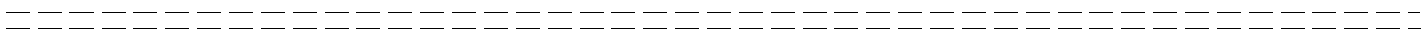
Checklist completed by Keith Wierenga 11-Jul-19  
eSignature Date

Reviewed by: Chad Whelton 12-Jul-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>3.0/3.0 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>7/11/2019 12:48:40 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: