



28-Aug-2017

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

Re: **6502 Pit**

Work Order: **17081256**

Dear Jake,

ALS Environmental received 10 samples on 18-Aug-2017 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 45.

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

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Environmental 

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Client: Caerus Oil and Gas LLC
Project: 6502 Pit
Work Order: 17081256

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>
17081256-01	20170817-6502-PITN(BOT)12	Soil		8/17/2017 09:45	8/18/2017 09:30	<input type="checkbox"/>
17081256-02	20170817-6502-PITN(NW)8	Soil		8/17/2017 09:10	8/18/2017 09:30	<input type="checkbox"/>
17081256-03	20170817-6502-PITN(SW)8	Soil		8/17/2017 09:30	8/18/2017 09:30	<input type="checkbox"/>
17081256-04	20170817-6502-PITN(NE)8	Soil		8/17/2017 09:00	8/18/2017 09:30	<input type="checkbox"/>
17081256-05	20170817-6502-PITN(SE)8	Soil		8/17/2017 09:55	8/18/2017 09:30	<input type="checkbox"/>
17081256-06	20170817-6502-PITS(S)6	Soil		8/17/2017 10:35	8/18/2017 09:30	<input type="checkbox"/>
17081256-07	20170817-6502-PITS(NE)8	Soil		8/17/2017 10:20	8/18/2017 09:30	<input type="checkbox"/>
17081256-08	20170817-6502-PITS(W)3	Soil		8/17/2017 10:45	8/18/2017 09:30	<input type="checkbox"/>
17081256-09	20170817-6502-PITS(BOT)8	Soil		8/17/2017 11:00	8/18/2017 09:30	<input type="checkbox"/>
17081256-10	20170817-6502-PITS(N)3	Soil		8/17/2017 10:55	8/18/2017 09:30	<input type="checkbox"/>

Client: Caerus Oil and Gas LLC**Project:** 6502 Pit**Work Order:** 17081256**Case Narrative**

Batch 106377, Method CR6_7196_S, Sample 17081256-01A MS/MSD: The MS and MSD recovery was below the lower control limit for Hexavalent Chromium. The corresponding result in the parent sample may be biased low.

Batch 106377, Method CR6_7196_S, Sample 17081256-08A MS/MSD: The MS and MSD recovery was below the lower control limit for Hexavalent Chromium. The corresponding result in the parent sample may be biased low.

<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
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
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: 28-Aug-17

Client: Caerus Oil and Gas LLC
Project: 6502 Pit
Sample ID: 20170817-6502-PITN(BOT)12
Collection Date: 8/17/2017 09:45 AM

Work Order: 17081256
Lab ID: 17081256-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 8/21/17 15:50	Analyst: KB
DRO (C10-C28)	18		5.3	mg/Kg-dry	1	8/22/2017 01:20 AM
<i>Surr: 4-Terphenyl-d14</i>	76.6		34-130	%REC	1	8/22/2017 01:20 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 8/22/17 11:54	Analyst: KB
GRO (C6-C10)	ND		5.8	mg/Kg	1	8/23/2017 12:13 PM
<i>Surr: Toluene-d8</i>	95.5		71-123	%REC	1	8/23/2017 12:13 PM
MERCURY BY CVAA						
			SW7471B		Prep: SW7471 8/24/17 16:16	Analyst: RSH
Mercury	ND		0.019	mg/Kg-dry	1	8/24/2017 07:14 PM
METALS ANALYSIS BY ICP						
			SW846 6010C		Prep: SW3050B 8/22/17 16:30	Analyst: LR
Arsenic	7.6		0.37	mg/Kg-dry	1	8/24/2017 02:35 AM
Barium	220		0.37	mg/Kg-dry	1	8/24/2017 02:35 AM
Cadmium	ND		0.74	mg/Kg-dry	1	8/24/2017 02:35 AM
Chromium	20		0.37	mg/Kg-dry	1	8/24/2017 02:35 AM
Copper	11		0.74	mg/Kg-dry	1	8/24/2017 02:35 AM
Lead	12		0.37	mg/Kg-dry	1	8/24/2017 02:35 AM
Nickel	11		0.37	mg/Kg-dry	1	8/24/2017 02:35 AM
Selenium	2.0		0.74	mg/Kg-dry	1	8/24/2017 02:35 AM
Silver	ND		0.37	mg/Kg-dry	1	8/24/2017 02:35 AM
Zinc	51		0.74	mg/Kg-dry	1	8/24/2017 02:35 AM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B 8/24/17 11:13	Analyst: LR
Calcium	110		5.0	mg/L	10	8/25/2017 05:41 PM
Magnesium	14		2.0	mg/L	10	8/25/2017 05:41 PM
Sodium	90		2.0	mg/L	10	8/25/2017 05:41 PM
SODIUM ADSORPTION RATIO						
			USDA H60 MET		Prep: USDA Method 20B 8/24/17 11:13	Analyst: LR
Sodium Adsorption Ratio	2.2		0.010	none	1	8/24/2017
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3546 8/21/17 15:50	Analyst: RM
Acenaphthene	ND		0.044	mg/Kg-dry	1	8/22/2017 09:00 PM
Anthracene	ND		0.044	mg/Kg-dry	1	8/22/2017 09:00 PM
Benzo(a)anthracene	ND		0.044	mg/Kg-dry	1	8/22/2017 09:00 PM
Benzo(a)pyrene	ND		0.044	mg/Kg-dry	1	8/22/2017 09:00 PM
Benzo(b)fluoranthene	ND		0.044	mg/Kg-dry	1	8/22/2017 09:00 PM
Benzo(k)fluoranthene	ND		0.044	mg/Kg-dry	1	8/22/2017 09:00 PM
Chrysene	ND		0.044	mg/Kg-dry	1	8/22/2017 09:00 PM
Dibenzo(a,h)anthracene	ND		0.044	mg/Kg-dry	1	8/22/2017 09:00 PM
Fluoranthene	ND		0.044	mg/Kg-dry	1	8/22/2017 09:00 PM

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

ALS Group, USA

Date: 28-Aug-17

Client: Caerus Oil and Gas LLC
Project: 6502 Pit
Sample ID: 20170817-6502-PITN(BOT)12
Collection Date: 8/17/2017 09:45 AM

Work Order: 17081256
Lab ID: 17081256-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.044	mg/Kg-dry	1	8/22/2017 09:00 PM
Indeno(1,2,3-cd)pyrene	ND		0.044	mg/Kg-dry	1	8/22/2017 09:00 PM
Naphthalene	ND		0.044	mg/Kg-dry	1	8/22/2017 09:00 PM
Pyrene	ND		0.044	mg/Kg-dry	1	8/22/2017 09:00 PM
Surr: 2-Fluorobiphenyl	76.9		20-140	%REC	1	8/22/2017 09:00 PM
Surr: 4-Terphenyl-d14	101		22-172	%REC	1	8/22/2017 09:00 PM
Surr: Nitrobenzene-d5	84.6		8-140	%REC	1	8/22/2017 09:00 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035	8/22/17 13:29	Analyst: AK
Benzene	ND		0.035	mg/Kg	1	8/23/2017 05:55 AM
Ethylbenzene	ND		0.035	mg/Kg	1	8/23/2017 05:55 AM
m,p-Xylene	ND		0.070	mg/Kg	1	8/23/2017 05:55 AM
o-Xylene	ND		0.035	mg/Kg	1	8/23/2017 05:55 AM
Toluene	ND		0.035	mg/Kg	1	8/23/2017 05:55 AM
Xylenes, Total	ND		0.10	mg/Kg	1	8/23/2017 05:55 AM
Surr: 1,2-Dichloroethane-d4	102		70-130	%REC	1	8/23/2017 05:55 AM
Surr: 4-Bromofluorobenzene	96.6		70-130	%REC	1	8/23/2017 05:55 AM
Surr: Dibromofluoromethane	86.2		70-130	%REC	1	8/23/2017 05:55 AM
Surr: Toluene-d8	98.8		70-130	%REC	1	8/23/2017 05:55 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 MET	Prep: USDA Method 20B	8/24/17 11:13	Analyst: JB
Electrical Conductivity @ Saturation	1.0		0.25	mmhos/cm @2	50	8/25/2017 11:30 AM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: LW
Chromium, Trivalent	20		1.1	mg/Kg-dry	1	8/24/2017 03:45 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A	8/23/17 19:45	Analyst: LW
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	8/24/2017 02:00 PM
MOISTURE			SW3550C			Analyst: BTG
Moisture	7.6		0.050	% of sample	1	8/23/2017 04:52 PM
PH			SW9045D	Prep: EXTRACT	8/22/17 15:00	Analyst: STP
pH	8.21		0.100	s.u.	1	8/23/2017 11:30 AM

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

ALS Group, USA

Date: 28-Aug-17

Client: Caerus Oil and Gas LLC
Project: 6502 Pit
Sample ID: 20170817-6502-PITN(NW)8
Collection Date: 8/17/2017 09:10 AM

Work Order: 17081256
Lab ID: 17081256-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 8/21/17 15:50	Analyst: KB
DRO (C10-C28)	ND		5.5	mg/Kg-dry	1	8/22/2017 01:49 AM
Surr: 4-Terphenyl-d14	58.1		34-130	%REC	1	8/22/2017 01:49 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 8/22/17 11:54	Analyst: KB
GRO (C6-C10)	ND		6.1	mg/Kg	1	8/23/2017 12:43 PM
Surr: Toluene-d8	95.8		71-123	%REC	1	8/23/2017 12:43 PM
MERCURY BY CVAA						
			SW7471B		Prep: SW7471 8/24/17 16:16	Analyst: RSB
Mercury	ND		0.018	mg/Kg-dry	1	8/24/2017 07:24 PM
METALS ANALYSIS BY ICP						
			SW846 6010C		Prep: SW3050B 8/22/17 16:30	Analyst: LR
Arsenic	7.0		0.35	mg/Kg-dry	1	8/24/2017 02:43 AM
Barium	240		0.35	mg/Kg-dry	1	8/24/2017 02:43 AM
Cadmium	ND		0.70	mg/Kg-dry	1	8/24/2017 02:43 AM
Chromium	18		0.35	mg/Kg-dry	1	8/24/2017 02:43 AM
Copper	11		0.70	mg/Kg-dry	1	8/24/2017 02:43 AM
Lead	12		0.35	mg/Kg-dry	1	8/24/2017 02:43 AM
Nickel	12		0.35	mg/Kg-dry	1	8/24/2017 02:43 AM
Selenium	2.1		0.70	mg/Kg-dry	1	8/24/2017 02:43 AM
Silver	ND		0.35	mg/Kg-dry	1	8/24/2017 02:43 AM
Zinc	54		0.70	mg/Kg-dry	1	8/24/2017 02:43 AM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B 8/24/17 11:13	Analyst: LR
Calcium	41		5.0	mg/L	10	8/25/2017 05:47 PM
Magnesium	7.2		2.0	mg/L	10	8/25/2017 05:47 PM
Sodium	200		2.0	mg/L	10	8/25/2017 05:47 PM
SODIUM ADSORPTION RATIO						
			USDA H60 MET		Prep: USDA Method 20B 8/24/17 11:13	Analyst: LR
Sodium Adsorption Ratio	7.7		0.010	none	1	8/24/2017
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3546 8/21/17 15:50	Analyst: RM
Acenaphthene	ND		0.046	mg/Kg-dry	1	8/22/2017 09:14 PM
Anthracene	ND		0.046	mg/Kg-dry	1	8/22/2017 09:14 PM
Benzo(a)anthracene	ND		0.046	mg/Kg-dry	1	8/22/2017 09:14 PM
Benzo(a)pyrene	ND		0.046	mg/Kg-dry	1	8/22/2017 09:14 PM
Benzo(b)fluoranthene	ND		0.046	mg/Kg-dry	1	8/22/2017 09:14 PM
Benzo(k)fluoranthene	ND		0.046	mg/Kg-dry	1	8/22/2017 09:14 PM
Chrysene	ND		0.046	mg/Kg-dry	1	8/22/2017 09:14 PM
Dibenzo(a,h)anthracene	ND		0.046	mg/Kg-dry	1	8/22/2017 09:14 PM
Fluoranthene	ND		0.046	mg/Kg-dry	1	8/22/2017 09:14 PM

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

ALS Group, USA

Date: 28-Aug-17

Client: Caerus Oil and Gas LLC
Project: 6502 Pit
Sample ID: 20170817-6502-PITN(NW)8
Collection Date: 8/17/2017 09:10 AM

Work Order: 17081256
Lab ID: 17081256-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.046	mg/Kg-dry	1	8/22/2017 09:14 PM
Indeno(1,2,3-cd)pyrene	ND		0.046	mg/Kg-dry	1	8/22/2017 09:14 PM
Naphthalene	ND		0.046	mg/Kg-dry	1	8/22/2017 09:14 PM
Pyrene	ND		0.046	mg/Kg-dry	1	8/22/2017 09:14 PM
Surr: 2-Fluorobiphenyl	56.9		20-140	%REC	1	8/22/2017 09:14 PM
Surr: 4-Terphenyl-d14	70.9		22-172	%REC	1	8/22/2017 09:14 PM
Surr: Nitrobenzene-d5	65.7		8-140	%REC	1	8/22/2017 09:14 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035	8/22/17 13:29	Analyst: AK
Benzene	ND		0.037	mg/Kg	1	8/23/2017 06:11 AM
Ethylbenzene	ND		0.037	mg/Kg	1	8/23/2017 06:11 AM
m,p-Xylene	ND		0.073	mg/Kg	1	8/23/2017 06:11 AM
o-Xylene	ND		0.037	mg/Kg	1	8/23/2017 06:11 AM
Toluene	ND		0.037	mg/Kg	1	8/23/2017 06:11 AM
Xylenes, Total	ND		0.11	mg/Kg	1	8/23/2017 06:11 AM
Surr: 1,2-Dichloroethane-d4	103		70-130	%REC	1	8/23/2017 06:11 AM
Surr: 4-Bromofluorobenzene	94.4		70-130	%REC	1	8/23/2017 06:11 AM
Surr: Dibromofluoromethane	91.5		70-130	%REC	1	8/23/2017 06:11 AM
Surr: Toluene-d8	97.0		70-130	%REC	1	8/23/2017 06:11 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 MET	Prep: USDA Method 20B	8/24/17 11:13	Analyst: JB
Electrical Conductivity @ Saturation	1.0		0.25	mmhos/cm @2	50	8/25/2017 11:30 AM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: LW
Chromium, Trivalent	18		1.1	mg/Kg-dry	1	8/24/2017 03:45 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A	8/23/17 19:45	Analyst: LW
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	8/24/2017 02:00 PM
MOISTURE			SW3550C			Analyst: BTG
Moisture	9.8		0.050	% of sample	1	8/23/2017 04:52 PM
PH			SW9045D	Prep: EXTRACT	8/22/17 15:00	Analyst: STP
pH	9.35		0.100	s.u.	1	8/23/2017 11:30 AM

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

ALS Group, USA

Date: 28-Aug-17

Client: Caerus Oil and Gas LLC
Project: 6502 Pit
Sample ID: 20170817-6502-PITN(SW)8
Collection Date: 8/17/2017 09:30 AM

Work Order: 17081256
Lab ID: 17081256-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 8/21/17 15:50	Analyst: KB
DRO (C10-C28)	8.2		5.4	mg/Kg-dry	1	8/22/2017 02:18 AM
<i>Surr: 4-Terphenyl-d14</i>	<i>77.1</i>		<i>34-130</i>	<i>%REC</i>	<i>1</i>	8/22/2017 02:18 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 8/22/17 11:54	Analyst: KB
GRO (C6-C10)	ND		5.9	mg/Kg	1	8/23/2017 01:13 AM
<i>Surr: Toluene-d8</i>	<i>96.2</i>		<i>71-123</i>	<i>%REC</i>	<i>1</i>	8/23/2017 01:13 AM
MERCURY BY CVAA						
			SW7471B		Prep: SW7471 8/24/17 16:16	Analyst: RSH
Mercury	ND		0.018	mg/Kg-dry	1	8/24/2017 07:26 PM
METALS ANALYSIS BY ICP						
			SW846 6010C		Prep: SW3050B 8/22/17 16:30	Analyst: LR
Arsenic	4.7		0.43	mg/Kg-dry	1	8/24/2017 02:50 AM
Barium	200		0.43	mg/Kg-dry	1	8/24/2017 02:50 AM
Cadmium	ND		0.87	mg/Kg-dry	1	8/24/2017 02:50 AM
Chromium	23		0.43	mg/Kg-dry	1	8/24/2017 02:50 AM
Copper	11		0.87	mg/Kg-dry	1	8/24/2017 02:50 AM
Lead	15		0.43	mg/Kg-dry	1	8/24/2017 02:50 AM
Nickel	13		0.43	mg/Kg-dry	1	8/24/2017 02:50 AM
Selenium	2.1		0.87	mg/Kg-dry	1	8/24/2017 02:50 AM
Silver	ND		0.43	mg/Kg-dry	1	8/24/2017 02:50 AM
Zinc	57		0.87	mg/Kg-dry	1	8/24/2017 02:50 AM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B 8/24/17 11:13	Analyst: LR
Calcium	140		5.0	mg/L	10	8/25/2017 05:53 PM
Magnesium	18		2.0	mg/L	10	8/25/2017 05:53 PM
Sodium	25		2.0	mg/L	10	8/25/2017 05:53 PM
SODIUM ADSORPTION RATIO						
			USDA H60 MET		Prep: USDA Method 20B 8/24/17 11:13	Analyst: LR
Sodium Adsorption Ratio	0.51		0.010	none	1	8/24/2017
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3546 8/21/17 15:50	Analyst: RM
Acenaphthene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:28 PM
Anthracene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:28 PM
Benzo(a)anthracene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:28 PM
Benzo(a)pyrene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:28 PM
Benzo(b)fluoranthene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:28 PM
Benzo(k)fluoranthene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:28 PM
Chrysene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:28 PM
Dibenzo(a,h)anthracene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:28 PM
Fluoranthene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:28 PM

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

ALS Group, USA

Date: 28-Aug-17

Client: Caerus Oil and Gas LLC
Project: 6502 Pit
Sample ID: 20170817-6502-PITN(SW)8
Collection Date: 8/17/2017 09:30 AM

Work Order: 17081256
Lab ID: 17081256-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:28 PM
Indeno(1,2,3-cd)pyrene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:28 PM
Naphthalene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:28 PM
Pyrene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:28 PM
Surr: 2-Fluorobiphenyl	78.1		20-140	%REC	1	8/22/2017 09:28 PM
Surr: 4-Terphenyl-d14	98.8		22-172	%REC	1	8/22/2017 09:28 PM
Surr: Nitrobenzene-d5	90.2		8-140	%REC	1	8/22/2017 09:28 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035	8/22/17 13:29	Analyst: AK
Benzene	ND		0.035	mg/Kg	1	8/23/2017 06:27 AM
Ethylbenzene	ND		0.035	mg/Kg	1	8/23/2017 06:27 AM
m,p-Xylene	ND		0.071	mg/Kg	1	8/23/2017 06:27 AM
o-Xylene	ND		0.035	mg/Kg	1	8/23/2017 06:27 AM
Toluene	ND		0.035	mg/Kg	1	8/23/2017 06:27 AM
Xylenes, Total	ND		0.11	mg/Kg	1	8/23/2017 06:27 AM
Surr: 1,2-Dichloroethane-d4	103		70-130	%REC	1	8/23/2017 06:27 AM
Surr: 4-Bromofluorobenzene	97.2		70-130	%REC	1	8/23/2017 06:27 AM
Surr: Dibromofluoromethane	90.8		70-130	%REC	1	8/23/2017 06:27 AM
Surr: Toluene-d8	101		70-130	%REC	1	8/23/2017 06:27 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 MET	Prep: USDA Method 20B	8/24/17 11:13	Analyst: JB
Electrical Conductivity @ Saturation	1.0		0.25	mmhos/cm @2	50	8/25/2017 11:30 AM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: LW
Chromium, Trivalent	23		1.1	mg/Kg-dry	1	8/24/2017 03:45 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A	8/23/17 19:45	Analyst: LW
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	8/24/2017 02:00 PM
MOISTURE			SW3550C			Analyst: BTG
Moisture	8.3		0.050	% of sample	1	8/23/2017 04:52 PM
PH			SW9045D	Prep: EXTRACT	8/22/17 15:00	Analyst: STP
pH	7.73		0.100	s.u.	1	8/23/2017 11:30 AM

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

ALS Group, USA

Date: 28-Aug-17

Client: Caerus Oil and Gas LLC
Project: 6502 Pit
Sample ID: 20170817-6502-PITN(NE)8
Collection Date: 8/17/2017 09:00 AM

Work Order: 17081256
Lab ID: 17081256-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 8/21/17 15:50	Analyst: KB
DRO (C10-C28)	9.8		5.4	mg/Kg-dry	1	8/21/2017 07:02 PM
<i>Surr: 4-Terphenyl-d14</i>	<i>84.1</i>		<i>34-130</i>	<i>%REC</i>	<i>1</i>	8/21/2017 07:02 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 8/22/17 11:54	Analyst: KB
GRO (C6-C10)	ND		5.9	mg/Kg	1	8/23/2017 01:42 AM
<i>Surr: Toluene-d8</i>	<i>98.9</i>		<i>71-123</i>	<i>%REC</i>	<i>1</i>	8/23/2017 01:42 AM
MERCURY BY CVAA						
			SW7471B		Prep: SW7471 8/24/17 16:16	Analyst: RSH
Mercury	ND		0.019	mg/Kg-dry	1	8/24/2017 07:29 PM
METALS ANALYSIS BY ICP						
			SW846 6010C		Prep: SW3050B 8/22/17 16:30	Analyst: LR
Arsenic	6.3		0.34	mg/Kg-dry	1	8/24/2017 02:57 AM
Barium	250		0.34	mg/Kg-dry	1	8/24/2017 02:57 AM
Cadmium	ND		0.69	mg/Kg-dry	1	8/24/2017 02:57 AM
Chromium	19		0.34	mg/Kg-dry	1	8/24/2017 02:57 AM
Copper	12		0.69	mg/Kg-dry	1	8/24/2017 02:57 AM
Lead	12		0.34	mg/Kg-dry	1	8/24/2017 02:57 AM
Nickel	12		0.34	mg/Kg-dry	1	8/24/2017 02:57 AM
Selenium	1.9		0.69	mg/Kg-dry	1	8/24/2017 02:57 AM
Silver	ND		0.34	mg/Kg-dry	1	8/24/2017 02:57 AM
Zinc	55		0.69	mg/Kg-dry	1	8/24/2017 02:57 AM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B 8/24/17 11:13	Analyst: LR
Calcium	72		5.0	mg/L	10	8/25/2017 06:06 PM
Magnesium	12		2.0	mg/L	10	8/25/2017 06:06 PM
Sodium	67		2.0	mg/L	10	8/25/2017 06:06 PM
SODIUM ADSORPTION RATIO						
			USDA H60 MET		Prep: USDA Method 20B 8/24/17 11:13	Analyst: LR
Sodium Adsorption Ratio	1.9		0.010	none	1	8/24/2017
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3546 8/21/17 15:50	Analyst: RM
Acenaphthene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:42 PM
Anthracene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:42 PM
Benzo(a)anthracene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:42 PM
Benzo(a)pyrene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:42 PM
Benzo(b)fluoranthene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:42 PM
Benzo(k)fluoranthene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:42 PM
Chrysene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:42 PM
Dibenzo(a,h)anthracene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:42 PM
Fluoranthene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:42 PM

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

ALS Group, USA

Date: 28-Aug-17

Client: Caerus Oil and Gas LLC
Project: 6502 Pit
Sample ID: 20170817-6502-PITN(NE)8
Collection Date: 8/17/2017 09:00 AM

Work Order: 17081256
Lab ID: 17081256-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:42 PM
Indeno(1,2,3-cd)pyrene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:42 PM
Naphthalene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:42 PM
Pyrene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:42 PM
Surr: 2-Fluorobiphenyl	86.5		20-140	%REC	1	8/22/2017 09:42 PM
Surr: 4-Terphenyl-d14	110		22-172	%REC	1	8/22/2017 09:42 PM
Surr: Nitrobenzene-d5	93.7		8-140	%REC	1	8/22/2017 09:42 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035	8/22/17 13:29	Analyst: AK
Benzene	ND		0.036	mg/Kg	1	8/23/2017 06:43 AM
Ethylbenzene	ND		0.036	mg/Kg	1	8/23/2017 06:43 AM
m,p-Xylene	ND		0.071	mg/Kg	1	8/23/2017 06:43 AM
o-Xylene	ND		0.036	mg/Kg	1	8/23/2017 06:43 AM
Toluene	ND		0.036	mg/Kg	1	8/23/2017 06:43 AM
Xylenes, Total	ND		0.11	mg/Kg	1	8/23/2017 06:43 AM
Surr: 1,2-Dichloroethane-d4	103		70-130	%REC	1	8/23/2017 06:43 AM
Surr: 4-Bromofluorobenzene	96.5		70-130	%REC	1	8/23/2017 06:43 AM
Surr: Dibromofluoromethane	92.2		70-130	%REC	1	8/23/2017 06:43 AM
Surr: Toluene-d8	98.6		70-130	%REC	1	8/23/2017 06:43 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 MET	Prep: USDA Method 20B	8/24/17 11:13	Analyst: JB
Electrical Conductivity @ Saturation	0.70		0.25	mmhos/cm @2	50	8/25/2017 11:30 AM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: LW
Chromium, Trivalent	19		1.1	mg/Kg-dry	1	8/24/2017 03:45 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A	8/23/17 19:45	Analyst: LW
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	8/24/2017 02:00 PM
MOISTURE			SW3550C			Analyst: BTG
Moisture	8.5		0.050	% of sample	1	8/23/2017 04:52 PM
PH			SW9045D	Prep: EXTRACT	8/22/17 15:00	Analyst: STP
pH	8.49		0.100	s.u.	1	8/23/2017 11:30 AM

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

ALS Group, USA

Date: 28-Aug-17

Client: Caerus Oil and Gas LLC
Project: 6502 Pit
Sample ID: 20170817-6502-PITN(SE)8
Collection Date: 8/17/2017 09:55 AM

Work Order: 17081256
Lab ID: 17081256-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015C		Prep: SW3546 8/21/17 15:50	Analyst: KB
DRO (C10-C28)	11		5.4	mg/Kg-dry	1	8/22/2017 02:47 AM
<i>Surr: 4-Terphenyl-d14</i>	<i>80.6</i>		<i>34-130</i>	<i>%REC</i>	<i>1</i>	8/22/2017 02:47 AM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 8/22/17 11:54	Analyst: KB
GRO (C6-C10)	ND		5.8	mg/Kg	1	8/23/2017 02:12 AM
<i>Surr: Toluene-d8</i>	<i>95.1</i>		<i>71-123</i>	<i>%REC</i>	<i>1</i>	8/23/2017 02:12 AM
MERCURY BY CVAA						
			SW7471B		Prep: SW7471 8/24/17 16:16	Analyst: RSH
Mercury	ND		0.016	mg/Kg-dry	1	8/24/2017 07:32 PM
METALS ANALYSIS BY ICP						
			SW846 6010C		Prep: SW3050B 8/22/17 16:30	Analyst: LR
Arsenic	6.4		0.44	mg/Kg-dry	1	8/24/2017 03:04 AM
Barium	220		0.44	mg/Kg-dry	1	8/24/2017 03:04 AM
Cadmium	ND		0.88	mg/Kg-dry	1	8/24/2017 03:04 AM
Chromium	21		0.44	mg/Kg-dry	1	8/24/2017 03:04 AM
Copper	11		0.88	mg/Kg-dry	1	8/24/2017 03:04 AM
Lead	13		0.44	mg/Kg-dry	1	8/24/2017 03:04 AM
Nickel	11		0.44	mg/Kg-dry	1	8/24/2017 03:04 AM
Selenium	2.3		0.88	mg/Kg-dry	1	8/24/2017 03:04 AM
Silver	ND		0.44	mg/Kg-dry	1	8/24/2017 03:04 AM
Zinc	53		0.88	mg/Kg-dry	1	8/24/2017 03:04 AM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B 8/24/17 11:13	Analyst: LR
Calcium	120		5.0	mg/L	10	8/25/2017 06:13 PM
Magnesium	22		2.0	mg/L	10	8/25/2017 06:13 PM
Sodium	220		2.0	mg/L	10	8/25/2017 06:13 PM
SODIUM ADSORPTION RATIO						
			USDA H60 MET		Prep: USDA Method 20B 8/24/17 11:13	Analyst: LR
Sodium Adsorption Ratio	4.7		0.010	none	1	8/24/2017
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3546 8/21/17 15:50	Analyst: RM
Acenaphthene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:56 PM
Anthracene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:56 PM
Benzo(a)anthracene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:56 PM
Benzo(a)pyrene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:56 PM
Benzo(b)fluoranthene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:56 PM
Benzo(k)fluoranthene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:56 PM
Chrysene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:56 PM
Dibenzo(a,h)anthracene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:56 PM
Fluoranthene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:56 PM

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

ALS Group, USA

Date: 28-Aug-17

Client: Caerus Oil and Gas LLC

Project: 6502 Pit

Sample ID: 20170817-6502-PITN(SE)8

Collection Date: 8/17/2017 09:55 AM

Work Order: 17081256

Lab ID: 17081256-05

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:56 PM
Indeno(1,2,3-cd)pyrene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:56 PM
Naphthalene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:56 PM
Pyrene	ND		0.045	mg/Kg-dry	1	8/22/2017 09:56 PM
Surr: 2-Fluorobiphenyl	79.9		20-140	%REC	1	8/22/2017 09:56 PM
Surr: 4-Terphenyl-d14	101		22-172	%REC	1	8/22/2017 09:56 PM
Surr: Nitrobenzene-d5	83.8		8-140	%REC	1	8/22/2017 09:56 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035	8/22/17 13:29	Analyst: AK
Benzene	ND		0.035	mg/Kg	1	8/23/2017 06:59 AM
Ethylbenzene	ND		0.035	mg/Kg	1	8/23/2017 06:59 AM
m,p-Xylene	ND		0.069	mg/Kg	1	8/23/2017 06:59 AM
o-Xylene	ND		0.035	mg/Kg	1	8/23/2017 06:59 AM
Toluene	ND		0.035	mg/Kg	1	8/23/2017 06:59 AM
Xylenes, Total	ND		0.10	mg/Kg	1	8/23/2017 06:59 AM
Surr: 1,2-Dichloroethane-d4	104		70-130	%REC	1	8/23/2017 06:59 AM
Surr: 4-Bromofluorobenzene	93.6		70-130	%REC	1	8/23/2017 06:59 AM
Surr: Dibromofluoromethane	84.2		70-130	%REC	1	8/23/2017 06:59 AM
Surr: Toluene-d8	102		70-130	%REC	1	8/23/2017 06:59 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 MET	Prep: USDA Method 20B	8/24/17 11:13	Analyst: JB
Electrical Conductivity @ Saturation	2.0		0.25	mmhos/cm @2	50	8/25/2017 11:30 AM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: LW
Chromium, Trivalent	21		1.1	mg/Kg-dry	1	8/24/2017 03:45 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A	8/23/17 19:45	Analyst: LW
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	8/24/2017 02:00 PM
MOISTURE			SW3550C			Analyst: BTG
Moisture	7.2		0.050	% of sample	1	8/23/2017 04:52 PM
PH			SW9045D	Prep: EXTRACT	8/22/17 15:00	Analyst: STP
pH	7.99		0.100	s.u.	1	8/23/2017 11:30 AM

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

ALS Group, USA

Date: 28-Aug-17

Client: Caerus Oil and Gas LLC
Project: 6502 Pit
Sample ID: 20170817-6502-PITS(S)6
Collection Date: 8/17/2017 10:35 AM

Work Order: 17081256
Lab ID: 17081256-06
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	140		SW8015C		Prep: SW3546 8/21/17 15:50	Analyst: KB
<i>Surr: 4-Terphenyl-d14</i>	93.1		6.5	mg/Kg-dry	1	8/22/2017 03:45 AM
			34-130	%REC	1	8/22/2017 03:45 AM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015D		Prep: SW5035 8/22/17 11:54	Analyst: KB
<i>Surr: Toluene-d8</i>	96.8		8.3	mg/Kg	1	8/23/2017 02:41 AM
			71-123	%REC	1	8/23/2017 02:41 AM
MERCURY BY CVAA						
Mercury	ND		SW7471B		Prep: SW7471 8/24/17 16:16	Analyst: RSH
			0.022	mg/Kg-dry	1	8/24/2017 07:34 PM
METALS ANALYSIS BY ICP						
Arsenic	6.5		SW846 6010C		Prep: SW3050B 8/22/17 16:30	Analyst: LR
Barium	3,200		0.46	mg/Kg-dry	1	8/24/2017 03:11 AM
Cadmium	ND		0.46	mg/Kg-dry	1	8/24/2017 03:11 AM
Chromium	24		0.92	mg/Kg-dry	1	8/24/2017 03:11 AM
Copper	15		0.46	mg/Kg-dry	1	8/24/2017 03:11 AM
Lead	17		0.92	mg/Kg-dry	1	8/24/2017 03:11 AM
Nickel	14		0.46	mg/Kg-dry	1	8/24/2017 03:11 AM
Selenium	2.4		0.92	mg/Kg-dry	1	8/24/2017 03:11 AM
Silver	ND		0.46	mg/Kg-dry	1	8/24/2017 03:11 AM
Zinc	73		0.92	mg/Kg-dry	1	8/24/2017 03:11 AM
SOLUBLE CATIONS FOR SAR						
Calcium	610		SW846 6010C		Prep: USDA Method 20B 8/24/17 11:13	Analyst: LR
Magnesium	150		5.0	mg/L	10	8/25/2017 06:19 PM
Sodium	1,800		2.0	mg/L	10	8/25/2017 06:19 PM
SODIUM ADSORPTION RATIO						
Sodium Adsorption Ratio	17		USDA H60 MET		Prep: USDA Method 20B 8/24/17 11:13	Analyst: LR
			0.010	none	1	8/24/2017
SEMI-VOLATILE ORGANIC COMPOUNDS						
Acenaphthene	ND		SW846 8270D		Prep: SW3546 8/21/17 15:50	Analyst: RM
Anthracene	0.075		0.055	mg/Kg-dry	1	8/22/2017 10:10 PM
Benzo(a)anthracene	ND		0.055	mg/Kg-dry	1	8/22/2017 10:10 PM
Benzo(a)pyrene	ND		0.055	mg/Kg-dry	1	8/22/2017 10:10 PM
Benzo(b)fluoranthene	ND		0.055	mg/Kg-dry	1	8/22/2017 10:10 PM
Benzo(k)fluoranthene	ND		0.055	mg/Kg-dry	1	8/22/2017 10:10 PM
Chrysene	ND		0.055	mg/Kg-dry	1	8/22/2017 10:10 PM
Dibenzo(a,h)anthracene	ND		0.055	mg/Kg-dry	1	8/22/2017 10:10 PM
Fluoranthene	ND		0.055	mg/Kg-dry	1	8/22/2017 10:10 PM

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

ALS Group, USA

Date: 28-Aug-17

Client: Caerus Oil and Gas LLC
Project: 6502 Pit
Sample ID: 20170817-6502-PITS(S)6
Collection Date: 8/17/2017 10:35 AM

Work Order: 17081256
Lab ID: 17081256-06
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.055	mg/Kg-dry	1	8/22/2017 10:10 PM
Indeno(1,2,3-cd)pyrene	ND		0.055	mg/Kg-dry	1	8/22/2017 10:10 PM
Naphthalene	0.068		0.055	mg/Kg-dry	1	8/22/2017 10:10 PM
Pyrene	ND		0.055	mg/Kg-dry	1	8/22/2017 10:10 PM
Surr: 2-Fluorobiphenyl	97.7		20-140	%REC	1	8/22/2017 10:10 PM
Surr: 4-Terphenyl-d14	117		22-172	%REC	1	8/22/2017 10:10 PM
Surr: Nitrobenzene-d5	97.1		8-140	%REC	1	8/22/2017 10:10 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035	8/22/17 13:29	Analyst: AK
Benzene	ND		0.050	mg/Kg	1	8/23/2017 07:15 AM
Ethylbenzene	ND		0.050	mg/Kg	1	8/23/2017 07:15 AM
m,p-Xylene	ND		0.10	mg/Kg	1	8/23/2017 07:15 AM
o-Xylene	ND		0.050	mg/Kg	1	8/23/2017 07:15 AM
Toluene	ND		0.050	mg/Kg	1	8/23/2017 07:15 AM
Xylenes, Total	ND		0.15	mg/Kg	1	8/23/2017 07:15 AM
Surr: 1,2-Dichloroethane-d4	104		70-130	%REC	1	8/23/2017 07:15 AM
Surr: 4-Bromofluorobenzene	94.2		70-130	%REC	1	8/23/2017 07:15 AM
Surr: Dibromofluoromethane	94.0		70-130	%REC	1	8/23/2017 07:15 AM
Surr: Toluene-d8	97.4		70-130	%REC	1	8/23/2017 07:15 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 MET	Prep: USDA Method 20B	8/24/17 11:13	Analyst: JB
Electrical Conductivity @ Saturation	14		0.25	mmhos/cm @2	50	8/25/2017 11:30 AM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: LW
Chromium, Trivalent	24		1.3	mg/Kg-dry	1	8/24/2017 03:45 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A	8/23/17 19:45	Analyst: LW
Chromium, Hexavalent	ND		1.4	mg/Kg-dry	1	8/24/2017 02:00 PM
MOISTURE			SW3550C			Analyst: BTG
Moisture	25		0.050	% of sample	1	8/23/2017 04:52 PM
PH			SW9045D	Prep: EXTRACT	8/22/17 15:00	Analyst: STP
pH	8.01		0.100	s.u.	1	8/23/2017 11:30 AM

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

ALS Group, USA

Date: 28-Aug-17

Client: Caerus Oil and Gas LLC

Project: 6502 Pit

Sample ID: 20170817-6502-PITS(NE)8

Collection Date: 8/17/2017 10:20 AM

Work Order: 17081256

Lab ID: 17081256-07

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	20		SW8015C		Prep: SW3546 8/21/17 15:50	Analyst: KB
<i>Surr: 4-Terphenyl-d14</i>	<i>86.1</i>		<i>5.4</i>	<i>mg/Kg-dry</i>	<i>1</i>	8/22/2017 04:14 AM
			<i>34-130</i>	<i>%REC</i>	<i>1</i>	8/22/2017 04:14 AM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015D		Prep: SW5035 8/22/17 11:54	Analyst: KB
<i>Surr: Toluene-d8</i>	<i>98.9</i>		<i>6.4</i>	<i>mg/Kg</i>	<i>1</i>	8/23/2017 03:11 AM
			<i>71-123</i>	<i>%REC</i>	<i>1</i>	8/23/2017 03:11 AM
MERCURY BY CVAA						
Mercury	ND		SW7471B		Prep: SW7471 8/24/17 16:16	Analyst: RSH
			<i>0.021</i>	<i>mg/Kg-dry</i>	<i>1</i>	8/24/2017 07:37 PM
METALS ANALYSIS BY ICP						
Arsenic	6.3		SW846 6010C		Prep: SW3050B 8/22/17 16:30	Analyst: LR
Barium	340		<i>0.40</i>	<i>mg/Kg-dry</i>	<i>1</i>	8/24/2017 03:18 AM
Cadmium	ND		<i>0.40</i>	<i>mg/Kg-dry</i>	<i>1</i>	8/24/2017 03:18 AM
Chromium	23		<i>0.80</i>	<i>mg/Kg-dry</i>	<i>1</i>	8/24/2017 03:18 AM
Copper	10		<i>0.40</i>	<i>mg/Kg-dry</i>	<i>1</i>	8/24/2017 03:18 AM
Lead	14		<i>0.40</i>	<i>mg/Kg-dry</i>	<i>1</i>	8/24/2017 03:18 AM
Nickel	13		<i>0.40</i>	<i>mg/Kg-dry</i>	<i>1</i>	8/24/2017 03:18 AM
Selenium	1.9		<i>0.80</i>	<i>mg/Kg-dry</i>	<i>1</i>	8/24/2017 03:18 AM
Silver	ND		<i>0.40</i>	<i>mg/Kg-dry</i>	<i>1</i>	8/24/2017 03:18 AM
Zinc	57		<i>0.80</i>	<i>mg/Kg-dry</i>	<i>1</i>	8/24/2017 03:18 AM
SOLUBLE CATIONS FOR SAR						
Calcium	150		SW846 6010C		Prep: USDA Method 20B 8/24/17 11:13	Analyst: LR
Magnesium	34		<i>5.0</i>	<i>mg/L</i>	<i>10</i>	8/25/2017 06:26 PM
Sodium	640		<i>2.0</i>	<i>mg/L</i>	<i>10</i>	8/25/2017 06:26 PM
SODIUM ADSORPTION RATIO						
Sodium Adsorption Ratio	12		USDA H60 MET		Prep: USDA Method 20B 8/24/17 11:13	Analyst: LR
			<i>0.010</i>	<i>none</i>	<i>1</i>	8/24/2017
SEMI-VOLATILE ORGANIC COMPOUNDS						
Acenaphthene	ND		SW846 8270D		Prep: SW3546 8/21/17 15:50	Analyst: RM
Anthracene	ND		<i>0.045</i>	<i>mg/Kg-dry</i>	<i>1</i>	8/22/2017 10:23 PM
Benzo(a)anthracene	ND		<i>0.045</i>	<i>mg/Kg-dry</i>	<i>1</i>	8/22/2017 10:23 PM
Benzo(a)pyrene	ND		<i>0.045</i>	<i>mg/Kg-dry</i>	<i>1</i>	8/22/2017 10:23 PM
Benzo(b)fluoranthene	ND		<i>0.045</i>	<i>mg/Kg-dry</i>	<i>1</i>	8/22/2017 10:23 PM
Benzo(k)fluoranthene	ND		<i>0.045</i>	<i>mg/Kg-dry</i>	<i>1</i>	8/22/2017 10:23 PM
Chrysene	ND		<i>0.045</i>	<i>mg/Kg-dry</i>	<i>1</i>	8/22/2017 10:23 PM
Dibenzo(a,h)anthracene	ND		<i>0.045</i>	<i>mg/Kg-dry</i>	<i>1</i>	8/22/2017 10:23 PM
Fluoranthene	ND		<i>0.045</i>	<i>mg/Kg-dry</i>	<i>1</i>	8/22/2017 10:23 PM

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

ALS Group, USA

Date: 28-Aug-17

Client: Caerus Oil and Gas LLC

Project: 6502 Pit

Work Order: 17081256

Sample ID: 20170817-6502-PITS(NE)8

Lab ID: 17081256-07

Collection Date: 8/17/2017 10:20 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.045	mg/Kg-dry	1	8/22/2017 10:23 PM
Indeno(1,2,3-cd)pyrene	ND		0.045	mg/Kg-dry	1	8/22/2017 10:23 PM
Naphthalene	ND		0.045	mg/Kg-dry	1	8/22/2017 10:23 PM
Pyrene	ND		0.045	mg/Kg-dry	1	8/22/2017 10:23 PM
Surr: 2-Fluorobiphenyl	84.4		20-140	%REC	1	8/22/2017 10:23 PM
Surr: 4-Terphenyl-d14	111		22-172	%REC	1	8/22/2017 10:23 PM
Surr: Nitrobenzene-d5	91.9		8-140	%REC	1	8/22/2017 10:23 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035	8/22/17 13:29	Analyst: AK
Benzene	ND		0.038	mg/Kg	1	8/23/2017 07:31 AM
Ethylbenzene	ND		0.038	mg/Kg	1	8/23/2017 07:31 AM
m,p-Xylene	ND		0.076	mg/Kg	1	8/23/2017 07:31 AM
o-Xylene	ND		0.038	mg/Kg	1	8/23/2017 07:31 AM
Toluene	ND		0.038	mg/Kg	1	8/23/2017 07:31 AM
Xylenes, Total	ND		0.11	mg/Kg	1	8/23/2017 07:31 AM
Surr: 1,2-Dichloroethane-d4	104		70-130	%REC	1	8/23/2017 07:31 AM
Surr: 4-Bromofluorobenzene	99.1		70-130	%REC	1	8/23/2017 07:31 AM
Surr: Dibromofluoromethane	89.0		70-130	%REC	1	8/23/2017 07:31 AM
Surr: Toluene-d8	97.8		70-130	%REC	1	8/23/2017 07:31 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 MET	Prep: USDA Method 20B	8/24/17 11:13	Analyst: JB
Electrical Conductivity @ Saturation	4.9		0.25	mmhos/cm @2	50	8/25/2017 11:30 AM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: LW
Chromium, Trivalent	23		1.1	mg/Kg-dry	1	8/24/2017 03:45 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A	8/23/17 19:45	Analyst: LW
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	8/24/2017 02:00 PM
MOISTURE			SW3550C			Analyst: BTG
Moisture	12		0.050	% of sample	1	8/23/2017 04:52 PM
PH			SW9045D	Prep: EXTRACT	8/22/17 15:00	Analyst: STP
pH	8.39		0.100	s.u.	1	8/23/2017 11:30 AM

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

ALS Group, USA

Date: 28-Aug-17

Client: Caerus Oil and Gas LLC
Project: 6502 Pit
Sample ID: 20170817-6502-PITS(W)3
Collection Date: 8/17/2017 10:45 AM

Work Order: 17081256
Lab ID: 17081256-08
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	78		SW8015C		Prep: SW3546 8/21/17 15:50	Analyst: KB
<i>Surr: 4-Terphenyl-d14</i>	<i>80.6</i>		<i>5.5</i>	<i>mg/Kg-dry</i>	<i>1</i>	8/22/2017 04:43 AM
			<i>34-130</i>	<i>%REC</i>	<i>1</i>	8/22/2017 04:43 AM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015D		Prep: SW5035 8/22/17 11:54	Analyst: KB
<i>Surr: Toluene-d8</i>	<i>95.5</i>		<i>6.0</i>	<i>mg/Kg</i>	<i>1</i>	8/23/2017 03:40 AM
			<i>71-123</i>	<i>%REC</i>	<i>1</i>	8/23/2017 03:40 AM
MERCURY BY CVAA						
Mercury	0.049		SW7471B		Prep: SW7471 8/24/17 16:16	Analyst: RSH
			0.017	mg/Kg-dry	1	8/24/2017 07:39 PM
METALS ANALYSIS BY ICP						
Arsenic	9.3		SW846 6010C		Prep: SW3050B 8/22/17 16:30	Analyst: LR
Barium	6,100		0.42	mg/Kg-dry	1	8/24/2017 03:44 AM
Cadmium	ND		4.2	mg/Kg-dry	10	8/24/2017 06:40 PM
Chromium	22		0.84	mg/Kg-dry	1	8/24/2017 03:44 AM
Copper	17		0.42	mg/Kg-dry	1	8/24/2017 03:44 AM
Lead	23		0.42	mg/Kg-dry	1	8/24/2017 03:44 AM
Nickel	12		0.42	mg/Kg-dry	1	8/24/2017 03:44 AM
Selenium	2.3		0.84	mg/Kg-dry	1	8/24/2017 03:44 AM
Silver	ND		0.42	mg/Kg-dry	1	8/24/2017 03:44 AM
Zinc	68		0.84	mg/Kg-dry	1	8/24/2017 03:44 AM
SOLUBLE CATIONS FOR SAR						
Calcium	31		SW846 6010C		Prep: USDA Method 20B 8/24/17 11:13	Analyst: LR
Magnesium	6.3		5.0	mg/L	10	8/25/2017 06:32 PM
Sodium	360		2.0	mg/L	10	8/25/2017 06:32 PM
SODIUM ADSORPTION RATIO						
Sodium Adsorption Ratio	15		USDA H60 MET		Prep: USDA Method 20B 8/24/17 11:13	Analyst: LR
			0.010	none	1	8/24/2017
SEMI-VOLATILE ORGANIC COMPOUNDS						
Acenaphthene	ND		SW846 8270D		Prep: SW3546 8/21/17 15:50	Analyst: RM
Anthracene	ND		0.046	mg/Kg-dry	1	8/22/2017 10:37 PM
Benzo(a)anthracene	ND		0.046	mg/Kg-dry	1	8/22/2017 10:37 PM
Benzo(a)pyrene	ND		0.046	mg/Kg-dry	1	8/22/2017 10:37 PM
Benzo(b)fluoranthene	ND		0.046	mg/Kg-dry	1	8/22/2017 10:37 PM
Benzo(k)fluoranthene	ND		0.046	mg/Kg-dry	1	8/22/2017 10:37 PM
Chrysene	ND		0.046	mg/Kg-dry	1	8/22/2017 10:37 PM
Dibenzo(a,h)anthracene	ND		0.046	mg/Kg-dry	1	8/22/2017 10:37 PM
Fluoranthene	ND		0.046	mg/Kg-dry	1	8/22/2017 10:37 PM

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

ALS Group, USA

Date: 28-Aug-17

Client: Caerus Oil and Gas LLC
Project: 6502 Pit
Sample ID: 20170817-6502-PITS(W)3
Collection Date: 8/17/2017 10:45 AM

Work Order: 17081256
Lab ID: 17081256-08
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.046	mg/Kg-dry	1	8/22/2017 10:37 PM
Indeno(1,2,3-cd)pyrene	ND		0.046	mg/Kg-dry	1	8/22/2017 10:37 PM
Naphthalene	0.047		0.046	mg/Kg-dry	1	8/22/2017 10:37 PM
Pyrene	ND		0.046	mg/Kg-dry	1	8/22/2017 10:37 PM
Surr: 2-Fluorobiphenyl	85.6		20-140	%REC	1	8/22/2017 10:37 PM
Surr: 4-Terphenyl-d14	99.2		22-172	%REC	1	8/22/2017 10:37 PM
Surr: Nitrobenzene-d5	95.2		8-140	%REC	1	8/22/2017 10:37 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035	8/22/17 13:29	Analyst: AK
Benzene	ND		0.036	mg/Kg	1	8/23/2017 07:47 AM
Ethylbenzene	ND		0.036	mg/Kg	1	8/23/2017 07:47 AM
m,p-Xylene	ND		0.072	mg/Kg	1	8/23/2017 07:47 AM
o-Xylene	ND		0.036	mg/Kg	1	8/23/2017 07:47 AM
Toluene	ND		0.036	mg/Kg	1	8/23/2017 07:47 AM
Xylenes, Total	ND		0.11	mg/Kg	1	8/23/2017 07:47 AM
Surr: 1,2-Dichloroethane-d4	102		70-130	%REC	1	8/23/2017 07:47 AM
Surr: 4-Bromofluorobenzene	97.7		70-130	%REC	1	8/23/2017 07:47 AM
Surr: Dibromofluoromethane	89.6		70-130	%REC	1	8/23/2017 07:47 AM
Surr: Toluene-d8	99.2		70-130	%REC	1	8/23/2017 07:47 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 MET	Prep: USDA Method 20B	8/24/17 11:13	Analyst: JB
Electrical Conductivity @ Saturation	1.9		0.25	mmhos/cm @2	50	8/25/2017 11:30 AM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: LW
Chromium, Trivalent	22		1.1	mg/Kg-dry	1	8/24/2017 03:45 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A	8/23/17 19:45	Analyst: LW
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	8/24/2017 02:00 PM
MOISTURE			SW3550C			Analyst: BTG
Moisture	9.2		0.050	% of sample	1	8/23/2017 04:52 PM
PH			SW9045D	Prep: EXTRACT	8/22/17 15:00	Analyst: STP
pH	9.24		0.100	s.u.	1	8/23/2017 11:30 AM

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

ALS Group, USA

Date: 28-Aug-17

Client: Caerus Oil and Gas LLC

Project: 6502 Pit

Sample ID: 20170817-6502-PITS(BOT)8

Collection Date: 8/17/2017 11:00 AM

Work Order: 17081256

Lab ID: 17081256-09

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	130		SW8015C		Prep: SW3546 8/21/17 15:50	Analyst: KB
<i>Surr: 4-Terphenyl-d14</i>	<i>89.1</i>		<i>34-130</i>	<i>%REC</i>	<i>1</i>	<i>8/22/2017 05:12 AM</i>
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015D		Prep: SW5035 8/22/17 11:54	Analyst: KB
<i>Surr: Toluene-d8</i>	<i>99.1</i>		<i>71-123</i>	<i>%REC</i>	<i>1</i>	<i>8/23/2017 04:39 AM</i>
MERCURY BY CVAA						
Mercury	ND		SW7471B		Prep: SW7471 8/24/17 16:16	Analyst: RSH
METALS ANALYSIS BY ICP						
Arsenic	6.9		SW846 6010C		Prep: SW3050B 8/22/17 16:30	Analyst: LR
Barium	2,500		0.46	mg/Kg-dry	1	8/24/2017 03:51 AM
Cadmium	ND		0.46	mg/Kg-dry	1	8/24/2017 03:51 AM
Chromium	23		0.46	mg/Kg-dry	1	8/24/2017 03:51 AM
Copper	14		0.93	mg/Kg-dry	1	8/24/2017 03:51 AM
Lead	16		0.46	mg/Kg-dry	1	8/24/2017 03:51 AM
Nickel	13		0.46	mg/Kg-dry	1	8/24/2017 03:51 AM
Selenium	2.4		0.93	mg/Kg-dry	1	8/24/2017 03:51 AM
Silver	ND		0.46	mg/Kg-dry	1	8/24/2017 03:51 AM
Zinc	63		0.93	mg/Kg-dry	1	8/24/2017 03:51 AM
SOLUBLE CATIONS FOR SAR						
Calcium	510		SW846 6010C		Prep: USDA Method 20B 8/24/17 11:13	Analyst: LR
Magnesium	130		5.0	mg/L	10	8/25/2017 06:38 PM
Sodium	1,900		2.0	mg/L	10	8/25/2017 06:38 PM
SODIUM ADSORPTION RATIO						
Sodium Adsorption Ratio	19		USDA H60 MET		Prep: USDA Method 20B 8/24/17 11:13	Analyst: LR
			0.010	none	1	8/24/2017
SEMI-VOLATILE ORGANIC COMPOUNDS						
Acenaphthene	ND		SW846 8270D		Prep: SW3546 8/21/17 15:50	Analyst: RM
Anthracene	ND		0.050	mg/Kg-dry	1	8/22/2017 10:51 PM
Benzo(a)anthracene	ND		0.050	mg/Kg-dry	1	8/22/2017 10:51 PM
Benzo(a)pyrene	ND		0.050	mg/Kg-dry	1	8/22/2017 10:51 PM
Benzo(b)fluoranthene	ND		0.050	mg/Kg-dry	1	8/22/2017 10:51 PM
Benzo(k)fluoranthene	ND		0.050	mg/Kg-dry	1	8/22/2017 10:51 PM
Chrysene	ND		0.050	mg/Kg-dry	1	8/22/2017 10:51 PM
Dibenzo(a,h)anthracene	ND		0.050	mg/Kg-dry	1	8/22/2017 10:51 PM
Fluoranthene	ND		0.050	mg/Kg-dry	1	8/22/2017 10:51 PM

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

ALS Group, USA

Date: 28-Aug-17

Client: Caerus Oil and Gas LLC

Project: 6502 Pit

Work Order: 17081256

Sample ID: 20170817-6502-PITS(BOT)8

Lab ID: 17081256-09

Collection Date: 8/17/2017 11:00 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.050	mg/Kg-dry	1	8/22/2017 10:51 PM
Indeno(1,2,3-cd)pyrene	ND		0.050	mg/Kg-dry	1	8/22/2017 10:51 PM
Naphthalene	ND		0.050	mg/Kg-dry	1	8/22/2017 10:51 PM
Pyrene	0.058		0.050	mg/Kg-dry	1	8/22/2017 10:51 PM
Surr: 2-Fluorobiphenyl	92.4		20-140	%REC	1	8/22/2017 10:51 PM
Surr: 4-Terphenyl-d14	110		22-172	%REC	1	8/22/2017 10:51 PM
Surr: Nitrobenzene-d5	74.0		8-140	%REC	1	8/22/2017 10:51 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035	8/22/17 13:29	Analyst: AK
Benzene	ND		0.044	mg/Kg	1	8/23/2017 08:03 AM
Ethylbenzene	ND		0.044	mg/Kg	1	8/23/2017 08:03 AM
m,p-Xylene	ND		0.088	mg/Kg	1	8/23/2017 08:03 AM
o-Xylene	ND		0.044	mg/Kg	1	8/23/2017 08:03 AM
Toluene	ND		0.044	mg/Kg	1	8/23/2017 08:03 AM
Xylenes, Total	ND		0.13	mg/Kg	1	8/23/2017 08:03 AM
Surr: 1,2-Dichloroethane-d4	105		70-130	%REC	1	8/23/2017 08:03 AM
Surr: 4-Bromofluorobenzene	98.1		70-130	%REC	1	8/23/2017 08:03 AM
Surr: Dibromofluoromethane	94.3		70-130	%REC	1	8/23/2017 08:03 AM
Surr: Toluene-d8	100		70-130	%REC	1	8/23/2017 08:03 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 MET	Prep: USDA Method 20B	8/24/17 11:13	Analyst: JB
Electrical Conductivity @ Saturation	14		0.25	mmhos/cm @2	50	8/25/2017 11:30 AM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: LW
Chromium, Trivalent	23		1.2	mg/Kg-dry	1	8/24/2017 03:45 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A	8/23/17 19:45	Analyst: LW
Chromium, Hexavalent	ND		1.2	mg/Kg-dry	1	8/24/2017 02:00 PM
MOISTURE			SW3550C			Analyst: BTG
Moisture	19		0.050	% of sample	1	8/23/2017 04:52 PM
PH			SW9045D	Prep: EXTRACT	8/22/17 15:00	Analyst: STP
pH	8.06		0.100	s.u.	1	8/23/2017 11:30 AM

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

ALS Group, USA

Date: 28-Aug-17

Client: Caerus Oil and Gas LLC
Project: 6502 Pit
Sample ID: 20170817-6502-PITS(N)3
Collection Date: 8/17/2017 10:55 AM

Work Order: 17081256
Lab ID: 17081256-10
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	10		SW8015C		Prep: SW3546 8/22/17 16:15	Analyst: KB
<i>Surr: 4-Terphenyl-d14</i>	77.1		5.3	mg/Kg-dry	1	8/22/2017 09:11 PM
			34-130	%REC	1	8/22/2017 09:11 PM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015D		Prep: SW5035 8/22/17 11:54	Analyst: KB
<i>Surr: Toluene-d8</i>	96.4		5.7	mg/Kg	1	8/23/2017 05:09 AM
			71-123	%REC	1	8/23/2017 05:09 AM
MERCURY BY CVAA						
Mercury	ND		SW7471B		Prep: SW7471 8/24/17 16:16	Analyst: RSH
			0.018	mg/Kg-dry	1	8/24/2017 07:44 PM
METALS ANALYSIS BY ICP						
Arsenic	7.9		SW846 6010C		Prep: SW3050B 8/22/17 16:30	Analyst: LR
Barium	1,100		0.39	mg/Kg-dry	1	8/24/2017 03:59 AM
Cadmium	ND		0.39	mg/Kg-dry	1	8/24/2017 03:59 AM
Chromium	24		0.79	mg/Kg-dry	1	8/24/2017 03:59 AM
Copper	12		0.39	mg/Kg-dry	1	8/24/2017 03:59 AM
Lead	16		0.79	mg/Kg-dry	1	8/24/2017 03:59 AM
Nickel	12		0.39	mg/Kg-dry	1	8/24/2017 03:59 AM
Selenium	2.3		0.79	mg/Kg-dry	1	8/24/2017 03:59 AM
Silver	ND		0.39	mg/Kg-dry	1	8/24/2017 03:59 AM
Zinc	65		0.79	mg/Kg-dry	1	8/24/2017 03:59 AM
SOLUBLE CATIONS FOR SAR						
Calcium	36		SW846 6010C		Prep: USDA Method 20B 8/24/17 11:13	Analyst: LR
Magnesium	6.0		5.0	mg/L	10	8/25/2017 07:04 PM
Sodium	240		2.0	mg/L	10	8/25/2017 07:04 PM
SODIUM ADSORPTION RATIO						
Sodium Adsorption Ratio	9.6		USDA H60 MET		Prep: USDA Method 20B 8/24/17 11:13	Analyst: LR
			0.010	none	1	8/24/2017
SEMI-VOLATILE ORGANIC COMPOUNDS						
Acenaphthene	ND		SW846 8270D		Prep: SW3546 8/22/17 16:33	Analyst: RM
Anthracene	ND		0.044	mg/Kg-dry	1	8/24/2017 02:18 AM
Benzo(a)anthracene	ND		0.044	mg/Kg-dry	1	8/24/2017 02:18 AM
Benzo(a)pyrene	ND		0.044	mg/Kg-dry	1	8/24/2017 02:18 AM
Benzo(b)fluoranthene	ND		0.044	mg/Kg-dry	1	8/24/2017 02:18 AM
Benzo(k)fluoranthene	ND		0.044	mg/Kg-dry	1	8/24/2017 02:18 AM
Chrysene	ND		0.044	mg/Kg-dry	1	8/24/2017 02:18 AM
Dibenzo(a,h)anthracene	ND		0.044	mg/Kg-dry	1	8/24/2017 02:18 AM
Fluoranthene	ND		0.044	mg/Kg-dry	1	8/24/2017 02:18 AM

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

ALS Group, USA

Date: 28-Aug-17

Client: Caerus Oil and Gas LLC
Project: 6502 Pit
Sample ID: 20170817-6502-PITS(N)3
Collection Date: 8/17/2017 10:55 AM

Work Order: 17081256
Lab ID: 17081256-10
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.044	mg/Kg-dry	1	8/24/2017 02:18 AM
Indeno(1,2,3-cd)pyrene	ND		0.044	mg/Kg-dry	1	8/24/2017 02:18 AM
Naphthalene	ND		0.044	mg/Kg-dry	1	8/24/2017 02:18 AM
Pyrene	ND		0.044	mg/Kg-dry	1	8/24/2017 02:18 AM
Surr: 2-Fluorobiphenyl	72.7		20-140	%REC	1	8/24/2017 02:18 AM
Surr: 4-Terphenyl-d14	87.8		22-172	%REC	1	8/24/2017 02:18 AM
Surr: Nitrobenzene-d5	84.3		8-140	%REC	1	8/24/2017 02:18 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035	8/22/17 13:29	Analyst: AK
Benzene	ND		0.034	mg/Kg	1	8/23/2017 08:19 AM
Ethylbenzene	ND		0.034	mg/Kg	1	8/23/2017 08:19 AM
m,p-Xylene	ND		0.068	mg/Kg	1	8/23/2017 08:19 AM
o-Xylene	ND		0.034	mg/Kg	1	8/23/2017 08:19 AM
Toluene	ND		0.034	mg/Kg	1	8/23/2017 08:19 AM
Xylenes, Total	ND		0.10	mg/Kg	1	8/23/2017 08:19 AM
Surr: 1,2-Dichloroethane-d4	104		70-130	%REC	1	8/23/2017 08:19 AM
Surr: 4-Bromofluorobenzene	100		70-130	%REC	1	8/23/2017 08:19 AM
Surr: Dibromofluoromethane	88.1		70-130	%REC	1	8/23/2017 08:19 AM
Surr: Toluene-d8	97.9		70-130	%REC	1	8/23/2017 08:19 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 MET	Prep: USDA Method 20B	8/24/17 11:13	Analyst: JB
Electrical Conductivity @ Saturation	1.2		0.25	mmhos/cm @2	50	8/25/2017 11:30 AM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: LW
Chromium, Trivalent	24		1.1	mg/Kg-dry	1	8/24/2017 03:45 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A	8/23/17 19:45	Analyst: LW
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	8/24/2017 02:00 PM
MOISTURE			SW3550C			Analyst: BTG
Moisture	6.3		0.050	% of sample	1	8/23/2017 04:52 PM
PH			SW9045D	Prep: EXTRACT	8/22/17 15:00	Analyst: STP
pH	8.68		0.100	s.u.	1	8/23/2017 11:30 AM

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

Client: Caerus Oil and Gas LLC
Work Order: 17081256
Project: 6502 Pit

QC BATCH REPORT

Batch ID: **106157** Instrument ID **GC8** Method: **SW8015C**

MBLK		Sample ID: DBLKS1-106157-106157				Units: mg/Kg		Analysis Date: 8/21/2017 05:06 PM		
Client ID:		Run ID: GC8_170821A				SeqNo: 4595000		Prep Date: 8/21/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	ND	5.0								
<i>Surr: 4-Terphenyl-d14</i>	2.917	0	3.33	0	87.6	34-130	0			

LCS		Sample ID: DLCSS1-106157-106157				Units: mg/Kg		Analysis Date: 8/21/2017 05:35 PM		
Client ID:		Run ID: GC8_170821A				SeqNo: 4595001		Prep Date: 8/21/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	310	5.0	333	0	93.1	65-122	0			
<i>Surr: 4-Terphenyl-d14</i>	2.95	0	3.33	0	88.6	34-130	0			

MS		Sample ID: 17081256-04A MS				Units: mg/Kg		Analysis Date: 8/21/2017 06:04 PM		
Client ID: 20170817-6502-PITN(NE)8		Run ID: GC8_170821A				SeqNo: 4595002		Prep Date: 8/21/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	258.2	4.9	326.2	8.961	76.4	65-122	0			
<i>Surr: 4-Terphenyl-d14</i>	2.318	0	3.262	0	71.1	34-130	0			

MSD		Sample ID: 17081256-04A MSD				Units: mg/Kg		Analysis Date: 8/21/2017 06:33 PM		
Client ID: 20170817-6502-PITN(NE)8		Run ID: GC8_170821A				SeqNo: 4595003		Prep Date: 8/21/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	257.8	4.9	325.6	8.961	76.4	65-122	258.2	0.144	30	
<i>Surr: 4-Terphenyl-d14</i>	2.493	0	3.256	0	76.6	34-130	2.318	7.29	30	

The following samples were analyzed in this batch:

17081256-01A	17081256-02A	17081256-03A
17081256-04A	17081256-05A	17081256-06A
17081256-07A	17081256-08A	17081256-09A

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

Client: Caerus Oil and Gas LLC
 Work Order: 17081256
 Project: 6502 Pit

QC BATCH REPORT

Batch ID: **106229** Instrument ID **GC8** Method: **SW8015C**

MBLK		Sample ID: DBLKS1-106229-106229				Units: mg/Kg		Analysis Date: 8/22/2017 06:17 PM		
Client ID:		Run ID: GC8_170822B				SeqNo: 4597629		Prep Date: 8/22/2017		DF: 1
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	3.033	0	3.33	0	91.1	34-130	0			

LCS		Sample ID: DLCSS1-106229-106229				Units: mg/Kg		Analysis Date: 8/22/2017 06:46 PM		
Client ID:		Run ID: GC8_170822B				SeqNo: 4597630		Prep Date: 8/22/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	317.2	5.0	333	0	95.3	65-122	0			
Surr: 4-Terphenyl-d14	3.167	0	3.33	0	95.1	34-130	0			

MS		Sample ID: 17081325-07B MS				Units: mg/Kg		Analysis Date: 8/22/2017 07:15 PM		
Client ID:		Run ID: GC8_170822B				SeqNo: 4597631		Prep Date: 8/22/2017		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	367.3	50	330.6	93.76	82.7	65-122	0			
Surr: 4-Terphenyl-d14	2.647	0	3.306	0	80.1	34-130	0			

MSD		Sample ID: 17081325-07B MSD				Units: mg/Kg		Analysis Date: 8/22/2017 07:44 PM		
Client ID:		Run ID: GC8_170822B				SeqNo: 4597632		Prep Date: 8/22/2017		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	460.5	49	328.7	93.76	112	65-122	367.3	22.5	30	
Surr: 4-Terphenyl-d14	2.468	0	3.287	0	75.1	34-130	2.647	7.03	30	

The following samples were analyzed in this batch:

17081256-10A

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

Client: Caerus Oil and Gas LLC
Work Order: 17081256
Project: 6502 Pit

QC BATCH REPORT

Batch ID: **106261** Instrument ID **GC9** Method: **SW8015D**

MBLK		Sample ID: MBLK-106261-106261				Units: µg/Kg-dry		Analysis Date: 8/22/2017 06:17 PM		
Client ID:		Run ID: GC9_170822B				SeqNo: 4597654		Prep Date: 8/22/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	ND	5,000								
Surr: Toluene-d8	4854	0	5000	0	97.1	71-123	0			

LCS		Sample ID: LCS-106261-106261				Units: µg/Kg-dry		Analysis Date: 8/22/2017 05:17 PM		
Client ID:		Run ID: GC9_170822B				SeqNo: 4597653		Prep Date: 8/22/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	609600	5,000	500000	0	122	71-123	0			
Surr: Toluene-d8	5164	0	5000	0	103	71-123	0			

MS		Sample ID: 17081346-01A MS				Units: µg/Kg-dry		Analysis Date: 8/22/2017 06:46 PM		
Client ID:		Run ID: GC9_170822B				SeqNo: 4597655		Prep Date: 8/22/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	1468000	12,000	1224000	17550	119	71-123	0			
Surr: Toluene-d8	13100	0	12240	0	107	71-123	0			

MSD		Sample ID: 17081346-01A MSD				Units: µg/Kg-dry		Analysis Date: 8/22/2017 07:16 PM		
Client ID:		Run ID: GC9_170822B				SeqNo: 4597656		Prep Date: 8/22/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	1443000	12,000	1224000	17550	116	71-123	1468000	1.77	30	
Surr: Toluene-d8	12640	0	12240	0	103	71-123	13100	3.58	30	

The following samples were analyzed in this batch:

17081256-01A	17081256-02A	17081256-03A
17081256-04A	17081256-05A	17081256-06A
17081256-07A	17081256-08A	17081256-09A
17081256-10A		

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

Client: Caerus Oil and Gas LLC
Work Order: 17081256
Project: 6502 Pit

QC BATCH REPORT

Batch ID: **106432** Instrument ID **HG1** Method: **SW7471B**

MBLK		Sample ID: MBLK-106432-106432				Units: mg/Kg		Analysis Date: 8/24/2017 06:51 PM		
Client ID:		Run ID: HG1_170824A				SeqNo: 4603098		Prep Date: 8/24/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury ND 0.020

LCS		Sample ID: LCS-106432-106432				Units: mg/Kg		Analysis Date: 8/24/2017 06:53 PM		
Client ID:		Run ID: HG1_170824A				SeqNo: 4603099		Prep Date: 8/24/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1633 0.020 0.1665 0 98.1 80-120 0

MS		Sample ID: 17081254-04AMS				Units: mg/Kg		Analysis Date: 8/24/2017 07:06 PM		
Client ID:		Run ID: HG1_170824A				SeqNo: 4603104		Prep Date: 8/24/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1434 0.017 0.1384 0.01063 95.9 75-125 0

MSD		Sample ID: 17081254-04AMSD				Units: mg/Kg		Analysis Date: 8/24/2017 07:08 PM		
Client ID:		Run ID: HG1_170824A				SeqNo: 4603105		Prep Date: 8/24/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1448 0.017 0.1391 0.01063 96.5 75-125 0.1434 1.04 35

The following samples were analyzed in this batch:

17081256-01A	17081256-02A	17081256-03A
17081256-04A	17081256-05A	17081256-06A
17081256-07A	17081256-08A	17081256-09A
17081256-10A		

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

Client: Caerus Oil and Gas LLC
Work Order: 17081256
Project: 6502 Pit

QC BATCH REPORT

Batch ID: **106273** Instrument ID **ICP2** Method: **SW846 6010C**

Sample ID: MBLK-106273-106273				Units: mg/Kg			Analysis Date: 8/24/2017 01:04 AM			
Client ID:		Run ID: ICP2_170823A			SeqNo: 4600540		Prep Date: 8/22/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	0.02969	0.50								J
Chromium	0.02213	0.25								J
Copper	ND	0.50								
Lead	ND	0.25								
Nickel	ND	0.25								
Selenium	ND	0.50								
Silver	ND	0.25								
Zinc	0.1162	0.50								J

LCS				Sample ID: LCS-106273-106273				Units: mg/Kg			Analysis Date: 8/24/2017 12:58 AM		
Client ID:			Run ID: ICP2_170823A				SeqNo: 4600539			Prep Date: 8/22/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Arsenic	5.217	0.25	5	0	104	80-120	0						
Barium	5.222	0.25	5	0	104	80-120	0						
Cadmium	5.248	0.50	5	0	105	80-120	0						
Chromium	5.682	0.25	5	0	114	80-120	0						
Copper	5.219	0.50	5	0	104	80-120	0						
Lead	5.157	0.25	5	0	103	80-120	0						
Nickel	5.336	0.25	5	0	107	80-120	0						
Selenium	4.595	0.50	5	0	91.9	80-120	0						
Silver	5.038	0.25	5	0	101	80-120	0						
Zinc	5.524	0.50	5	0	110	80-120	0						

MS				Sample ID: 17081254-01AMS			Units: mg/Kg		Analysis Date: 8/24/2017 01:32 AM		
Client ID:			Run ID: ICP2_170823A			SeqNo: 4600544		Prep Date: 8/22/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	14.74	0.38	7.541	7.915	90.5	75-125	0				
Barium	315.2	0.38	7.541	376.5	-813	75-125	0			SO	
Cadmium	9.08	0.75	7.541	0.389	115	75-125	0				
Chromium	28.11	0.38	7.541	19.12	119	75-125	0				
Copper	21.24	0.75	7.541	12.26	119	75-125	0				
Lead	26.13	0.38	7.541	14.61	153	75-125	0			S	
Nickel	21.72	0.38	7.541	10.83	144	75-125	0			S	
Selenium	9.41	0.75	7.541	2.254	94.9	75-125	0				
Silver	7.646	0.38	7.541	-0.343	106	75-125	0				
Zinc	82.75	0.75	7.541	56.14	353	75-125	0			SO	

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

Client: Caerus Oil and Gas LLC
Work Order: 17081256
Project: 6502 Pit

QC BATCH REPORT

Batch ID: **106273** Instrument ID **ICP2** Method: **SW846 6010C**

MSD				Sample ID: 17081254-01AMSD			Units: mg/Kg		Analysis Date: 8/24/2017 01:39 AM		
Client ID:			Run ID: ICP2_170823A			SeqNo: 4600545		Prep Date: 8/22/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	14.49	0.38	7.576	7.915	86.7	75-125	14.74	1.75	20		
Barium	311	0.38	7.576	376.5	-865	75-125	315.2	1.33	20	SO	
Cadmium	9.062	0.76	7.576	0.389	114	75-125	9.08	0.196	20		
Chromium	27.67	0.38	7.576	19.12	113	75-125	28.11	1.59	20		
Copper	19.91	0.76	7.576	12.26	101	75-125	21.24	6.48	20		
Lead	24.85	0.38	7.576	14.61	135	75-125	26.13	5.03	20	S	
Nickel	19.22	0.38	7.576	10.83	111	75-125	21.72	12.2	20		
Selenium	9.383	0.76	7.576	2.254	94.1	75-125	9.41	0.291	20		
Silver	7.721	0.38	7.576	-0.343	106	75-125	7.646	0.978	20		
Zinc	75.94	0.76	7.576	56.14	261	75-125	82.75	8.59	20	SO	

The following samples were analyzed in this batch:

17081256-01A	17081256-02A	17081256-03A
17081256-04A	17081256-05A	17081256-06A
17081256-07A	17081256-08A	17081256-09A
17081256-10A		

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

Client: Caerus Oil and Gas LLC
Work Order: 17081256
Project: 6502 Pit

QC BATCH REPORT

Batch ID: **106405** Instrument ID **ICP2** Method: **SW846 6010C**

DUP				Sample ID: 17081256-03ADUP			Units: mg/L		Analysis Date: 8/25/2017 06:00 PM		
Client ID: 20170817-6502-PITN(SW)8				Run ID: ICP2_170825A			SeqNo: 4605528		Prep Date: 8/24/2017		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Calcium	154.6	5.0	0	0	0	0-0	0				
Magnesium	18.55	2.0	0	0	0	0-0	0				
Sodium	26.6	2.0	0	0	0	0-0	0				

DUP				Sample ID: 17081256-03ADUP				Units: none			Analysis Date: 8/24/2017			
Client ID: 20170817-6502-PITN(SW)8				Run ID: SAR_170824A				SeqNo: 4605748			Prep Date: 8/24/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Sodium Adsorption Ratio	0.5383	0.010	0	0	0		0.5132	4.76	50					

The following samples were analyzed in this batch:

17081256-01A	17081256-02A	17081256-03A
17081256-04A	17081256-05A	17081256-06A
17081256-07A	17081256-08A	17081256-09A
17081256-10A		

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

Client: Caerus Oil and Gas LLC
Work Order: 17081256
Project: 6502 Pit

QC BATCH REPORT

Batch ID: **106156** Instrument ID **SVMS6** Method: **SW846 8270D**

MBLK				Sample ID: SBLKS1-106156-106156				Units: µg/Kg			Analysis Date: 8/22/2017 12:37 PM			
Client ID:				Run ID: SVMS6_170822A				SeqNo: 4599754			Prep Date: 8/21/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Acenaphthene	ND	42												
Anthracene	ND	42												
Benzo(a)anthracene	ND	42												
Benzo(a)pyrene	ND	42												
Benzo(b)fluoranthene	ND	42												
Benzo(k)fluoranthene	ND	42												
Chrysene	ND	42												
Dibenzo(a,h)anthracene	ND	42												
Fluoranthene	ND	42												
Fluorene	ND	42												
Indeno(1,2,3-cd)pyrene	ND	42												
Naphthalene	ND	42												
Pyrene	ND	42												
Surr: 2-Fluorobiphenyl	3045	0	3333	0	91.4	20-140		0						
Surr: 4-Terphenyl-d14	3872	0	3333	0	116	22-172		0						
Surr: Nitrobenzene-d5	3280	0	3333	0	98.4	8-140		0						

LCS				Sample ID: SLCSS1-106156-106156				Units: µg/Kg		Analysis Date: 8/22/2017 12:51 PM		
Client ID:			Run ID: SVMS6_170822A			SeqNo: 4599755		Prep Date: 8/21/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
Acenaphthene	1115	42	1333	0	83.6	40-140	0					
Anthracene	1307	42	1333	0	98	40-140	0					
Benzo(a)anthracene	1123	42	1333	0	84.3	40-140	0					
Benzo(a)pyrene	1401	42	1333	0	105	40-140	0					
Benzo(b)fluoranthene	1284	42	1333	0	96.3	40-140	0					
Benzo(k)fluoranthene	1394	42	1333	0	105	40-140	0					
Chrysene	1104	42	1333	0	82.9	40-140	0					
Dibenzo(a,h)anthracene	1108	42	1333	0	83.1	40-140	0					
Fluoranthene	978.6	42	1333	0	73.4	40-140	0					
Fluorene	1326	42	1333	0	99.4	40-140	0					
Indeno(1,2,3-cd)pyrene	1193	42	1333	0	89.5	40-140	0					
Naphthalene	1173	42	1333	0	88	40-140	0					
Pyrene	1069	42	1333	0	80.2	40-140	0					
Surr: 2-Fluorobiphenyl	2949	0	3333	0	88.5	20-140	0					
Surr: 4-Terphenyl-d14	3253	0	3333	0	97.6	22-172	0					
Surr: Nitrobenzene-d5	3308	0	3333	0	99.3	8-140	0					

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

Client: Caerus Oil and Gas LLC
Work Order: 17081256
Project: 6502 Pit

QC BATCH REPORT

Batch ID: **106156** Instrument ID **SVMS6** Method: **SW846 8270D**

MS				Sample ID: 17081227-04A MS			Units: µg/Kg		Analysis Date: 8/22/2017 01:05 PM	
Client ID:				Run ID: SVMS6_170822A			SeqNo: 4599756		Prep Date: 8/21/2017	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1003	41	1317	0	76.1	40-140	0			
Anthracene	1206	41	1317	0	91.5	40-140	0			
Benzo(a)anthracene	1063	41	1317	0	80.7	40-140	0			
Benzo(a)pyrene	1287	41	1317	0	97.7	40-140	0			
Benzo(b)fluoranthene	1270	41	1317	0	96.4	40-140	0			
Benzo(k)fluoranthene	1363	41	1317	0	103	40-140	0			
Chrysene	1084	41	1317	0	82.3	40-140	0			
Dibenzo(a,h)anthracene	1081	41	1317	0	82.1	40-140	0			
Fluoranthene	897.3	41	1317	0	68.1	40-140	0			
Fluorene	1190	41	1317	0	90.3	40-140	0			
Indeno(1,2,3-cd)pyrene	1284	41	1317	0	97.5	40-140	0			
Naphthalene	1105	41	1317	0	83.9	40-140	0			
Pyrene	992	41	1317	0	75.3	40-140	0			
Surr: 2-Fluorobiphenyl	2679	0	3294	0	81.3	20-140	0			
Surr: 4-Terphenyl-d14	2876	0	3294	0	87.3	22-172	0			
Surr: Nitrobenzene-d5	3101	0	3294	0	94.1	8-140	0			

MSD				Sample ID: 17081227-04A MSD			Units: µg/Kg		Analysis Date: 8/22/2017 01:19 PM	
Client ID:				Run ID: SVMS6_170822A			SeqNo: 4599757		Prep Date: 8/21/2017	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1063	41	1315	0	80.8	40-140	1003	5.83	30	
Anthracene	1280	41	1315	0	97.3	40-140	1206	5.97	30	
Benzo(a)anthracene	1151	41	1315	0	87.5	40-140	1063	7.95	30	
Benzo(a)pyrene	1391	41	1315	0	106	40-140	1287	7.75	30	
Benzo(b)fluoranthene	1259	41	1315	0	95.7	40-140	1270	0.857	30	
Benzo(k)fluoranthene	1403	41	1315	0	107	40-140	1363	2.88	30	
Chrysene	1136	41	1315	0	86.3	40-140	1084	4.66	30	
Dibenzo(a,h)anthracene	1247	41	1315	0	94.8	40-140	1081	14.2	30	
Fluoranthene	941.1	41	1315	0	71.6	40-140	897.3	4.76	30	
Fluorene	1254	41	1315	0	95.4	40-140	1190	5.25	30	
Indeno(1,2,3-cd)pyrene	1382	41	1315	0	105	40-140	1284	7.33	30	
Naphthalene	1174	41	1315	0	89.2	40-140	1105	6.02	30	
Pyrene	1133	41	1315	0	86.2	40-140	992	13.3	30	
Surr: 2-Fluorobiphenyl	2885	0	3289	0	87.7	20-140	2679	7.4	0	
Surr: 4-Terphenyl-d14	3292	0	3289	0	100	22-172	2876	13.5	0	
Surr: Nitrobenzene-d5	3182	0	3289	0	96.8	8-140	3101	2.59	0	

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

Client: Caerus Oil and Gas LLC
Work Order: 17081256
Project: 6502 Pit

QC BATCH REPORT

Batch ID: **106156** Instrument ID **SVMS6** Method: **SW846 8270D**

The following samples were analyzed in this batch:

17081256-01A	17081256-02A	17081256-03A
17081256-04A	17081256-05A	17081256-06A
17081256-07A	17081256-08A	17081256-09A

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

Client: Caerus Oil and Gas LLC
Work Order: 17081256
Project: 6502 Pit

QC BATCH REPORT

Batch ID: **106231** Instrument ID **SVMS6** Method: **SW846 8270D**

MBLK		Sample ID: SBLKS1-106231-106231				Units: µg/Kg		Analysis Date: 8/23/2017 10:47 AM		
Client ID:		Run ID: SVMS6_170823A				SeqNo: 4599697		Prep Date: 8/22/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	42								
Anthracene	ND	42								
Benzo(a)anthracene	ND	42								
Benzo(a)pyrene	ND	42								
Benzo(b)fluoranthene	ND	42								
Benzo(k)fluoranthene	ND	42								
Chrysene	ND	42								
Dibenzo(a,h)anthracene	ND	42								
Fluoranthene	ND	42								
Fluorene	ND	42								
Indeno(1,2,3-cd)pyrene	ND	42								
Naphthalene	ND	42								
Pyrene	ND	42								
Surr: 2-Fluorobiphenyl	3103	0	3333	0	93.1	20-140	0			
Surr: 4-Terphenyl-d14	3952	0	3333	0	119	22-172	0			
Surr: Nitrobenzene-d5	3684	0	3333	0	111	8-140	0			

LCS		Sample ID: SLCSS1-106231-106231				Units: µg/Kg		Analysis Date: 8/23/2017 11:01 AM		
Client ID:		Run ID: SVMS6_170823A				SeqNo: 4599698		Prep Date: 8/22/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1153	42	1333	0	86.5	40-140	0			
Anthracene	1395	42	1333	0	105	40-140	0			
Benzo(a)anthracene	1233	42	1333	0	92.5	40-140	0			
Benzo(a)pyrene	1486	42	1333	0	111	40-140	0			
Benzo(b)fluoranthene	1296	42	1333	0	97.2	40-140	0			
Benzo(k)fluoranthene	1504	42	1333	0	113	40-140	0			
Chrysene	1223	42	1333	0	91.7	40-140	0			
Dibenzo(a,h)anthracene	1312	42	1333	0	98.5	40-140	0			
Fluoranthene	1343	42	1333	0	101	40-140	0			
Fluorene	1363	42	1333	0	102	40-140	0			
Indeno(1,2,3-cd)pyrene	1495	42	1333	0	112	40-140	0			
Naphthalene	1342	42	1333	0	101	40-140	0			
Pyrene	1441	42	1333	0	108	40-140	0			
Surr: 2-Fluorobiphenyl	3154	0	3333	0	94.6	20-140	0			
Surr: 4-Terphenyl-d14	3614	0	3333	0	108	22-172	0			
Surr: Nitrobenzene-d5	3641	0	3333	0	109	8-140	0			

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

Client: Caerus Oil and Gas LLC
Work Order: 17081256
Project: 6502 Pit

QC BATCH REPORT

Batch ID: **106231** Instrument ID **SVMS6** Method: **SW846 8270D**

MS				Sample ID: 17081211-04A MS			Units: µg/Kg		Analysis Date: 8/23/2017 11:15 AM	
Client ID:				Run ID: SVMS6_170823A			SeqNo: 4599699		Prep Date: 8/22/2017	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1009	41	1301	0	77.6	40-140	0			
Anthracene	1177	41	1301	0	90.5	40-140	0			
Benzo(a)anthracene	1022	41	1301	0	78.6	40-140	0			
Benzo(a)pyrene	1261	41	1301	0	96.9	40-140	0			
Benzo(b)fluoranthene	1173	41	1301	0	90.1	40-140	0			
Benzo(k)fluoranthene	1249	41	1301	0	96	40-140	0			
Chrysene	1079	41	1301	0	82.9	40-140	0			
Dibenzo(a,h)anthracene	1192	41	1301	0	91.6	40-140	0			
Fluoranthene	1146	41	1301	0	88.1	40-140	0			
Fluorene	1168	41	1301	0	89.8	40-140	0			
Indeno(1,2,3-cd)pyrene	1564	41	1301	0	120	40-140	0			
Naphthalene	1150	41	1301	0	88.4	40-140	0			
Pyrene	1268	41	1301	0	97.5	40-140	0			
Surr: 2-Fluorobiphenyl	2696	0	3253	0	82.9	20-140	0			
Surr: 4-Terphenyl-d14	3095	0	3253	0	95.1	22-172	0			
Surr: Nitrobenzene-d5	3209	0	3253	0	98.6	8-140	0			

MSD				Sample ID: 17081211-04A MSD			Units: µg/Kg		Analysis Date: 8/23/2017 11:29 AM	
Client ID:				Run ID: SVMS6_170823A			SeqNo: 4599700		Prep Date: 8/22/2017	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1029	41	1325	0	77.7	40-140	1009	1.95	30	
Anthracene	1198	41	1325	0	90.4	40-140	1177	1.73	30	
Benzo(a)anthracene	1021	41	1325	0	77.1	40-140	1022	0.142	30	
Benzo(a)pyrene	1269	41	1325	0	95.8	40-140	1261	0.631	30	
Benzo(b)fluoranthene	1172	41	1325	0	88.5	40-140	1173	0.0402	30	
Benzo(k)fluoranthene	1289	41	1325	0	97.3	40-140	1249	3.15	30	
Chrysene	1072	41	1325	0	80.9	40-140	1079	0.715	30	
Dibenzo(a,h)anthracene	1165	41	1325	0	88	40-140	1192	2.32	30	
Fluoranthene	1172	41	1325	0	88.4	40-140	1146	2.18	30	
Fluorene	1182	41	1325	0	89.2	40-140	1168	1.2	30	
Indeno(1,2,3-cd)pyrene	1383	41	1325	0	104	40-140	1564	12.3	30	
Naphthalene	1171	41	1325	0	88.4	40-140	1150	1.8	30	
Pyrene	1291	41	1325	0	97.5	40-140	1268	1.79	30	
Surr: 2-Fluorobiphenyl	2788	0	3312	0	84.2	20-140	2696	3.38	0	
Surr: 4-Terphenyl-d14	3185	0	3312	0	96.2	22-172	3095	2.86	0	
Surr: Nitrobenzene-d5	2996	0	3312	0	90.5	8-140	3209	6.86	0	

The following samples were analyzed in this batch:

17081256-10A

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

Client: Caerus Oil and Gas LLC
Work Order: 17081256
Project: 6502 Pit

QC BATCH REPORT

Batch ID: **106266** Instrument ID **VMS10** Method: **SW8260B**

Sample ID: MBLK-106266-106266				Units: µg/Kg-dry			Analysis Date: 8/23/2017 05:39 AM			
Client ID:		Run ID: VMS10_170822B			SeqNo: 4599250		Prep Date: 8/22/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	30	0	0	0	0-0	0			
Ethylbenzene	ND	30	0	0	0	0-0	0			
m,p-Xylene	ND	60	0	0	0	0-0	0			
o-Xylene	ND	30	0	0	0	0-0	0			
Toluene	ND	30	0	0	0	0-0	0			
Xylenes, Total	ND	90	0	0	0	0-0	0			
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>1032</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>103</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>954.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>95.4</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Dibromofluoromethane</i>	<i>923.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>92.4</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Toluene-d8</i>	<i>1008</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>0</i>			

LCS				Sample ID: LCS-106266-106266			Units: µg/Kg-dry		Analysis Date: 8/23/2017 04:51 AM		
Client ID:			Run ID: VMS10_170822B			SeqNo: 4599249		Prep Date: 8/22/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	961	30	1000	0	96.1	75-125	0				
Ethylbenzene	938	30	1000	0	93.8	75-125	0				
m,p-Xylene	1947	60	2000	0	97.4	80-125	0				
o-Xylene	966	30	1000	0	96.6	75-125	0				
Toluene	938	30	1000	0	93.8	70-125	0				
Xylenes, Total	2913	90	3000	0	97.1	75-125	0				
Surr: 1,2-Dichloroethane-d4	1016	0	1000	0	102	70-130	0				
Surr: 4-Bromofluorobenzene	1037	0	1000	0	104	70-130	0				
Surr: Dibromofluoromethane	998.5	0	1000	0	99.8	70-130	0				
Surr: Toluene-d8	1034	0	1000	0	103	70-130	0				

MS				Sample ID: 17081325-07A MS			Units: µg/Kg-dry		Analysis Date: 8/23/2017 11:15 AM		
Client ID:			Run ID: VMS10_170822B			SeqNo: 4599262		Prep Date: 8/22/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1049	30	1000	0	105	75-125	0				
Ethylbenzene	1025	30	1000	2	102	75-125	0				
m,p-Xylene	2103	60	2000	2	105	80-125	0				
o-Xylene	1052	30	1000	0	105	75-125	0				
Toluene	1040	30	1000	0	104	70-125	0				
Xylenes, Total	3155	90	3000	0	105	75-125	0				
Surr: 1,2-Dichloroethane-d4	1001	0	1000	0	100	70-130	0				
Surr: 4-Bromofluorobenzene	1036	0	1000	0	104	70-130	0				
Surr: Dibromofluoromethane	867.5	0	1000	0	86.8	70-130	0				
Surr: Toluene-d8	1034	0	1000	0	103	70-130	0				

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

Client: Caerus Oil and Gas LLC
Work Order: 17081256
Project: 6502 Pit

QC BATCH REPORT

Batch ID: **106266** Instrument ID **VMS10** Method: **SW8260B**

MSD				Sample ID: 17081325-07A MSD			Units: µg/Kg-dry		Analysis Date: 8/23/2017 11:31 AM		
Client ID:			Run ID: VMS10_170822B			SeqNo: 4599263		Prep Date: 8/22/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	907	30	1000	0	90.7	75-125	1049	14.5	30		
Ethylbenzene	868	30	1000	2	86.6	75-125	1025	16.6	30		
m,p-Xylene	1820	60	2000	2	90.9	80-125	2103	14.4	30		
o-Xylene	896	30	1000	0	89.6	75-125	1052	16	30		
Toluene	869	30	1000	0	86.9	70-125	1040	18	30		
Xylenes, Total	2716	90	3000	0	90.6	75-125	3155	14.9	30		
Surr: 1,2-Dichloroethane-d4	999	0	1000	0	99.9	70-130	1001	0.2	30		
Surr: 4-Bromofluorobenzene	1038	0	1000	0	104	70-130	1036	0.0964	30		
Surr: Dibromofluoromethane	943.5	0	1000	0	94.4	70-130	867.5	8.39	30		
Surr: Toluene-d8	1024	0	1000	0	102	70-130	1034	0.923	30		

The following samples were analyzed in this batch:

17081256-01A	17081256-02A	17081256-03A
17081256-04A	17081256-05A	17081256-06A
17081256-07A	17081256-08A	17081256-09A
17081256-10A		

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

Client: Caerus Oil and Gas LLC
Work Order: 17081256
Project: 6502 Pit

QC BATCH REPORT

Batch ID: **106269** Instrument ID **WETCHEM** Method: **SW9045D**

LCS		Sample ID: LCS-106269-106269				Units: s.u.		Analysis Date: 8/23/2017 11:30 AM		
Client ID:		Run ID: WETCHEM_170823E		SeqNo: 4598401		Prep Date: 8/22/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

pH 3.94 0.10 4 0 98.5 90-110 0

DUP		Sample ID: 17081180-01A DUP				Units: s.u.		Analysis Date: 8/23/2017 11:30 AM		
Client ID:		Run ID: WETCHEM_170823E		SeqNo: 4598404		Prep Date: 8/22/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

pH 7.51 0.10 0 0 0 0-0 7.43 1.07 20

DUP		Sample ID: 17081256-05A DUP				Units: s.u.		Analysis Date: 8/23/2017 11:30 AM		
Client ID: 20170817-6502-PITN(SE)8		Run ID: WETCHEM_170823E		SeqNo: 4598413		Prep Date: 8/22/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

pH 7.96 0.10 0 0 0 0-0 7.99 0.376 20

The following samples were analyzed in this batch:

17081256-01A	17081256-02A	17081256-03A
17081256-04A	17081256-05A	17081256-06A
17081256-07A	17081256-08A	17081256-09A
17081256-10A		

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

Client: Caerus Oil and Gas LLC
Work Order: 17081256
Project: 6502 Pit

QC BATCH REPORT

Batch ID: **106377** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK		Sample ID: MBLK-106377-106377				Units: mg/Kg		Analysis Date: 8/24/2017 02:00 PM		
Client ID:		Run ID: WETCHEM_170824C				SeqNo: 4600075		Prep Date: 8/23/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 1.0

LCS		Sample ID: LCS-106377-106377				Units: mg/Kg		Analysis Date: 8/24/2017 02:00 PM		
Client ID:		Run ID: WETCHEM_170824C				SeqNo: 4600076		Prep Date: 8/23/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 5.17 1.0 5 0 103 80-120 0

MS		Sample ID: 17081256-01A MS				Units: mg/Kg		Analysis Date: 8/24/2017 02:00 PM		
Client ID: 20170817-6502-PITN(BOT)12		Run ID: WETCHEM_170824C				SeqNo: 4600078		Prep Date: 8/23/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.286 1.0 5.102 -0.3333 31.7 75-125 0 S

MS		Sample ID: 17081256-01A MSI				Units: mg/Kg		Analysis Date: 8/24/2017 02:00 PM		
Client ID: 20170817-6502-PITN(BOT)12		Run ID: WETCHEM_170824C				SeqNo: 4600080		Prep Date: 8/23/2017		DF: 100
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 2178 100 3039 -0.3333 71.7 75-125 0 S

MS		Sample ID: 17081256-08A MS				Units: mg/Kg		Analysis Date: 8/24/2017 02:00 PM		
Client ID: 20170817-6502-PITS(W)3		Run ID: WETCHEM_170824C				SeqNo: 4600089		Prep Date: 8/23/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.38 1.0 5 0.2745 22.1 75-125 0 S

MS		Sample ID: 17081256-08A MSI				Units: mg/Kg		Analysis Date: 8/24/2017 02:00 PM		
Client ID: 20170817-6502-PITS(W)3		Run ID: WETCHEM_170824C				SeqNo: 4600091		Prep Date: 8/23/2017		DF: 100
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 3099 100 3349 0.2745 92.5 75-125 0

MSD		Sample ID: 17081256-01A MSD				Units: mg/Kg		Analysis Date: 8/24/2017 02:00 PM		
Client ID: 20170817-6502-PITN(BOT)12		Run ID: WETCHEM_170824C				SeqNo: 4600079		Prep Date: 8/23/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.515 1.0 5.051 -0.3333 36.6 75-125 1.286 16.4 20 S

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

Client: Caerus Oil and Gas LLC
Work Order: 17081256
Project: 6502 Pit

QC BATCH REPORT

Batch ID: **106377** Instrument ID **WETCHEM** Method: **SW7196A**

MSD		Sample ID: 17081256-08A MSD				Units: mg/Kg		Analysis Date: 8/24/2017 02:00 PM			
Client ID: 20170817-6502-PITS(W)3		Run ID: WETCHEM_170824C		SeqNo: 4600090		Prep Date: 8/23/2017		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Chromium, Hexavalent	1.394	1.0	5.051	0.2745	22.2	75-125	1.38	1.01	20	S	

The following samples were analyzed in this batch:

17081256-01A	17081256-02A	17081256-03A
17081256-04A	17081256-05A	17081256-06A
17081256-07A	17081256-08A	17081256-09A
17081256-10A		

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

Client: Caerus Oil and Gas LLC
Work Order: 17081256
Project: 6502 Pit

QC BATCH REPORT

Batch ID: **106405** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

DUP		Sample ID: 17081256-03A DUP				Units: mmhos/cm @25°		Analysis Date: 8/25/2017 11:30 AM		
Client ID: 20170817-6502-PITN(SW)8			Run ID: WETCHEM_170825B			SeqNo: 4603659		Prep Date: 8/24/2017		DF: 50
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	1.12	0.25	0	0	0		1.005	10.8	50	

The following samples were analyzed in this batch:

17081256-01A	17081256-02A	17081256-03A
17081256-04A	17081256-05A	17081256-06A
17081256-07A	17081256-08A	17081256-09A
17081256-10A		

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

Client: Caerus Oil and Gas LLC
 Work Order: 17081256
 Project: 6502 Pit

QC BATCH REPORT

Batch ID: **R218506** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R218506				Units: % of sample		Analysis Date: 8/23/2017 04:52 PM		
Client ID:		Run ID: MOIST_170823E				SeqNo: 4600967		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-R218506				Units: % of sample		Analysis Date: 8/23/2017 04:52 PM		
Client ID:		Run ID: MOIST_170823E				SeqNo: 4600966		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: 17081259-04B DUP				Units: % of sample		Analysis Date: 8/23/2017 04:52 PM		
Client ID:		Run ID: MOIST_170823E				SeqNo: 4600962		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 22.36 0.050 0 0 0 0-0 22.36 0 5

DUP		Sample ID: 17081259-05B DUP				Units: % of sample		Analysis Date: 8/23/2017 04:52 PM		
Client ID:		Run ID: MOIST_170823E				SeqNo: 4600964		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 20.8 0.050 0 0 0 0-0 20.35 2.19 5

The following samples were analyzed in this batch:

17081256-01A	17081256-02A	17081256-03A
17081256-04A	17081256-05A	17081256-06A
17081256-07A	17081256-08A	17081256-09A
17081256-10A		

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



ALS Laboratory Group

3352 128th Ave. Holland Michigan, 49424

Chain-of-Custody

Form 2028

WORKORDER #

17081256

PROJECT NAME	6502 P.T	SAMPLER	Bratt Middleton					DATE	8-17-17					PAGE	1 of 1	
PROJECT No.		SITE ID						TURNAROUND	STD					DISPOSAL	By Lab or Return to Client	
COMPANY NAME	Caerus Piceance, LLC	PURCHASE ORDER						TPH/GRO/DRO								
SEND REPORT TO	Jake Janicek	BILL TO COMPANY	Caerus Piceance, LLC					BTEX								
ADDRESS	120 N. Railroad, suite D	INVOICE ATTN TO	Jake Janicek					Table 910 PAH's								
CITY / STATE / ZIP	Parachute Co 81635	ADDRESS	120 N. Railroad, suite D					EC								
PHONE	970-285-9608	CITY / STATE / ZIP	Parachute CO 81635					PH								
FAX		PHONE	970-285-9608					SAR								
E-MAIL	jjanicek@caerusoilandgas.com	FAX						Benzene								
		E-MAIL	invoices@caerusoilandgas.com					Table 910 Metals								
Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC									
1	20170817-6502-PITN(607)8	S	8-17-17	0945	2			X	X	X	X	X	X	X		
2	20170817-6502-PITN(NW)8	S	8-17-17	0910	2			X	X	X	X	X	X	X		
3	20170817-6502-PITN(SW)8	S	8-17-17	0930	2			X	X	X	X	X	X	X		
4	20170817-6502-PITN(W)8	S	8-17-17	0900	2			X	X	X	X	X	X	X		
5	20170817-6502-PITN(SE)8	S	8-17-17	0935	2			X	X	X	X	X	X	X		
6	20170817-6502-PITS(S)6	S	8-17-17	1035	2			X	X	X	X	X	X	X		
7	20170817-6502-PITS(NE)8	S	8-17-17	1020	2			X	X	X	X	X	X	X		
8	20170817-6502-PITS(W)3	S	8-17-17	1045	2			X	X	X	X	X	X	X		
9	20170817-6502-PITS(BOT)8	S	8-17-17	1100	2			X	X	X	X	X	X	X		
10	20170817-6502-PITS(N)3	S	8-17-17	1055	2			X	X	X	X	X	X	X		

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

For metals or anions, please detail analytes below.

Comments:	GC PACKAGE (check below)
SR2 4.22 C	<input checked="" type="checkbox"/> LEVEL II (Standard QC)
	<input type="checkbox"/> LEVEL III (Std QC + forms)
	<input type="checkbox"/> LEVEL IV (Std QC + forms + raw data)
	<input type="checkbox"/>
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
	Bratt Middleton	8-17-17	1615
	N. Martin	8-17-17	1615
	N. Martin	8-17-17	1630
	Diane E. Shaw	8/18/17	0932
RELINQUISHED BY			
RECEIVED BY			
RELINQUISHED BY			
RECEIVED BY			
RELINQUISHED BY			
RECEIVED BY			

Sample Receipt Checklist

Client Name: **CAERUS**

Date/Time Received: **18-Aug-17 09:30**

Work Order: **17081256**

Received by: **DS**

Checklist completed by Diane Shaw 18-Aug-17
eSignature Date

Reviewed by: Chad Whelton 19-Aug-17
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>4.2/4.2 c</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>8/18/2017 5:17:47 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: